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Hannan Hills Transportation Impact Study



Prepared for: 1384341 Ontario Ltd

TRANSPORTATION IMPACT STUDY

**In support of Draft Plan of Subdivision
and Zoning By-law Amendment Applications**

Hannan Hills Residential Development

Almonte, ON

Prepared For:



Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario
K2M 1P6

May 2021
Novatech File: 118201

Ref: R-2021-071

May 18, 2021

County of Lanark
99 Christie Lake Road
Perth, Ontario, K7H 3C6

Attention: Julie Stewart
County Planner

Dear Ms. Stewart:

Reference: Hannan Hills Subdivision, Almonte
Transportation Impact Study
Novatech File No. 118201

We are pleased to submit the following Transportation Impact Study in support of Zoning Amendment and Draft Plan of Subdivision applications to permit a new residential subdivision in Almonte.

The structure and format of the report adheres to the standards identified in the MTO publication *General Guidelines for the Preparation of Traffic Impact Studies* (September 2014).

If you have any questions or comments regarding this report, please feel free to contact the undersigned.

Yours truly,

NOVATECH



Rochelle Fortier, B. Eng.
E.I.T | Transportation/Traffic

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EXECUTIVE SUMMARY

This Transportation Impact Study (TIS) report has been prepared in support of Zoning Amendment and Draft Plan of Subdivision applications for Hannan Hills in Almonte. The lands are currently occupied by one single family dwelling with the rest of the lands covered by trees and sparse vegetation. The lands are located east of Florence Street and north of Adelaide Street.

A total of 166 new units are proposed, with the unit type breakdown as follows:

- 78 two-storey townhouses,
- 48 stacked townhouses, and
- 40 back-to-back townhouses

The development will be accessed from Florence Street initially, with a future connection proposed to the existing Mill Run Subdivision to the east via the extension of Honeyborne Street. Future road connections to the lands south are proposed. The estimated date of full build-out is 2027.

The proposed subdivision is anticipated to generate 77 trips (18 in, 59 out) in the AM peak hour and 93 trips (58 in, 35 out) in the PM peak hour.

The main conclusions and recommendations of this TIS are summarized below:

Existing Traffic

- The Ottawa Street/Menzie Street/Paterson Street and Ottawa Street/Main Street/Martin Street/Queen Street intersections are operating with acceptable conditions in the AM and PM peak hours.
- The maximum eastbound queue at the Ottawa Street/Menzie Street/Paterson Street is approximately 130m in the AM peak and 135m in the PM peak. This queue extends past and may periodically block the Ottawa Street/St James Street intersection.
- A maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is approximately 165m the PM peak. This queue does not extend to the nearby Ottawa Street/Sadler Drive/Industrial Drive intersection.
- The maximum westbound left queue at the Ottawa Street/Main Street/Martin Street/Queen Street intersection is 45m in the PM peak hour. This queue exceeds the westbound left storage length of 25m.

Background Traffic

- Under background traffic conditions, the Ottawa Street/Menzie Street/Paterson Street and Ottawa Street/Main Street/Martin Street/Queen Street intersections are anticipated to operate with acceptable conditions in the AM and PM peak hours.
- The maximum eastbound queue at the Ottawa Street/Menzie Street/Paterson Street is anticipated to be approximately 160m in the AM peak and 190m in the PM peak. This queue is anticipated to extend past the Ottawa Street/St James Street intersection in the AM and PM peaks and may periodically block the Ottawa Street/Harold Street intersection in the PM peak.
- The maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is anticipated to be approximately 180m the PM peak. This queue is anticipated to extend to the nearby Ottawa Street/Sadler Drive/Industrial Drive intersection in the PM peak but is not anticipated to block the intersection.

- The maximum westbound left queue at the Ottawa Street/Main Street/Martin Street/Queen Street intersection is anticipated to be 60m in the PM peak hour. This queue exceeds the westbound left storage length of 25m.

Total Traffic

- Under total traffic conditions, the Ottawa Street/Menzie Street/Paterson Street and Ottawa Street/Main Street/Martin Street/Queen Street intersections are anticipated to operate with acceptable conditions in the AM and PM peak hours.
- With the addition of site traffic, minor increases in the maximum queuing lengths are anticipated at the study area intersections.
- The addition of site generated traffic is not anticipated to have any significant impact on the study area intersection operations.
- The proposed development is anticipated to add 77 two-way trips during the AM peak and 93 two-way trips during the PM peak hour to Adelaide Street. This is equivalent to one vehicle every 40 to 50 seconds.
- Based on the theoretical capacity of Adelaide Street and the surrounding neighborhood context, the Adelaide Street connection to Honeybourne Street should be constructed when the development is 50% built.

On-Site Design

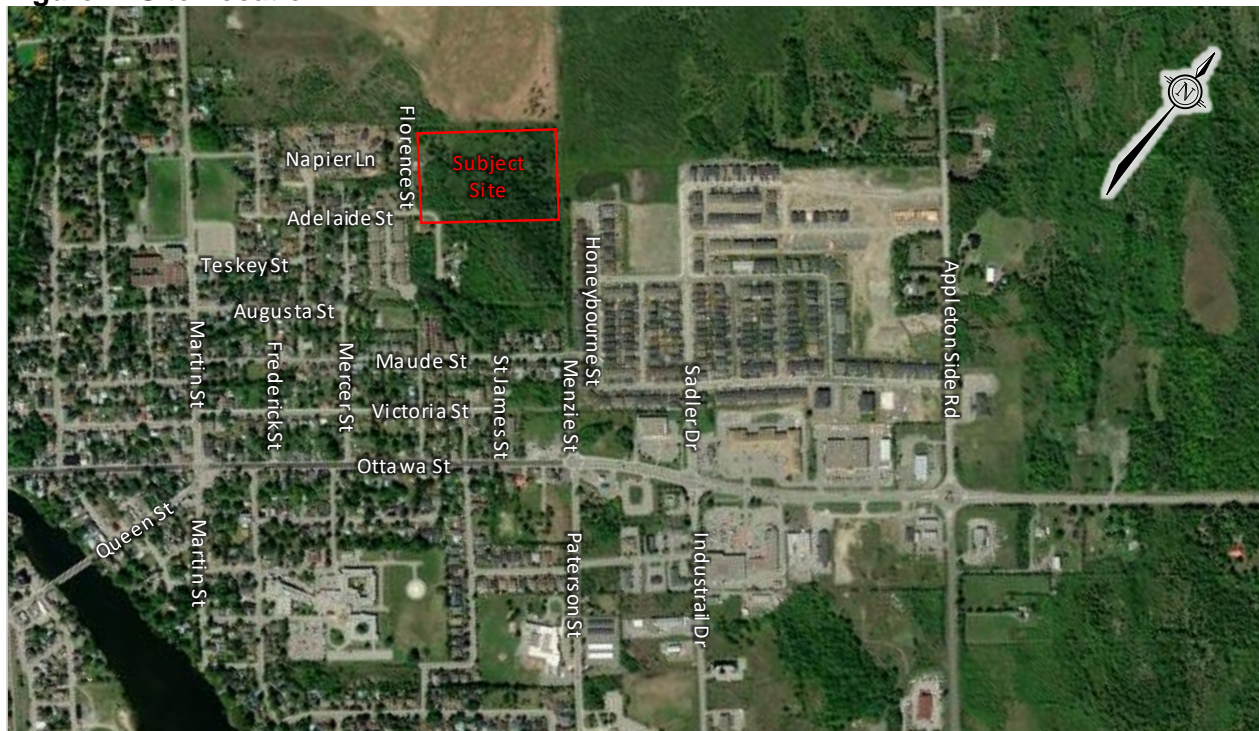
- Access to the subdivision is proposed via Florence Street and an extension of Adelaide Street. A right-of-way of 18m is proposed for Florence Street and the extension of Adelaide Street east of Florence Street. Internal to the subdivision, one street is proposed, also with an 18m right-of-way, connecting to both Florence Street and Adelaide Street.
- Road widths of 8.5m are proposed for Florence Street, Adelaide Street east of Finner Street, and the internal Street One.
- The proposed intersection spacing conforms to the TAC guidelines.
- A sidewalk is proposed along one side of Adelaide Street to provide pedestrian connections within the development and to the surrounding community.

1.0 INTRODUCTION

This Transportation Impact Study (TIS) report has been prepared in support of Zoning Amendment and Draft Plan of Subdivision applications for Hannan Hills in Almonte. The lands are currently occupied by one single family dwelling with the rest of the lands covered by trees and sparse vegetation. The lands are located east of Florence Street and north of Adelaide Street, as shown in **Figure 1**. The subject site is surrounded by the following:

- Vacant lands to the north;
- Vacant lands and residential in the south;
- Vacant lands and residential development (Mill Run) to the east; and
- Residential dwellings to the west.

Figure 1: Site Location



1.1 Proposed Development

Within the County of Lanark Official Plan, the subject lands are designated as Settlement Area on Schedule A. The subject lands are designated residential in the Town of Mississippi Mills Community Official Plan and are further zoned as Development (D) and Residential First Density (R1) in the Town of Mississippi Mills Zoning By-law 11-83.

A total of 166 new units are proposed, with the unit type breakdown as follows:

- 78 two-storey townhouses,
- 48 stacked townhouses, and
- 40 back-to-back townhouses

The development will be accessed from Florence Street and an extension of Adelaide Street initially, with a future connection proposed to the existing Mill Run Subdivision to the east via the extension of Honeyborne Street. Future road connections to the lands south are planned by others. The estimated date of full build-out is 2027.

The concept plan is included in **Appendix A**.

1.2 Analysis Methods

Intersection capacity analysis has been completed using Synchro 10 software. This software uses methodology from the *Highway Capacity Manual 2010* (HCM), published by the Transportation Research Board, to evaluate signalized and unsignalized intersections.

Intersection operating conditions are commonly described in terms of a Level of Service (LOS). LOS is a quality measure of speed, freedom to manoeuvre, interruptions, comfort and convenience. Letters are assigned to six levels, with LOS 'A' representing optimal operating conditions and LOS 'F' representing failing operating conditions.

The LOS for an unsignalized intersection is based on average control delay and is defined for individual movements. Control delay includes initial deceleration, queue move-up time, stopped time and final acceleration. The LOS for a signalized intersection is also based on the average control delay per vehicle.

The HCM presents the following criteria relating the LOS for individual movements to average control delay, for unsignalized and signalized intersections:

<i>Unsignalized Intersections</i>		<i>Signalized Intersections</i>	
LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
A	<10	A	<10
B	10 to 15	B	10 to 20
C	15 to 25	C	20 to 35
D	25 to 35	D	35 to 55
E	35 to 50	E	55 to 80
F	>50	F	>80

In this study, movements at the unsignalized intersections have been evaluated in terms of the LOS as defined in the above table. At signalized intersections, the MTO *General Guidelines for the Preparation of Traffic Impact Studies* identify a v/c ratio of 0.85 as the threshold that defines a 'critical' movement. Mitigation measures will be considered for movements with a LOS of E or F for unsignalized intersections, or a v/c ratio exceeding 0.85 for signalized intersections.

1.3 Analysis Parameters

The study area includes the intersections of Ottawa Street/Martin Street and Ottawa Street/Menzie Street/Paterson Street.

Analysis has been completed for the weekday AM and PM peak hours. These periods represent the “worst case” combination of site-generated traffic and adjacent roadway traffic.

Full buildout is anticipated by 2027. The study will assess the background and total traffic conditions for the buildout year (2027) and a five-year horizon (2032).

2.0 EXISTING CONDITIONS

2.1 Roadways

Ottawa Street extends from Main Street E (southwest) to Appleton Sideroad (northeast) and has a two-lane cross section within the study area, transitioning to a four-lane cross section east of Paterson Street. Ottawa Street has a posted speed limit of 50 km/h. Ottawa Street is designated an arterial roadway in Figure 9.1A of the Mississippi Mills Transportation Master Plan (TMP).

Martin Street (County Road 17) extends from Ottawa Street (south) to Blakeney Road (north). Within the study area, Martin Street has one travel lane in each direction and a posted speed of 40km/h. Martin Street is designated a collector roadway in Figure 9.1A of the Mississippi Mills TMP and is owned by Lanark County.

Queen Street (County Road 16A) extends from Ottawa Street (north) to Water Street (south), where it continues as Bridge Street. Within the study area, Queen Street has a regulatory speed limit of 50km/h. Queen Street is designated an arterial roadway in Figure 9.1A of the Mississippi Mills TMP and is owned by Lanark County.

Menzie Street extends from Ottawa Street (south) to Maude Street (north). Within the study area, Menzie Street has one travel lane in each direction and a regulatory speed of 50km/h. Menzie Street is designated a collector roadway in Figure 9.1A of the Mississippi Mills TMP.

Paterson Street extends from Ottawa Street (north) to Robert Hill Street (south). Within the study area, Paterson Street has one travel lane in each direction and a posted speed of 40km/h. Paterson Street is designated a collector roadway in Figure 9.1A of the Mississippi Mills TMP.

Adelaide Street extends from Martin Street (west) to McDermott Street (east). Within the study area, Adelaide Street has one travel lane in each direction and a regulatory speed of 50km/h. Adelaide Street is designated a local roadway.

2.2 Intersections

Ottawa Street/Martin Street:

- Signalized intersection
- Northbound: one shared left/through lane, one right turn lane
- Eastbound/westbound: one left turn lane, one shared through/right turn lane
- Southbound: one shared through/left lane, one right turn lane
- Standard crosswalks on all approaches



Ottawa Street/Menzie Street/Paterson Street:

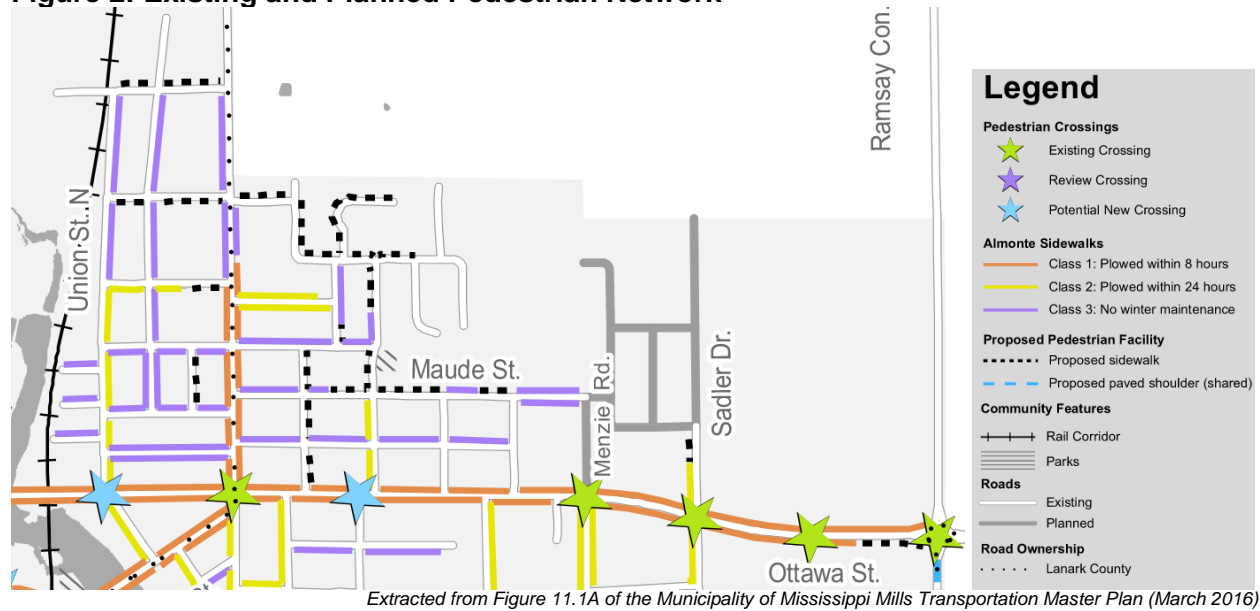
- Signalized intersection
- Northbound/southbound/eastbound: one shared all-movement lane
- Westbound: one left turn lane, one through lane, one right turn lane
- Ladder crosswalks on all approaches



2.3 Pedestrian and Cycling Facilities

The existing and planned pedestrian network within the vicinity of the subject site is shown in **Figure 2**. Sidewalks are provided on both sides of Ottawa Street, Martin Street (between Adelaide Street and Ottawa Street), Paterson Road, Queen Street, and Teskey Street. Sidewalks are provided or planned on one side of Maude Street, Victoria Street, Mercer Street, Augusta Street, Menzie Road, and Adelaide Street.

