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Hannan Hills

Transportation Impact Study

TRANSPORTATION IMPACT STUDY

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

Hannan Hills Subdivision

Almonte, ON

Prepared For:

CAVANAGH DEVELOPMENTS

Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
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June 2024

Novatech File: 118201
Ref: R-2024-053

NOVATECH
Engineers, Planners & Landscape Architects

June 12, 2024

Lanark County
99 Christie Lake Road
Perth, ON K7H 3C6

Attention: Koren Lam, Senior Planner

Dear Ms. Lam:

Reference: Hannan Hills Subdivision
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 Ministry of Transportation of Ontario (MTO)'s publication *General Guidelines for the Preparation of Traffic Impact Studies* (March 2023).

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

Yours truly,

NOVATECH

Joshua Audia, P.Eng.
Project Engineer | Transportation

cc: Cavanagh Developments

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TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 PROPOSED DEVELOPMENT 1
1.2 ANALYSIS METHODS 2
1.3 ANALYSIS PARAMETERS 3
2.0 EXISTING CONDITIONS 3
2.1 ROADWAYS 3
2.2 INTERSECTIONS 4
2.3 PEDESTRIAN AND CYCLING FACILITIES 4
2.4 TRANSIT 5
2.5 TRAFFIC VOLUMES 5
2.6 OPERATING SPEEDS 5
3.0 PLANNED CONDITIONS 6
4.0 TRAVEL DEMAND FORECASTING 7
4.1 DEVELOPMENT-GENERATED TRAFFIC 7
4.1.1 Trip Generation 7
4.1.2 Trip Distribution 7
4.1.3 Trip Assignment 7
4.2 BACKGROUND TRAFFIC 9
4.3 FUTURE TRAFFIC VOLUMES 9
5.0 IMPACT ANALYSIS 13
5.1 EXISTING INTERSECTION ANALYSIS 13
5.2 BACKGROUND INTERSECTION ANALYSIS 14
5.3 TOTAL INTERSECTION ANALYSIS 15
6.0 ON-SITE DESIGN 16
7.0 ON-STREET PARKING 16
8.0 CONCLUSIONS AND RECOMMENDATIONS 17

Figures

Figure 1: Site Location 1
Figure 2: Existing and Planned Pedestrian Network 5
Figure 3: Existing Traffic Volumes 6
Figure 4: Site-Generated Traffic Volumes 8
Figure 5: 2027 Background Traffic Volumes 10
Figure 6: 2032 Background Traffic Volumes 11
Figure 7: 2027 Total Traffic Volumes 12
Figure 8: 2032 Total Traffic Volumes 13

Tables

Table 1: Site Trip Generation 7
Table 2: Trip Generation – Other Future Development 9
Table 3: Existing Intersection Operations 13
Table 4: Background Intersection Operations 14
Table 5: Total Intersection Operations 15

Appendices

Appendix A: Draft Plan and Transportation Concept Plan
Appendix B: Traffic Data
Appendix C: Synchro Analysis
Appendix D: On-Street Parking Figure

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, and are located east of Florence Street and north of Adelaide Street.

A total of 110 new units are proposed, with the unit type breakdown as follows:

- 82 street townhouses,
- 24 back-to-back townhouses, and
- 4 single-detached dwellings.

The development will be accessed from Florence Street and an extension of Adelaide Street. The estimated date of full build-out is 2027. The development is anticipated to generate 57 trips (14 in, 43 out) in the AM peak hour and 68 trips (43 in, 25 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 hour and 135m in the PM peak hour. 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 in the PM peak hour. 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.

- By 2032, the maximum eastbound queue at Ottawa Street/Menzie Street/Paterson Street is anticipated to be approximately 155m in the AM peak hour and 190m in the PM peak hour. This queue is anticipated to extend past the Ottawa Street/St. James Street intersection in the AM and PM peak hours and may periodically block the Ottawa Street/Harold Street intersection in the PM peak hour.

- By 2032, the maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is anticipated to be approximately 195m in the PM peak hour. This queue is anticipated to extend into and may periodically block the upstream Ottawa Street/Sadler Drive/Industrial Drive intersection.

- By 2032, 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 57 two-way trips during the AM peak hour and 68 two-way trips during the PM peak hour to Adelaide Street. This is equivalent to one vehicle every 50 to 60 seconds.

- The combination of traffic generated by the proposed development and the Menzie Enclave subdivision is anticipated to increase the traffic volumes on Marshall Street to a magnitude of approximately 95 vehicles during the AM peak hour and 130 vehicles during the PM peak hour. The PM peak hour traffic volumes exceed the typical local roadway thresholds by approximately 30%. However, it should be noted that this still equates to a rate of two to three vehicles per minute. It is understood that a second vehicular connection to Honeyborne Street will not be provided, and therefore the Mill Run subdivision to the east will only be immediately accessible for pedestrians.

