

<input type="checkbox"/>	Overnight
<input type="checkbox"/>	Regular Mail
<input type="checkbox"/>	Hand Delivery
X <input type="checkbox"/>	Other: _____email_____

TASK: 100001



Iliff Ave@ Joliet St

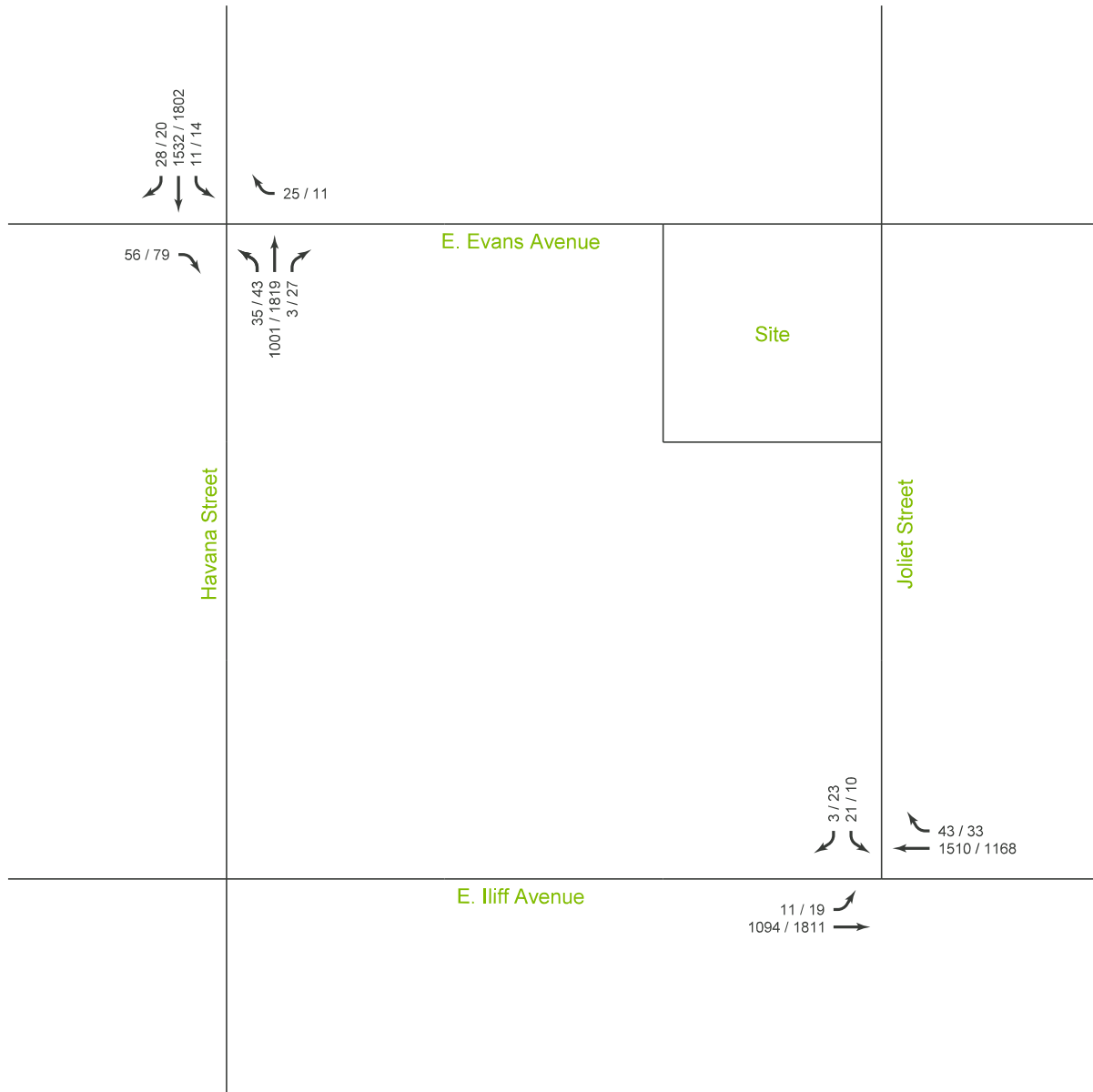
LEGEND

AM / PM Peak Hour Volume



FIGURE 2

Existing Peak Hour Traffic



Capacity analysis was performed on the two key intersections to determine the existing delay or level of service (LOS) under existing traffic volumes. The analysis was conducted using the techniques of the **Highway Capacity Manual, 6th Edition**. The analysis shows that the intersections are currently operating under acceptable conditions with stop sign control. At the intersection of Joliet Street and Iliff Avenue, the southbound left turn currently operates at LOS F during the PM peak hour. This is very common at intersection between local and arterial streets in an urban setting. The capacity worksheets are located in **Appendix B**.

Intersection	Movement	AM		PM	
		LOS	Delay(sec/vehicle)	LOS	Delay(sec/vehicle)
Havana and E. Evans STOP Sign Control	NBL	E	33.4	E	48.5
	EBR	D	22.9	D	33.5
	WBR	D	15.2	C	23.6
	SBL	E	17.0	E	38.1
	OVERALL	E	1.2	A	1.5
Joliet Street and Iliff Avenue STOP Sign Control	EBL	B	14.9	B	12.0
	SBL	D	34.5	F	69.3
	OVERALL	A	0.3	E	0.8

Table 1 – Existing Condition HCM Analysis

Trip generation for the proposed development was determined using the **Institute of Transportation Engineers, Trip Generation Manual, 10th Edition**. The land use code of 220, Low-Rise Multifamily was used since this code represents condominium developments. As can be seen in **Table 2** below, the project is estimated to generate approximately 146 daily trips, 11 morning peak hour trips, and 12 afternoon peak hour trips.

ITE Code	Land Use	units	Daily Rate	Daily Trips	AM Peak Hour				PM Peak Hour			
					Rate	In	Out	Total	Rate	In	Out	Total
220	Low-Rise Multifamily	20	7.32	146	0.56	3	8	11	0.58	7	5	12
				Total		3	8	11		7	5	12

Table 2 - Mountain View Habitat for Humanity Trip Generation

The peak hour trips that will be generated by the development were then assigned to the surrounding roadway network. At this time, there is not a definitive site plan that shows driveways and access, so trips were only assigned to existing public intersections. **Figure 3** below shows the assigned trips to the network.