Figure 2: Existing and Planned Pedestrian Network



Bike lanes are provided in both directions along Ottawa Street, from Paterson Street to just east of Martin Street.

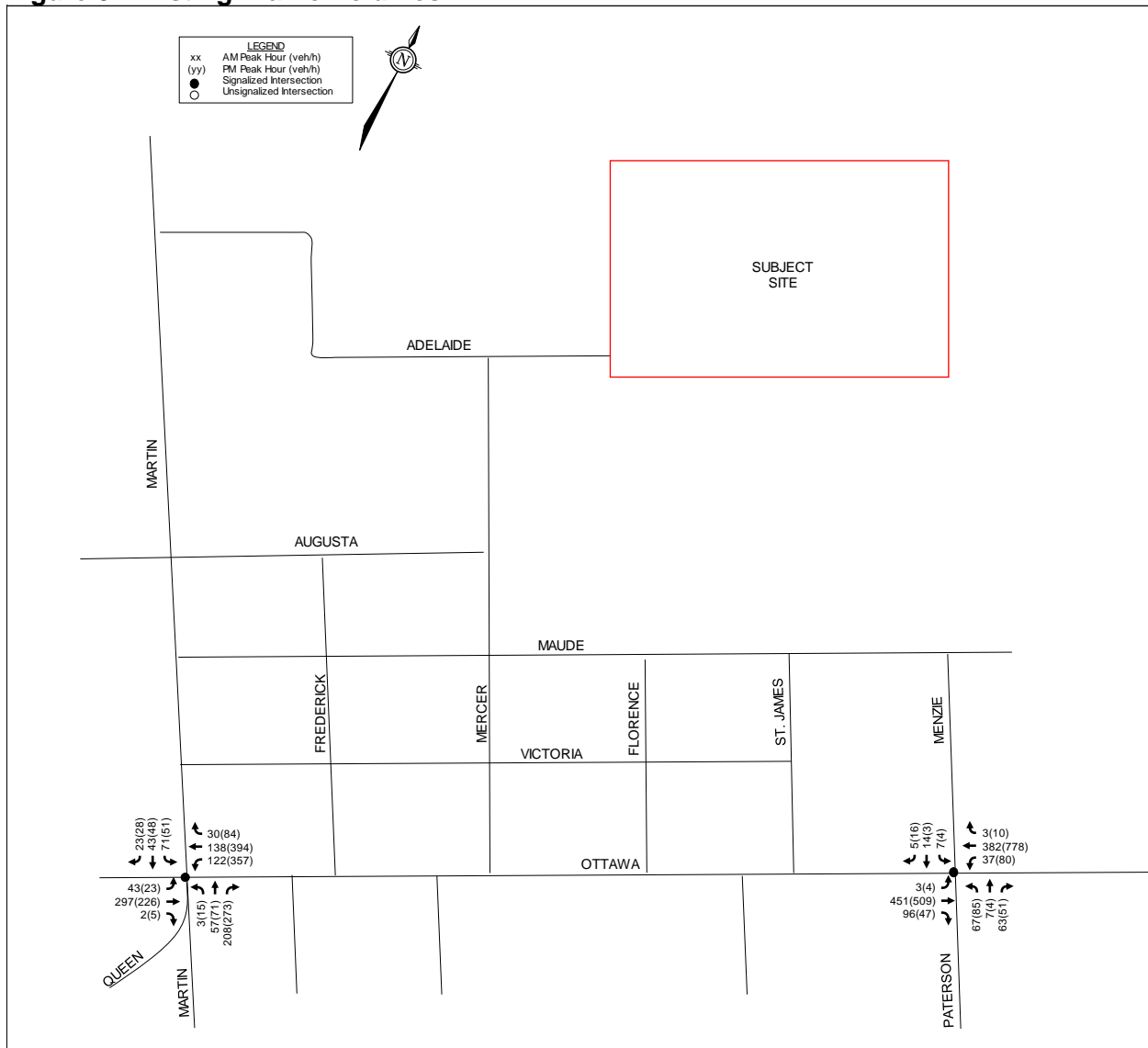
2.4 Transit

Classic Alliance Motorcoach operates its route #502/503 between Perth/Carleton Place/Almonte and Ottawa/Gatineau with peak period service to Ottawa in the morning and from Ottawa in the afternoon.

2.5 Existing Traffic Volumes

Weekday traffic counts collected at the Ottawa Street/Main Street/Martin Street and Ottawa Street/Menzie Street/Patterson Street intersections on November 7, 2019 were provided by the Municipality of Mississippi Mills. Existing traffic volumes are shown in **Figure 3**.

Figure 3: Existing Traffic Volumes



3.0 PLANNED CONDITIONS

As shown in **Figure 2**, new sidewalks are planned within the study area and a potential new pedestrian crossing is identified at Ottawa Street/Mercer Street.

Buildout of Regional’s Mill Run subdivision to the east is expected by the end of 2022. A TIS for Phase 1 of the Mill Run subdivision was prepared in October 2007 and revised in 2012, and a TIS for the remainder of the Phases was prepared in May 2015. At the time of the 2019 traffic counts, the following development within the Mill Run subdivision remained to be constructed:

- Phase 3: 72 apartment units
- Phase 4A: 46 units (23 singles, 23 townhouses)
- Phase 4B: 29 units (19 singles, 10 townhouses)
- Phase 5: 53 units (19 singles, 12 semi-detached houses, 22 townhouses)
- Phase 6: 45 units (20 singles, 10 semi-detached houses, 15 townhouses)

A TIS was written by Novatech in April 2020 for the redevelopment of 430 Ottawa Street. The redevelopment site is planned to consist of 26,350 square feet of retail and 124 apartment units, replacing the existing shopping plaza on-site. Build-out is assumed by 2022.

The development of lands to the south of the subject site is assumed by 2032. These lands are currently vacant and located south of the Adelaide Street extension and east of McDermott Street. Assuming a density of 36.8 units/hectare, the future development would yield approximately 104 units.

4.0 TRAVEL DEMAND FORECASTING

4.1 Background Traffic

A 2% background growth rate has been applied to traffic at the study area intersections. This growth rate has been established based on a review of the historical population growth for the area identified in the Municipality's Official Plan.

Traffic generated by the future build-out of the Mill Run Subdivision and the future development of the lands to the south of the subject site has been estimated using the relevant peak hour vehicle trip rates from the Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition. The trip generation calculations are summarized in the following table.

Table 1: Trip Generation - Other Future Development

Land Use	Units	AM Peak			PM Peak		
		IN	OUT	TOT	IN	OUT	TOT
<i>Mill Run Subdivision</i>							
Single Detached Housing	81	15	47	62	52	31	83
Multifamily Housing (Low-Rise)	164	17	59	76	58	34	92
Total Mill Run		32	106	138	110	65	175
<i>Future Development – Lands South</i>							
Multifamily Housing (Low-Rise)	104	11	39	50	38	23	61

Traffic generated by the future phases of the Mill Run Subdivision has been added to background traffic for the 2027 build-out and 2032 horizon years, and has been assigned to the study area roadways using the distribution as outlined in the 2015 TIS for Phases 2-5 of the subdivision.

Traffic generated by the lands south of the subject site has been added to background traffic for the 2032 horizon year.

Traffic generated by the redevelopment at 430 Ottawa Street has been added to background traffic for the 2027 build-out and 2032 horizon years, using the distribution outlined in the April 2020 TIS. The redevelopment projected a net reduction in site trips during the PM peak hour. As a result of this and the different directional distribution due to the different nature of the land uses,

there is expected to be a reduction in traffic volume for several movements at the study area intersections.

Projected 2027 and 2032 background traffic volumes are shown in **Figures 3** and **4**, respectively.

Figure 4: 2027 Background Traffic Volumes

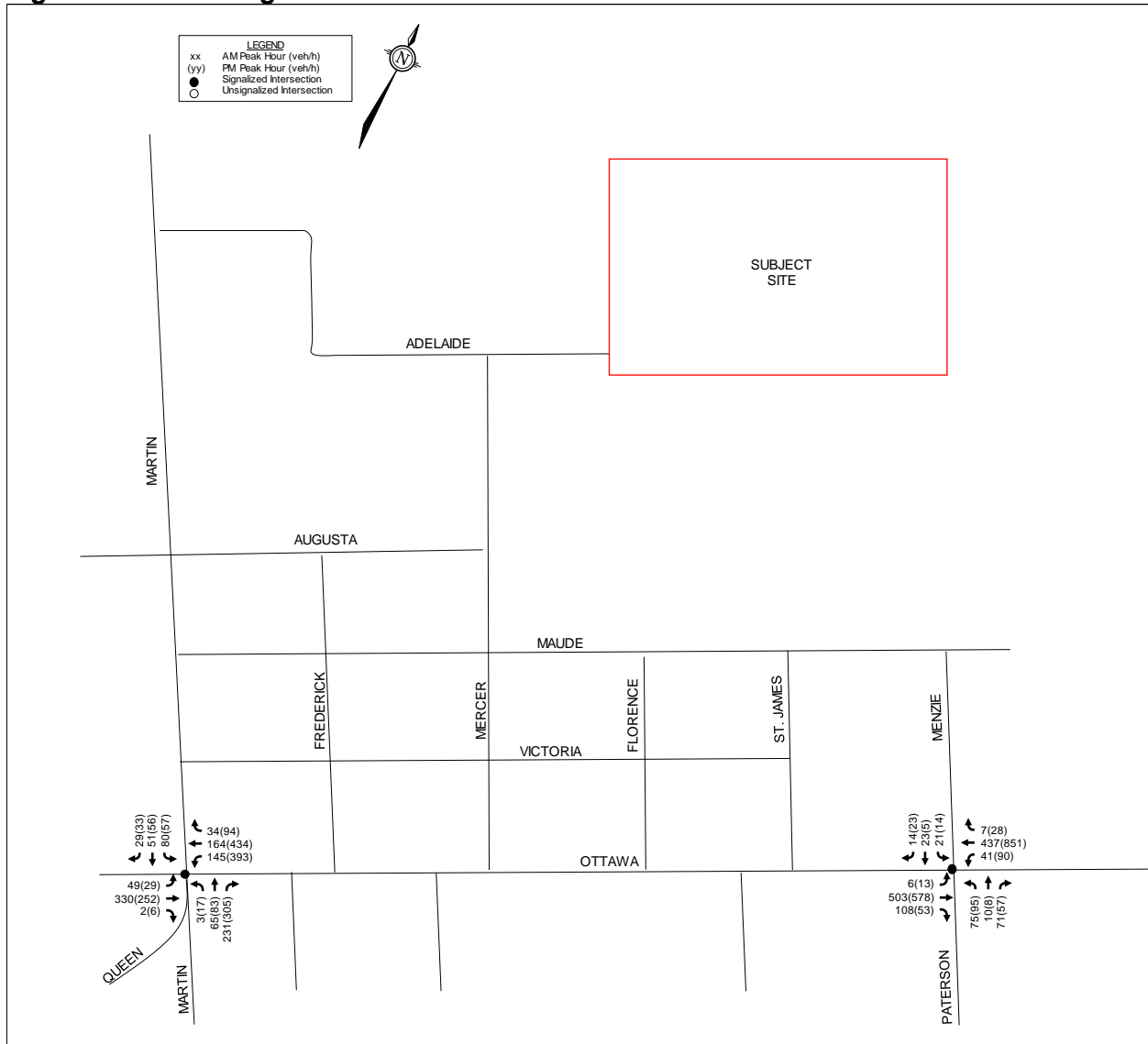
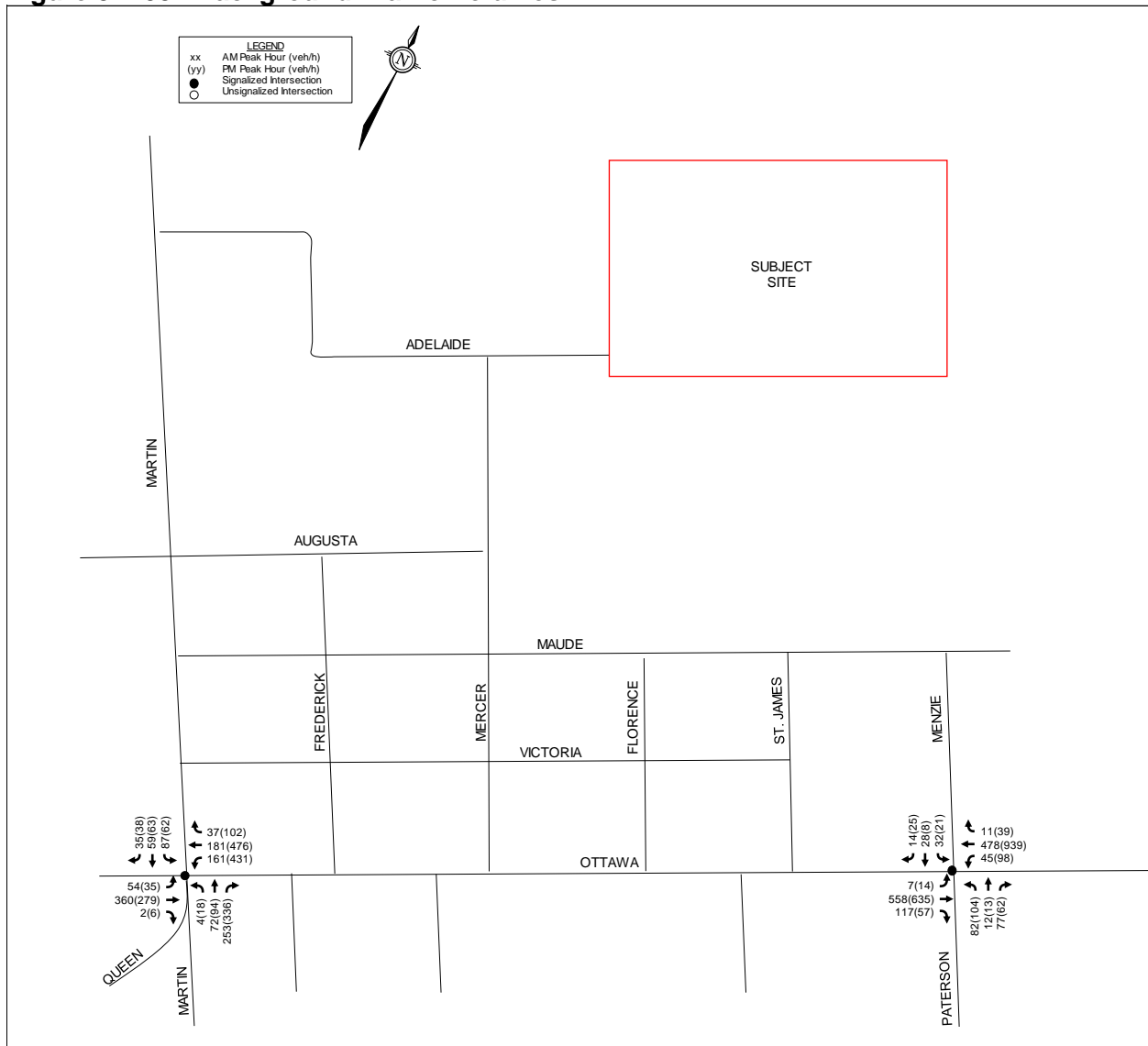


Figure 5: 2032 Background Traffic Volumes



4.2 Development-Generated Traffic

4.2.1 Trip Generation

Site generated traffic has been estimated using the relevant peak hour vehicle trip rates identified in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition. The trip generation calculations are summarized in the following table.

