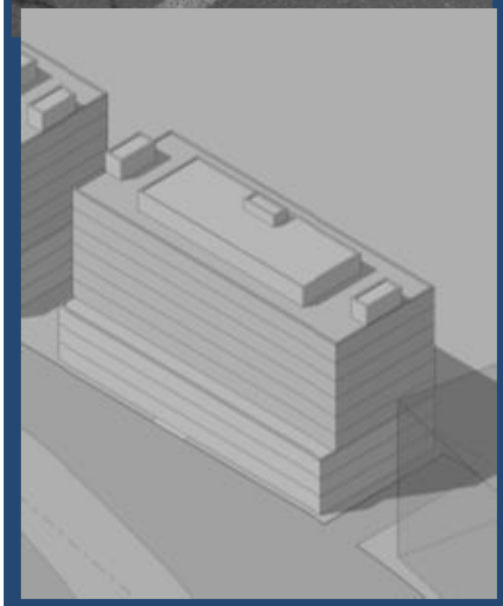

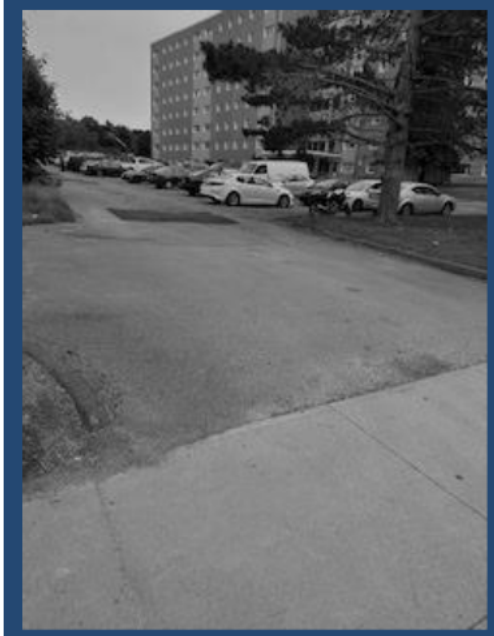

Traffic Impact Study

February 26, 2025

Kennedy Drive Development

DP Project #24-238 - Engineering Services

SUBMITTED BY:

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Issued For	By	Date
Submission to AMK Barrett Investments Inc.	PVB, ECD	August 16th, 2024
Revised as per HRM Comments	PVB	February 26, 2025

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This report was prepared by DesignPoint Engineering & Surveying Ltd. for North American Development Group using the care and skill ordinarily exercised by members of the engineering profession currently practicing under similar circumstances on similar projects in Nova Scotia.

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1.0 INTRODUCTION

1.1 Project Overview

DesignPoint Engineering & Surveying has been engaged by AMK Barrett Investments Inc to prepare a traffic impact study for a proposed development off Kennedy Drive in Dartmouth, NS. The development includes two multi-unit apartment buildings with a total of 250 units. The site plan is shown below:

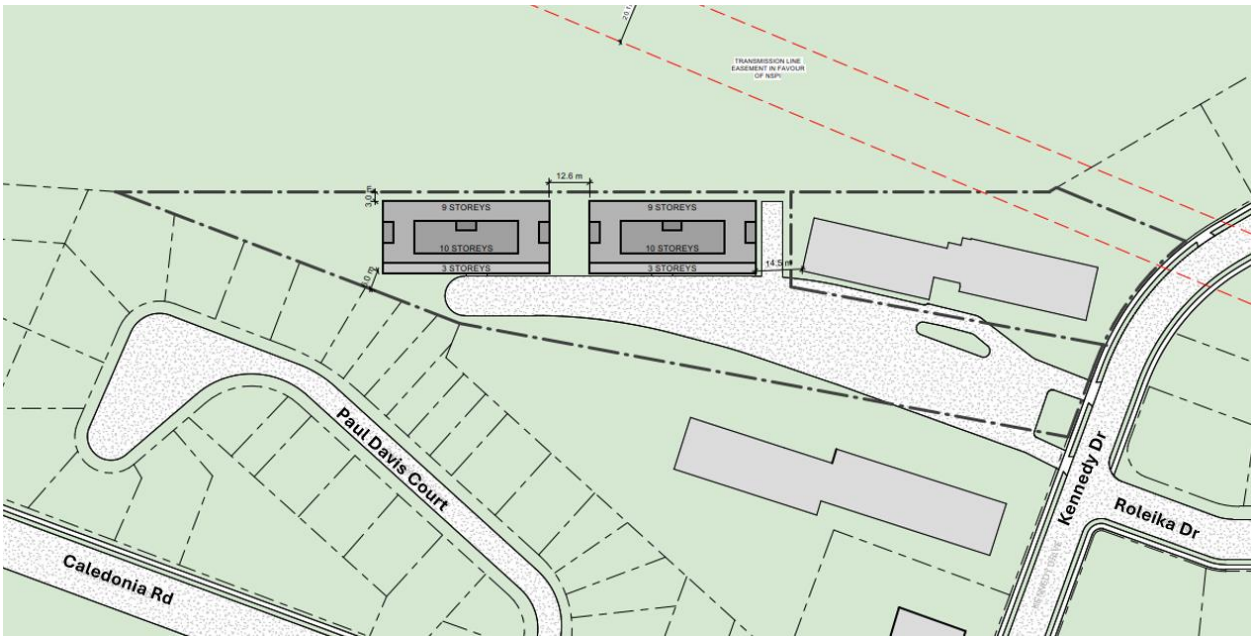


Figure 1: Site Plan

2.0 EXISTING CONDITIONS

2.1 Study Area

The study area is shown in Figure 2. It includes the stop-controlled intersections of Booth Street at Main Street, Caledonia Road at Kennedy Drive, and signalized intersection at Main Street at Caledonia Road.

Figure 2: Study Area

Caledonia Road

Caledonia Road is a two-lane north-south major collector roadway. It has a curb-to-curb width of approximately 15 metres. Within the study area, the roadway has a posted speed limit of 50 km/h. The road has sidewalks on both sides.

Figure 3: Caledonia Road looking north

Main Street

Main Street is a four-lane east-west arterial roadway. It has two eastbound and two westbound lanes. The roadway has a posted speed limit of 50 km/h.

Within the study area, it has sidewalks and on-street painted bike lanes on both sides.

Figure 4: Main Street looking north

Kennedy Drive / Booth Street

The loop of Booth Street and Kennedy Drive is a two-lane minor collector roadway with a posted speed of 50 km/h. The curb-to-curb width is approximately 9 metres. There is a sidewalk on the west side of the roadway.

Figure 5: Booth Street looking north

Intersection of Kennedy Drive at Caledonia Road

The Kennedy Drive at Caledonia Intersection is a three-legged stop-controlled intersection. Each approach has a sidewalk on both sides and There is a crosswalk on the north leg. There are no auxiliary turning lanes.

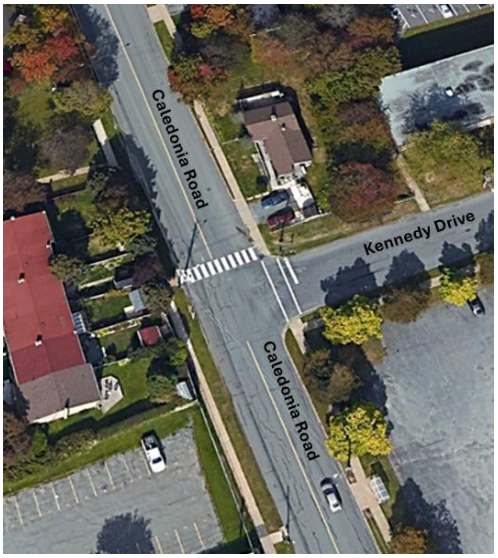


Figure 6: Intersection of Kennedy Drive and Caledonia Road

Intersection of Booth Street at Main Street

The Booth Street at Main Street intersection is a three-legged stop controlled intersection. Main Street has sidewalks and painted bike lanes on both sides. Booth Street has a sidewalk on the west side. there is a RA-5 crosswalk on the west leg crossing of Main Street. There are no turn lanes.

Figure 7: Intersection of Booth Street at Main Street

Intersection of Main Street at Caledonia Road

Main Street at Caledonia is a four-leg signalized intersection. The Main Street eastbound approach has a left and right turn lane, and sidewalks on both sides. The Main Street westbound approach has a left and right turn lane, sidewalks on both sides, and bike lanes. The Caledonia approaches hav left and right turn lanes, and sidewalks on both sides.

Figure 8: Intersection of Main St and Caledonia Rd

2.2 Existing Traffic Conditions

A Miovision traffic counting device was set up at the following areas to collect traffic volume data on:

- Kennedy Drive at Caledonia Road: July 10th, 2024
- Booth Street at Main Street: July 15th, 2024

A November 2022 turning movement count for the Main Street at Caledonia Road intersection was obtained from HRM. This count was adjusted based on the background growth (2% per year=1.04) and impacts of Covid-19 (1.10). The volumes were recorded for the AM, PM, and noon peak hour periods (7-9 am, and 11-1pm and 4-6pm). These turning movement counts can be seen in Figure 10 & 11 below:

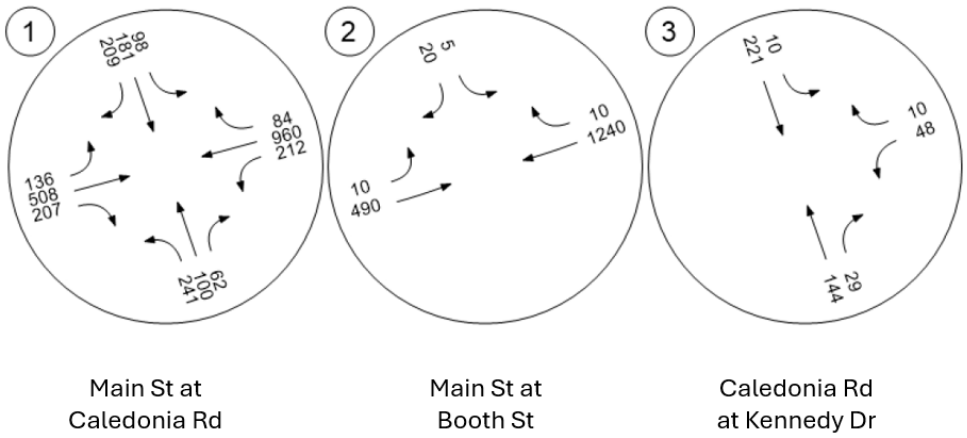


Figure 9: Existing AM Peak Volumes

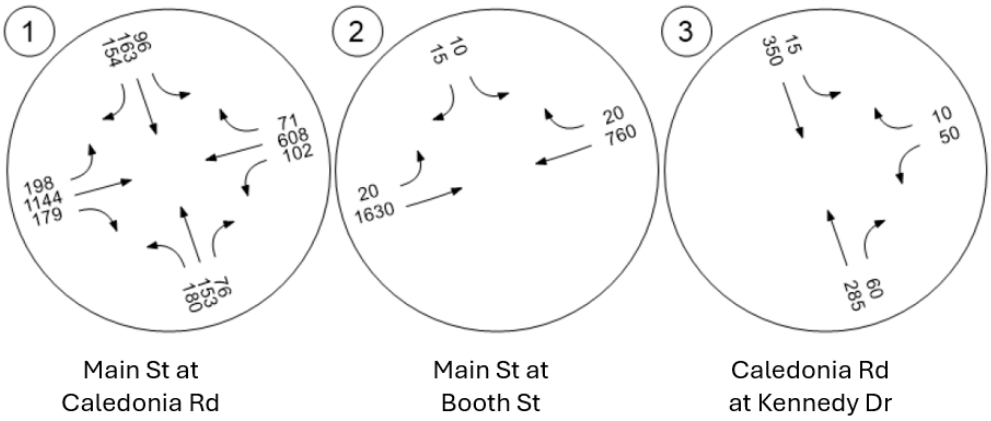


Figure 10: Existing PM Peak Volumes

2.3 Traffic Operations

The level of service (LOS) analysis is the most common method to determine how well a transportation facility, typically an intersection, performs from a driver's perspective during a specified period (typically peak hours). The LOS is a measure of the average delay of each vehicle travelling through an intersection with grades ranging from 'A' to 'F'. 'A' is associated with minimal delay, and 'F' is associated with heavily congested conditions with unacceptable delays for drivers.

The desired or acceptable level of service can vary depending on the location and context of individual streets. For this study, the LOS limit for an intersection is 'E' and individual movements 'F' and the volume-to-capacity ratio thresholds are 0.85 for shared movements and 1.0 for dedicated turn lanes. Table 1 & 2 provides the LOS criteria defined by the *Highway Capacity Manual* for signalized and stop controlled intersections.

Table 1- LOS Criteria for Signal controlled Intersections

Level of Service Thresholds for Signalized Intersection		
Level of Service	Average Control Delay (seconds per vehicle)	General Description
A	≤ 10	Free flow
B	> 10 – 20	Stable flow (slight delays)
C	> 20 – 35	Stable flow (acceptable delays)
D	> 35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	> 55 – 80	Unstable flow (intolerable delay)
F	> 80	Forced flow (congested and queues fail to clear)

Table 2: LOS Criteria for Stop controlled intersections

Level of Service Thresholds for Stop Controlled Intersections	
Level of Service	Average Control Delay (seconds per vehicle)
A	<10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Source: Highway Capacity Manual 2010

1. If the volume-to-capacity ratio for a lane group exceeds 1.0, LOS 'F' is assigned to the individual lane group. LOS for an overall approach or an intersection is determined solely by the control delay

A level of service (LOS) analysis was completed for existing traffic volumes to determine how the intersections would operate without the addition of site generated traffic.

For the 2024 existing AM Peak, the Main Street at Caledonia Road intersection westbound through movement exceeds the HRM threshold of 0.85 and has a 95th percentile queue of 168m.

For the 2024 existing PM peak, the Main Street at Caledonia Road intersection eastbound (EB) movement exceeds the HRM threshold of 0.85 and has 95th percentile queue is 195 metres.

Table 3: Main St at Caledonia Rd Existing LOS

AM Peak Hour -Existing Volumes														
LOS Criteria	Intersection Control	Woodlawn			Caledonia			Main St			Main St			
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Intersection
Vehicle Count		241	100	62	98	181	209	136	508	207	212	960	84	
v/c		0.68	0.22	0.16	0.23	0.47	0.64	0.72	0.55	0.55	0.60	0.87	0.17	
Delay (s)		35	31	30	24	40	47	43	32	32	22	34	22	34
LOS		D	C	C	C	D	D	D	C	C	C	C	C	C
95th% Queue (m)		83	36	22	30	73	89	51	90	76	61	168	25	
PM Peak Hour -Existing Volumes														
LOS Criteria	Intersection Control	Woodlawn			Caledonia			Main St			Main St			
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Intersection
Vehicle Count		180	153	76	96	163	154	198	1144	179	102	608	71	
v/c		0.60	0.46	0.27	0.33	0.62	0.69	0.53	0.91	0.32	0.52	0.55	0.14	
Delay (s)		36	43	39	32	54	59	20	32	20	27	26	21	32
LOS		D	D	D	C	D	E	C	C	B	C	C	C	C
95th% Queue (m)		69	67	33	37	79	79	52	195	52	23	96	21	

The Main Street at Booth Street intersection operates within acceptable thresholds for both existing AM & PM Peak hour conditions.

Table 4: Main St at Booth St Existing LOS

AM Peak Hour - Existing Volumes												
LOS Criteria	Intersection Control	Booth St			Main Street				Main St			
		SBL		SBR	EBL	EBT			WBT	WBR		Intersection
Vehicle Count		5		20	10	490			1240	10		
v/c		0.05		0.05	0.02	0.00			0.01	0.00		
Delay (s)	STOP	39		15	12	0			0	0		0.34
LOS		E		B	B	A			A	A		E
95th% Queue (m)		2.3		2.3	0.1	0.1			0.0	0.0		
PM Peak Hour -Existing Volumes												
LOS Criteria	Intersection Control	Booth St			Main Street				Main St			
		SBL		SBR	EBL	EBT			WBT	WBR		Intersection
Vehicle Count		10		15	20	1630			760	20		
v/c		0.12		0.02	0.02	0.02			0.01	0		
Delay (s)	STOP	50		14	9	0			0	0		0.36
LOS		E		B	A	A			A	A		E
95th% Queue (m)		3.7		3.7	0.3	0.1			0.0	0.0		

The Caledonia Road at Kennedy Drive intersection operates well within acceptable thresholds for the existing AM & PM Peak hour conditions.

Table 5: Caledonia Rd at Kennedy Dr LOS

AM Peak Hour -Existing Volumes										
LOS Criteria	Intersection Control		Caledonia		Caledonia			Kennedy		
			NBT	NBR	SBL	SBT		WBL	WBR	Intersection
Vehicle Count			153	27	12	225		45	13	
v/c			0.00	0.00	0.01	0.00		0.09	0.02	
Delay (s)	STOP		0	0	7.65	0		12	10	2
LOS			A	A	A	A		B	A	B
95th% Queue (m)			0	0	0	0.18		3	3	
PM Peak Hour - Existing Volumes										
LOS Criteria	Intersection Control		Caledonia		Caledonia			Kennedy		
			NBT	NBR	SBL	SBT		WBL	WBR	Intersection
Vehicle Count			284	63	14	349		47	11	
v/c			0.00	0.00	0.01	0.00		0.12	0.02	
Delay (s)	STOP		0	0	8	0		15	11	1
LOS			A	A	A	A		C	B	C
95th% Queue (m)			0	0	0	0		4	4	

3.0 DEVELOPMENT TRAFFIC

3.1 Access Review

The development will use two existing access points located on Kennedy Drive. Each driveway is 8 metres wide.

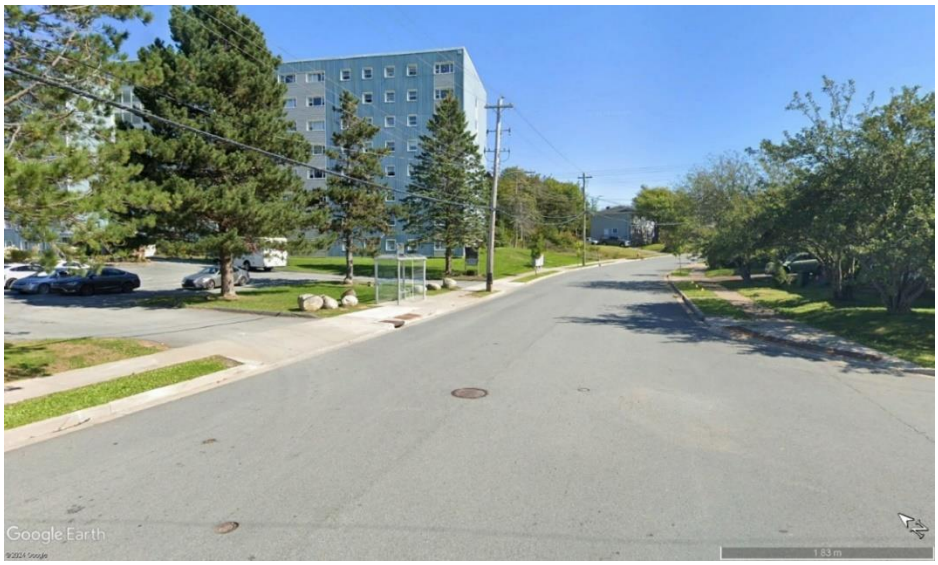


Figure 11: Existing Access

3.2 Site Generated Traffic

Site generated traffic volumes were estimated using fitted rates from ITE Trip Generation Manual (TGM), 11th Edition. For this study, we have used the Land Use Code 221 Multi-Family Housing – Mid-Rise[1] to estimate the total volume of person generated trips.

The total volume of auto-mode person trips was obtained by applying the auto mode share obtained from the HRM Mode Share App for the study area. The total volume of vehicle trips was obtained by applying an average auto occupancy of 1.20[2]. A summary of the site trip generation estimates is shown below.

Table 6: Trip Generation

Land Use	Code	Units	Variable	Trip Generation Rates[1]						Trips Generated			
				AM Peak			PM Peak			AM Peak		PM Peak	
				Rate	In	Out	Rate	In	Out	In	Out	In	Out
Multifamily Housing (Mid-Rise)	221	250	Dwellings	0.52	23%	77%	0.51	59%	41%	30	99	76	52
Estimated Person Generated Trips										30	99	76	52
Mode Share Reduction (20% Non-Auto mode share)[2]										6	20	15	10
Total Estimated Person Generated Trips										**24**	**79**	**61**	**42**
Total Vehicle trips (based on assumption 1.2 persons per vehicle)										**20**	**66**	**51**	**35**
Notes:	1. Trip generation rates from ITE *Trip Generation Manual* , 11th Edition, fitted rates 2 Non-Auto Mode Choice estimated using data from the HRM Mode Share App												

[1] The ITE Trip Generation Manual defines mid-rise apartment buildings as having 4-10 floors
[2] An average occupancy rate of 1.20 is taken from the HRM VISUM travel demand model

3.3 Trip Distribution and Assignment

We assumed that the residential trip distribution was similar the trip distribution used in the 2017 Port Wallace Master plan study[3] which was based on the 2031 VISUM Regional Travel Demand Model. A summary is shown below and in Figure 13.

- 10% of all vehicle trips would be to and from the North via Caledonia Road
- 50% of all vehicle trips would be to and from the West via Main Street
- 35% of all vehicle trips would be to and from the South via Caledonia and Woodlawn
- 5% of all vehicle trips would be to and from the East via Main Street.

