

TECHNICAL MEMORANDUM

To: Shea Homes & City of Lone Tree



From: Eli Farney, PE, PTOE

Date: March 1, 2022

Subject: RidgeGate Southwest Village – Filings 2 and 3 – Traffic Study Conformance Letter

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Introduction

JR Engineering (JR) has completed a review of the traffic impacts resulting from the proposed development of RidgeGate Southwest Village Filings 2 and 3 in the City of Lone Tree, Colorado. As shown in [Figure 1](#), the development is located south of RidgeGate Parkway and east of Havana Street, near I-25 and the RTD RidgeGate Parkway Station. The land is currently undeveloped, but is anticipated to contain single-family homes and an elementary school by year 2026.

In May 2020, JR completed a Master Traffic Study for the full buildout of the RidgeGate Southwest Village to analyze the long-term impacts of the proposed development on local and regional transportation systems. The Master Traffic Study was reviewed by the City of Lone Tree staff and all of the City's comments on the Study were implemented.

For this Traffic Study for Filings 2 and 3, JR analyzed the following:

- **Proposed Intersections**
 - External to Site – Havana Street & Lyric Street
 - Internal to Site – Eight intersections included in Filings 2 and 3

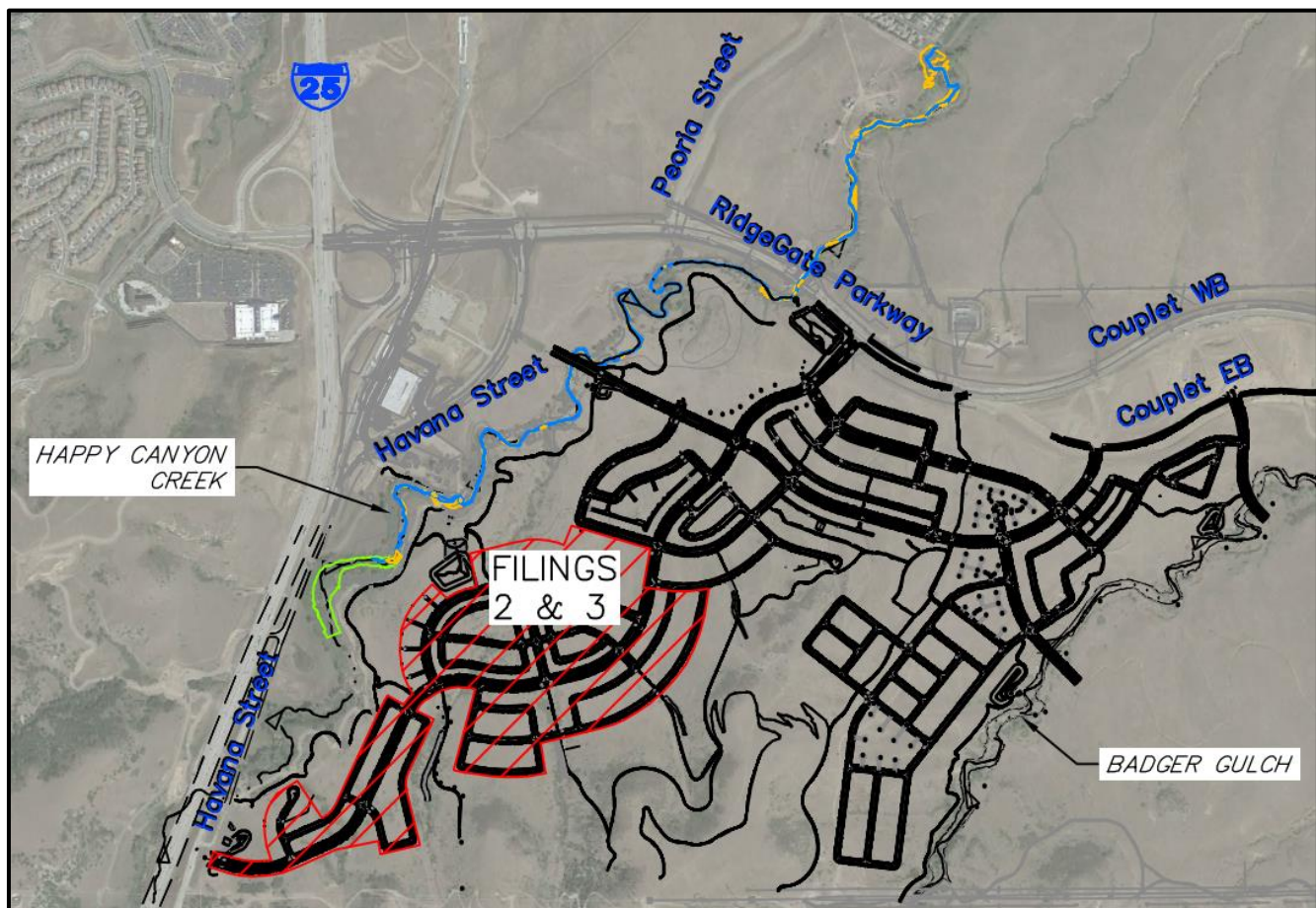


Figure 1 – Vicinity Map – RidgeGate Southwest Village Filings 2 and 3 Limits

Traffic Signal Warrants

A traffic signal warrant analysis was conducted for the intersection of Havana Street & Lyric Street to determine if a signal is warranted during opening day in 2026, or in the future year 2040.

Traffic Operations Analysis Methodology and Assumptions

JR conducted the traffic operations analyses contained in this report based on the following:

- Synchro Analyses using Highway Capacity Manual (HCM) 6th Edition
- Analysis year of 2026 – the year that Filings 2 and 3 are expected to be in full build-out operation

Existing and Forecasted Traffic Volumes

Data Collection

Traffic counts were collected by All Traffic Data on December 8, 2021. Tube counts were done at a location along Havana Street, south of RidgeGate Parkway. The traffic counts are included in **Appendix A**. Peak hour traffic volumes are included in **Table 1**.

Table 1 – 2021 Existing Traffic Volumes

Havana Street, south of RidgeGate Parkway		
	AM Peak Hour	PM Peak Hour
Northbound	96	86
Southbound	67	97

Distribution of Site Generated Traffic

JR considered how site generated traffic would be routed external to the site. **Figure 2** includes the directional distributions used, which are based on the percentages in the Master Traffic Study.

2026 Lane Geometry

Figure 3 includes the anticipated lane geometry for the study intersections in 2026.

2026 Background Traffic

Background traffic volumes for Havana Street in 2026 were estimated by applying a 2% growth rate to the 2021 existing volumes. Trips generated by RidgeGate Filing 1 were considered as background traffic at the internal intersections. **Figure 4** includes the forecasted background traffic for the study intersections in 2026.

2026 Site Generated Traffic

Filings 2 and 3 of RidgeGate Southwest Village are expected to contain about 435 single-family homes, an elementary school, and a neighborhood park.

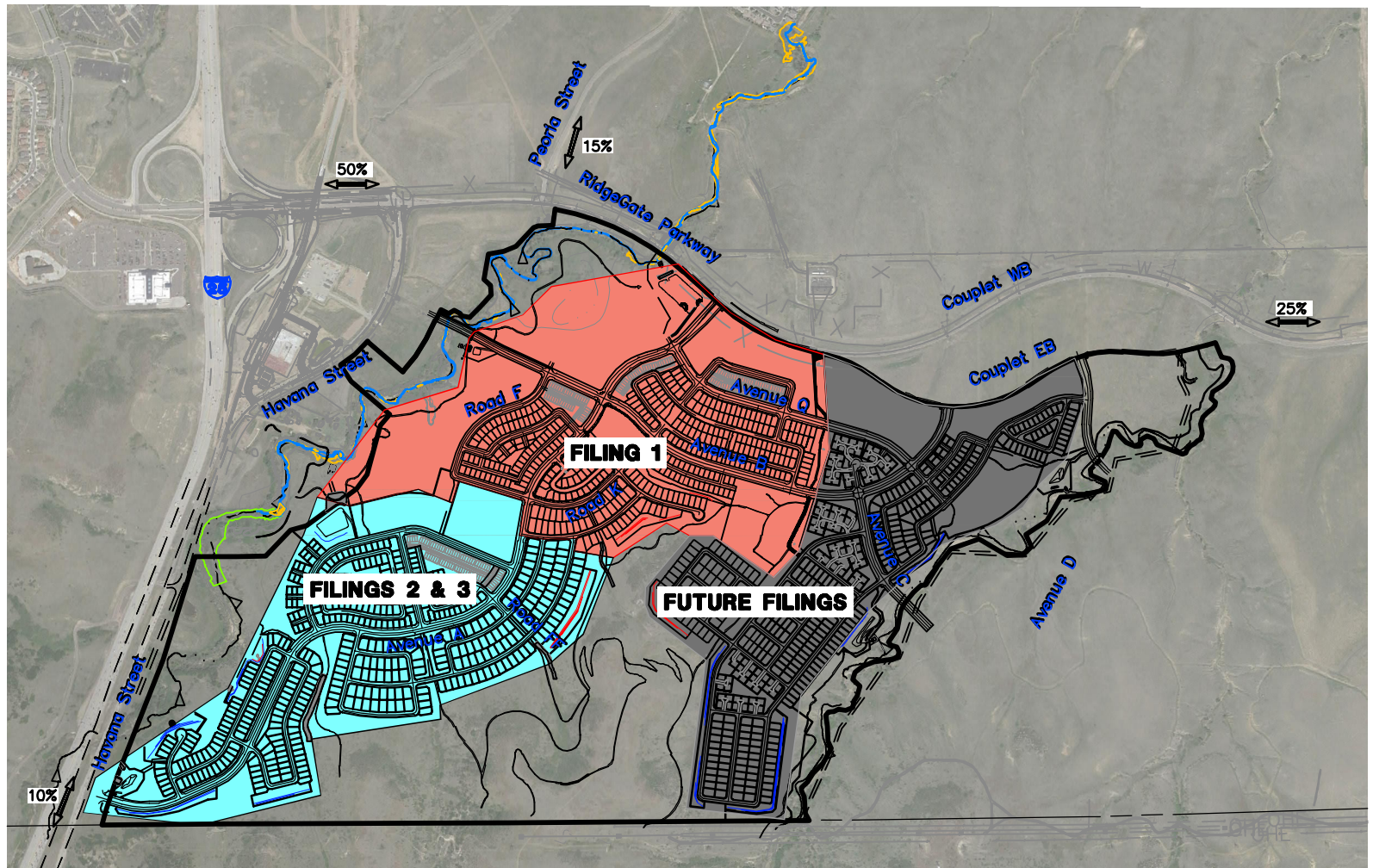
The following volumes were estimated using ITE Trip Generation Manual, 10th Edition:

- Average Daily Trips = 5,051
- AM Entering Site = 262
- AM Exiting Site = 395
- PM Entering Site = 313
- PM Exiting Site = 203

JR routed trips through the external and internal intersections to develop forecasted traffic volumes. **Figure 5** includes the anticipated site generated traffic volumes for the study intersections in 2026.

2026 Total Traffic

Total traffic is the sum of background and site generated traffic. [Figure 6](#) includes the forecasted total traffic for the study intersections in 2026.



LEGEND

FILING 1

FILINGS 2 & 3

FUTURE FILINGS

XX%
PERCENT DIRECTIONAL
DISTRIBUTION



1500 750 0 1500

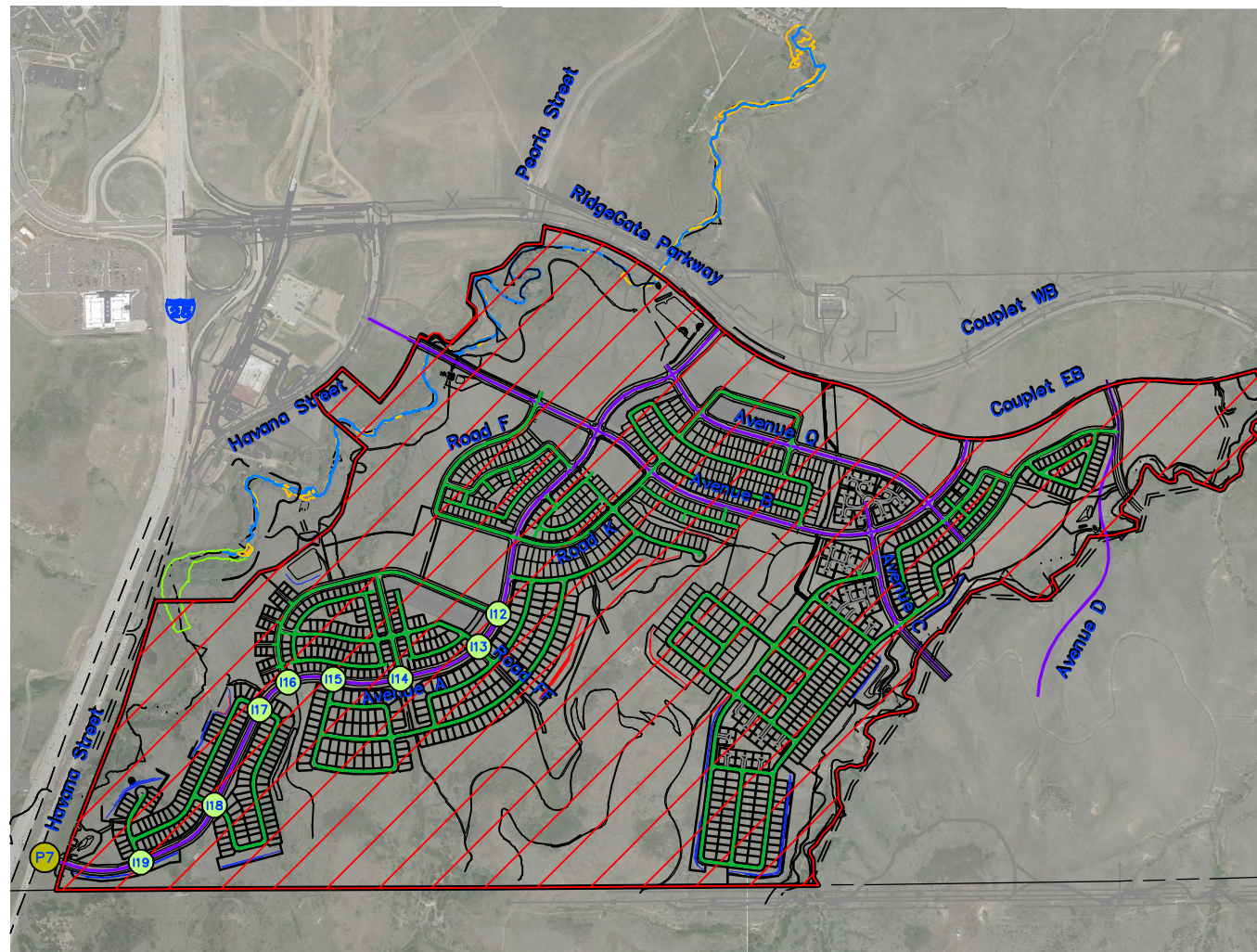
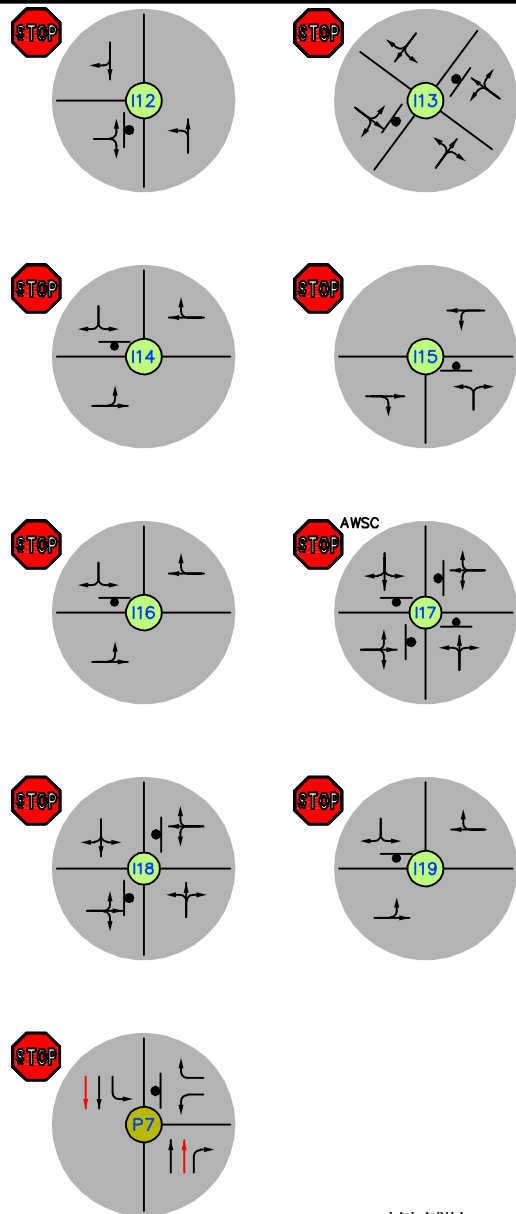
ORIGINAL SCALE: 1" = 1500'