Table 2: Site Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOT	IN	OUT	TOT
Multifamily Housing (Low-Rise)	166	18	59	77	58	35	93

Based on the above, the development is anticipated to generate 77 trips (18 in, 59 out) in the AM peak hour and 93 trips (58 in, 35 out) in the PM peak hour.

4.2.2 Trip Distribution

It is anticipated that site-generated trips will follow the residential traffic pattern that is currently observed. It is estimated that site traffic entering and leaving the subdivision during the weekday AM and PM peak hours will be distributed as follows:

- 50% to/from the east via Ottawa Street
- 20% to/from the west via Main Street
- 20% to/from the southwest via Queen Street
- 10% to/from the south via Paterson Street

4.2.3 Trip Assignment

Half of all trips assigned to the east have been assumed to utilize Menzie Street, while the other half have been assumed to utilize the other side streets (Mercer Street, Florence Street, or St. James Street) onto Ottawa Street.

Of the trips assigned to the west and southwest, half have been assumed to utilize the side streets (Adelaide Street, Augusta Street, Maude Street, or Victoria Street) onto Martin Street North while half have been assumed to utilize the side streets (Mercer Street or Frederick Street) onto Ottawa Street.

Trips assigned to the south via Paterson Street have been assigned to Menzie Street.

Traffic volumes generated by site have been assigned to the study area intersections and are shown in **Figure 6**.

Site generated traffic volumes (**Figure 6**) have been added to the 2027 and 2032 Future Background Traffic Volumes (**Figures 4 and 5**, respectively) to obtain the 2027 and 2032 Total Traffic Volumes (**Figures 7 and 8**, respectively).

Figure 6: Site Generated Traffic Volumes

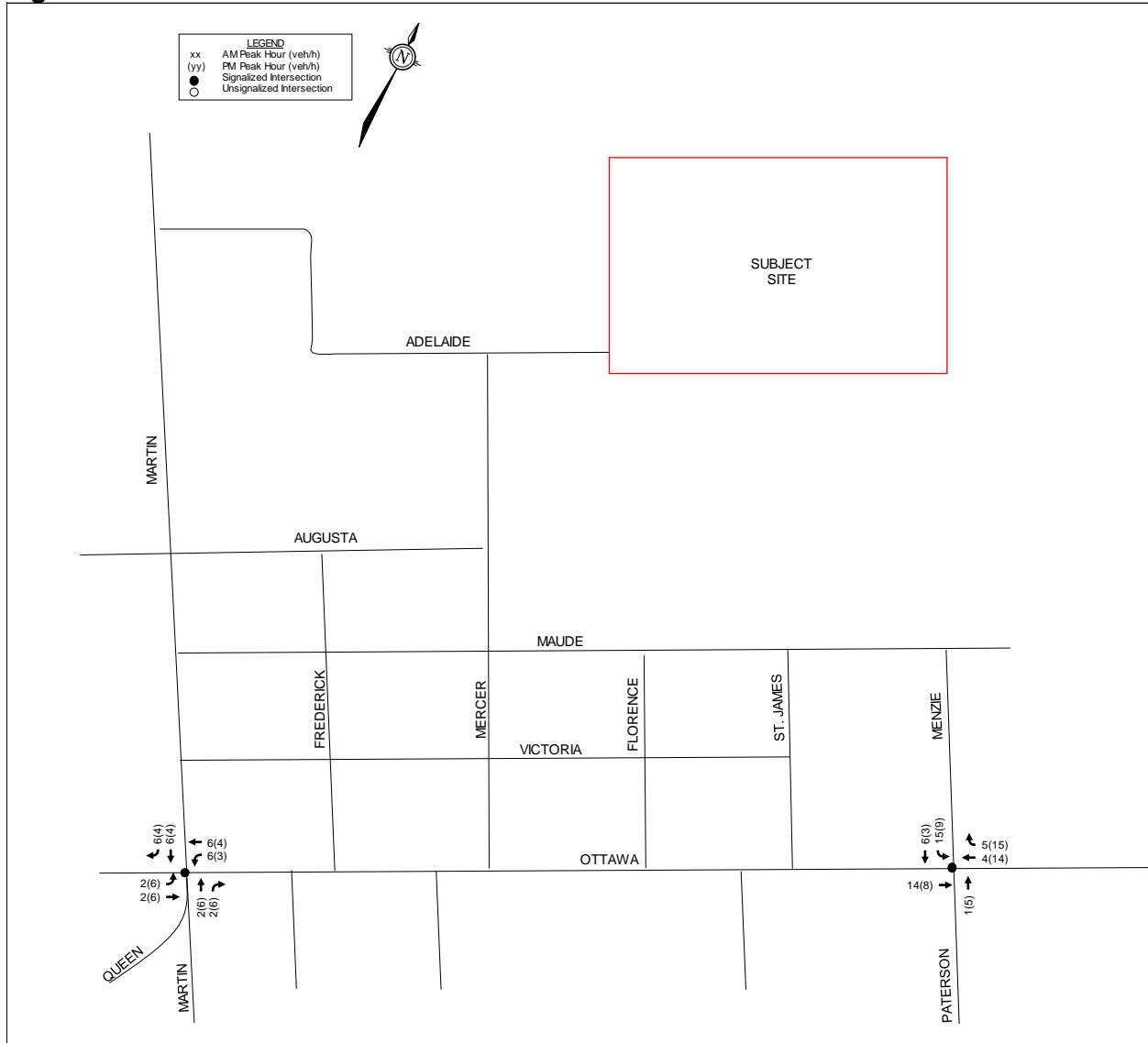


Figure 7: 2027 Total Traffic Volumes

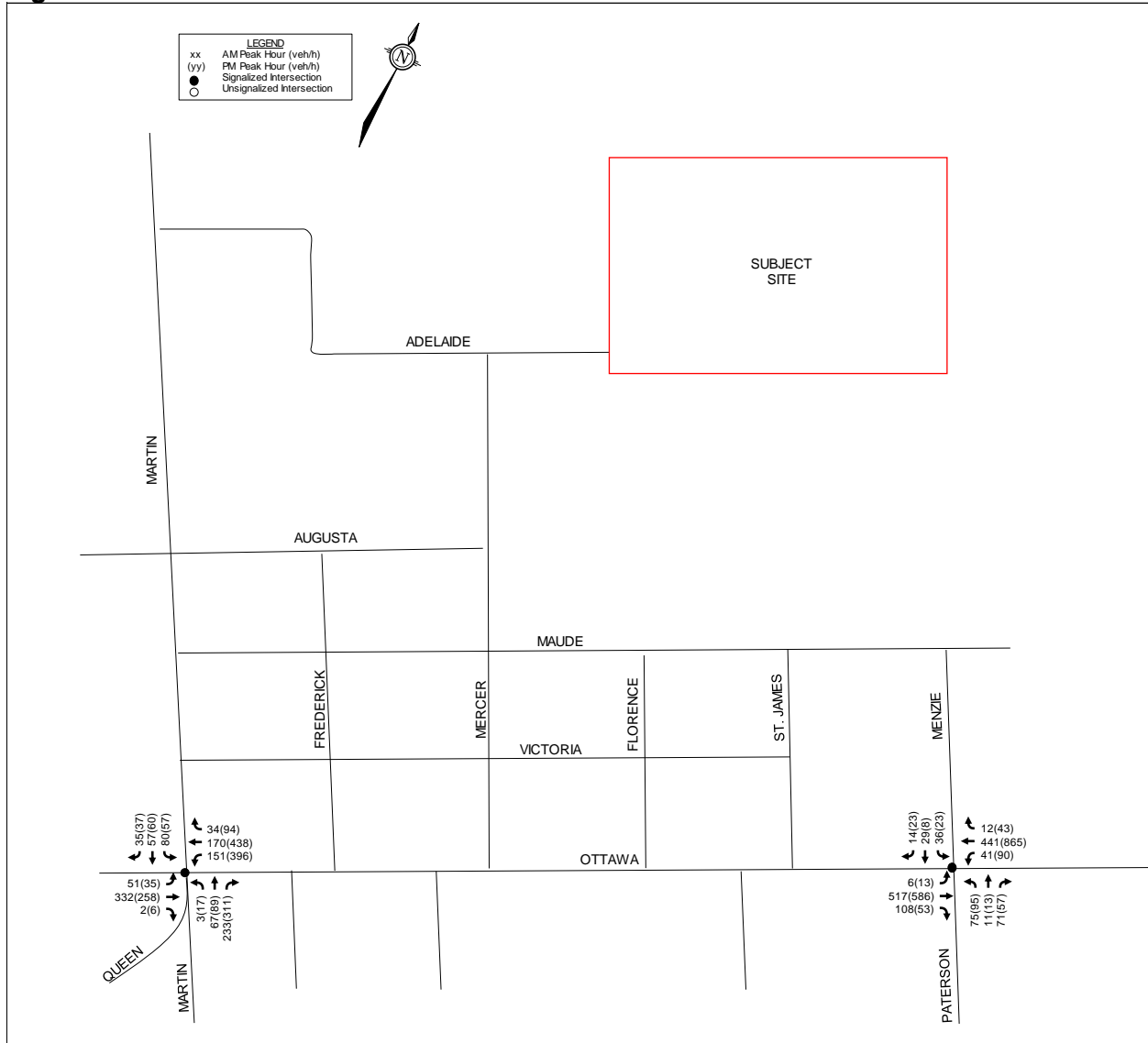
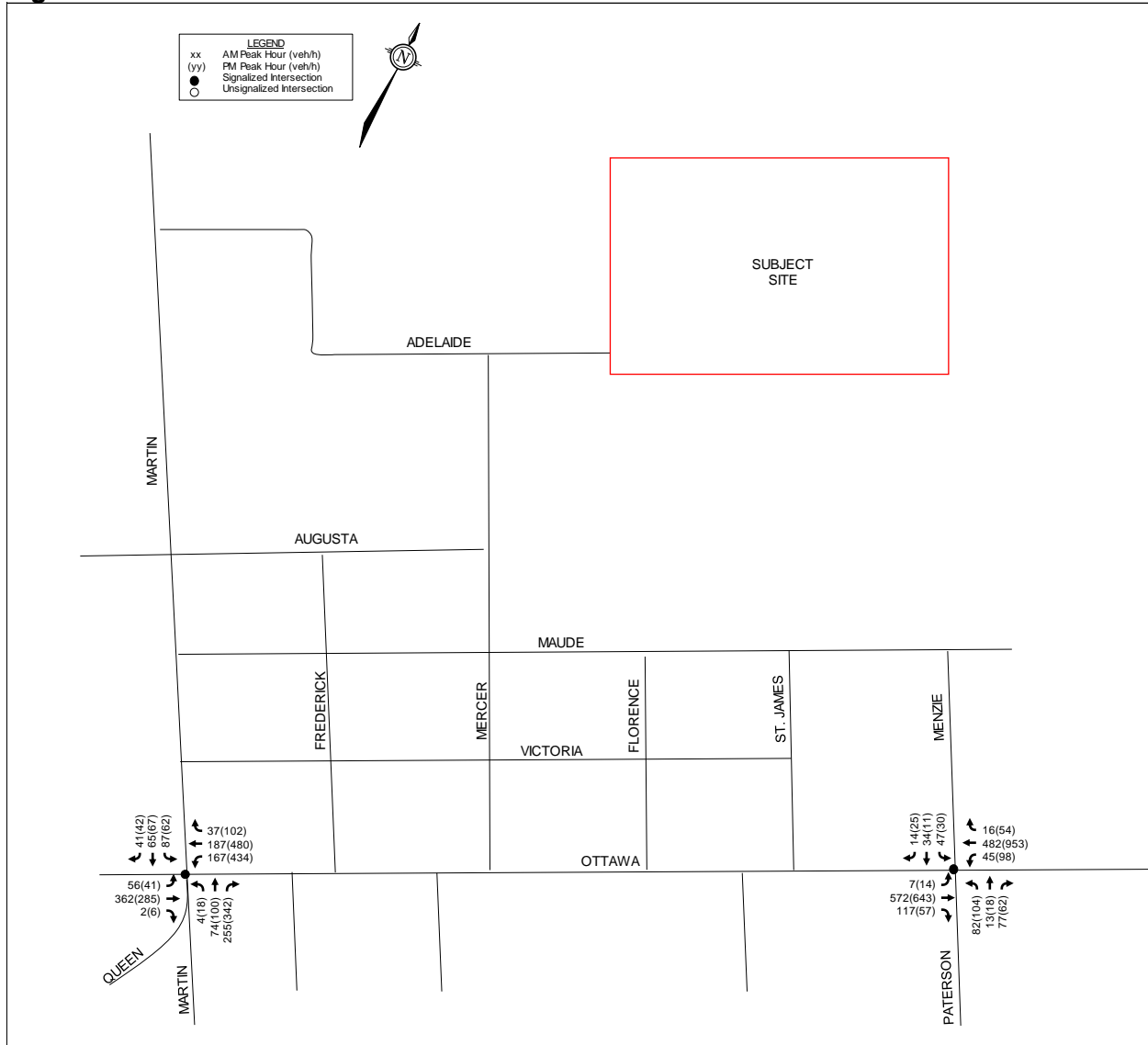


Figure 8: 2032 Total Traffic Volumes



5.0 IMPACT ANALYSIS

5.1 Existing Intersection Analysis

Intersection capacity analysis has been completed for the existing traffic condition. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix B**.

Table 3: Existing Intersection Operations

Intersection	AM Peak			PM Peak		
	Max v/c ratio	LOS	Mvmt	Max v/c ratio	LOS	Mvmt
Ottawa Street/Main Street/Martin Street/Queen Street	0.59	A	EBT/R	0.64	B	WBL
Ottawa Street/Menzie Street/Paterson Street	0.61	B	NB	0.69	B	WBT

As shown in the above table, both intersections are operating with acceptable conditions in the AM and PM peak hours.

The maximum eastbound queue at the Ottawa Street/Menzie Street/Paterson Street is approximately 130m in the AM peak and 135m in the PM peak. This queue extends past and may periodically block the Ottawa Street/St James Street intersection.

A maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is approximately 165m the PM peak. This queue does not extend to the nearby Ottawa Street/Sadler Drive/Industrial Drive intersection.

The maximum westbound left queue at the Ottawa Street/Main Street/Martin Street/Queen Street intersection is 45m in the PM peak hour. This queue exceeds the westbound left storage length of 25m.

5.2 Background Intersection Analysis

Intersection capacity analysis has been completed for the 2027 and 2032 background traffic conditions. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours.

Table 4: Background Intersection Operations

Intersection	AM Peak			PM Peak		
	Max v/c ratio	LOS	Mvmt	Max v/c ratio	LOS	Mvmt
<i>2027 Background Traffic</i>						
Ottawa Street/Main Street/Martin Street/Queen Street	0.60	A	EBT/R	0.64	B	WBL
Ottawa Street/Menzie Street/Paterson Street	0.61	B	NB	0.69	B	WBT

Intersection	AM Peak			PM Peak		
	Max v/c ratio	LOS	Mvmt	Max v/c ratio	LOS	Mvmt
<i>2032 Background Traffic</i>						
Ottawa Street/Main Street/Martin Street/Queen Street	0.63	B	EBT/R	0.71	C	WBL
Ottawa Street/Menzie Street/Paterson Street	0.65	B	NB	0.76	C	WBT

As shown in the above table, both intersections are anticipated to operate with acceptable conditions in the AM and PM peak hours.