Given that the Main Street at Caledonia Road intersection has signals, and the Booth Street intersection is stop controlled, we assumed that most vehicle trips would use the signalized intersection except for the westbound (WB) right turn movement from Main Street onto Booth Street, we assumed that 95% of all sites generated trips would use the signalized intersection. We assumed that 95% of trips from the east would make the right turn from Main Street onto Booth Street.

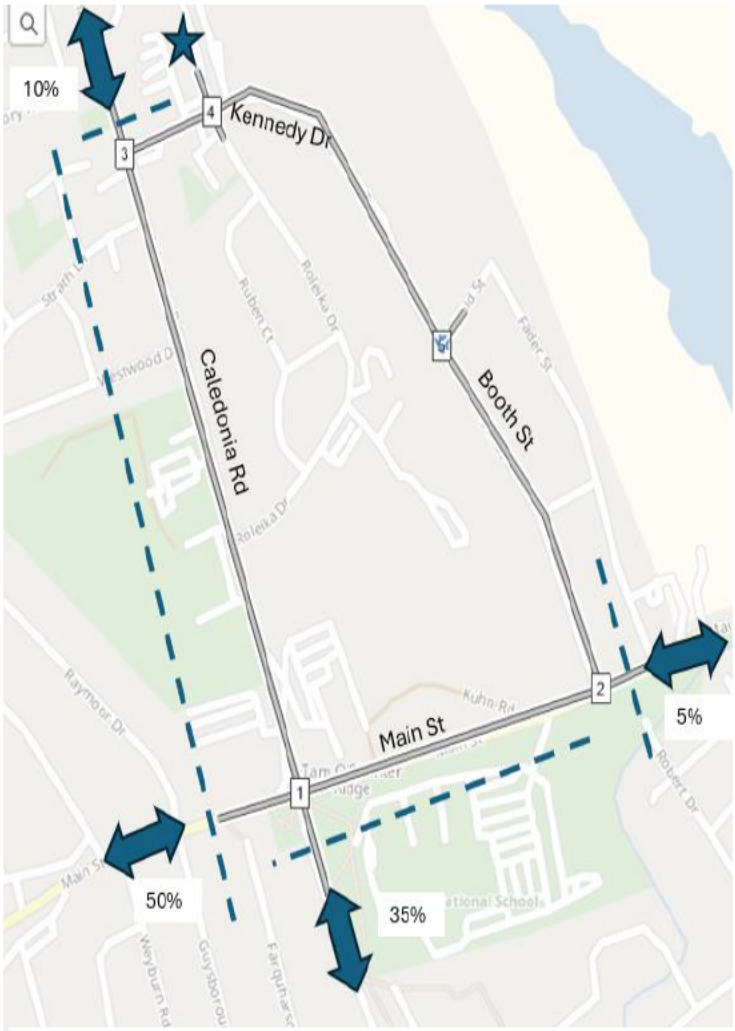


Figure 12: Trip Distribution

[3] Port Wallace Master Plan Final Report (CBCL 2017)

4.0 FUTURE CONDITIONS

4.1 2031 Background Traffic Volumes

Background traffic is the traffic added by the general annual traffic growth. For this study, we have assumed that the development will be completed by 2026 and the horizon year will be 5-years beyond that year. A 2.0% annual growth rate has been applied to the existing traffic volumes. A summary of the background traffic volumes is shown below:

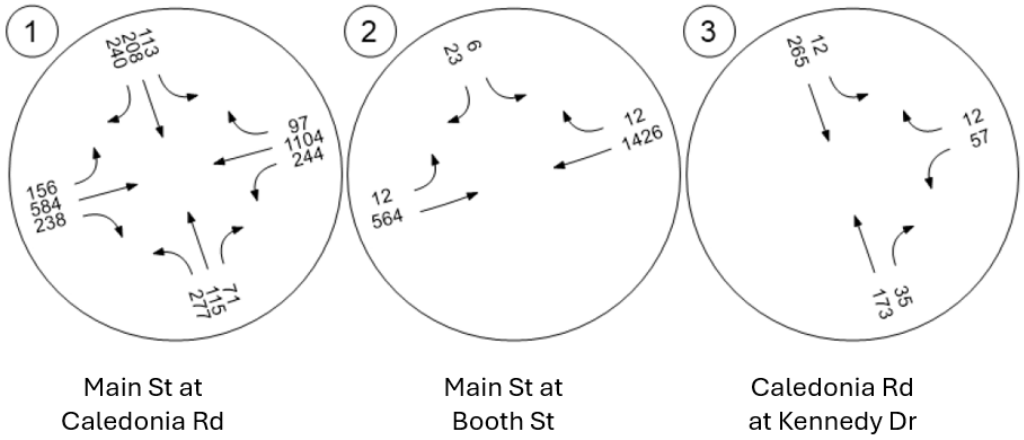


Figure 13: Background AM Peak Volumes

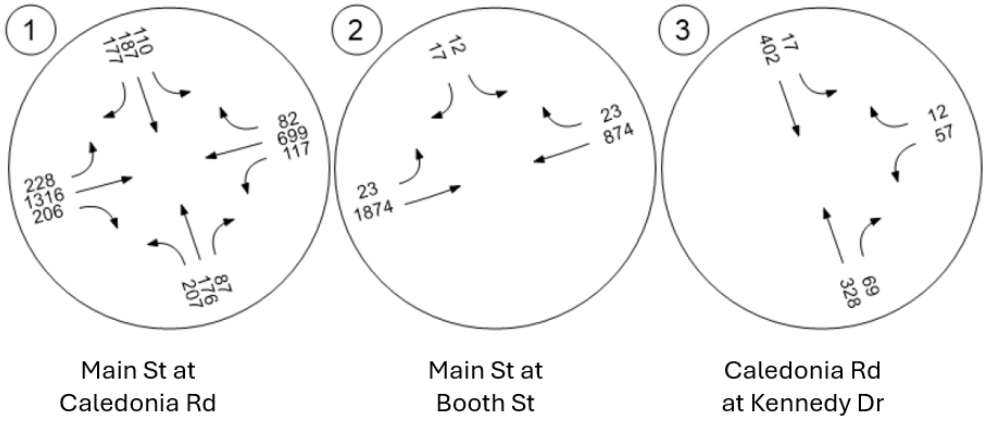


Figure 14: Background PM Peak Volumes

A level of service (LOS) analysis was completed for 2031 background traffic volumes to determine how the intersections would operate with the addition of general traffic growth.

For the 2031 AM Background peak hour, the Main Street at Caledonia Road westbound (WB) through movement exceeded v/c threshold of 0.85 and had an estimated 95th percentile queue of 165 metres.

For the 2031 PM Background peak hour, the Main Street at Caledonia Road eastbound (EB) through movement exceeds the v/c threshold of 0.85 and had an estimated 95th percentile queue of 201 metres.

Table 7: Background AM & PM Peak at Main Street at Caledonia Rd

AM Peak Hour - 2031 Background Volumes														
LOS Criteria	Intersection Control	Woodlawn			Caledonia			Main St			Main St			
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Intersection
Vehicle Count		277	115	71	113	208	240	156	584	238	244	1104	97	
v/c		0.75	0.24	0.18	0.25	0.48	0.65	0.77	0.58	0.53	0.63	0.89	0.18	
Delay (s)		43	32	31	24	39	46	50	33	32	24	35	22	35
LOS		D	C	C	C	D	D	D	C	C	C	C	C	D
95th% Queue (m)		96	41	25	35	78	95	52	88	74	60	165	24	
PM Peak Hour - 2031 Background Volumes														
LOS Criteria	Intersection Control	Woodlawn			Caledonia			Main St			Main St			
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Intersection
Vehicle Count		207	176	87	110	187	177	228	1316	206	117	699	82	
v/c		0.60	0.48	0.28	0.34	0.76	0.84	0.60	0.93	0.32	0.54	0.49	0.13	
Delay (s)		36	44	40	33	66	78	22	32	19	28	21	17	33
LOS		D	D	D	C	E	E	C	C	B	C	C	B	C
95th% Queue (m)		71	69	34	38	88	91	56	201	53	23	88	19	

The southbound (SB) left turn movement from Booth to Main Street operates at a LOS F for both the 2031 AM and PM peak hour background scenario. As a result of this lane group operating at a LOS F, the overall intersection operates at a LOS F.

Table 8: Background AM & PM Peak for Main Street at Booth

AM Peak Hour - 2031 Background Volumes												
LOS Criteria	Intersection Control	Booth St			Main Street			Main St				
		SBL		SBR	EBL	EBT			WBT	WBR		Intersection
Vehicle Count		6		23	12	564			1426	12		
v/c		0.36		0.01	0.03	0.01			0.01	0.00		
Delay (s)	STOP	80.2		39.58	12.92	0			0	0		1.17
LOS		F		E	B	A			A	A		F
95th% Queue (m)		11.3		11.3	0.2	0.1			0.0	0.0		
PM Peak Hour -2031 Background Volumes												
LOS Criteria	Intersection Control	Booth St			Main Street			Main St				
		SBL		SBR	EBL	EBT			WBT	WBR		Intersection
Vehicle Count		12		17	23	1874			874	23		
v/c		0.23		0.03	0.03	0.02			0.01	0		
Delay (s)	STOP	76		22.47	9.82	0			0	0		0.57
LOS		F		C	A	A			A	A		F
95th% Queue (m)		7.4		7.4	0.3	0.1			0.0	0.0		

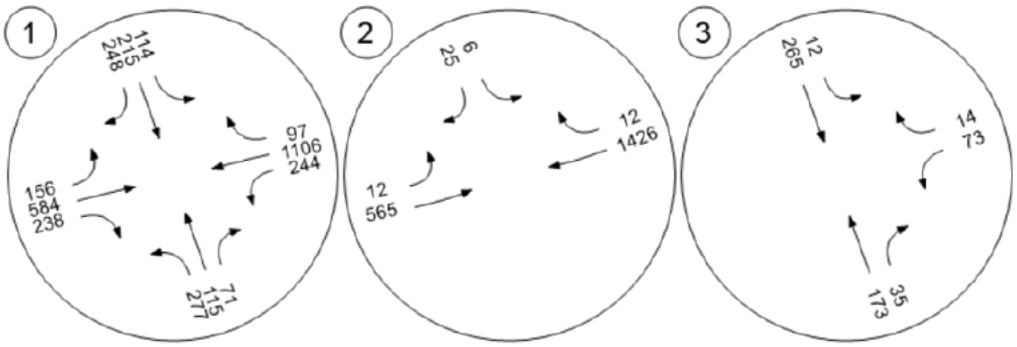
The Kennedy Drive at Caledonia Road intersection operates with acceptable threshold under background conditions for the AM and PM peak hours.

Table 9: Background AM & PM Peak for Caledonia at Kennedy

AM Peak Hour -2031 Background Volumes												
LOS Criteria	Intersection Control		Caledonia		Caledonia			Kennedy				
			NBT	NBR	SBL	SBT		WBL		WBR	Intersection
Vehicle Count	STOP		173	35	265	12		57		12	
v/c			0.00	0.00	0.01	0.00		0.11		0.02	
Delay (s)			0	0	8	0		12		10	2
LOS			A	A	A	A		B		A	B
95th% Queue (m)			0	0	0	0		3		3	
PM Peak Hour - 2031 Background Volumes												
LOS Criteria	Intersection Control		Caledonia		Caledonia			Kennedy				
			NBT	NBR	SBL	SBT		WBL		WBR	Intersection
Vehicle Count	STOP		328	69	402	17		57		12	
v/c			0.00	0.00	0.01	0.00		0.10		0.01	
Delay (s)			0	0	7	0		12		9	2
LOS			A	A	A	A		B		A	B
95th% Queue (m)			0	0	0	0		3		3	

4.2 2031 Total Traffic Volumes

The 2031 total traffic volumes are the result of 2031 background volumes plus the site generated traffic added by the completed development. Total traffic volumes for the intersections are provided in the following figures.



Main St at Caledonia Rd

Main St at Booth St

Caledonia Rd at Kennedy Dr

Figure 15: Total AM Peak

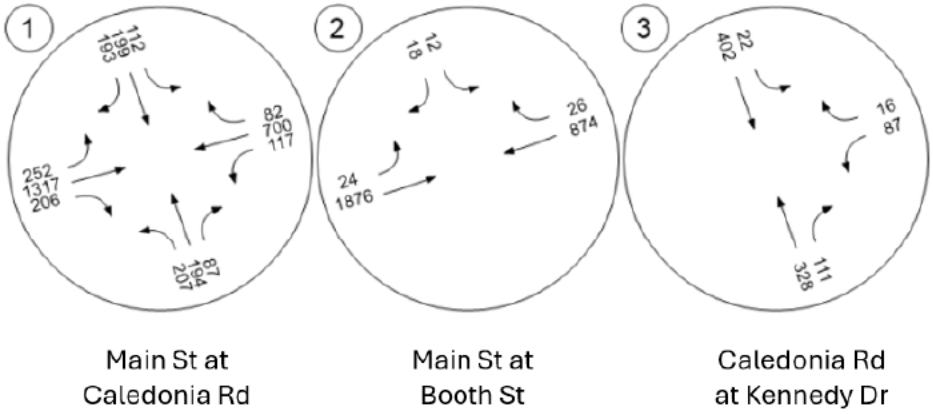


Figure 16:Total PM Peak

A level of service (LOS) analysis was completed for 2031 Total Traffic volumes to determine how the intersections would operate with the addition of site generated traffic. A summary of the results is shown in Tables 10-12. For the 2031 AM Total Peak hour, the westbound (WB) through movement on Main Street at Caledonia Road exceeds the threshold of 0.85 and the 95th percentile queue is 153 metres.

For the 2031 PM Total Peak, the eastbound (EB) through movement on Main Street at Caledonia exceeds the threshold of 0.85 and the 95th percentile queues are estimated at 201 metres. It is important to note that this is the biggest changes when compared to the background conditions. Although, the westbound (WB) through and eastbound (EB) through movements exceeds acceptable thresholds they are consistent with the background conditions.

Table 10: Total AM Peak for Main Street at Caledonia Rd

AM Peak Hour - 2031 Total Volumes														
LOS Criteria	Intersection Control	Woodlawn			Caledonia			Main St			Main St			
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Intersection
Vehicle Count		277	115	71	114	215	248	156	584	238	244	1106	97	
v/c		0.77	0.25	0.18	0.27	0.60	0.82	0.74	0.45	0.41	0.71	0.83	0.16	
Delay (s)		46	33	32	27	48	63	45	23	23	29	30	20	34
LOS		D	C	C	C	D	E	D	C	C	C	C	B	C
95th% Queue (m)		98	40	24	36	85	110	50	79	66	62	163	24	
PM Peak Hour - 2031 Total Volumes														
LOS Criteria	Intersection Control	Woodlawn			Caledonia			Main St			Main St			
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Intersection
Vehicle Count		207	194	87	112	199	193	254	1317	206	117	700	82	
v/c		0.62	0.54	0.28	0.37	0.81	0.93	0.68	0.93	0.32	0.54	0.49	0.13	
Delay (s)		37	46	40	34	72	95	27	32	19	28	21	17	35
LOS		D	D	D	C	E	F	C	C	B	C	C	B	D
95th% Queue (m)		71	78	34	39	96	107	64	201	53	23	88	19	

It should be noted that the Total 2031 AM Peak v/c ratio for the WBT movement is lower than the Background 2031 AM Peak v/c ratio. This is possible by re-allocating the green times in the cycle and was part of the analysis

The Main at Booth Street southbound (SB) left movement is expected to operate at a LOS F during both AM and PM Peak hours. Given that the capacity for this lane group is LOS F, the LOS for the entire intersection is LOS F. Although, the southbound (SB) left movement exceeds the acceptable threshold, it is consistent with the background conditions.

Table 11: Total AM & PM Peak for Main St at Booth St

AM Peak Hour - 2031 Total Volumes											
LOS Criteria	Intersection Control	Booth St			Main Street			Main St			
		SBL		SBR	EBL	EBT		WBT	WBR		Intersection
Vehicle Count	STOP	6		25	12	565		1426	12		
v/c		0.09		0.08	0.03	0.01		0.01	0.00		
Delay (s)		60		19	13	0		0	0		1
LOS		F		C	B	A		A	A		F
95th% Queue (m)		5		5	0	0		0	0		
PM Peak Hour -2031 Total Volumes											
LOS Criteria	Intersection Control	Booth St			Main Street			Main St			
		SBL		SBR	EBL	EBT		WBT	WBR		Intersection
Vehicle Count	STOP	12		18	24	1876		874	26		
v/c		0.24		0.03	0.03	0.02		0.01	0.00		
Delay (s)		77		23	10	0		0	0		1
LOS		F		C	A	A		A	A		F
95th% Queue (m)		8		8	0	0		0	0		

The Kennedy Drive at Caledonia Road intersection operates well under the 2031 Total AM & PM peak hour conditions.

Table 12: Total AM & PM Peak for Kennedy Dr at Caledonia Rd

AM Peak Hour -2031 Total Volumes											
LOS Criteria	Intersection Control		Caledonia		Caledonia			Kennedy			
			NBT	NBR	SBL	SBT		WBL		WBR	Intersection
Vehicle Count	STOP		173	35	12	265		73		14	
v/c			0.00	0.00	0.01	0.00		0.20		0.03	
Delay (s)			0	0	8	0		14		11	3
LOS			A	A	A	A		B		B	B
95th% Queue (m)			0	0	0	0		7		7	
PM Peak Hour - 2031 Total Volumes											
LOS Criteria	Intersection Control		Caledonia		Caledonia			Kennedy			
			NBT	NBR	SBL	SBT		WBL		WBR	Intersection
Vehicle Count	STOP		328	111	22	402		87		16	
v/c			0.00	0.00	0.01	0.00		0.17		0.02	
Delay (s)			0	0	7	0		13		10	3
LOS			A		A			B			B
95th% Queue (m)			0	0	0	0		5		5	

4.3 Signal and Turn Lane Warrants

TAC Signal Warrant Analysis

HRM uses the Transportation Association of Canada method for evaluating signal warrants. To be considered for traffic signals, the average of the side street volume over a six-hour period must exceed 75 vehicles per hour. None of the unsignalized intersections met this criterion.

Turn Lane Warrants

HRM uses the Ministry of Transportation Ontario (MTO) *Design Supplement for TAC Geometric Design Guide for Canadian Roads – June 2017* to evaluate the need for auxiliary left turn lanes and the Ohio Department of Transportation *State Highway Access Management Manual* to assess the need for right turn lanes at unsignalized intersections.

Left and right turn lane analysis were completed for the intersection of Caledonia Road and Kennedy Drive. It was determined that no left turn lanes were warranted (see Appendix).

The right turn line resulted close to the warranted. For the right turn warrant, the analysis auxiliary right turn lanes provide the most benefit when the volume of decelerating vehicles causes a hazard for through vehicles. In urban areas with frequent driveways and intersections, this is less of a concern as there is an expectation that drivers will enter and exit the main roadway at various locations. Adding an eastbound right turn lane on Caledonia Road would also require using space within the roadway at this location where HRM has plans for cycling infrastructure to be installed. Considering the proximity of the warrant trigger, and the intended purpose of doing so, the benefit of adding a right turn lane is not found to outweigh this overall impact. Based on this rationale, we do not recommend adding an auxiliary right turn lane at this location.

5.0 SUMMARY

1. AMK Barrett Investments is planning a residential development off Kennedy Drive in Dartmouth. The development will consist of two 125-unit apartment buildings. It has been assumed that construction of both buildings would be completed by 2026.

2. To analyze existing peak hour conditions, traffic counts were obtained for the Caledonia Road at Kennedy Drive, Main Street at Booth Street, and Main Street at Caledonia Road intersections.

3. The PM peak hour was observed to be the critical time-period.

4. The horizon year was assumed to be 2031. To obtain horizon year volumes, a background traffic growth rate of 2% per year was applied to existing traffic volumes.

5. A Highway Capacity Manual (HCM) LOS analysis was carried out using the HRM Guidelines for Transportation Impact Studies.

6. For the 2024 existing peak hour conditions, the LOS analysis indicates that the Main Street at Caledonia Road already exceeds the HRM LOS criteria for the PM peak hour period.

7. For the 2031 background peak hour conditions, the LOS analysis indicates that in addition to the PM peak hour period, the Main at Caledonia Road intersection will exceed the HRM criteria for the AM peak hour period.

8. For the 2031 total traffic conditions, the LOS analysis is largely consistent with the background scenario where operations will exceed the HRM criteria for both the AM and PM peak hour periods.

9. Total site generated traffic at the Main at Caledonia intersection is forecast to be less than 2% of total traffic.

10. The Caledonia at Kennedy intersection was evaluated for left turn warrant, right turn warrants, and traffic signals. None are required.

6.0 CONCLUSIONS

The Main Street at Caledonia Road eastbound (EB) approach exceeds the HRM criteria (v/c = 0.91) for the existing PM peak hour period. This is largely driven by the eastbound (EB) through movement on Main Street. The volume-to-capacity (v/c) ratio increases to 0.93 with the addition of background growth. The eastbound (EB) v/c ratio remains unchanged with the addition of site generated traffic. This can be attributed to the reallocation of green time to this movement.

The Main Street at Caledonia Road westbound (WB) approach exceeds the HRM criteria (v/c = 0.89) for the AM peak hour period with the addition of background growth. The westbound (WB) v/c ratio increases to 0.94 with the addition of site generated traffic.

It should be noted that while these movements discussed exceed the HRM criteria for the 2031 total traffic, they do not exceed the Highway Capacity Manual (HCM) Criteria (v/c > 1.00). Site generated traffic volume is forecast to be less than 2% of the total traffic at this intersection during both the AM and PM peak hour period.

