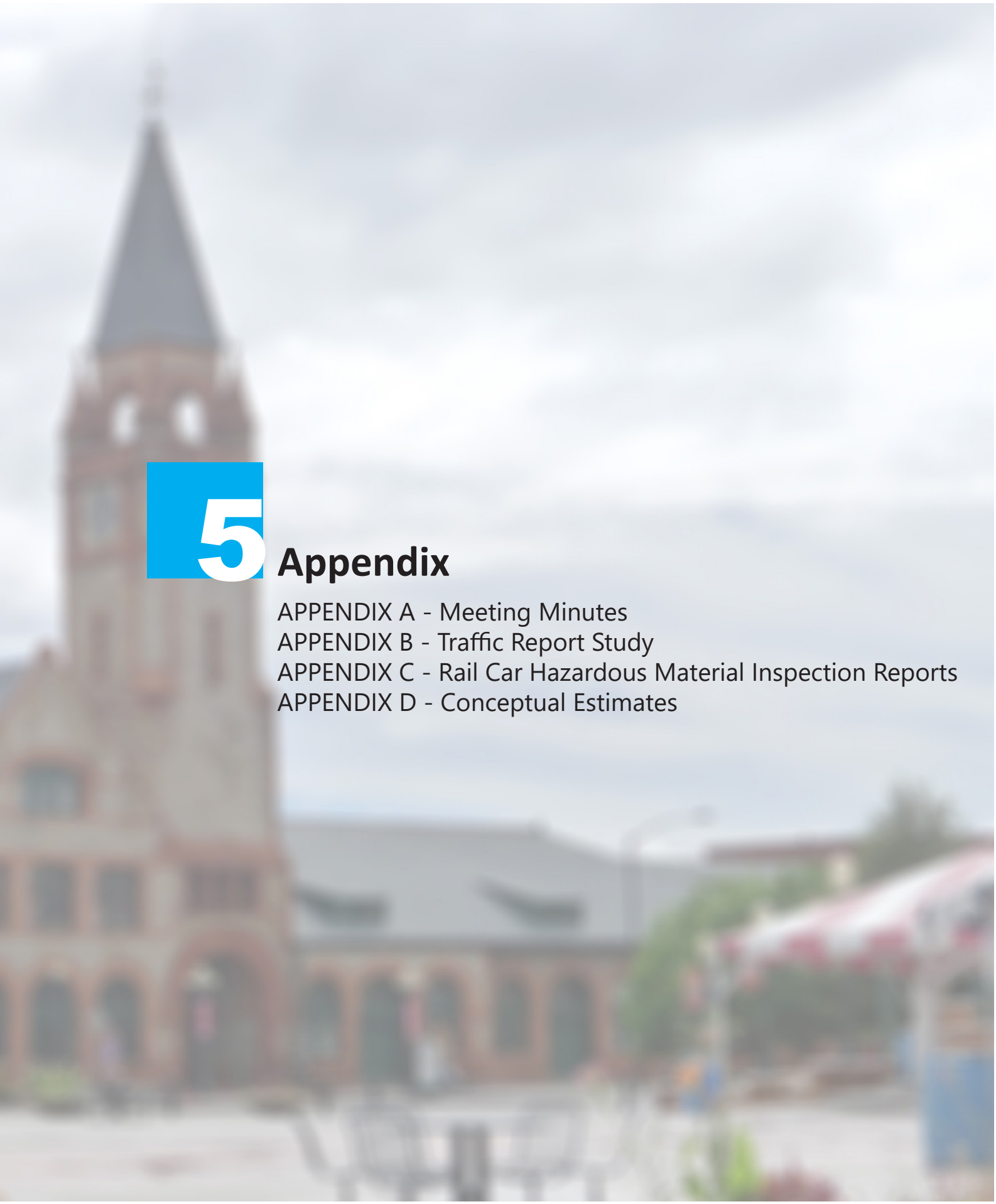

5 Appendix

APPENDIX A - Meeting Minutes
APPENDIX B - Traffic Report Study
APPENDIX C - Rail Car Hazardous Material Inspection Reports
APPENDIX D - Conceptual Estimates

15th Street Closure

Traffic Study

Plan One Architects

Cheyenne, Wyoming

July 8, 2022

Prepared By:

Sustainable Traffic Solutions, Inc.
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Figure 9 – June 2022 Friday Evening Peak Hour Traffic Volumes – Option 2

Figure 10 – June 2045 Friday Evening Peak Hour Traffic Volumes – Option 2

Figure 11 – Diverted Traffic Volumes – Option 1

Figure 12 – Diverted Traffic Volumes – Option 2

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Appendix B VISTRO Analysis Results

15th Street Closure

Traffic Study

1.0 Introduction

This traffic study examines the feasibility of closing 15th Street between Capital Avenue and Carey Avenue. The purpose for closing this block of 15th Street is to create more festival area adjacent to the historic train depot. This additional festival area will likely be used in conjunction with the Cheyenne Depot Plaza which is very active on Friday evenings during the summer months. 15th Street will also be changed from two-way to one-way traffic. This change will allow for diagonal parking on 15th Street.

The study area includes the intersections on Lincolnway and 15th Street between Bent Avenue and Capital Avenue. Figure 1 contains a summary of the existing conditions as they relate to this project. All of the streets are two-way except for Carey Avenue and Pioneer Avenue. Those streets are one-way with Carey Avenue running northbound and Pioneer Avenue running southbound. Traffic signals exist on Lincolnway at Capital Avenue, Carey Avenue, and Pioneer Avenue. These traffic signals are coordinated with the other signals in the Cheyenne CBD.

The options for 15th Street are contained in Figures 2 and 3. Option 1 would make 15th Street one-way eastbound from Bent Avenue to Carey Avenue. In Option 2, 15th Street from Pioneer Avenue to Carey Avenue would be one-way eastbound, and 15th Street would be one-way westbound from Pioneer Avenue to Bent Avenue.

The traffic study focused on the Friday evening peak hour. This is typically the busiest peak hour of the week. As noted above, the Cheyenne Depot Plaza is very active on Friday evenings. The proposed changes were evaluated using Year 2022 and Year 2045 traffic volumes. The Year 2045 coincides with the long-term horizon in Connect 2045[1].

1.1 Study Assumptions

The following assumptions were utilized for this study.

Growth in Background Traffic. An annual growth rate was determined using data provided by the Cheyenne MPO[2]. Based on Year 2019 data and Year 2045 projected volumes on Lincolnway between Capital Avenue and Bent Avenue, traffic volumes in the study area are expected to grow 0.4% annually. This growth rate was applied to the movements on arterial streets.

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1 Connect 2045. Cheyenne Metropolitan Planning Organization. December 2020.

2 CRTDM Output – 2019 Base Year and 2045 RTP + Developer Volumes. Cheyenne MPO.

Saturation Flow Rate. The saturation flow rate was assumed to be 1,600 passenger vehicles / hour / lane based on Wyoming motorists' driving habits and data collected for the Yellowstone Road Corridor Traffic Signal Timing Project.

Peak Hour Factor (PHF). The PHFs used in the analysis were based on the traffic count data collected for the study.

Truck Percentage. 2% trucks were assumed for all movements.

Traffic Signal Timing. Signal Timing for the three signals on Lincolnway was obtained from WYDOT and used in the analysis.

2.0 Traffic Volume Scenarios

Traffic count data were collected by All Traffic Data during the evening peak hour on Friday April 29, 2022. These data are located in Appendix A, and the existing peak hour volumes are contained in Figure 4. A factor was calculated to convert the April volumes to volumes for the highest average month of the year. Data were obtained from the Wyoming DOT website for Count Station 15 which is located in the Ames Underpass near downtown Cheyenne. These data showed that the highest month at this count station is June and the data in the table were used to develop a factor to inflate the April volumes to June volumes (refer to Table 1). The June 2022 and June 2045 volumes for the existing street network are contained in Figures 5 and 6. Year 2022 and Year 2045 volumes for Options 1 and 2 are contained in Figures 7 through 10. The diverted volumes for Options 1 and 2 are contained in Figures 11 and 12.

Options 1 and 2 primarily impact traffic on 15th Street by creating a one-way street. The diverted volumes were assumed to travel to Lincolnway to exit the network. The intersections on Carey Avenue at 15th Street and Lincolnway are expected to handle the majority of the diverted volumes because of the one-way pair that is formed by Pioneer Avenue and Carey Avenue, and the fact that 15th Street / Carey Avenue is adjacent to the closure. Even though the direction of travel on 15th Street splits at Pioneer Avenue in Option 2, the volumes at the intersections on Carey Avenue are expected to be similar for both options.

3.0 Level of Service Analysis

To evaluate the performance of the intersections within the study area, the Level of Service (LOS) was calculated using PTV VISTRO software. This software package utilizes criteria described in the Highway Capacity Manual[3]. LOS is a measure used to describe operational conditions at an intersection with categories ranging from A to F based on the predicted delay in seconds per vehicle for the intersection as a whole, as well as for individual turning movements. LOS A indicates very good

[3] Highway Capacity Manual, 7th Edition. National Academy of Sciences, Engineering, and Medicine. 2022.

operations, and LOS F indicates poor, congested operations. Acceptable intersection operation based on the UDC[4] is LOS C or better.

Table 2 compares the operation of the intersections in the existing network and the modified networks that are shown in Figures 2 and 3. All of the intersections are expected to operate at LOS A or LOS B except for the three intersections on Lincolnway that have side-street stop-control. Those three intersections are expected to operate at LOS D and LOS E in both Options 1 and 2. The level of service for intersections with side-street stop-control is determined by the movement with the highest delay value. It isn't unusual for intersections on an arterial street with side-street stop-control to operate poorly. Refer to Table 2 for detailed level of service results. The VISTRO output is contained in Appendix B.

4.0 Conclusions and Recommendation

The following conclusions have been drawn based on the analysis performed in the study.

Comparison of Traffic Volume Scenarios. The intersections on Carey Avenue at 15th Street and Lincolnway are expected to handle the majority of the diverted volumes. The volumes at the intersections on Carey Avenue are expected to be similar for both options.

Level of Service Analysis. All of the intersections are expected to operate at LOS A or LOS B except for the three intersections on Lincolnway that have side-street stop-control. Those three intersections are expected to operate at LOS D and LOS E in both Options 1 and 2. The level of service for intersections with side-street stop-control is determined by the movement with the highest delay value. It isn't unusual for intersections on an arterial street with side-street stop-control to operate poorly.

STS recommends that Option 1 be implemented to close 15th Street. The intersection operation is expected to be similar for both options. Option 1 is recommended because traffic will flow in the same direction between Bent Avenue and Carey Avenue. In Option 2, 15th Street was assumed to flow in different directions with the change at Pioneer Avenue. Changing the direction of flow could cause confusion for some motorists.

[4] Unified Development Code. City of Cheyenne. Amended November 2, 2021.

Tables

Table 1 – Count Station 15 – Ames Avenue Underpass

Table 2 – Comparison of Alternatives

Table 1. Count Station 15 - Ames Avenue Underpass

Year	January	February	March	April	May	June	July	August	September	October	November	December	Average Month
2021	7,549	7,689	7,349	8,277	8,684	8,769	8,860	8,370	8,253	8,519	7,982	7,157	8,122
2020	7,831	8,059	7,336	6,359	8,332	9,281	8,772	9,060	8,966	8,339	7,690	7,092	8,093
2019	7,933	8,089	7,979	8,466	8,731	8,918	9,173	8,847	8,967	8,722	7,555	7,341	8,393
Average	7,771	7,946	7,555	7,701	8,582	8,989	8,935	8,759	8,729	8,527	7,742	7,197	8,203
Per Cent of Average Month	94.74%	96.87%	92.10%	93.88%	104.63%	109.59%	108.93%	106.78%	106.41%	103.95%	94.39%	87.74%	---

Factor to Convert April Volumes to June Volumes **1.17**

Table 2. Comparison of Alternatives

Signalized Intersections [1]	June 2022 Volumes						June 2045 Volumes					
	Existing		Option 1		Option 2		Existing		Option 1		Option 2	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4 - Lincolnway / Pioneer Avenue	9.6	A	9.8	A	9.8	A	9.8	A	10.3	B	10.3	B
5 - Lincolnway / Carey Avenue	8.3	A	9.3	A	9.1	A	9.1	A	9.7	A	9.5	A
6 - Lincolnway / Capital Avenue	11.2	B	10.5	B	10.3	B	10.3	B	11.1	B	10.9	B

Stop-Controlled Intersections [2]	June 2022 Volumes						June 2045 Volumes					
	Existing		Option 1		Option 2		Existing		Option 1		Option 2	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1 - Lincolnway / Bent Avenue	28.9	D	30.4	D	35.8	E	35.4	E	35.9	E	44.2	E
	SB THRU		SB THRU		NB THRU		NB THRU		SB THRU		NB THRU	
2 - Lincolnway / O'Neil Avenue	27.9	D	29.3	D	29.6	D	29.4	D	34.2	D	34.4	D
	SB THRU		SB THRU		SB THRU		SB THRU		SB THRU		SB THRU	
3 - Lincolnway / Thomes Avenue	35.8	E	38.2	E	37.6	E	37.4	E	46.4	E	45.5	E
	SB THRU		SB THRU		SB THRU		SB THRU		SB THRU		SB THRU	
7 - 15th Street / Bent Avenue	8.7	A	8.7	A	8.4	A	8.4	A	8.7	A	8.4	A
	SBLT		SBLT		SBRT		SBRT		SBLT		SBRT	
8 - 15th Street / O'Neil Avenue	9.3	A	9.4	A	9.2	A	9.2	A	9.4	A	9.2	A
	SB THRU		SB THRU		SB THRU		SB THRU		SB THRU		SB THRU	
9 - 15th Street / Thomes Avenue	9.5	A	9.5	A	9.4	A	9.4	A	9.5	A	9.4	A
	NB THRU		SB THRU		NB THRU		NB THRU		SB THRU		NB THRU	
10 - 15th Street / Pioneer Avenue	9.6	A	10.2	B	9.5	A	9.5	A	10.2	B	9.5	A
	SB THRU		SB THRU		SB THRU		SB THRU		SB THRU		SB THRU	
11 - 15th Street / Carey Avenue	7.4	A	7.6	A	7.5	A	7.5	A	7.6	A	7.5	A
	EBLT		EBLT		EBLT		EBLT		EBLT		EBLT	
12 - 15th Street / Capital Avenue	9.4	A	8.6	A	8.6	A	8.6	A	8.6	A	8.6	A
	SBLT		SBLT		SBLT		SBLT		SBLT		SBLT	

Notes

1. The level of service for signalized intersections is based on the delay for the entire intersection.
2. The level of service for intersections with side-street stop-control is determined by the movement with the highest delay value.

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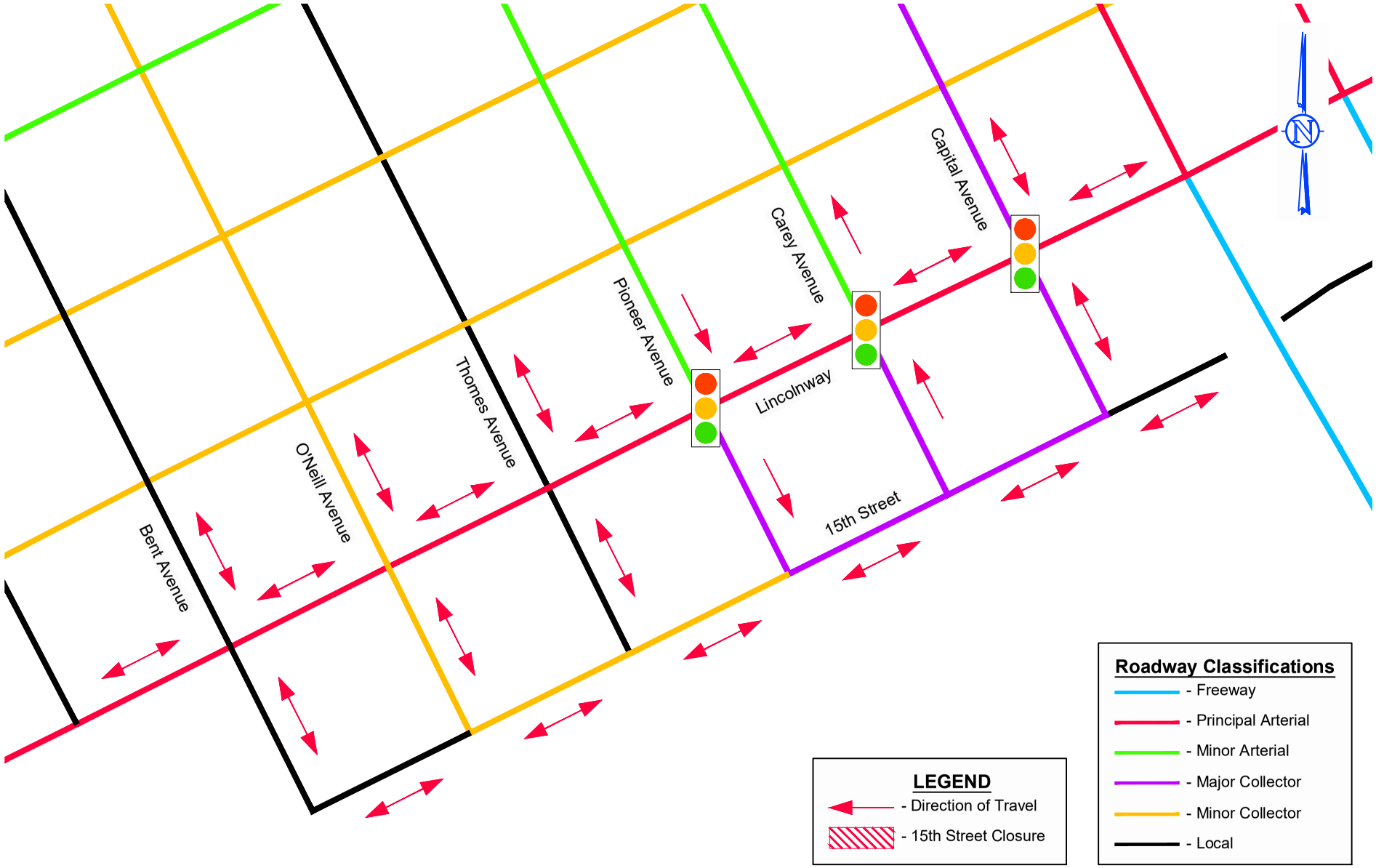
Figure 8 – June 2045 Friday Evening Peak Hour Traffic Volumes – Option 1
Figure 9 – June 2022 Friday Evening Peak Hour Traffic Volumes – Option 2
Figure 10 – June 2045 Friday Evening Peak Hour Traffic Volumes – Option 2
Figure 11 – Diverted Traffic Volumes – Option 1
Figure 12 – Diverted Traffic Volumes – Option 2



15th Street Traffic Study
EXISTING CONDITIONS

Scale	NTS	Date	July 8, 2022	Drawn by	JLH	Job #	Plan One Architects	Figure	1

STS

15th Street Traffic Study

OPTION 1 - 15TH STREET EASTBOUND FROM BENT AVENUE TO CAREY AVENUE

Scale	NTS	Date	July 8, 2022	Drawn by	JLH	Job #	Plan One Architects	Figure	2

STS

15th Street Traffic Study

OPTION 2 - 15TH STREET CHANGES DIRECTION AT PIONEER AVENUE

Scale	NTS	Date	July 8, 2022	Drawn by	JLH	Job #	Plan One Architects	Figure	3

Figure 4 – April 2022 Friday Evening Peak Hour Traffic Volumes

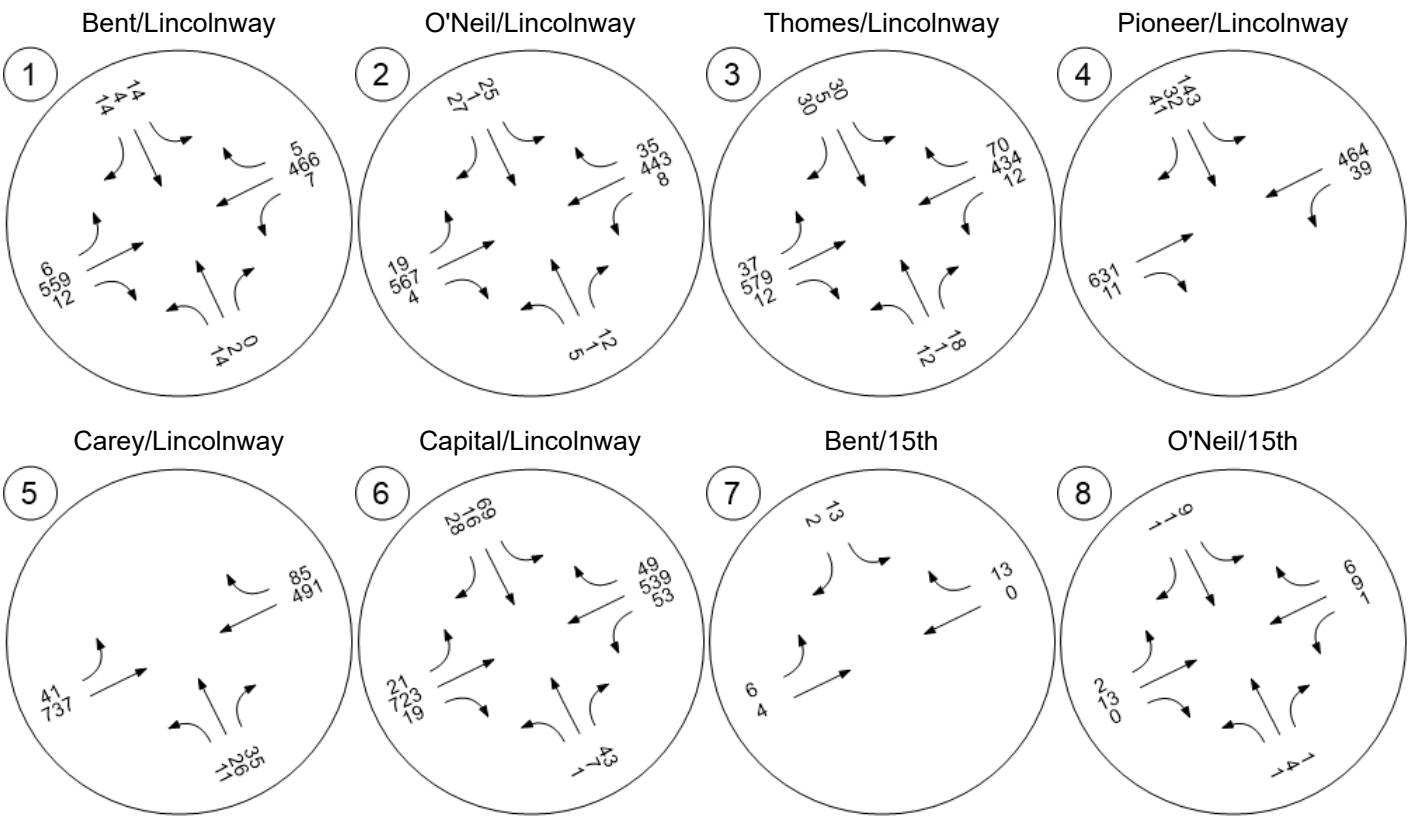


Figure 4 – April 2022 Friday Evening Peak Hour Traffic Volumes

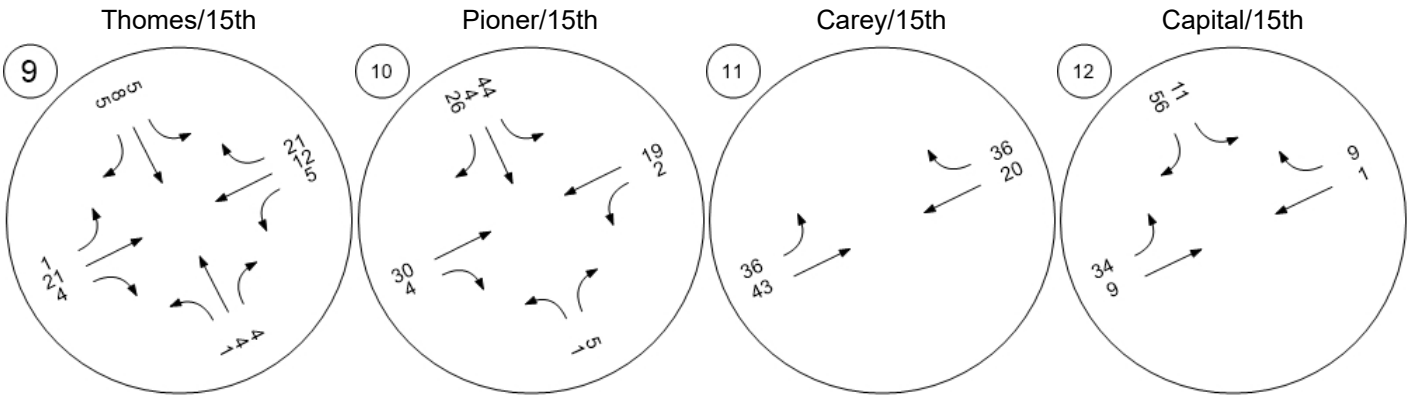


Figure 5 – June 2022 Friday Evening Peak Hour Traffic Volumes – Existing Street Network