Under 2027 background traffic conditions, the maximum eastbound queue at the Ottawa Street/Menzie Street/Paterson Street is anticipated to be approximately 130m in the AM peak and 145m in the PM peak. Under 2032 background traffic conditions, the maximum eastbound queue at the Ottawa Street/Menzie Street/Paterson Street is anticipated to be approximately 160m in the AM peak and 190m in the PM peak. This queue is anticipated to extend past the Ottawa Street/St James Street intersection in the AM and PM peaks and may periodically block the Ottawa Street/Harold Street intersection in the PM peak.

Under 2027 background traffic conditions, a maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is anticipated to be approximately 160m the PM peak. Under 2032 background traffic conditions, a maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is anticipated to be approximately 180m the PM peak. This queue is anticipated to extend to the nearby Ottawa Street/Sadler Drive/Industrial Drive intersection in the PM peak but is not anticipated to block the intersection.

Under 2027 background traffic conditions, the maximum westbound left queue at the Ottawa Street/Main Street/Martin Street/Queen Street intersection is anticipated to be 45m in the PM peak hour. Under 2032 background traffic conditions, the maximum westbound left queue at the Ottawa Street/Main Street/Martin Street/Queen Street intersection is anticipated to be 60m in the PM peak hour. This queue exceeds the westbound left storage length of 25m.

5.3 Total Intersection Analysis

Intersection capacity analysis has been completed for the 2027 and 2032 total traffic conditions. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours.

Table 5: Total Intersection Operations

Intersection	AM Peak			PM Peak		
	Max v/c ratio	LOS	Mvmt	Max v/c ratio	LOS	Mvmt
<i>2027 Total Traffic</i>						
Ottawa Street/Main Street/Martin Street/Queen Street	0.60	A	EBT/R	0.65	B	WBL
Ottawa Street/Menzie Street/Paterson Street	0.61	B	NB	0.69	B	WBT
<i>2032 Total Traffic</i>						
Ottawa Street/Main Street/Martin Street/Queen Street	0.63	B	EBT/R	0.72	B	WBL
Ottawa Street/Menzie Street/Paterson Street	0.65	B	EB	0.78	C	WBT

As shown in the above table, both intersections are anticipated to operate with acceptable conditions in the AM and PM peak hours.

With the addition of site traffic, minor increases in the maximum queuing lengths are anticipated at the study area intersections.

The addition of site generated traffic is not anticipated to have any significant impact on the study area intersection operations.

The proposed development is anticipated to add 77 two-way trips during the AM peak and 93 two-way trips during the PM peak hour to Adelaide Street. This is equivalent to one vehicle every 40 to 50 seconds.

Table 15 of the Mississippi Mills TMP suggests that the expected traffic volumes for local roadways urban or rural cross-sections is 1,000 vehicles or less per day or approximately 100 vehicles per peak hour. This is consistent with the Transportation Association of Canada (TAC) guidelines which suggest that local roadways have a typical capacity of 1,000 vehicles per day.

Based on the theoretical capacity of Adelaide Street and the surrounding neighborhood context, the Adelaide Street connection to Honeybourne Street should be constructed when the development is 50% built.

6.0 ON-SITE DESIGN

Access to the subdivision is proposed via Florence Street and an extension of Adelaide Street. A right-of-way of 18m is proposed for Florence Street and the extension of Adelaide Street east of

Florence Street. Internal to the subdivision, one street is proposed, also with an 18m right-of-way, connecting to both Florence Street and Adelaide Street.

Road widths of 8.5m are proposed for Florence Street, Adelaide Street east of Finner Street, and the internal Street One. A sidewalk is proposed along one side of Adelaide Street to provide pedestrian connections within the development and to the surrounding community.

The *Transportation Association of Canada (TAC) Geometric Design Guide* suggests a minimum spacing of 60 meters between intersections along collector and local roads. For adjacent tee intersections on local roads TAC suggests a minimum spacing of 40 meters. The spacing between Adelaide Street/Florence Street and the proposed Florence Street/Street One intersection is approximately 105m. The spacing between Adelaide Street/McDermont Street and the proposed Adelaide Street/Street One intersection is approximately 165m. The proposed intersection spacing conforms to the TAC guidelines.

The Town of Mississippi Mills Zoning By-Law requires 1 parking space per dwelling unit for townhouses plus 0.2 parking spaces per unit for visitor parking. Blocks 1 and 2 are intended to be developed with 2-storey townhouses which will accommodate 2 parking spaces (both resident and visitor parking) within the driveway and garage. Block 3 is intended to be developed with stacked townhouses, with shared parking areas accessed via shared driveways. The concept plan demonstrates 57 parking spaces for the stacked townhouses, or approximately 1.2 parking spaces per unit, in order to accommodate resident and visitor parking. Block 4 is intended to be developed with back-to-back townhouses, with parking to be accommodated in the shared driveways. Parking and accesses for Blocks 3 and 4 will be further reviewed at Site Plan.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The main conclusions and recommendations of this TIS are summarized below:

Existing Traffic

- The Ottawa Street/Menzie Street/Paterson Street and Ottawa Street/Main Street/Martin Street/Queen Street intersections are operating with acceptable conditions in the AM and PM peak hours.
- The maximum eastbound queue at the Ottawa Street/Menzie Street/Paterson Street is approximately 130m in the AM peak and 135m in the PM peak. This queue extends past and may periodically block the Ottawa Street/St James Street intersection.
- A maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is approximately 165m the PM peak. This queue does not extend to the nearby Ottawa Street/Sadler Drive/Industrial Drive intersection.
- The maximum westbound left queue at the Ottawa Street/Main Street/Martin Street/Queen Street intersection is 45m in the PM peak hour. This queue exceeds the westbound left storage length of 25m.

Background Traffic

- Under background traffic conditions, the Ottawa Street/Menzie Street/Paterson Street and Ottawa Street/Main Street/Martin Street/Queen Street intersections are anticipated to operate with acceptable conditions in the AM and PM peak hours.

- The maximum eastbound queue at the Ottawa Street/Menzie Street/Paterson Street is anticipated to be approximately 160m in the AM peak and 190m in the PM peak. This queue is anticipated to extend past the Ottawa Street/St James Street intersection in the AM and PM peaks and may periodically block the Ottawa Street/Harold Street intersection in the PM peak.
- The maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is anticipated to be approximately 180m the PM peak. This queue is anticipated to extend to the nearby Ottawa Street/Sadler Drive/Industrial Drive intersection in the PM peak but is not anticipated to block the intersection.
- The maximum westbound left queue at the Ottawa Street/Main Street/Martin Street/Queen Street intersection is anticipated to be 60m in the PM peak hour. This queue exceeds the westbound left storage length of 25m.

Total Traffic

- Under total traffic conditions, the Ottawa Street/Menzie Street/Paterson Street and Ottawa Street/Main Street/Martin Street/Queen Street intersections are anticipated to operate with acceptable conditions in the AM and PM peak hours.
- With the addition of site traffic, minor increases in the maximum queuing lengths are anticipated at the study area intersections.
- The addition of site generated traffic is not anticipated to have any significant impact on the study area intersection operations.
- The proposed development is anticipated to add 77 two-way trips during the AM peak and 93 two-way trips during the PM peak hour to Adelaide Street. This is equivalent to one vehicle every 40 to 50 seconds.
- Based on the theoretical capacity of Adelaide Street and the surrounding neighborhood context, the Adelaide Street connection to Honeybourne Street should be constructed when the development is 50% built.

On-Site Design

- Access to the subdivision is proposed via Florence Street and an extension of Adelaide Street. A right-of-way of 18m is proposed for Florence Street and the extension of Adelaide Street east of Florence Street. Internal to the subdivision, one street is proposed, also with an 18m right-of-way, connecting to both Florence Street and Adelaide Street.
- Road widths of 8.5m are proposed for Florence Street, Adelaide Street east of Finner Street, and the internal Street One.
- The proposed intersection spacing conforms to the TAC guidelines.
- A sidewalk is proposed along one side of Adelaide Street to provide pedestrian connections within the development and to the surrounding community.

NOVATECH

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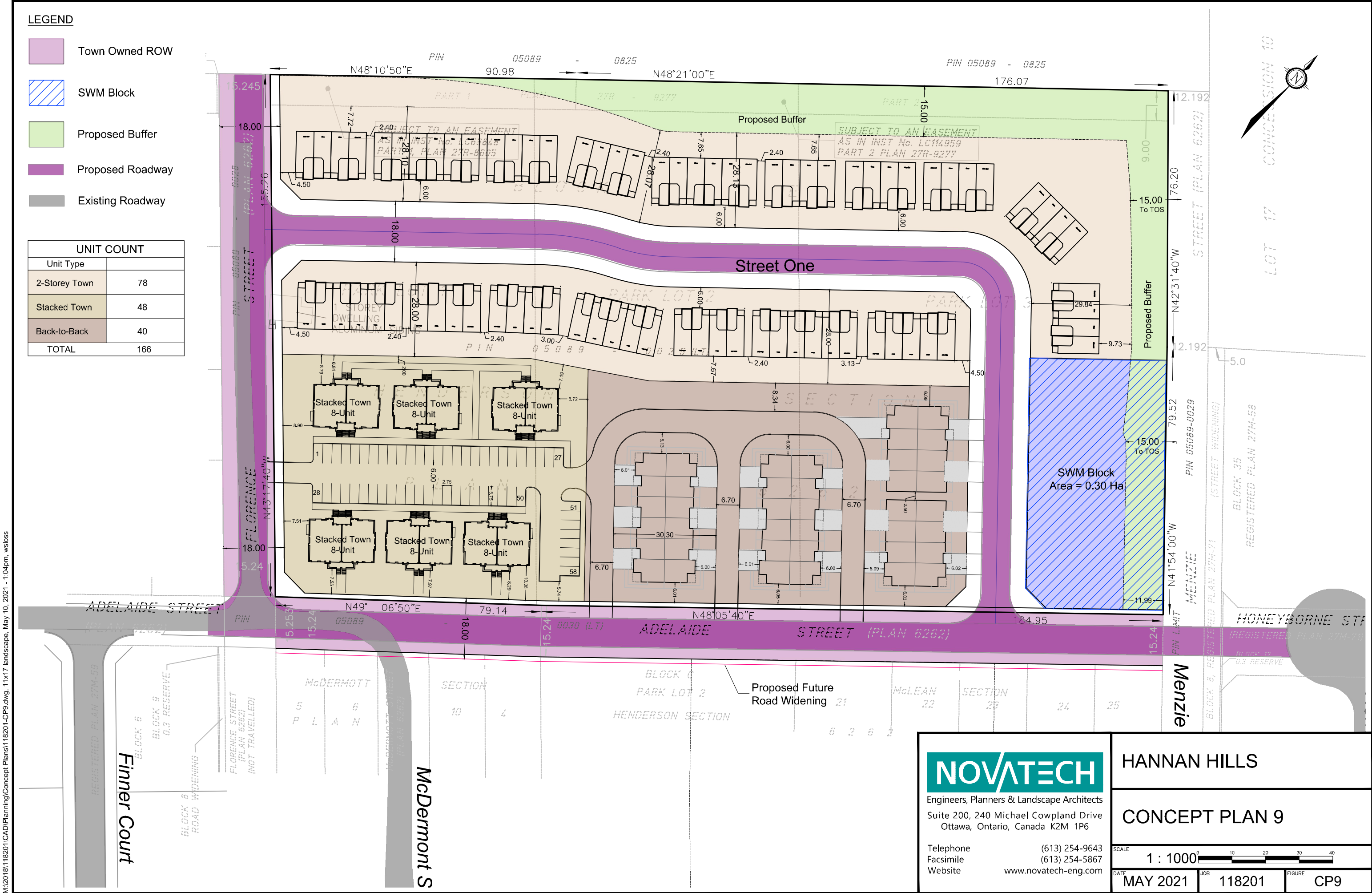
APPENDIX A

Concept Plan

LEGEND

- Town Owned ROW
- SWM Block
- Proposed Buffer
- Proposed Roadway
- Existing Roadway

UNIT COUNT	
Unit Type	
2-Storey Town	78
Stacked Town	48
Back-to-Back	40
TOTAL	166



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HANNAN HILLS
CONCEPT PLAN 9

SCALE 1 : 1000

DATE MAY 2021 JOB 118201 FIGURE CP9

APPENDIX B

Synchro Reports

3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
Existing Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	297	2	122	138	30	3	57	208	71	43	23
Future Volume (vph)	43	297	2	122	138	30	3	57	208	71	43	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			1.00	0.97		0.99	0.93
Fr _t		0.999			0.973				0.850			0.850
Fl _t Protected	0.950			0.950				0.998			0.970	
Satd. Flow (prot)	1695	1782	0	1695	1728	0	0	1781	1517	0	1731	1517
Fl _t Permitted	0.640			0.357				0.986			0.772	
Satd. Flow (perm)	1137	1782	0	632	1728	0	0	1756	1471	0	1369	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					21				231			108
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		148.5			683.5			136.4			617.7	
Travel Time (s)		10.7			49.2			12.3			44.5	
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	48	330	2	136	153	33	3	63	231	79	48	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	332	0	136	186	0	0	66	231	0	127	26
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	35.6	35.6		15.6	51.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	43.0%	43.0%		18.9%	61.9%		38.1%	38.1%	38.1%	38.1%	38.1%	38.1%
Maximum Green (s)	30.0	30.0		10.0	46.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
Existing Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	15.9	15.9		26.2	26.9			12.6	12.6		12.6	12.6
Actuated g/C Ratio	0.31	0.31		0.52	0.53			0.25	0.25		0.25	0.25
v/c Ratio	0.13	0.59		0.28	0.20			0.15	0.43		0.37	0.06
Control Delay	15.5	21.2		7.6	5.8			19.2	6.2		22.8	0.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.5	21.2		7.6	5.8			19.2	6.2		22.8	0.3
LOS	B	C		A	A			B	A		C	A
Approach Delay		20.4			6.5			9.1			19.0	
Approach LOS		C			A			A			B	
90th %ile Green (s)	24.9	24.9		10.0	41.1		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Gap	Gap		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	19.4	19.4		9.1	34.7		12.2	12.2	12.2	12.2	12.2	12.2
70th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	14.4	14.4		7.4	28.0		10.0	10.0	10.0	10.0	10.0	10.0
50th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
30th %ile Green (s)	12.0	12.0		6.7	24.9		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		0.0	10.6		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Skip	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	30	230		49	59			46	31		88	0
Fuel Used(l)	2	14		10	13			2	4		11	1
CO Emissions (g/hr)	33	265		181	240			44	83		198	25
NOx Emissions (g/hr)	6	51		35	46			9	16		38	5
VOC Emissions (g/hr)	8	61		42	55			10	19		46	6
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.0	24.2		4.7	5.6			4.7	0.0		9.6	0.0
Queue Length 95th (m)	11.1	58.2		15.2	18.0			15.2	14.4		26.9	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	724	1135		552	1524			969	915		756	828
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.07	0.29		0.25	0.12			0.07	0.25		0.17	0.03

Intersection Summary

Area Type: Other

Cycle Length: 82.7

Actuated Cycle Length: 50.8

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 58.6%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 71.6