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, three streets with 18m rights-of-way are proposed.

- Road widths of 8.5m are proposed for Florence Street, Adelaide Street east of Finner Court, and the internal streets. A sidewalk is proposed along one side of each internal street, as well as between the terminus of Adelaide Street and the existing cul-de-sac along Honeyborne Street.

- The Menzie Enclave subdivision includes two street connections to Adelaide Street. Measuring centre to centre, Street One at Adelaide Street is offset by approximately 2m to the west from the far Menzie Enclave connection. This offset is marginal. Street Two at Adelaide Street is offset by approximately 14.5m to the east of McDermott Street, and Street Three at Adelaide Street is offset by approximately 13m to the east from the near Menzie Enclave connection. In both of these cases, the minimum spacing is not met, and the intersections are offset in such a way that there could be conflict between opposing left turning vehicles. Due to the low traffic volumes anticipated on the Adelaide Street extension, clear sightlines at all approaches of the proposed intersections, and the low likelihood that a vehicle will travel from the east and turn left into the Menzie Enclave subdivision or onto McDermott Street, safety concerns are not anticipated with these offset intersections.

On-Street Parking

- In total, the proposed subdivision will include 307 parking spaces, consisting of 252 off-street parking spaces and 55 on-street parking spaces within the internal streets or on the extension of Adelaide Street. For 110 dwellings, this equates to 2.79 parking spaces per dwelling.

- The proposed development is recommended from a transportation perspective.

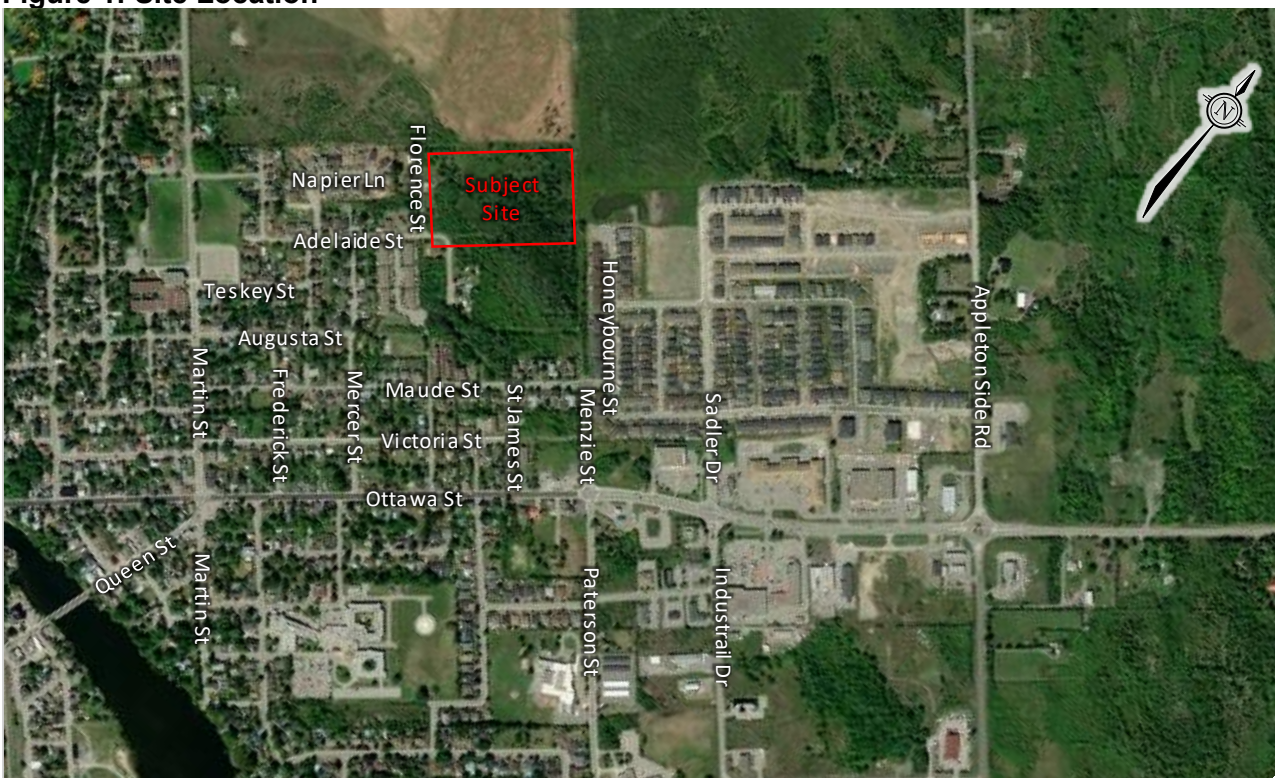
1.0 INTRODUCTION

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, and 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;
- Future residential development (Menzie Enclave) to 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 110 new units are proposed, with the unit type breakdown as follows:

- 82 street townhouses,
- 24 back-to-back townhouses, and
- 4 single-detached dwellings.