FIGURE 2 – DISTRIBUTION OF
SITE GENERATED TRAFFIC
RIDGEGATE SOUTHWEST VILLAGE
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PROJ. NO. 15950.02



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LEGEND

- | | | | |
|--|----------------------------------|--|----------------|
| | EXISTING INTERSECTION | | COLLECTOR ROAD |
| | PROPOSED INTERSECTION - EXTERNAL | | LOCAL ROAD |
| | PROPOSED MOVEMENT | | PROJECT SITE |
| | EXISTING MOVEMENT | | SIGNAL CONTROL |
| | STOP SIGN CONTROL | | |



1500 750 0 1500

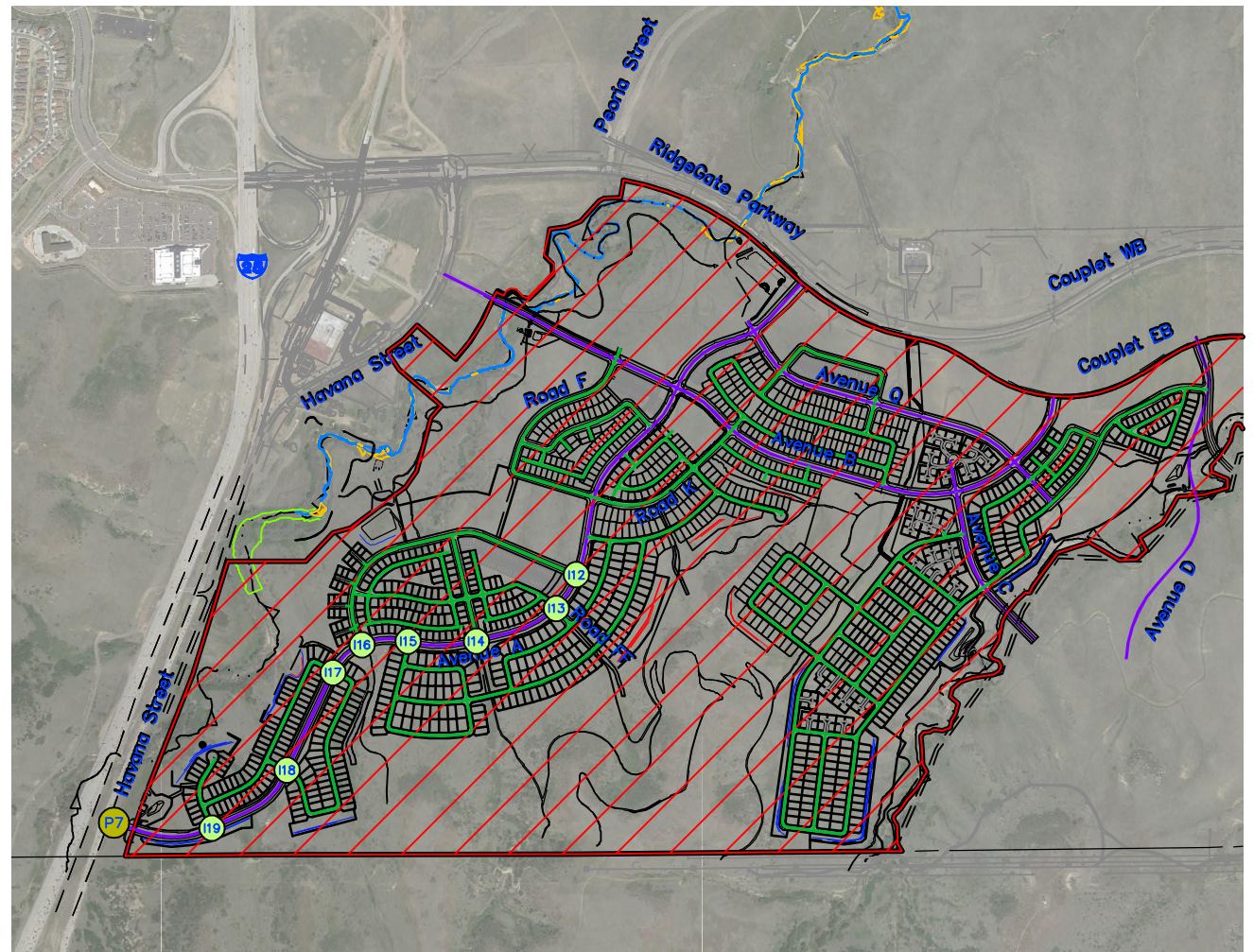
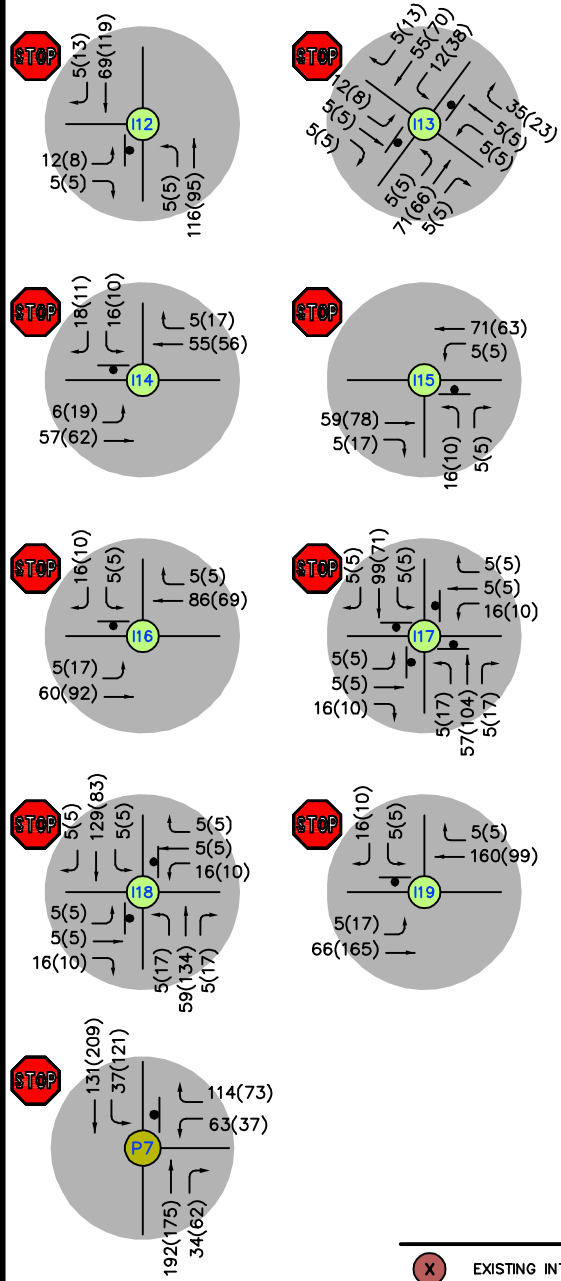
ORIGINAL SCALE: 1" = 1500'

FIGURE 3 – YEAR 2026 LANE GEOMETRY
RIDGEWAY SOUTHWEST VILLAGE
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- | | | | |
|---------|-------------------------------------|--|-------------------|
| | EXISTING INTERSECTION | | COLLECTOR ROAD |
| | PROPOSED INTERSECTION - EXTERNAL | | LOCAL ROAD |
| | PROPOSED INTERSECTION - INTERNAL | | PROJECT SITE |
| | AVERAGE DAILY TRAFFIC (ADT) | | STOP SIGN CONTROL |
| XX (XX) | AM (PM) PEAK HOUR TRIP DISTRIBUTION | | SIGNAL CONTROL |

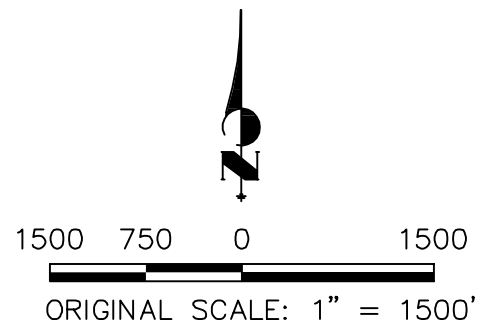
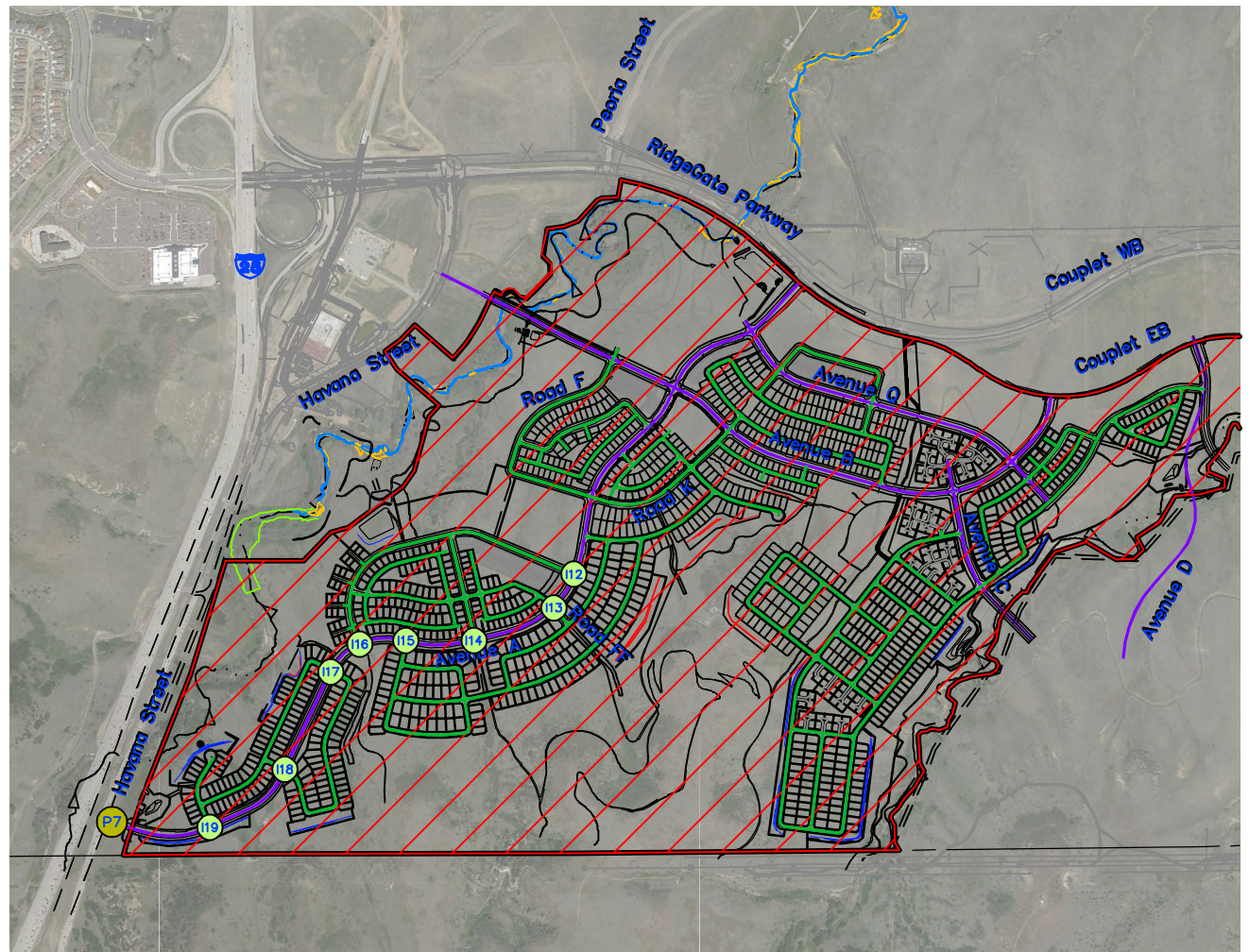
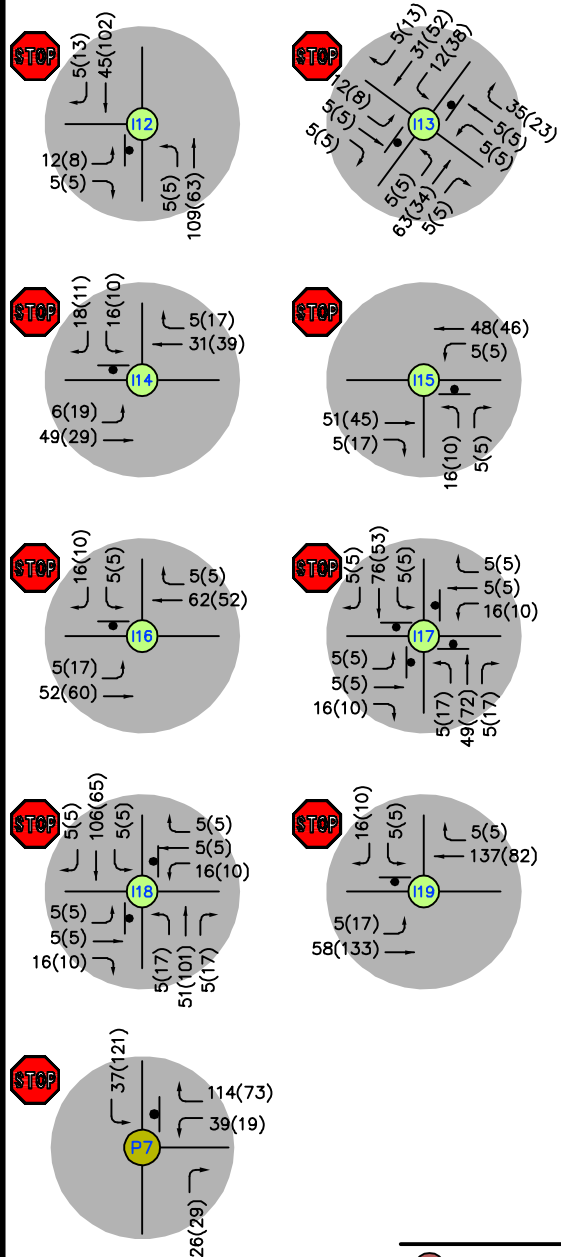