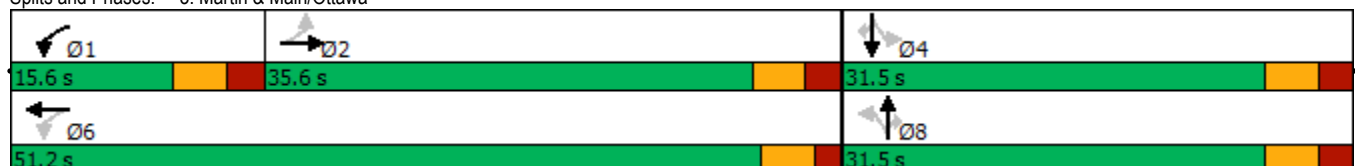
70th %ile Actuated Cycle: 57.4

50th %ile Actuated Cycle: 48.5

30th %ile Actuated Cycle: 45.4

10th %ile Actuated Cycle: 31.1

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
Existing Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	451	96	37	382	3	67	7	63	7	14	5
Future Volume (vph)	3	451	96	37	382	3	67	7	63	7	14	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99				0.96		0.98			0.99	
Frt		0.976				0.850		0.938			0.973	
Flt Protected				0.950				0.976			0.987	
Satd. Flow (prot)	0	1730	0	1695	1784	1517	0	1617	0	0	1702	0
Flt Permitted		0.999		0.364				0.830			0.923	
Satd. Flow (perm)	0	1728	0	649	1784	1457	0	1365	0	0	1591	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				29		42			6	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	3	501	107	41	424	3	74	8	70	8	16	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	611	0	41	424	3	0	152	0	0	30	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
Existing Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0			15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7			8	8	1	1		5	5	
Act Effct Green (s)		56.8		64.4	64.4	64.4		14.2				14.2
Actuated g/C Ratio		0.63		0.71	0.71	0.71		0.16				0.16
v/c Ratio		0.56		0.08	0.33	0.00		0.61				0.12
Control Delay		14.9		5.5	6.7	0.0		34.9				26.4
Queue Delay		0.0		0.0	0.0	0.0		0.0				0.0
Total Delay		14.9		5.5	6.7	0.0		34.9				26.4
LOS		B		A	A	A		C				C
Approach Delay		14.9			6.5			34.9				26.4
Approach LOS		B			A			C				C
90th %ile Green (s)	47.5	47.5		7.5	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	48.6	48.6		6.4	60.9	60.9	14.7	14.7		14.7	14.7	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	49.0	49.0		6.0	60.9	60.9	12.1	12.1		12.1	12.1	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	63.1	63.1		0.0	63.1	63.1	10.0	10.0		10.0	10.0	
30th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
10th %ile Green (s)	75.9	75.9		0.0	75.9	75.9	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		328		13	141	0		89				20
Fuel Used(l)		49		1	11	0		10				2
CO Emissions (g/hr)		918		19	207	1		178				28
NOx Emissions (g/hr)		177		4	40	0		34				5
VOC Emissions (g/hr)		212		4	48	0		41				6
Dilemma Vehicles (#)		0		0	0	0		0				0
Queue Length 50th (m)		58.3		1.6	21.1	0.0		16.9				3.4
Queue Length 95th (m)		128.2		6.6	54.0	0.0		34.9				10.5
Internal Link Dist (m)		659.5			142.0			295.6				173.0
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1089		693	1269	1045		555				621
Starvation Cap Reductn		0		0	0	0		0				0
Spillback Cap Reductn		0		0	0	0		0				0
Storage Cap Reductn		0		0	0	0		0				0
Reduced v/c Ratio		0.56		0.06	0.33	0.00		0.27				0.05

Intersection Summary

Area Type: Other

Cycle Length: 107.7

Actuated Cycle Length: 90.5

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 14.5

Intersection LOS: B

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 97.7

70th %ile Actuated Cycle: 87.4

50th %ile Actuated Cycle: 84.8

30th %ile Actuated Cycle: 84.9

10th %ile Actuated Cycle: 97.7

Splits and Phases: 6: Paterson/Menzie & Ottawa



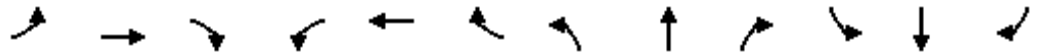
3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
Existing Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	226	5	357	394	84	15	71	273	51	48	28
Future Volume (vph)	23	226	5	357	394	84	15	71	273	51	48	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			0.99	0.97		0.99	0.93
Fr _t		0.996			0.974				0.850			0.850
Flt Protected	0.950			0.950				0.991			0.975	
Satd. Flow (prot)	1695	1776	0	1695	1730	0	0	1768	1517	0	1740	1517
Flt Permitted	0.467			0.406				0.932			0.787	
Satd. Flow (perm)	831	1776	0	716	1730	0	0	1649	1469	0	1397	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			21				303			99
Link Speed (k/h)		50			50				40			50
Link Distance (m)		148.5			683.5				136.4			617.7
Travel Time (s)		10.7			49.2				12.3			44.5
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	26	251	6	397	438	93	17	79	303	57	53	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	257	0	397	531	0	0	96	303	0	110	31
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	40.6	40.6		18.6	59.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	44.8%	44.8%		20.5%	65.3%		34.7%	34.7%	34.7%	34.7%	34.7%	34.7%
Maximum Green (s)	35.0	35.0		13.0	54.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
Existing Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	14.2	14.2		31.6	32.2			12.0	12.0		12.0	12.0
Actuated g/C Ratio	0.26	0.26		0.57	0.59			0.22	0.22		0.22	0.22
v/c Ratio	0.12	0.56		0.64	0.52			0.27	0.54		0.36	0.08
Control Delay	18.0	23.2		12.3	8.9			21.5	7.2		23.6	0.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	18.0	23.2		12.3	8.9			21.5	7.2		23.6	0.4
LOS	B	C		B	A			C	A		C	A
Approach Delay		22.7			10.4			10.6			18.5	
Approach LOS		C			B			B			B	
90th %ile Green (s)	23.0	23.0		13.0	42.2		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Ped	Ped		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	16.4	16.4		13.0	35.6		11.0	11.0	11.0	11.0	11.0	11.0
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	12.7	12.7		12.2	31.1		10.0	10.0	10.0	10.0	10.0	10.0
50th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
30th %ile Green (s)	10.9	10.9		10.6	27.7		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		8.9	25.1		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Gap	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	19	182		175	242			66	37		77	0
Fuel Used(l)	1	11		30	40			4	6		9	2
CO Emissions (g/hr)	20	213		567	739			67	111		174	31
NOx Emissions (g/hr)	4	41		109	143			13	21		34	6
VOC Emissions (g/hr)	5	49		131	171			16	26		40	7
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	1.9	20.7		16.6	22.3			7.7	0.0		9.0	0.0
Queue Length 95th (m)	7.8	47.3		45.0	61.3			20.9	16.6		24.1	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	542	1161		649	1626			800	868		677	732
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.05	0.22		0.61	0.33			0.12	0.35		0.16	0.04

Intersection Summary

Area Type: Other
 Cycle Length: 90.7
 Actuated Cycle Length: 55
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 13.1
 Intersection Capacity Utilization 64.2%
 Analysis Period (min) 15
 90th %ile Actuated Cycle: 72.7
 70th %ile Actuated Cycle: 57.1
 50th %ile Actuated Cycle: 51.6
 30th %ile Actuated Cycle: 48.2
 10th %ile Actuated Cycle: 45.6
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
Existing Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	509	47	80	778	10	85	4	51	4	3	16
Future Volume (vph)	4	509	47	80	778	10	85	4	51	4	3	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00				0.96		0.98			0.97	
Frt		0.989				0.850		0.950			0.903	
Flt Protected				0.950				0.971			0.992	
Satd. Flow (prot)	0	1759	0	1695	1784	1517	0	1633	0	0	1558	0
Flt Permitted		0.996		0.345				0.800			0.948	
Satd. Flow (perm)	0	1752	0	616	1784	1457	0	1333	0	0	1489	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				29		29			18	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	566	52	89	864	11	94	4	57	4	3	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	622	0	89	864	11	0	155	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
Existing Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		15.0	15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7		8	8	8	1	1		5	5	
Act Effct Green (s)		53.1		63.9	63.9	63.9		15.0			15.0	
Actuated g/C Ratio		0.58		0.70	0.70	0.70		0.17			0.17	
v/c Ratio		0.61		0.17	0.69	0.01		0.64			0.10	
Control Delay		17.8		6.1	12.7	0.8		39.4			16.7	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		17.8		6.1	12.7	0.8		39.4			16.7	
LOS		B		A	B	A		D			B	
Approach Delay		17.8			11.9			39.4			16.7	
Approach LOS		B			B			D			B	
90th %ile Green (s)	45.7	45.7		9.3	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	47.5	47.5		7.5	60.9	60.9	16.2	16.2		16.2	16.2	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	48.2	48.2		6.8	60.9	60.9	13.4	13.4		13.4	13.4	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	48.7	48.7		6.3	60.9	60.9	10.9	10.9		10.9	10.9	
30th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	75.9	75.9		0.0	75.9	75.9	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		372		25	453	1		103			11	
Fuel Used(l)		52		2	30	0		10			1	
CO Emissions (g/hr)		974		41	558	3		195			18	
NOx Emissions (g/hr)		188		8	108	1		38			3	
VOC Emissions (g/hr)		225		9	129	1		45			4	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		64.4		3.8	68.1	0.0		19.7			1.0	
Queue Length 95th (m)		136.9		11.9	163.1	0.7		38.1			7.3	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1025		672	1256	1034		533			587	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.61		0.13	0.69	0.01		0.29			0.04	

Intersection Summary

Area Type: Other
 Cycle Length: 107.7
 Actuated Cycle Length: 90.8
 Natural Cycle: 80
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 16.5
 Intersection Capacity Utilization 88.6%
 Analysis Period (min) 15
 90th %ile Actuated Cycle: 97.7
 70th %ile Actuated Cycle: 88.9
 50th %ile Actuated Cycle: 86.1
 30th %ile Actuated Cycle: 83.6
 10th %ile Actuated Cycle: 97.7
 Intersection LOS: B
 ICU Level of Service E

Splits and Phases: 6: Paterson/Menzie & Ottawa

25.9 s	40.9 s	40.9 s
66.8 s	40.9 s	

3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
2027 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	330	2	145	164	34	3	65	231	80	51	29
Future Volume (vph)	49	330	2	145	164	34	3	65	231	80	51	29
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			1.00	0.97		0.99	0.93
Fr _t		0.999			0.974				0.850			0.850
Flt Protected	0.950			0.950				0.998			0.970	
Satd. Flow (prot)	1695	1782	0	1695	1730	0	0	1781	1517	0	1731	1517
Flt Permitted	0.633			0.357				0.986			0.774	
Satd. Flow (perm)	1124	1782	0	632	1730	0	0	1756	1471	0	1373	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20				231			108
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		148.5			683.5			136.4			617.7	
Travel Time (s)		10.7			49.2			12.3			44.5	
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour 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
Adj. Flow (vph)	49	330	2	145	164	34	3	65	231	80	51	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	332	0	145	198	0	0	68	231	0	131	29
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	35.6	35.6		15.6	51.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	43.0%	43.0%		18.9%	61.9%		38.1%	38.1%	38.1%	38.1%	38.1%	38.1%
Maximum Green (s)	30.0	30.0		10.0	46.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
2027 Background Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	16.0	16.0		26.3	27.0			12.7	12.7		12.7	12.7
Actuated g/C Ratio	0.31	0.31		0.52	0.53			0.25	0.25		0.25	0.25
v/c Ratio	0.14	0.60		0.29	0.21			0.16	0.43		0.38	0.07
Control Delay	15.7	21.3		7.7	6.0			19.2	6.2		23.0	0.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.7	21.3		7.7	6.0			19.2	6.2		23.0	0.3
LOS	B	C		A	A			B	A		C	A
Approach Delay		20.6			6.7			9.1			18.9	
Approach LOS		C			A			A			B	
90th %ile Green (s)	24.9	24.9		10.0	41.1		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Gap	Gap		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	19.5	19.5		9.3	35.0		12.5	12.5	12.5	12.5	12.5	12.5
70th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	14.5	14.5		7.6	28.3		10.2	10.2	10.2	10.2	10.2	10.2
50th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	12.0	12.0		6.8	25.0		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		0.0	10.6		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Skip	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	34	256		58	72			51	34		102	0
Fuel Used(l)	2	16		12	15			3	5		12	2
CO Emissions (g/hr)	38	295		215	286			51	92		229	32
NOx Emissions (g/hr)	7	57		42	55			10	18		44	6
VOC Emissions (g/hr)	9	68		50	66			12	21		53	7
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.1	24.6		5.1	6.2			4.9	0.0		10.0	0.0
Queue Length 95th (m)	11.3	58.2		16.0	19.2			15.6	14.4		27.9	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	713	1130		551	1519			965	912		754	825
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.07	0.29		0.26	0.13			0.07	0.25		0.17	0.04

Intersection Summary

Area Type: Other

Cycle Length: 82.7

Actuated Cycle Length: 51

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 71.6

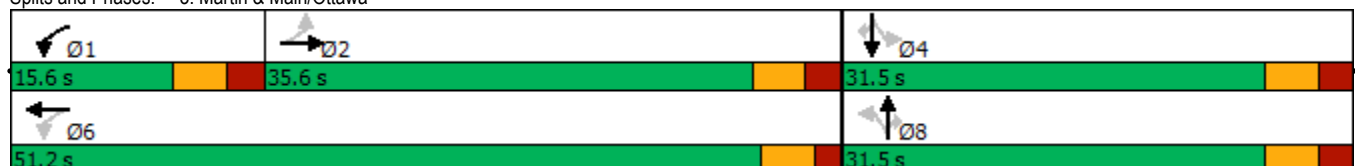
70th %ile Actuated Cycle: 58

50th %ile Actuated Cycle: 49

30th %ile Actuated Cycle: 45.5

10th %ile Actuated Cycle: 31.1

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
2027 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	503	108	41	437	7	75	10	71	21	23	14
Future Volume (vph)	6	503	108	41	437	7	75	10	71	21	23	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99				0.96		0.98			0.99	
Fr _t		0.976				0.850		0.939			0.967	
Flt Protected				0.950				0.977			0.982	
Satd. Flow (prot)	0	1730	0	1695	1784	1517	0	1620	0	0	1680	0
Flt Permitted		0.996		0.360				0.818			0.853	
Satd. Flow (perm)	0	1723	0	642	1784	1457	0	1348	0	0	1459	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				29		41			14	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour 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
Adj. Flow (vph)	6	503	108	41	437	7	75	10	71	21	23	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	617	0	41	437	7	0	156	0	0	58	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
2027 Background Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0			15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7			8	8	1	1		5	5	
Act Effct Green (s)		56.4		64.0	64.0	64.0		14.5			14.5	
Actuated g/C Ratio		0.62		0.71	0.71	0.71		0.16			0.16	
v/c Ratio		0.57		0.08	0.35	0.01		0.62			0.24	
Control Delay		15.2		5.6	6.9	0.0		35.9			27.0	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		15.2		5.6	6.9	0.0		35.9			27.0	
LOS		B		A	A	A		D			C	
Approach Delay		15.2			6.7			35.9			27.0	
Approach LOS		B			A			D			C	
90th %ile Green (s)	47.5	47.5		7.5	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	48.6	48.6		6.4	60.9	60.9	15.2	15.2		15.2	15.2	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	48.9	48.9		6.1	60.9	60.9	12.6	12.6		12.6	12.6	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	60.9	60.9		0.0	60.9	60.9	10.1	10.1		10.1	10.1	
30th %ile Term Code	Hold	Hold		Skip	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	75.9	75.9		0.0	75.9	75.9	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		372		14	165	0		104			38	
Fuel Used(l)		56		1	13	0		11			3	
CO Emissions (g/hr)		1035		21	240	2		206			58	
NOx Emissions (g/hr)		200		4	46	0		40			11	
VOC Emissions (g/hr)		239		5	55	0		48			13	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		60.5		1.7	22.6	0.0		17.7			6.4	
Queue Length 95th (m)		130.6		6.6	56.0	0.1		36.1			16.3	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1080		689	1264	1040		550			576	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.57		0.06	0.35	0.01		0.28			0.10	