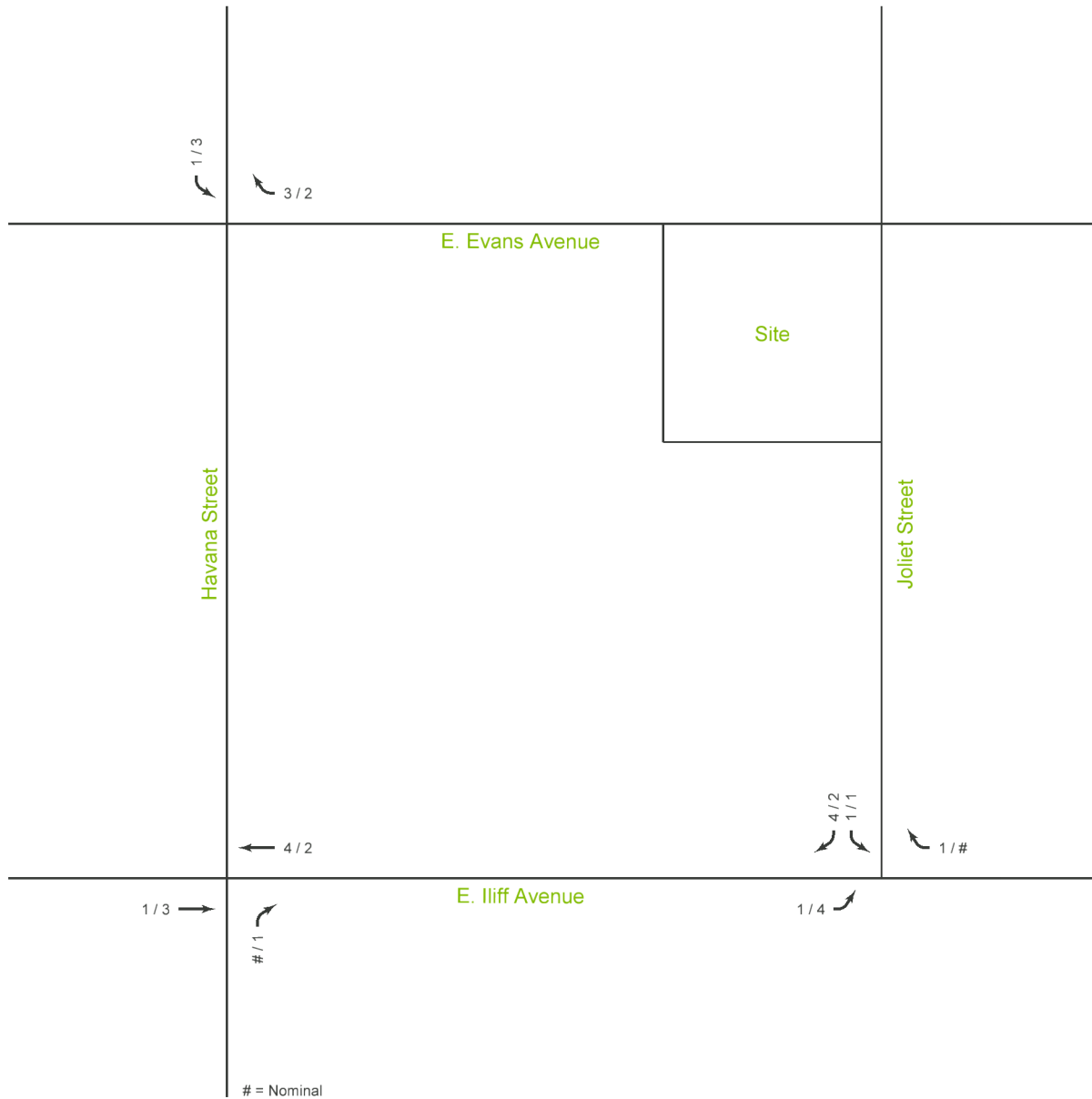
LEGEND

AM / PM Peak Hour Volume



FIGURE 3

Site Distributed Traffic



The amount of new trips produced by the development was then added to the traffic that is currently entering the two key intersections during the peak hours. **Table 3** below displays percent increase to the existing intersections. The results indicate that the development will have an insignificant impact on current operations. The percent increase of traffic is less than a daily variation of traffic volumes.

Intersection	Traffic Entering Intersection	Added Traffic From Habitat Development	% Increase
Ileff Ave and Joliet			
AM	2682	7	0.26%
PM	3065	7	0.23%
Havana Street and E. Evans			
AM	2806	4	0.14%
PM	3857	5	0.13%

Table 3 - Percent Increase to Key Intersections

It is concluded that the Habitat for Humanity development will have an insignificant impact to the traffic operations surrounding the site. Please let me know if additional traffic analysis will be required with the development proposal.