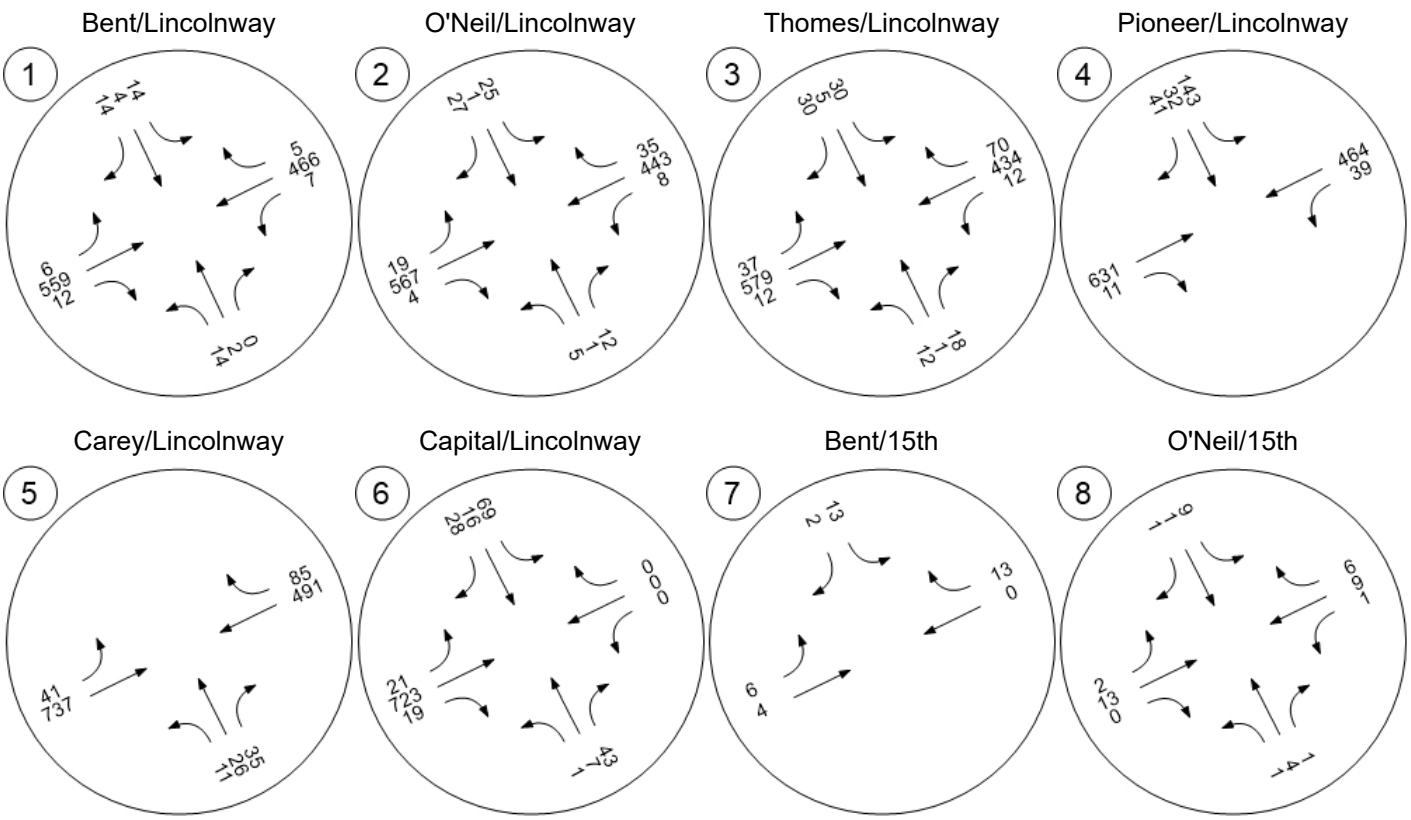


Figure 5 – June 2022 Friday Evening Peak Hour Traffic Volumes – Existing Street Network

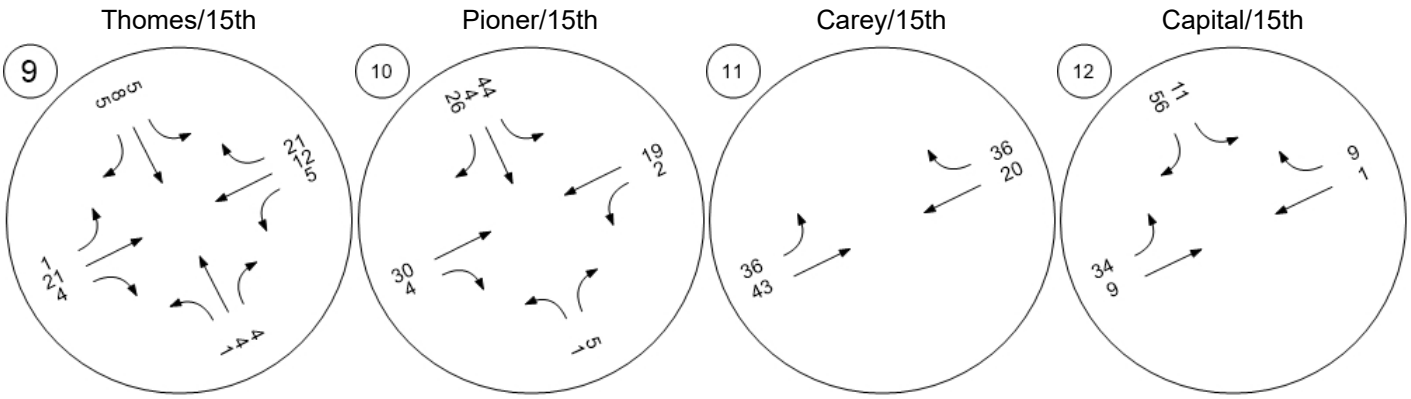


Figure 6 – June 2045 Friday Evening Peak Hour Traffic Volumes – Existing Street Network

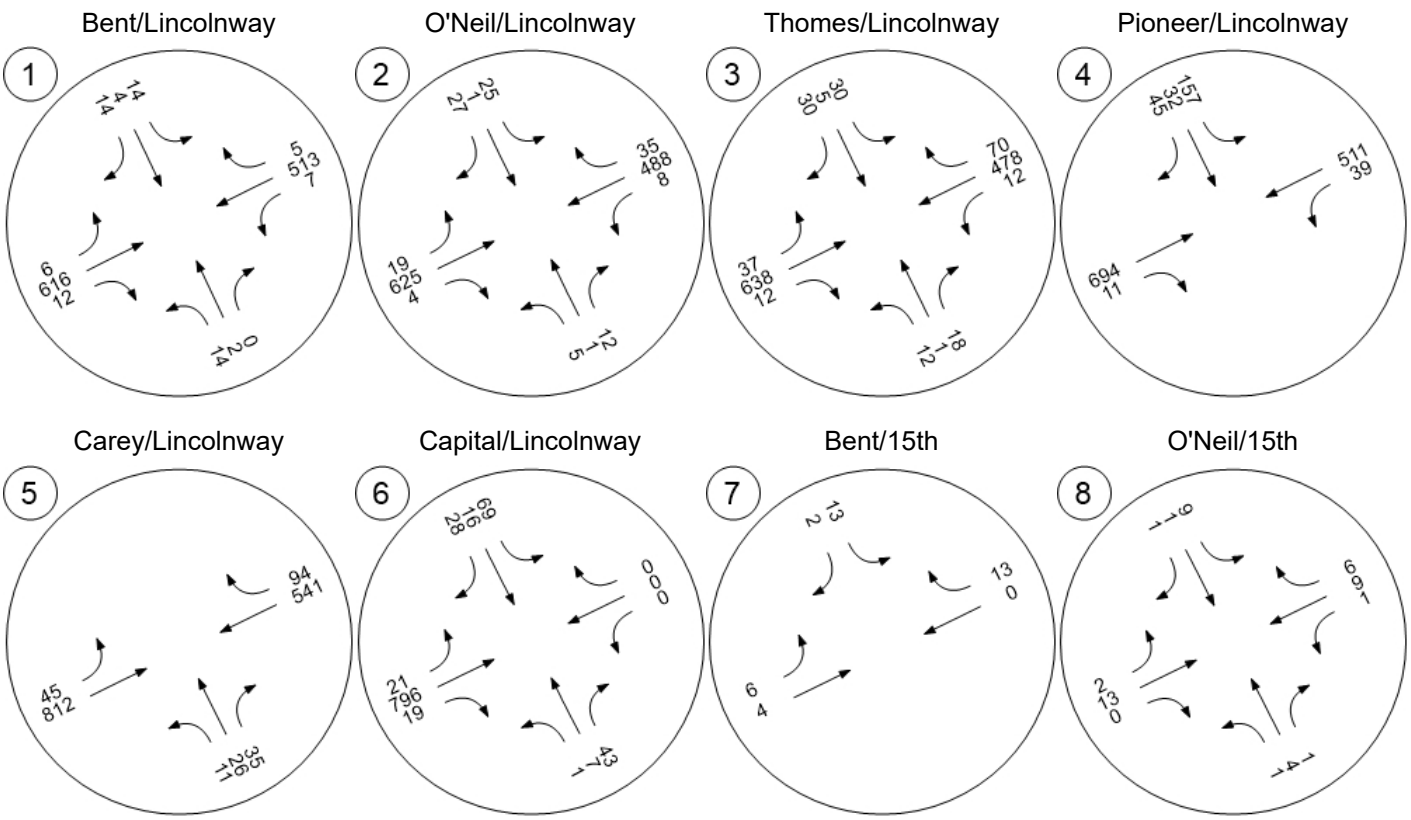


Figure 6 – June 2045 Friday Evening Peak Hour Traffic Volumes – Existing Street Network