The Main Street at Booth Street intersection has very low volumes during both the AM and PM peak hour periods. This can be attributed to the through movements on Main Street which limits the gaps available to turning vehicles. This creates large stop delays on Booth Street but does not affect the overall LOS for the intersection. Aside from installing traffic signals at this location, there is no practical solution to improving LOS at this intersection.

The Caledonia Road and Kennedy Drive intersection operates within the HRM criteria for the total AM and PM peak hour period. Site generated traffic will likely use the Main Street at Caledonia Road intersection rather than experience delay at the Main Street at Booth Street intersection.

APPENDIX A- MIOVISION DATA

Halifax Regional Municipality

Traffic Management

Traffic and Right of Way

PO Box 1749 Halifax

Nova Scotia

B3J 3A5

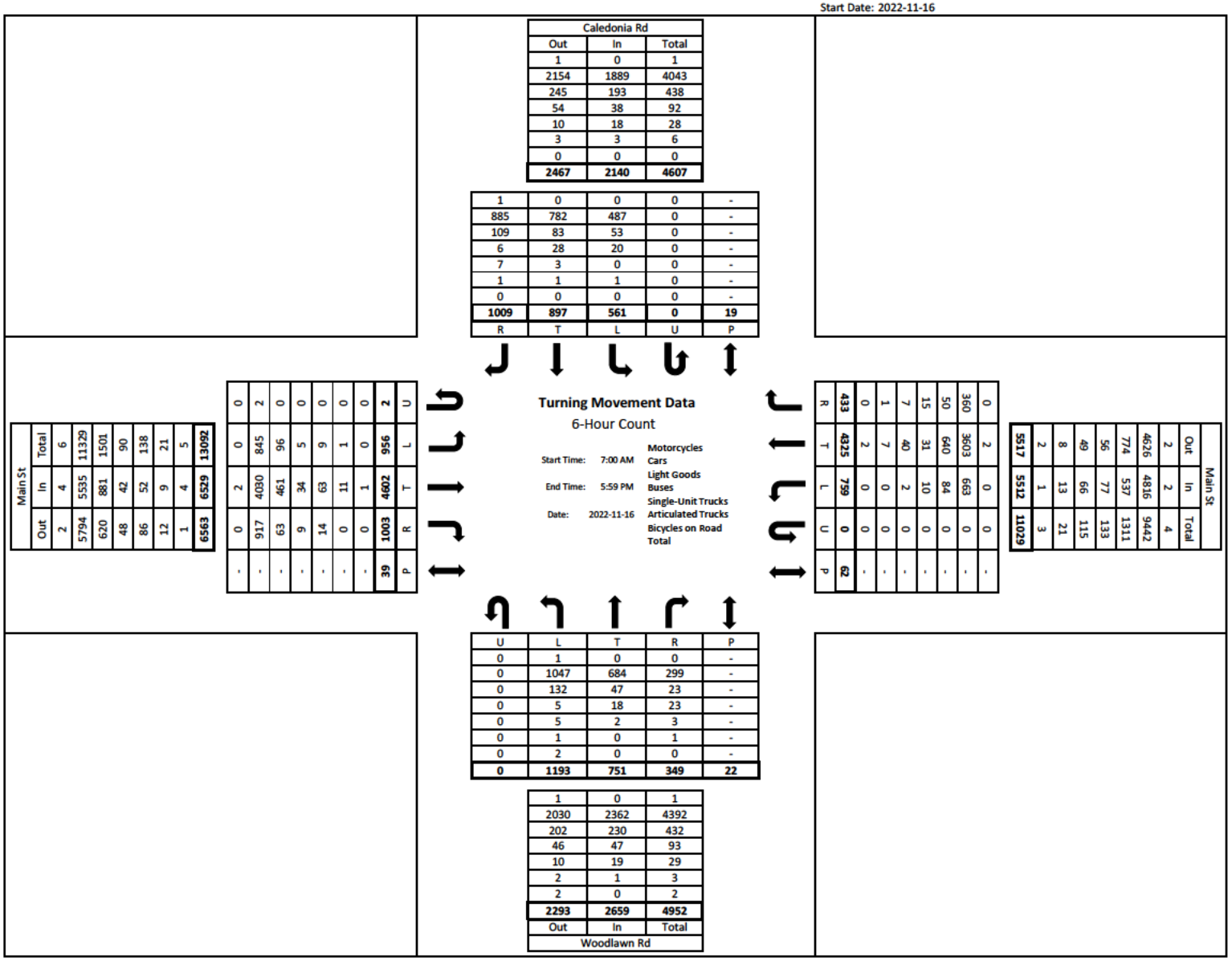
Site Code: Main St at Caledonia Rd
Start Date: 2022-11-16

Turning Movement Data - 6 Hour Traffic Count

	Caledonia Rd Southbound						Main St Westbound						Woodlawn Rd Northbound						Main St Eastbound						
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00:00 AM	31	10	7	0	1	48	7	306	37	0	0	350	6	9	48	0	2	63	31	69	12	0	2	112	573
7:15:00 AM	38	19	13	0	2	70	22	308	39	0	0	369	7	16	52	0	1	75	28	87	9	0	0	124	638
7:30:00 AM	49	35	13	0	2	97	19	334	37	0	1	390	6	30	63	0	0	99	34	99	25	0	0	158	744
7:45:00 AM	45	44	28	0	2	117	29	270	49	0	8	348	3	39	45	0	0	87	42	127	22	0	2	191	743
Hourly Total	163	108	61	0	7	332	77	1218	162	0	9	1457	22	94	208	0	3	324	135	382	68	0	4	585	2698
8:00:00 AM	46	45	27	0	1	118	31	241	61	0	2	333	10	23	67	0	0	100	46	117	33	0	0	196	747
8:15:00 AM	48	25	31	0	0	104	20	260	49	0	1	329	9	27	59	0	1	95	57	112	36	0	0	205	733
8:30:00 AM	69	58	21	0	0	148	21	247	40	0	10	308	19	17	52	0	0	88	58	134	37	0	4	229	773
8:45:00 AM	46	53	19	0	0	118	12	212	62	0	9	286	24	33	63	0	0	120	46	145	30	0	2	221	745
Hourly Total	209	181	98	0	1	488	84	960	212	0	22	1256	62	100	241	0	1	403	207	508	136	0	6	851	2998
2:00:00 PM	25	20	16	0	1	61	12	151	25	0	5	188	21	29	61	0	6	111	36	180	40	0	8	256	616
2:15:00 PM	27	41	21	0	2	89	18	135	25	0	4	178	19	23	59	0	1	101	26	163	38	0	2	227	595
2:30:00 PM	44	28	24	0	0	96	16	151	26	0	1	193	20	27	66	0	0	113	30	186	52	1	1	269	671
2:45:00 PM	49	35	26	0	0	110	16	130	30	0	0	176	10	30	35	0	1	75	44	222	45	0	3	311	672
Hourly Total	145	124	87	0	3	356	62	567	106	0	10	735	70	109	221	0	8	400	136	751	175	1	14	1063	2554
3:00:00 PM	52	41	22	0	1	115	10	151	20	0	1	181	17	34	61	0	6	112	30	261	31	0	2	322	730
3:15:00 PM	48	36	22	0	1	106	23	123	21	0	8	167	21	51	59	0	2	131	47	205	53	0	1	305	709
3:30:00 PM	44	33	8	0	0	85	18	176	20	0	5	214	19	42	60	0	1	121	37	285	31	0	3	353	773
3:45:00 PM	40	27	30	0	2	97	24	162	25	0	3	211	20	28	52	0	0	100	34	294	45	0	1	373	781
Hourly Total	184	137	82	0	4	403	75	612	86	0	17	773	77	155	232	0	9	464	148	1045	160	0	7	1353	2993
4:00:00 PM	31	37	12	0	2	80	15	173	26	0	2	214	25	40	41	0	0	106	58	298	37	1	0	394	794
4:15:00 PM	44	55	30	0	1	129	16	143	21	0	0	180	16	41	45	0	1	102	36	261	52	0	6	349	760
4:30:00 PM	39	44	24	0	0	107	16	130	30	0	2	176	15	44	42	0	0	101	51	291	64	0	2	406	790
4:45:00 PM	39	50	43	0	1	132	20	123	23	0	0	166	20	49	27	0	0	96	53	246	56	0	0	355	749
Hourly Total	153	186	109	0	4	448	67	569	100	0	4	736	76	174	155	0	1	405	198	1096	209	1	8	1504	3093
5:00:00 PM	37	46	39	0	0	122	18	111	9	0	0	138	12	19	27	0	0	58	36	237	52	0	0	325	643
5:15:00 PM	34	46	36	0	0	116	14	100	10	0	0	124	12	33	43	0	0	88	53	235	41	0	0	329	657
5:30:00 PM	29	30	30	0	0	89	14	94	23	0	0	131	8	28	29	0	0	65	38	205	65	0	0	308	593
5:45:00 PM	55	39	19	0	0	113	22	94	51	0	0	167	10	39	37	0	0	86	52	143	50	0	0	245	611
Hourly Total	155	161	124	0	0	440	68	399	93	0	0	560	42	119	136	0	0	297	179	820	208	0	0	1207	2504
Grand Total	1009	897	561	0	19	2467	433	4325	759	0	62	5517	349	751	1193	0	22	2293	1003	4602	956	2	39	6563	16840
Approach %	41%	36%	23%	0%	-	-	8%	78%	14%	0%	-	-	15%	33%	52%	0%	-	-	15%	70%	15%	0%	-	-	-
Total %	6%	5%	3%	0%	-	-	3%	26%	5%	0%	-	-	2%	4%	7%	0%	-	-	6%	27%	6%	0%	-	-	-
Motorcycles	1	0	0	0	-	-	0	2	0	0	-	-	0	0	1	0	-	-	0	2	0	0	-	-	6
% Motorcycles	0.1%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.1%	0.0%	-	-	0.0%	0.0%	0.0%	0.0%	-	-	0%
Cars	885	782	487	0	-	-	360	3603	663	0	-	-	299	684	1047	0	-	-	917	4030	845	2	-	-	14604
% Cars	87.7%	87.2%	86.8%	0.0%	-	-	83.1%	83.3%	87.4%	0.0%	-	-	85.7%	91.1%	87.8%	0.0%	-	-	91.4%	87.6%	88.4%	100.0%	-	-	87%
Light Goods Vehicles	109	83	53	0	-	-	50	640	84	0	-	-	23	47	132	0	-	-	63	461	96	0	-	-	1841
% Light Goods Vehicles	10.8%	9.3%	9.4%	0.0%	-	-	11.5%	14.8%	11.1%	0.0%	-	-	6.6%	6.3%	11.1%	0.0%	-	-	6.3%	10.0%	10.0%	0.0%	-	-	11%
Buses	6	28	20	0	-	-	15	31	10	0	-	-	23	18	5	0	-	-	9	34	5	0	-	-	204
% Buses	0.6%	3.1%	3.6%	0.0%	-	-	3.5%	0.7%	1.3%	0.0%	-	-	6.6%	2.4%	0.4%	0.0%	-	-	0.9%	0.7%	0.5%	0.0%	-	-	1%
Single-Unit Trucks	7	3	0	0	-	-	7	40	2	0	-	-	3	2	5	0	-	-	14	63	9	0	-	-	155
% Single-Unit Trucks	0.7%	0.3%	0.0%	0.0%	-	-	1.6%	0.9%	0.3%	0.0%	-	-	0.9%	0.3%	0.4%	0.0%	-	-	1.4%	1.4%	0.9%	0.0%	-	-	1%
Articulated Trucks	1	1	1	0	-	-	1	7	0	0	-	-	1	0	1	0	-	-	0	11	1	0	-	-	25
% Articulated Trucks	0.1%	0.1%	0.2%	0.0%	-	-	0.2%	0.2%	0.0%	0.0%	-	-	0.3%	0.0%	0.1%	0.0%	-	-	0.0%	0.2%	0.1%	0.0%	-	-	0%
Bicycles on Road	0	0	0	0	-	-	0	2	0	0	-	-	0	0	2	0	-	-	0	1	0	0	-	-	5
% Bicycles on Road	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.2%	0.0%	-	-	0.0%	0.0%	0.0%	0.0%	-	-	0%
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0%	-	-	-	-	-	1.6%	-	-	-	-	-	0.0%	-	-	-	-	-	5.1%	-	-
Pedestrians	-	-	-	-	19	-	-	-	-	-	61	-	-	-	-	-	22	-	-	-	-	-	37	-	-
% Pedestrians	-	-	-	-	100.0%	-	-	-	-	-	98.4%	-	-	-	-	-	100.0%	-	-	-	-	-	94.9%	-	-

Halifax Regional Municipality
Traffic Management
Traffic and Right of Way
PO Box 1749 Halifax
Nova Scotia
B3J 3A5

Site Code: Main St at Caledonia Rd
Start Date: 2022-11-16



Halifax Regional Municipality
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PO Box 1749 Halifax
Nova Scotia
B3J 3A5

Site Code: Main St at Caledonia Rd
Start Date: 2022-11-16

Turning Movement Peak Hour Data (8:00 AM)

	Caledonia Rd Southbound						Main St Westbound						Woodlawn Rd Northbound						Main St Eastbound						
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
8:00:00 AM	46	45	27	0	1	118	31	241	61	0	2	333	10	23	67	0	0	100	46	117	33	0	0	196	747
8:15:00 AM	48	25	31	0	0	104	20	260	49	0	1	329	9	27	59	0	1	95	57	112	36	0	0	205	733
8:30:00 AM	69	58	21	0	0	148	21	247	40	0	10	308	19	17	52	0	0	88	58	134	37	0	4	229	773
8:45:00 AM	46	53	19	0	0	118	12	212	62	0	9	286	24	33	63	0	0	120	46	145	30	0	2	221	745
Total	209	181	98	0	1	488	84	960	212	0	22	1256	62	100	241	0	1	403	207	508	136	0	6	851	2998
Approach %	43%	37%	20%	0%	-	-	7%	76%	17%	0%	-	-	15%	25%	60%	0%	-	-	24%	60%	16%	0%	-	-	-
Total %	7%	6%	3%	0%	-	-	3%	32%	7%	0%	-	-	2%	3%	8%	0%	-	-	7%	17%	5%	0%	-	-	-
PHF	0.757	0.780	0.790	-	-	0.824	0.677	0.923	0.855	-	-	0.943	0.646	0.758	0.899	-	-	0.840	0.892	0.876	0.919	-	-	0.929	0.970
Motorcycles	1	0	0	0	-	1	0	1	0	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	3
% Motorcycles	0.5%	0.0%	0.0%	0.0%	-	0.2%	0.0%	0.1%	0.0%	0.0%	-	0.1%	0.0%	0.0%	0.4%	0.0%	-	0.2%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0%
Cars	175	152	84	0	-	411	64	794	192	0	-	1050	50	86	201	0	-	337	189	426	116	0	-	731	2529
% Cars	83.7%	84.0%	85.7%	0.0%	-	84.2%	76.2%	82.7%	90.6%	0.0%	-	83.6%	80.6%	86.0%	83.4%	0.0%	-	83.6%	91.3%	83.9%	85.3%	0.0%	-	85.9%	84%
Light Goods Vehicles	29	18	5	0	-	52	15	146	19	0	-	180	3	11	36	0	-	50	12	58	14	0	-	84	366
% Light Goods Vehicles	13.9%	9.9%	5.1%	0.0%	-	10.7%	17.9%	15.2%	9.0%	0.0%	-	14.3%	4.8%	11.0%	14.9%	0.0%	-	12.4%	5.8%	11.4%	10.3%	0.0%	-	9.9%	12%
Buses	1	11	8	0	-	20	3	10	1	0	-	14	7	3	2	0	-	12	4	8	1	0	-	13	59
% Buses	0.5%	6.1%	8.2%	0.0%	-	4.1%	3.6%	1.0%	0.5%	0.0%	-	1.1%	11.3%	3.0%	0.8%	0.0%	-	3.0%	1.9%	1.6%	0.7%	0.0%	-	1.5%	2%
Single-Unit Trucks	3	0	0	0	-	3	2	6	0	0	-	8	1	0	0	0	-	1	2	14	4	0	-	20	32
% Single-Unit Trucks	1.4%	0.0%	0.0%	0.0%	-	0.6%	2.4%	0.6%	0.0%	0.0%	-	0.6%	1.6%	0.0%	0.0%	0.0%	-	0.2%	1.0%	2.8%	2.9%	0.0%	-	2.4%	1%
Articulated Trucks	0	0	1	0	-	1	0	2	0	0	-	2	1	0	1	0	-	2	0	2	1	0	-	3	8
% Articulated Trucks	0.0%	0.0%	1.0%	0.0%	-	0.2%	0.0%	0.2%	0.0%	0.0%	-	0.2%	1.6%	0.0%	0.4%	0.0%	-	0.5%	0.0%	0.4%	0.7%	0.0%	-	0.4%	0%
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.1%	0.0%	0.0%	-	0.1%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0%
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0%	-	-	-	-	-	0.0%	-	-	-	-	-	0.0%	-	-	-	-	-	0.0%	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	22	-	-	-	-	-	1	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	100.0%	-	-	-	-	-	100.0%	-	-	-	-	-	100.0%	-	-	-	-	-	100.0%	-	-

Halifax Regional Municipality
Traffic Management
Traffic and Right of Way
PO Box 1749 Halifax
Nova Scotia
B3J 3A5

Site Code: Main St at Caledonia Rd
Start Date: 2022-11-16

Caledonia Rd		
Out	In	Total
1	0	1
411	266	677
52	40	92
20	7	27
3	6	9
1	2	3
0	0	0
488	**320**	**808**

1	0	0	0	-
175	152	84	0	-
29	18	5	0	-
1	11	8	0	-
3	0	0	0	-
0	0	1	0	-
0	0	0	0	-
209	**181**	**98**	**0**	**1**
R	T	L	U	P

Main St		
Out	In	Total
0	3	3
731	1170	1901
84	211	295
13	13	26
20	9	29
3	3	6
0	1	1
851	**1410**	**2261**

0	0	0	0	0	0	0	0	**0**	U
0	116	14	1	4	1	0	0	**136**	L
0	426	58	8	14	2	0	0	**508**	T
0	189	12	4	2	0	0	0	**207**	R
-	-	-	-	-	-	-	-	**6**	P

AM Peak Hour Data

Start Time: 8:00 AM
End Time: 9:00 AM
Date: 2022-11-16

Motorcycles
Cars
Light Goods
Buses
Single-Unit Trucks
Articulated Trucks
Bicycles on Road
Total

R	**84**	0	0	2	3	15	64	0	
T	**960**	1	2	6	10	146	794	1	
L	**212**	0	0	0	1	19	192	0	
U	**0**	0	0	0	0	0	0	0	
P	**22**	-	-	-	-	-	-	-	

Main St		
Out	In	Total
1	0	1
180	66	246
1050	560	1610
1256	**668**	**1924**

1	0	1	1	1
2	4	6	8	15	23	37
14	23	37	180	66	246
8	15	23	1050	560	1610
2	4	6	**1256**	**668**	**1924**

U	L	T	R	P
0	1	0	0	-
0	201	86	50	-
0	36	11	3	-
0	2	3	7	-
0	0	0	1	-
0	1	0	1	-
0	0	0	0	-
0	**241**	**100**	**62**	**1**

1	0	1
337	533	870
50	49	99
12	16	28
1	2	3
2	0	2
0	0	0
403	**600**	**1003**
Out	In	Total
Woodlawn Rd		

Halifax Regional Municipality
Traffic Management
Traffic and Right of Way
PO Box 1749 Halifax
Nova Scotia
B3J 3A5

Site Code: Main St at Caledonia Rd
Start Date: 2022-11-16

Turning Movement Peak Hour Data (3:45 PM)

	Caledonia Rd Southbound						Main St Westbound						Woodlawn Rd Northbound						Main St Eastbound						
Start Time	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:45:00 PM	40	27	30	0	2	97	24	162	25	0	3	211	20	28	52	0	0	100	34	294	45	0	1	373	781
4:00:00 PM	31	37	12	0	2	80	15	173	26	0	2	214	25	40	41	0	0	106	58	298	37	1	0	394	794
4:15:00 PM	44	55	30	0	1	129	16	143	21	0	0	180	16	41	45	0	1	102	36	261	52	0	6	349	760
4:30:00 PM	39	44	24	0	0	107	16	130	30	0	2	176	15	44	42	0	0	101	51	291	64	0	2	406	790
Total	154	163	96	0	5	413	71	608	102	0	7	781	76	153	180	0	1	409	179	1144	198	1	9	1522	3125
Approach %	37%	39%	23%	0%	-	-	9%	78%	13%	0%	-	-	19%	37%	44%	0%	-	-	12%	75%	13%	0%	-	-	-
Total %	5%	5%	3%	0%	-	-	2%	19%	3%	0%	-	-	2%	5%	6%	0%	-	-	6%	37%	6%	0%	-	-	-
PHF	0.875	0.741	0.800	-	-	0.800	0.740	0.879	0.850	-	-	0.912	0.760	0.869	0.865	-	-	0.965	0.772	0.960	0.773	0.250	-	0.937	0.984
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0%
Cars	140	139	79	0	-	358	59	535	92	0	-	686	69	142	158	0	-	369	164	1012	170	1	-	1347	2760
% Cars	90.9%	85.3%	82.3%	0.0%	-	86.7%	83.1%	88.0%	90.2%	0.0%	-	87.8%	90.8%	92.8%	87.8%	0.0%	-	90.2%	91.6%	88.5%	85.9%	100.0%	-	88.5%	88%
Light Goods Vehicles	13	20	14	0	-	47	11	63	8	0	-	82	2	8	17	0	-	27	12	115	26	0	-	153	309
% Light Goods Vehicles	8.4%	12.3%	14.6%	0.0%	-	11.4%	15.5%	10.4%	7.8%	0.0%	-	10.5%	2.6%	5.2%	9.4%	0.0%	-	6.6%	6.7%	10.1%	13.1%	0.0%	-	10.1%	10%
Buses	0	3	3	0	-	6	0	5	2	0	-	7	4	3	1	0	-	8	1	5	1	0	-	7	28
% Buses	0.0%	1.8%	3.1%	0.0%	-	1.5%	0.0%	0.8%	2.0%	0.0%	-	0.9%	5.3%	2.0%	0.6%	0.0%	-	2.0%	0.6%	0.4%	0.5%	0.0%	-	0.5%	1%
Single-Unit Trucks	1	1	0	0	-	2	1	5	0	0	-	6	1	0	2	0	-	3	2	12	1	0	-	15	26
% Single-Unit Trucks	0.6%	0.6%	0.0%	0.0%	-	0.5%	1.4%	0.8%	0.0%	0.0%	-	0.8%	1.3%	0.0%	1.1%	0.0%	-	0.7%	1.1%	1.0%	0.5%	0.0%	-	1.0%	1%
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0%
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	0	0	-	0	2
% Bicycles on Road	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	1.1%	0.0%	-	0.5%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0%
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0%	-	-	-	-	-	0.0%	-	-	-	-	-	0.0%	-	-	-	-	-	11.1%	-	-
Pedestrians	-	-	-	-	5	-	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0%	-	-	-	-	-	100.0%	-	-	-	-	-	100.0%	-	-	-	-	-	88.9%	-	-