Intersection Summary

Area Type:	Other
Cycle Length:	107.7
Actuated Cycle Length:	90.3
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	15.0
Intersection Capacity Utilization:	78.4%
Analysis Period (min):	15
90th %ile Actuated Cycle:	97.7
70th %ile Actuated Cycle:	87.9
50th %ile Actuated Cycle:	85.3
30th %ile Actuated Cycle:	82.8
10th %ile Actuated Cycle:	97.7
Intersection LOS:	B
ICU Level of Service:	D

Splits and Phases: 6: Paterson/Menzie & Ottawa

01 25.9 s	02 40.9 s	04 40.9 s
06 66.8 s	08 40.9 s	

3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
2027 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	252	6	393	434	94	17	83	305	57	56	33
Future Volume (vph)	29	252	6	393	434	94	17	83	305	57	56	33
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			0.99	0.97		1.00	0.93
Fr _t		0.997			0.973				0.850			0.850
Fit Protected	0.950			0.950				0.992			0.975	
Satd. Flow (prot)	1695	1777	0	1695	1728	0	0	1770	1517	0	1740	1517
Fit Permitted	0.468			0.403				0.934			0.789	
Satd. Flow (perm)	832	1777	0	711	1728	0	0	1653	1469	0	1401	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			21				305			99
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		148.5			683.5			136.4			617.7	
Travel Time (s)		10.7			49.2			12.3			44.5	
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour 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
Adj. Flow (vph)	29	252	6	393	434	94	17	83	305	57	56	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	258	0	393	528	0	0	100	305	0	113	33
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	40.6	40.6		18.6	59.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	44.8%	44.8%		20.5%	65.3%		34.7%	34.7%	34.7%	34.7%	34.7%	34.7%
Maximum Green (s)	35.0	35.0		13.0	54.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
2027 Background Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	14.3	14.3		31.6	32.2			12.0	12.0		12.0	12.0
Actuated g/C Ratio	0.26	0.26		0.57	0.59			0.22	0.22		0.22	0.22
v/c Ratio	0.13	0.56		0.64	0.52			0.28	0.55		0.37	0.09
Control Delay	18.2	23.2		12.3	8.9			21.7	7.2		23.8	0.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	18.2	23.2		12.3	8.9			21.7	7.2		23.8	0.5
LOS	B	C		B	A			C	A		C	A
Approach Delay		22.7			10.4			10.7			18.5	
Approach LOS		C			B			B			B	
90th %ile Green (s)	23.0	23.0		13.0	42.2		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Ped	Ped		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	16.5	16.5		13.0	35.7		11.1	11.1	11.1	11.1	11.1	11.1
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	12.7	12.7		12.2	31.1		10.0	10.0	10.0	10.0	10.0	10.0
50th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
30th %ile Green (s)	10.9	10.9		10.5	27.6		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		8.8	25.0		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Gap	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	23	202		192	266			76	41		89	0
Fuel Used(l)	1	13		34	44			4	7		11	2
CO Emissions (g/hr)	25	238		624	816			78	124		199	36
NOx Emissions (g/hr)	5	46		120	158			15	24		38	7
VOC Emissions (g/hr)	6	55		144	188			18	29		46	8
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	2.1	20.8		16.3	22.0			8.0	0.0		9.3	0.0
Queue Length 95th (m)	8.4	47.4		44.4	60.8			21.7	16.6		24.6	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	543	1161		647	1622			802	870		680	733
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.05	0.22		0.61	0.33			0.12	0.35		0.17	0.05

Intersection Summary

Area Type: Other

Cycle Length: 90.7

Actuated Cycle Length: 55

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 13.1

Intersection LOS: B

Intersection Capacity Utilization 67.7%

ICU Level of Service C

Analysis Period (min) 15

90th %ile Actuated Cycle: 72.7

70th %ile Actuated Cycle: 57.3

50th %ile Actuated Cycle: 51.6

30th %ile Actuated Cycle: 48.1

10th %ile Actuated Cycle: 45.5

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
2027 Background Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	578	53	90	851	28	95	8	57	14	5	23
Future Volume (vph)	13	578	53	90	851	28	95	8	57	14	5	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00				0.96		0.98			0.98	
Fr _t		0.989				0.850		0.952			0.926	
Fit Protected		0.999		0.950				0.971			0.984	
Satd. Flow (prot)	0	1757	0	1695	1784	1517	0	1636	0	0	1595	0
Fit Permitted		0.980		0.337				0.793			0.892	
Satd. Flow (perm)	0	1724	0	601	1784	1457	0	1325	0	0	1445	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		27			23	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour 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
Adj. Flow (vph)	13	578	53	90	851	28	95	8	57	14	5	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	644	0	90	851	28	0	160	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
2027 Background Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		15.0	15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7		8	8	8	1	1		5	5	
Act Effct Green (s)		53.0		63.9	63.9	63.9		15.3			15.3	
Actuated g/C Ratio		0.58		0.70	0.70	0.70		0.17			0.17	
v/c Ratio		0.64		0.18	0.68	0.03		0.65			0.16	
Control Delay		19.1		6.2	12.6	2.4		41.0			18.7	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		19.1		6.2	12.6	2.4		41.0			18.7	
LOS		B		A	B	A		D			B	
Approach Delay		19.1			11.7			41.0			18.7	
Approach LOS		B			B			D			B	
90th %ile Green (s)	45.7	45.7		9.3	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	47.4	47.4		7.6	60.9	60.9	16.8	16.8		16.8	16.8	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	48.1	48.1		6.9	60.9	60.9	14.0	14.0		14.0	14.0	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	48.7	48.7		6.3	60.9	60.9	11.3	11.3		11.3	11.3	
30th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	75.9	75.9		0.0	75.9	75.9	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		433		30	491	4		120			20	
Fuel Used(l)		61		3	33	1		12			2	
CO Emissions (g/hr)		1135		47	608	11		227			34	
NOx Emissions (g/hr)		219		9	117	2		44			7	
VOC Emissions (g/hr)		262		11	140	3		52			8	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		70.3		4.0	68.2	0.0		20.9			2.7	
Queue Length 95th (m)		146.7		12.1	157.9	3.0		39.8			10.8	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1004		662	1251	1031		527			571	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.64		0.14	0.68	0.03		0.30			0.07	

Intersection Summary

Area Type: Other
 Cycle Length: 107.7
 Actuated Cycle Length: 91.1
 Natural Cycle: 80
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 17.1
 Intersection Capacity Utilization 87.0%
 Analysis Period (min) 15
 90th %ile Actuated Cycle: 97.7
 70th %ile Actuated Cycle: 89.5
 50th %ile Actuated Cycle: 86.7
 30th %ile Actuated Cycle: 84
 10th %ile Actuated Cycle: 97.7
 Intersection LOS: B
 ICU Level of Service E

Splits and Phases: 6: Paterson/Menzie & Ottawa

01 25.9 s	02 40.9 s	04 40.9 s
06 66.8 s	08 40.9 s	

3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
2032 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	360	2	161	181	37	4	72	253	87	59	35
Future Volume (vph)	54	360	2	161	181	37	4	72	253	87	59	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			1.00	0.97		0.99	0.93
Fr _t		0.999			0.975				0.850			0.850
Fit Protected	0.950			0.950				0.997			0.971	
Satd. Flow (prot)	1695	1782	0	1695	1732	0	0	1779	1517	0	1733	1517
Fit Permitted	0.622			0.333				0.983			0.773	
Satd. Flow (perm)	1105	1782	0	590	1732	0	0	1750	1471	0	1372	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20				253			108
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		148.5			683.5			136.4			617.7	
Travel Time (s)		10.7			49.2			12.3			44.5	
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour 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
Adj. Flow (vph)	54	360	2	161	181	37	4	72	253	87	59	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	362	0	161	218	0	0	76	253	0	146	35
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	35.6	35.6		15.6	51.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	43.0%	43.0%		18.9%	61.9%		38.1%	38.1%	38.1%	38.1%	38.1%	38.1%
Maximum Green (s)	30.0	30.0		10.0	46.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
2032 Background Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	17.2	17.2		27.7	28.4			13.2	13.2		13.2	13.2
Actuated g/C Ratio	0.32	0.32		0.52	0.54			0.25	0.25		0.25	0.25
v/c Ratio	0.15	0.63		0.33	0.23			0.17	0.46		0.43	0.08
Control Delay	15.7	21.9		8.2	6.2			20.3	6.4		24.8	0.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.7	21.9		8.2	6.2			20.3	6.4		24.8	0.4
LOS	B	C		A	A			C	A		C	A
Approach Delay		21.1			7.0			9.6			20.1	
Approach LOS		C			A			A			C	
90th %ile Green (s)	26.9	26.9		10.0	43.1		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Gap	Gap		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	22.0	22.0		9.7	37.9		13.7	13.7	13.7	13.7	13.7	13.7
70th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	15.9	15.9		7.9	30.0		11.1	11.1	11.1	11.1	11.1	11.1
50th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	12.9	12.9		7.0	26.1		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		0.0	10.6		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Skip	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	37	280		64	81			57	36		114	0
Fuel Used(l)	2	17		13	17			3	5		14	2
CO Emissions (g/hr)	42	325		240	316			58	101		259	38
NOx Emissions (g/hr)	8	63		46	61			11	19		50	7
VOC Emissions (g/hr)	10	75		55	73			13	23		60	9
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.6	28.6		6.1	7.4			5.8	0.0		11.9	0.0
Queue Length 95th (m)	12.1	63.6		17.5	21.0			17.5	15.5		31.8	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	680	1097		535	1478			934	903		732	804
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.08	0.33		0.30	0.15			0.08	0.28		0.20	0.04

Intersection Summary

Area Type: Other

Cycle Length: 82.7

Actuated Cycle Length: 53

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 14.0

Intersection LOS: B

Intersection Capacity Utilization 64.0%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 73.6

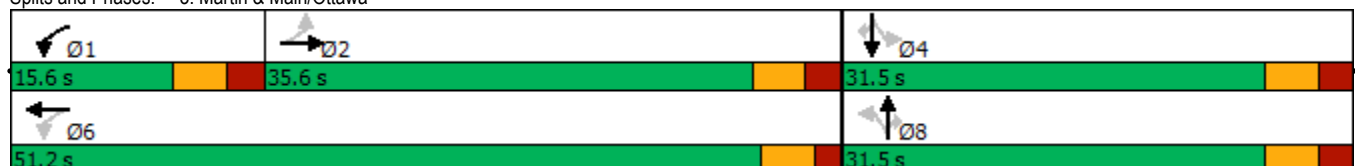
70th %ile Actuated Cycle: 62.1

50th %ile Actuated Cycle: 51.6

30th %ile Actuated Cycle: 46.6

10th %ile Actuated Cycle: 31.1

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
2032 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	558	117	45	478	11	82	12	77	32	28	14
Future Volume (vph)	7	558	117	45	478	11	82	12	77	32	28	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99				0.96		0.98			0.99	
Fr _t		0.977				0.850		0.939			0.974	
Fit Protected		0.999		0.950				0.977			0.979	
Satd. Flow (prot)	0	1730	0	1695	1784	1517	0	1621	0	0	1690	0
Fit Permitted		0.995		0.331				0.838			0.788	
Satd. Flow (perm)	0	1723	0	591	1784	1457	0	1381	0	0	1360	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				29		41			12	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour 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
Adj. Flow (vph)	7	558	117	45	478	11	82	12	77	32	28	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	682	0	45	478	11	0	171	0	0	74	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0			15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7			8	8	1	1		5	5	
Act Effct Green (s)		56.2		63.8	63.8	63.8		15.2			15.2	
Actuated g/C Ratio		0.62		0.70	0.70	0.70		0.17			0.17	
v/c Ratio		0.64		0.09	0.38	0.01		0.65			0.31	
Control Delay		17.5		5.9	7.4	0.8		37.2			29.9	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		17.5		5.9	7.4	0.8		37.2			29.9	
LOS		B		A	A	A		D			C	
Approach Delay		17.5			7.2			37.2			29.9	
Approach LOS		B			A			D			C	
90th %ile Green (s)	47.4	47.4		7.6	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	48.4	48.4		6.6	60.9	60.9	16.7	16.7		16.7	16.7	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	48.9	48.9		6.1	60.9	60.9	13.7	13.7		13.7	13.7	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	60.9	60.9		0.0	60.9	60.9	11.0	11.0		11.0	11.0	
30th %ile Term Code	Hold	Hold		Skip	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	74.9	74.9		0.0	74.9	74.9	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		431		14	190	1		118			51	
Fuel Used(l)		63		1	15	0		12			4	
CO Emissions (g/hr)		1174		23	270	4		230			79	
NOx Emissions (g/hr)		227		4	52	1		44			15	
VOC Emissions (g/hr)		271		5	62	1		53			18	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		73.9		1.9	26.9	0.0		20.3			9.2	
Queue Length 95th (m)		#157.9		7.0	62.7	0.7		39.9			20.6	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1070		659	1253	1032		559			533	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.64		0.07	0.38	0.01		0.31			0.14	

Intersection Summary

Area Type:	Other
Cycle Length:	107.7
Actuated Cycle Length:	90.8
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	16.6
Intersection Capacity Utilization:	82.9%
Analysis Period (min):	15
90th %ile Actuated Cycle:	97.7
70th %ile Actuated Cycle:	89.4
50th %ile Actuated Cycle:	86.4
30th %ile Actuated Cycle:	83.7
10th %ile Actuated Cycle:	96.7
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 6: Paterson/Menzie & Ottawa



3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
2032 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	279	6	431	476	102	18	94	336	62	63	38
Future Volume (vph)	35	279	6	431	476	102	18	94	336	62	63	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			0.99	0.97		1.00	0.93
Fr _t		0.997			0.974				0.850			0.850
Fit Protected	0.950			0.950				0.992			0.976	
Satd. Flow (prot)	1695	1777	0	1695	1730	0	0	1770	1517	0	1741	1517
Fit Permitted	0.447			0.373				0.935			0.786	
Satd. Flow (perm)	795	1777	0	659	1730	0	0	1656	1469	0	1396	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			21				336			99
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		148.5			683.5			136.4			617.7	
Travel Time (s)		10.7			49.2			12.3			44.5	
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour 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
Adj. Flow (vph)	35	279	6	431	476	102	18	94	336	62	63	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	285	0	431	578	0	0	112	336	0	125	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	40.6	40.6		18.6	59.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	44.8%	44.8%		20.5%	65.3%		34.7%	34.7%	34.7%	34.7%	34.7%	34.7%
Maximum Green (s)	35.0	35.0		13.0	54.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
2032 Background Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	14.9	14.9		32.8	33.4			12.2	12.2		12.2	12.2
Actuated g/C Ratio	0.26	0.26		0.58	0.59			0.22	0.22		0.22	0.22
v/c Ratio	0.17	0.61		0.71	0.56			0.31	0.58		0.41	0.10
Control Delay	18.9	24.6		15.6	9.6			22.6	7.4		25.1	0.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	18.9	24.6		15.6	9.6			22.6	7.4		25.1	0.5
LOS	B	C		B	A			C	A		C	A
Approach Delay		23.9			12.2			11.2			19.4	
Approach LOS		C			B			B			B	
90th %ile Green (s)	23.0	23.0		13.0	42.2		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Ped	Ped		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	17.8	17.8		13.0	37.0		12.0	12.0	12.0	12.0	12.0	12.0
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	13.8	13.8		13.0	33.0		10.1	10.1	10.1	10.1	10.1	10.1
50th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	11.7	11.7		11.4	29.3		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		9.5	25.7		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Gap	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	27	225		204	303			86	44		99	0
Fuel Used(l)	2	14		38	49			5	7		12	2
CO Emissions (g/hr)	30	269		702	904			89	137		223	42
NOx Emissions (g/hr)	6	52		135	174			17	27		43	8
VOC Emissions (g/hr)	7	62		162	208			21	32		51	10
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	2.6	24.2		18.6	25.4			9.5	0.0		10.9	0.0
Queue Length 95th (m)	9.7	52.6		#57.8	69.3			24.0	17.4		27.0	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	506	1131		628	1612			783	871		660	716
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.07	0.25		0.69	0.36			0.14	0.39		0.19	0.05