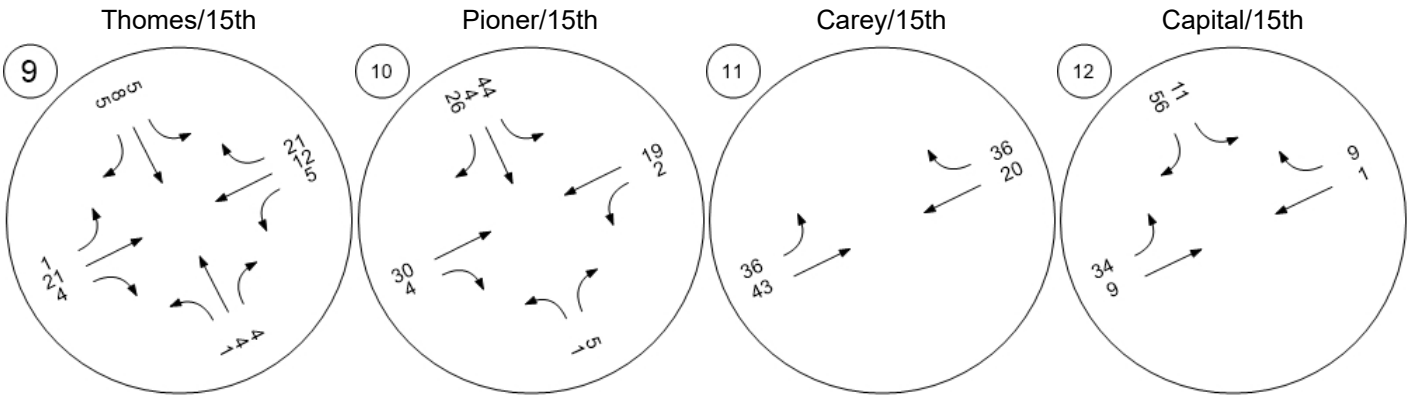


Figure 7 – June 2022 Friday Evening Peak Hour Traffic Volumes – Option 1

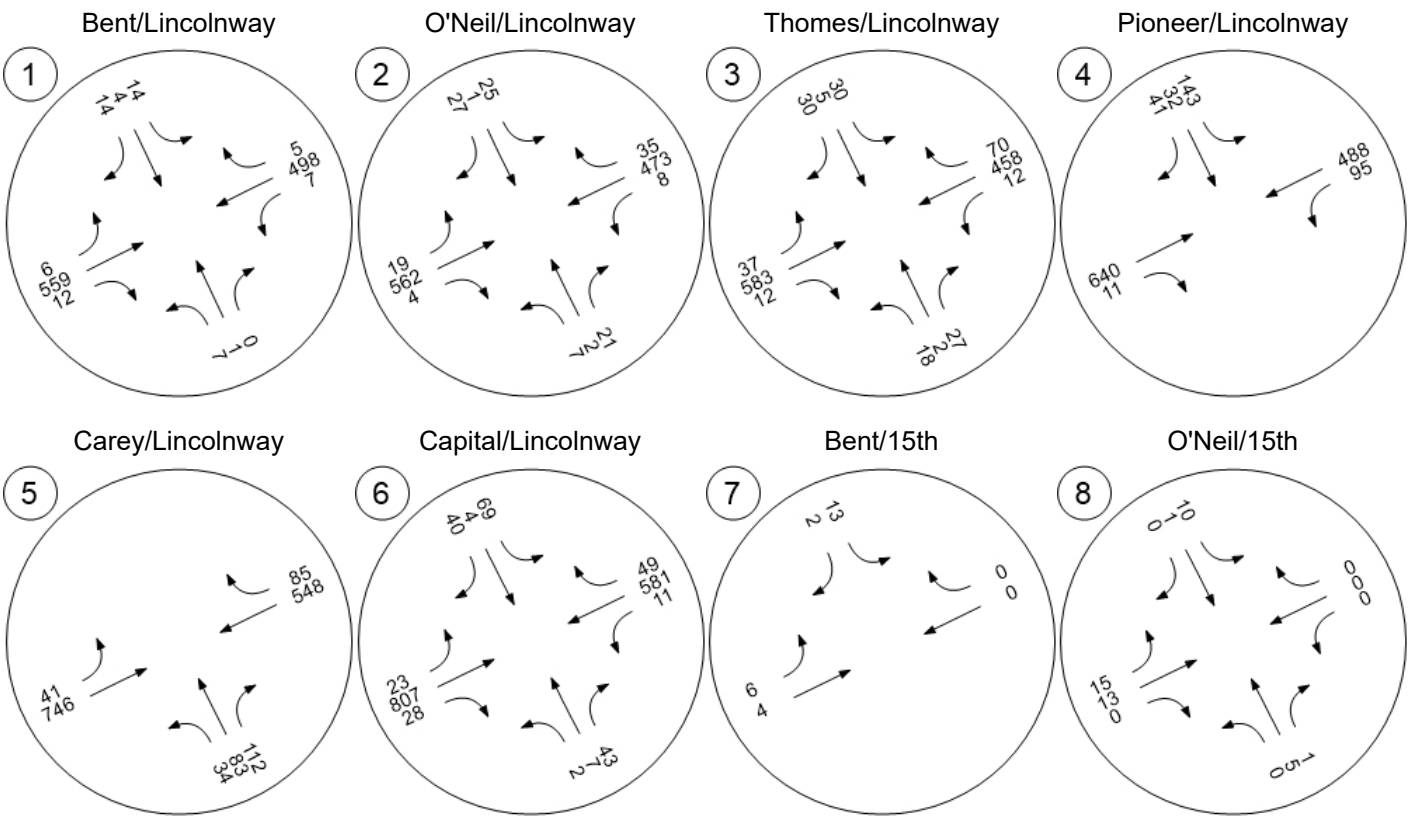


Figure 7 – June 2022 Friday Evening Peak Hour Traffic Volumes – Option 1

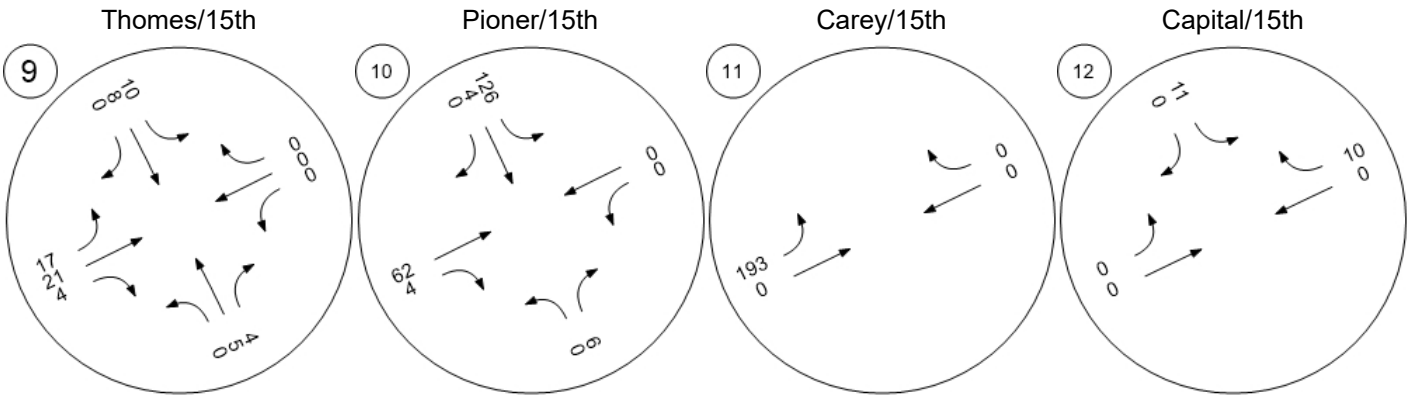


Figure 8 – June 2045 Friday Evening Peak Hour Traffic Volumes – Option 1

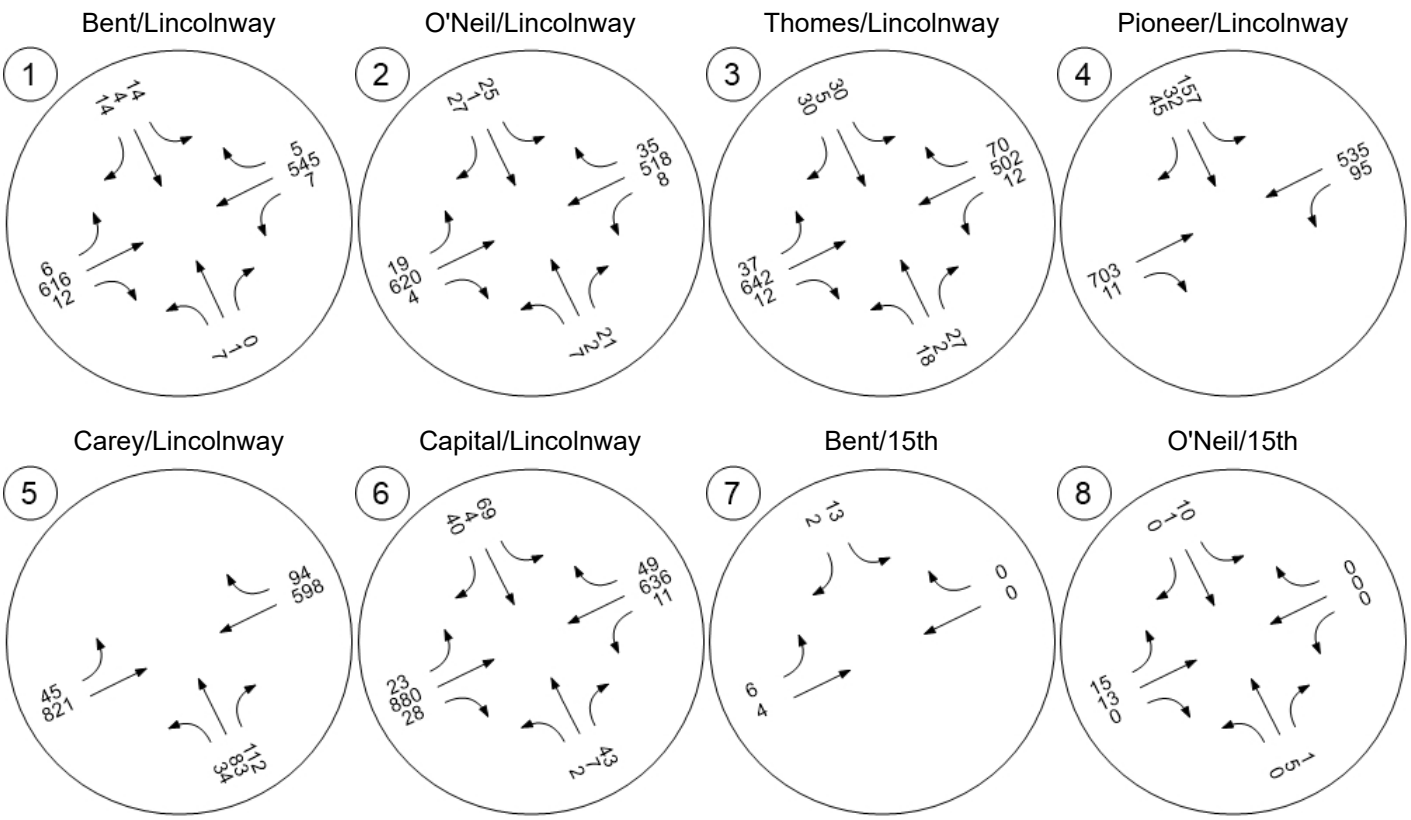


Figure 8 – June 2045 Friday Evening Peak Hour Traffic Volumes – Option 1

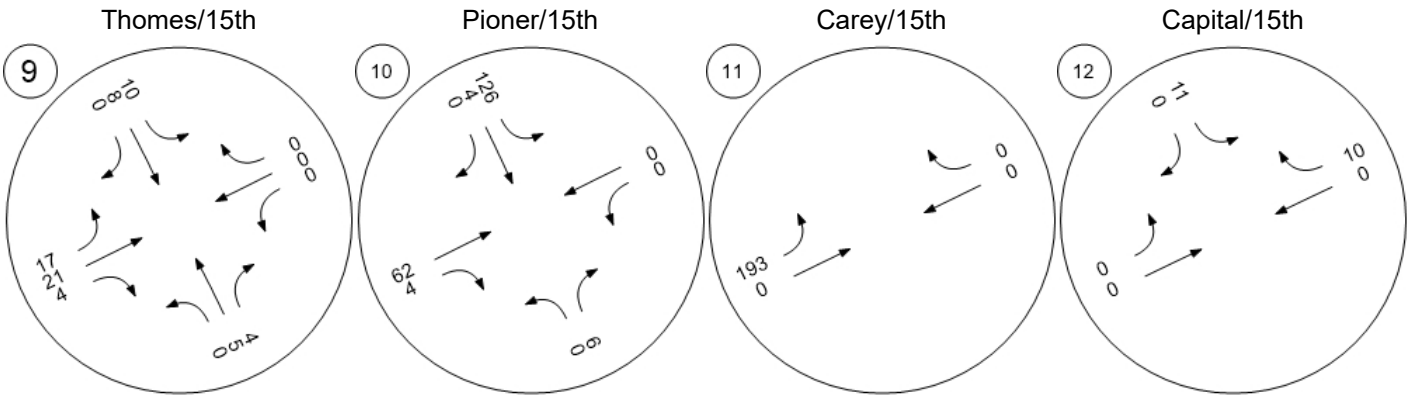


Figure 9 – June 2022 Friday Evening Peak Hour Traffic Volumes – Option 2

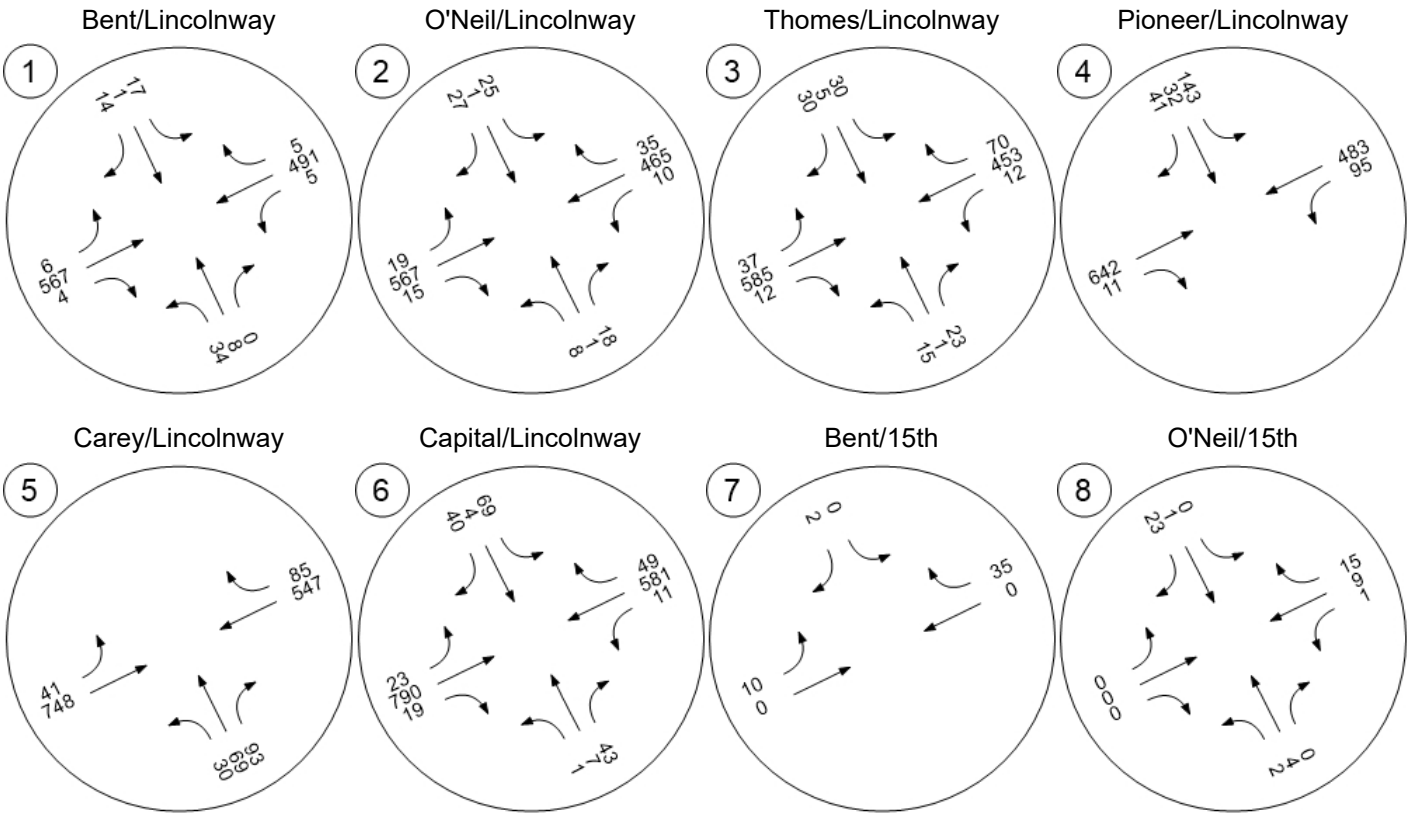


Figure 9 – June 2022 Friday Evening Peak Hour Traffic Volumes – Option 2

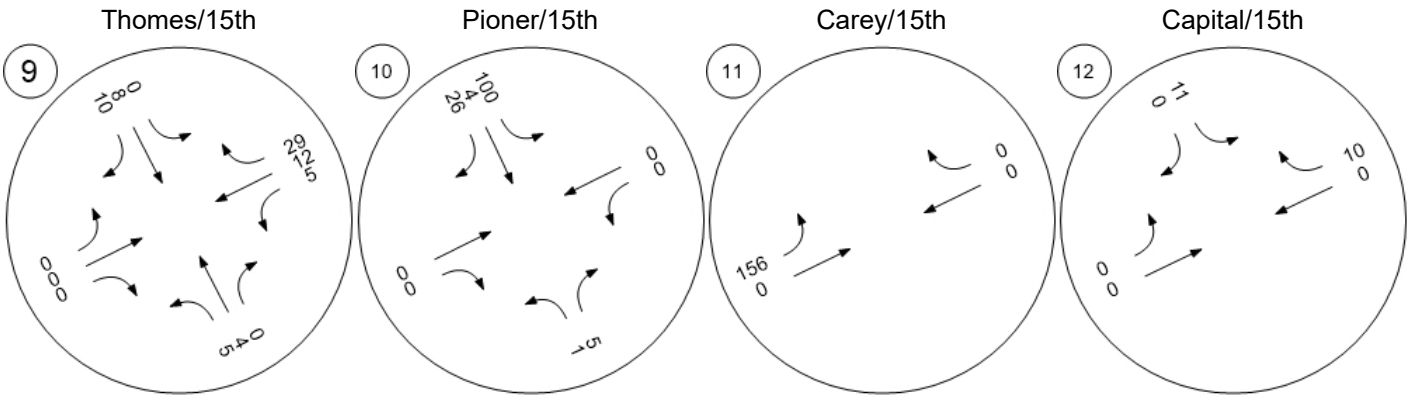


Figure 10 – June 2045 Friday Evening Peak Hour Traffic Volumes – Option 2

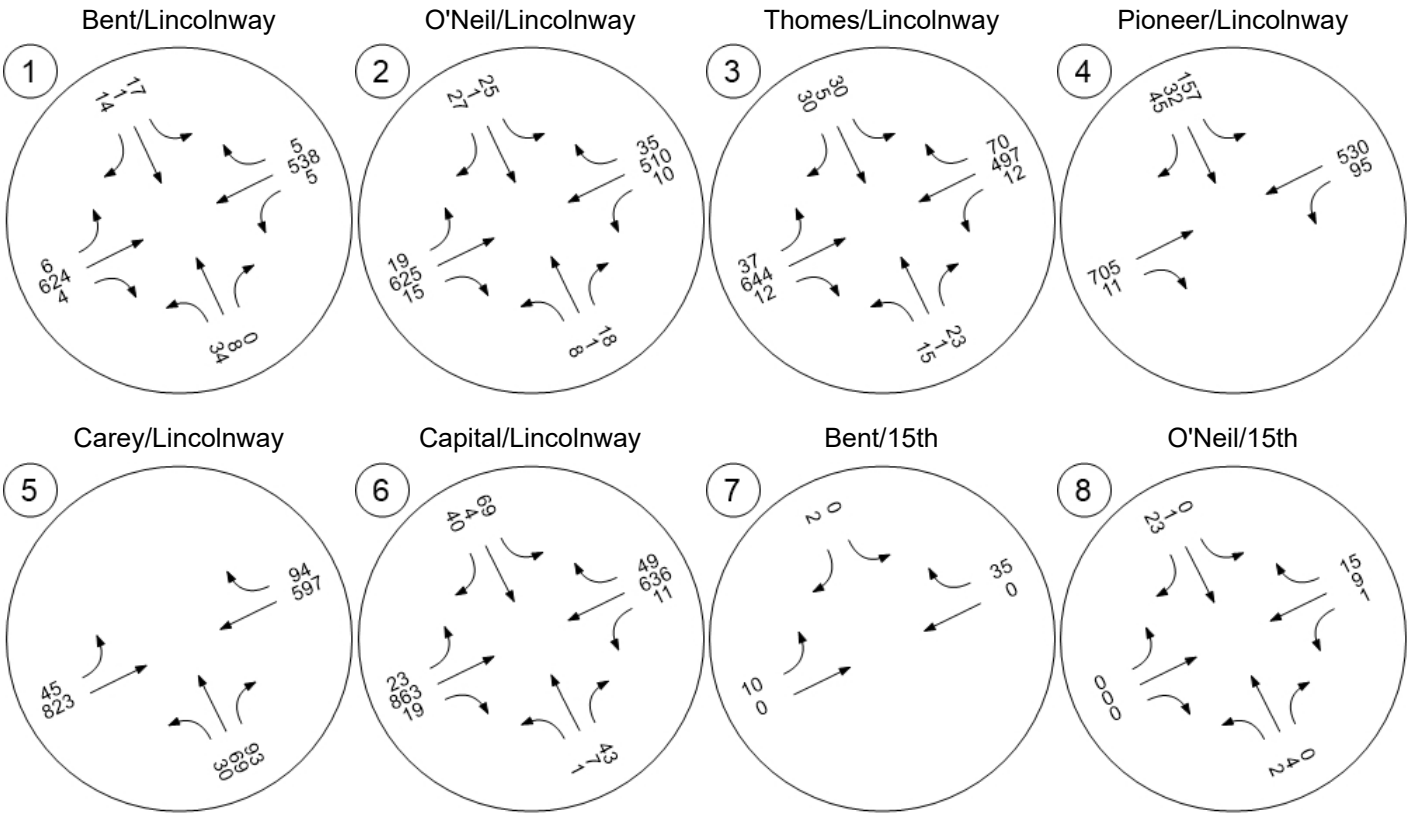


Figure 10 – June 2045 Friday Evening Peak Hour Traffic Volumes – Option 2

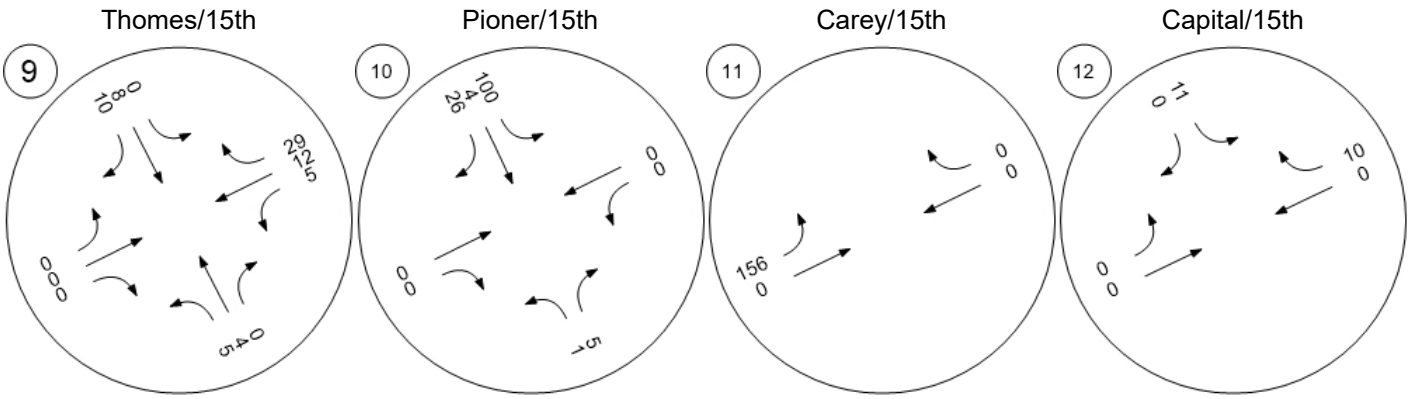


Figure 11 – Diverted Traffic Volumes – Option 1

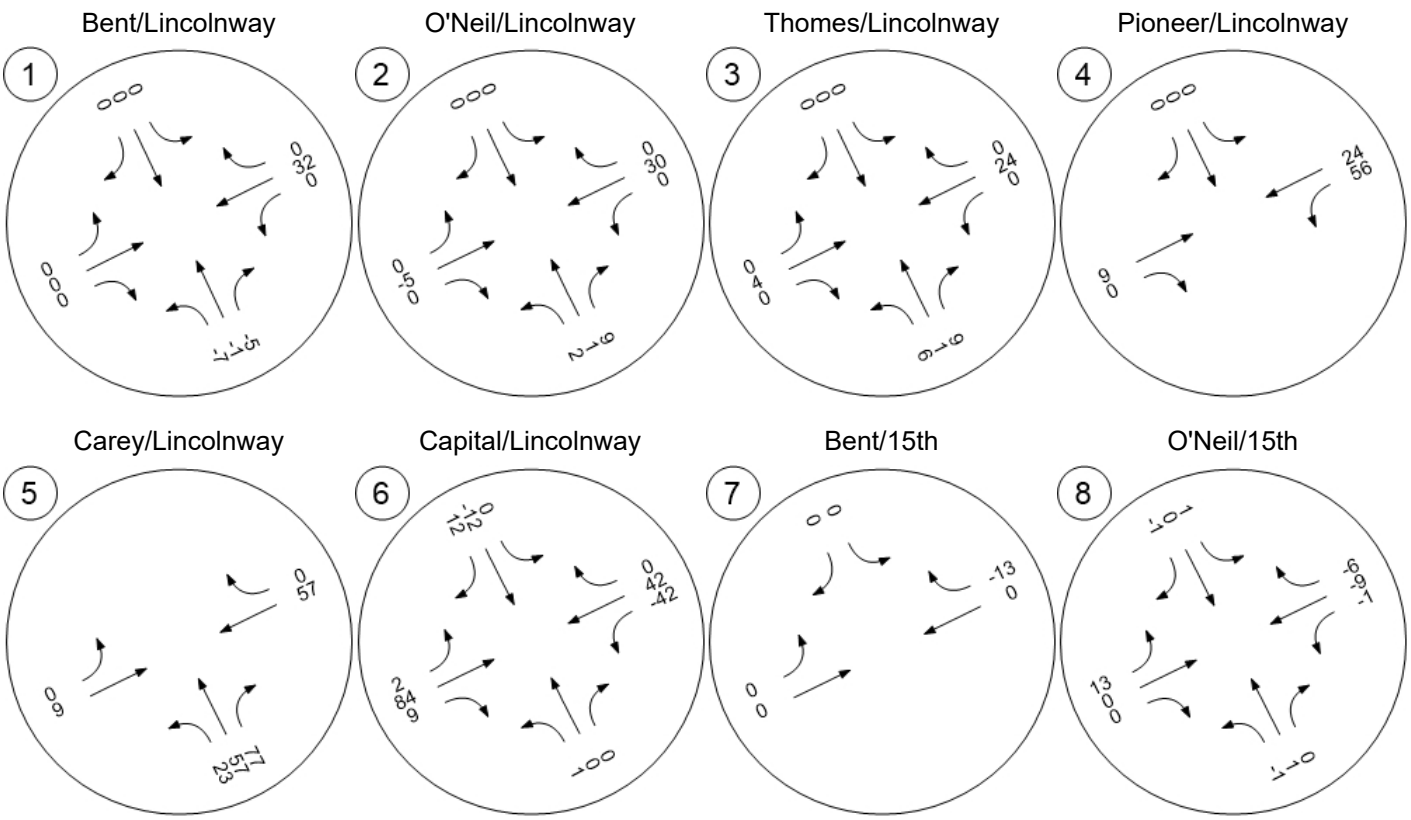


Figure 11 – Diverted Traffic Volumes – Option 1

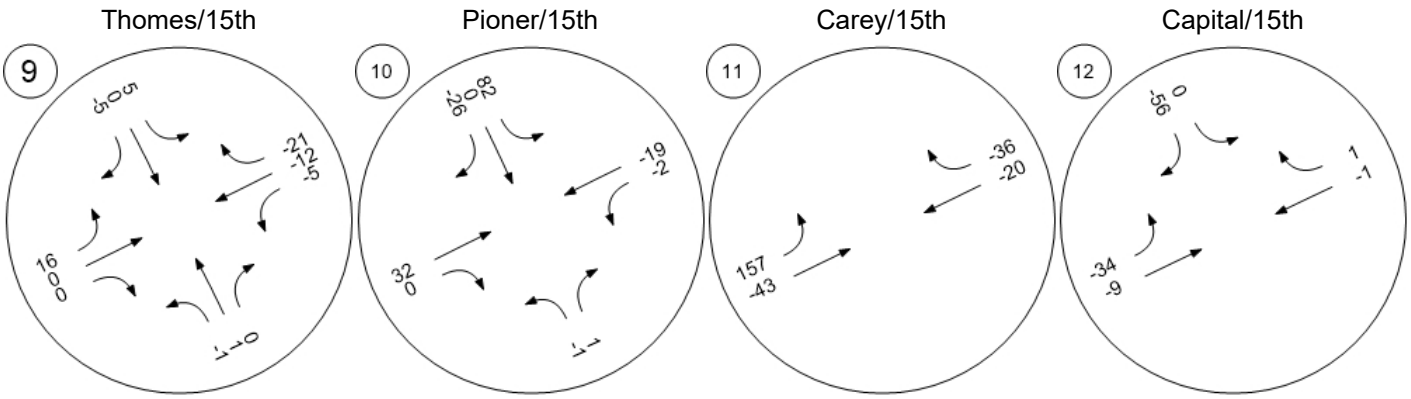


Figure 12 – Diverted Traffic Volumes – Option 2

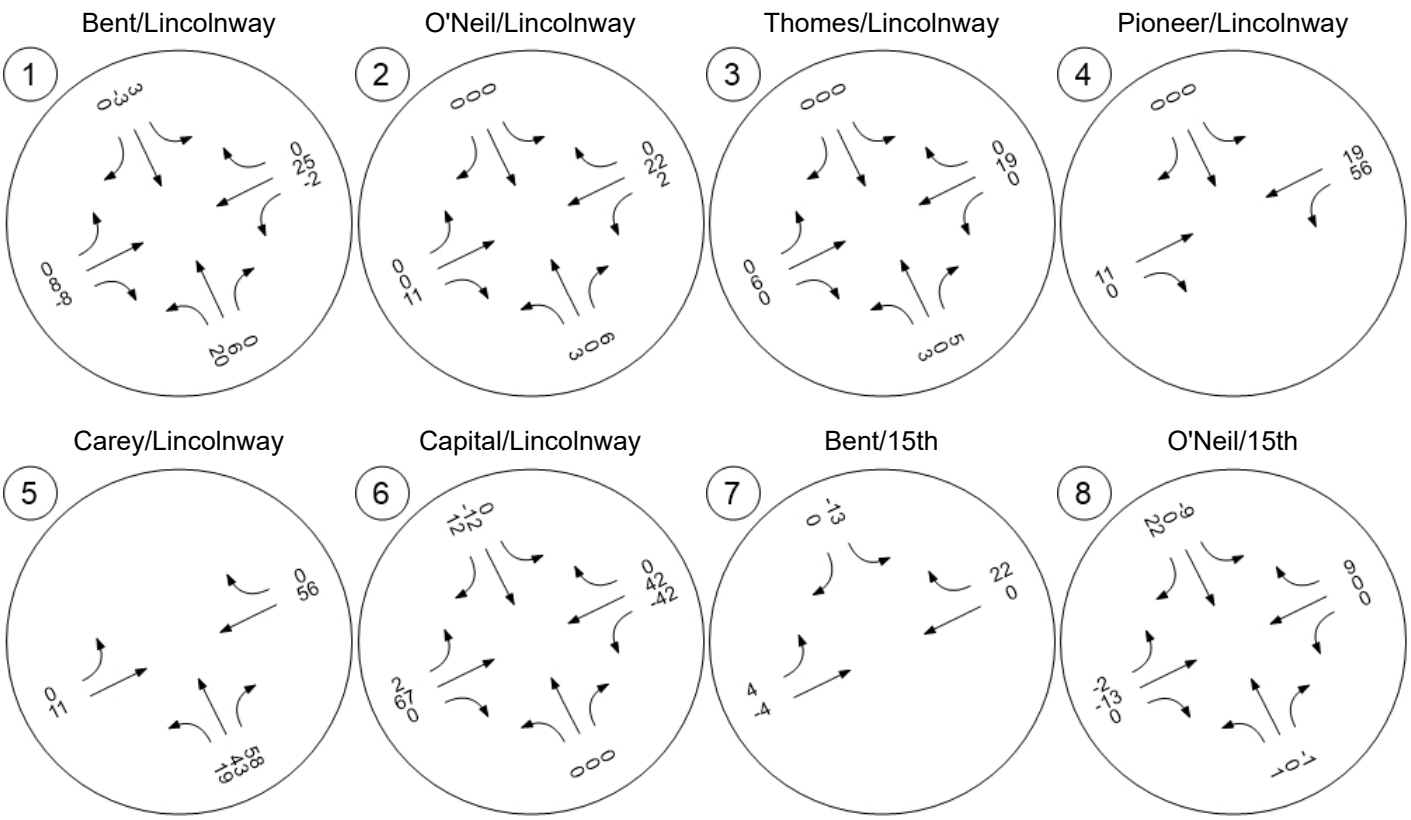
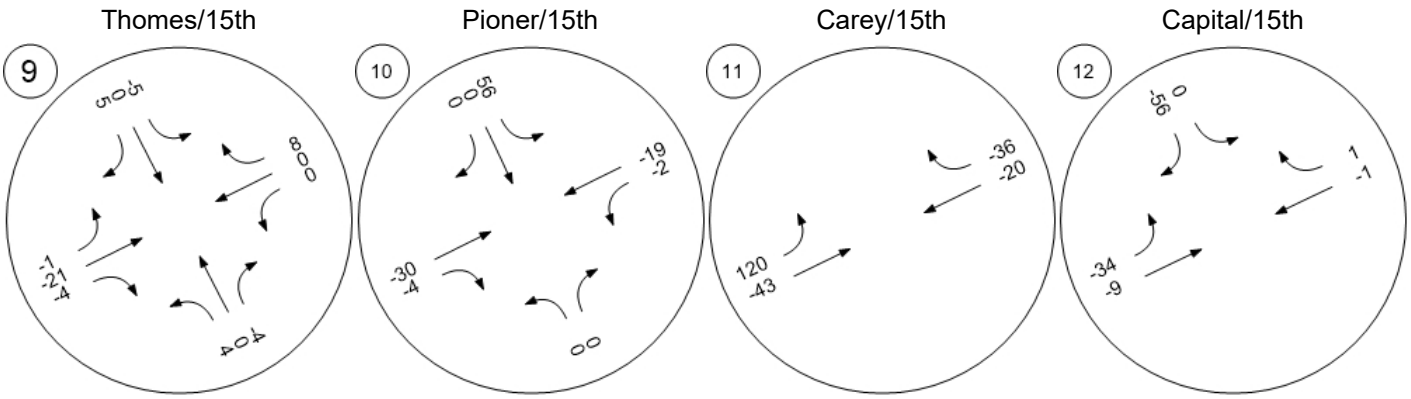


Figure 12 – Diverted Traffic Volumes – Option 2



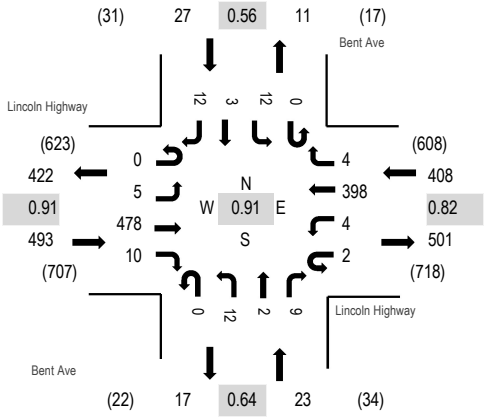
Appendix A

Traffic Count Data

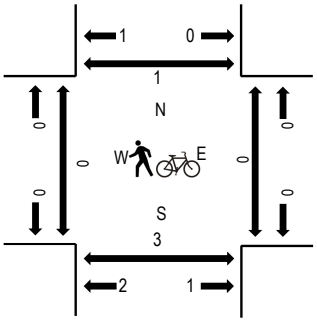
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 Bent Ave & Lincoln Highway PM
Date: Friday, April 29, 2022
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.

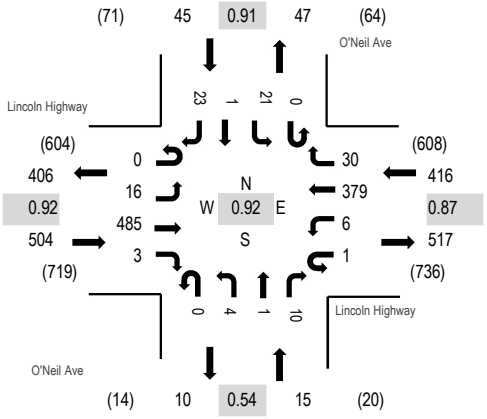
Traffic Counts

Interval Start Time	Lincoln Highway Eastbound				Lincoln Highway Westbound				Bent Ave Northbound				Bent Ave Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:30 PM	0	1	121	4	0	1	110	1	0	1	1	7	0	3	2	2	254	951	0	0	1	0
4:45 PM	0	2	132	2	1	1	85	1	0	4	0	0	0	2	0	0	230	931	0	0	1	0
5:00 PM	0	1	117	2	0	0	124	1	0	2	0	1	0	4	1	7	260	896	0	0	0	1
5:15 PM	0	1	108	2	1	2	79	1	0	5	1	1	0	3	0	3	207		0	0	0	0
5:30 PM	0	2	114	0	0	2	106	3	0	3	0	3	0	0	0	1	234		0	0	0	1
5:45 PM	0	0	97	1	0	2	86	1	0	3	0	2	0	1	0	2	195		0	0	0	0
Count Total	0	7	689	11	2	8	590	8	0	18	2	14	0	13	3	15	1,380		0	0	2	2
Peak Hour	0	5	478	10	2	4	398	4	0	12	2	9	0	12	3	12	951		0	0	2	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

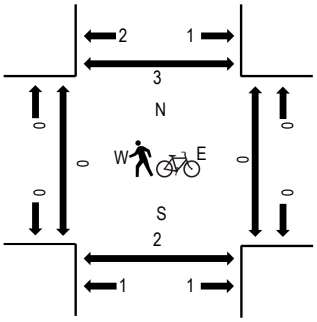
Location: 2 O'Neil Ave & Lincoln Highway PM
Date: Friday, April 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



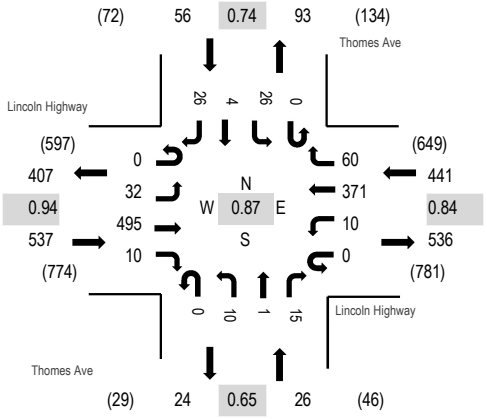
Traffic Counts

Interval Start Time	Lincoln Highway Eastbound				Lincoln Highway Westbound				O'Neil Ave Northbound				O'Neil Ave Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:30 PM	0	9	127	0	0	5	101	6	0	1	0	4	0	6	0	7	266	980	0	0	1	0
4:45 PM	0	4	132	1	0	1	81	9	0	2	0	5	0	3	0	4	242	966	0	0	1	1
5:00 PM	0	2	116	1	1	0	109	9	0	1	0	0	0	7	1	5	252	910	0	0	0	0
5:15 PM	0	1	110	1	0	0	88	6	0	0	1	1	0	5	0	7	220		0	0	0	0
5:30 PM	0	5	126	1	0	0	96	7	0	1	1	1	0	4	2	8	252		0	0	0	1
5:45 PM	0	1	82	0	1	0	85	3	0	2	0	0	0	5	1	6	186		0	0	0	0
Count Total	0	22	693	4	2	6	560	40	0	7	2	11	0	30	4	37	1,418		0	0	2	2
Peak Hour	0	16	485	3	1	6	379	30	0	4	1	10	0	21	1	23	980		0	0	2	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

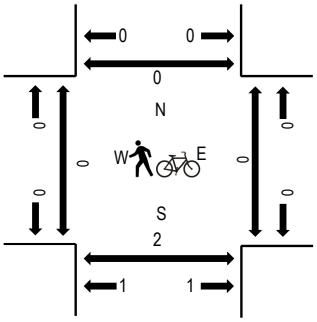
Location: 3 Thomes Ave & Lincoln Highway PM
Date: Friday, April 29, 2022
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



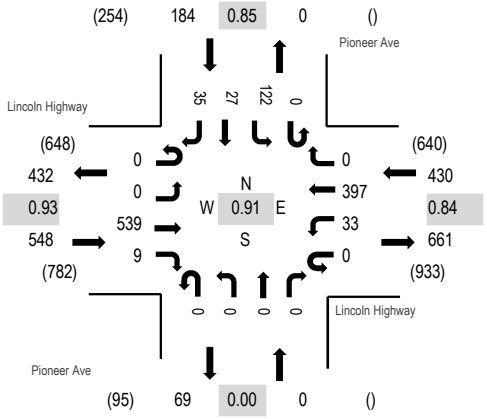
Traffic Counts

Interval Start Time	Lincoln Highway Eastbound				Lincoln Highway Westbound				Thomes Ave Northbound				Thomes Ave 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
4:30 PM	0	6	125	1	0	1	100	8	0	1	0	6	0	2	0	4	254	1,058	0	0	2	1
4:45 PM	0	9	125	5	0	4	81	20	0	1	0	4	0	8	1	7	265	1,060	0	0	0	0
5:00 PM	0	7	138	0	0	2	114	16	0	2	1	5	0	12	0	7	304	1,022	0	0	1	0
5:15 PM	0	9	118	3	0	3	73	12	0	4	0	2	0	3	1	7	235		0	0	1	0
5:30 PM	0	7	114	2	0	1	103	12	0	3	0	4	0	3	2	5	256		0	0	0	0
5:45 PM	0	4	101	0	0	2	78	19	0	1	4	8	0	3	1	6	227		0	0	0	0
Count Total	0	42	721	11	0	13	549	87	0	12	5	29	0	31	5	36	1,541		0	0	4	1
Peak Hour	0	32	495	10	0	10	371	60	0	10	1	15	0	26	4	26	1,060		0	0	2	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

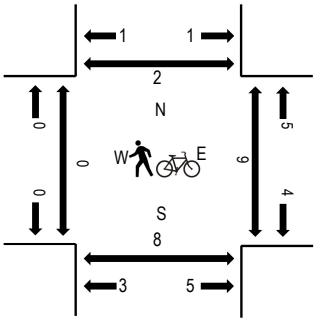
Location: 4 Pioneer Ave & Lincoln Highway PM
Date: Friday, April 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



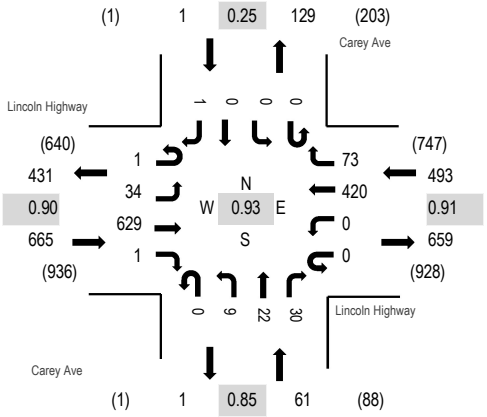
Traffic Counts