APPENDIX A

RAW TRAFFIC COUNTS



(303) 216-2439
www.alltrafficdata.net

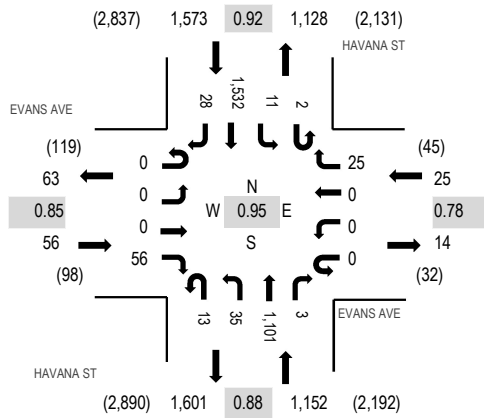
Location: 1 HAVANA ST & EVANS AVE AM

Date: Tuesday, September 24, 2019

Peak Hour: 07:15 AM - 08:15 AM

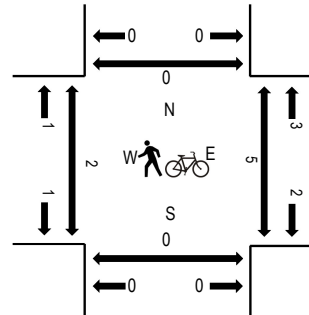
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EVANS AVE Eastbound				EVANS AVE Westbound				HAVANA ST Northbound				HAVANA ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	5	0	0	0	1	1	2	239	1	0	1	293	2	545	2,651	0	0	0	0
7:15 AM	0	0	0	8	0	0	0	7	4	8	241	0	0	1	370	4	643	2,806	1	1	0	0
7:30 AM	0	0	0	17	0	0	0	8	5	12	308	1	0	3	373	10	737	2,754	0	0	0	0
7:45 AM	0	0	0	13	0	0	0	5	2	10	268	1	1	4	414	8	726	2,646	1	3	0	0
8:00 AM	0	0	0	18	0	0	0	5	2	5	284	1	1	3	375	6	700	2,521	0	0	0	0
8:15 AM	0	0	0	12	0	0	0	6	0	12	210	3	0	1	345	2	591		1	1	0	0
8:30 AM	0	0	0	18	0	0	0	6	3	15	267	3	0	1	310	6	629		0	0	0	0
8:45 AM	0	0	0	7	0	0	0	7	2	12	265	5	2	3	293	5	601		1	0	0	0
Count Total	0	0	0	98	0	0	0	45	19	76	2,082	15	4	17	2,773	43	5,172		4	5	0	0
Peak Hour	0	0	0	56	0	0	0	25	13	35	1,101	3	2	11	1,532	28	2,806		2	4	0	0



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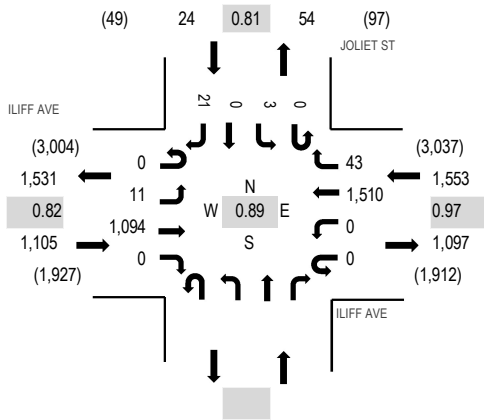
Location: 2 JOLIET ST & ILIFF AVE AM

Date: Tuesday, September 24, 2019

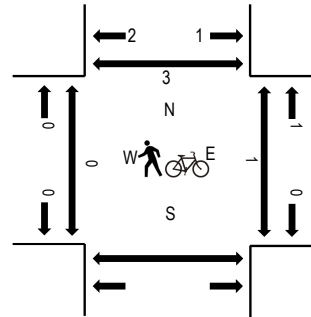
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	ILIFF AVE Eastbound				ILIFF AVE Westbound				Northbound				JOLIET ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	3	156	0	0	0	0	397	6				0	0	0	4	566	2,587	0	0		1
7:15 AM	0	1	220	0	0	0	0	365	11				0	1	0	4	602	2,682	0	1		0
7:30 AM	0	3	289	0	0	0	0	360	10				0	0	0	6	668	2,679	0	0		1
7:45 AM	0	5	336	0	0	0	0	394	10				0	2	0	4	751	2,652	0	0		0
8:00 AM	0	2	249	0	0	0	0	391	12				0	0	0	7	661	2,426	0	0		2
8:15 AM	0	3	228	0	0	0	0	344	15				0	0	0	9	599		0	0		0
8:30 AM	0	1	233	0	0	0	0	392	8				0	0	0	7	641		0	0		0
8:45 AM	0	1	197	0	0	0	0	316	6				0	1	0	4	525		0	0		1
Count Total	0	19	1,908	0	0	0	0	2,959	78				0	4	0	45	5,013		0	1		5
Peak Hour	0	11	1,094	0	0	0	0	1,510	43				0	3	0	21	2,682		0	1		3