Halifax Regional Municipality
Traffic Management
Traffic and Right of Way
PO Box 1749 Halifax
Nova Scotia
B3J 3A5

Site Code: Main St at Caledonia Rd
Start Date: 2022-11-16

Caledonia Rd		
Out	In	Total
1	0	1
358	371	729
47	45	92
6	4	10
2	2	4
0	0	0
0	0	0
413	**422**	**835**

1	0	0	0	-
140	139	79	0	-
13	20	14	0	-
0	3	3	0	-
1	1	0	0	-
0	0	0	0	-
0	0	0	0	-
154	**163**	**96**	**0**	**5**
R	T	L	U	P

Main St		
Out	In	Total
0	1	1
1347	833	2180
153	93	246
7	6	13
15	8	23
0	0	0
0	2	2
1522	**943**	**2465**

0	1	0	0	0	0	0	0	**1**	U
0	170	26	1	1	0	0	0	**198**	L
0	1012	115	5	12	0	0	0	**1144**	T
0	164	12	1	2	0	0	0	**179**	R
-	-	-	-	-	-	-	-	**9**	P

71	0	0	1	0	11	59	0	0	R
608	0	0	5	5	63	535	0	0	T
102	0	0	0	2	8	92	0	0	L
0	0	0	0	0	0	0	0	0	U
7	-	-	-	-	-	-	-	-	P

Main St		
Out	In	Total
781	0	0
1316	0	0
2097	0	0
0	6	6
0	13	13
0	12	12
0	19	19
0	82	82
0	131	131
0	213	213
0	686	686
0	1160	1160
0	1846	1846

PM Peak Hour Data

Start Time: 3:45 PM
End Time: 4:45 PM
Date: 2022-11-16

Motorcycles
Cars
Light Goods
Buses
Single-Unit Trucks
Articulated Trucks
Bicycles on Road
Total

U	L	T	R	P
0	0	0	0	-
0	158	142	69	-
0	17	8	2	-
0	1	3	4	-
0	2	0	1	-
0	0	0	0	-
0	2	0	0	-
0	**180**	**153**	**76**	**1**

0	0	0
369	395	764
27	40	67
8	6	14
3	3	6
0	0	0
2	0	2
409	**444**	**853**
Out	In	Total
Woodlawn Rd		

Booth & Main - TMC

Tue Jul 16, 2024
Full Length (7 AM-9 AM, 11 AM-1 PM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208833, Location: 44.685524, -63.523974

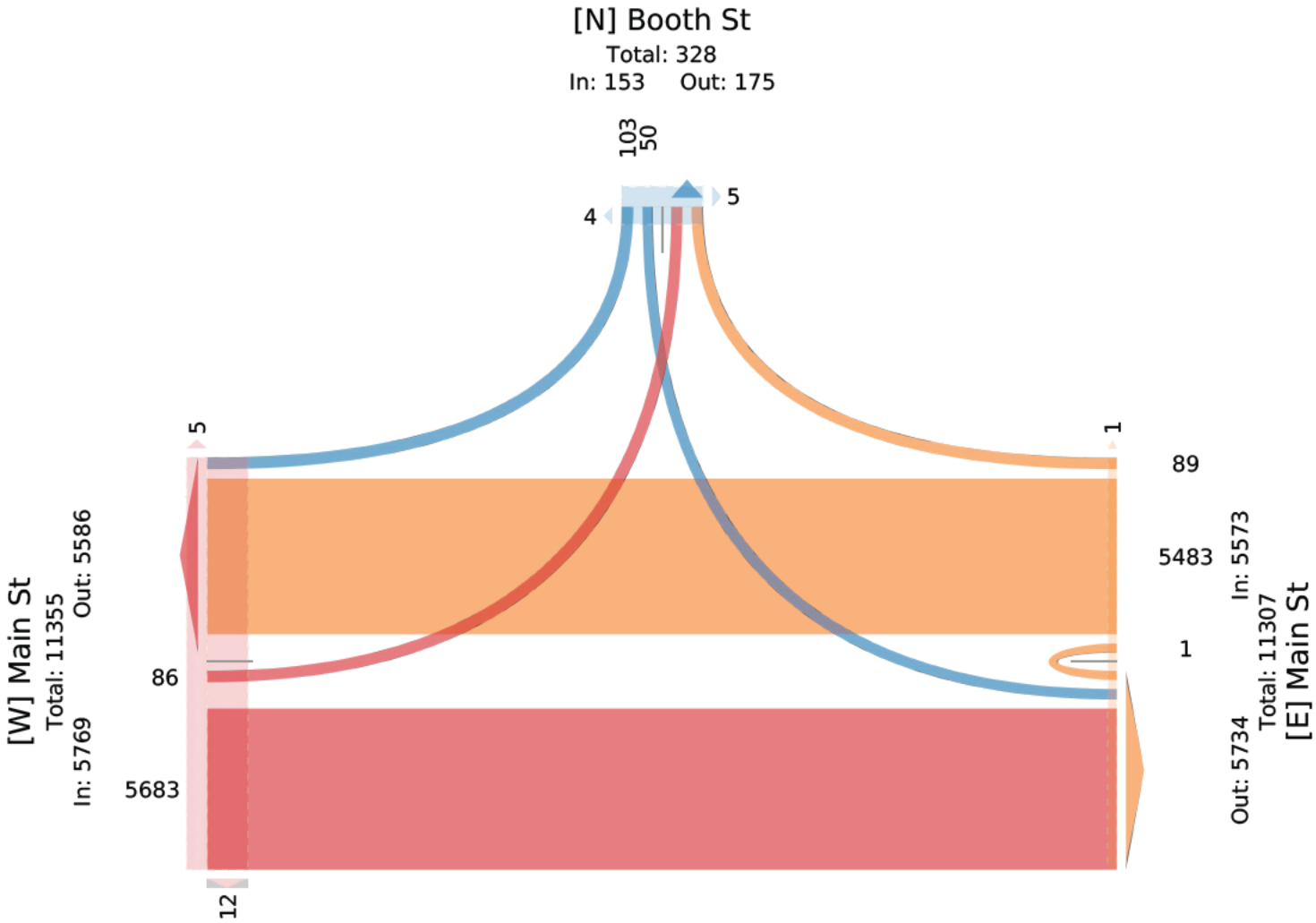
DESIGNPOINT
engineering • surveying • solutions
Provided by: DesignPoint Engineering & Surveying Ltd.
90 Western Parkway, Suite 500,
Bedford, NS, B4B 2J3, CA

Leg	Booth St					Main St					Main St					
Direction	Southbound					Westbound					Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2024-07-16 7:00AM	5	2	0	**7**	2	1	330	0	**331**	1	73	2	0	**75**	2	**413**
7:15AM	7	1	0	**8**	0	5	325	0	**330**	0	93	1	0	**94**	0	**432**
7:30AM	8	0	0	**8**	0	2	315	0	**317**	0	108	3	0	**111**	0	**436**
7:45AM	5	1	0	**6**	0	3	319	0	**322**	0	125	4	0	**129**	0	**457**
Hourly Total	25	4	0	**29**	2	11	1289	0	**1300**	1	399	10	0	**409**	2	**1738**
8:00AM	4	2	0	**6**	0	3	305	0	**308**	0	102	3	0	**105**	0	**419**
8:15AM	5	1	0	**6**	0	1	298	0	**299**	0	152	1	0	**153**	0	**458**
8:30AM	5	3	0	**8**	1	3	279	0	**282**	0	145	1	0	**146**	0	**436**
8:45AM	4	2	0	**6**	0	2	258	0	**260**	0	175	1	0	**176**	0	**442**
Hourly Total	18	8	0	**26**	1	9	1140	0	**1149**	0	574	6	0	**580**	0	**1755**
9:00AM	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	0	0	**0**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	0	0	**0**
11:00AM	5	1	0	**6**	0	6	178	0	**184**	0	203	4	0	**207**	1	**397**
11:15AM	3	2	0	**5**	0	3	173	0	**176**	0	191	3	0	**194**	0	**375**
11:30AM	3	1	0	**4**	0	3	195	0	**198**	0	175	4	0	**179**	0	**381**
11:45AM	4	5	0	**9**	0	5	208	0	**213**	0	181	3	0	**184**	0	**406**
Hourly Total	15	9	0	**24**	0	17	754	0	**771**	0	750	14	0	**764**	1	**1559**
12:00PM	2	2	0	**4**	0	1	174	0	**175**	0	202	6	0	**208**	0	**387**
12:15PM	4	5	0	**9**	0	3	190	1	**194**	0	197	1	0	**198**	0	**401**
12:30PM	3	0	0	**3**	0	3	186	0	**189**	0	222	3	0	**225**	0	**417**
12:45PM	7	0	0	**7**	0	6	255	0	**261**	0	222	2	0	**224**	0	**492**
Hourly Total	16	7	0	**23**	0	13	805	1	**819**	0	843	12	0	**855**	0	**1697**
1:00PM	0	0	0	**0**	0	0	1	0	**1**	0	2	0	0	2	0	**3**
Hourly Total	0	0	0	**0**	0	0	1	0	**1**	0	2	0	0	2	0	**3**
4:00PM	3	3	0	**6**	0	3	190	0	**193**	0	417	4	0	**421**	5	**620**
4:15PM	1	1	0	**2**	0	5	175	0	**180**	0	414	6	0	**420**	0	**602**
4:30PM	3	5	0	**8**	0	7	184	0	**191**	0	408	3	0	**411**	4	**610**
4:45PM	6	3	0	**9**	2	4	213	0	**217**	0	386	6	0	**392**	1	**618**
Hourly Total	13	12	0	**25**	2	19	762	0	**781**	0	1625	19	0	**1644**	10	**2450**
5:00PM	3	5	0	**8**	0	6	193	0	**199**	0	381	10	0	**391**	0	**598**
5:15PM	3	2	0	**5**	1	2	199	0	**201**	0	387	6	0	**393**	2	**599**
5:30PM	7	0	0	**7**	2	7	168	0	**175**	0	392	6	0	**398**	2	**580**
5:45PM	3	3	0	**6**	1	5	170	0	**175**	0	329	3	0	**332**	0	**513**
Hourly Total	16	10	0	**26**	4	20	730	0	**750**	0	1489	25	0	**1514**	4	**2290**
6:00PM	0	0	0	**0**	0	0	2	0	**2**	0	1	0	0	1	0	**3**
Hourly Total	0	0	0	**0**	0	0	2	0	**2**	0	1	0	0	1	0	**3**
Total	103	50	0	**153**	9	89	5483	1	**5573**	1	5683	86	0	**5769**	17	**11495**
% Approach	67.3%	32.7%	0%	-	-	1.6%	98.4%	0%	-	-	98.5%	1.5%	0%	-	-	-
% Total	0.9%	0.4%	0%	**1.3%**	-	0.8%	47.7%	0%	**48.5%**	-	49.4%	0.7%	0%	**50.2%**	-	-
Lights	103	49	0	**152**	-	87	5374	1	**5462**	-	5497	75	0	**5572**	-	11186
% Lights	100%	98.0%	0%	**99.3%**	-	97.8%	98.0%	100%	**98.0%**	-	96.7%	87.2%	0%	**96.6%**	-	97.3%
Articulated Trucks and Single-Unit Trucks	0	1	0	**1**	-	1	92	0	**93**	-	168	1	0	**169**	-	263
% Articulated Trucks and Single-Unit Trucks	0%	2.0%	0%	**0.7%**	-	1.1%	1.7%	0%	**1.7%**	-	3.0%	1.2%	0%	**2.9%**	-	2.3%
Buses	0	0	0	**0**	-	1	17	0	**18**	-	18	10	0	**28**	-	46
% Buses	0%	0%	0%	**0%**	-	1.1%	0.3%	0%	**0.3%**	-	0.3%	11.6%	0%	**0.5%**	-	0.4%
Pedestrians	-	-	-	-	9	-	-	-	-	1	-	-	-	-	17	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Booth & Main - TMC
Tue Jul 16, 2024
Full Length (7 AM-9 AM, 11 AM-1 PM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208833, Location: 44.685524, -63.523974

Provided by: DesignPoint Engineering & Surveying Ltd.
90 Western Parkway, Suite 500,
Bedford, NS, B4B 2J3, CA



Booth **& Main - TMC**
Tue Jul 16, 2024
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208833, Location: 44.685524, -63.523974

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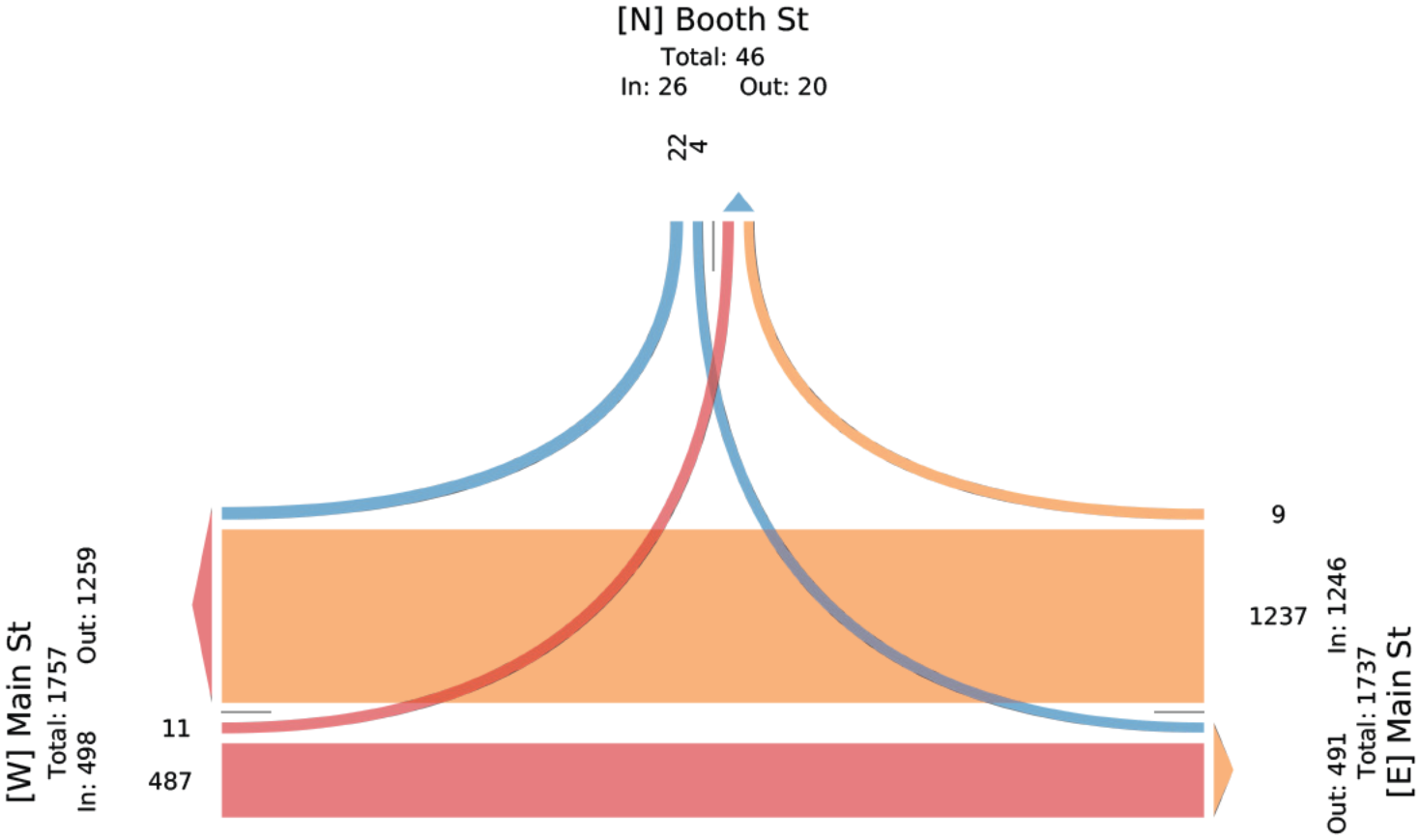
90 Western Parkway, Suite 500,
Bedford, NS, B4B 2J3, CA

Leg	Booth St					Main St					Main St					
Direction	Southbound					Westbound					Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	**Int**
2024-07-16 7:30AM	8	0	0	**8**	0	2	315	0	**317**	0	108	3	0	**111**	0	**436**
7:45AM	5	1	0	**6**	0	3	319	0	**322**	0	125	4	0	**129**	0	**457**
8:00AM	4	2	0	**6**	0	3	305	0	**308**	0	102	3	0	**105**	0	**419**
8:15AM	5	1	0	**6**	0	1	298	0	**299**	0	152	1	0	**153**	0	**458**
Total	22	4	0	**26**	0	9	1237	0	**1246**	0	487	11	0	**498**	0	**1770**
% Approach	84.6%	15.4%	0%	**-**	-	0.7%	99.3%	0%	**-**	-	97.8%	2.2%	0%	**-**	-	-
% Total	1.2%	0.2%	0%	**1.5%**	-	0.5%	69.9%	0%	**70.4%**	-	27.5%	0.6%	0%	**28.1%**	-	-
PHF	0.688	0.500	-	**0.813**	-	0.750	0.969	-	**0.967**	-	0.801	0.688	-	**0.814**	-	0.966
Lights	22	4	0	**26**	-	8	1217	0	**1225**	-	454	9	0	**463**	-	1714
% Lights	100%	100%	0%	**100%**	-	88.9%	98.4%	0%	**98.3%**	-	93.2%	81.8%	0%	**93.0%**	-	96.8%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	1	18	0	**19**	-	29	0	0	**29**	-	48
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	11.1%	1.5%	0%	**1.5%**	-	6.0%	0%	0%	**5.8%**	-	2.7%
Buses	0	0	0	**0**	-	0	2	0	**2**	-	4	2	0	**6**	-	8
% Buses	0%	0%	0%	**0%**	-	0%	0.2%	0%	**0.2%**	-	0.8%	18.2%	0%	**1.2%**	-	0.5%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Booth & Main - TMC
Tue Jul 16, 2024
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208833, Location: 44.685524, -63.523974

Provided by: DesignPoint Engineering & Surveying Ltd.
90 Western Parkway, Suite 500,
Bedford, NS, B4B 2J3, CA



Booth **& Main - TMC**
Tue Jul 16, 2024
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208833, Location: 44.685524, -63.523974

DESIGNPOINT
engineering • surveying • solutions
Provided by: DesignPoint Engineering & Surveying Ltd.
90 Western Parkway, Suite 500,
Bedford, NS, B4B 2J3, CA

Leg	Booth St					Main St					Main St					
Direction	Southbound					Westbound					Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2024-07-16 12:00PM	2	2	0	**4**	0	1	174	0	**175**	0	202	6	0	**208**	0	**387**
12:15PM	4	5	0	**9**	0	3	190	1	**194**	0	197	1	0	**198**	0	**401**
12:30PM	3	0	0	**3**	0	3	186	0	**189**	0	222	3	0	**225**	0	**417**
12:45PM	7	0	0	**7**	0	6	255	0	**261**	0	222	2	0	**224**	0	**492**
Total	16	7	0	**23**	0	13	805	1	**819**	0	843	12	0	**855**	0	**1697**
% Approach	69.6%	30.4%	0%	**-**	-	1.6%	98.3%	0.1%	**-**	-	98.6%	1.4%	0%	**-**	-	**-**
% Total	0.9%	0.4%	0%	**1.4%**	-	0.8%	47.4%	0.1%	**48.3%**	-	49.7%	0.7%	0%	**50.4%**	-	**-**
PHF	0.571	0.350	-	**0.639**	-	0.542	0.789	0.250	**0.784**	-	0.949	0.500	-	**0.950**	-	0.862
Lights	16	7	0	**23**	-	13	789	1	**803**	-	808	10	0	**818**	-	1644
% Lights	100%	100%	0%	**100%**	-	100%	98.0%	100%	**98.0%**	-	95.8%	83.3%	0%	**95.7%**	-	96.9%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	0	15	0	**15**	-	33	0	0	**33**	-	48
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	1.9%	0%	**1.8%**	-	3.9%	0%	0%	**3.9%**	-	2.8%
Buses	0	0	0	**0**	-	0	1	0	**1**	-	2	2	0	**4**	-	5
% Buses	0%	0%	0%	**0%**	-	0%	0.1%	0%	**0.1%**	-	0.2%	16.7%	0%	**0.5%**	-	0.3%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Booth & Main - TMC
Tue Jul 16, 2024
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208833, Location: 44.685524, -63.523974