Interval Start Time	Lincoln Highway Eastbound				Lincoln Highway Westbound				Pioneer Ave Northbound				Pioneer Ave Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:30 PM	0	0	144	4	0	13	101	0	0	0	0	0	0	33	7	6	308	1,162	0	5	3	0
4:45 PM	0	0	132	2	0	5	96	0	0	0	0	0	0	23	7	8	273	1,109	0	0	4	0
5:00 PM	0	0	133	3	0	6	122	0	0	0	0	0	0	37	7	10	318	1,095	0	2	1	0
5:15 PM	0	0	130	0	0	9	78	0	0	0	0	0	0	29	6	11	263		0	2	0	1
5:30 PM	0	0	116	4	0	8	105	0	0	0	0	0	0	13	1	8	255		0	9	1	1
5:45 PM	0	0	112	2	0	7	90	0	0	0	0	0	0	31	4	13	259		0	1	1	0
Count Total	0	0	767	15	0	48	592	0	0	0	0	0	0	166	32	56	1,676		0	19	10	2
Peak Hour	0	0	539	9	0	33	397	0	0	0	0	0	0	122	27	35	1,162		0	9	8	1

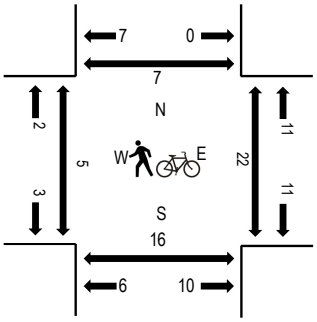
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 5 Carey Ave & Lincoln Highway PM
Date: Friday, April 29, 2022
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.

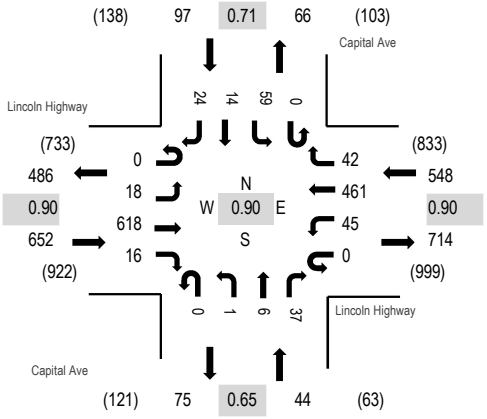
Traffic Counts

Interval Start Time	Lincoln Highway Eastbound				Lincoln Highway Westbound				Carey Ave Northbound				Carey Ave 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
4:30 PM	1	10	173	0	0	0	110	13	0	3	6	9	0	0	0	1	326	1,220	2	0	7	2
4:45 PM	0	12	141	1	0	0	104	22	0	1	9	6	0	0	0	0	296	1,173	1	3	3	2
5:00 PM	0	5	167	0	0	0	122	18	0	2	4	10	0	0	0	0	328	1,150	0	12	3	1
5:15 PM	0	7	148	0	0	0	84	20	0	3	3	5	0	0	0	0	270		2	4	3	2
5:30 PM	0	8	119	0	0	0	114	27	0	1	5	5	0	0	0	0	279		0	4	1	1
5:45 PM	0	11	133	0	0	0	93	20	0	1	3	12	0	0	0	0	273		0	2	4	0
Count Total	1	53	881	1	0	0	627	120	0	11	30	47	0	0	0	1	1,772		5	25	21	8
Peak Hour	1	34	629	1	0	0	420	73	0	9	22	30	0	0	0	1	1,220		5	19	16	7

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

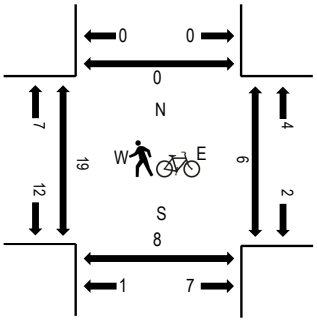
Location: 6 Capital Ave & Lincoln Highway PM
Date: Friday, April 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



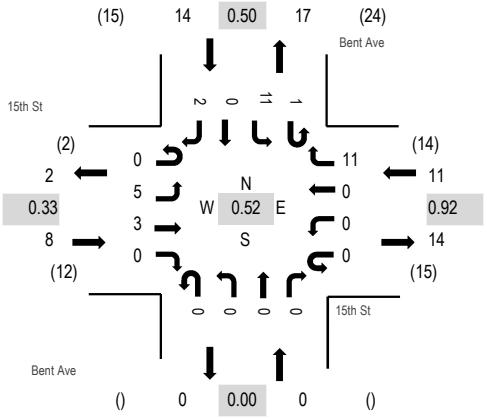
Traffic Counts

Interval Start Time	Lincoln Highway Eastbound				Lincoln Highway Westbound				Capital Ave Northbound				Capital Ave Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:30 PM	0	3	167	1	0	15	114	13	0	0	0	10	0	12	3	2	340	1,341	4	3	3	0
4:45 PM	0	8	134	4	0	11	119	11	0	0	3	9	0	13	2	6	320	1,318	6	1	2	0
5:00 PM	0	2	176	3	0	9	120	8	0	1	3	13	0	23	4	10	372	1,296	3	1	3	0
5:15 PM	0	5	141	8	0	10	108	10	0	0	0	5	0	11	5	6	309		6	1	0	0
5:30 PM	0	2	118	7	0	19	121	15	0	0	5	5	0	11	1	13	317		3	0	0	0
5:45 PM	0	4	133	6	0	12	108	10	0	1	1	7	0	11	1	4	298		4	3	0	0
Count Total	0	24	869	29	0	76	690	67	0	2	12	49	0	81	16	41	1,956		26	9	8	0
Peak Hour	0	18	618	16	0	45	461	42	0	1	6	37	0	59	14	24	1,341		19	6	8	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

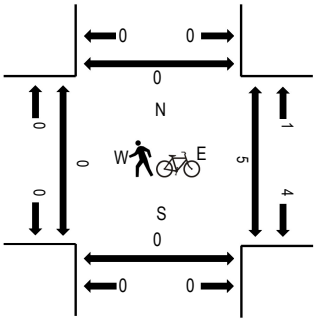
Location: 7 Bent Ave & 15th St PM
Date: Friday, April 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



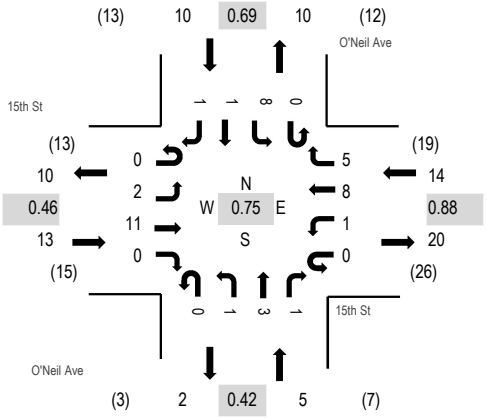
Traffic Counts

Interval Start Time	15th St Eastbound				15th St Westbound				Bent Ave Northbound				Bent Ave Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:30 PM	0	3	3	0	0	0	0	3	0	0	0	0	1	5	0	1	16	33	0	1	0	0
4:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0	5	21	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	6	20	0	0	0	0
5:15 PM	0	2	0	0	0	0	0	2	0	0	0	0	0	1	0	1	6		0	4	0	0
5:30 PM	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4		0	0	0	0
5:45 PM	0	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	4		0	0	0	0
Count Total	0	9	3	0	0	0	0	14	0	0	0	0	1	12	0	2	41		0	5	0	0
Peak Hour	0	5	3	0	0	0	0	11	0	0	0	0	1	11	0	2	33		0	5	0	0

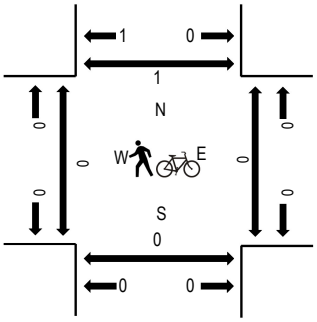
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 8 O'Neil Ave & 15th St PM
Date: Friday, April 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

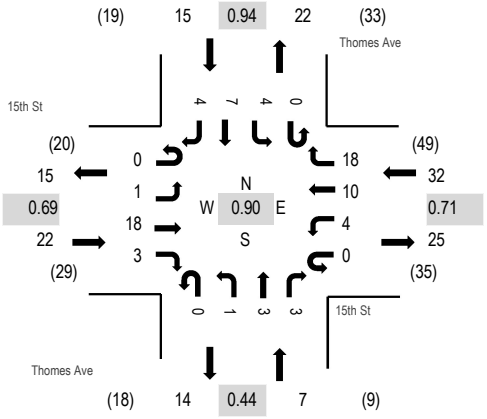
Traffic Counts

Interval Start Time	15th St Eastbound				15th St Westbound				O'Neil Ave Northbound				O'Neil Ave Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:30 PM	0	1	6	0	0	0	2	1	0	0	1	0	0	1	1	0	13	42	0	0	0	0
4:45 PM	0	0	3	0	0	1	1	2	0	1	2	0	0	3	0	1	14	37	0	0	0	0
5:00 PM	0	1	2	0	0	0	3	0	0	0	0	1	0	2	0	0	9	27	0	0	0	0
5:15 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	2	0	0	6		0	0	0	0
5:30 PM	0	0	1	0	0	0	2	1	0	0	0	1	0	2	1	0	8		0	0	0	0
5:45 PM	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	4		0	0	0	0
Count Total	0	2	13	0	0	1	11	7	0	1	3	3	0	10	2	1	54		0	0	0	0
Peak Hour	0	2	11	0	0	1	8	5	0	1	3	1	0	8	1	1	42		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

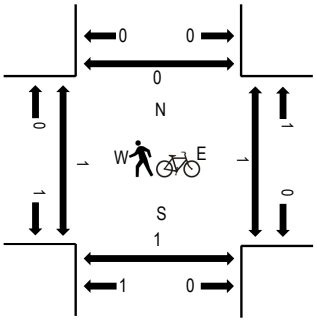
Location: 9 Thomes Ave & 15th St PM
Date: Friday, April 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