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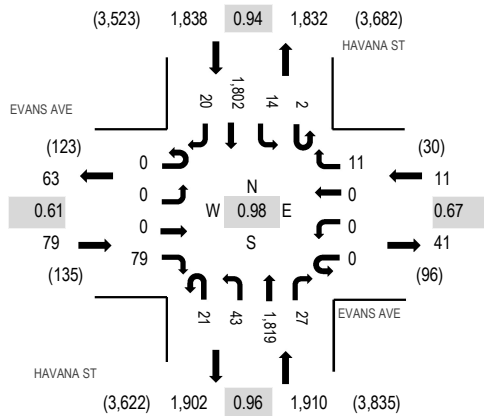
Location: 1 HAVANA ST & EVANS AVE PM

Date: Tuesday, September 24, 2019

Peak Hour: 04:30 PM - 05:30 PM

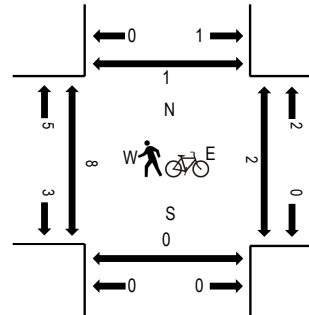
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	EVANS AVE Eastbound				EVANS AVE Westbound				HAVANA ST Northbound				HAVANA ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	10	0	0	0	3	3	12	416	7	0	2	403	5	861	3,747	0	2	0	0
4:15 PM	0	0	0	10	0	0	0	5	4	11	474	7	2	1	442	4	960	3,825	2	2	0	0
4:30 PM	0	0	0	18	0	0	0	0	8	12	449	13	0	2	436	6	944	3,838	1	1	0	0
4:45 PM	0	0	0	17	0	0	0	6	5	13	481	8	1	8	439	4	982	3,804	3	0	0	1
5:00 PM	0	0	0	33	0	0	0	2	5	10	437	1	1	2	443	5	939	3,776	1	0	0	0
5:15 PM	0	0	0	11	0	0	0	3	3	8	452	5	0	2	484	5	973		2	0	0	0
5:30 PM	0	0	0	20	0	0	0	5	3	11	444	9	2	7	404	5	910		4	0	0	0
5:45 PM	0	0	0	16	0	0	0	6	7	9	490	18	3	4	398	3	954		0	2	0	0
Count Total	0	0	0	135	0	0	0	30	38	86	3,643	68	9	28	3,449	37	7,523		13	7	0	1
Peak Hour	0	0	0	79	0	0	0	11	21	43	1,819	27	2	14	1,802	20	3,838		7	1	0	1



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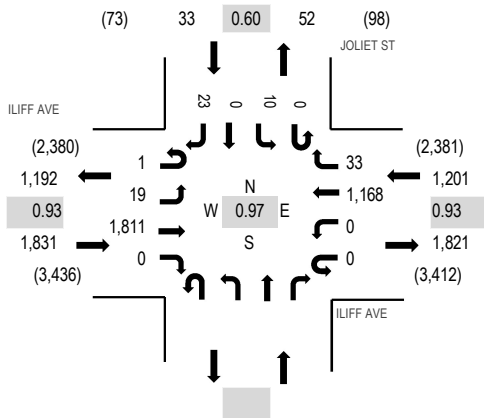
Location: 2 JOLIET ST & ILIFF AVE PM