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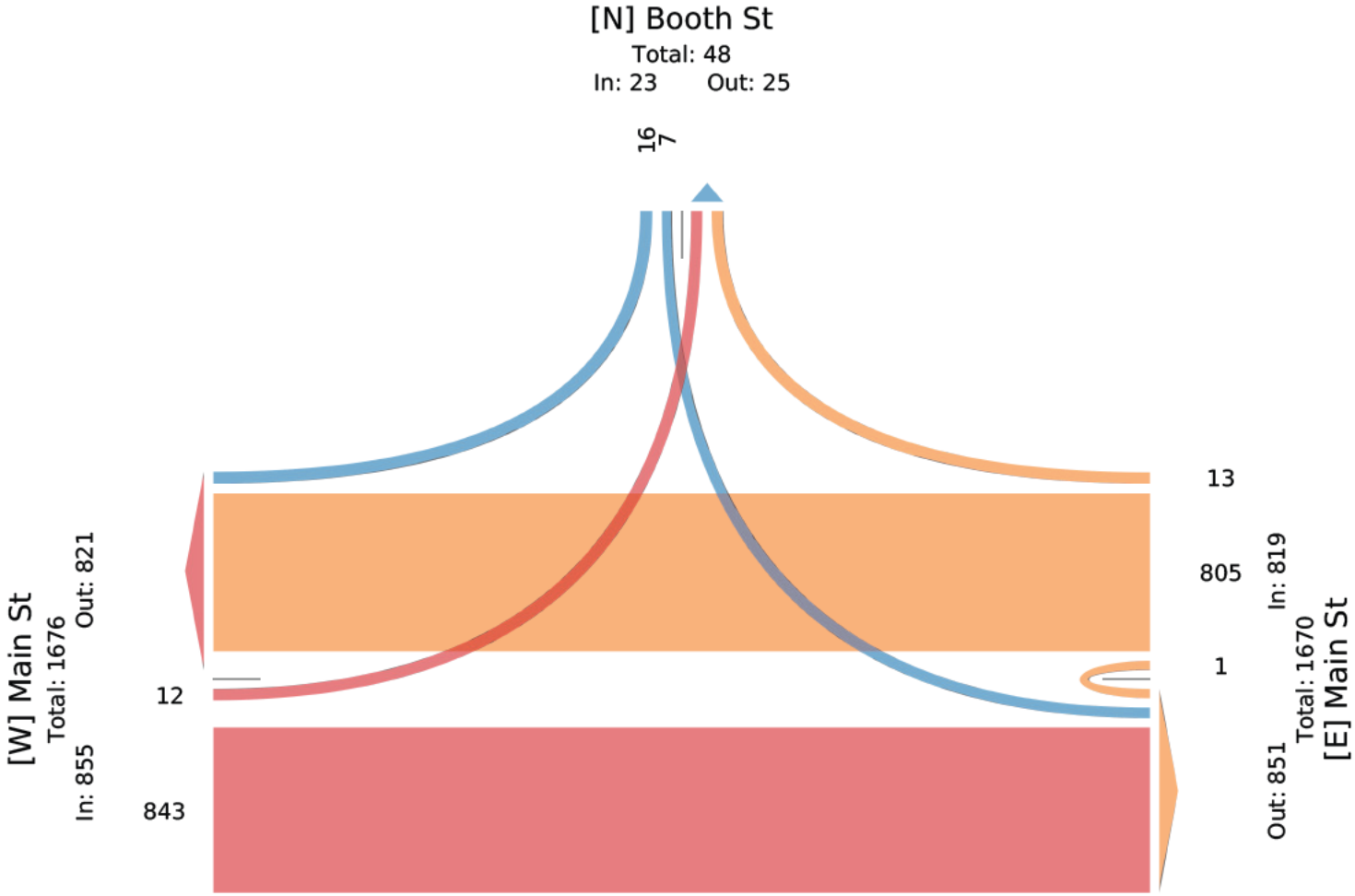

Booth & Main - TMC
Tue Jul 16, 2024
PM Peak (4 PM - 5 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208833, Location: 44.685524, -63.523974

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Leg / Direction	Booth St Southbound					Main St Westbound					Main St Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2024-07-16 4:00PM	3	3	0	**6**	0	3	190	0	**193**	0	417	4	0	**421**	5	**620**
4:15PM	1	1	0	**2**	0	5	175	0	**180**	0	414	6	0	**420**	0	**602**
4:30PM	3	5	0	**8**	0	7	184	0	**191**	0	408	3	0	**411**	4	**610**
4:45PM	6	3	0	**9**	2	4	213	0	**217**	0	386	6	0	**392**	1	**618**
Total	13	12	0	**25**	2	19	762	0	**781**	0	1625	19	0	**1644**	10	**2450**
% Approach	52.0%	48.0%	0%	-	-	2.4%	97.6%	0%	-	-	98.8%	1.2%	0%	-	-	-
% Total	0.5%	0.5%	0%	**1.0%**	-	0.8%	31.1%	0%	**31.9%**	-	66.3%	0.8%	0%	**67.1%**	-	-
PHF	0.542	0.600	-	**0.694**	-	0.679	0.894	-	**0.900**	-	0.974	0.792	-	**0.976**	-	0.988
Lights	13	12	0	**25**	-	19	742	0	**761**	-	1587	17	0	**1604**	-	2390
% Lights	100%	100%	0%	**100%**	-	100%	97.4%	0%	**97.4%**	-	97.7%	89.5%	0%	**97.6%**	-	97.6%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	0	15	0	**15**	-	35	0	0	**35**	-	50
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	2.0%	0%	**1.9%**	-	2.2%	0%	0%	**2.1%**	-	2.0%
Buses	0	0	0	**0**	-	0	5	0	**5**	-	3	2	0	**5**	-	10
% Buses	0%	0%	0%	**0%**	-	0%	0.7%	0%	**0.6%**	-	0.2%	10.5%	0%	**0.3%**	-	0.4%
Pedestrians	-	-	-	-	2	-	-	-	-	0	-	-	-	-	10	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Booth & Main - TMC
Tue Jul 16, 2024
PM Peak (4 PM - 5 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208833, Location: 44.685524, -63.523974

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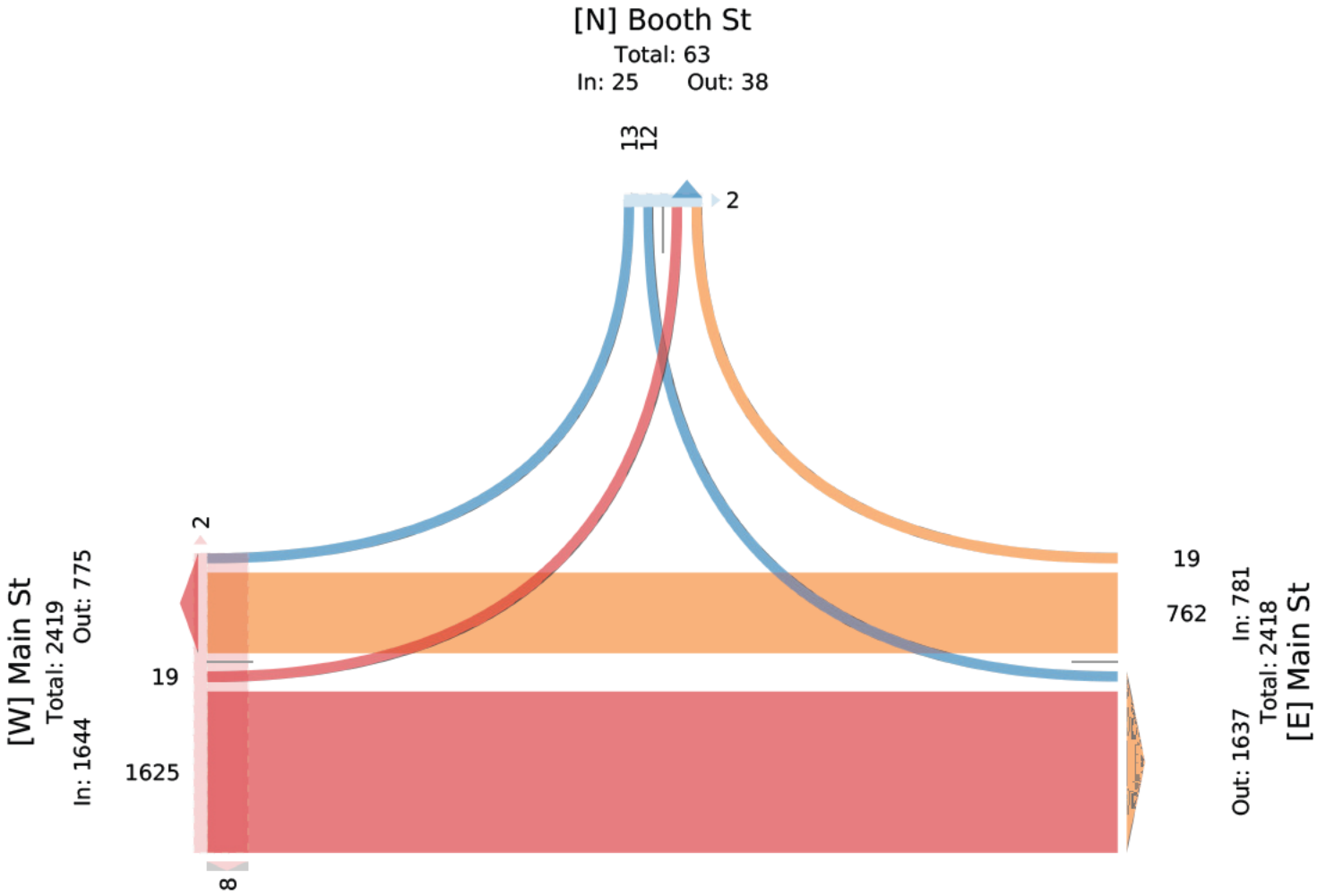

Kennedy at Caledonia - TMC

Thu Jul 11, 2024
Full Length (7 AM-9 AM, 11 AM-1 PM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208830, Location: 44.690938, -63.53248

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90 Western Parkway, Suite 500,
Bedford, NS, B4B 2J3, CA

Leg	Caledonia Rd					Kennedy Dr					Caledonia Rd					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	Int
2024-07-11 7:00AM	18	0	0	**18**	3	2	6	1	**9**	2	6	18	0	**24**	1	**51**
7:15AM	40	3	0	**43**	0	2	7	0	**9**	0	7	24	0	**31**	0	**83**
7:30AM	46	0	0	**46**	3	5	17	0	**22**	4	5	24	0	**29**	0	**97**
7:45AM	54	1	0	**55**	4	0	21	0	**21**	0	5	31	0	**36**	0	**112**
Hourly Total	158	4	0	**162**	10	9	51	1	**61**	6	23	97	0	**120**	1	**343**
8:00AM	45	0	0	**45**	3	1	9	0	**10**	0	6	30	0	**36**	3	**91**
8:15AM	45	3	0	**48**	3	8	10	0	**18**	0	5	39	0	**44**	3	**110**
8:30AM	70	5	0	**75**	2	2	15	0	**17**	7	4	45	0	**49**	2	**141**
8:45AM	65	4	0	**69**	2	2	11	0	**13**	4	12	39	0	**51**	2	**133**
Hourly Total	225	12	0	**237**	10	13	45	0	**58**	11	27	153	0	**180**	10	**475**
9:00AM	0	0	0	**0**	0	0	0	0	**0**	0	0	1	0	**1**	0	**1**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	0	1	0	**1**	0	**1**
11:00AM	41	1	0	**42**	6	2	9	0	**11**	6	11	42	0	**53**	0	**106**
11:15AM	73	3	0	**76**	1	1	7	0	**8**	0	6	42	0	**48**	0	**132**
11:30AM	41	0	0	**41**	1	3	11	0	**14**	5	5	55	0	**60**	0	**115**
11:45AM	61	2	0	**63**	1	0	8	0	**8**	0	10	44	0	**54**	0	**125**
Hourly Total	216	6	0	**222**	9	6	35	0	**41**	11	32	183	0	**215**	0	**478**
12:00PM	59	0	0	**59**	4	3	11	0	**14**	0	10	53	0	**63**	0	**136**
12:15PM	50	2	0	**52**	7	1	9	0	**10**	1	12	59	0	**71**	1	**133**
12:30PM	56	0	0	**56**	3	3	12	0	**15**	3	5	49	0	**54**	2	**125**
12:45PM	64	1	0	**65**	2	2	7	0	**9**	1	9	54	0	**63**	0	**137**
Hourly Total	229	3	0	**232**	16	9	39	0	**48**	5	36	215	0	**251**	3	**531**
1:00PM	0	0	0	**0**	0	0	0	0	**0**	0	0	1	0	**1**	0	**1**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	0	1	0	**1**	0	**1**
4:00PM	83	2	0	**85**	3	3	8	0	**11**	11	11	66	0	**77**	0	**173**
4:15PM	72	0	0	**72**	1	4	6	0	**10**	1	17	88	0	**105**	0	**187**
4:30PM	87	3	0	**90**	3	4	15	0	**19**	3	8	72	0	**80**	0	**189**
4:45PM	90	3	0	**93**	0	3	10	0	**13**	3	15	83	0	**98**	0	**204**
Hourly Total	332	8	0	**340**	7	14	39	0	**53**	18	51	309	0	**360**	0	**753**
5:00PM	88	3	0	**91**	1	0	8	0	**8**	2	25	53	0	**78**	1	**177**
5:15PM	84	5	0	**89**	3	4	14	0	**18**	0	15	76	0	**91**	0	**198**
5:30PM	70	3	0	**73**	4	4	8	0	**12**	3	11	63	0	**74**	0	**159**
5:45PM	81	1	0	**82**	2	2	5	0	**7**	5	10	59	0	**69**	1	**158**
Hourly Total	323	12	0	**335**	10	10	35	0	**45**	10	61	251	0	**312**	2	**692**
6:00PM	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Total	1483	45	0	**1528**	62	61	244	1	**306**	61	230	1210	0	**1440**	16	**3274**
% Approach	97.1%	2.9%	0%	**-**	-	19.9%	79.7%	0.3%	**-**	-	16.0%	84.0%	0%	**-**	-	-
% Total	45.3%	1.4%	0%	**46.7%**	-	1.9%	7.5%	0%	**9.3%**	-	7.0%	37.0%	0%	**44.0%**	-	-
Lights	1460	43	0	**1503**	-	43	240	1	**284**	-	222	1187	0	**1409**	-	3196
% Lights	98.4%	95.6%	0%	**98.4%**	-	70.5%	98.4%	100%	**92.8%**	-	96.5%	98.1%	0%	**97.8%**	-	97.6%
Articulated Trucks and Single-Unit Trucks	12	2	0	**14**	-	0	4	0	**4**	-	6	10	0	**16**	-	34
% Articulated Trucks and Single-Unit Trucks	0.8%	4.4%	0%	**0.9%**	-	0%	1.6%	0%	**1.3%**	-	2.6%	0.8%	0%	**1.1%**	-	1.0%
Buses	11	0	0	**11**	-	18	0	0	**18**	-	2	13	0	**15**	-	44
% Buses	0.7%	0%	0%	**0.7%**	-	29.5%	0%	0%	**5.9%**	-	0.9%	1.1%	0%	**1.0%**	-	1.3%
Pedestrians	-	-	-	-	62	-	-	-	-	61	-	-	-	-	16	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kennedy at Caledonia - TMC
Thu Jul 11, 2024
Full Length (7 AM-9 AM, 11 AM-1 PM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208830, Location: 44.690938, -63.53248

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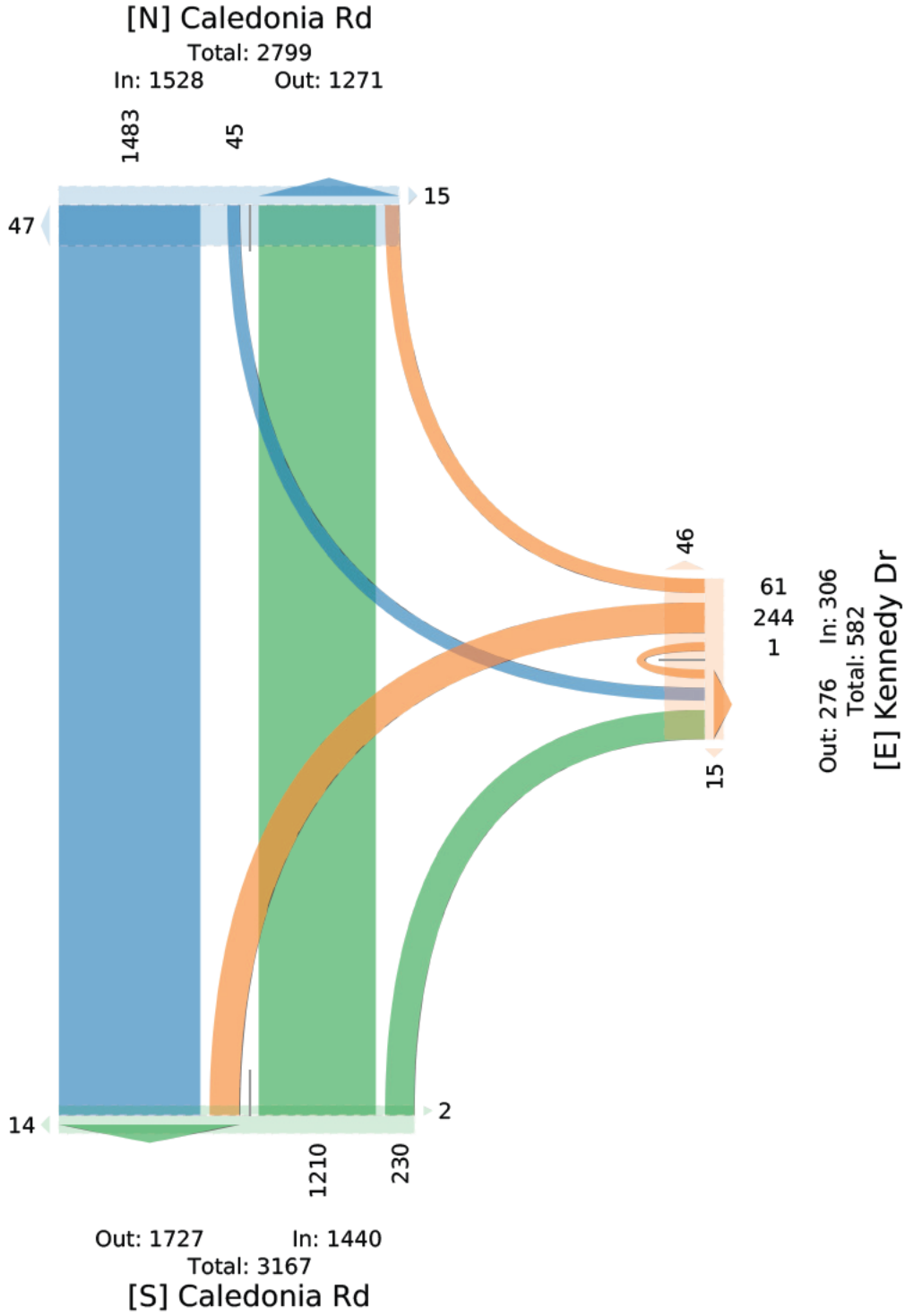

Kennedy at Caledonia - TMC

Thu Jul 11, 2024
AM Peak (8 AM - 9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208830, Location: 44.690938, -63.53248

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Leg	Caledonia Rd					Kennedy Dr					Caledonia Rd					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-07-11 8:00AM	45	0	0	**45**	3	1	9	0	**10**	0	6	30	0	**36**	3	**91**
8:15AM	45	3	0	**48**	3	8	10	0	**18**	0	5	39	0	**44**	3	**110**
8:30AM	70	5	0	**75**	2	2	15	0	**17**	7	4	45	0	**49**	2	**141**
8:45AM	65	4	0	**69**	2	2	11	0	**13**	4	12	39	0	**51**	2	**133**
Total	225	12	0	**237**	10	13	45	0	**58**	11	27	153	0	**180**	10	**475**
% Approach	94.9%	5.1%	0%	**-**	-	22.4%	77.6%	0%	**-**	-	15.0%	85.0%	0%	**-**	-	**-**
% Total	47.4%	2.5%	0%	**49.9%**	-	2.7%	9.5%	0%	**12.2%**	-	5.7%	32.2%	0%	**37.9%**	-	**-**
PHF	0.804	0.600	-	**0.790**	-	0.406	0.750	-	**0.806**	-	0.563	0.850	-	**0.882**	-	0.842
Lights	220	12	0	**232**	-	9	45	0	**54**	-	24	147	0	**171**	-	457
% Lights	97.8%	100%	0%	**97.9%**	-	69.2%	100%	0%	**93.1%**	-	88.9%	96.1%	0%	**95.0%**	-	96.2%
Articulated Trucks and Single-Unit Trucks	3	0	0	**3**	-	0	0	0	**0**	-	1	3	0	4	-	7
% Articulated Trucks and Single-Unit Trucks	1.3%	0%	0%	**1.3%**	-	0%	0%	0%	**0%**	-	3.7%	2.0%	0%	**2.2%**	-	1.5%
Buses	2	0	0	**2**	-	4	0	0	**4**	-	2	3	0	**5**	-	11
% Buses	0.9%	0%	0%	**0.8%**	-	30.8%	0%	0%	**6.9%**	-	7.4%	2.0%	0%	**2.8%**	-	2.3%
Pedestrians	-	-	-	-	10	-	-	-	-	11	-	-	-	-	10	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kennedy at Caledonia - TMC
Thu Jul 11, 2024
AM Peak (8 AM - 9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208830, Location: 44.690938, -63.53248