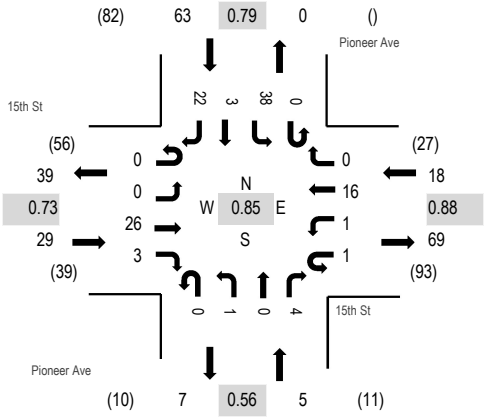
Traffic Counts

Interval Start Time	15th St Eastbound				15th St Westbound				Thomes Ave Northbound				Thomes Ave Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:30 PM	0	0	7	0	0	0	2	5	0	1	2	1	0	2	1	0	21	76	1	0	1	0
4:45 PM	0	1	7	0	0	1	3	1	0	0	0	0	0	0	2	2	17	73	0	0	0	0
5:00 PM	0	0	4	1	0	1	2	4	0	0	1	0	0	2	2	0	17	68	0	1	0	0
5:15 PM	0	0	0	2	0	2	3	8	0	0	0	2	0	0	2	2	21		0	0	0	0
5:30 PM	0	0	3	1	0	3	3	5	0	0	1	0	0	2	0	0	18		1	0	0	1
5:45 PM	0	0	3	0	1	0	1	4	0	0	1	0	0	1	0	1	12		1	0	0	1
Count Total	0	1	24	4	1	7	14	27	0	1	5	3	0	7	7	5	106		3	1	1	2
Peak Hour	0	1	18	3	0	4	10	18	0	1	3	3	0	4	7	4	76		1	1	1	0

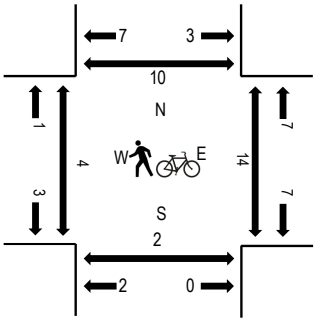
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 10 Pioneer Ave & 15th St PM
Date: Friday, April 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

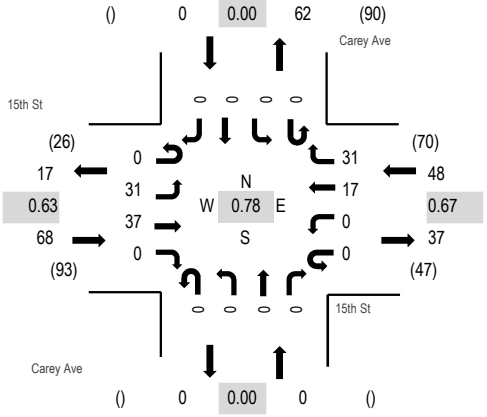
Traffic Counts

Interval Start Time	15th St Eastbound				15th St Westbound				Pioneer Ave Northbound				Pioneer Ave 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
4:30 PM	0	0	10	0	0	0	4	0	0	0	0	0	0	15	0	5	34	115	1	2	2	4
4:45 PM	0	0	8	0	0	0	2	0	0	1	0	2	0	8	1	3	25	106	0	4	0	1
5:00 PM	0	0	7	1	0	1	5	0	0	0	0	1	0	7	1	4	27	100	1	2	0	1
5:15 PM	0	0	1	2	1	0	5	0	0	0	0	1	0	8	1	10	29		2	6	0	4
5:30 PM	0	0	4	1	0	0	6	0	0	2	0	2	0	6	1	3	25		0	7	0	0
5:45 PM	0	0	5	0	0	0	3	0	0	1	0	1	0	6	1	2	19		0	5	0	0
Count Total	0	0	35	4	1	1	25	0	0	4	0	7	0	50	5	27	159		4	26	2	10
Peak Hour	0	0	26	3	1	1	16	0	0	1	0	4	0	38	3	22	115		4	14	2	10

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

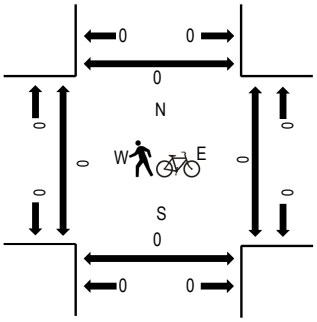
Location: 11 Carey Ave & 15th St PM
Date: Friday, April 29, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



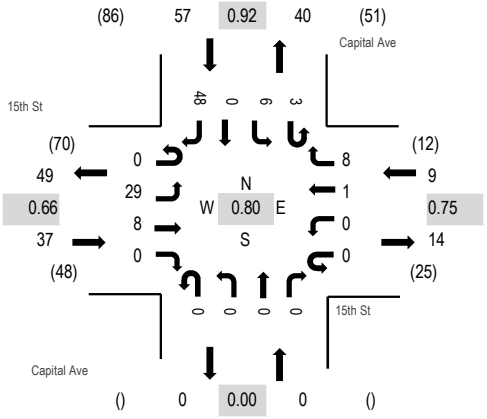
Traffic Counts

Interval Start Time	15th St Eastbound				15th St Westbound				Carey Ave Northbound				Carey Ave Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:30 PM	0	4	9	0	0	0	4	14	0	0	0	0	0	0	0	0	31	116	0	0	0	0
4:45 PM	0	8	10	0	0	0	2	8	0	0	0	0	0	0	0	0	28	110	0	0	0	0
5:00 PM	0	14	14	0	0	0	6	3	0	0	0	0	0	0	0	0	37	104	0	0	0	0
5:15 PM	0	5	4	0	0	0	5	6	0	0	0	0	0	0	0	0	20		0	0	0	0
5:30 PM	0	8	7	0	0	0	6	4	0	0	0	0	0	0	0	0	25		0	0	0	0
5:45 PM	0	7	3	0	0	0	3	9	0	0	0	0	0	0	0	0	22		0	0	0	0
Count Total	0	46	47	0	0	0	26	44	0	0	0	0	0	0	0	0	163		0	0	0	0
Peak Hour	0	31	37	0	0	0	17	31	0	0	0	0	0	0	0	0	116		0	0	0	0

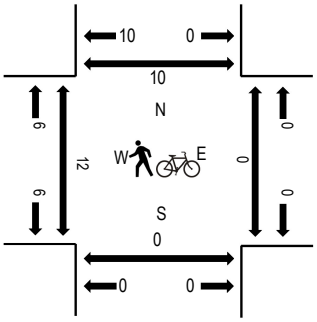
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 12 Capital Ave & 15th St PM
Date: Friday, April 29, 2022
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	15th St Eastbound				15th St Westbound				Capital Ave Northbound				Capital Ave 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
4:30 PM	0	7	2	0	0	0	0	3	0	0	0	0	0	4	0	10	26	103	0	0	0	0
4:45 PM	0	8	2	0	0	0	1	2	0	0	0	0	2	0	0	11	26	100	6	0	0	0
5:00 PM	0	12	2	0	0	0	0	3	0	0	0	0	1	1	0	13	32	94	0	0	0	2
5:15 PM	0	2	2	0	0	0	0	0	0	0	0	0	0	1	0	14	19		6	0	0	5
5:30 PM	0	5	2	0	0	0	0	3	0	0	0	0	0	5	0	8	23		0	0	0	0
5:45 PM	1	3	0	0	0	0	0	0	0	0	0	0	0	4	0	12	20		2	0	0	3
Count Total	1	37	10	0	0	0	1	11	0	0	0	0	3	15	0	68	146		14	0	0	10
Peak Hour	0	29	8	0	0	0	1	8	0	0	0	0	3	6	0	48	103		12	0	0	7

Appendix B

Vistro Analysis Results

Existing Roadway Network

15th Street Closure Project

Vistro File: C:\...\15th Street - Existing.vistro
Report File: C:\...\Existing June 2022.pdf

Scenario 2 Existing June 2022
6/28/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Bent/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.040	28.9	D
2	O'Neil/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.006	27.9	D
3	Thomes/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.046	35.8	E
4	Pioneer/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.366	9.6	A
5	Carey/Lincolnway	Signalized	HCM 7th Edition	NB Right	0.321	8.3	A
6	Capital/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.390	11.2	B
7	Bent/15th	Two-way stop	HCM 7th Edition	SB Left	0.015	8.7	A
8	O'Neil/15th	Two-way stop	HCM 7th Edition	SB Thru	0.001	9.3	A
9	Thomes/15th	Two-way stop	HCM 7th Edition	NB Thru	0.006	9.5	A
10	Pioner/15th	Two-way stop	HCM 7th Edition	SB Thru	0.006	9.6	A
11	Carey/15th	Two-way stop	HCM 7th Edition	EB Left	0.027	7.4	A
12	Capital/15th	Two-way stop	HCM 7th Edition	SB Left	0.015	9.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Bent/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	28.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	12	2	0	12	3	12	5	478	10	6	398	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	2	0	14	4	14	6	559	12	7	466	5
Peak Hour Factor	0.6400	0.6400	0.6400	0.5600	0.5600	0.5600	0.9100	0.9100	0.9100	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	1	0	6	2	6	2	154	3	2	142	2
Total Analysis Volume [veh/h]	22	3	0	25	7	25	7	614	13	9	568	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.02	0.00	0.11	0.04	0.04	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	25.77	28.34	10.28	24.35	28.85	10.26	8.64	0.00	0.00	8.82	0.00	0.00
Movement LOS	D	D	B	C	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.43	0.43	0.00	0.53	0.53	0.11	0.02	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.77	10.77	0.00	13.26	13.26	2.73	0.53	0.00	0.00	0.72	0.00	0.00
d_A, Approach Delay [s/veh]	26.08			18.72			0.10			0.14		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	1.43											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 2: O'Neil/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	27.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	4	1	10	21	1	23	16	485	3	7	379	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	12	25	1	27	19	567	4	8	443	35
Peak Hour Factor	0.5400	0.5400	0.5400	0.9100	0.9100	0.9100	0.9200	0.9200	0.9200	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	6	7	0	7	5	154	1	2	127	10
Total Analysis Volume [veh/h]	9	2	22	27	1	30	21	616	4	9	509	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.03	0.12	0.01	0.04	0.02	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	23.69	27.03	10.42	24.03	27.92	10.19	8.62	0.00	0.00	8.80	0.00	0.00
Movement LOS	C	D	B	C	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.10	0.44	0.44	0.13	0.06	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.39	4.39	2.48	10.98	10.98	3.24	1.58	0.00	0.00	0.71	0.00	0.00
d_A, Approach Delay [s/veh]	15.05			16.94			0.28			0.14		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	1.35											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Thomes/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	35.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	10	1	15	26	4	26	32	495	10	10	371	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	18	30	5	30	37	579	12	12	434	70
Peak Hour Factor	0.6500	0.6500	0.6500	0.7400	0.7400	0.7400	0.9400	0.9400	0.9400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	7	10	2	10	10	154	3	4	129	21
Total Analysis Volume [veh/h]	18	2	28	41	7	41	39	616	13	14	517	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.01	0.04	0.22	0.05	0.06	0.04	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	28.96	32.63	10.51	31.68	35.76	10.49	8.85	0.00	0.00	8.85	0.00	0.00
Movement LOS	D	D	B	D	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.40	0.40	0.13	1.03	1.03	0.19	0.13	0.00	0.00	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	9.93	9.93	3.21	25.80	25.80	4.68	3.13	0.00	0.00	1.12	0.00	0.00
d_A, Approach Delay [s/veh]	18.35			22.24			0.52			0.20		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	2.35											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 4: Pioneer/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	0	0	0	122	27	35	0	539	9	33	397	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	21	0	0	6	0	0	0
Total Hourly Volume [veh/h]	0	0	0	143	32	20	0	631	5	39	464	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9300	0.9300	0.8400	0.8400	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	42	9	6	0	170	1	12	138	0
Total Analysis Volume [veh/h]	0	0	0	168	38	24	0	678	5	46	552	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	0	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall					No			No			No	
Maximum Recall					Yes			Yes			Yes	
Pedestrian Recall					No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	C	L	C
C, Cycle Length [s]		60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]		4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]		2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]		16	16	16	36	36	36	36
g / C, Green / Cycle		0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate		0.12	0.03	0.02	0.24	0.24	0.07	0.20
s, saturation flow rate [veh/h]		1350	1417	1205	1417	1414	682	2698
c, Capacity [veh/h]		355	373	317	846	843	417	1610
d1, Uniform Delay [s]		18.59	16.73	16.61	6.43	6.43	10.27	6.14
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		4.46	0.55	0.46	1.43	1.44	0.54	0.58
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.47	0.10	0.08	0.40	0.40	0.11	0.34
d, Delay for Lane Group [s/veh]		23.05	17.27	17.08	7.86	7.88	10.81	6.72
Lane Group LOS		C	B	B	A	A	B	A
Critical Lane Group		Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]		2.24	0.42	0.27	2.06	2.07	0.38	1.46
50th-Percentile Queue Length [ft/ln]		56.06	10.58	6.77	51.59	51.66	9.61	36.55
95th-Percentile Queue Length [veh/ln]		4.04	0.76	0.49	3.71	3.72	0.69	2.63
95th-Percentile Queue Length [ft/ln]		100.91	19.05	12.19	92.87	92.99	17.29	65.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	23.05	17.27	17.08	0.00	7.87	7.88	10.81	6.72	0.00
Movement LOS				C	B	B		A	A	B	A	
d_A, Approach Delay [s/veh]	0.00			21.47			7.87			7.03		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.61											
Intersection LOS	A											
Intersection V/C	0.366											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	527	1193	1193
d_b, Bicycle Delay [s]	30.00	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	4.132	1.974	2.128	2.053
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Carey/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.321

Intersection Setup

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	9	22	30	0	0	0	35	630	0	0	420	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	18	0	0	0	0	0	0	0	0	43
Total Hourly Volume [veh/h]	11	26	17	0	0	0	41	737	0	0	491	42
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	0.9000	0.8500	0.8500	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	5	0	0	0	11	205	0	0	135	12
Total Analysis Volume [veh/h]	13	31	20	0	0	0	46	819	0	0	540	46
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	0	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	0	0	0	4	0	0	4	0
Maximum Green [s]	0	15	0	0	0	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	0	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No						No			No	
Maximum Recall		Yes						Yes			Yes	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R		L	C	C	C
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20		4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20		2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16		36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26		0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.02		0.06	0.30	0.21	0.21
s, saturation flow rate [veh/h]	1377	1290	1205		746	2698	1417	1379
c, Capacity [veh/h]	362	340	317		459	1610	846	823
d1, Uniform Delay [s]	16.54	16.56	16.56		9.51	7.01	6.15	6.20
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.37	0.38		0.44	1.15	1.12	1.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.06	0.06		0.10	0.51	0.35	0.36
d, Delay for Lane Group [s/veh]	16.86	16.93	16.94		9.95	8.16	7.28	7.40
Lane Group LOS	B	B	B		A	A	A	A
Critical Lane Group	No	Yes	No		No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.24	0.25	0.22		0.36	2.51	1.68	1.70
50th-Percentile Queue Length [ft/ln]	6.05	6.13	5.62		9.00	62.85	42.04	42.58
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.40		0.65	4.53	3.03	3.07
95th-Percentile Queue Length [ft/ln]	10.88	11.04	10.11		16.19	113.13	75.68	76.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.86	16.91	16.94	0.00	0.00	0.00	9.95	8.16	0.00	0.00	7.33	7.40
Movement LOS	B	B	B				A	A			A	A
d_A, Approach Delay [s/veh]	16.91			0.00			8.25			7.34		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	8.27											
Intersection LOS	A											
Intersection V/C	0.321											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	0	1193	1193
d_b, Bicycle Delay [s]	16.28	30.00	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.627	4.132	2.273	2.079
Bicycle LOS	A	D	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Capital/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.390

Intersection Setup

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	1	6	37	59	14	24	18	618	16	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	14	0	0	10	0	0	0
Total Hourly Volume [veh/h]	1	7	21	69	16	14	21	723	9	0	0	0
Peak Hour Factor	0.6500	0.6500	0.6500	0.7100	0.7100	0.7100	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	8	24	6	5	6	201	3	0	0	0
Total Analysis Volume [veh/h]	2	11	32	97	23	20	23	803	10	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	20	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		Yes			Yes			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16	16	36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.08	0.03	0.31	0.31	0.00	0.00
s, saturation flow rate [veh/h]	1227	1253	1227	1310	1414	1284	1417	1290
c, Capacity [veh/h]	372	330	370	345	907	766	906	770
d1, Uniform Delay [s]	18.99	16.86	20.65	16.83	7.07	7.07	0.00	0.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.82	1.72	0.74	1.85	2.50	0.00	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.13	0.26	0.12	0.48	0.52	0.00	0.00
d, Delay for Lane Group [s/veh]	19.02	17.68	22.37	17.57	8.92	9.56	0.00	0.00
Lane Group LOS	B	B	C	B	A	A	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.02	0.49	1.27	0.49	2.91	2.74	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.59	12.33	31.76	12.22	72.64	68.46	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.04	0.89	2.29	0.88	5.23	4.93	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.06	22.19	57.18	21.99	130.76	123.22	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.02	17.68	17.68	22.37	17.57	17.57	8.92	9.23	9.56	0.00	0.00	0.00
Movement LOS	B	B	B	C	B	B	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	17.73			20.90			9.23			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	11.20											
Intersection LOS	B											
Intersection V/C	0.390											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	527	1193	1193
d_b, Bicycle Delay [s]	16.28	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.670	1.814	2.258	1.560
Bicycle LOS	A	A	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Bent/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Bent Avenue				15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bent Avenue				15th Street	
Base Volume Input [veh/h]	11	2	5	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	2	6	4	0	13
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	1	0	4
Total Analysis Volume [veh/h]	15	2	7	5	0	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.72	8.41	7.25	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.30	1.30	0.29	0.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.68		4.23		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.51					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: O'Neil/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	1	8	1	1	2	11	0	1	8	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	1	9	1	1	2	13	0	1	9	6
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	3	0	0	1	4	0	0	3	2
Total Analysis Volume [veh/h]	1	5	1	11	1	1	2	15	0	1	11	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	9.26	8.41	8.81	9.26	8.43	7.25	0.00	0.00	7.25	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.59	0.59	0.59	1.03	1.03	1.03	0.08	0.08	0.08	0.04	0.04	0.04
d_A, Approach Delay [s/veh]	9.07			8.82			0.85			0.38		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.57											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 9: Thomes/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	3	4	7	4	1	18	3	4	10	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	4	5	8	5	1	21	4	5	12	21
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	1	2	1	0	6	1	1	4	6
Total Analysis Volume [veh/h]	1	5	5	6	9	6	1	25	5	6	14	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.07	9.51	8.48	9.08	9.51	8.53	7.29	0.00	0.00	7.28	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.07	0.07	0.07	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.92	0.92	0.92	1.79	1.79	1.79	0.04	0.04	0.04	0.28	0.28	0.28
d_A, Approach Delay [s/veh]	9.01			9.10			0.24			0.97		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.16											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 10: Pioner/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	0	4	38	3	22	0	26	3	2	16	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	5	44	4	26	0	30	4	2	19	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	13	1	8	0	9	1	1	6	0
Total Analysis Volume [veh/h]	1	0	6	52	5	31	0	35	5	2	22	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.06	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.15	0.00	8.50	9.18	9.63	8.52	0.00	0.00	0.00	7.30	0.00	0.00
Movement LOS	A		A	A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.02	0.20	0.20	0.09	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.52	0.00	0.52	5.00	5.00	2.27	0.00	0.00	0.00	0.08	0.08	0.00
d_A, Approach Delay [s/veh]	8.60			8.97			0.00			0.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.43											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 11: Carey/15th

Control Type:	Two-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Carey Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Carey Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	0	0	31	37	17	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	36	43	20	36
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	11	13	6	11
Total Analysis Volume [veh/h]	0	0	42	51	24	42
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.39	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.79	1.79	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.34		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.95					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Capital/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Capital Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Capital Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	9	48	29	8	1	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	56	34	9	1	9
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	16	10	3	0	3
Total Analysis Volume [veh/h]	13	66	40	11	1	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.06	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.38	8.63	7.29	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.07	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.17	6.17	1.70	1.70	0.00	0.00
d_A, Approach Delay [s/veh]	8.75		5.71		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.92					
Intersection LOS	A					

15th Street Closure Project

Vistro File: C:\...\15th Street - Existing.vistro
Report File: C:\...\Existing June 2045.pdf