FIGURE 4 – 2026 BACKGROUND TRAFFIC VOLUMES
RIDGEGATE SOUTHWEST VILLAGE
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- | | | | |
|---------|-------------------------------------|--|-------------------|
| | EXISTING INTERSECTION | | COLLECTOR ROAD |
| | PROPOSED INTERSECTION - EXTERNAL | | LOCAL ROAD |
| | PROPOSED INTERSECTION - INTERNAL | | PROJECT SITE |
| | AVERAGE DAILY TRAFFIC (ADT) | | STOP SIGN CONTROL |
| XX (XX) | AM (PM) PEAK HOUR TRIP DISTRIBUTION | | SIGNAL CONTROL |

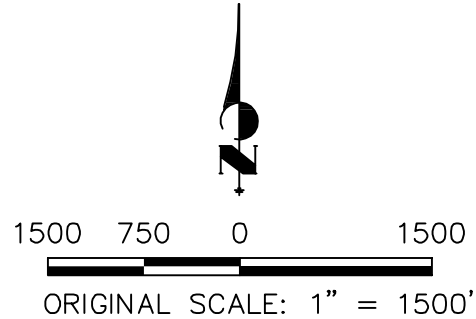
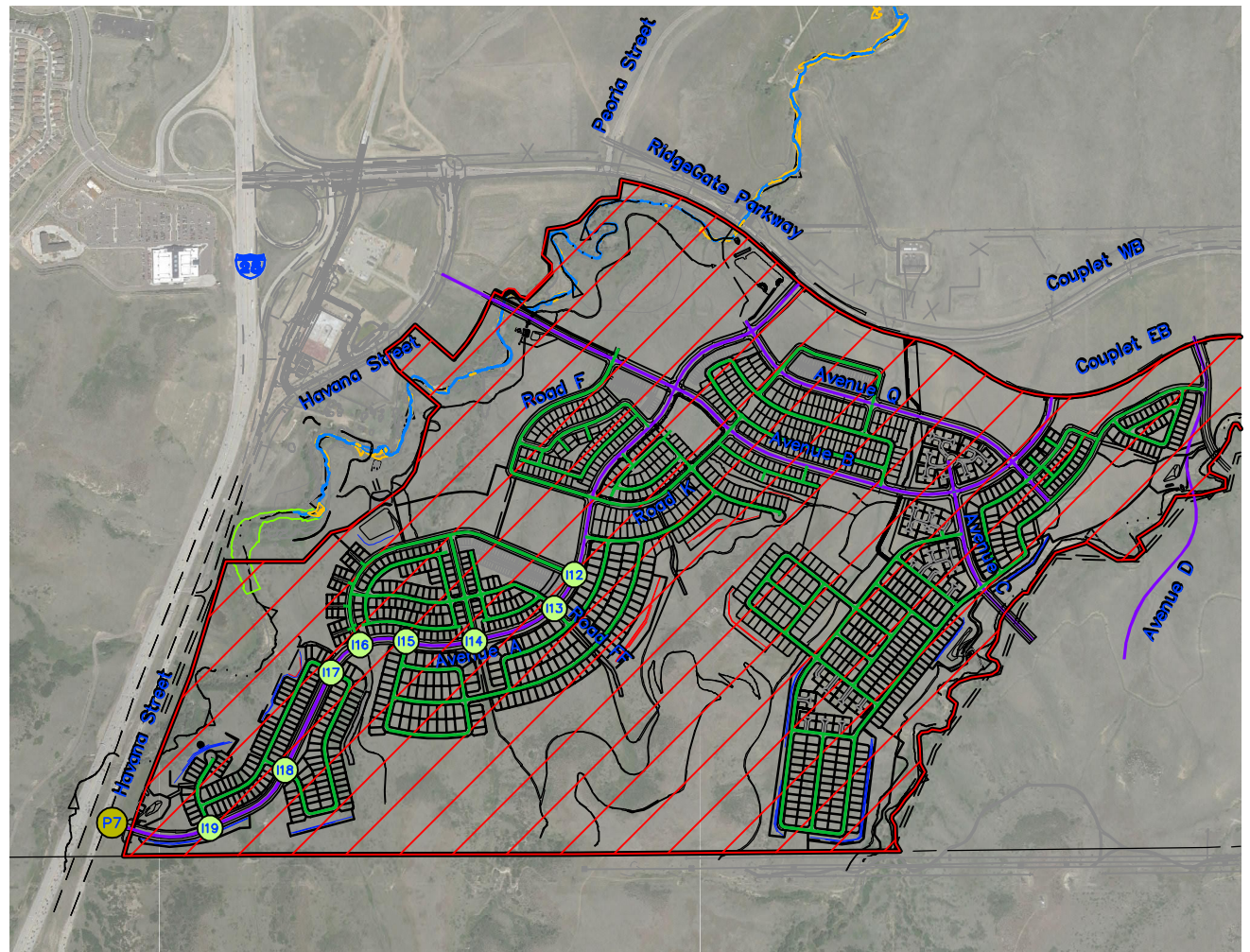
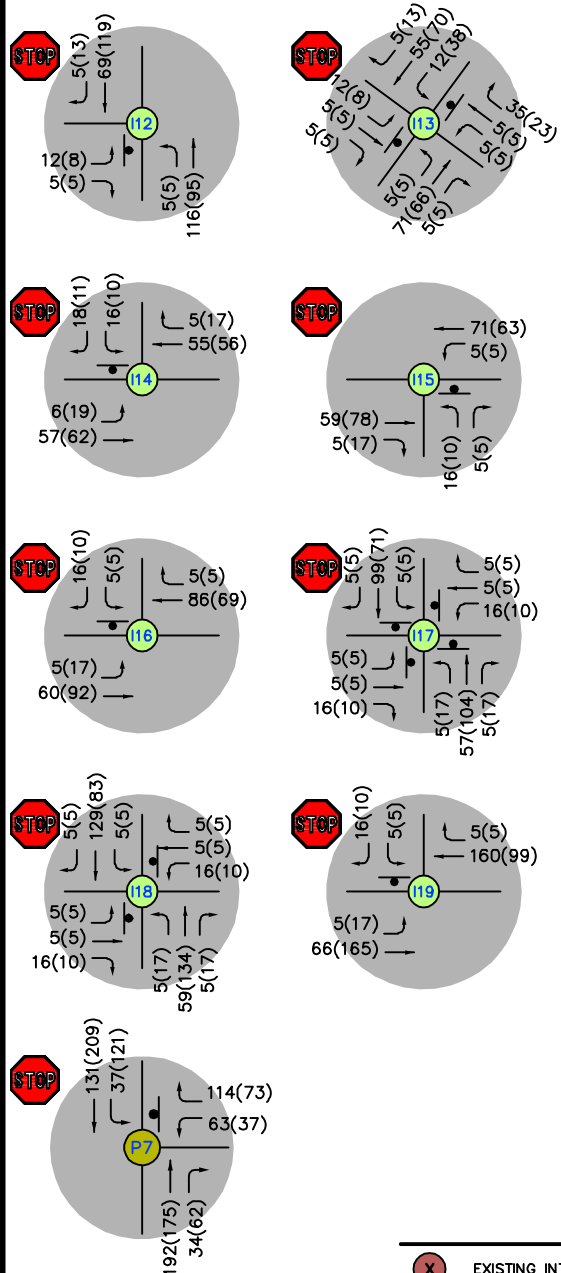


FIGURE 5 – SITE GENERATED TRAFFIC VOLUMES
RIDGEGATE SOUTHWEST VILLAGE
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- | | | | |
|---------|-------------------------------------|--|-------------------|
| | EXISTING INTERSECTION | | COLLECTOR ROAD |
| | PROPOSED INTERSECTION - EXTERNAL | | LOCAL ROAD |
| | PROPOSED INTERSECTION - INTERNAL | | PROJECT SITE |
| | AVERAGE DAILY TRAFFIC (ADT) | | STOP SIGN CONTROL |
| XX (XX) | AM (PM) PEAK HOUR TRIP DISTRIBUTION | | SIGNAL CONTROL |

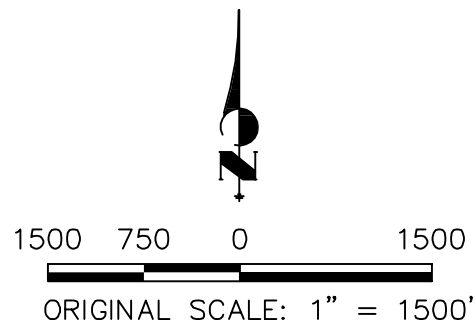


FIGURE 6 – 2026 TOTAL TRAFFIC VOLUMES
RIDGEGATE SOUTHWEST VILLAGE
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Traffic Operations Analyses

The proposed intersections were analyzed using Synchro to determine the Levels of Service (LOS) and queue lengths for each approach of the intersections. Synchro reports are included in **Appendix B**. The following analyses were conducted:

- **2026 Proposed Intersections LOS Including Background & Site Generated Traffic**
 - **External** – Havana Street & Lyric Street
 - **Internal** – all eight internal intersections included with Filings 2 and 3

2026 Proposed External Intersection Level of Service

2026 – Havana Street & Lyric Street

2026 Approach Level of Service AM Peak Hour Havana Street & Lyric Street	
Approach	LOS
Westbound	B
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Havana Street & Lyric Street	
Approach	LOS
Westbound	C
Northbound	A
Southbound	A
Overall Intersection	A

2026 Proposed Internal Intersection Level of Service

2026 – Internal Intersections

2026 Approach Level of Service AM Peak Hour Intersection I-12	
Approach	LOS
Eastbound	A
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Intersection I-12	
Approach	LOS
Eastbound	A
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service AM Peak Hour Intersection I-13	
Approach	LOS
Eastbound	A
Westbound	A
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Intersection I-13	
Approach	LOS
Eastbound	B
Westbound	A
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service AM Peak Hour Intersection I-14	
Approach	LOS
Eastbound	A
Westbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Intersection I-14	
Approach	LOS
Eastbound	A
Westbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service AM Peak Hour Intersection I-15	
Approach	LOS
Eastbound	A
Westbound	A
Northbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Intersection I-15	
Approach	LOS
Eastbound	A
Westbound	A
Northbound	A
Overall Intersection	A

2026 Approach Level of Service AM Peak Hour Intersection I-16	
Approach	LOS
Eastbound	A
Westbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Intersection I-16	
Approach	LOS
Eastbound	A
Westbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service AM Peak Hour Intersection I-17	
Approach	LOS
Eastbound	A
Westbound	A
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Intersection I-17	
Approach	LOS
Eastbound	A
Westbound	B
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service AM Peak Hour Intersection I-18	
Approach	LOS
Eastbound	A
Westbound	B
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Intersection I-18	
Approach	LOS
Eastbound	A
Westbound	B
Northbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service AM Peak Hour Intersection I-19	
Approach	LOS
Eastbound	A
Westbound	A
Southbound	A
Overall Intersection	A

2026 Approach Level of Service PM Peak Hour Intersection I-19	
Approach	LOS
Eastbound	A
Westbound	A
Southbound	A
Overall Intersection	A

2026 Proposed Internal Intersection Overall Level of Service

Using estimated site generated traffic volumes, a Synchro analysis was conducted to determine the overall LOS for each internal intersection. When Filings 2 and 3 are complete in 2026, it is anticipated that all internal intersections will function at LOS A.

2026 – Internal Intersections

Internal Intersection	2026 Overall Level of Service	
	AM Peak Hour	PM Peak Hour
I12 – Lyric St & Archetype Tr	A	A
I13 – Lyric St & Amberly Ave	A	A
I14 – Lyric St & Story St	A	A
I15 – Lyric St & Access	A	A
I16 – Lyric St & Adage Rd	A	A
I17 – Lyric St & Copperton St	A	A
I18 – Lyric St & Access	A	A
I19 – Lyric St & Copperton Ct	A	A
I22 – Avenue Q & Access	A	A

Queue Length Analysis

JR analyzed queueing at the intersection of Havana Street & Lyric Street to verify that provided storage lengths are sufficient. The 95th percentile queue lengths anticipated on opening day in 2026 are included below. Based on these queue lengths, all of the provided storage lengths are acceptable.

95th Percentile Queue Lengths with Full Buildout of Filings 2 and 3

Intersection	Movement	95 th Percentile Queue Length (ft)	
		AM Peak Hour	PM Peak Hour
Havana St & Lyric St	Westbound Left	25	25
	Westbound Right	25	25
	Southbound Left	25	25

Traffic Signal Warrant Analysis

As part of the traffic study, JR checked the MUTCD signal warrants for the intersection of Havana Street & Lyric Street. This intersection was modeled as stop-controlled in this traffic study.

No signal warrants were met during the opening day in 2026. The MUTCD Warrant 3 (Peak Hour Warrant) was nearly met in future year 2040 at Havana Street & Lyric Street.

The traffic signal warrants report is included in **Appendix C**.

It is not anticipated that any internal intersections within Filings 2 and 3 will warrant signalization by future year 2040 due to low traffic volumes.

Conclusion

Based on the LOS analyses for the external and internal intersections, the following conclusions were made:

- **2026 LOS – External Intersection** – In year 2026, all approaches at the external intersection of Havana Street & Lyric Street are expected to operate at LOS C or better.
- **2026 LOS – Internal Intersections** – In year 2026, the internal intersections studied are all expected to operate at LOS A overall. Some individual movements may operate at LOS B.
- **Signalized Intersections** – In year 2026, the intersection of Havana Street & Lyric Street is unlikely to meet any traffic signal warrants due to low traffic volumes. However, this intersection may warrant signalization around the future year 2040.