Intersection Summary

Area Type:	Other
Cycle Length:	90.7
Actuated Cycle Length:	56.4
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	14.5
Intersection Capacity Utilization:	71.3%
Analysis Period (min):	15
90th %ile Actuated Cycle:	72.7
70th %ile Actuated Cycle:	59.5
50th %ile Actuated Cycle:	53.6
30th %ile Actuated Cycle:	49.8
10th %ile Actuated Cycle:	46.2
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
2032 Background Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	635	57	98	939	39	105	13	62	21	8	25
Future Volume (vph)	14	635	57	98	939	39	105	13	62	21	8	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00				0.96		0.98			0.98	
Fr _t		0.989				0.850		0.953			0.937	
Fit Protected		0.999		0.950				0.972			0.981	
Satd. Flow (prot)	0	1757	0	1695	1784	1517	0	1640	0	0	1614	0
Fit Permitted		0.977		0.307				0.790			0.853	
Satd. Flow (perm)	0	1719	0	548	1784	1457	0	1322	0	0	1402	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		26			25	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour 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
Adj. Flow (vph)	14	635	57	98	939	39	105	13	62	21	8	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	706	0	98	939	39	0	180	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
2032 Background Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		15.0	15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7		8	8	8	1	1		5	5	
Act Effct Green (s)		52.0		62.9	62.9	62.9		16.3			16.3	
Actuated g/C Ratio		0.57		0.69	0.69	0.69		0.18			0.18	
v/c Ratio		0.72		0.21	0.76	0.04		0.70			0.20	
Control Delay		22.6		6.7	16.0	3.2		43.9			20.3	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		22.6		6.7	16.0	3.2		43.9			20.3	
LOS		C		A	B	A		D			C	
Approach Delay		22.6			14.7			43.9			20.3	
Approach LOS		C			B			D			C	
90th %ile Green (s)	45.4	45.4		9.6	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	47.1	47.1		7.9	60.9	60.9	18.8	18.8		18.8	18.8	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	47.9	47.9		7.1	60.9	60.9	15.6	15.6		15.6	15.6	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	48.5	48.5		6.5	60.9	60.9	12.6	12.6		12.6	12.6	
30th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	70.6	70.6		0.0	70.6	70.6	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		491		33	593	7		139			27	
Fuel Used(l)		69		3	40	1		14			2	
CO Emissions (g/hr)		1285		52	737	16		264			46	
NOx Emissions (g/hr)		248		10	142	3		51			9	
VOC Emissions (g/hr)		296		12	170	4		61			11	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		86.5		4.7	89.7	0.5		24.8			4.2	
Queue Length 95th (m)		#187.6		12.8	#201.0	4.2		45.6			13.4	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		983		631	1233	1016		525			555	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.72		0.16	0.76	0.04		0.34			0.10	

Intersection Summary

Area Type:	Other
Cycle Length:	107.7
Actuated Cycle Length:	91
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	20.2
Intersection Capacity Utilization:	93.2%
Analysis Period (min):	15
90th %ile Actuated Cycle:	97.7
70th %ile Actuated Cycle:	91.5
50th %ile Actuated Cycle:	88.3
30th %ile Actuated Cycle:	85.3
10th %ile Actuated Cycle:	92.4
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 6: Paterson/Menzie & Ottawa



3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	332	2	151	170	34	3	67	233	80	57	35
Future Volume (vph)	51	332	2	151	170	34	3	67	233	80	57	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			1.00	0.97		0.99	0.93
Fr _t		0.999			0.975				0.850			0.850
Fit Protected	0.950			0.950				0.998			0.972	
Satd. Flow (prot)	1695	1782	0	1695	1732	0	0	1781	1517	0	1734	1517
Fit Permitted	0.630			0.355				0.987			0.780	
Satd. Flow (perm)	1119	1782	0	628	1732	0	0	1758	1471	0	1384	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20				233			108
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		148.5			683.5			136.4			617.7	
Travel Time (s)		10.7			49.2			12.3			44.5	
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour 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
Adj. Flow (vph)	51	332	2	151	170	34	3	67	233	80	57	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	334	0	151	204	0	0	70	233	0	137	35
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	35.6	35.6		15.6	51.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	43.0%	43.0%		18.9%	61.9%		38.1%	38.1%	38.1%	38.1%	38.1%	38.1%
Maximum Green (s)	30.0	30.0		10.0	46.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	16.1	16.1		26.5	27.2			12.8	12.8		12.8	12.8
Actuated g/C Ratio	0.31	0.31		0.52	0.53			0.25	0.25		0.25	0.25
v/c Ratio	0.15	0.60		0.30	0.22			0.16	0.43		0.40	0.08
Control Delay	15.8	21.4		7.9	6.1			19.3	6.2		23.3	0.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.8	21.4		7.9	6.1			19.3	6.2		23.3	0.4
LOS	B	C		A	A			B	A		C	A
Approach Delay		20.7			6.8			9.2			18.7	
Approach LOS		C			A			A			B	
90th %ile Green (s)	25.1	25.1		10.0	41.3		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Gap	Gap		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	19.6	19.6		9.5	35.3		12.7	12.7	12.7	12.7	12.7	12.7
70th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	14.7	14.7		7.7	28.6		10.4	10.4	10.4	10.4	10.4	10.4
50th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	12.1	12.1		6.9	25.2		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		0.0	10.6		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Skip	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	36	257		60	76			54	34		106	0
Fuel Used(l)	2	16		12	16			3	5		13	2
CO Emissions (g/hr)	40	297		224	296			53	92		239	38
NOx Emissions (g/hr)	8	57		43	57			10	18		46	7
VOC Emissions (g/hr)	9	69		52	68			12	21		55	9
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.3	25.0		5.5	6.5			5.1	0.0		10.6	0.0
Queue Length 95th (m)	11.7	58.4		16.7	19.8			15.9	14.6		28.9	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	706	1125		549	1515			962	910		757	822
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.07	0.30		0.28	0.13			0.07	0.26		0.18	0.04

Intersection Summary

Area Type: Other

Cycle Length: 82.7

Actuated Cycle Length: 51.3

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 13.5

Intersection LOS: B

Intersection Capacity Utilization 61.4%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 71.8

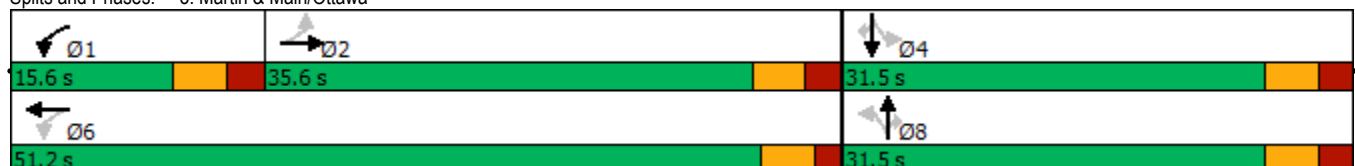
70th %ile Actuated Cycle: 58.5

50th %ile Actuated Cycle: 49.5

30th %ile Actuated Cycle: 45.7

10th %ile Actuated Cycle: 31.1

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	517	108	41	441	12	75	11	71	36	29	14
Future Volume (vph)	6	517	108	41	441	12	75	11	71	36	29	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99				0.96		0.98			0.99	
Fr _t		0.977				0.850		0.939			0.976	
Flt Protected				0.950				0.977			0.978	
Satd. Flow (prot)	0	1732	0	1695	1784	1517	0	1621	0	0	1693	0
Flt Permitted		0.996		0.354				0.840			0.773	
Satd. Flow (perm)	0	1725	0	632	1784	1457	0	1384	0	0	1337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				29		41			11	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour 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
Adj. Flow (vph)	6	517	108	41	441	12	75	11	71	36	29	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	631	0	41	441	12	0	157	0	0	79	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0			15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7			8	8	1	1		5	5	
Act Effct Green (s)		56.4		64.0	64.0	64.0		14.6			14.6	
Actuated g/C Ratio		0.62		0.71	0.71	0.71		0.16			0.16	
v/c Ratio		0.58		0.08	0.35	0.01		0.61			0.35	
Control Delay		15.6		5.6	6.9	0.9		35.1			31.6	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		15.6		5.6	6.9	0.9		35.1			31.6	
LOS		B		A	A	A		D			C	
Approach Delay		15.6			6.7			35.1			31.6	
Approach LOS		B			A			D			C	
90th %ile Green (s)	47.5	47.5		7.5	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	48.6	48.6		6.4	60.9	60.9	15.4	15.4		15.4	15.4	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	48.9	48.9		6.1	60.9	60.9	12.7	12.7		12.7	12.7	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	60.9	60.9		0.0	60.9	60.9	10.2	10.2		10.2	10.2	
30th %ile Term Code	Hold	Hold		Skip	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	75.9	75.9		0.0	75.9	75.9	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		387		14	166	1		104			57	
Fuel Used(l)		57		1	13	0		11			5	
CO Emissions (g/hr)		1064		21	242	4		205			87	
NOx Emissions (g/hr)		205		4	47	1		40			17	
VOC Emissions (g/hr)		245		5	56	1		47			20	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		63.0		1.7	22.9	0.0		17.8			10.1	
Queue Length 95th (m)		135.5		6.6	56.9	0.9		36.2			22.1	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1080		683	1262	1040		563			527	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.58		0.06	0.35	0.01		0.28			0.15	

Intersection Summary

Area Type: Other

Cycle Length: 107.7

Actuated Cycle Length: 90.4

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 97.7

70th %ile Actuated Cycle: 88.1

50th %ile Actuated Cycle: 85.4

30th %ile Actuated Cycle: 82.9

10th %ile Actuated Cycle: 97.7

Splits and Phases: 6: Paterson/Menzie & Ottawa

01	02	04
25.9 s	40.9 s	40.9 s
06		08
66.8 s		40.9 s

3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	258	6	396	438	94	17	89	311	57	60	37
Future Volume (vph)	35	258	6	396	438	94	17	89	311	57	60	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			0.99	0.97		1.00	0.93
Fr _t		0.997			0.973				0.850			0.850
Fit Protected	0.950			0.950				0.992			0.976	
Satd. Flow (prot)	1695	1777	0	1695	1728	0	0	1770	1517	0	1741	1517
Fit Permitted	0.466			0.397				0.937			0.792	
Satd. Flow (perm)	829	1777	0	701	1728	0	0	1659	1469	0	1406	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			21				311			99
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		148.5			683.5			136.4			617.7	
Travel Time (s)		10.7			49.2			12.3			44.5	
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour 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
Adj. Flow (vph)	35	258	6	396	438	94	17	89	311	57	60	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	264	0	396	532	0	0	106	311	0	117	37
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	40.6	40.6		18.6	59.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	44.8%	44.8%		20.5%	65.3%		34.7%	34.7%	34.7%	34.7%	34.7%	34.7%
Maximum Green (s)	35.0	35.0		13.0	54.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	14.4	14.4		31.8	32.4			12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.26	0.26		0.58	0.59			0.22	0.22		0.22	0.22
v/c Ratio	0.16	0.57		0.65	0.52			0.29	0.55		0.38	0.10
Control Delay	18.7	23.4		12.5	9.0			22.0	7.2		24.1	0.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	18.7	23.4		12.5	9.0			22.0	7.2		24.1	0.5
LOS	B	C		B	A			C	A		C	A
Approach Delay		22.9			10.5			10.9			18.4	
Approach LOS		C			B			B			B	
90th %ile Green (s)	23.0	23.0		13.0	42.2		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Ped	Ped		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	16.8	16.8		13.0	36.0		11.4	11.4	11.4	11.4	11.4	11.4
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	13.0	13.0		12.3	31.5		10.0	10.0	10.0	10.0	10.0	10.0
50th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
30th %ile Green (s)	11.1	11.1		10.6	27.9		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		8.8	25.0		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Gap	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	27	207		194	269			82	42		92	0
Fuel Used(l)	2	13		34	44			4	7		11	2
CO Emissions (g/hr)	30	244		630	823			84	127		206	41
NOx Emissions (g/hr)	6	47		122	159			16	24		40	8
VOC Emissions (g/hr)	7	56		145	190			19	29		48	9
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	2.6	21.4		16.5	22.3			8.6	0.0		9.7	0.0
Queue Length 95th (m)	9.7	48.4		44.8	61.4			22.8	16.9		25.4	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	539	1156		643	1619			801	870		679	730
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.06	0.23		0.62	0.33			0.13	0.36		0.17	0.05

Intersection Summary

Area Type: Other
 Cycle Length: 90.7
 Actuated Cycle Length: 55.3
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 13.3
 Intersection Capacity Utilization 68.2%
 Analysis Period (min) 15
 90th %ile Actuated Cycle: 72.7
 70th %ile Actuated Cycle: 57.9
 50th %ile Actuated Cycle: 52
 30th %ile Actuated Cycle: 48.4
 10th %ile Actuated Cycle: 45.5
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
PM Peak

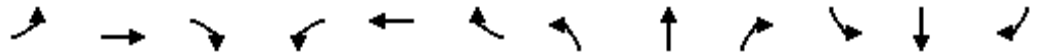
Evoy Lands, Almonte
2027 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	586	53	90	865	43	95	13	57	23	8	23
Future Volume (vph)	13	586	53	90	865	43	95	13	57	23	8	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00				0.96		0.98			0.98	
Fr _t		0.989				0.850		0.953			0.942	
Fit Protected		0.999		0.950				0.972			0.979	
Satd. Flow (prot)	0	1757	0	1695	1784	1517	0	1640	0	0	1621	0
Fit Permitted		0.980		0.332				0.792			0.838	
Satd. Flow (perm)	0	1724	0	592	1784	1457	0	1326	0	0	1387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		26			23	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour 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
Adj. Flow (vph)	13	586	53	90	865	43	95	13	57	23	8	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	652	0	90	865	43	0	165	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0			15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7			8	8	1	1		5	5	
Act Effct Green (s)		52.8		63.7	63.7	63.7		15.6			15.6	
Actuated g/C Ratio		0.58		0.70	0.70	0.70		0.17			0.17	
v/c Ratio		0.65		0.18	0.69	0.04		0.67			0.21	
Control Delay		19.6		6.3	13.1	3.2		41.9			21.6	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		19.6		6.3	13.1	3.2		41.9			21.6	
LOS		B		A	B	A		D			C	
Approach Delay		19.6			12.1			41.9			21.6	
Approach LOS		B			B			D			C	
90th %ile Green (s)	45.7	45.7		9.3	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	47.4	47.4		7.6	60.9	60.9	17.3	17.3		17.3	17.3	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	48.1	48.1		6.9	60.9	60.9	14.4	14.4		14.4	14.4	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	48.7	48.7		6.3	60.9	60.9	11.7	11.7		11.7	11.7	
30th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	74.7	74.7		0.0	74.7	74.7	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		441		30	513	8		125			29	
Fuel Used(l)		62		3	34	1		13			3	
CO Emissions (g/hr)		1154		47	630	18		236			48	
NOx Emissions (g/hr)		223		9	122	3		46			9	
VOC Emissions (g/hr)		266		11	145	4		54			11	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		72.6		4.1	71.7	0.6		22.0			4.5	
Queue Length 95th (m)		#152.8		12.1	163.5	4.7		41.4			13.7	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1000		656	1247	1027		526			548	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.65		0.14	0.69	0.04		0.31			0.10	