Date: Tuesday, September 24, 2019

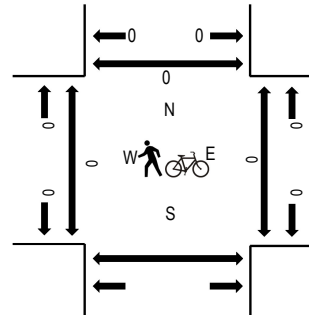
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	ILIFF AVE Eastbound				ILIFF AVE Westbound				Northbound				JOLIET ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	3	372	0	0	0	0	305	4				0	0	0	7	691	2,888	0	0	0	0
4:15 PM	0	5	395	0	0	0	0	290	1				0	2	0	5	698	2,987	0	0	0	0
4:30 PM	0	4	431	0	0	0	0	316	11				0	4	0	6	772	3,065	0	0	0	0
4:45 PM	0	8	428	0	0	0	0	278	5				0	2	0	6	727	3,018	0	0	0	0
5:00 PM	1	4	487	0	0	0	0	281	9				0	3	0	5	790	3,002	0	0	0	0
5:15 PM	0	3	465	0	0	0	0	293	8				0	1	0	6	776		0	0	0	0
5:30 PM	0	6	421	0	0	0	0	278	11				0	3	0	6	725		0	0	0	0
5:45 PM	0	8	395	0	0	0	0	283	8				0	3	0	14	711		0	0	0	0
Count Total	1	41	3,394	0	0	0	0	2,324	57				0	18	0	55	5,890		0	0	0	0
Peak Hour	1	19	1,811	0	0	0	0	1,168	33				0	10	0	23	3,065		0	0	0	0







APPENDIX B

2019 HCM ANALYSIS

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	1094	1510	43	3	21
Future Vol, veh/h	11	1094	1510	43	3	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	135	-	-	-	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	12	1189	1641	47	3	23





Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1688	0	0 2284 844
Stage 1	-	-	- 1665 -
Stage 2	-	-	- 619 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	375	-	- 33 307
Stage 1	-	-	- 139 -
Stage 2	-	-	- 499 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	375	-	- 32 307
Mov Cap-2 Maneuver	-	-	- 32 -
Stage 1	-	-	- 135 -
Stage 2	-	-	- 499 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	34.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	375	-	-	-	148
HCM Lane V/C Ratio	0.032	-	-	-	0.176
HCM Control Delay (s)	14.9	-	-	-	34.5
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	1094	1510	43	3	21
Future Vol, veh/h	11	1094	1510	43	3	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	135	-	-	-	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	12	1189	1641	47	3	23

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1688	0	0 2284 844
Stage 1	-	-	- 1665 -
Stage 2	-	-	- 619 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	375	-	- 33 307
Stage 1	-	-	- 139 -
Stage 2	-	-	- 499 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	375	-	- 32 307
Mov Cap-2 Maneuver	-	-	- 32 -
Stage 1	-	-	- 135 -
Stage 2	-	-	- 499 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	34.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	375	-	-	-	148
HCM Lane V/C Ratio	0.032	-	-	-	0.176
HCM Control Delay (s)	14.9	-	-	-	34.5
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6





HCM 6th TWSC
3: Havana Street & East Evans

10-01-2019

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↗ ↑↑↗			↗ ↑↑↗		
Traffic Vol, veh/h	0	0	79	0	0	11	43	1818	27	14	1802	20
Future Vol, veh/h	0	0	79	0	0	11	43	1818	27	14	1802	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	86	0	0	12	47	1976	29	15	1959	22
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	991	-	-	1003	1981	0	0	2005	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	210	0	0	206	128	-	-	124	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	210	-	-	206	128	-	-	124	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	33.5		23.6		1.1		0.3					
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	128	-	-	210	206	124	-	-				
HCM Lane V/C Ratio	0.365	-	-	0.409	0.058	0.123	-	-				
HCM Control Delay (s)	48.5	-	-	33.5	23.6	38.1	-	-				
HCM Lane LOS	E	-	-	D	C	E	-	-				
HCM 95th %tile Q(veh)	1.5	-	-	1.9	0.2	0.4	-	-				

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	1811	1168	33	10	23
Future Vol, veh/h	11	1811	1168	33	10	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	135	-	-	-	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	12	1968	1270	36	11	25

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1306	0	0 2296 653
Stage 1	-	-	- 1288 -
Stage 2	-	-	- 1008 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	526	-	- 33 410
Stage 1	-	-	- 223 -
Stage 2	-	-	- 313 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	526	-	- 32 410
Mov Cap-2 Maneuver	-	-	- 32 -
Stage 1	-	-	- 218 -
Stage 2	-	-	- 313 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	69.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	526	-	-	-	90
HCM Lane V/C Ratio	0.023	-	-	-	0.399
HCM Control Delay (s)	12	-	-	-	69.3
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6