Scenario 3 June 2045
6/28/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Bent/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.048	33.9	D
2	O'Neil/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.007	32.4	D
3	Thomes/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.054	43.0	E
4	Pioneer/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.403	10.0	B
5	Carey/Lincolnway	Signalized	HCM 7th Edition	NB Right	0.351	8.7	A
6	Capital/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.419	11.7	B
7	Bent/15th	Two-way stop	HCM 7th Edition	SB Left	0.015	8.7	A
8	O'Neil/15th	Two-way stop	HCM 7th Edition	SB Thru	0.001	9.3	A
9	Thomes/15th	Two-way stop	HCM 7th Edition	NB Thru	0.006	9.5	A
10	Pioner/15th	Two-way stop	HCM 7th Edition	SB Thru	0.006	9.6	A
11	Carey/15th	Two-way stop	HCM 7th Edition	EB Left	0.027	7.4	A
12	Capital/15th	Two-way stop	HCM 7th Edition	SB Left	0.015	9.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Bent/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	33.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	12	2	0	12	3	12	5	478	10	6	398	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	2	0	14	4	14	6	616	12	7	513	5
Peak Hour Factor	0.6400	0.6400	0.6400	0.5600	0.5600	0.5600	0.9100	0.9100	0.9100	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	1	0	6	2	6	2	169	3	2	156	2
Total Analysis Volume [veh/h]	22	3	0	25	7	25	7	677	13	9	626	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.02	0.00	0.13	0.05	0.04	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	30.16	33.28	10.53	28.34	33.95	10.50	8.83	0.00	0.00	9.04	0.00	0.00
Movement LOS	D	D	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.52	0.52	0.00	0.63	0.63	0.11	0.02	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.94	12.94	0.00	15.86	15.86	2.86	0.56	0.00	0.00	0.76	0.00	0.00
d_A, Approach Delay [s/veh]	30.53			21.20			0.09			0.13		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	1.49											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 2: O'Neil/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	32.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	4	1	10	21	1	23	16	485	3	7	379	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	12	25	1	27	19	625	4	8	488	35
Peak Hour Factor	0.5400	0.5400	0.5400	0.9100	0.9100	0.9100	0.9200	0.9200	0.9200	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	6	7	0	7	5	170	1	2	140	10
Total Analysis Volume [veh/h]	9	2	22	27	1	30	21	679	4	9	561	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.01	0.03	0.14	0.01	0.04	0.02	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	27.03	31.10	10.69	27.52	32.40	10.41	8.78	0.00	0.00	9.01	0.00	0.00
Movement LOS	D	D	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.21	0.21	0.10	0.52	0.52	0.13	0.07	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.17	5.17	2.61	12.92	12.92	3.37	1.65	0.00	0.00	0.75	0.00	0.00
d_A, Approach Delay [s/veh]	16.38			18.76			0.26			0.13		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	1.35											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Thomes/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	43.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	10	1	15	26	4	26	32	495	10	10	371	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	18	30	5	30	37	638	12	12	478	70
Peak Hour Factor	0.6500	0.6500	0.6500	0.7400	0.7400	0.7400	0.9400	0.9400	0.9400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	7	10	2	10	10	170	3	4	142	21
Total Analysis Volume [veh/h]	18	2	28	41	7	41	39	679	13	14	569	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.02	0.04	0.26	0.05	0.06	0.04	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	33.90	38.22	10.79	37.81	42.96	10.73	9.04	0.00	0.00	9.07	0.00	0.00
Movement LOS	D	E	B	E	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.47	0.47	0.13	1.24	1.24	0.20	0.13	0.00	0.00	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.87	11.87	3.37	31.00	31.00	4.88	3.28	0.00	0.00	1.19	0.00	0.00
d_A, Approach Delay [s/veh]	20.60			25.74			0.48			0.19		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	2.45											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 4: Pioneer/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	10.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	0	0	0	122	27	35	0	539	9	33	397	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.2884	1.1700	1.2884	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	23	0	0	6	0	0	0
Total Hourly Volume [veh/h]	0	0	0	157	32	22	0	694	5	39	511	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9300	0.9300	0.8400	0.8400	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	46	9	6	0	187	1	12	152	0
Total Analysis Volume [veh/h]	0	0	0	185	38	26	0	746	5	46	608	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	0	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall					No			No			No	
Maximum Recall					Yes			Yes			Yes	
Pedestrian Recall					No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	C	L	C
C, Cycle Length [s]		60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]		4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]		2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]		16	16	16	36	36	36	36
g / C, Green / Cycle		0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate		0.14	0.03	0.02	0.26	0.27	0.07	0.23
s, saturation flow rate [veh/h]		1350	1417	1205	1417	1414	640	2698
c, Capacity [veh/h]		355	373	317	846	844	387	1610
d1, Uniform Delay [s]		18.87	16.73	16.64	6.64	6.65	10.97	6.30
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		5.36	0.55	0.51	1.69	1.70	0.63	0.68
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.52	0.10	0.08	0.44	0.45	0.12	0.38
d, Delay for Lane Group [s/veh]		24.23	17.27	17.15	8.33	8.34	11.59	6.98
Lane Group LOS		C	B	B	A	A	B	A
Critical Lane Group		Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]		2.54	0.42	0.29	2.36	2.36	0.41	1.66
50th-Percentile Queue Length [ft/ln]		63.58	10.58	7.36	58.93	59.02	10.14	41.44
95th-Percentile Queue Length [veh/ln]		4.58	0.76	0.53	4.24	4.25	0.73	2.98
95th-Percentile Queue Length [ft/ln]		114.45	19.05	13.24	106.08	106.23	18.25	74.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	24.23	17.27	17.15	0.00	8.34	8.34	11.59	6.98	0.00
Movement LOS				C	B	B		A	A	B	A	
d_A, Approach Delay [s/veh]	0.00			22.43			8.34			7.30		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	10.05											
Intersection LOS	B											
Intersection V/C	0.403											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	527	1193	1193
d_b, Bicycle Delay [s]	30.00	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	4.132	2.008	2.184	2.099
Bicycle LOS	D	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Carey/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.351

Intersection Setup

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	9	22	30	0	0	0	35	630	0	0	420	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.2884	1.1700	1.1700	1.2884	1.2884
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	18	0	0	0	0	0	0	0	0	47
Total Hourly Volume [veh/h]	11	26	17	0	0	0	45	812	0	0	541	47
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	0.9000	0.8500	0.8500	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	5	0	0	0	13	226	0	0	149	13
Total Analysis Volume [veh/h]	13	31	20	0	0	0	50	902	0	0	595	52
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	0	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	0	0	0	4	0	0	4	0
Maximum Green [s]	0	15	0	0	0	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	0	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No						No			No	
Maximum Recall		Yes						Yes			Yes	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R		L	C	C	C
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20		4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20		2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16		36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26		0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.02		0.07	0.33	0.23	0.23
s, saturation flow rate [veh/h]	1377	1290	1205		705	2698	1417	1378
c, Capacity [veh/h]	362	340	317		430	1610	846	822
d1, Uniform Delay [s]	16.54	16.56	16.56		10.14	7.33	6.32	6.38
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.37	0.38		0.55	1.41	1.31	1.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.06	0.06	0.06		0.12	0.56	0.38	0.39
d, Delay for Lane Group [s/veh]	16.86	16.93	16.94		10.69	8.74	7.64	7.79
Lane Group LOS	B	B	B		B	A	A	A
Critical Lane Group	No	Yes	No		No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.24	0.25	0.22		0.41	2.92	1.92	1.95
50th-Percentile Queue Length [ft/ln]	6.05	6.13	5.62		10.33	72.91	47.93	48.63
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.40		0.74	5.25	3.45	3.50
95th-Percentile Queue Length [ft/ln]	10.88	11.04	10.11		18.59	131.23	86.27	87.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.86	16.91	16.94	0.00	0.00	0.00	10.69	8.74	0.00	0.00	7.71	7.79
Movement LOS	B	B	B				B	A			A	A
d_A, Approach Delay [s/veh]	16.91			0.00			8.85			7.71		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	8.72											
Intersection LOS	A											
Intersection V/C	0.351											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	0	1193	1193
d_b, Bicycle Delay [s]	16.28	30.00	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.627	4.132	2.345	2.132
Bicycle LOS	A	D	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Capital/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	11.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.419

Intersection Setup

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	1	6	37	59	14	24	18	618	16	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	14	0	0	10	0	0	0
Total Hourly Volume [veh/h]	1	7	21	69	16	14	21	796	9	0	0	0
Peak Hour Factor	0.6500	0.6500	0.6500	0.7100	0.7100	0.7100	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	8	24	6	5	6	221	3	0	0	0
Total Analysis Volume [veh/h]	2	11	32	97	23	20	23	884	10	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	20	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		Yes			Yes			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16	16	36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.08	0.03	0.34	0.34	0.00	0.00
s, saturation flow rate [veh/h]	1227	1253	1227	1310	1414	1284	1417	1290
c, Capacity [veh/h]	372	330	370	345	907	766	906	770
d1, Uniform Delay [s]	18.99	16.86	20.65	16.83	7.39	7.39	0.00	0.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.82	1.72	0.74	2.22	3.05	0.00	0.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.13	0.26	0.12	0.53	0.57	0.00	0.00
d, Delay for Lane Group [s/veh]	19.02	17.68	22.37	17.57	9.61	10.43	0.00	0.00
Lane Group LOS	B	B	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.02	0.49	1.27	0.49	3.36	3.18	0.00	0.00
50th-Percentile Queue Length [ft/ln]	0.59	12.33	31.76	12.22	83.93	79.47	0.00	0.00
95th-Percentile Queue Length [veh/ln]	0.04	0.89	2.29	0.88	6.04	5.72	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.06	22.19	57.18	21.99	151.08	143.05	0.00	0.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	19.02	17.68	17.68	22.37	17.57	17.57	9.61	10.01	10.43	0.00	0.00	0.00
Movement LOS	B	B	B	C	B	B	A	B	B	A	A	A
d_A, Approach Delay [s/veh]	17.73			20.90			10.00			0.00		
Approach LOS	B			C			B			A		
d_I, Intersection Delay [s/veh]	11.70											
Intersection LOS	B											
Intersection V/C	0.419											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	527	1193	1193
d_b, Bicycle Delay [s]	16.28	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.670	1.814	2.324	1.560
Bicycle LOS	A	A	B	A

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Bent/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Bent Avenue				15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bent Avenue				15th Street	
Base Volume Input [veh/h]	11	2	5	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	2	6	4	0	13
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	1	0	4
Total Analysis Volume [veh/h]	15	2	7	5	0	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.72	8.41	7.25	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.30	1.30	0.29	0.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.68		4.23		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.51					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: O'Neil/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	1	8	1	1	2	11	0	1	8	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	1	9	1	1	2	13	0	1	9	6
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	3	0	0	1	4	0	0	3	2
Total Analysis Volume [veh/h]	1	5	1	11	1	1	2	15	0	1	11	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	9.26	8.41	8.81	9.26	8.43	7.25	0.00	0.00	7.25	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.59	0.59	0.59	1.03	1.03	1.03	0.08	0.08	0.08	0.04	0.04	0.04
d_A, Approach Delay [s/veh]	9.07			8.82			0.85			0.38		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.57											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 9: Thomes/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	3	4	7	4	1	18	3	4	10	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	4	5	8	5	1	21	4	5	12	21
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	1	2	1	0	6	1	1	4	6
Total Analysis Volume [veh/h]	1	5	5	6	9	6	1	25	5	6	14	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.07	9.51	8.48	9.08	9.51	8.53	7.29	0.00	0.00	7.28	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.07	0.07	0.07	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.92	0.92	0.92	1.79	1.79	1.79	0.04	0.04	0.04	0.28	0.28	0.28
d_A, Approach Delay [s/veh]	9.01			9.10			0.24			0.97		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.16											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 10: Pioner/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	0	4	38	3	22	0	26	3	2	16	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	5	44	4	26	0	30	4	2	19	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	13	1	8	0	9	1	1	6	0
Total Analysis Volume [veh/h]	1	0	6	52	5	31	0	35	5	2	22	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.06	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.15	0.00	8.50	9.18	9.63	8.52	0.00	0.00	0.00	7.30	0.00	0.00
Movement LOS	A		A	A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.02	0.20	0.20	0.09	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.52	0.00	0.52	5.00	5.00	2.27	0.00	0.00	0.00	0.08	0.08	0.00
d_A, Approach Delay [s/veh]	8.60			8.97			0.00			0.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.43											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 11: Carey/15th

Control Type:	Two-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Carey Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Carey Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	0	0	31	37	17	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	36	43	20	36
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	11	13	6	11
Total Analysis Volume [veh/h]	0	0	42	51	24	42
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.39	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.79	1.79	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.34		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.95					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Capital/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Capital Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Capital Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	9	48	29	8	1	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	56	34	9	1	9
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	16	10	3	0	3
Total Analysis Volume [veh/h]	13	66	40	11	1	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.06	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.38	8.63	7.29	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.07	0.07	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.17	6.17	1.70	1.70	0.00	0.00
d_A, Approach Delay [s/veh]	8.75		5.71		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.92					
Intersection LOS	A					

Option 1 – 15th Street Eastbound from Bent Avenue to Carey Avenue

15th Street Closure Project

Vistro File: C:\...\15th Street - Option 1.vistro
Report File: C:\...\Option 1 June 2022.pdf

Scenario 2 Option 1 June 2022
7/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Bent/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.043	30.4	D
2	O'Neil/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.006	29.3	D
3	Thomes/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.048	38.2	E
4	Pioneer/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.370	9.8	A
5	Carey/Lincolnway	Signalized	HCM 7th Edition	NB Right	0.362	9.3	A
6	Capital/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.432	10.5	B
7	Bent/15th	Two-way stop	HCM 7th Edition	SB Left	0.015	8.7	A
8	O'Neil/15th	Two-way stop	HCM 7th Edition	SB Thru	0.001	9.4	A
9	Thomes/15th	Two-way stop	HCM 7th Edition	SB Thru	0.011	9.5	A
10	Pioner/15th	Two-way stop	HCM 7th Edition	SB Thru	0.006	10.2	B
11	Carey/15th	Two-way stop	HCM 7th Edition	EB Left	0.140	7.6	A
12	Capital/15th	Two-way stop	HCM 7th Edition	SB Left	0.013	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Bent/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	30.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	12	2	0	12	3	12	5	478	10	6	398	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-7	-1	-5	0	0	0	0	0	0	0	32	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	0	14	4	14	6	559	12	7	498	5
Peak Hour Factor	0.6400	0.6400	0.6400	0.5600	0.5600	0.5600	0.9100	0.9100	0.9100	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	6	2	6	2	154	3	2	152	2
Total Analysis Volume [veh/h]	11	2	0	25	7	25	7	614	13	9	607	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.00	0.12	0.04	0.04	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	25.20	28.24	10.28	25.77	30.43	10.42	8.77	0.00	0.00	8.82	0.00	0.00
Movement LOS	D	D	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.57	0.57	0.11	0.02	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.54	5.54	0.00	14.16	14.16	2.82	0.55	0.00	0.00	0.72	0.00	0.00
d_A, Approach Delay [s/veh]	25.66			19.61			0.10			0.13		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	1.20											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 2: O'Neil/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	29.3
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	4	1	10	21	1	23	16	485	3	7	379	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	2	1	9	0	0	0	0	-5	0	0	30	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	2	21	25	1	27	19	562	4	8	473	35
Peak Hour Factor	0.5400	0.5400	0.5400	0.9100	0.9100	0.9100	0.9200	0.9200	0.9200	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	10	7	0	7	5	153	1	2	136	10
Total Analysis Volume [veh/h]	13	4	39	27	1	30	21	611	4	9	544	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.02	0.06	0.14	0.01	0.04	0.02	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	24.88	28.71	10.54	26.22	29.34	10.34	8.73	0.00	0.00	8.78	0.00	0.00
Movement LOS	C	D	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.18	0.49	0.49	0.13	0.07	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.27	7.27	4.49	12.17	12.17	3.33	1.63	0.00	0.00	0.71	0.00	0.00
d_A, Approach Delay [s/veh]	15.17			18.06			0.29			0.13		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	1.61											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Thomes/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	38.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	10	1	15	26	4	26	32	495	10	10	371	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	6	1	9	0	0	0	0	4	0	0	24	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	2	27	30	5	30	37	583	12	12	458	70
Peak Hour Factor	0.6500	0.6500	0.6500	0.7400	0.7400	0.7400	0.9400	0.9400	0.9400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	10	10	2	10	10	155	3	4	136	21
Total Analysis Volume [veh/h]	28	3	42	41	7	41	39	620	13	14	545	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.02	0.06	0.24	0.05	0.06	0.04	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	32.01	36.09	10.65	34.72	38.24	10.62	8.95	0.00	0.00	8.86	0.00	0.00
Movement LOS	D	E	B	D	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.68	0.68	0.20	1.13	1.13	0.19	0.13	0.00	0.00	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	17.04	17.04	4.93	28.29	28.29	4.79	3.21	0.00	0.00	1.13	0.00	0.00
d_A, Approach Delay [s/veh]	19.89			23.89			0.52			0.19		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	2.74											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 4: Pioneer/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

Intersection Setup

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	0	0	0	122	27	35	0	539	9	33	397	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	9	0	56	24	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	21	0	0	6	0	0	0
Total Hourly Volume [veh/h]	0	0	0	143	32	20	0	640	5	95	488	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9300	0.9300	0.8400	0.8400	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	42	9	6	0	172	1	28	145	0
Total Analysis Volume [veh/h]	0	0	0	168	38	24	0	688	5	113	581	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	0	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall					No			No			No	
Maximum Recall					Yes			Yes			Yes	
Pedestrian Recall					No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	C	L	C
C, Cycle Length [s]		60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]		4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]		2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]		16	16	16	36	36	36	36
g / C, Green / Cycle		0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate		0.12	0.03	0.02	0.24	0.25	0.17	0.22
s, saturation flow rate [veh/h]		1350	1417	1205	1417	1414	676	2698
c, Capacity [veh/h]		355	373	317	846	843	412	1610
d1, Uniform Delay [s]		18.59	16.73	16.61	6.46	6.46	11.61	6.22
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		4.46	0.55	0.46	1.47	1.48	1.64	0.63
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.47	0.10	0.08	0.41	0.41	0.27	0.36
d, Delay for Lane Group [s/veh]		23.05	17.27	17.08	7.93	7.94	13.25	6.85
Lane Group LOS		C	B	B	A	A	B	A
Critical Lane Group		Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]		2.24	0.42	0.27	2.11	2.11	1.08	1.56
50th-Percentile Queue Length [ft/ln]		56.06	10.58	6.77	52.64	52.71	27.01	39.04
95th-Percentile Queue Length [veh/ln]		4.04	0.76	0.49	3.79	3.80	1.94	2.81
95th-Percentile Queue Length [ft/ln]		100.91	19.05	12.19	94.74	94.88	48.61	70.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	23.05	17.27	17.08	0.00	7.94	7.94	13.25	6.85	0.00
Movement LOS				C	B	B		A	A	B	A	
d_A, Approach Delay [s/veh]	0.00			21.47			7.94			7.89		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.84											
Intersection LOS	A											
Intersection V/C	0.370											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	527	1193	1193
d_b, Bicycle Delay [s]	30.00	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	4.132	1.974	2.136	2.132
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Carey/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

Intersection Setup

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	9	22	30	0	0	0	35	630	0	0	420	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	23	57	77	0	0	0	0	9	0	0	57	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	56	0	0	0	0	0	0	0	0	43
Total Hourly Volume [veh/h]	34	83	56	0	0	0	41	746	0	0	548	42
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	0.9000	0.8500	0.8500	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	24	16	0	0	0	11	207	0	0	151	12
Total Analysis Volume [veh/h]	40	98	66	0	0	0	46	829	0	0	602	46
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	0	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	0	0	0	4	0	0	4	0
Maximum Green [s]	0	15	0	0	0	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	0	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No						No			No	
Maximum Recall		Yes						Yes			Yes	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R		L	C	C	C
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20		4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20		2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16		36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26		0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.05		0.07	0.31	0.23	0.23
s, saturation flow rate [veh/h]	1377	1290	1205		705	2698	1417	1383
c, Capacity [veh/h]	363	340	317		430	1610	846	825
d1, Uniform Delay [s]	17.13	17.21	17.22		10.07	7.04	6.33	6.37
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.15	1.36	1.48		0.50	1.18	1.32	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.20	0.21		0.11	0.51	0.38	0.39
d, Delay for Lane Group [s/veh]	18.29	18.56	18.71		10.57	8.22	7.64	7.78
Lane Group LOS	B	B	B		B	A	A	A
Critical Lane Group	No	No	Yes		No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.79	0.82	0.79		0.38	2.56	1.92	1.95
50th-Percentile Queue Length [ft/ln]	19.87	20.42	19.67		9.43	64.01	48.03	48.65
95th-Percentile Queue Length [veh/ln]	1.43	1.47	1.42		0.68	4.61	3.46	3.50
95th-Percentile Queue Length [ft/ln]	35.76	36.75	35.40		16.98	115.21	86.45	87.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.29	18.48	18.71	0.00	0.00	0.00	10.57	8.22	0.00	0.00	7.71	7.78
Movement LOS	B	B	B				B	A			A	A
d_A, Approach Delay [s/veh]	18.52			0.00			8.35			7.71		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	9.31											
Intersection LOS	A											
Intersection V/C	0.362											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	0	1193	1193
d_b, Bicycle Delay [s]	16.28	30.00	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.774	4.132	2.281	2.130
Bicycle LOS	A	D	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Capital/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.432

Intersection Setup

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	1	6	37	59	14	24	18	618	16	45	461	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	1	0	0	0	-12	12	2	84	9	-42	42	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	20	0	0	14	0	0	25
Total Hourly Volume [veh/h]	2	7	21	69	4	20	23	807	14	11	581	24
Peak Hour Factor	0.6500	0.6500	0.6500	0.7100	0.7100	0.7100	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	8	24	1	7	6	224	4	3	161	7
Total Analysis Volume [veh/h]	3	11	32	97	6	28	26	897	16	12	646	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	20	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		Yes			Yes			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16	16	36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.08	0.03	0.35	0.35	0.26	0.26
s, saturation flow rate [veh/h]	1237	1253	1227	1237	1383	1282	1394	1271
c, Capacity [veh/h]	379	330	370	326	888	765	894	758
d1, Uniform Delay [s]	18.81	16.86	20.65	16.74	7.45	7.53	6.53	6.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.82	1.72	0.64	2.44	3.32	1.34	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.13	0.26	0.10	0.55	0.59	0.40	0.43
d, Delay for Lane Group [s/veh]	18.85	17.68	22.37	17.38	9.89	10.85	7.88	8.34
Lane Group LOS	B	B	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.03	0.49	1.27	0.39	3.46	3.37	2.18	2.06
50th-Percentile Queue Length [ft/ln]	0.87	12.33	31.76	9.66	86.56	84.33	54.43	51.48
95th-Percentile Queue Length [veh/ln]	0.06	0.89	2.29	0.70	6.23	6.07	3.92	3.71
95th-Percentile Queue Length [ft/ln]	1.57	22.19	57.18	17.40	155.80	151.79	97.97	92.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.85	17.68	17.68	22.37	17.38	17.38	9.89	10.35	10.85	7.88	8.09	8.34
Movement LOS	B	B	B	C	B	B	A	B	B	A	A	A
d_A, Approach Delay [s/veh]	17.75			21.07			10.35			8.10		
Approach LOS	B			C			B			A		
d_I, Intersection Delay [s/veh]	10.46											
Intersection LOS	B											
Intersection V/C	0.432											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	527	1193	1193
d_b, Bicycle Delay [s]	16.28	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.672	1.809	2.346	2.145
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Bent/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Bent Avenue				15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bent Avenue				15th Street	
Base Volume Input [veh/h]	11	2	5	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	-13
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	2	6	4	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	1	0	0
Total Analysis Volume [veh/h]	15	2	7	5	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.68	8.38	7.23	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.29	1.29	0.29	0.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.65		4.22		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.81					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: O'Neil/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	1	8	1	1	2	11	0	1	8	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-1	1	0	1	0	-1	13	0	0	-1	-9	-6
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	1	10	1	0	15	13	0	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	3	0	0	4	4	0	0	0	0
Total Analysis Volume [veh/h]	0	6	1	12	1	0	18	15	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.88	9.37	8.42	8.95	9.39	8.37	7.24	0.00	0.00	7.25	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.04	0.04	0.04	0.03	0.03	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.62	0.62	0.62	1.08	1.08	1.08	0.76	0.76	0.76	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.23			8.98			3.95			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.88											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 9: Thomes/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	3	4	7	4	1	18	3	4	10	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-1	1	0	5	0	-5	16	0	0	-5	-12	-21
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	4	10	8	0	17	21	4	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	3	2	0	5	6	1	0	0	0
Total Analysis Volume [veh/h]	0	6	5	12	9	0	20	25	5	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.06	9.46	8.48	9.10	9.53	8.40	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.07	0.07	0.07	0.03	0.03	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.92	0.92	0.92	1.87	1.87	1.87	0.87	0.87	0.87	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.01			9.28			2.89			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.35											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 10: Pioner/15th