Appendix A Traffic Counts

All Traffic Data Services
www.alltrafficdata.net

Date Start: 08-Dec-21

Site Code: 1

Station ID: 1

HAVANA ST S.O. RIDGEGATE PKWY

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/08/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
05:00	0	16	3	0	0	0	0	0	0	0	0	0	0	19
06:00	0	28	14	0	1	0	0	0	0	0	0	0	0	43
07:00	0	85	11	0	0	0	0	0	0	0	0	0	0	96
08:00	0	75	12	0	0	0	0	0	0	0	0	0	0	87
09:00	1	64	7	0	0	0	0	0	0	0	0	0	0	72
10:00	1	54	6	0	0	0	0	0	0	0	0	0	0	61
11:00	0	52	12	0	0	0	0	0	0	0	0	0	0	64
12 PM	0	60	8	0	0	0	0	0	0	0	0	0	0	68
13:00	0	57	15	0	0	0	0	0	0	0	0	0	0	72
14:00	0	62	12	0	0	0	0	0	0	0	0	0	0	74
15:00	0	56	9	0	1	0	0	0	0	0	0	0	0	66
16:00	0	74	11	0	0	0	0	1	0	0	0	0	0	86
17:00	0	50	5	0	1	0	0	0	0	0	0	0	0	56
18:00	0	39	11	0	0	0	0	0	0	0	0	0	0	50
19:00	0	16	4	0	1	0	0	0	0	0	0	0	0	21
20:00	0	33	3	0	0	0	0	0	0	0	0	0	0	36
21:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
22:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Day Total	2	847	147	0	4	0	0	1	0	0	0	0	0	1001
Percent	0.2%	84.6%	14.7%	0.0%	0.4%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	07:00	06:00		06:00									07:00
Vol.	1	85	14		1									96
PM Peak		16:00	13:00		15:00			16:00						16:00
Vol.		74	15		1			1						86
Grand Total	2	847	147	0	4	0	0	1	0	0	0	0	0	1001
Percent	0.2%	84.6%	14.7%	0.0%	0.4%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

All Traffic Data Services
www.alltrafficdata.net

Date Start: 08-Dec-21

Site Code: 1

Station ID: 1

HAVANA ST S.O. RIDGEGATE PKWY

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/08/21	0	2	1	0	0	0	0	0	0	0	0	0	0	3
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
06:00	0	13	4	0	1	0	0	0	0	0	0	0	0	18
07:00	0	39	8	0	0	0	0	0	0	0	0	0	0	47
08:00	0	51	10	0	0	0	0	0	0	0	0	0	0	61
09:00	0	25	11	0	1	0	0	0	0	0	0	0	0	37
10:00	0	50	9	0	0	0	0	0	0	0	0	0	0	59
11:00	1	56	8	0	1	0	0	0	1	0	0	0	0	67
12 PM	0	45	11	0	1	0	0	0	0	1	0	0	0	58
13:00	0	53	9	0	0	0	0	0	0	0	0	0	0	62
14:00	0	54	15	0	0	0	0	1	0	0	0	0	0	70
15:00	1	73	10	0	2	0	0	0	0	0	0	0	0	86
16:00	1	82	14	0	0	0	0	0	0	0	0	0	0	97
17:00	0	81	12	0	3	0	0	0	0	0	0	0	0	96
18:00	1	81	14	0	1	0	0	0	0	0	0	0	0	97
19:00	0	42	11	0	0	0	0	0	0	0	0	0	0	53
20:00	0	52	5	0	0	0	0	0	0	0	0	0	0	57
21:00	0	20	2	0	0	0	0	0	0	0	0	0	0	22
22:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
23:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
Day Total	4	837	157	0	10	0	0	1	1	1	0	0	0	1011
Percent	0.4%	82.8%	15.5%	0.0%	1.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	09:00		06:00				11:00					11:00
Vol.	1	56	11		1				1					67
PM Peak	15:00	16:00	14:00		17:00			14:00		12:00				16:00
Vol.	1	82	15		3			1		1				97
Grand Total	4	837	157	0	10	0	0	1	1	1	0	0	0	1011
Percent	0.4%	82.8%	15.5%	0.0%	1.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	

Appendix B

HCM 6th Edition Level of Service Reports

Lanes, Volumes, Timings
1: Lyric St & I12

JR Engineering
02/28/2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	5	5	116	69	5
Future Volume (vph)	12	5	5	116	69	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962				0.992	
Flt Protected	0.965			0.998		
Satd. Flow (prot)	1729	0	0	1859	1848	0
Flt Permitted	0.965			0.998		
Satd. Flow (perm)	1729	0	0	1859	1848	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	429			408	318	
Travel Time (s)	9.8			9.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	5	5	126	75	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	131	80	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.2%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	5	5	116	69	5
Future Vol, veh/h	12	5	5	116	69	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	5	5	126	75	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	214	78	80	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	774	983	1518	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	771	983	1518	-	-	-
Mov Cap-2 Maneuver	771	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.5	0.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1518	-	823	-	-	
HCM Lane V/C Ratio	0.004	-	0.022	-	-	
HCM Control Delay (s)	7.4	0	9.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Lanes, Volumes, Timings
2: I13 & Lyric St

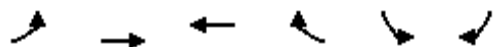
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	5	5	5	35	5	71	5	12	55	5
Future Volume (vph)	12	5	5	5	5	35	5	71	5	12	55	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.893			0.992			0.991	
Flt Protected		0.973			0.995			0.997			0.992	
Satd. Flow (prot)	0	1760	0	0	1655	0	0	1842	0	0	1831	0
Flt Permitted		0.973			0.995			0.997			0.992	
Satd. Flow (perm)	0	1760	0	0	1655	0	0	1842	0	0	1831	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		352			342			260			408	
Travel Time (s)		8.0			7.8			5.9			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	5	5	5	5	38	5	77	5	13	60	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	0	0	48	0	0	87	0	0	78	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 17.9%	ICU Level of Service A											
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	5	5	5	5	35	5	71	5	12	55	5
Future Vol, veh/h	12	5	5	5	5	35	5	71	5	12	55	5
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	13	5	5	5	5	38	5	77	5	13	60	5
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	200	181	63	184	181	80	65	0	0	82	0	0
Stage 1	89	89	-	90	90	-	-	-	-	-	-	-
Stage 2	111	92	-	94	91	-	-	-	-	-	-	-
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	759	713	1002	777	713	980	1537	-	-	1515	-	-
Stage 1	918	821	-	917	820	-	-	-	-	-	-	-
Stage 2	894	819	-	913	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	719	704	1002	761	704	980	1537	-	-	1515	-	-
Mov Cap-2 Maneuver	719	704	-	761	704	-	-	-	-	-	-	-
Stage 1	915	814	-	914	818	-	-	-	-	-	-	-
Stage 2	851	817	-	894	813	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.9		9.2			0.5			1.2			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1537	-	-	764	911	1515	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.031	0.054	0.009	-	-				
HCM Control Delay (s)	7.4	0	-	9.9	9.2	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

Lanes, Volumes, Timings
3: Lyric St & I14

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	57	55	5	16	18
Future Volume (vph)	6	57	55	5	16	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.990		0.927	
Flt Protected		0.995			0.978	
Satd. Flow (prot)	0	1853	1844	0	1689	0
Flt Permitted		0.995			0.978	
Satd. Flow (perm)	0	1853	1844	0	1689	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		638	716		239	
Travel Time (s)		14.5	16.3		5.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	62	60	5	17	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	69	65	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 18.0%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	57	55	5	16	18
Future Vol, veh/h	6	57	55	5	16	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	62	60	5	17	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	65	0	-	0	139	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1537	-	-	-	854	1002
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1537	-	-	-	850	1002
Mov Cap-2 Maneuver	-	-	-	-	850	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	947	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		9.1		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1537	-	-	-	924	
HCM Lane V/C Ratio	0.004	-	-	-	0.04	
HCM Control Delay (s)	7.4	0	-	-	9.1	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings

4: I15 & Lyric St

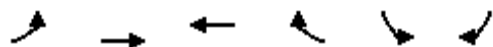
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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	59	5	5	71	16	5
Future Volume (vph)	59	5	5	71	16	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990				0.969	
Flt Protected				0.997	0.963	
Satd. Flow (prot)	1844	0	0	1857	1738	0
Flt Permitted				0.997	0.963	
Satd. Flow (perm)	1844	0	0	1857	1738	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	444			638	227	
Travel Time (s)	10.1			14.5	5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	5	5	77	17	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	0	82	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.8%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	5	5	71	16	5
Future Vol, veh/h	59	5	5	71	16	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	5	5	77	17	5
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	69	0	154	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1532	-	838	997
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1532	-	835	997
Mov Cap-2 Maneuver	-	-	-	-	835	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	933	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.5		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	869	-	-	1532	-	
HCM Lane V/C Ratio	0.026	-	-	0.004	-	
HCM Control Delay (s)	9.3	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Lanes, Volumes, Timings
5: Lyric St & I16

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	60	86	5	5	16
Future Volume (vph)	5	60	86	5	5	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993		0.896	
Flt Protected		0.996			0.989	
Satd. Flow (prot)	0	1855	1850	0	1651	0
Flt Permitted		0.996			0.989	
Satd. Flow (perm)	0	1855	1850	0	1651	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		249	444		264	
Travel Time (s)		5.7	10.1		6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	65	93	5	5	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	70	98	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.3%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	60	86	5	5	16
Future Vol, veh/h	5	60	86	5	5	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	65	93	5	5	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	98	0	-	0	171	96
Stage 1	-	-	-	-	96	-
Stage 2	-	-	-	-	75	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1495	-	-	-	819	960
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	948	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	817	960
Mov Cap-2 Maneuver	-	-	-	-	817	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	948	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1495	-	-	-	922	
HCM Lane V/C Ratio	0.004	-	-	-	0.025	
HCM Control Delay (s)	7.4	0	-	-	9	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
6: Lyric St & I17

JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	16	16	5	5	5	57	5	5	99	5
Future Volume (vph)	5	5	16	16	5	5	5	57	5	5	99	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.915			0.975			0.991			0.994	
Flt Protected		0.991			0.969			0.997			0.998	
Satd. Flow (prot)	0	1689	0	0	1760	0	0	1840	0	0	1848	0
Flt Permitted		0.991			0.969			0.997			0.998	
Satd. Flow (perm)	0	1689	0	0	1760	0	0	1840	0	0	1848	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		191			213			871			312	
Travel Time (s)		4.3			4.8			19.8			7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	17	17	5	5	5	62	5	5	108	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	27	0	0	72	0	0	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.2%											
Analysis Period (min)	15											
	ICU Level of Service A											

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	16	16	5	5	5	57	5	5	99	5
Future Vol, veh/h	5	5	16	16	5	5	5	57	5	5	99	5
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	5	5	17	17	5	5	5	62	5	5	108	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	201	198	111	207	198	65	113	0	0	67	0	0
Stage 1	121	121	-	75	75	-	-	-	-	-	-	-
Stage 2	80	77	-	132	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	757	698	942	751	698	999	1476	-	-	1535	-	-
Stage 1	883	796	-	934	833	-	-	-	-	-	-	-
Stage 2	929	831	-	871	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	744	693	942	728	693	999	1476	-	-	1535	-	-
Mov Cap-2 Maneuver	744	693	-	728	693	-	-	-	-	-	-	-
Stage 1	879	794	-	930	830	-	-	-	-	-	-	-
Stage 2	914	828	-	847	792	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.4		9.9		0.6		0.3					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1476	-	-	841	760	1535	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.034	0.037	0.004	-	-				
HCM Control Delay (s)	7.4	0	-	9.4	9.9	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
7: I18 & Lyric St

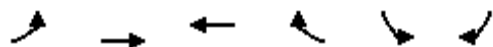
JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	16	16	5	5	5	59	5	5	129	5
Future Volume (vph)	5	5	16	16	5	5	5	59	5	5	129	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.915			0.975			0.991			0.995	
Flt Protected		0.991			0.969			0.997			0.998	
Satd. Flow (prot)	0	1689	0	0	1760	0	0	1840	0	0	1850	0
Flt Permitted		0.991			0.969			0.997			0.998	
Satd. Flow (perm)	0	1689	0	0	1760	0	0	1840	0	0	1850	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		285			275			235			871	
Travel Time (s)		6.5			6.3			5.3			19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	17	17	5	5	5	64	5	5	140	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	27	0	0	74	0	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 18.8%	ICU Level of Service A											
Analysis Period (min) 15												

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	5	5	16	16	5	5	5	59	5	5	129	5
Future Vol, veh/h	5	5	16	16	5	5	5	59	5	5	129	5
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	5	5	17	17	5	5	5	64	5	5	140	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	235	232	143	241	232	67	145	0	0	69	0	0
Stage 1	153	153	-	77	77	-	-	-	-	-	-	-
Stage 2	82	79	-	164	155	-	-	-	-	-	-	-
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	720	668	905	713	668	997	1437	-	-	1532	-	-
Stage 1	849	771	-	932	831	-	-	-	-	-	-	-
Stage 2	926	829	-	838	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	707	663	905	691	663	997	1437	-	-	1532	-	-
Mov Cap-2 Maneuver	707	663	-	691	663	-	-	-	-	-	-	-
Stage 1	846	768	-	928	828	-	-	-	-	-	-	-
Stage 2	911	826	-	813	766	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.6		10.1		0.5		0.3					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1437	-	-	805	728	1532	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.035	0.039	0.004	-	-				
HCM Control Delay (s)	7.5	0	-	9.6	10.1	7.4	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
8: Lyric St & I19

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	66	160	5	5	16
Future Volume (vph)	5	66	160	5	5	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.996		0.896	
Flt Protected		0.997			0.989	
Satd. Flow (prot)	0	1857	1855	0	1651	0
Flt Permitted		0.997			0.989	
Satd. Flow (perm)	0	1857	1855	0	1651	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		437	709		252	
Travel Time (s)		9.9	16.1		5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	72	174	5	5	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	77	179	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 18.7%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	66	160	5	5	16
Future Vol, veh/h	5	66	160	5	5	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	72	174	5	5	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	179	0	-	0	259	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1397	-	-	-	730	866
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1397	-	-	-	727	866
Mov Cap-2 Maneuver	-	-	-	-	727	-
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	941	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		9.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1397	-	-	-	828	
HCM Lane V/C Ratio	0.004	-	-	-	0.028	
HCM Control Delay (s)	7.6	0	-	-	9.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
9: Lyric St & Havana St