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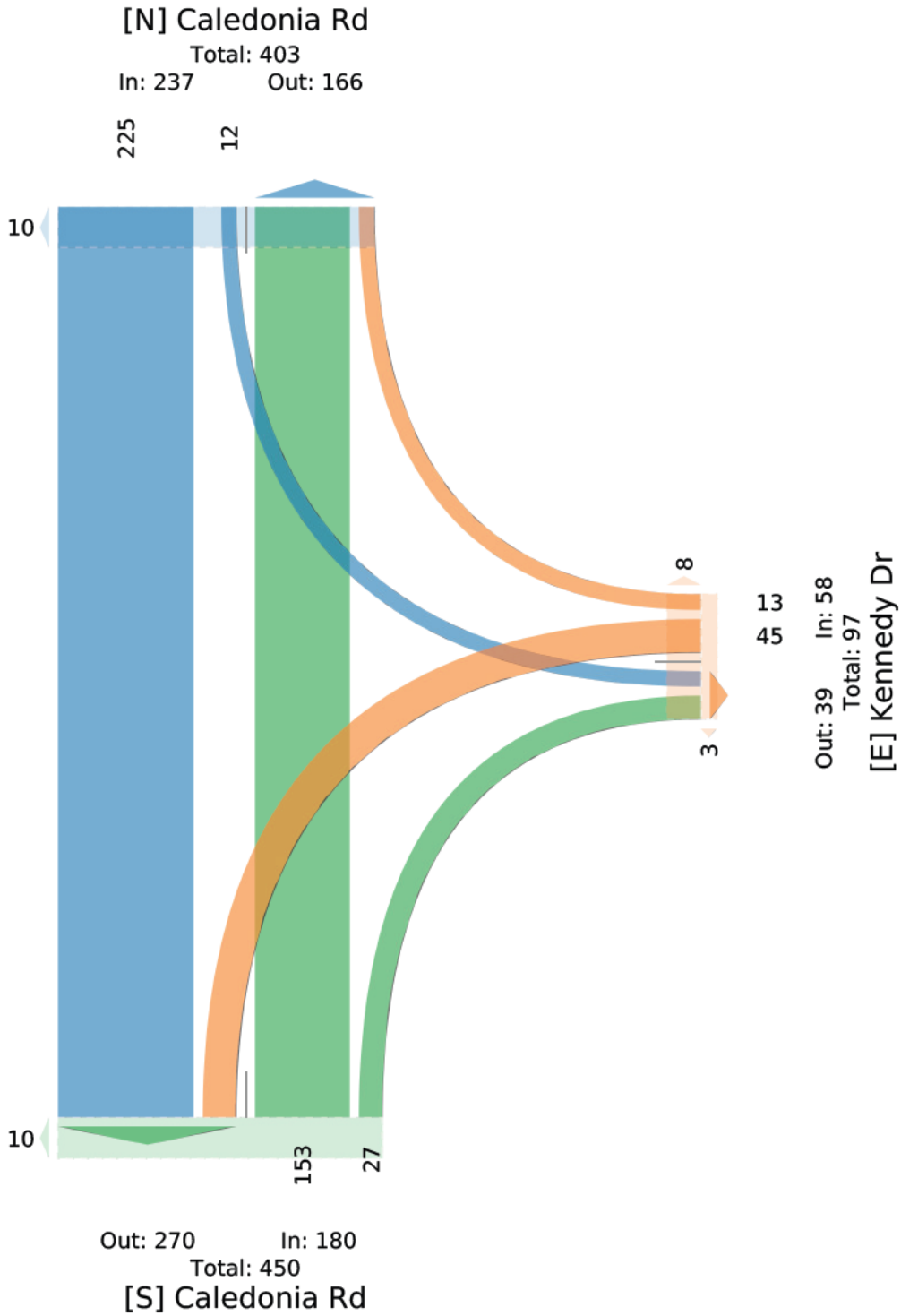

Kennedy at Caledonia - TMC

Thu Jul 11, 2024
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208830, Location: 44.690938, -63.53248

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Leg	Caledonia Rd					Kennedy Dr					Caledonia Rd					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-07-11 12:00PM	59	0	0	**59**	4	3	11	0	**14**	0	10	53	0	**63**	0	**136**
12:15PM	50	2	0	**52**	7	1	9	0	**10**	1	12	59	0	**71**	1	**133**
12:30PM	56	0	0	**56**	3	3	12	0	**15**	3	5	49	0	**54**	2	**125**
12:45PM	64	1	0	**65**	2	2	7	0	**9**	1	9	54	0	**63**	0	**137**
Total	229	3	0	**232**	16	9	39	0	**48**	5	36	215	0	**251**	3	**531**
% Approach	98.7%	1.3%	0%	**-**	-	18.8%	81.3%	0%	**-**	-	14.3%	85.7%	0%	**-**	-	**-**
% Total	43.1%	0.6%	0%	**43.7%**	-	1.7%	7.3%	0%	**9.0%**	-	6.8%	40.5%	0%	**47.3%**	-	**-**
PHF	0.895	0.375	-	**0.892**	-	0.750	0.813	-	**0.800**	-	0.750	0.911	-	**0.884**	-	0.969
Lights	224	3	0	**227**	-	7	38	0	**45**	-	34	212	0	**246**	-	518
% Lights	97.8%	100%	0%	**97.8%**	-	77.8%	97.4%	0%	**93.8%**	-	94.4%	98.6%	0%	**98.0%**	-	97.6%
Articulated Trucks and Single-Unit Trucks	3	0	0	**3**	-	0	1	0	**1**	-	2	2	0	4	-	8
% Articulated Trucks and Single-Unit Trucks	1.3%	0%	0%	**1.3%**	-	0%	2.6%	0%	**2.1%**	-	5.6%	0.9%	0%	**1.6%**	-	1.5%
Buses	2	0	0	**2**	-	2	0	0	**2**	-	0	1	0	**1**	-	5
% Buses	0.9%	0%	0%	**0.9%**	-	22.2%	0%	0%	**4.2%**	-	0%	0.5%	0%	**0.4%**	-	0.9%
Pedestrians	-	-	-	-	16	-	-	-	-	5	-	-	-	-	3	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kennedy at Caledonia - TMC
Thu Jul 11, 2024
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208830, Location: 44.690938, -63.53248

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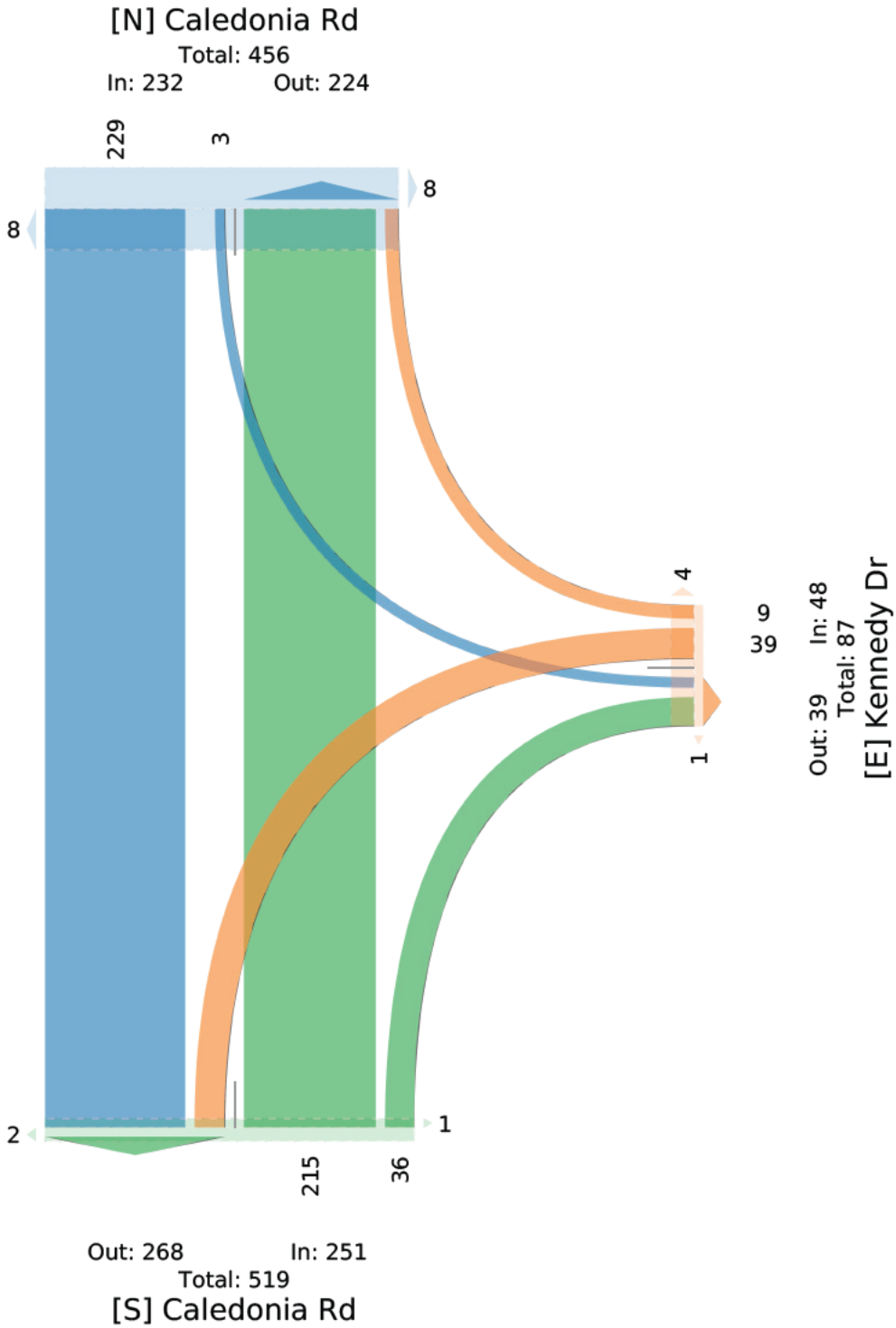

Kennedy at Caledonia - TMC

Thu Jul 11, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208830, Location: 44.690938, -63.53248

DESIGNPOINT
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Provided by: DesignPoint Engineering & Surveying Ltd.
90 Western Parkway, Suite 500,
Bedford, NS, B4B 2J3, CA

Leg	Caledonia Rd					Kennedy Dr					Caledonia Rd					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-07-11 4:30PM	87	3	0	**90**	3	4	15	0	**19**	3	8	72	0	**80**	0	**189**
4:45PM	90	3	0	**93**	0	3	10	0	**13**	3	15	83	0	**98**	0	**204**
5:00PM	88	3	0	**91**	1	0	8	0	**8**	2	25	53	0	**78**	1	**177**
5:15PM	84	5	0	**89**	3	4	14	0	**18**	0	15	76	0	**91**	0	**198**
Total	349	14	0	**363**	7	11	47	0	**58**	8	63	284	0	**347**	1	**768**
% Approach	96.1%	3.9%	0%	**-**	-	19.0%	81.0%	0%	**-**	-	18.2%	81.8%	0%	**-**	-	**-**
% Total	45.4%	1.8%	0%	**47.3%**	-	1.4%	6.1%	0%	**7.6%**	-	8.2%	37.0%	0%	**45.2%**	-	**-**
PHF	0.969	0.700	-	**0.976**	-	0.688	0.783	-	**0.763**	-	0.630	0.855	-	**0.885**	-	0.941
Lights	346	14	0	**360**	-	6	47	0	**53**	-	62	281	0	**343**	-	756
% Lights	99.1%	100%	0%	**99.2%**	-	54.5%	100%	0%	**91.4%**	-	98.4%	98.9%	0%	**98.8%**	-	98.4%
Articulated Trucks and Single-Unit Trucks	1	0	0	**1**	-	0	0	0	**0**	-	1	1	0	2	-	3
% Articulated Trucks and Single-Unit Trucks	0.3%	0%	0%	**0.3%**	-	0%	0%	0%	**0%**	-	1.6%	0.4%	0%	**0.6%**	-	0.4%
Buses	2	0	0	**2**	-	5	0	0	**5**	-	0	2	0	**2**	-	9
% Buses	0.6%	0%	0%	**0.6%**	-	45.5%	0%	0%	**8.6%**	-	0%	0.7%	0%	**0.6%**	-	1.2%
Pedestrians	-	-	-	-	7	-	-	-	-	8	-	-	-	-	1	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Kennedy at Caledonia - TMC
Thu Jul 11, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians)
All Movements
ID: 1208830, Location: 44.690938, -63.53248

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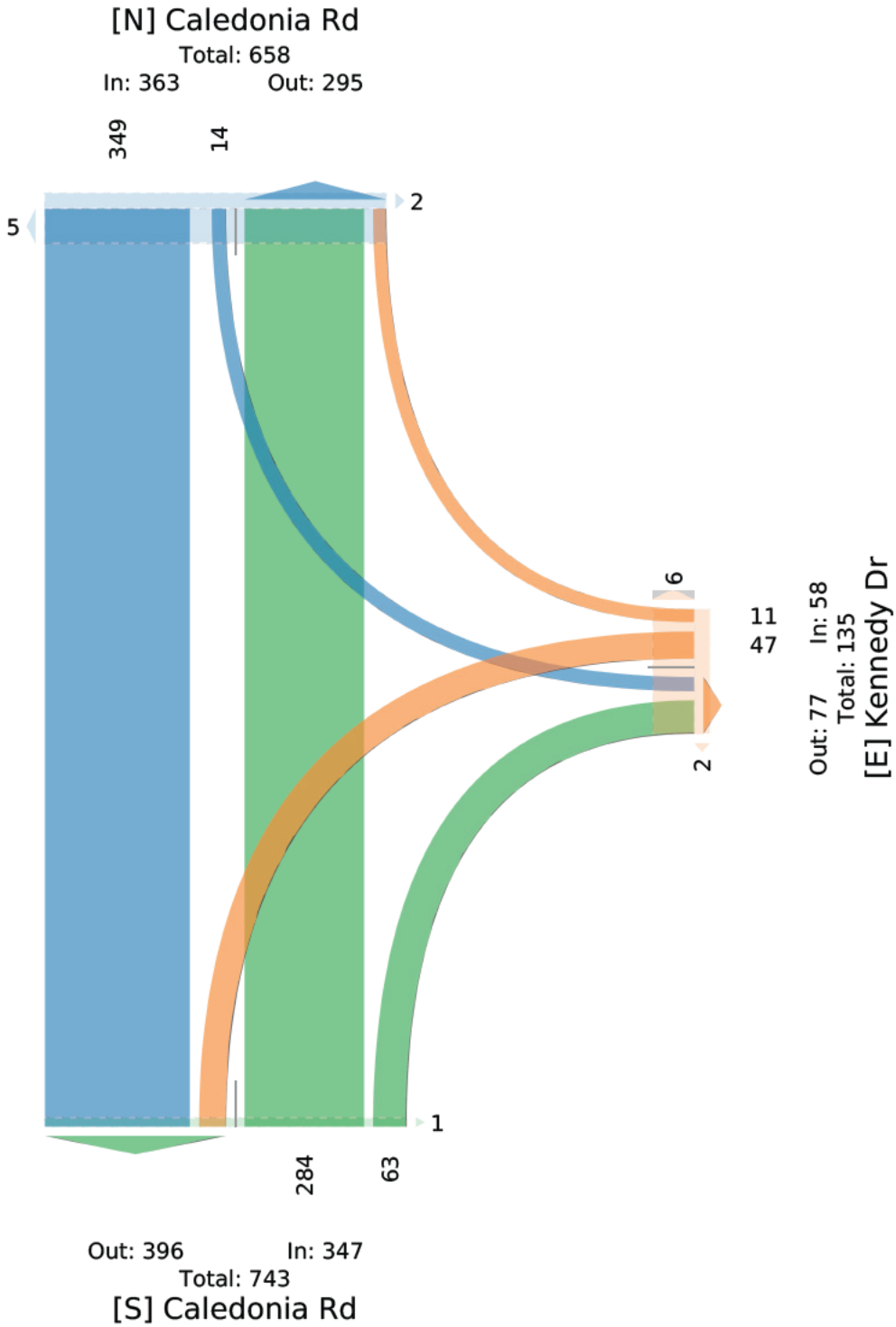


APPENDIX B- VISTRO REPORTS

Intersection Level Of Service Report
Intersection 1: Main at Caledonia

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

Intersection Setup

Name	Woodlawn			Caledonia			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [m]	100.00	30.48	100.00	30.00	30.48	30.00	100.00	30.48	30.48	30.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	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 [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodlawn			Caledonia			Main St			Main St		
Base Volume Input [veh/h]	241	100	62	98	181	209	136	508	207	212	960	84
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	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
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	3	22	25	0	0	0	0	6	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	277	115	71	116	230	265	156	584	238	244	1110	97
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
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]	75	31	19	32	63	72	42	159	65	66	302	26
Total Analysis Volume [veh/h]	301	125	77	126	250	288	170	635	259	265	1207	105
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]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	0.0	3.0	4.0	0.0	3.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Split [s]	16	28	0	10	22	0	9	63	0	19	73	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	10	0	0	12	0	0	12	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]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [m]	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 [m]	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	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00
g_i, Effective Green Time [s]	40	30	30	40	24	24	68	51	51	68	59	59
g / C, Green / Cycle	0.33	0.25	0.25	0.33	0.20	0.20	0.57	0.42	0.42	0.57	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.29	0.07	0.05	0.11	0.15	0.20	0.33	0.20	0.18	0.32	0.38	0.07
s, saturation flow rate [veh/h]	1025	1683	1431	1154	1683	1431	518	3204	1431	816	3204	1431
c, Capacity [veh/h]	368	520	442	457	436	371	236	1175	524	428	1386	619
d1, Uniform Delay [s]	32.84	30.95	30.28	24.46	38.69	41.25	25.46	30.02	29.40	19.34	30.98	20.84
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.15	0.11	0.11
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
d2, Incremental Delay [s]	18.10	1.09	0.86	1.49	5.40	14.77	17.16	0.39	0.72	1.98	1.83	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.24	0.17	0.28	0.57	0.78	0.72	0.54	0.49	0.62	0.87	0.17
d, Delay for Lane Group [s/veh]	50.94	32.04	31.13	25.95	44.09	56.02	42.62	30.41	30.12	21.31	32.81	20.97
Lane Group LOS	D	C	C	C	D	E	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.98	3.13	1.90	2.82	7.61	10.07	3.32	6.55	5.28	3.90	13.96	1.61
50th-Percentile Queue Length [m/ln]	68.45	23.87	14.46	21.51	58.00	76.70	25.32	49.88	40.26	29.73	106.34	12.30
95th-Percentile Queue Length [veh/ln]	13.90	5.64	3.42	5.08	12.14	15.27	5.98	10.74	9.05	7.02	20.08	2.91
95th-Percentile Queue Length [m/ln]	105.90	42.96	26.03	38.71	92.48	116.34	45.58	81.86	68.98	53.52	153.02	22.14

Movement, Approach, & Intersection Results

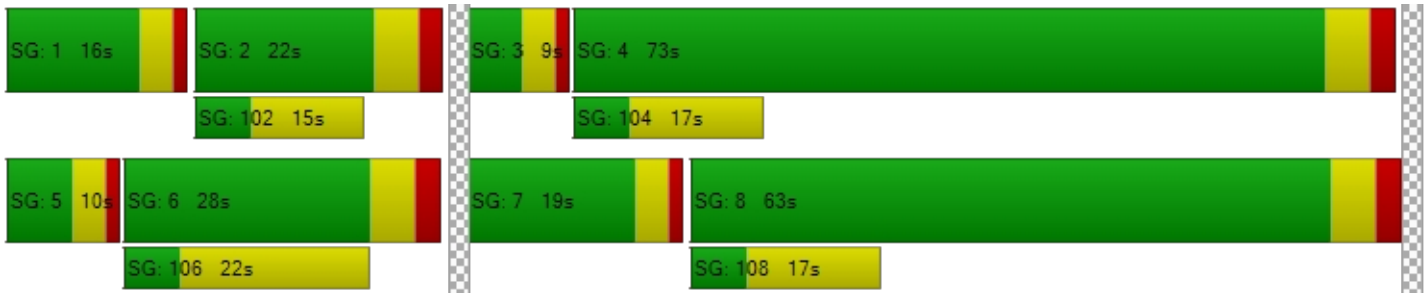
d_M, Delay for Movement [s/veh]	50.94	32.04	31.13	25.95	44.09	56.02	42.62	30.41	30.12	21.31	32.81	20.97
Movement LOS	D	C	C	C	D	E	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	43.21			45.82			32.29			30.09		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	35.18											
Intersection LOS	D											
Intersection V/C	0.764											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.634	2.538	3.074	2.923
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	267	950	1117
d_b, Bicycle Delay [s]	40.02	45.07	16.54	11.70
l_b,int, Bicycle LOS Score for Intersection	2.390	2.655	2.437	2.861
Bicycle LOS	B	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Main at Booth Street

Control Type:	Two-way stop	Delay (sec / veh):	59.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.072