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	0	4	38	3	22	0	26	3	2	16	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-1	0	1	82	0	-26	0	32	0	-2	-19	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	6	126	4	0	0	62	4	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	37	1	0	0	18	1	0	0	0
Total Analysis Volume [veh/h]	0	0	7	148	5	0	0	73	5	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.00	0.00	8.68	9.80	10.25	8.32	0.00	0.00	0.00	7.37	0.00	0.00
Movement LOS	A		A	A	B	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.02	0.61	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.54	0.00	0.54	15.27	15.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.68			9.82			0.00			3.68		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.57											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Carey/15th

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.140

Intersection Setup

Name	Carey Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Carey Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	0	0	31	37	17	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	157	-43	-20	-36
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	193	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	57	0	0	0
Total Analysis Volume [veh/h]	0	0	227	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.14	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.58	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.49	0.49	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	12.16	12.16	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.58		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.58					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Capital/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Capital Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Capital Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	9	48	29	8	1	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	-56	-34	-9	-1	1
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	0	0	0	10
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	0	0	3
Total Analysis Volume [veh/h]	13	0	0	0	0	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.59	8.39	7.24	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.97	0.97	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.59		3.62		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.47					
Intersection LOS	A					

15th Street Closure Project

Vistro File: C:\...\15th Street - Option 1.vistro
Report File: C:\...\Option 1 June 2045.pdf

Scenario 3 Option 1 June 2045
7/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Bent/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.050	35.9	E
2	O'Neil/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.007	34.2	D
3	Thomes/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.057	46.4	E
4	Pioneer/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.406	10.3	B
5	Carey/Lincolnway	Signalized	HCM 7th Edition	NB Right	0.393	9.7	A
6	Capital/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.463	11.1	B
7	Bent/15th	Two-way stop	HCM 7th Edition	SB Left	0.015	8.7	A
8	O'Neil/15th	Two-way stop	HCM 7th Edition	SB Thru	0.001	9.4	A
9	Thomes/15th	Two-way stop	HCM 7th Edition	SB Thru	0.011	9.5	A
10	Pioner/15th	Two-way stop	HCM 7th Edition	SB Thru	0.006	10.2	B
11	Carey/15th	Two-way stop	HCM 7th Edition	EB Left	0.140	7.6	A
12	Capital/15th	Two-way stop	HCM 7th Edition	SB Left	0.013	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Bent/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	35.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	12	2	0	12	3	12	5	478	10	6	398	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-7	-1	-5	0	0	0	0	0	0	0	32	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1	0	14	4	14	6	616	12	7	545	5
Peak Hour Factor	0.6400	0.6400	0.6400	0.5600	0.5600	0.5600	0.9100	0.9100	0.9100	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	6	2	6	2	169	3	2	166	2
Total Analysis Volume [veh/h]	11	2	0	25	7	25	7	677	13	9	665	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.14	0.05	0.04	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	29.16	32.85	10.53	30.09	35.92	10.67	8.96	0.00	0.00	9.04	0.00	0.00
Movement LOS	D	D	B	D	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.00	0.68	0.68	0.12	0.02	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.60	6.60	0.00	16.95	16.95	2.95	0.58	0.00	0.00	0.76	0.00	0.00
d_A, Approach Delay [s/veh]	29.73			22.29			0.09			0.12		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	1.24											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 2: O'Neil/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	34.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	4	1	10	21	1	23	16	485	3	7	379	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	2	1	9	0	0	0	0	-5	0	0	30	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	2	21	25	1	27	19	620	4	8	518	35
Peak Hour Factor	0.5400	0.5400	0.5400	0.9100	0.9100	0.9100	0.9200	0.9200	0.9200	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	10	7	0	7	5	168	1	2	149	10
Total Analysis Volume [veh/h]	13	4	39	27	1	30	21	674	4	9	595	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.03	0.06	0.16	0.01	0.04	0.02	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	28.58	33.21	10.83	30.24	34.17	10.55	8.90	0.00	0.00	9.00	0.00	0.00
Movement LOS	D	D	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.19	0.57	0.57	0.14	0.07	0.00	0.00	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.58	8.58	4.72	14.37	14.37	3.47	1.71	0.00	0.00	0.75	0.00	0.00
d_A, Approach Delay [s/veh]	16.55			20.13			0.27			0.13		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	1.62											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Thomes/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	46.4
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	10	1	15	26	4	26	32	495	10	10	371	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	6	1	9	0	0	0	0	4	0	0	24	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	2	27	30	5	30	37	642	12	12	502	70
Peak Hour Factor	0.6500	0.6500	0.6500	0.7400	0.7400	0.7400	0.9400	0.9400	0.9400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	10	10	2	10	10	171	3	4	149	21
Total Analysis Volume [veh/h]	28	3	42	41	7	41	39	683	13	14	598	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.03	0.06	0.28	0.06	0.06	0.04	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	38.22	43.04	10.94	41.97	46.44	10.86	9.15	0.00	0.00	9.08	0.00	0.00
Movement LOS	E	E	B	E	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.82	0.82	0.21	1.37	1.37	0.20	0.13	0.00	0.00	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.59	20.59	5.18	34.17	34.17	4.99	3.36	0.00	0.00	1.19	0.00	0.00
d_A, Approach Delay [s/veh]	22.72			27.99			0.49			0.18		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	2.91											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 4: Pioneer/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	0	0	0	122	27	35	0	539	9	33	397	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.2884	1.1700	1.2884	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	9	0	56	24	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	23	0	0	6	0	0	0
Total Hourly Volume [veh/h]	0	0	0	157	32	22	0	703	5	95	535	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9300	0.9300	0.8400	0.8400	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	46	9	6	0	189	1	28	159	0
Total Analysis Volume [veh/h]	0	0	0	185	38	26	0	756	5	113	637	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	0	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall					No			No			No	
Maximum Recall					Yes			Yes			Yes	
Pedestrian Recall					No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	C	L	C
C, Cycle Length [s]		60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]		4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]		2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]		16	16	16	36	36	36	36
g / C, Green / Cycle		0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate		0.14	0.03	0.02	0.27	0.27	0.18	0.24
s, saturation flow rate [veh/h]		1350	1417	1205	1417	1414	634	2698
c, Capacity [veh/h]		355	373	317	846	844	383	1610
d1, Uniform Delay [s]		18.87	16.73	16.64	6.67	6.68	12.50	6.39
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		5.36	0.55	0.51	1.73	1.74	1.95	0.73
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.52	0.10	0.08	0.45	0.45	0.29	0.40
d, Delay for Lane Group [s/veh]		24.23	17.27	17.15	8.40	8.42	14.45	7.12
Lane Group LOS		C	B	B	A	A	B	A
Critical Lane Group		Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]		2.54	0.42	0.29	2.40	2.41	1.15	1.76
50th-Percentile Queue Length [ft/ln]		63.58	10.58	7.36	60.06	60.15	28.81	44.08
95th-Percentile Queue Length [veh/ln]		4.58	0.76	0.53	4.32	4.33	2.07	3.17
95th-Percentile Queue Length [ft/ln]		114.45	19.05	13.24	108.11	108.27	51.85	79.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	24.23	17.27	17.15	0.00	8.41	8.42	14.45	7.12	0.00
Movement LOS				C	B	B		A	A	B	A	
d_A, Approach Delay [s/veh]	0.00			22.43			8.41			8.22		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	10.31											
Intersection LOS	B											
Intersection V/C	0.406											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	527	1193	1193
d_b, Bicycle Delay [s]	30.00	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	4.132	2.008	2.192	2.178
Bicycle LOS	D	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Carey/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	9	22	30	0	0	0	35	630	0	0	420	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.2884	1.1700	1.1700	1.2884	1.2884
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	23	57	77	0	0	0	0	9	0	0	57	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	56	0	0	0	0	0	0	0	0	47
Total Hourly Volume [veh/h]	34	83	56	0	0	0	45	821	0	0	598	47
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	0.9000	0.8500	0.8500	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	24	16	0	0	0	13	228	0	0	164	13
Total Analysis Volume [veh/h]	40	98	66	0	0	0	50	912	0	0	657	52
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	0	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	0	0	0	4	0	0	4	0
Maximum Green [s]	0	15	0	0	0	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	0	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No						No			No	
Maximum Recall		Yes						Yes			Yes	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R		L	C	C	C
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20		4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20		2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16		36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26		0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.05		0.08	0.34	0.25	0.26
s, saturation flow rate [veh/h]	1377	1290	1205		666	2698	1417	1381
c, Capacity [veh/h]	363	340	317		402	1610	846	824
d1, Uniform Delay [s]	17.13	17.21	17.22		10.76	7.37	6.51	6.56
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.15	1.36	1.48		0.63	1.45	1.53	1.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.20	0.21		0.12	0.57	0.42	0.43
d, Delay for Lane Group [s/veh]	18.29	18.56	18.71		11.39	8.82	8.04	8.20
Lane Group LOS	B	B	B		B	A	A	A
Critical Lane Group	No	No	Yes		No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.79	0.82	0.79		0.43	2.97	2.17	2.21
50th-Percentile Queue Length [ft/ln]	19.87	20.42	19.67		10.84	74.20	54.33	55.13
95th-Percentile Queue Length [veh/ln]	1.43	1.47	1.42		0.78	5.34	3.91	3.97
95th-Percentile Queue Length [ft/ln]	35.76	36.75	35.40		19.52	133.55	97.80	99.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.29	18.48	18.71	0.00	0.00	0.00	11.39	8.82	0.00	0.00	8.11	8.20
Movement LOS	B	B	B				B	A			A	A
d_A, Approach Delay [s/veh]	18.52			0.00			8.96			8.12		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	9.68											
Intersection LOS	A											
Intersection V/C	0.393											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	0	1193	1193
d_b, Bicycle Delay [s]	16.28	30.00	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.774	4.132	2.353	2.183
Bicycle LOS	A	D	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Capital/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	1	6	37	59	14	24	18	618	16	45	461	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	1	0	0	0	-12	12	2	84	9	-42	42	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	20	0	0	14	0	0	25
Total Hourly Volume [veh/h]	2	7	21	69	4	20	23	880	14	11	636	24
Peak Hour Factor	0.6500	0.6500	0.6500	0.7100	0.7100	0.7100	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	8	24	1	7	6	244	4	3	177	7
Total Analysis Volume [veh/h]	3	11	32	97	6	28	26	978	16	12	707	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	20	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		Yes			Yes			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16	16	36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.08	0.03	0.38	0.38	0.28	0.28
s, saturation flow rate [veh/h]	1237	1253	1227	1237	1382	1282	1393	1273
c, Capacity [veh/h]	379	330	370	326	888	765	893	759
d1, Uniform Delay [s]	18.81	16.86	20.65	16.74	7.80	7.90	6.74	6.77
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.82	1.72	0.64	2.96	4.09	1.55	2.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.13	0.26	0.10	0.60	0.64	0.44	0.47
d, Delay for Lane Group [s/veh]	18.85	17.68	22.37	17.38	10.75	11.98	8.29	8.84
Lane Group LOS	B	B	C	B	B	B	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.03	0.49	1.27	0.39	3.98	3.91	2.45	2.33
50th-Percentile Queue Length [ft/ln]	0.87	12.33	31.76	9.66	99.48	97.79	61.34	58.28
95th-Percentile Queue Length [veh/ln]	0.06	0.89	2.29	0.70	7.16	7.04	4.42	4.20
95th-Percentile Queue Length [ft/ln]	1.57	22.19	57.18	17.40	179.06	176.02	110.40	104.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.85	17.68	17.68	22.37	17.38	17.38	10.75	11.35	11.98	8.29	8.55	8.84
Movement LOS	B	B	B	C	B	B	B	B	B	A	A	A
d_A, Approach Delay [s/veh]	17.75			21.07			11.35			8.55		
Approach LOS	B			C			B			A		
d_I, Intersection Delay [s/veh]	11.08											
Intersection LOS	B											
Intersection V/C	0.463											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	527	1193	1193
d_b, Bicycle Delay [s]	16.28	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.672	1.809	2.413	2.196
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Bent/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Bent Avenue				15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bent Avenue				15th Street	
Base Volume Input [veh/h]	11	2	5	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	-13
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	2	6	4	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	1	0	0
Total Analysis Volume [veh/h]	15	2	7	5	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.68	8.38	7.23	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.29	1.29	0.29	0.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.65		4.22		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.81					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: O'Neil/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	1	8	1	1	2	11	0	1	8	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-1	1	0	1	0	-1	13	0	0	-1	-9	-6
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	1	10	1	0	15	13	0	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	3	0	0	4	4	0	0	0	0
Total Analysis Volume [veh/h]	0	6	1	12	1	0	18	15	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.88	9.37	8.42	8.95	9.39	8.37	7.24	0.00	0.00	7.25	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.04	0.04	0.04	0.03	0.03	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.62	0.62	0.62	1.08	1.08	1.08	0.76	0.76	0.76	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.23			8.98			3.95			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.88											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 9: Thomes/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	3	4	7	4	1	18	3	4	10	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-1	1	0	5	0	-5	16	0	0	-5	-12	-21
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	4	10	8	0	17	21	4	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	3	2	0	5	6	1	0	0	0
Total Analysis Volume [veh/h]	0	6	5	12	9	0	20	25	5	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.06	9.46	8.48	9.10	9.53	8.40	7.22	0.00	0.00	7.27	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.07	0.07	0.07	0.03	0.03	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.92	0.92	0.92	1.87	1.87	1.87	0.87	0.87	0.87	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.01			9.28			2.89			2.42		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.35											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 10: Pioner/15th

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	0	4	38	3	22	0	26	3	2	16	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	-1	0	1	82	0	-26	0	32	0	-2	-19	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	6	126	4	0	0	62	4	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	37	1	0	0	18	1	0	0	0
Total Analysis Volume [veh/h]	0	0	7	148	5	0	0	73	5	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.00	0.00	8.68	9.80	10.25	8.32	0.00	0.00	0.00	7.37	0.00	0.00
Movement LOS	A		A	A	B	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.02	0.61	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.54	0.00	0.54	15.27	15.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.68			9.82			0.00			3.68		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.57											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Carey/15th

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.140

Intersection Setup

Name	Carey Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Carey Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	0	0	31	37	17	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	157	-43	-20	-36
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	193	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	57	0	0	0
Total Analysis Volume [veh/h]	0	0	227	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.14	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.58	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.49	0.49	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	12.16	12.16	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.58		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.58					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Capital/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Capital Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Capital Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	9	48	29	8	1	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	-56	-34	-9	-1	1
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	0	0	0	10
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	0	0	3
Total Analysis Volume [veh/h]	13	0	0	0	0	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.59	8.39	7.24	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.97	0.97	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.59		3.62		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.47					
Intersection LOS	A					

Option 2 – 15th Street Changes Direction at Pioneer Avenue

15th Street Closure Project

Vistro File: C:\...\15th Street - Option 2.vistro
Report File: C:\...\Option 2 June 2022.pdf

Scenario 2 Option 2 June 2022
7/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Bent/Lincolnway	Two-way stop	HCM 7th Edition	NB Thru	0.077	35.8	E
2	O'Neil/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.006	29.6	D
3	Thomes/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.048	37.6	E
4	Pioneer/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.370	9.8	A
5	Carey/Lincolnway	Signalized	HCM 7th Edition	NB Right	0.353	9.1	A
6	Capital/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.423	10.3	B
7	Bent/15th	Two-way stop	HCM 7th Edition	SB Right	0.002	8.4	A
8	O'Neil/15th	Two-way stop	HCM 7th Edition	SB Thru	0.001	9.2	A
9	Thomes/15th	Two-way stop	HCM 7th Edition	NB Thru	0.006	9.4	A
10	Pioner/15th	Two-way stop	HCM 7th Edition	SB Thru	0.006	9.5	A
11	Carey/15th	Two-way stop	HCM 7th Edition	EB Left	0.113	7.5	A
12	Capital/15th	Two-way stop	HCM 7th Edition	SB Left	0.013	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Bent/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	35.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.077

Intersection Setup

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	12	2	0	12	3	12	5	478	10	6	398	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	20	6	0	3	-3	0	0	8	-8	-2	25	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	8	0	17	1	14	6	567	4	5	491	5
Peak Hour Factor	0.6400	0.6400	0.6400	0.5600	0.5600	0.5600	0.9100	0.9100	0.9100	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	3	0	8	0	6	2	156	1	2	150	2
Total Analysis Volume [veh/h]	53	13	0	30	2	25	7	623	4	6	599	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.26	0.08	0.00	0.15	0.01	0.04	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	32.21	35.77	10.28	26.88	30.02	10.38	8.74	0.00	0.00	8.81	0.00	0.00
Movement LOS	D	E	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.42	1.42	0.00	0.57	0.57	0.11	0.02	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	35.60	35.60	0.00	14.34	14.34	2.80	0.55	0.00	0.00	0.48	0.00	0.00
d_A, Approach Delay [s/veh]	32.91			19.75			0.10			0.09		
Approach LOS	D			C			A			A		
d_I, Intersection Delay [s/veh]	2.49											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 2: O'Neil/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	29.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	4	1	10	21	1	23	16	485	3	7	379	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	3	0	6	0	0	0	0	0	11	2	22	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	1	18	25	1	27	19	567	15	10	465	35
Peak Hour Factor	0.5400	0.5400	0.5400	0.9100	0.9100	0.9100	0.9200	0.9200	0.9200	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	8	7	0	7	5	154	4	3	134	10
Total Analysis Volume [veh/h]	15	2	33	27	1	30	21	616	16	11	534	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.05	0.13	0.01	0.04	0.02	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	25.19	28.88	10.57	25.60	29.56	10.30	8.70	0.00	0.00	8.85	0.00	0.00
Movement LOS	D	D	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.15	0.47	0.47	0.13	0.06	0.00	0.00	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.21	7.21	3.82	11.85	11.85	3.31	1.62	0.00	0.00	0.88	0.00	0.00
d_A, Approach Delay [s/veh]	15.69			17.75			0.28			0.17		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	1.56											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Thomes/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	37.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	10	1	15	26	4	26	32	495	10	10	371	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	3	0	5	0	0	0	0	6	0	0	19	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	23	30	5	30	37	585	12	12	453	70
Peak Hour Factor	0.6500	0.6500	0.6500	0.7400	0.7400	0.7400	0.9400	0.9400	0.9400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	9	10	2	10	10	156	3	4	135	21
Total Analysis Volume [veh/h]	23	2	35	41	7	41	39	622	13	14	539	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.01	0.05	0.23	0.05	0.06	0.04	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	30.74	34.72	10.60	33.69	37.64	10.59	8.93	0.00	0.00	8.87	0.00	0.00
Movement LOS	D	D	B	D	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.53	0.53	0.16	1.10	1.10	0.19	0.13	0.00	0.00	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.19	13.19	4.07	27.49	27.49	4.76	3.19	0.00	0.00	1.13	0.00	0.00
d_A, Approach Delay [s/veh]	19.12			23.36			0.52			0.20		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	2.54											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 4: Pioneer/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

Intersection Setup

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	0	0	0	122	27	35	0	539	9	33	397	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	11	0	56	19	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	21	0	0	6	0	0	0
Total Hourly Volume [veh/h]	0	0	0	143	32	20	0	642	5	95	483	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9300	0.9300	0.8400	0.8400	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	42	9	6	0	173	1	28	144	0
Total Analysis Volume [veh/h]	0	0	0	168	38	24	0	690	5	113	575	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	0	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall					No			No			No	
Maximum Recall					Yes			Yes			Yes	
Pedestrian Recall					No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	C	L	C
C, Cycle Length [s]		60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]		4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]		2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]		16	16	16	36	36	36	36
g / C, Green / Cycle		0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate		0.12	0.03	0.02	0.25	0.25	0.17	0.21
s, saturation flow rate [veh/h]		1350	1417	1205	1417	1414	675	2698
c, Capacity [veh/h]		355	373	317	846	843	411	1610
d1, Uniform Delay [s]		18.59	16.73	16.61	6.47	6.47	11.63	6.20
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		4.46	0.55	0.46	1.48	1.49	1.65	0.62
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.47	0.10	0.08	0.41	0.41	0.27	0.36
d, Delay for Lane Group [s/veh]		23.05	17.27	17.08	7.94	7.96	13.28	6.82
Lane Group LOS		C	B	B	A	A	B	A
Critical Lane Group		Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]		2.24	0.42	0.27	2.11	2.12	1.08	1.54
50th-Percentile Queue Length [ft/ln]		56.06	10.58	6.77	52.85	52.92	27.06	38.52
95th-Percentile Queue Length [veh/ln]		4.04	0.76	0.49	3.80	3.81	1.95	2.77
95th-Percentile Queue Length [ft/ln]		100.91	19.05	12.19	95.12	95.26	48.70	69.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	23.05	17.27	17.08	0.00	7.95	7.96	13.28	6.82	0.00
Movement LOS				C	B	B		A	A	B	A	
d_A, Approach Delay [s/veh]	0.00			21.47			7.95			7.88		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.85											
Intersection LOS	A											
Intersection V/C	0.370											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	527	1193	1193
d_b, Bicycle Delay [s]	30.00	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	4.132	1.974	2.138	2.127
Bicycle LOS	D	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Carey/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	9	22	30	0	0	0	35	630	0	0	420	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	19	43	58	0	0	0	0	11	0	0	56	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	47	0	0	0	0	0	0	0	0	43
Total Hourly Volume [veh/h]	30	69	46	0	0	0	41	748	0	0	547	42
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	0.9000	0.8500	0.8500	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	20	14	0	0	0	11	208	0	0	150	12
Total Analysis Volume [veh/h]	35	81	54	0	0	0	46	831	0	0	601	46
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	0	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	0	0	0	4	0	0	4	0
Maximum Green [s]	0	15	0	0	0	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	0	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No						No			No	
Maximum Recall		Yes						Yes			Yes	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R		L	C	C	C
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20		4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20		2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16		36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26		0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.04	0.05	0.04		0.07	0.31	0.23	0.23
s, saturation flow rate [veh/h]	1376	1290	1205		705	2698	1417	1383
c, Capacity [veh/h]	362	340	317		430	1610	846	825
d1, Uniform Delay [s]	16.99	17.05	17.04		10.06	7.05	6.32	6.37
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.94	1.09	1.16		0.50	1.19	1.31	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.17	0.17		0.11	0.52	0.38	0.39
d, Delay for Lane Group [s/veh]	17.93	18.15	18.20		10.56	8.24	7.64	7.77
Lane Group LOS	B	B	B		B	A	A	A
Critical Lane Group	No	Yes	No		No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.66	0.68	0.63		0.38	2.57	1.92	1.94
50th-Percentile Queue Length [ft/ln]	16.51	16.92	15.83		9.43	64.24	47.93	48.55
95th-Percentile Queue Length [veh/ln]	1.19	1.22	1.14		0.68	4.63	3.45	3.50
95th-Percentile Queue Length [ft/ln]	29.72	30.45	28.50		16.97	115.63	86.27	87.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.93	18.09	18.20	0.00	0.00	0.00	10.56	8.24	0.00	0.00	7.70	7.77
Movement LOS	B	B	B				B	A			A	A
d_A, Approach Delay [s/veh]	18.09			0.00			8.36			7.70		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	9.09											
Intersection LOS	A											
Intersection V/C	0.353											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	0	1193	1193
d_b, Bicycle Delay [s]	16.28	30.00	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.739	4.132	2.283	2.129
Bicycle LOS	A	D	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Capital/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