JR Engineering
02/28/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	114	192	34	37	131
Future Volume (vph)	63	114	192	34	37	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		150	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	391		575			624
Travel Time (s)	8.9		13.1			14.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	124	209	37	40	142
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	124	209	37	40	142
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.9%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	114	192	34	37	131
Future Vol, veh/h	63	114	192	34	37	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	124	209	37	40	142
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	431	209	0	0	246	0
Stage 1	209	-	-	-	-	-
Stage 2	222	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	581	831	-	-	1320	-
Stage 1	826	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	564	831	-	-	1320	-
Mov Cap-2 Maneuver	564	-	-	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.9	0	1.7			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 564 831	1320	-		
HCM Lane V/C Ratio	-	- 0.121 0.149	0.03	-		
HCM Control Delay (s)	-	- 12.3 10.1	7.8	-		
HCM Lane LOS	-	- B B	A	-		
HCM 95th %tile Q(veh)	-	- 0.4 0.5	0.1	-		

Lanes, Volumes, Timings
1: Lyric St & I12

JR Engineering
02/28/2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	5	5	95	119	13
Future Volume (vph)	8	5	5	95	119	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.952				0.987	
Flt Protected	0.969			0.998		
Satd. Flow (prot)	1718	0	0	1859	1839	0
Flt Permitted	0.969			0.998		
Satd. Flow (perm)	1718	0	0	1859	1839	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	429			408	318	
Travel Time (s)	9.8			9.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	5	5	103	129	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	108	143	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	19.1%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	5	5	95	119	13
Future Vol, veh/h	8	5	5	95	119	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	5	5	103	129	14
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	249	136	143	0	-	0
Stage 1	136	-	-	-	-	-
Stage 2	113	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	739	913	1440	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	736	913	1440	-	-	-
Mov Cap-2 Maneuver	736	-	-	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.6	0.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1440	-	795	-	-	
HCM Lane V/C Ratio	0.004	-	0.018	-	-	
HCM Control Delay (s)	7.5	0	9.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Lanes, Volumes, Timings
2: I13 & Lyric St

JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	5	5	5	5	23	5	66	5	38	70	13
Future Volume (vph)	8	5	5	5	5	23	5	66	5	38	70	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.904			0.992			0.986	
Flt Protected		0.977			0.993			0.997			0.985	
Satd. Flow (prot)	0	1754	0	0	1672	0	0	1842	0	0	1809	0
Flt Permitted		0.977			0.993			0.997			0.985	
Satd. Flow (perm)	0	1754	0	0	1672	0	0	1842	0	0	1809	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		352			342			260			408	
Travel Time (s)		8.0			7.8			5.9			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	5	5	5	5	25	5	72	5	41	76	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	35	0	0	82	0	0	131	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 23.2%	ICU Level of Service A											
Analysis Period (min) 15												

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	8	5	5	5	5	23	5	66	5	38	70	13
Future Vol, veh/h	8	5	5	5	5	23	5	66	5	38	70	13
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	9	5	5	5	5	25	5	72	5	41	76	14
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	265	252	83	255	257	75	90	0	0	77	0	0
Stage 1	165	165	-	85	85	-	-	-	-	-	-	-
Stage 2	100	87	-	170	172	-	-	-	-	-	-	-
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	688	651	976	698	647	986	1505	-	-	1522	-	-
Stage 1	837	762	-	923	824	-	-	-	-	-	-	-
Stage 2	906	823	-	832	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	650	631	976	674	627	986	1505	-	-	1522	-	-
Mov Cap-2 Maneuver	650	631	-	674	627	-	-	-	-	-	-	-
Stage 1	834	741	-	920	822	-	-	-	-	-	-	-
Stage 2	875	821	-	798	735	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.2		9.4		0.5		2.3					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1505	-	-	710	852	1522	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.028	0.042	0.027	-	-				
HCM Control Delay (s)	7.4	0	-	10.2	9.4	7.4	0	-				
HCM Lane LOS	A	A	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-				

Lanes, Volumes, Timings
3: Lyric St & I14

JR Engineering
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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	62	56	17	10	11
Future Volume (vph)	19	62	56	17	10	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.969		0.930	
Flt Protected		0.988			0.977	
Satd. Flow (prot)	0	1840	1805	0	1693	0
Flt Permitted		0.988			0.977	
Satd. Flow (perm)	0	1840	1805	0	1693	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		638	716		239	
Travel Time (s)		14.5	16.3		5.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	67	61	18	11	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	88	79	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 21.0% ICU Level of Service A						
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	62	56	17	10	11
Future Vol, veh/h	19	62	56	17	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	67	61	18	11	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	79	0	-	0	179	70
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	109	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1519	-	-	-	811	993
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1519	-	-	-	800	993
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	916	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.7	0		9.1		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1519	-	-	-	891	
HCM Lane V/C Ratio	0.014	-	-	-	0.026	
HCM Control Delay (s)	7.4	0	-	-	9.1	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
4: I15 & Lyric St

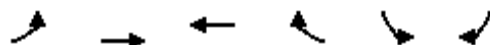
JR Engineering
02/28/2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	78	17	5	63	10	5
Future Volume (vph)	78	17	5	63	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976				0.958	
Flt Protected				0.997	0.967	
Satd. Flow (prot)	1818	0	0	1857	1726	0
Flt Permitted				0.997	0.967	
Satd. Flow (perm)	1818	0	0	1857	1726	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	444			638	227	
Travel Time (s)	10.1			14.5	5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	18	5	68	11	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	73	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.4%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	78	17	5	63	10	5
Future Vol, veh/h	78	17	5	63	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	18	5	68	11	5
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	103	0	172	94
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1489	-	818	963
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1489	-	816	963
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	942	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.5		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	860	-	-	1489	-	
HCM Lane V/C Ratio	0.019	-	-	0.004	-	
HCM Control Delay (s)	9.3	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Lanes, Volumes, Timings
5: Lyric St & I16

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	92	69	5	5	10
Future Volume (vph)	17	92	69	5	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.992		0.907	
Flt Protected		0.992			0.985	
Satd. Flow (prot)	0	1848	1848	0	1664	0
Flt Permitted		0.992			0.985	
Satd. Flow (perm)	0	1848	1848	0	1664	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		249	444		264	
Travel Time (s)		5.7	10.1		6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	100	75	5	5	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	118	80	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.4%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	92	69	5	5	10
Future Vol, veh/h	17	92	69	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	100	75	5	5	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	80	0	-	0	214	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1518	-	-	-	774	983
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1518	-	-	-	764	983
Mov Cap-2 Maneuver	-	-	-	-	764	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	890	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		9.1		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1518	-	-	-	897	
HCM Lane V/C Ratio	0.012	-	-	-	0.018	
HCM Control Delay (s)	7.4	0	-	-	9.1	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
6: Lyric St & I17

JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	10	10	5	5	17	104	17	5	71	5
Future Volume (vph)	5	5	10	10	5	5	17	104	17	5	71	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.929			0.968			0.984			0.992	
Flt Protected		0.988			0.974			0.994			0.997	
Satd. Flow (prot)	0	1710	0	0	1756	0	0	1822	0	0	1842	0
Flt Permitted		0.988			0.974			0.994			0.997	
Satd. Flow (perm)	0	1710	0	0	1756	0	0	1822	0	0	1842	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		191			213			871			312	
Travel Time (s)		4.3			4.8			19.8			7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	11	11	5	5	18	113	18	5	77	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	21	0	0	149	0	0	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 22.0%	ICU Level of Service A											
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	10	10	5	5	17	104	17	5	71	5
Future Vol, veh/h	5	5	10	10	5	5	17	104	17	5	71	5
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	5	5	11	11	5	5	18	113	18	5	77	5
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	253	257	80	256	250	122	82	0	0	131	0	0
Stage 1	90	90	-	158	158	-	-	-	-	-	-	-
Stage 2	163	167	-	98	92	-	-	-	-	-	-	-
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	700	647	980	697	653	929	1515	-	-	1454	-	-
Stage 1	917	820	-	844	767	-	-	-	-	-	-	-
Stage 2	839	760	-	908	819	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	683	636	980	676	642	929	1515	-	-	1454	-	-
Mov Cap-2 Maneuver	683	636	-	676	642	-	-	-	-	-	-	-
Stage 1	905	817	-	833	757	-	-	-	-	-	-	-
Stage 2	817	750	-	888	816	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.7		10.2			0.9			0.5			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1515	-	-	788	715	1454	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.028	0.03	0.004	-	-				
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 Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
7: I18 & Lyric St

JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	10	10	5	5	17	134	17	5	83	5
Future Volume (vph)	5	5	10	10	5	5	17	134	17	5	83	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.929			0.968			0.987			0.993	
Flt Protected		0.988			0.974			0.995			0.998	
Satd. Flow (prot)	0	1710	0	0	1756	0	0	1829	0	0	1846	0
Flt Permitted		0.988			0.974			0.995			0.998	
Satd. Flow (perm)	0	1710	0	0	1756	0	0	1829	0	0	1846	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		285			275			235			871	
Travel Time (s)		6.5			6.3			5.3			19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	11	11	5	5	18	146	18	5	90	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	21	0	0	182	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 23.9%	ICU Level of Service A											
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	10	10	5	5	17	134	17	5	83	5
Future Vol, veh/h	5	5	10	10	5	5	17	134	17	5	83	5
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	5	5	11	11	5	5	18	146	18	5	90	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	299	303	93	302	296	155	95	0	0	164	0	0
Stage 1	103	103	-	191	191	-	-	-	-	-	-	-
Stage 2	196	200	-	111	105	-	-	-	-	-	-	-
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	653	610	964	650	616	891	1499	-	-	1414	-	-
Stage 1	903	810	-	811	742	-	-	-	-	-	-	-
Stage 2	806	736	-	894	808	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	636	600	964	630	606	891	1499	-	-	1414	-	-
Mov Cap-2 Maneuver	636	600	-	630	606	-	-	-	-	-	-	-
Stage 1	891	807	-	800	732	-	-	-	-	-	-	-
Stage 2	785	726	-	874	805	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.9		10.5		0.8		0.4					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1499	-	-	753	673	1414	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.029	0.032	0.004	-	-				
HCM Control Delay (s)	7.4	0	-	9.9	10.5	7.6	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
8: Lyric St & I19

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	165	99	5	5	10
Future Volume (vph)	17	165	99	5	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.994		0.907	
Flt Protected		0.995			0.985	
Satd. Flow (prot)	0	1853	1852	0	1664	0
Flt Permitted		0.995			0.985	
Satd. Flow (perm)	0	1853	1852	0	1664	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		437	709		252	
Travel Time (s)		9.9	16.1		5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	179	108	5	5	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	197	113	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 26.3%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	165	99	5	5	10
Future Vol, veh/h	17	165	99	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	179	108	5	5	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	113	0	-	0	326	111
Stage 1	-	-	-	-	111	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1476	-	-	-	668	942
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1476	-	-	-	659	942
Mov Cap-2 Maneuver	-	-	-	-	659	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	821	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		9.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1476	-	-	-	824	
HCM Lane V/C Ratio	0.013	-	-	-	0.02	
HCM Control Delay (s)	7.5	0	-	-	9.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
9: Lyric St & Havana St

JR Engineering
02/28/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	37	73	175	62	121	209
Future Volume (vph)	37	73	175	62	121	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		150	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	391		575			624
Travel Time (s)	8.9		13.1			14.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	79	190	67	132	227
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	79	190	67	132	227
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.2%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	73	175	62	121	209
Future Vol, veh/h	37	73	175	62	121	209
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	79	190	67	132	227
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	681	190	0	0	257	0
Stage 1	190	-	-	-	-	-
Stage 2	491	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	416	852	-	-	1308	-
Stage 1	842	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	374	852	-	-	1308	-
Mov Cap-2 Maneuver	374	-	-	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.8	0	3			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 374 852 1308	-	-		
HCM Lane V/C Ratio	-	- 0.108 0.093 0.101	-	-		
HCM Control Delay (s)	-	- 15.8 9.7 8.1	-	-		
HCM Lane LOS	-	- C A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.4 0.3 0.3	-	-		

Lanes, Volumes, Timings
1: Lyric St & I12

JR Engineering
02/28/2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	5	5	116	69	5
Future Volume (vph)	12	5	5	116	69	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962				0.992	
Flt Protected	0.965			0.998		
Satd. Flow (prot)	1729	0	0	1859	1848	0
Flt Permitted	0.965			0.998		
Satd. Flow (perm)	1729	0	0	1859	1848	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	429			408	318	
Travel Time (s)	9.8			9.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	5	5	126	75	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	131	80	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.2%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	5	5	116	69	5
Future Vol, veh/h	12	5	5	116	69	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	5	5	126	75	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	214	78	80	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	774	983	1518	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	771	983	1518	-	-	-
Mov Cap-2 Maneuver	771	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.5	0.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1518	-	823	-	-	
HCM Lane V/C Ratio	0.004	-	0.022	-	-	
HCM Control Delay (s)	7.4	0	9.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Lanes, Volumes, Timings
2: I13 & Lyric St

JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	5	5	5	5	35	5	71	5	12	55	5
Future Volume (vph)	12	5	5	5	5	35	5	71	5	12	55	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.893			0.992			0.991	
Flt Protected		0.973			0.995			0.997			0.992	
Satd. Flow (prot)	0	1760	0	0	1655	0	0	1842	0	0	1831	0
Flt Permitted		0.973			0.995			0.997			0.992	
Satd. Flow (perm)	0	1760	0	0	1655	0	0	1842	0	0	1831	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		352			342			260			408	
Travel Time (s)		8.0			7.8			5.9			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	5	5	5	5	38	5	77	5	13	60	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	0	0	48	0	0	87	0	0	78	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	5	5	5	5	35	5	71	5	12	55	5
Future Vol, veh/h	12	5	5	5	5	35	5	71	5	12	55	5
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	13	5	5	5	5	38	5	77	5	13	60	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	200	181	63	184	181	80	65	0	0	82	0	0
Stage 1	89	89	-	90	90	-	-	-	-	-	-	-
Stage 2	111	92	-	94	91	-	-	-	-	-	-	-
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	759	713	1002	777	713	980	1537	-	-	1515	-	-
Stage 1	918	821	-	917	820	-	-	-	-	-	-	-
Stage 2	894	819	-	913	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	719	704	1002	761	704	980	1537	-	-	1515	-	-
Mov Cap-2 Maneuver	719	704	-	761	704	-	-	-	-	-	-	-
Stage 1	915	814	-	914	818	-	-	-	-	-	-	-
Stage 2	851	817	-	894	813	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.9		9.2		0.5		1.2					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1537	-	-	764	911	1515	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.031	0.054	0.009	-	-				
HCM Control Delay (s)	7.4	0	-	9.9	9.2	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