Intersection Setup

Name			Main St			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name			Main St			
Base Volume Input [veh/h]	4	22	11	487	1237	9
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	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	3	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]	5	31	13	563	1423	10
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	8	3	145	368	3
Total Analysis Volume [veh/h]	5	32	13	582	1470	10
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	0.07	0.09	0.03	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	59.76	18.00	13.00	0.00	0.00	0.00
Movement LOS	F	C	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.56	0.56	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [m/ln]	4.29	4.29	0.17	0.08	0.00	0.00
d_A, Approach Delay [s/veh]	23.65		0.28		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.49					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Caledonia @ Kennedy Dr

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.189

Intersection Setup

Name	Caledonia					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Caledonia					
Base Volume Input [veh/h]	153	27	12	225	45	13
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	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	50	6
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]	176	31	14	259	102	21
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	8	4	65	26	5
Total Analysis Volume [veh/h]	176	31	14	259	102	21
Pedestrian Volume [ped/h]	0		0		0	

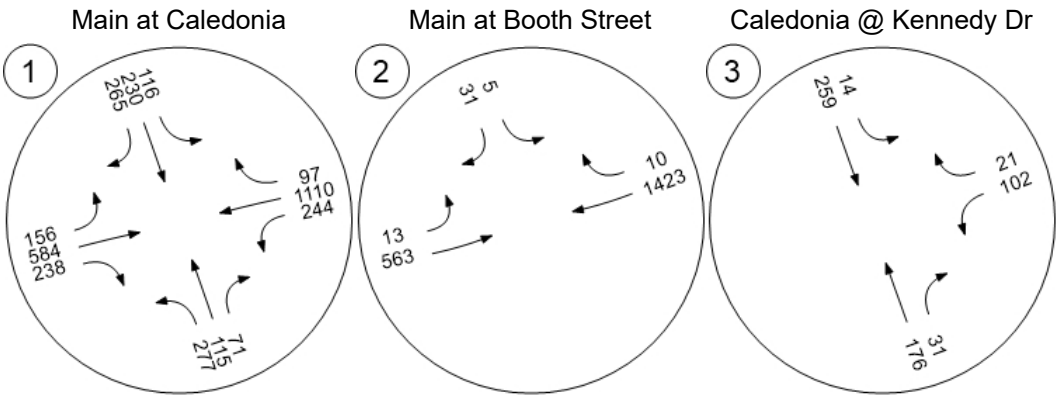
Intersection Settings

Priority Scheme	Free	Free	Stop
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	0.19	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.65	0.00	13.37	10.93
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.80	0.80
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.18	0.18	6.13	6.13
d_A, Approach Delay [s/veh]	0.00		0.39		12.95	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.82					
Intersection LOS	B					

Report Figure 1f: Traffic Volume - Future Total Volume



Intersection Level Of Service Report
Intersection 1: Main at Caledonia

Control Type:	Signalized	Delay (sec / veh):	34.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

Intersection Setup

Name	Woodlawn			Caledonia			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [m]	100.00	30.48	100.00	30.00	30.48	30.00	100.00	30.48	30.48	30.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	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 [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodlawn			Caledonia			Main St			Main St		
Base Volume Input [veh/h]	180	153	76	96	163	154	198	1144	179	102	608	71
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	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	1	9	11	19	1	0	0	1	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	207	190	87	111	196	188	247	1317	206	117	700	82
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
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]	56	52	24	30	53	51	67	358	56	32	190	22
Total Analysis Volume [veh/h]	225	207	95	121	213	204	268	1432	224	127	761	89
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	10			0			10			0		
v_di, Inbound Pedestrian Volume crossing m	10			0			10			0		
v_co, Outbound Pedestrian Volume crossing	10			0			0			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			0			0			10		
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]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	2.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	20	30	0	11	21	0	11	68	0	11	68	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	10	0	0	12	0	0	12	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]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [m]	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 [m]	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	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00
g_i, Effective Green Time [s]	39	28	28	39	19	19	69	58	58	69	58	58
g / C, Green / Cycle	0.33	0.23	0.23	0.33	0.16	0.16	0.57	0.48	0.48	0.57	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.19	0.12	0.07	0.11	0.13	0.14	0.37	0.45	0.16	0.29	0.24	0.06
s, saturation flow rate [veh/h]	1209	1683	1431	1115	1683	1431	717	3204	1431	445	3204	1431
c, Capacity [veh/h]	368	394	335	339	267	227	410	1547	691	234	1547	691
d1, Uniform Delay [s]	33.09	40.15	37.72	30.42	48.60	49.51	17.45	29.02	19.03	25.53	21.05	17.12
k, delay calibration	0.23	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.12	0.11	0.11
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
d2, Incremental Delay [s]	3.49	4.96	2.12	2.92	21.36	38.01	7.89	2.88	0.27	2.24	0.24	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.61	0.53	0.28	0.36	0.80	0.90	0.65	0.93	0.32	0.54	0.49	0.13
d, Delay for Lane Group [s/veh]	36.58	45.11	39.84	33.34	69.96	87.52	25.33	31.90	19.30	27.77	21.29	17.20
Lane Group LOS	D	D	D	C	E	F	C	C	B	C	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.47	5.87	2.50	2.83	7.71	8.37	4.52	19.16	3.86	1.70	7.20	1.38
50th-Percentile Queue Length [m/ln]	41.68	44.76	19.02	21.58	58.72	63.78	34.47	145.98	29.38	12.95	54.85	10.48
95th-Percentile Queue Length [veh/ln]	9.31	9.85	4.49	5.10	12.26	13.11	8.01	26.34	6.94	3.06	11.60	2.48
95th-Percentile Queue Length [m/ln]	70.91	75.05	34.23	38.84	93.41	99.93	61.05	200.68	52.88	23.30	88.38	18.86

Movement, Approach, & Intersection Results

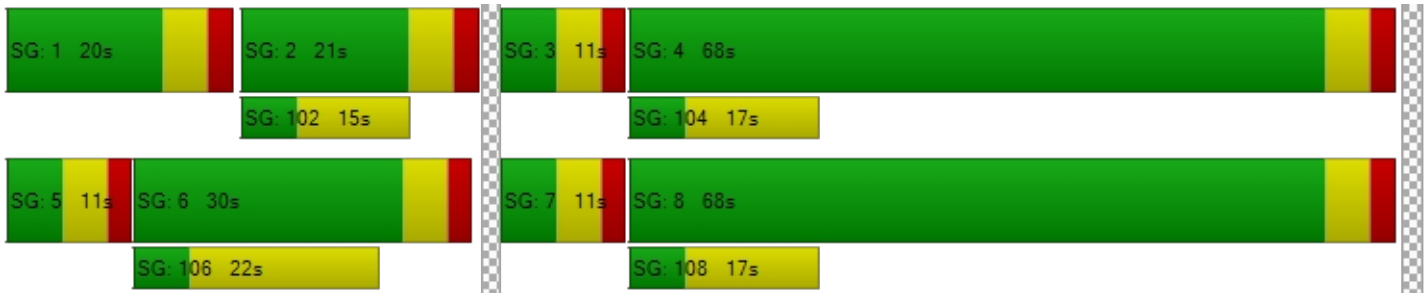
d_M, Delay for Movement [s/veh]	36.58	45.11	39.84	33.34	69.96	87.52	25.33	31.90	19.30	27.77	21.29	17.20
Movement LOS	D	D	D	C	E	F	C	C	B	C	C	B
d_A, Approach Delay [s/veh]	40.52			68.38			29.52			21.76		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	34.34											
Intersection LOS	C											
Intersection V/C	0.757											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.512	2.615	3.048	2.953
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	250	1033	1033
d_b, Bicycle Delay [s]	38.40	45.94	14.02	14.02
l_b,int, Bicycle LOS Score for Intersection	2.429	2.447	3.147	2.366
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intersection Level Of Service Report
Intersection 2: Main at Booth Street

Control Type:	Two-way stop	Delay (sec / veh):	76.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.235

Intersection Setup

Name			Main St			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name			Main St			
Base Volume Input [veh/h]	12	13	19	1625	762	19
Base Volume Adjustment Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	1	0	2
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]	14	16	23	1851	867	24
Peak Hour Factor	0.9880	0.9880	0.9880	0.9880	0.9880	0.9880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	6	468	219	6
Total Analysis Volume [veh/h]	14	16	23	1873	878	24
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	0.24	0.03	0.03	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	76.52	22.49	9.83	0.00	0.00	0.00
Movement LOS	F	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.98	0.98	0.04	0.02	0.00	0.00
95th-Percentile Queue Length [m/ln]	7.50	7.50	0.30	0.15	0.00	0.00
d_A, Approach Delay [s/veh]	47.71		0.12		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	0.59					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Caledonia @ Kennedy

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.147

Intersection Setup

Name	Caledonia					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Caledonia					
Base Volume Input [veh/h]	14	4	14	349	47	11
Base Volume Adjustment Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	4	0	21	3
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]	15	38	19	385	73	16
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	10	5	102	19	4
Total Analysis Volume [veh/h]	16	40	20	409	78	17
Pedestrian Volume [ped/h]	0		0		0	

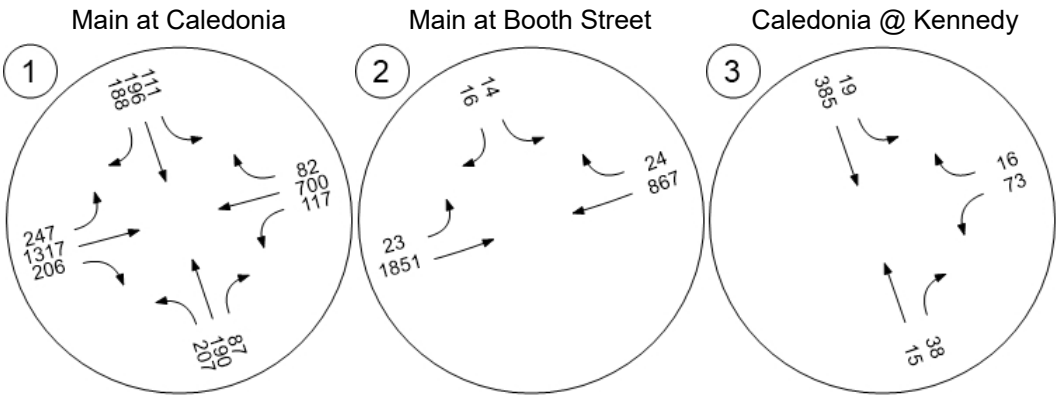
Intersection Settings

Priority Scheme	Free	Free	Stop
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	0.15	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.35	0.00	12.97	9.67
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.58	0.58
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.26	0.26	4.41	4.41
d_A, Approach Delay [s/veh]	0.00		0.34		12.38	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	B					

Report Figure 1f: Traffic Volume - Future Total Volume



Intersection Level Of Service Report
Intersection 1: Main at Caledonia

Control Type:	Signalized	Delay (sec / veh):	33.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.718

Intersection Setup

Name	Woodlawn			Caledonia			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [m]	100.00	30.48	100.00	30.00	30.48	30.00	100.00	30.48	30.48	30.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	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 [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodlawn			Caledonia			Main St			Main St		
Base Volume Input [veh/h]	241	100	62	98	181	209	136	508	207	212	960	84
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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	241	100	62	98	181	209	136	508	207	212	960	84
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000
Total 15-Minute Volume [veh/h]	72	30	19	29	54	62	41	152	62	63	287	25
Total Analysis Volume [veh/h]	288	120	74	117	216	250	163	607	248	253	1148	100
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]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	0.0	3.0	4.0	0.0	3.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Split [s]	17	28	0	11	22	0	9	62	0	19	72	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	10	0	0	12	0	0	12	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]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [m]	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 [m]	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	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00
g_i, Effective Green Time [s]	51	40	40	51	34	34	57	40	40	57	48	48
g / C, Green / Cycle	0.42	0.33	0.33	0.42	0.28	0.28	0.48	0.33	0.33	0.48	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.27	0.07	0.05	0.10	0.13	0.17	0.30	0.19	0.17	0.30	0.36	0.07
s, saturation flow rate [veh/h]	1066	1683	1431	1167	1683	1431	545	3204	1431	845	3204	1431
c, Capacity [veh/h]	425	541	460	498	457	389	231	1102	492	418	1319	589
d1, Uniform Delay [s]	26.93	29.73	29.11	22.57	36.51	38.57	26.26	31.85	31.23	20.78	32.36	22.33
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.12	0.11	0.11
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
d2, Incremental Delay [s]	8.44	0.94	0.75	1.11	3.47	7.96	16.67	0.43	0.80	1.54	1.92	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.22	0.16	0.23	0.47	0.64	0.71	0.55	0.50	0.60	0.87	0.17
d, Delay for Lane Group [s/veh]	35.37	30.67	29.86	23.68	39.99	46.53	42.93	32.28	32.03	22.33	34.28	22.46
Lane Group LOS	D	C	C	C	D	D	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.70	2.64	1.60	2.20	5.64	7.21	3.71	7.32	5.92	4.55	15.60	1.86
50th-Percentile Queue Length [m/ln]	51.05	20.09	12.21	16.79	42.96	54.96	28.26	55.79	45.14	34.68	118.90	14.14
95th-Percentile Queue Length [veh/ln]	10.94	4.75	2.88	3.97	9.53	11.62	6.68	11.76	9.91	8.05	22.08	3.34
95th-Percentile Queue Length [m/ln]	83.40	36.16	21.97	30.23	72.63	88.52	50.87	89.61	75.55	61.34	168.26	25.45

Movement, Approach, & Intersection Results

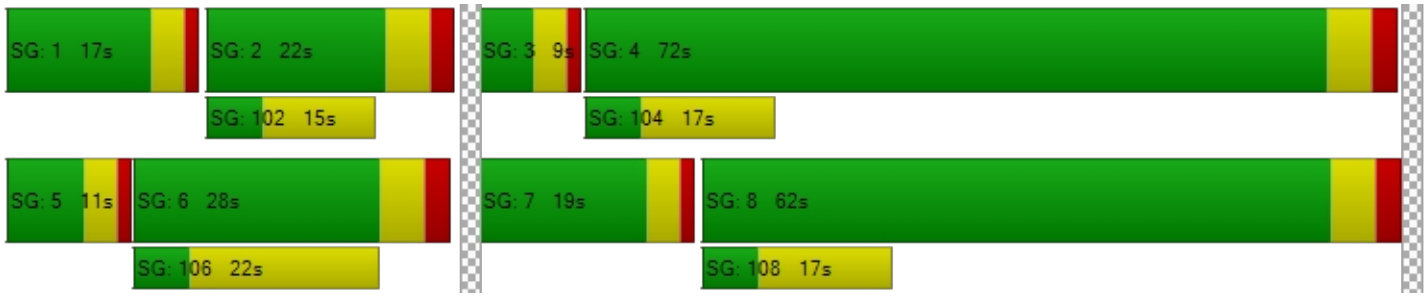
d_M, Delay for Movement [s/veh]	35.37	30.67	29.86	23.68	39.99	46.53	42.93	32.28	32.03	22.33	34.28	22.46
Movement LOS	D	C	C	C	D	D	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	33.35			39.52			33.92			31.48		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	33.73											
Intersection LOS	C											
Intersection V/C	0.718											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.574	2.487	3.046	2.913
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	267	933	1100
d_b, Bicycle Delay [s]	40.02	45.07	17.07	12.15
l_b,int, Bicycle LOS Score for Intersection	2.355	2.522	2.399	2.798
Bicycle LOS	B	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intersection Level Of Service Report
Intersection 2: Main at Booth Street

Control Type:	Two-way stop	Delay (sec / veh):	44.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.197

Intersection Setup

Name			Main St			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name			Main St			
Base Volume Input [veh/h]	22	4	11	487	1237	9
Base Volume Adjustment Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	22	4	11	482	1225	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	1	3	121	306	2
Total Analysis Volume [veh/h]	22	4	11	482	1225	9
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	0.20	0.01	0.02	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	44.58	20.61	11.44	0.00	0.00	0.00
Movement LOS	E	C	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.74	0.74	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [m/ln]	5.62	5.62	0.14	0.07	0.00	0.00
d_A, Approach Delay [s/veh]	40.90		0.26		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 3: Caledonia at Kennedy Dr

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.094

Intersection Setup

Name	Caledonia					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Caledonia					
Base Volume Input [veh/h]	153	27	12	225	45	13
Base Volume Adjustment Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	147	26	12	216	43	12
Peak Hour Factor	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	8	4	64	13	4
Total Analysis Volume [veh/h]	175	31	14	257	51	14
Pedestrian Volume [ped/h]	0		0		0	

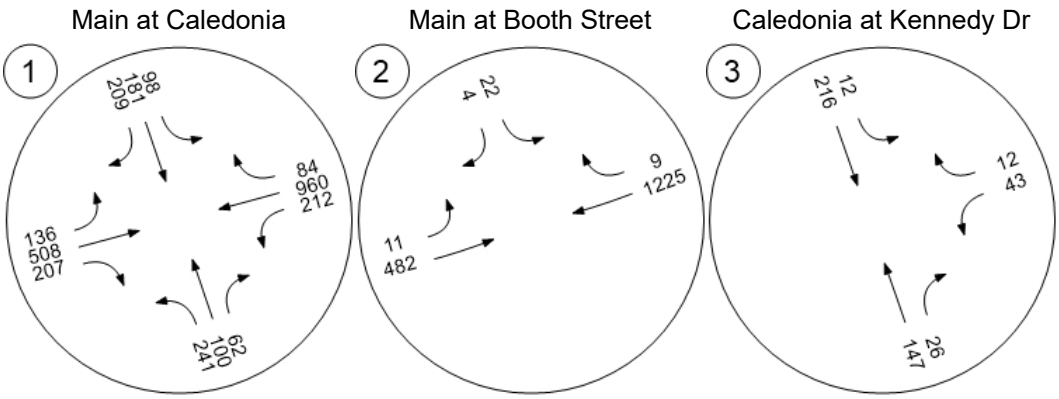
Intersection Settings

Priority Scheme	Free	Free	Stop
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	0.09	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.65	0.00	12.41	9.99
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.37	0.37
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.18	0.18	2.83	2.83
d_A, Approach Delay [s/veh]	0.00		0.40		11.89	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.62					
Intersection LOS	B					

Report Figure 1a: Traffic Volume - Base Volume



Intersection Level Of Service Report
Intersection 1: Main at Caledonia

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

Intersection Setup

Name	Woodlawn			Caledonia			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [m]	100.00	30.48	100.00	30.00	30.48	30.00	100.00	30.48	30.48	30.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	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 [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodlawn			Caledonia			Main St			Main St		
Base Volume Input [veh/h]	180	153	76	96	163	154	198	1144	179	102	608	71
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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	153	76	96	163	154	198	1144	179	102	608	71
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000
Total 15-Minute Volume [veh/h]	55	47	23	29	50	47	61	350	55	31	186	22
Total Analysis Volume [veh/h]	220	187	93	117	199	188	242	1398	219	125	743	87
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]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	17	28	0	11	22	0	20	70	0	11	61	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	10	0	0	12	0	0	12	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]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [m]	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 [m]	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	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00
g_i, Effective Green Time [s]	40	29	29	40	23	23	68	57	57	68	51	51
g / C, Green / Cycle	0.33	0.24	0.24	0.33	0.19	0.19	0.57	0.48	0.48	0.57	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.19	0.11	0.07	0.10	0.12	0.13	0.29	0.44	0.15	0.27	0.23	0.06
s, saturation flow rate [veh/h]	1163	1683	1431	1128	1683	1431	823	3204	1431	456	3204	1431
c, Capacity [veh/h]	365	403	343	356	319	271	457	1528	682	239	1355	605
d1, Uniform Delay [s]	32.23	39.01	37.09	29.70	44.67	45.35	15.91	29.12	19.38	25.00	26.01	21.27
k, delay calibration	0.24	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.14	0.11	0.11
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
d2, Incremental Delay [s]	3.53	3.79	1.94	2.46	8.86	13.61	4.35	2.56	0.27	2.24	0.35	0.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.46	0.27	0.33	0.62	0.69	0.53	0.91	0.32	0.52	0.55	0.14
d, Delay for Lane Group [s/veh]	35.76	42.81	39.03	32.16	53.53	58.96	20.26	31.68	19.65	27.24	26.35	21.38
Lane Group LOS	D	D	D	C	D	E	C	C	B	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.29	5.14	2.41	2.68	6.22	6.23	3.82	18.54	3.80	1.70	7.95	1.53
50th-Percentile Queue Length [m/ln]	40.30	39.14	18.38	20.45	47.37	47.50	29.10	141.31	28.99	12.97	60.57	11.64
95th-Percentile Queue Length [veh/ln]	9.06	8.85	4.34	4.83	10.31	10.33	6.87	25.61	6.85	3.06	12.57	2.75
95th-Percentile Queue Length [m/ln]	69.04	67.46	33.09	36.82	78.53	78.70	52.38	195.12	52.19	23.35	95.80	20.96

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.76	42.81	39.03	32.16	53.53	58.96	20.26	31.68	19.65	27.24	26.35	21.38
Movement LOS	D	D	D	C	D	E	C	C	B	C	C	C
d_A, Approach Delay [s/veh]	39.00			50.60			28.78			26.02		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.31											
Intersection LOS	C											
Intersection V/C	0.716											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.497	2.555	3.039	2.942
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	267	1067	917
d_b, Bicycle Delay [s]	40.02	45.07	13.07	17.60
l_b,int, Bicycle LOS Score for Intersection	2.385	2.391	3.093	2.347
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Main at Booth Street

Control Type:	Two-way stop	Delay (sec / veh):	50.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.136