Intersection Setup

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	1	6	37	59	14	24	18	618	16	45	461	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	-12	12	2	67	0	-42	42	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	20	0	0	10	0	0	25
Total Hourly Volume [veh/h]	1	7	21	69	4	20	23	790	9	11	581	24
Peak Hour Factor	0.6500	0.6500	0.6500	0.7100	0.7100	0.7100	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	8	24	1	7	6	219	3	3	161	7
Total Analysis Volume [veh/h]	2	11	32	97	6	28	26	878	10	12	646	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	20	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		Yes			Yes			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16	16	36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.08	0.03	0.34	0.34	0.26	0.26
s, saturation flow rate [veh/h]	1237	1253	1227	1237	1382	1285	1395	1271
c, Capacity [veh/h]	379	330	370	326	888	766	894	758
d1, Uniform Delay [s]	18.79	16.86	20.65	16.74	7.34	7.42	6.54	6.56
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.82	1.72	0.64	2.30	3.10	1.34	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.13	0.26	0.10	0.53	0.57	0.40	0.43
d, Delay for Lane Group [s/veh]	18.82	17.68	22.37	17.38	9.64	10.52	7.88	8.34
Lane Group LOS	B	B	C	B	A	B	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.02	0.49	1.27	0.39	3.31	3.22	2.18	2.06
50th-Percentile Queue Length [ft/ln]	0.58	12.33	31.76	9.66	82.68	80.59	54.44	51.46
95th-Percentile Queue Length [veh/ln]	0.04	0.89	2.29	0.70	5.95	5.80	3.92	3.71
95th-Percentile Queue Length [ft/ln]	1.05	22.19	57.18	17.40	148.83	145.06	98.00	92.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.82	17.68	17.68	22.37	17.38	17.38	9.64	10.07	10.52	7.88	8.09	8.34
Movement LOS	B	B	B	C	B	B	A	B	B	A	A	A
d_A, Approach Delay [s/veh]	17.73			21.07			10.06			8.10		
Approach LOS	B			C			B			A		
d_I, Intersection Delay [s/veh]	10.31											
Intersection LOS	B											
Intersection V/C	0.423											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	527	1193	1193
d_b, Bicycle Delay [s]	16.28	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.670	1.809	2.322	2.145
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Bent/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Bent Avenue				15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bent Avenue				15th Street	
Base Volume Input [veh/h]	11	2	5	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	-13	0	4	-4	0	22
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	10	0	0	35
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	3	0	0	10
Total Analysis Volume [veh/h]	0	2	12	0	0	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	8.41	7.31	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.14	0.14	0.58	0.58	0.00	0.00
d_A, Approach Delay [s/veh]	8.41		7.31		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.90					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: O'Neil/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	1	8	1	1	2	11	0	1	8	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	1	0	-1	-9	0	22	-2	-13	0	0	0	9
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	4	0	0	1	23	0	0	0	1	9	15
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	0	0	7	0	0	0	0	3	4
Total Analysis Volume [veh/h]	2	5	0	0	1	27	0	0	0	1	11	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.85	9.21	8.35	8.77	9.23	8.50	7.27	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.08	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.60	0.60	0.60	2.05	2.05	2.05	0.00	0.00	0.00	0.05	0.05	0.05
d_A, Approach Delay [s/veh]	9.11			8.52			2.42			0.24		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.76											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 9: Thomes/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	3	4	7	4	1	18	3	4	10	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	4	0	-4	-5	0	5	-1	-21	-4	0	0	8
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	0	0	8	10	0	0	0	5	12	29
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	0	2	3	0	0	0	1	4	9
Total Analysis Volume [veh/h]	6	5	0	0	9	12	0	0	0	6	14	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.96	9.40	8.37	8.89	9.34	8.54	7.31	0.00	0.00	7.23	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.07	0.07	0.07	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.95	0.95	0.95	1.70	1.70	1.70	0.00	0.00	0.00	0.29	0.29	0.29
d_A, Approach Delay [s/veh]	9.16			8.88			2.44			0.80		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.85											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 10: Pioner/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	0	4	38	3	22	0	26	3	2	16	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	56	0	0	0	-30	-4	-2	-19	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	5	100	4	26	0	0	0	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	29	1	8	0	0	0	0	0	0
Total Analysis Volume [veh/h]	1	0	6	118	5	31	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.12	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	0.00	8.34	9.05	9.51	8.42	0.00	0.00	0.00	7.22	0.00	0.00
Movement LOS	A		A	A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.02	0.42	0.42	0.09	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.50	0.00	0.50	10.39	10.39	2.20	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40			8.94			0.00			3.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.91											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 11: Carey/15th

Control Type:	Two-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.113

Intersection Setup

Name	Carey Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Carey Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	0	0	31	37	17	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	120	-43	-20	-36
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	156	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	46	0	0	0
Total Analysis Volume [veh/h]	0	0	184	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.11	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.38	0.38	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	9.57	9.57	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.50		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.50					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Capital/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Capital Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Capital Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	9	48	29	8	1	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	-56	-34	-9	-1	1
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	0	0	0	10
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	0	0	3
Total Analysis Volume [veh/h]	13	0	0	0	0	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.59	8.39	7.24	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.97	0.97	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.59		3.62		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.47					
Intersection LOS	A					

15th Street Closure Project

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Scenario 3 3 Option 2 June 2045
7/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Bent/Lincolnway	Two-way stop	HCM 7th Edition	NB Thru	0.092	44.2	E
2	O'Neil/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.007	34.4	D
3	Thomes/Lincolnway	Two-way stop	HCM 7th Edition	SB Thru	0.056	45.5	E
4	Pioneer/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.407	10.3	B
5	Carey/Lincolnway	Signalized	HCM 7th Edition	NB Right	0.384	9.5	A
6	Capital/Lincolnway	Signalized	HCM 7th Edition	SB Left	0.453	10.9	B
7	Bent/15th	Two-way stop	HCM 7th Edition	SB Right	0.002	8.4	A
8	O'Neil/15th	Two-way stop	HCM 7th Edition	SB Thru	0.001	9.2	A
9	Thomes/15th	Two-way stop	HCM 7th Edition	NB Thru	0.006	9.4	A
10	Pioner/15th	Two-way stop	HCM 7th Edition	SB Thru	0.006	9.5	A
11	Carey/15th	Two-way stop	HCM 7th Edition	EB Left	0.113	7.5	A
12	Capital/15th	Two-way stop	HCM 7th Edition	SB Left	0.013	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Bent/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	44.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Bent Avenue			Bent Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	12	2	0	12	3	12	5	478	10	6	398	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	20	6	0	3	-3	0	0	8	-8	-2	25	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	8	0	17	1	14	6	624	4	5	538	5
Peak Hour Factor	0.6400	0.6400	0.6400	0.5600	0.5600	0.5600	0.9100	0.9100	0.9100	0.8200	0.8200	0.8200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	3	0	8	0	6	2	171	1	2	164	2
Total Analysis Volume [veh/h]	53	13	0	30	2	25	7	686	4	6	656	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.31	0.09	0.00	0.18	0.01	0.04	0.01	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	39.81	44.22	10.53	31.72	35.50	10.63	8.93	0.00	0.00	9.02	0.00	0.00
Movement LOS	E	E	B	D	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.75	1.75	0.00	0.69	0.69	0.12	0.02	0.00	0.00	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	43.83	43.83	0.00	17.30	17.30	2.93	0.57	0.00	0.00	0.50	0.00	0.00
d_A, Approach Delay [s/veh]	40.68			22.60			0.09			0.08		
Approach LOS	E			C			A			A		
d_I, Intersection Delay [s/veh]	2.75											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 2: O'Neil/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	34.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	4	1	10	21	1	23	16	485	3	7	379	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	3	0	6	0	0	0	0	0	11	2	22	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	1	18	25	1	27	19	625	15	10	510	35
Peak Hour Factor	0.5400	0.5400	0.5400	0.9100	0.9100	0.9100	0.9200	0.9200	0.9200	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	8	7	0	7	5	170	4	3	147	10
Total Analysis Volume [veh/h]	15	2	33	27	1	30	21	679	16	11	586	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.01	0.05	0.15	0.01	0.04	0.02	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	28.96	33.45	10.85	29.47	34.43	10.51	8.87	0.00	0.00	9.07	0.00	0.00
Movement LOS	D	D	B	D	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.16	0.56	0.56	0.14	0.07	0.00	0.00	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.52	8.52	4.01	13.97	13.97	3.44	1.69	0.00	0.00	0.93	0.00	0.00
d_A, Approach Delay [s/veh]	17.19			19.75			0.26			0.16		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	1.57											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Thomes/Lincolnway

Control Type:	Two-way stop	Delay (sec / veh):	45.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.056

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	10	1	15	26	4	26	32	495	10	10	371	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	3	0	5	0	0	0	0	6	0	0	19	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	23	30	5	30	37	644	12	12	497	70
Peak Hour Factor	0.6500	0.6500	0.6500	0.7400	0.7400	0.7400	0.9400	0.9400	0.9400	0.8400	0.8400	0.8400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	9	10	2	10	10	171	3	4	148	21
Total Analysis Volume [veh/h]	23	2	35	41	7	41	39	685	13	14	592	83
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.02	0.05	0.27	0.06	0.06	0.04	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	36.35	41.05	10.88	40.54	45.55	10.83	9.12	0.00	0.00	9.09	0.00	0.00
Movement LOS	E	E	B	E	E	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.63	0.63	0.17	1.33	1.33	0.20	0.13	0.00	0.00	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	15.86	15.86	4.28	33.13	33.13	4.97	3.35	0.00	0.00	1.19	0.00	0.00
d_A, Approach Delay [s/veh]	21.65			27.25			0.48			0.18		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	2.67											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 4: Pioneer/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Poineer Avenue			Pioneer Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	0	0	0	122	27	35	0	539	9	33	397	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.2884	1.1700	1.2884	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	11	0	56	19	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	23	0	0	6	0	0	0
Total Hourly Volume [veh/h]	0	0	0	157	32	22	0	705	5	95	530	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9300	0.9300	0.8400	0.8400	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	46	9	6	0	190	1	28	158	0
Total Analysis Volume [veh/h]	0	0	0	185	38	26	0	758	5	113	631	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	0	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall					No			No			No	
Maximum Recall					Yes			Yes			Yes	
Pedestrian Recall					No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	C	L	C
C, Cycle Length [s]		60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]		4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]		2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]		16	16	16	36	36	36	36
g / C, Green / Cycle		0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate		0.14	0.03	0.02	0.27	0.27	0.18	0.23
s, saturation flow rate [veh/h]		1350	1417	1205	1417	1414	633	2698
c, Capacity [veh/h]		355	373	317	846	844	382	1610
d1, Uniform Delay [s]		18.87	16.73	16.64	6.68	6.68	12.53	6.37
k, delay calibration		0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		5.36	0.55	0.51	1.74	1.75	1.96	0.72
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.52	0.10	0.08	0.45	0.45	0.30	0.39
d, Delay for Lane Group [s/veh]		24.23	17.27	17.15	8.42	8.43	14.49	7.09
Lane Group LOS		C	B	B	A	A	B	A
Critical Lane Group		Yes	No	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]		2.54	0.42	0.29	2.41	2.42	1.15	1.74
50th-Percentile Queue Length [ft/ln]		63.58	10.58	7.36	60.29	60.38	28.86	43.53
95th-Percentile Queue Length [veh/ln]		4.58	0.76	0.53	4.34	4.35	2.08	3.13
95th-Percentile Queue Length [ft/ln]		114.45	19.05	13.24	108.52	108.68	51.95	78.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	24.23	17.27	17.15	0.00	8.42	8.43	14.49	7.09	0.00
Movement LOS				C	B	B		A	A	B	A	
d_A, Approach Delay [s/veh]	0.00			22.43			8.42			8.21		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	10.32											
Intersection LOS	B											
Intersection V/C	0.407											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	527	1193	1193
d_b, Bicycle Delay [s]	30.00	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	4.132	2.008	2.194	2.173
Bicycle LOS	D	B	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Carey/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.384

Intersection Setup

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Carey Avenue			Carey Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	9	22	30	0	0	0	35	630	0	0	420	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.2884	1.1700	1.1700	1.2884	1.2884
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	19	43	58	0	0	0	0	11	0	0	56	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	47	0	0	0	0	0	0	0	0	47
Total Hourly Volume [veh/h]	30	69	46	0	0	0	45	823	0	0	597	47
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.9000	0.9000	0.8500	0.8500	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	20	14	0	0	0	13	229	0	0	164	13
Total Analysis Volume [veh/h]	35	81	54	0	0	0	50	914	0	0	656	52
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	0	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	0	0	0	4	0	0	4	0
Maximum Green [s]	0	15	0	0	0	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	0	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No						No			No	
Maximum Recall		Yes						Yes			Yes	
Pedestrian Recall		No						No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	R		L	C	C	C
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20		4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		2.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20		2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16		36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26		0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.04	0.05	0.04		0.08	0.34	0.25	0.26
s, saturation flow rate [veh/h]	1376	1290	1205		666	2698	1417	1381
c, Capacity [veh/h]	362	340	317		403	1610	846	824
d1, Uniform Delay [s]	16.99	17.05	17.04		10.75	7.38	6.51	6.56
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.94	1.09	1.16		0.63	1.46	1.52	1.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.17	0.17		0.12	0.57	0.42	0.43
d, Delay for Lane Group [s/veh]	17.93	18.15	18.20		11.38	8.84	8.03	8.20
Lane Group LOS	B	B	B		B	A	A	A
Critical Lane Group	No	Yes	No		No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.66	0.68	0.63		0.43	2.98	2.17	2.20
50th-Percentile Queue Length [ft/ln]	16.51	16.92	15.83		10.84	74.46	54.22	55.02
95th-Percentile Queue Length [veh/ln]	1.19	1.22	1.14		0.78	5.36	3.90	3.96
95th-Percentile Queue Length [ft/ln]	29.72	30.45	28.50		19.51	134.02	97.60	99.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.93	18.09	18.20	0.00	0.00	0.00	11.38	8.84	0.00	0.00	8.11	8.20
Movement LOS	B	B	B				B	A			A	A
d_A, Approach Delay [s/veh]	18.09			0.00			8.97			8.11		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	9.48											
Intersection LOS	A											
Intersection V/C	0.384											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	0	1193	1193
d_b, Bicycle Delay [s]	16.28	30.00	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.739	4.132	2.355	2.182
Bicycle LOS	A	D	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Capital/Lincolnway

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Capital Avenue			Capital Avenue			Lincolnway			Lincolnway		
Base Volume Input [veh/h]	1	6	37	59	14	24	18	618	16	45	461	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.2884	1.1700	1.1700	1.2884	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	-12	12	2	67	0	-42	42	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	20	0	0	10	0	0	25
Total Hourly Volume [veh/h]	1	7	21	69	4	20	23	863	9	11	636	24
Peak Hour Factor	0.6500	0.6500	0.6500	0.7100	0.7100	0.7100	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	8	24	1	7	6	240	3	3	177	7
Total Analysis Volume [veh/h]	2	11	32	97	6	28	26	959	10	12	707	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	4	0	0	4	0	0	4	0	0	4	0
Maximum Green [s]	0	20	0	0	20	0	0	40	0	0	40	0
Amber [s]	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0	0.0	3.2	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		Yes			Yes			Yes			Yes	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
g_i, Effective Green Time [s]	16	16	16	16	36	36	36	36
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.60	0.60	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.00	0.03	0.08	0.03	0.37	0.37	0.28	0.28
s, saturation flow rate [veh/h]	1237	1253	1227	1237	1381	1285	1394	1273
c, Capacity [veh/h]	379	330	370	326	887	767	894	759
d1, Uniform Delay [s]	18.79	16.86	20.65	16.74	7.68	7.78	6.74	6.77
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.82	1.72	0.64	2.79	3.81	1.55	2.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.13	0.26	0.10	0.58	0.62	0.44	0.47
d, Delay for Lane Group [s/veh]	18.82	17.68	22.37	17.38	10.46	11.59	8.29	8.84
Lane Group LOS	B	B	C	B	B	B	A	A
Critical Lane Group	No	No	Yes	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.02	0.49	1.27	0.39	3.80	3.74	2.45	2.33
50th-Percentile Queue Length [ft/ln]	0.58	12.33	31.76	9.66	95.11	93.48	61.35	58.25
95th-Percentile Queue Length [veh/ln]	0.04	0.89	2.29	0.70	6.85	6.73	4.42	4.19
95th-Percentile Queue Length [ft/ln]	1.05	22.19	57.18	17.40	171.20	168.27	110.43	104.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.82	17.68	17.68	22.37	17.38	17.38	10.46	11.01	11.59	8.29	8.55	8.84
Movement LOS	B	B	B	C	B	B	B	B	B	A	A	A
d_A, Approach Delay [s/veh]	17.73			21.07			11.01			8.55		
Approach LOS	B			C			B			A		
d_I, Intersection Delay [s/veh]	10.90											
Intersection LOS	B											
Intersection V/C	0.453											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	527	527	1193	1193
d_b, Bicycle Delay [s]	16.28	16.28	4.88	4.88
l_b,int, Bicycle LOS Score for Intersection	1.670	1.809	2.389	2.196
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Bent/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Bent Avenue				15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Bent Avenue				15th Street	
Base Volume Input [veh/h]	11	2	5	3	0	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	-13	0	4	-4	0	22
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	10	0	0	35
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	3	0	0	10
Total Analysis Volume [veh/h]	0	2	12	0	0	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	8.41	7.31	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.14	0.14	0.58	0.58	0.00	0.00
d_A, Approach Delay [s/veh]	8.41		7.31		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.90					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: O'Neil/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	O'Neil Avenue			O'Neil Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	1	8	1	1	2	11	0	1	8	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	1	0	-1	-9	0	22	-2	-13	0	0	0	9
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	4	0	0	1	23	0	0	0	1	9	15
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	0	0	7	0	0	0	0	3	4
Total Analysis Volume [veh/h]	2	5	0	0	1	27	0	0	0	1	11	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.85	9.21	8.35	8.77	9.23	8.50	7.27	0.00	0.00	7.22	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.08	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.60	0.60	0.60	2.05	2.05	2.05	0.00	0.00	0.00	0.05	0.05	0.05
d_A, Approach Delay [s/veh]	9.11			8.52			2.42			0.24		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.76											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 9: Thomes/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Thomes Avenue			Thomes Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	3	3	4	7	4	1	18	3	4	10	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	4	0	-4	-5	0	5	-1	-21	-4	0	0	8
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	4	0	0	8	10	0	0	0	5	12	29
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	0	2	3	0	0	0	1	4	9
Total Analysis Volume [veh/h]	6	5	0	0	9	12	0	0	0	6	14	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.96	9.40	8.37	8.89	9.34	8.54	7.31	0.00	0.00	7.23	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.07	0.07	0.07	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.95	0.95	0.95	1.70	1.70	1.70	0.00	0.00	0.00	0.29	0.29	0.29
d_A, Approach Delay [s/veh]	9.16			8.88			2.44			0.80		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.85											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 10: Pioner/15th

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Pioneer Avenue			Poineer Avenue			15th Street			15th Street		
Base Volume Input [veh/h]	1	0	4	38	3	22	0	26	3	2	16	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	56	0	0	0	-30	-4	-2	-19	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	5	100	4	26	0	0	0	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	29	1	8	0	0	0	0	0	0
Total Analysis Volume [veh/h]	1	0	6	118	5	31	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.12	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	0.00	8.34	9.05	9.51	8.42	0.00	0.00	0.00	7.22	0.00	0.00
Movement LOS	A		A	A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.02	0.42	0.42	0.09	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.50	0.00	0.50	10.39	10.39	2.20	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40			8.94			0.00			3.61		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.91											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 11: Carey/15th

Control Type:	Two-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.113

Intersection Setup

Name	Carey Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Carey Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	0	0	31	37	17	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	120	-43	-20	-36
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	156	0	0	0
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	46	0	0	0
Total Analysis Volume [veh/h]	0	0	184	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.11	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.38	0.38	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	9.57	9.57	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.50		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.50					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Capital/15th

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Capital Avenue		15th Street		15th Street	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Capital Avenue		15th Street		15th Street	
Base Volume Input [veh/h]	9	48	29	8	1	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1700	1.1700	1.1700	1.1700	1.1700	1.1700
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	-56	-34	-9	-1	1
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	0	0	0	10
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	0	0	3
Total Analysis Volume [veh/h]	13	0	0	0	0	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.59	8.39	7.24	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.97	0.97	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.59		3.62		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.47					
Intersection LOS	A					