Lanes, Volumes, Timings
3: Lyric St & I14

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	57	55	5	16	18
Future Volume (vph)	6	57	55	5	16	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.990		0.927	
Flt Protected		0.995			0.978	
Satd. Flow (prot)	0	1853	1844	0	1689	0
Flt Permitted		0.995			0.978	
Satd. Flow (perm)	0	1853	1844	0	1689	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		638	716		239	
Travel Time (s)		14.5	16.3		5.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	62	60	5	17	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	69	65	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.0%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	57	55	5	16	18
Future Vol, veh/h	6	57	55	5	16	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	62	60	5	17	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	65	0	-	0	139	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1537	-	-	-	854	1002
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1537	-	-	-	850	1002
Mov Cap-2 Maneuver	-	-	-	-	850	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	947	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		9.1		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1537	-	-	-	-	924
HCM Lane V/C Ratio	0.004	-	-	-	-	0.04
HCM Control Delay (s)	7.4	0	-	-	-	9.1
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0.1

Lanes, Volumes, Timings

4: I15 & Lyric St

JR Engineering
02/28/2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	59	5	5	71	16	5
Future Volume (vph)	59	5	5	71	16	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990				0.969	
Flt Protected				0.997	0.963	
Satd. Flow (prot)	1844	0	0	1857	1738	0
Flt Permitted				0.997	0.963	
Satd. Flow (perm)	1844	0	0	1857	1738	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	444			638	227	
Travel Time (s)	10.1			14.5	5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	5	5	77	17	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	0	82	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.8%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	5	5	71	16	5
Future Vol, veh/h	59	5	5	71	16	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	5	5	77	17	5
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	69	0	154	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1532	-	838	997
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1532	-	835	997
Mov Cap-2 Maneuver	-	-	-	-	835	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	933	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.5		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	869	-	-	1532	-	
HCM Lane V/C Ratio	0.026	-	-	0.004	-	
HCM Control Delay (s)	9.3	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Lanes, Volumes, Timings
5: Lyric St & I16

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	60	86	5	5	16
Future Volume (vph)	5	60	86	5	5	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993		0.896	
Flt Protected		0.996			0.989	
Satd. Flow (prot)	0	1855	1850	0	1651	0
Flt Permitted		0.996			0.989	
Satd. Flow (perm)	0	1855	1850	0	1651	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		249	444		264	
Travel Time (s)		5.7	10.1		6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	65	93	5	5	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	70	98	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 17.3%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	60	86	5	5	16
Future Vol, veh/h	5	60	86	5	5	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	65	93	5	5	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	98	0	-	0	171	96
Stage 1	-	-	-	-	96	-
Stage 2	-	-	-	-	75	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1495	-	-	-	819	960
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	948	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	817	960
Mov Cap-2 Maneuver	-	-	-	-	817	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	948	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		9		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1495	-	-	-	922	
HCM Lane V/C Ratio	0.004	-	-	-	0.025	
HCM Control Delay (s)	7.4	0	-	-	9	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
6: Lyric St & I17

JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	16	16	5	5	5	57	5	5	99	5
Future Volume (vph)	5	5	16	16	5	5	5	57	5	5	99	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.915			0.975			0.991			0.994	
Flt Protected		0.991			0.969			0.997			0.998	
Satd. Flow (prot)	0	1689	0	0	1760	0	0	1840	0	0	1848	0
Flt Permitted		0.991			0.969			0.997			0.998	
Satd. Flow (perm)	0	1689	0	0	1760	0	0	1840	0	0	1848	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		257			307			871			312	
Travel Time (s)		5.8			7.0			19.8			7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	17	17	5	5	5	62	5	5	108	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	27	0	0	72	0	0	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.2%											
Analysis Period (min)	15											
	ICU Level of Service A											

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	16	16	5	5	5	57	5	5	99	5
Future Vol, veh/h	5	5	16	16	5	5	5	57	5	5	99	5
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	5	5	17	17	5	5	5	62	5	5	108	5
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	201	198	111	207	198	65	113	0	0	67	0	0
Stage 1	121	121	-	75	75	-	-	-	-	-	-	-
Stage 2	80	77	-	132	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	757	698	942	751	698	999	1476	-	-	1535	-	-
Stage 1	883	796	-	934	833	-	-	-	-	-	-	-
Stage 2	929	831	-	871	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	744	693	942	728	693	999	1476	-	-	1535	-	-
Mov Cap-2 Maneuver	744	693	-	728	693	-	-	-	-	-	-	-
Stage 1	879	794	-	930	830	-	-	-	-	-	-	-
Stage 2	914	828	-	847	792	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.4		9.9			0.6			0.3			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1476	-	-	841	760	1535	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.034	0.037	0.004	-	-				
HCM Control Delay (s)	7.4	0	-	9.4	9.9	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
7: I18 & Lyric St

JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	16	16	5	5	5	59	5	5	129	5
Future Volume (vph)	5	5	16	16	5	5	5	59	5	5	129	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.915			0.975			0.991			0.995	
Flt Protected		0.991			0.969			0.997			0.998	
Satd. Flow (prot)	0	1689	0	0	1760	0	0	1840	0	0	1850	0
Flt Permitted		0.991			0.969			0.997			0.998	
Satd. Flow (perm)	0	1689	0	0	1760	0	0	1840	0	0	1850	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		226			269			235			871	
Travel Time (s)		5.1			6.1			5.3			19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	17	17	5	5	5	64	5	5	140	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	27	0	0	74	0	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 18.8%	ICU Level of Service A											
Analysis Period (min) 15												

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	5	5	16	16	5	5	5	59	5	5	129	5
Future Vol, veh/h	5	5	16	16	5	5	5	59	5	5	129	5
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	5	5	17	17	5	5	5	64	5	5	140	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	235	232	143	241	232	67	145	0	0	69	0	0
Stage 1	153	153	-	77	77	-	-	-	-	-	-	-
Stage 2	82	79	-	164	155	-	-	-	-	-	-	-
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	720	668	905	713	668	997	1437	-	-	1532	-	-
Stage 1	849	771	-	932	831	-	-	-	-	-	-	-
Stage 2	926	829	-	838	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	707	663	905	691	663	997	1437	-	-	1532	-	-
Mov Cap-2 Maneuver	707	663	-	691	663	-	-	-	-	-	-	-
Stage 1	846	768	-	928	828	-	-	-	-	-	-	-
Stage 2	911	826	-	813	766	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.6		10.1		0.5		0.3					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1437	-	-	805	728	1532	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.035	0.039	0.004	-	-				
HCM Control Delay (s)	7.5	0	-	9.6	10.1	7.4	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
8: Lyric St & I19

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	66	160	5	5	16
Future Volume (vph)	5	66	160	5	5	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.996		0.896	
Flt Protected		0.997			0.989	
Satd. Flow (prot)	0	1857	1855	0	1651	0
Flt Permitted		0.997			0.989	
Satd. Flow (perm)	0	1857	1855	0	1651	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		437	709		277	
Travel Time (s)		9.9	16.1		6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	72	174	5	5	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	77	179	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 18.7%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	66	160	5	5	16
Future Vol, veh/h	5	66	160	5	5	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	72	174	5	5	17
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	179	0	-	0	259	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	82	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1397	-	-	-	730	866
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1397	-	-	-	727	866
Mov Cap-2 Maneuver	-	-	-	-	727	-
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	941	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		9.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1397	-	-	-	828	
HCM Lane V/C Ratio	0.004	-	-	-	0.028	
HCM Control Delay (s)	7.6	0	-	-	9.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
9: Lyric St & Havana St

JR Engineering
02/28/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	114	234	34	37	159
Future Volume (vph)	63	114	234	34	37	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		150	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	391		575			624
Travel Time (s)	8.9		13.1			14.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	124	254	37	40	173
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	124	254	37	40	173
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.1%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	3.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	114	234	34	37	159
Future Vol, veh/h	63	114	234	34	37	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	124	254	37	40	173
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	507	254	0	0	291	0
Stage 1	254	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	525	785	-	-	1271	-
Stage 1	788	-	-	-	-	-
Stage 2	789	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	509	785	-	-	1271	-
Mov Cap-2 Maneuver	509	-	-	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.4	0	1.5			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 509 785 1271	-	-		
HCM Lane V/C Ratio	-	- 0.135 0.158 0.032	-	-		
HCM Control Delay (s)	-	- 13.2 10.4 7.9	-	-		
HCM Lane LOS	-	- B B A	-	-		
HCM 95th %tile Q(veh)	-	- 0.5 0.6 0.1	-	-		

Lanes, Volumes, Timings
1: Lyric St & I12

JR Engineering
02/28/2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	5	5	95	119	13
Future Volume (vph)	8	5	5	95	119	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.952				0.987	
Flt Protected	0.969			0.998		
Satd. Flow (prot)	1718	0	0	1859	1839	0
Flt Permitted	0.969			0.998		
Satd. Flow (perm)	1718	0	0	1859	1839	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	429			408	318	
Travel Time (s)	9.8			9.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	5	5	103	129	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	108	143	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	19.1%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	5	5	95	119	13
Future Vol, veh/h	8	5	5	95	119	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	5	5	103	129	14
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	249	136	143	0	-	0
Stage 1	136	-	-	-	-	-
Stage 2	113	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	739	913	1440	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	736	913	1440	-	-	-
Mov Cap-2 Maneuver	736	-	-	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.6	0.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1440	-	795	-	-	
HCM Lane V/C Ratio	0.004	-	0.018	-	-	
HCM Control Delay (s)	7.5	0	9.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Lanes, Volumes, Timings
2: I13 & Lyric St

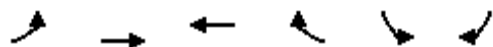
JR Engineering
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	5	5	5	5	23	5	66	5	38	70	13
Future Volume (vph)	8	5	5	5	5	23	5	66	5	38	70	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.904			0.992			0.986	
Flt Protected		0.977			0.993			0.997			0.985	
Satd. Flow (prot)	0	1754	0	0	1672	0	0	1842	0	0	1809	0
Flt Permitted		0.977			0.993			0.997			0.985	
Satd. Flow (perm)	0	1754	0	0	1672	0	0	1842	0	0	1809	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		352			342			260			408	
Travel Time (s)		8.0			7.8			5.9			9.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	5	5	5	5	25	5	72	5	41	76	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	35	0	0	82	0	0	131	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	60		60	15		60	60		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 23.2%	ICU Level of Service A											
Analysis Period (min) 15												

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	8	5	5	5	5	23	5	66	5	38	70	13
Future Vol, veh/h	8	5	5	5	5	23	5	66	5	38	70	13
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	9	5	5	5	5	25	5	72	5	41	76	14
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	265	252	83	255	257	75	90	0	0	77	0	0
Stage 1	165	165	-	85	85	-	-	-	-	-	-	-
Stage 2	100	87	-	170	172	-	-	-	-	-	-	-
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	688	651	976	698	647	986	1505	-	-	1522	-	-
Stage 1	837	762	-	923	824	-	-	-	-	-	-	-
Stage 2	906	823	-	832	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	650	631	976	674	627	986	1505	-	-	1522	-	-
Mov Cap-2 Maneuver	650	631	-	674	627	-	-	-	-	-	-	-
Stage 1	834	741	-	920	822	-	-	-	-	-	-	-
Stage 2	875	821	-	798	735	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.2		9.4		0.5		2.3					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1505	-	-	710	852	1522	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.028	0.042	0.027	-	-				
HCM Control Delay (s)	7.4	0	-	10.2	9.4	7.4	0	-				
HCM Lane LOS	A	A	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-				

Lanes, Volumes, Timings
3: Lyric St & I14

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	62	56	17	10	11
Future Volume (vph)	19	62	56	17	10	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.969		0.930	
Flt Protected		0.988			0.977	
Satd. Flow (prot)	0	1840	1805	0	1693	0
Flt Permitted		0.988			0.977	
Satd. Flow (perm)	0	1840	1805	0	1693	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		638	716		239	
Travel Time (s)		14.5	16.3		5.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	67	61	18	11	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	88	79	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.0%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	62	56	17	10	11
Future Vol, veh/h	19	62	56	17	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	67	61	18	11	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	79	0	-	0	179	70
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	109	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1519	-	-	-	811	993
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1519	-	-	-	800	993
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	916	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.7	0		9.1		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1519	-	-	-	891	
HCM Lane V/C Ratio	0.014	-	-	-	0.026	
HCM Control Delay (s)	7.4	0	-	-	9.1	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings

4: I15 & Lyric St

JR Engineering
02/28/2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	78	17	5	63	10	5
Future Volume (vph)	78	17	5	63	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976				0.958	
Flt Protected				0.997	0.967	
Satd. Flow (prot)	1818	0	0	1857	1726	0
Flt Permitted				0.997	0.967	
Satd. Flow (perm)	1818	0	0	1857	1726	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	444			638	227	
Travel Time (s)	10.1			14.5	5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	18	5	68	11	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	73	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.4%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	78	17	5	63	10	5
Future Vol, veh/h	78	17	5	63	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	18	5	68	11	5
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	103	0	172	94
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1489	-	818	963
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1489	-	816	963
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	942	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.5		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	860	-	-	1489	-	
HCM Lane V/C Ratio	0.019	-	-	0.004	-	
HCM Control Delay (s)	9.3	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Lanes, Volumes, Timings
5: Lyric St & I16

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	92	69	5	5	10
Future Volume (vph)	17	92	69	5	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.992		0.907	
Flt Protected		0.992			0.985	
Satd. Flow (prot)	0	1848	1848	0	1664	0
Flt Permitted		0.992			0.985	
Satd. Flow (perm)	0	1848	1848	0	1664	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		249	444		264	
Travel Time (s)		5.7	10.1		6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	100	75	5	5	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	118	80	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.4%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	92	69	5	5	10
Future Vol, veh/h	17	92	69	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	100	75	5	5	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	80	0	-	0	214	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1518	-	-	-	774	983
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1518	-	-	-	764	983
Mov Cap-2 Maneuver	-	-	-	-	764	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	890	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		9.1		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1518	-	-	-	897	
HCM Lane V/C Ratio	0.012	-	-	-	0.018	
HCM Control Delay (s)	7.4	0	-	-	9.1	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
6: Lyric St & I17

JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	10	10	5	5	17	104	17	5	71	5
Future Volume (vph)	5	5	10	10	5	5	17	104	17	5	71	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.929			0.968			0.984			0.992	
Flt Protected		0.988			0.974			0.994			0.997	
Satd. Flow (prot)	0	1710	0	0	1756	0	0	1822	0	0	1842	0
Flt Permitted		0.988			0.974			0.994			0.997	
Satd. Flow (perm)	0	1710	0	0	1756	0	0	1822	0	0	1842	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		257			307			871			312	
Travel Time (s)		5.8			7.0			19.8			7.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	11	11	5	5	18	113	18	5	77	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	21	0	0	149	0	0	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 22.0%	ICU Level of Service A											
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	10	10	5	5	17	104	17	5	71	5
Future Vol, veh/h	5	5	10	10	5	5	17	104	17	5	71	5
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	5	5	11	11	5	5	18	113	18	5	77	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	253	257	80	256	250	122	82	0	0	131	0	0
Stage 1	90	90	-	158	158	-	-	-	-	-	-	-
Stage 2	163	167	-	98	92	-	-	-	-	-	-	-
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	700	647	980	697	653	929	1515	-	-	1454	-	-
Stage 1	917	820	-	844	767	-	-	-	-	-	-	-
Stage 2	839	760	-	908	819	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	683	636	980	676	642	929	1515	-	-	1454	-	-
Mov Cap-2 Maneuver	683	636	-	676	642	-	-	-	-	-	-	-
Stage 1	905	817	-	833	757	-	-	-	-	-	-	-
Stage 2	817	750	-	888	816	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.7		10.2		0.9		0.5					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1515	-	-	788	715	1454	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.028	0.03	0.004	-	-				
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 Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
7: I18 & Lyric St