Intersection Setup

Name			Main St			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name			Main St			
Base Volume Input [veh/h]	12	13	19	1644	762	19
Base Volume Adjustment Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	12	13	19	1628	754	19
Peak Hour Factor	0.9880	0.9880	0.9880	0.9880	0.9880	0.9880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	5	412	191	5
Total Analysis Volume [veh/h]	12	13	19	1648	763	19
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	0.14	0.02	0.02	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	50.16	15.14	9.35	0.00	0.00	0.00
Movement LOS	F	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.54	0.54	0.03	0.02	0.00	0.00
95th-Percentile Queue Length [m/ln]	4.15	4.15	0.24	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	31.95		0.11		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.39					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Caledonia @ Kennedy Dr

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.121

Intersection Setup

Name	Caledonia					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Caledonia					
Base Volume Input [veh/h]	284	63	14	349	47	11
Base Volume Adjustment Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
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]	273	60	13	335	45	11
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	16	3	89	12	3
Total Analysis Volume [veh/h]	290	64	14	356	48	12
Pedestrian Volume [ped/h]	0		0		0	

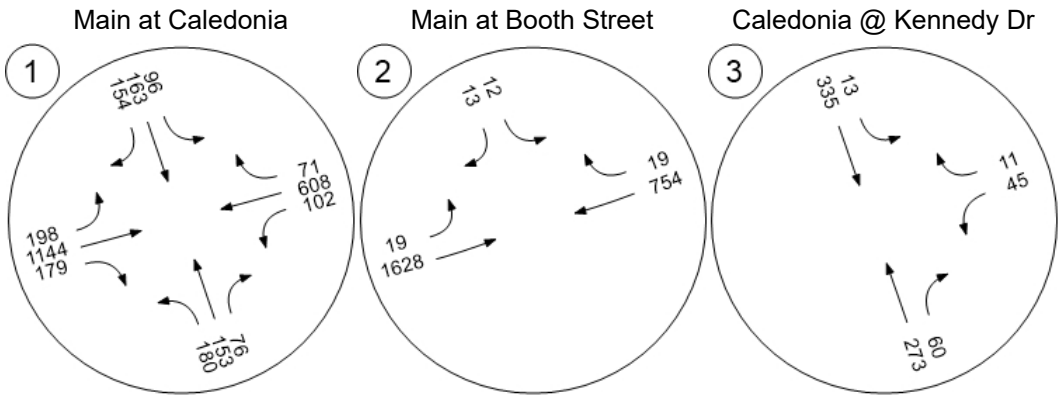
Intersection Settings

Priority Scheme	Free	Free	Stop
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	0.12	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.00	0.00	15.40	11.32
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.47	0.47
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.18	0.18	3.62	3.62
d_A, Approach Delay [s/veh]	0.00		0.30		14.58	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.26					
Intersection LOS	C					

Report Figure 1a: Traffic Volume - Base Volume



Intersection Level Of Service Report
Intersection 1: Main at Caledonia

Control Type:	Signalized	Delay (sec / veh):	35.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name	Woodlawn			Caledonia			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [m]	100.00	30.48	100.00	30.00	30.48	30.00	100.00	30.48	30.48	30.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	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 [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodlawn			Caledonia			Main St			Main St		
Base Volume Input [veh/h]	241	100	62	98	181	209	136	508	207	212	960	84
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	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	277	115	71	113	208	240	156	584	238	244	1104	97
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
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]	75	31	19	31	57	65	42	159	65	66	300	26
Total Analysis Volume [veh/h]	301	125	77	123	226	261	170	635	259	265	1200	105
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]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	4.0	0.0	3.0	4.0	0.0	3.0	4.0	0.0	3.0	4.0	0.0
All red [s]	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	2.0	0.0
Split [s]	15	32	0	16	33	0	9	40	0	32	63	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	10	0	0	12	0	0	12	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]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [m]	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 [m]	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	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00
g_i, Effective Green Time [s]	45	33	33	45	30	30	63	45	45	63	54	54
g / C, Green / Cycle	0.38	0.28	0.28	0.38	0.25	0.25	0.52	0.37	0.37	0.52	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.29	0.07	0.05	0.10	0.13	0.18	0.32	0.20	0.18	0.31	0.37	0.07
s, saturation flow rate [veh/h]	1027	1683	1431	1174	1683	1431	524	3204	1431	843	3204	1431
c, Capacity [veh/h]	402	514	437	492	473	402	222	1100	491	420	1343	599
d1, Uniform Delay [s]	30.84	31.26	30.59	23.23	35.83	37.94	27.71	32.26	31.59	20.91	32.38	21.86
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.20	0.11	0.11
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
d2, Incremental Delay [s]	12.07	1.12	0.88	1.21	3.43	7.89	21.99	0.48	0.88	2.90	2.33	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.24	0.18	0.25	0.48	0.65	0.77	0.58	0.53	0.63	0.89	0.18
d, Delay for Lane Group [s/veh]	42.90	32.38	31.46	24.45	39.26	45.83	49.71	32.74	32.47	23.81	34.71	22.00
Lane Group LOS	D	C	C	C	D	D	D	C	C	C	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	7.97	3.02	1.83	2.55	6.20	7.91	3.82	7.21	5.82	4.44	15.24	1.77
50th-Percentile Queue Length [m/ln]	60.72	23.02	13.95	19.40	47.26	60.31	29.07	54.94	44.34	33.87	116.13	13.50
95th-Percentile Queue Length [veh/ln]	12.60	5.44	3.30	4.58	10.29	12.53	6.87	11.61	9.78	7.90	21.64	3.19
95th-Percentile Queue Length [m/ln]	95.99	41.44	25.12	34.92	78.39	95.47	52.33	88.49	74.49	60.22	164.92	24.31

Movement, Approach, & Intersection Results

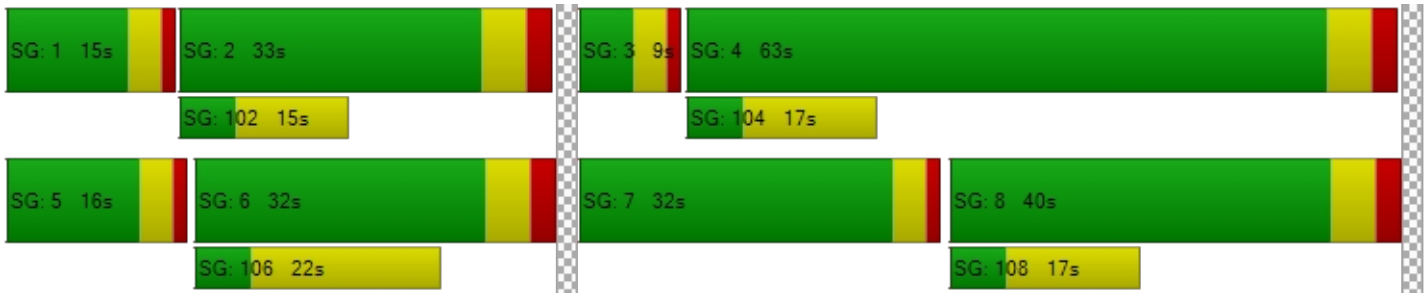
d_M, Delay for Movement [s/veh]	42.90	32.38	31.46	24.45	39.26	45.83	49.71	32.74	32.47	23.81	34.71	22.00
Movement LOS	D	C	C	C	D	D	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	38.54			39.08			35.39			32.02		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	35.00											
Intersection LOS	D											
Intersection V/C	0.739											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.609	2.514	3.087	2.924
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	450	567	950
d_b, Bicycle Delay [s]	36.82	36.04	30.82	16.54
l_b,int, Bicycle LOS Score for Intersection	2.390	2.566	2.437	2.855
Bicycle LOS	B	B	B	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intersection Level Of Service Report
Intersection 2: Main at Booth Street

Control Type:	Two-way stop	Delay (sec / veh):	80.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.365

Intersection Setup

Name			Main St			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name			Main St			
Base Volume Input [veh/h]	22	4	11	487	1237	9
Base Volume Adjustment Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
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]	25	5	13	554	1409	10
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	1	3	143	365	3
Total Analysis Volume [veh/h]	26	5	13	573	1459	10
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	0.36	0.01	0.03	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	80.17	39.58	12.92	0.00	0.00	0.00
Movement LOS	F	E	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.48	1.48	0.02	0.01	0.00	0.00
95th-Percentile Queue Length [m/ln]	11.30	11.30	0.17	0.08	0.00	0.00
d_A, Approach Delay [s/veh]	73.62		0.29		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Caledonia @ Kennedy Dr

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.106

Intersection Setup

Name	Caledonia					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Caledonia					
Base Volume Input [veh/h]	27	153	12	225	45	13
Base Volume Adjustment Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
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]	30	169	14	248	49	14
Peak Hour Factor	0.8420	0.8420	0.8420	0.8420	0.8420	0.8420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	50	4	74	15	4
Total Analysis Volume [veh/h]	36	201	17	295	58	17
Pedestrian Volume [ped/h]	0		0		0	

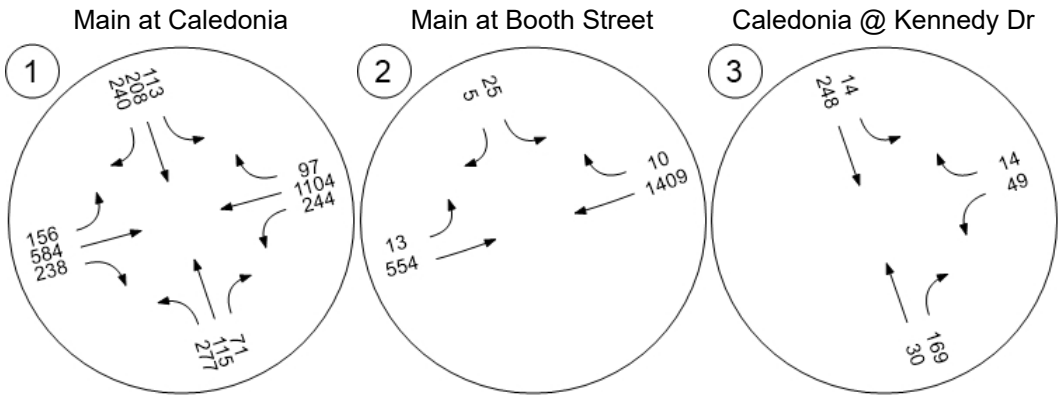
Intersection Settings

Priority Scheme	Free	Free	Stop
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	0.11	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.73	0.00	12.43	9.80
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.42	0.42
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.22	0.22	3.24	3.24
d_A, Approach Delay [s/veh]	0.00		0.42		11.84	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.63					
Intersection LOS	B					

Report Figure 1c: Traffic Volume - Future Background Volume



Intersection Level Of Service Report
Intersection 1: Main at Caledonia

Control Type:	Signalized	Delay (sec / veh):	33.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.748

Intersection Setup

Name	Woodlawn			Caledonia			Main St			Main St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [m]	100.00	30.48	100.00	30.00	30.48	30.00	100.00	30.48	30.48	30.00	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	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 [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodlawn			Caledonia			Main St			Main St		
Base Volume Input [veh/h]	180	153	76	96	163	154	198	1144	179	102	608	71
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	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	207	176	87	110	187	177	228	1316	206	117	699	82
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
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]	56	48	24	30	51	48	62	358	56	32	190	22
Total Analysis Volume [veh/h]	225	191	95	120	203	192	248	1430	224	127	760	89
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	10			0			10			0		
v_di, Inbound Pedestrian Volume crossing m	10			0			10			0		
v_co, Outbound Pedestrian Volume crossing	10			0			0			10		
v_ci, Inbound Pedestrian Volume crossing mi	10			0			0			10		
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]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	2.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
All red [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	20	30	0	11	21	0	11	68	0	11	68	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	10	0	0	12	0	0	12	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]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [m]	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 [m]	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	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00	0.00	4.00	4.00
g_i, Effective Green Time [s]	39	28	28	39	19	19	69	58	58	69	58	58
g / C, Green / Cycle	0.33	0.23	0.23	0.33	0.16	0.16	0.57	0.48	0.48	0.57	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.18	0.11	0.07	0.11	0.12	0.13	0.35	0.45	0.16	0.29	0.24	0.06
s, saturation flow rate [veh/h]	1218	1683	1431	1126	1683	1431	717	3204	1431	445	3204	1431
c, Capacity [veh/h]	375	395	336	351	269	228	410	1545	690	234	1545	690
d1, Uniform Delay [s]	32.89	39.65	37.65	30.19	48.19	48.95	15.81	29.07	19.08	25.53	21.10	17.16
k, delay calibration	0.23	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.12	0.11	0.11
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
d2, Incremental Delay [s]	3.22	4.20	2.10	2.65	17.84	29.52	6.49	2.89	0.27	2.22	0.24	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.48	0.28	0.34	0.76	0.84	0.60	0.93	0.32	0.54	0.49	0.13
d, Delay for Lane Group [s/veh]	36.10	43.85	39.76	32.84	66.03	78.46	22.30	31.95	19.35	27.75	21.34	17.25
Lane Group LOS	D	D	D	C	E	E	C	C	B	C	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.44	5.32	2.49	2.79	7.12	7.43	4.05	19.14	3.86	1.70	7.20	1.38
50th-Percentile Queue Length [m/ln]	41.47	40.56	18.99	21.25	54.24	56.63	30.87	145.86	29.43	12.96	54.85	10.50
95th-Percentile Queue Length [veh/ln]	9.27	9.11	4.49	5.02	11.49	11.90	7.29	26.32	6.95	3.06	11.60	2.48
95th-Percentile Queue Length [m/ln]	70.62	69.39	34.19	38.25	87.58	90.69	55.56	200.54	52.97	23.34	88.38	18.89

Movement, Approach, & Intersection Results

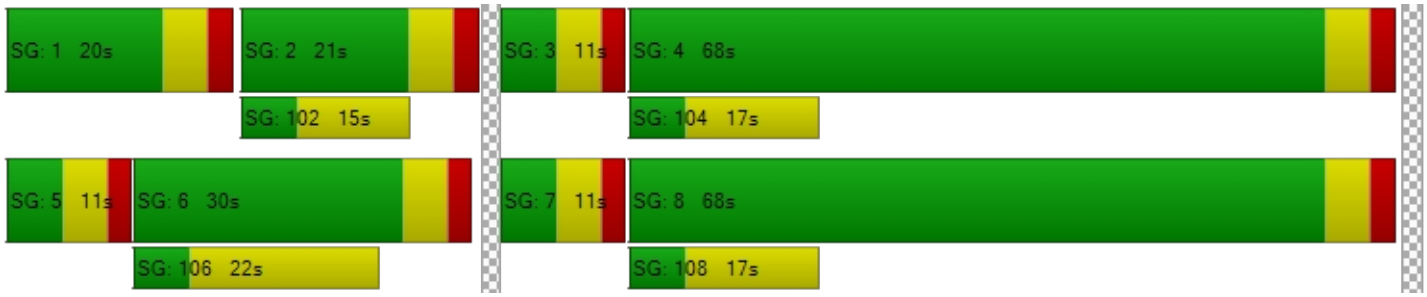
d_M, Delay for Movement [s/veh]	36.10	43.85	39.76	32.84	66.03	78.46	22.30	31.95	19.35	27.75	21.34	17.25
Movement LOS	D	D	D	C	E	E	C	C	B	C	C	B
d_A, Approach Delay [s/veh]	39.68			62.93			29.21			21.80		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	33.18											
Intersection LOS	C											
Intersection V/C	0.748											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [m²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.505	2.585	3.043	2.952
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	250	1033	1033
d_b, Bicycle Delay [s]	38.40	45.94	14.02	14.02
l_b,int, Bicycle LOS Score for Intersection	2.403	2.409	3.129	2.365
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Main at Booth Street

Control Type:	Two-way stop	Delay (sec / veh):	76.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.233

Intersection Setup

Name			Main St			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		No	

Volumes

Name			Main St			
Base Volume Input [veh/h]	12	13	19	1625	762	19
Base Volume Adjustment Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
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]	14	15	22	1850	867	22
Peak Hour Factor	0.9880	0.9880	0.9880	0.9880	0.9880	0.9880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	6	468	219	6
Total Analysis Volume [veh/h]	14	15	22	1872	878	22
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	0.23	0.03	0.03	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	76.00	22.47	9.82	0.00	0.00	0.00
Movement LOS	F	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.97	0.97	0.04	0.02	0.00	0.00
95th-Percentile Queue Length [m/ln]	7.35	7.35	0.28	0.14	0.00	0.00
d_A, Approach Delay [s/veh]	48.32		0.11		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	0.57					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Caledonia @ Kennedy Dr

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

Intersection Setup

Name	Caledonia					
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Caledonia					
Base Volume Input [veh/h]	14	4	14	349	47	11
Base Volume Adjustment Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1500	1.1500	1.1500	1.1500	1.1500	1.1500
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]	15	5	15	385	52	13
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	4	102	14	3
Total Analysis Volume [veh/h]	16	5	16	409	55	14
Pedestrian Volume [ped/h]	0		0		0	

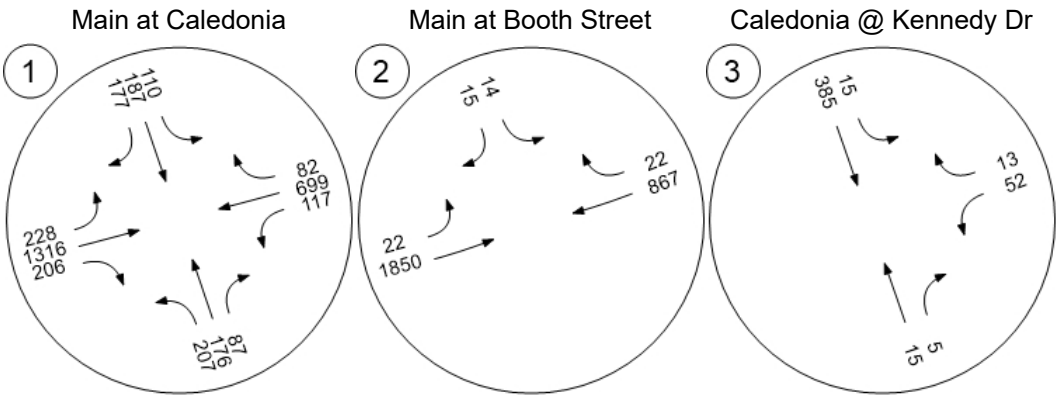
Intersection Settings

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

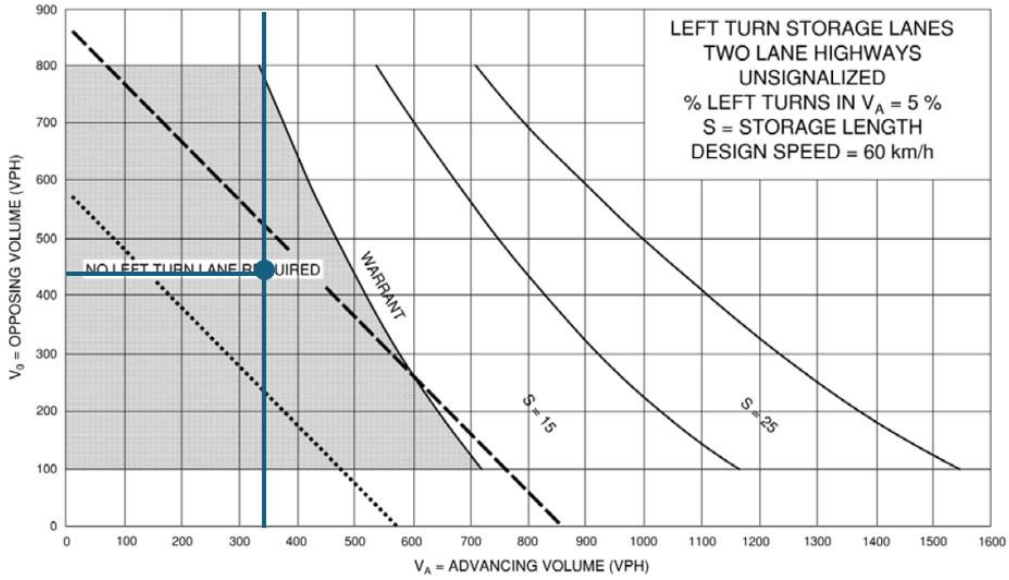
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.10	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.28	0.00	12.26	9.14
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.38	0.38
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.20	0.20	2.89	2.89
d_A, Approach Delay [s/veh]	0.00		0.27		11.63	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.78					
Intersection LOS	B					

Report Figure 1c: Traffic Volume - Future Background Volume

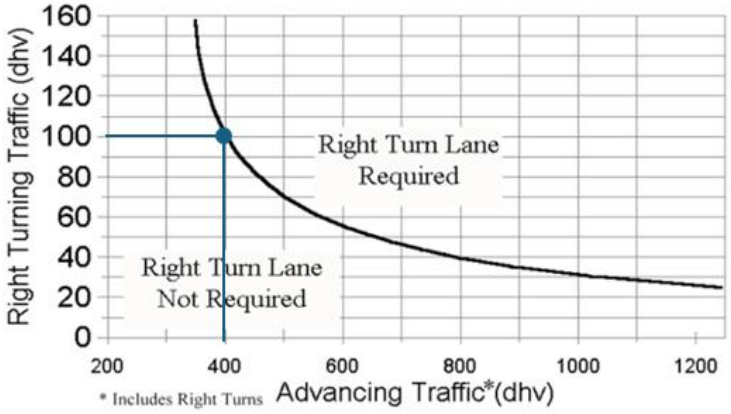


APPENDIX C- TURN WARRANTS



Intersection of Caledonia at Kennedy Dr.

2-Lane Highway Right Turn Lane Warrant
=< 40 mph or 70 kph Posted Speed



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