Intersection Summary

Area Type:	Other
Cycle Length:	107.7
Actuated Cycle Length:	91.1
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	17.6
Intersection Capacity Utilization:	85.4%
Analysis Period (min):	15
90th %ile Actuated Cycle:	97.7
70th %ile Actuated Cycle:	90
50th %ile Actuated Cycle:	87.1
30th %ile Actuated Cycle:	84.4
10th %ile Actuated Cycle:	96.5
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 6: Paterson/Menzie & Ottawa



3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
2032 Total Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	362	2	167	187	37	4	74	255	87	65	41
Future Volume (vph)	56	362	2	167	187	37	4	74	255	87	65	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			1.00	0.97		0.99	0.93
Fr _t		0.999			0.975				0.850			0.850
Fit Protected	0.950			0.950				0.997			0.972	
Satd. Flow (prot)	1695	1782	0	1695	1732	0	0	1779	1517	0	1734	1517
Fit Permitted	0.619			0.331				0.983			0.779	
Satd. Flow (perm)	1100	1782	0	586	1732	0	0	1750	1471	0	1383	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20				255			108
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		148.5			683.5			136.4			617.7	
Travel Time (s)		10.7			49.2			12.3			44.5	
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour 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
Adj. Flow (vph)	56	362	2	167	187	37	4	74	255	87	65	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	364	0	167	224	0	0	78	255	0	152	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	35.6	35.6		15.6	51.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	43.0%	43.0%		18.9%	61.9%		38.1%	38.1%	38.1%	38.1%	38.1%	38.1%
Maximum Green (s)	30.0	30.0		10.0	46.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
AM Peak

Evoy Lands, Almonte
2032 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	17.4	17.4		27.9	28.6			13.3	13.3		13.3	13.3
Actuated g/C Ratio	0.33	0.33		0.52	0.54			0.25	0.25		0.25	0.25
v/c Ratio	0.16	0.63		0.35	0.24			0.18	0.46		0.44	0.09
Control Delay	15.8	22.0		8.3	6.3			20.4	6.4		25.1	0.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.8	22.0		8.3	6.3			20.4	6.4		25.1	0.4
LOS	B	C		A	A			C	A		C	A
Approach Delay		21.2			7.1			9.6			19.9	
Approach LOS		C			A			A			B	
90th %ile Green (s)	27.0	27.0		10.0	43.2		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Gap	Gap		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	22.1	22.1		9.9	38.2		14.0	14.0	14.0	14.0	14.0	14.0
70th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	16.1	16.1		8.0	30.3		11.3	11.3	11.3	11.3	11.3	11.3
50th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	13.1	13.1		7.1	26.4		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.1	10.1		0.0	10.7		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Gap	Gap		Skip	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	37	281		68	85			59	36		120	0
Fuel Used(l)	2	18		13	18			3	5		15	2
CO Emissions (g/hr)	43	327		250	326			59	101		271	45
NOx Emissions (g/hr)	8	63		48	63			11	20		52	9
VOC Emissions (g/hr)	10	76		58	75			14	23		62	10
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.8	29.0		6.4	7.7			6.0	0.0		12.6	0.0
Queue Length 95th (m)	12.4	64.0		18.1	21.6			18.0	15.6		33.0	0.0
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	673	1091		533	1470			929	900		734	800
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.08	0.33		0.31	0.15			0.08	0.28		0.21	0.05

Intersection Summary

Area Type: Other

Cycle Length: 82.7

Actuated Cycle Length: 53.3

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 14.0

Intersection LOS: B

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15

90th %ile Actuated Cycle: 73.7

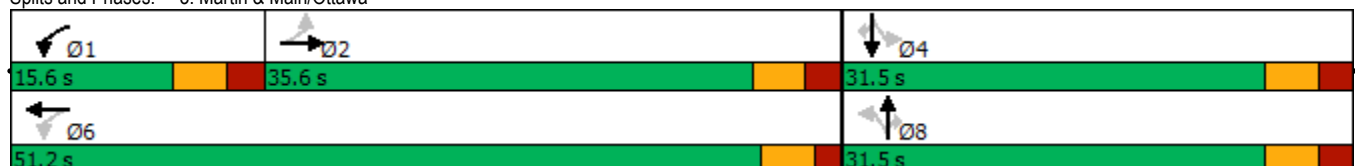
70th %ile Actuated Cycle: 62.7

50th %ile Actuated Cycle: 52.1

30th %ile Actuated Cycle: 46.9

10th %ile Actuated Cycle: 31.2

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
2032 Total Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	572	117	45	482	16	82	13	77	47	34	14
Future Volume (vph)	7	572	117	45	482	16	82	13	77	47	34	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99				0.96		0.98			0.99	
Fr _t		0.977				0.850		0.940			0.980	
Fit Protected		0.999		0.950				0.977			0.976	
Satd. Flow (prot)	0	1730	0	1695	1784	1517	0	1622	0	0	1698	0
Fit Permitted		0.996		0.324				0.825			0.732	
Satd. Flow (perm)	0	1725	0	578	1784	1457	0	1362	0	0	1273	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				29		40			9	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour 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
Adj. Flow (vph)	7	572	117	45	482	16	82	13	77	47	34	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	696	0	45	482	16	0	172	0	0	95	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
AM Peak

Evoy Lands, Almonte
2032 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0			15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7			8	8	1	1		5	5	
Act Effct Green (s)		55.5		63.0	63.0	63.0		15.3			15.3	
Actuated g/C Ratio		0.62		0.70	0.70	0.70		0.17			0.17	
v/c Ratio		0.65		0.09	0.39	0.02		0.65			0.43	
Control Delay		18.0		5.9	7.6	1.4		37.7			34.9	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		18.0		5.9	7.6	1.4		37.7			34.9	
LOS		B		A	A	A		D			C	
Approach Delay		18.0			7.2			37.7			34.9	
Approach LOS		B			A			D			C	
90th %ile Green (s)	47.4	47.4		7.6	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	48.4	48.4		6.6	60.9	60.9	16.9	16.9		16.9	16.9	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	48.8	48.8		6.2	60.9	60.9	14.0	14.0		14.0	14.0	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	60.9	60.9		0.0	60.9	60.9	11.2	11.2		11.2	11.2	
30th %ile Term Code	Hold	Hold		Skip	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	70.7	70.7		0.0	70.7	70.7	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		444		14	192	1		120			72	
Fuel Used(l)		65		1	15	0		13			6	
CO Emissions (g/hr)		1206		23	274	5		233			111	
NOx Emissions (g/hr)		233		4	53	1		45			21	
VOC Emissions (g/hr)		278		5	63	1		54			25	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		77.3		1.9	27.6	0.0		20.7			13.0	
Queue Length 95th (m)		#174.1		7.0	63.6	1.4		40.4			26.6	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1065		652	1247	1027		555			501	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.65		0.07	0.39	0.02		0.31			0.19	

Intersection Summary

Area Type:	Other
Cycle Length:	107.7
Actuated Cycle Length:	90.1
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	17.5
Intersection Capacity Utilization:	83.8%
Analysis Period (min):	15
90th %ile Actuated Cycle:	97.7
70th %ile Actuated Cycle:	89.6
50th %ile Actuated Cycle:	86.7
30th %ile Actuated Cycle:	83.9
10th %ile Actuated Cycle:	92.5
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 6: Paterson/Menzie & Ottawa



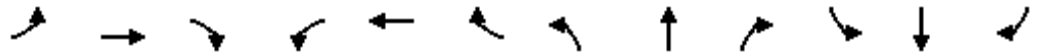
3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	285	6	434	480	102	18	100	342	62	67	42
Future Volume (vph)	41	285	6	434	480	102	18	100	342	62	67	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	15.0		0.0	25.0		0.0	0.0		10.0	0.0		10.0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (m)	35.0			35.0			35.0			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00			0.99	0.97		1.00	0.93
Fr _t		0.997			0.974				0.850			0.850
Fit Protected	0.950			0.950				0.992			0.977	
Satd. Flow (prot)	1695	1778	0	1695	1730	0	0	1770	1517	0	1743	1517
Fit Permitted	0.445			0.366				0.938			0.788	
Satd. Flow (perm)	792	1778	0	646	1730	0	0	1662	1469	0	1400	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			21				342			99
Link Speed (k/h)		50			50				40			50
Link Distance (m)		148.5			683.5				136.4			617.7
Travel Time (s)		10.7			49.2				12.3			44.5
Confl. Peds. (#/hr)	3		10	10		3	24		5	5		24
Peak Hour 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
Adj. Flow (vph)	41	285	6	434	480	102	18	100	342	62	67	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	291	0	434	582	0	0	118	342	0	129	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.6	28.6		10.6	28.0		25.5	25.5	25.5	25.5	25.5	25.5
Total Split (s)	40.6	40.6		18.6	59.2		31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	44.8%	44.8%		20.5%	65.3%		34.7%	34.7%	34.7%	34.7%	34.7%	34.7%
Maximum Green (s)	35.0	35.0		13.0	54.2		26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3		2.3	1.7		2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0

3: Martin & Main/Ottawa
PM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		14.0			13.0	13.0	13.0	13.0	13.0	13.0
Pedestrian Calls (#/hr)	10	10		3			5	5	5	24	24	24
Act Effct Green (s)	15.1	15.1		33.0	33.6			12.3	12.3		12.3	12.3
Actuated g/C Ratio	0.27	0.27		0.58	0.59			0.22	0.22		0.22	0.22
v/c Ratio	0.20	0.62		0.72	0.56			0.33	0.58		0.43	0.11
Control Delay	19.4	24.9		16.2	9.7			22.9	7.4		25.4	0.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	19.4	24.9		16.2	9.7			22.9	7.4		25.4	0.7
LOS	B	C		B	A			C	A		C	A
Approach Delay		24.2			12.4			11.4			19.3	
Approach LOS		C			B			B			B	
90th %ile Green (s)	23.0	23.0		13.0	42.2		20.0	20.0	20.0	20.0	20.0	20.0
90th %ile Term Code	Gap	Gap		Max	Hold		Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	18.1	18.1		13.0	37.3		12.2	12.2	12.2	12.2	12.2	12.2
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	14.1	14.1		13.0	33.3		10.3	10.3	10.3	10.3	10.3	10.3
50th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	11.8	11.8		11.6	29.6		10.0	10.0	10.0	10.0	10.0	10.0
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0		9.7	25.9		10.0	10.0	10.0	10.0	10.0	10.0
10th %ile Term Code	Min	Min		Gap	Hold		Min	Min	Min	Hold	Hold	Hold
Stops (vph)	32	233		207	308			91	45		101	0
Fuel Used(l)	2	15		38	49			5	8		12	2
CO Emissions (g/hr)	36	277		711	912			95	140		230	46
NOx Emissions (g/hr)	7	53		137	176			18	27		44	9
VOC Emissions (g/hr)	8	64		164	210			22	32		53	11
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.1	24.9		19.0	26.1			10.2	0.0		11.4	0.0
Queue Length 95th (m)	11.1	53.7		#60.2	70.2			25.0	17.5		27.7	0.6
Internal Link Dist (m)		124.5			659.5			112.4			593.7	
Turn Bay Length (m)	15.0			25.0					10.0			10.0
Base Capacity (vph)	501	1125		623	1610			781	871		658	712
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.08	0.26		0.70	0.36			0.15	0.39		0.20	0.06

Intersection Summary

Area Type: Other

Cycle Length: 90.7

Actuated Cycle Length: 56.7

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 14.8

Intersection Capacity Utilization 71.8%

Analysis Period (min) 15

90th %ile Actuated Cycle: 72.7

70th %ile Actuated Cycle: 60

50th %ile Actuated Cycle: 54.1

30th %ile Actuated Cycle: 50.1

10th %ile Actuated Cycle: 46.4

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Martin & Main/Ottawa



6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	643	57	98	953	54	104	18	62	30	11	25
Future Volume (vph)	14	643	57	98	953	54	104	18	62	30	11	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00				0.96		0.98			0.99	
Fr _t		0.989				0.850		0.955			0.949	
Fit Protected		0.999		0.950				0.973			0.978	
Satd. Flow (prot)	0	1758	0	1695	1784	1517	0	1646	0	0	1634	0
Fit Permitted		0.977		0.302				0.794			0.805	
Satd. Flow (perm)	0	1719	0	539	1784	1457	0	1333	0	0	1344	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		25			25	
Link Speed (k/h)		50			50			40			50	
Link Distance (m)		683.5			166.0			319.6			197.0	
Travel Time (s)		49.2			12.0			28.8			14.2	
Confl. Peds. (#/hr)	8		7	7		8	5		1	1		5
Peak Hour 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
Adj. Flow (vph)	14	643	57	98	953	54	104	18	62	30	11	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	714	0	98	953	54	0	184	0	0	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.9	27.9		10.9	27.9	27.9	30.9	30.9		23.9	23.9	
Total Split (s)	40.9	40.9		25.9	66.8	66.8	40.9	40.9		40.9	40.9	
Total Split (%)	38.0%	38.0%		24.0%	62.0%	62.0%	38.0%	38.0%		38.0%	38.0%	
Maximum Green (s)	35.0	35.0		20.0	60.9	60.9	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		0.0			0.0	

6: Paterson/Menzie & Ottawa
PM Peak

Evoy Lands, Almonte
2027 Total Traffic Volumes



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		15.0	15.0	15.0	18.0	18.0		11.0	11.0	
Pedestrian Calls (#/hr)	7	7		8	8	8	1	1		5	5	
Act Effct Green (s)		51.7		62.6	62.6	62.6		16.5			16.5	
Actuated g/C Ratio		0.57		0.69	0.69	0.69		0.18			0.18	
v/c Ratio		0.73		0.21	0.78	0.05		0.70			0.25	
Control Delay		23.1		6.8	16.7	3.7		44.2			23.1	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		23.1		6.8	16.7	3.7		44.2			23.1	
LOS		C		A	B	A		D			C	
Approach Delay		23.1			15.2			44.2			23.1	
Approach LOS		C			B			D			C	
90th %ile Green (s)	45.4	45.4		9.6	60.9	60.9	25.0	25.0		25.0	25.0	
90th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Ped	Ped		Hold	Hold	
70th %ile Green (s)	47.0	47.0		8.0	60.9	60.9	19.1	19.1		19.1	19.1	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	47.9	47.9		7.1	60.9	60.9	15.9	15.9		15.9	15.9	
50th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
30th %ile Green (s)	48.5	48.5		6.5	60.9	60.9	13.0	13.0		13.0	13.0	
30th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	68.9	68.9		0.0	68.9	68.9	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		500		33	609	10		144			36	
Fuel Used(l)		70		3	41	1		15			3	
CO Emissions (g/hr)		1307		52	761	23		271			60	
NOx Emissions (g/hr)		252		10	147	4		52			12	
VOC Emissions (g/hr)		302		12	176	5		62			14	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		89.0		4.8	93.9	1.2		25.6			6.0	
Queue Length 95th (m)		#191.3		12.8	#214.8	5.9		46.7			16.4	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		979		626	1229	1012		529			533	
Starvation Cap Reductn		0		0	0	0		0			0	
Spillback Cap Reductn		0		0	0	0		0			0	
Storage Cap Reductn		0		0	0	0		0			0	
Reduced v/c Ratio		0.73		0.16	0.78	0.05		0.35			0.12	

Intersection Summary

Area Type:	Other
Cycle Length:	107.7
Actuated Cycle Length:	90.9
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	20.8
Intersection Capacity Utilization:	91.9%
Analysis Period (min):	15
90th %ile Actuated Cycle:	97.7
70th %ile Actuated Cycle:	91.8
50th %ile Actuated Cycle:	88.6
30th %ile Actuated Cycle:	85.7
10th %ile Actuated Cycle:	90.7
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 6: Paterson/Menzie & Ottawa