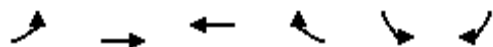
JR Engineering
02/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	10	10	5	5	17	134	17	5	83	5
Future Volume (vph)	5	5	10	10	5	5	17	134	17	5	83	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.929			0.968			0.987			0.993	
Flt Protected		0.988			0.974			0.995			0.998	
Satd. Flow (prot)	0	1710	0	0	1756	0	0	1829	0	0	1846	0
Flt Permitted		0.988			0.974			0.995			0.998	
Satd. Flow (perm)	0	1710	0	0	1756	0	0	1829	0	0	1846	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		226			269			235			871	
Travel Time (s)		5.1			6.1			5.3			19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	5	11	11	5	5	18	146	18	5	90	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	21	0	0	182	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 23.9%	ICU Level of Service A											
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	5	10	10	5	5	17	134	17	5	83	5
Future Vol, veh/h	5	5	10	10	5	5	17	134	17	5	83	5
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	5	5	11	11	5	5	18	146	18	5	90	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	299	303	93	302	296	155	95	0	0	164	0	0
Stage 1	103	103	-	191	191	-	-	-	-	-	-	-
Stage 2	196	200	-	111	105	-	-	-	-	-	-	-
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	653	610	964	650	616	891	1499	-	-	1414	-	-
Stage 1	903	810	-	811	742	-	-	-	-	-	-	-
Stage 2	806	736	-	894	808	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	636	600	964	630	606	891	1499	-	-	1414	-	-
Mov Cap-2 Maneuver	636	600	-	630	606	-	-	-	-	-	-	-
Stage 1	891	807	-	800	732	-	-	-	-	-	-	-
Stage 2	785	726	-	874	805	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.9		10.5		0.8		0.4					
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1499	-	-	753	673	1414	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.029	0.032	0.004	-	-				
HCM Control Delay (s)	7.4	0	-	9.9	10.5	7.6	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Lanes, Volumes, Timings
8: Lyric St & I19

JR Engineering
02/28/2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	165	99	5	5	10
Future Volume (vph)	17	165	99	5	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.994		0.907	
Flt Protected		0.995			0.985	
Satd. Flow (prot)	0	1853	1852	0	1664	0
Flt Permitted		0.995			0.985	
Satd. Flow (perm)	0	1853	1852	0	1664	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		437	709		277	
Travel Time (s)		9.9	16.1		6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	179	108	5	5	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	197	113	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 26.3%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	165	99	5	5	10
Future Vol, veh/h	17	165	99	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	179	108	5	5	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	113	0	-	0	326	111
Stage 1	-	-	-	-	111	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1476	-	-	-	668	942
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1476	-	-	-	659	942
Mov Cap-2 Maneuver	-	-	-	-	659	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	821	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		9.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1476	-	-	-	824	
HCM Lane V/C Ratio	0.013	-	-	-	0.02	
HCM Control Delay (s)	7.5	0	-	-	9.5	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Lanes, Volumes, Timings
9: Lyric St & Havana St

JR Engineering
02/28/2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	37	73	213	62	121	254
Future Volume (vph)	37	73	213	62	121	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		150	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	391		575			624
Travel Time (s)	8.9		13.1			14.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	79	232	67	132	276
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	79	232	67	132	276
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.2%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	73	213	62	121	254
Future Vol, veh/h	37	73	213	62	121	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	79	232	67	132	276
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	772	232	0	0	299	0
Stage 1	232	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	368	807	-	-	1262	-
Stage 1	807	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	329	807	-	-	1262	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.5	0	2.6			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 329 807 1262	-	-		
HCM Lane V/C Ratio	-	- 0.122 0.098 0.104	-	-		
HCM Control Delay (s)	-	- 17.5 9.9 8.2	-	-		
HCM Lane LOS	-	- C A A	-	-		
HCM 95th %tile Q(veh)	-	- 0.4 0.3 0.3	-	-		

Appendix C

MUTCD Traffic Signal Warrants Report

Warrants Summary Report

1: Havana St & Lyric St

Intersection Information

	Major Street	Minor Street
Street Name	Havana St	Lyric St
Direction	NB/SB	WB
Number of Lane	1	1
Approach Speed	45	30

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	No	
Condition A or B Met?	No	2 Hours met (8 required)
Condition A and B Met?	No	1 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	No	2 Hours met (4 required)
Warrant 3, Peak Hour		
	No	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	No	0 Hours met (1 required)
Warrant 4, Pedestrian Volume		
	No	
Condition A Met?	No	0 Hours met (4 required)
Condition B Met?	No	0 Hours met (1 required)
Warrant 5, School Crossing		
	No	

Warrant 6, Coordinated Signal System**No****Warrant 7, Crash Experience****No**Traffic Volume Condi **No** 2 Hours met (8 required)Ped Condition? **No** 0 Hours met (8 required)**Warrant 8, Roadway Network****No****Warrant 9, Intersection Near a Grade Crossing****No****AWSC Warrant, Multiway Stop Application****No**Condition A Met? **No**Condition B Met? **No**Condition C Met? **No**

Warrant 1: Eight-hour Vehicular Volume

1: Havana St & Lyric St

Intersection Information

Major Street Name: Havana St

Major Street Direction: NB/SB

Minor Street Direction: WB

WARRANT 1 MET? **No**

Details:

Condition A Met? **No** 2 Hours met (8 required)

Condition B Met? **No** 1 Hours met (8 required)

Hour	Major Street Vehicles (Total of Both Approaches)		High Volume Minor Approach Vehicles		70% Standard Met? Cond. A OR Cond. B		56% Standard Met? Cond. A AND Cond. B	
					Condition A 70% Column	Condition B 70% Column	Condition A 56% Column	Condition B 56% Column
07:30 to 08:30	400		180		Yes*	No	Yes	No
Condition A	Volume >= 70% column (350)?	Yes	Volume >= 70% column (525)?	Yes				
	Volume >= 56% column (280)?	Yes	Volume >= 56% column (420)?	Yes				
Condition B	Volume >= 70% column (525)?	No	Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (420)?	No	Volume >= 56% column (42)?	Yes				
07:45 to 08:45	300		135		No	No	Yes	No
Condition A	Volume >= 70% column (350)?	No	Volume >= 70% column (525)?	Yes				
	Volume >= 56% column (280)?	Yes	Volume >= 56% column (420)?	Yes				
Condition B	Volume >= 70% column (525)?	No	Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (420)?	No	Volume >= 56% column (42)?	Yes				
08:00 to 09:00	200		90		No	No	No	No
Condition A	Volume >= 70% column (350)?	No	Volume >= 70% column (525)?	No				
	Volume >= 56% column (280)?	No	Volume >= 56% column (420)?	Yes				
Condition B	Volume >= 70% column (525)?	No	Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (420)?	No	Volume >= 56% column (42)?	Yes				
08:15 to 09:15	100		45		No	No	No	No
Condition A	Volume >= 70% column (350)?	No	Volume >= 70% column (525)?	No				
	Volume >= 56% column (280)?	No	Volume >= 56% column (420)?	No				
Condition B	Volume >= 70% column (525)?	No	Volume >= 70% column (53)?	No				
	Volume >= 56% column (420)?	No	Volume >= 56% column (42)?	Yes				

14:30 to 15:30		564	108		Yes*	Yes*	Yes*	Yes*
Condition A	Volume >= 70% column (350)?	Yes	Volume >= 70% column (525)?	Yes				
	Volume >= 56% column (280)?	Yes	Volume >= 56% column (420)?	Yes				
Condition B	Volume >= 70% column (525)?	Yes	Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (420)?	Yes	Volume >= 56% column (42)?	Yes				
14:45 to 15:45		423	81		No	No	No	Yes
Condition A	Volume >= 70% column (350)?	Yes	Volume >= 70% column (525)?	No				
	Volume >= 56% column (280)?	Yes	Volume >= 56% column (420)?	No				
Condition B	Volume >= 70% column (525)?	No	Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (420)?	Yes	Volume >= 56% column (42)?	Yes				
15:00 to 16:00		282	54		No	No	No	No
Condition A	Volume >= 70% column (350)?	No	Volume >= 70% column (525)?	No				
	Volume >= 56% column (280)?	Yes	Volume >= 56% column (420)?	No				
Condition B	Volume >= 70% column (525)?	No	Volume >= 70% column (53)?	Yes				
	Volume >= 56% column (420)?	No	Volume >= 56% column (42)?	Yes				
15:15 to 16:15		141	27		No	No	No	No
Condition A	Volume >= 70% column (350)?	No	Volume >= 70% column (525)?	No				
	Volume >= 56% column (280)?	No	Volume >= 56% column (420)?	No				
Condition B	Volume >= 70% column (525)?	No	Volume >= 70% column (53)?	No				
	Volume >= 56% column (420)?	No	Volume >= 56% column (42)?	No				

Warrant 2: Four-hour Vehicular Volume

1: Havana St & Lyric St

Intersection Information

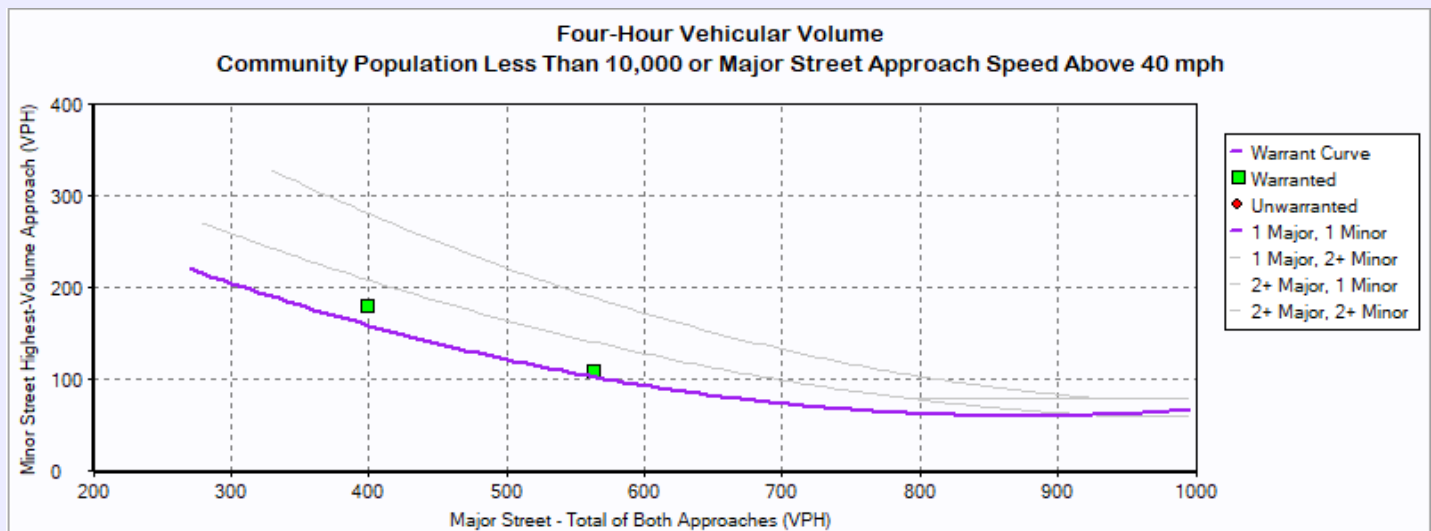
	Major Street	Minor Street
Street Name	Havana St	Lyric St
Direction	NB/SB	WB
Number of Lane:	1	1
Approach Speed	45	30

Warrant 2 Met? **No**

Details:

Notes 2 Hours met (4 required)

Low population **No**



Hourly Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
00:00:00 - 01:00:00	0.00	0.00
01:00:00 - 02:00:00	0.00	0.00
02:00:00 - 03:00:00	0.00	0.00
03:00:00 - 04:00:00	0.00	0.00
04:00:00 - 05:00:00	0.00	0.00
05:00:00 - 06:00:00	0.00	0.00
06:00:00 - 07:00:00	0.00	0.00
07:00:00 - 08:00:00	200.00	90.00
08:00:00 - 09:00:00	200.00	90.00
09:00:00 - 10:00:00	0.00	0.00
10:00:00 - 11:00:00	0.00	0.00
11:00:00 - 12:00:00	0.00	0.00
12:00:00 - 13:00:00	0.00	0.00
13:00:00 - 14:00:00	0.00	0.00
14:00:00 - 15:00:00	282.00	54.00
15:00:00 - 16:00:00	282.00	54.00
16:00:00 - 17:00:00	0.00	0.00
17:00:00 - 18:00:00	0.00	0.00
18:00:00 - 19:00:00	0.00	0.00
19:00:00 - 20:00:00	0.00	0.00
20:00:00 - 21:00:00	0.00	0.00
21:00:00 - 22:00:00	0.00	0.00
22:00:00 - 23:00:00	0.00	0.00
23:00:00 - 00:00:00	0.00	0.00

Warranted Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
07:30:00 - 08:30:00	400.00	180.00
14:30:00 - 15:30:00	564.00	108.00

Warrant 3: Peak Hour

1: Havana St & Lyric St

Intersection Information

	Major Street	Minor Street
Street Name	Havana St	Lyric St
Direction	NB/SB	WB
Number of Lane:	1	1
Approach Speed	45	30

Warrant 3 Met? **No**

Details

Low Population? **No**

Condition A Met? **No**

Condition B Met? **No**

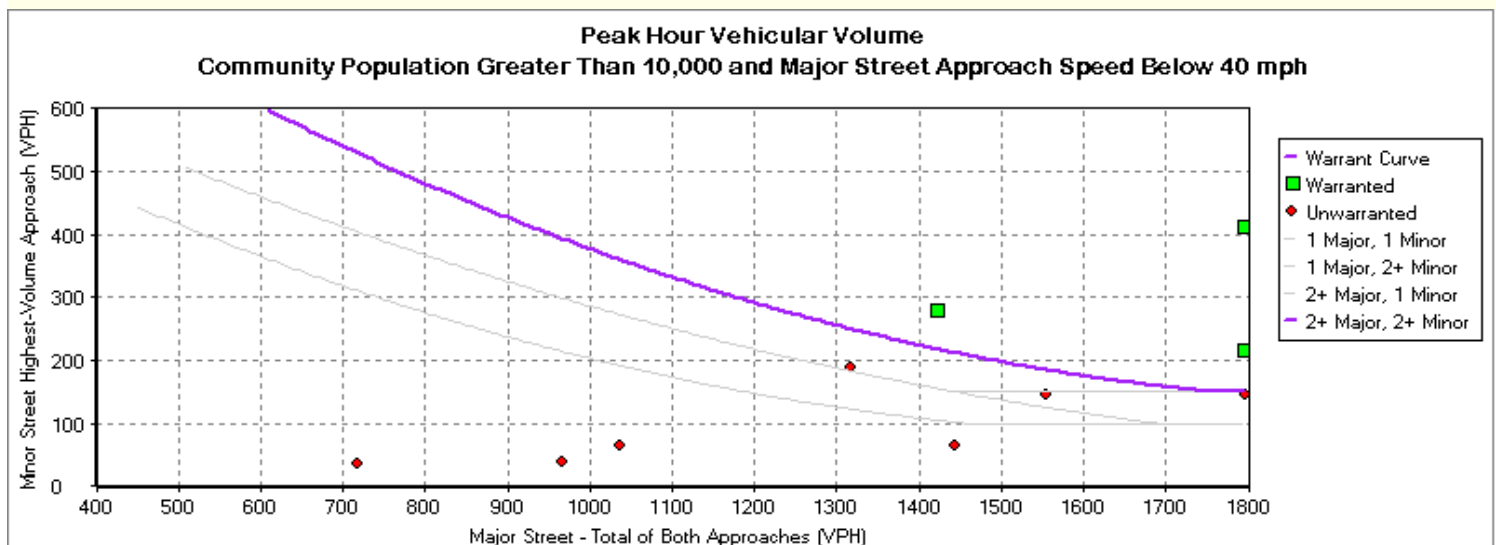
Notes 0 Hours met (1 required)

Notes 0 Hours met (1 required)

Minor Approach Time Delay Condition Met? **Not Met**

Minor Approach Volume Condition Met? **Met**

Total Entering Intersection Volume Condition Met? **Not Met**



Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
7:30	400	180
14:30	564	108

Warrant 4: Pedestrian Volume

1: Havana St & Lyric St

Intersection Information

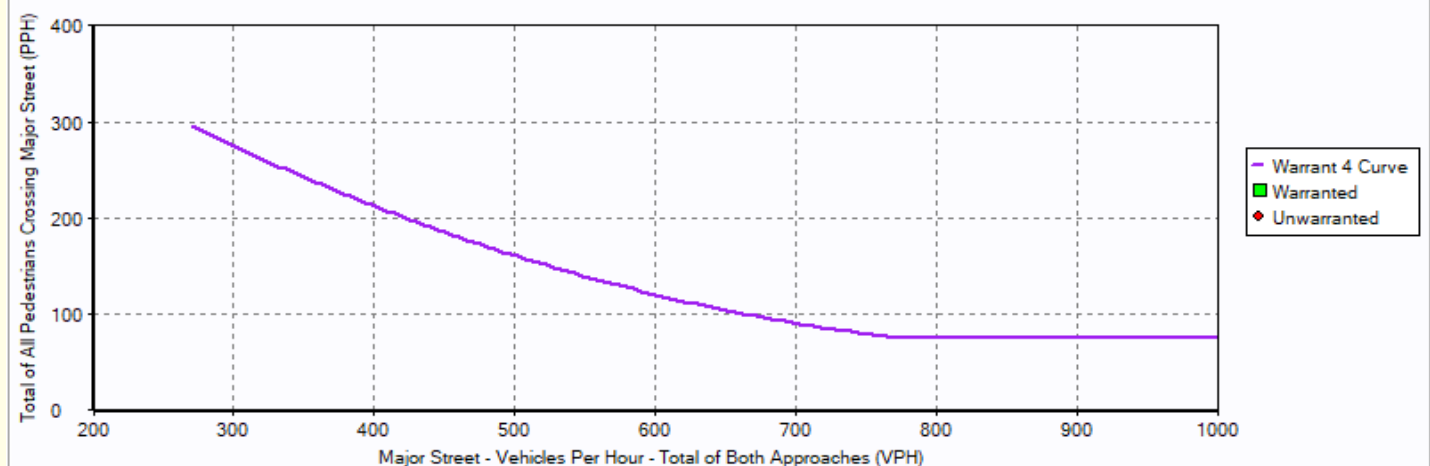
	Major Street	Minor Street
Street Name	Havana St	Lyric St
Direction	NB/SB	WB
Number of Lane	1	1
Approach Speed	45	30

WARRANT 4 MET ? **No**

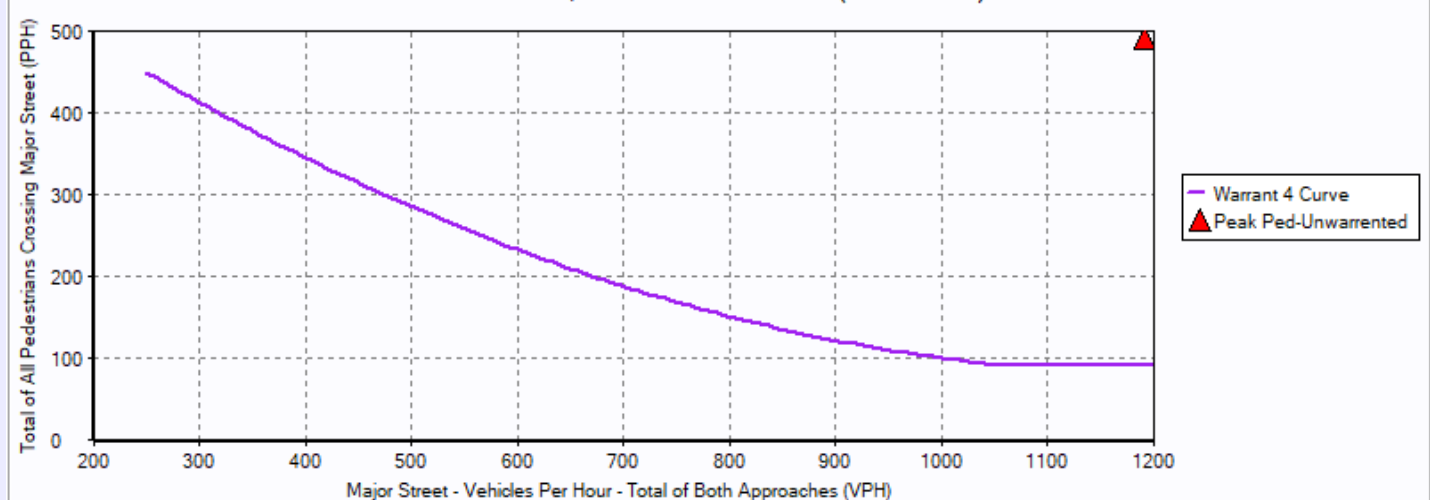
Details

Pedestrian Four Hour Volume Warrant Met?	No	
Pedestrian Peak Hour Warrant Met?	No	Notes 0 Hours met (4 required)
Speed Limit or 85th Percentile Speed on Major Street > 35mph, or Intersection lies within an Isolated Community with Population < 10,000?	Yes	

Warrant 4, Pedestrian Four-Hour Volume (70% Factor)



Warrant 4, Pedestrian Peak Hour (70% Factor)



Warrant 5: School Crossing

1: Havana St & Lyric St

Intersection Information

Major Street Name Havana St

Major Street Direction NB/SB

WARRANT 5 MET? No

Details:

Time Period Interval for Students Crossing (min) 0

Number of Students Crossing in Time Period 0

Number of Adequate Gaps in Time Period 0

Other Remedial Measures Attempted? No

Adjacent Signal on NB approach? No

Distance to signal on NB Approach (ft) -

Adjacent Signal on SB approach? No

Distance to signal on SB Approach (ft) -

Will New Signal Restrict Progressive Traffic? No

Warrant 6: Coordinated Signal System

1: Havana St & Lyric St

Intersection Information

Major Street Name Havana St
Major Street Direction NB/SB

WARRANT 6 MET? No

Details:

Approach Direction & Name	Acceptable Platooning?	Adjacent Coordinating Signal?	Adjacent Intersection Distance
SB Approach (Havana St)	Yes	No	N/A
NB Approach (Havana St)	Yes	No	N/A
WB Approach (Lyric St)	Yes	No	N/A

Unacceptable Platooning?
(At least one approach)

No

Distance to Closest Signal
(Must be N/A or > 1000)

N/A

Warrant 7: Crash Experience

1: Havana St & Lyric St

Intersection Information

Major Street Name	Havana St
Major Street Direction	NB/SB
Minor Street Direction	WB

WARRANT 7 MET? **No**

Details:

Low Population?	No	Traffic Volume Condition Met?	No
Major Street Speed Limit	45		2 Hours Met (8 Required)
Major Street 85th-% tile Speed	0.00	Ped Volume Condition Met?	No
			0 Hours Met (8 Required)
	Qualifying Crashes	0	
	Adequate Alternative Trials?	No	

Hour	Traffic Volumes				Pedestrian Volumes			
	Major Street Vehicles	Minor Street Vehicles	80% Standard Met? A or B		Westbound Ped Volumes		Peds	> 80?
			Condition A	Condition B	Peds	> 80?		
07:30 to 08:30	400	0	No	No	0	No	0	No
07:45 to 08:45	300	0	No	No	0	No	0	No
08:00 to 09:00	200	0	No	No	0	No	0	No
08:15 to 09:15	100	0	No	No	0	No	0	No
14:30 to 15:30	564	0	No	No	0	No	0	No
14:45 to 15:45	423	0	No	No	0	No	0	No
15:00 to 16:00	282	0	No	No	0	No	0	No
15:15 to 16:15	141	0	No	No	0	No	0	No

Warrant 8: Roadway Network

1: Havana St & Lyric St

Intersection Information

Major Street Name Havana St

Major Street Direction NB/SB

Minor Street Direction WB

WARRANT 8 MET? (A or B) **No**

Details:

Growth Rates % (per year)			
	NB	SB	WB
L		0.00	0.00
T	0.00	0.00	
R	0.00		0.00

Condition A, Total Entering Volume		Condition B, Non-normal Business Day		
			Existing	Future
Existing Peak Hour	672	Highest Hour	0	0
Years	0.00	Second Highest Hour	0	0
Future Peak Hour	672	Third Highest Hour	0	0
Warrant 1 in 5 Years?	No	Fourth Highest Hour	0	0
Warrant 2 in 5 Years?	No	Fifth Highest Hour	0	0
Warrant 3 in 5 Years?	No	Yearly Growth Rate (%)	0.00	
		Years	0.00	

Condition A Met? **No**

Condition B Met? **No**

Warrant 9: Intersection Near a Grade Crossing

1: Havana St & Lyric St

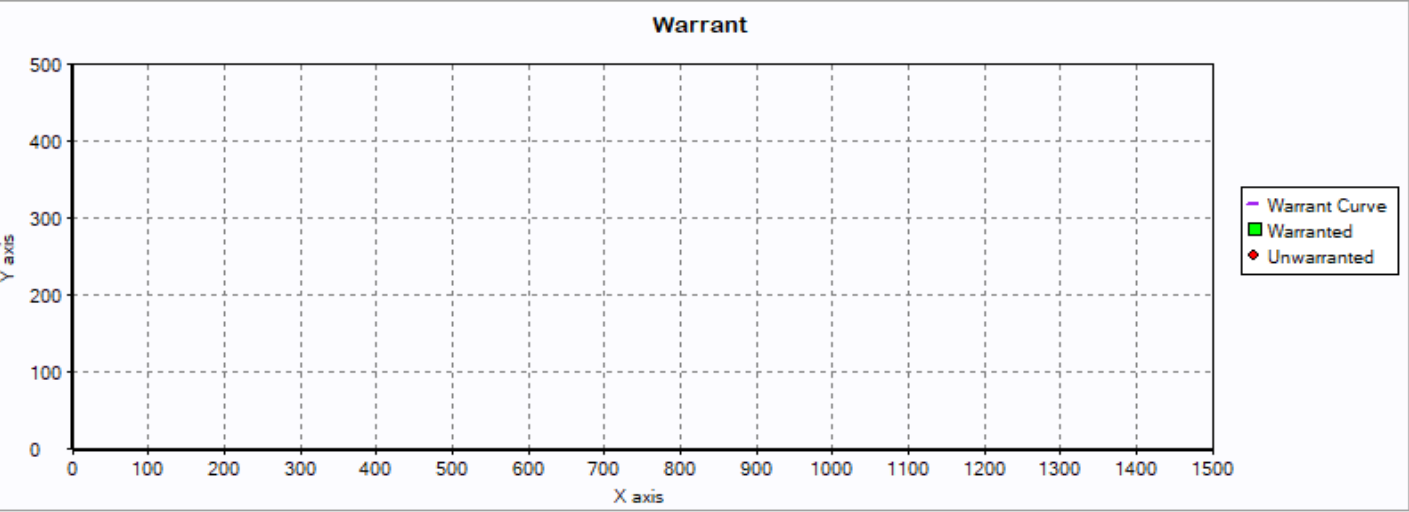
Intersection Information

	Major Street	Minor Street
Street Name	Havana St	Lyric St
Direction	NB/SB	WB
Number of Lane	1	1
Approch Speed	45	30

WARRANT 9 MET ? No

Details

Note	No approach with a railroad grade crossing		
Minor street approach having a grade crossing			
Distance from the center of the track to the stop or yield line	Interpolated		
Number of occurrences of rail traffic per day	Adjustment Factor		
Percentage of high-occupancy buses crossing the track (%)	Adjustment Factor		
Percentage of tractor-trailer trucks crossing the track (%)	Adjustment Factor		
The rail traffic arrival times are unknown, the highest traffic volume hour of the day is used			



Hour	Major Street Total of Both Approaches (vph)	Minor Street Adjusted Volume Crossing Tracks (vph)

All-Way Stop Control Warrant: Multiway Stop Applications

1: Havana St & Lyric St

Intersection Information

Major Street Name: Havana St

Major Street Direction: NB/SB

Minor Street Direction: WB

AWSC WARRANT MET? **No**

Details:

Condition A Met?	No	Qualifying Crashes	0
Condition B Met?	No	Major Street 85th %-tile Speed	0.00
Condition C Met?	No	Major Street Speed Limit	45
Notes: 1 Hours Met (8 Required)			

Hour	Traffic Volumes		Bicycle Volumes		Ped Volumes		Condition C		
	Major Street	Minor Street	North Bound Bicycle Volumes	West Bound Bicycle Volumes	North Bound Ped Volumes	West Bound Ped Volumes	Major Street	Minor Street	
							Veh Vol > 210	Avg(Veh + Ped + Bicycle) > 200	Delay > 30
07:30 to 08:30	400	180	0	0	0	0	False	No	No