The development will be accessed from Florence Street and an extension of Adelaide Street. The estimated date of full build-out is 2027.

Appendix A includes the draft plan of subdivision, plus a concept plan showing the proposed subdivision in the context of the adjacent planned subdivision and McDermott Street to the south.

1.2 Analysis Methods

Intersection capacity analysis has been completed using Synchro 11 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:

Unsignalized Intersections

LOS	Delay (sec/veh)
A	<10
B	10 to 15
C	15 to 25
D	25 to 35
E	35 to 50
F	>50

Signalized Intersections

LOS	Delay (sec/veh)
A	<10
B	10 to 20
C	20 to 35
D	35 to 55
E	55 to 80
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's *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 50km/h. Ottawa Street is designated as 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 as 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 as 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 limit of 50km/h. Menzie Street is designated as a collector roadway in Figure 9.1A of the Mississippi Mills TMP.

Maude Street extends from Martin Street (west) to Honeyborne Street (east). Within the study area, Maude Street has one travel lane in each direction and a regulatory speed limit of 50km/h. Maude Street is designated as 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 limit of 40km/h. Paterson Street is designated as 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 limit of 50km/h. Adelaide Street is designated as a local roadway.

Marshall Street extends from Adelaide Street (north) to Augusta Street (south), and continues south of Augusta Street as Mercer Street until terminating at Ottawa Street. Within the study area, Marshall Street has one travel lane in each direction and a regulatory speed limit of 50 km/h. Marshall Street is designated as a local roadway.

2.2 Intersections

Ottawa Street/Main Street/Martin Street/Queen Street

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

Ottawa Street/Menzie Street/Paterson Street

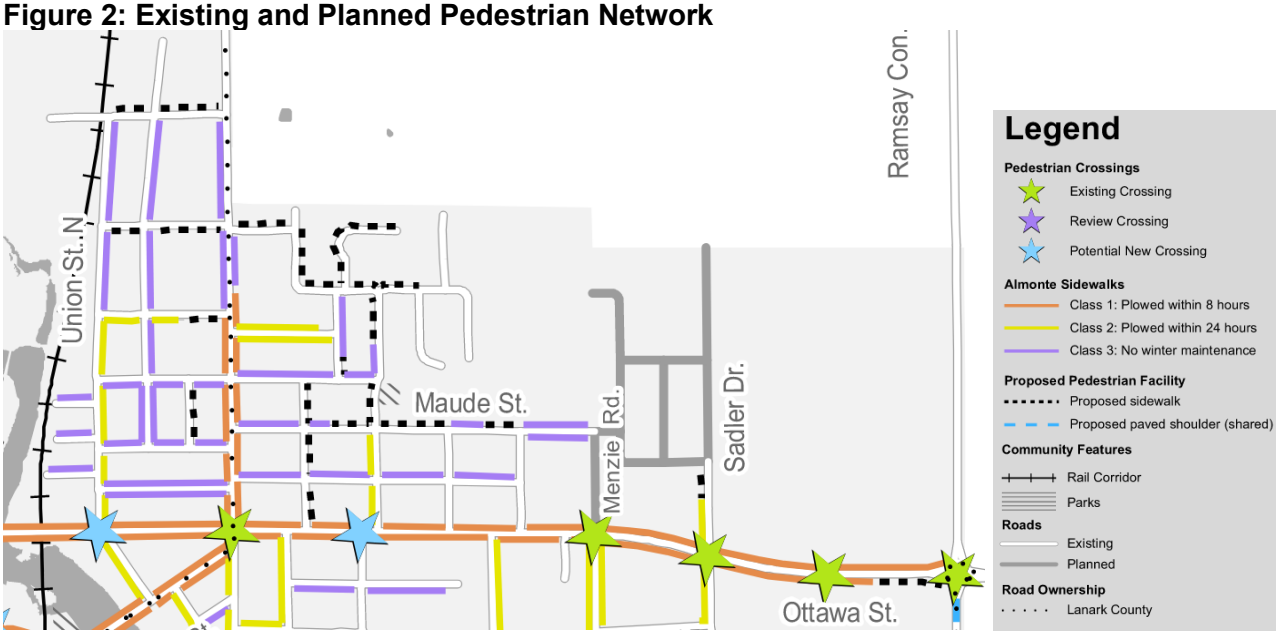
- Signalized intersection
- Northbound/southbound/eastbound: one shared all-movement lane
- Westbound: one left turn lane, one through lane, one right turn lane
- Ladder crosswalks on all approaches

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

Figure 2: Existing and Planned Pedestrian Network



Extracted from Figure 11.1A of the Municipality of Mississippi Mills Transportation Master Plan (March 2016)

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. This route has been suspended since March 2020, due to the COVID-19 pandemic.

2.5 Traffic Volumes

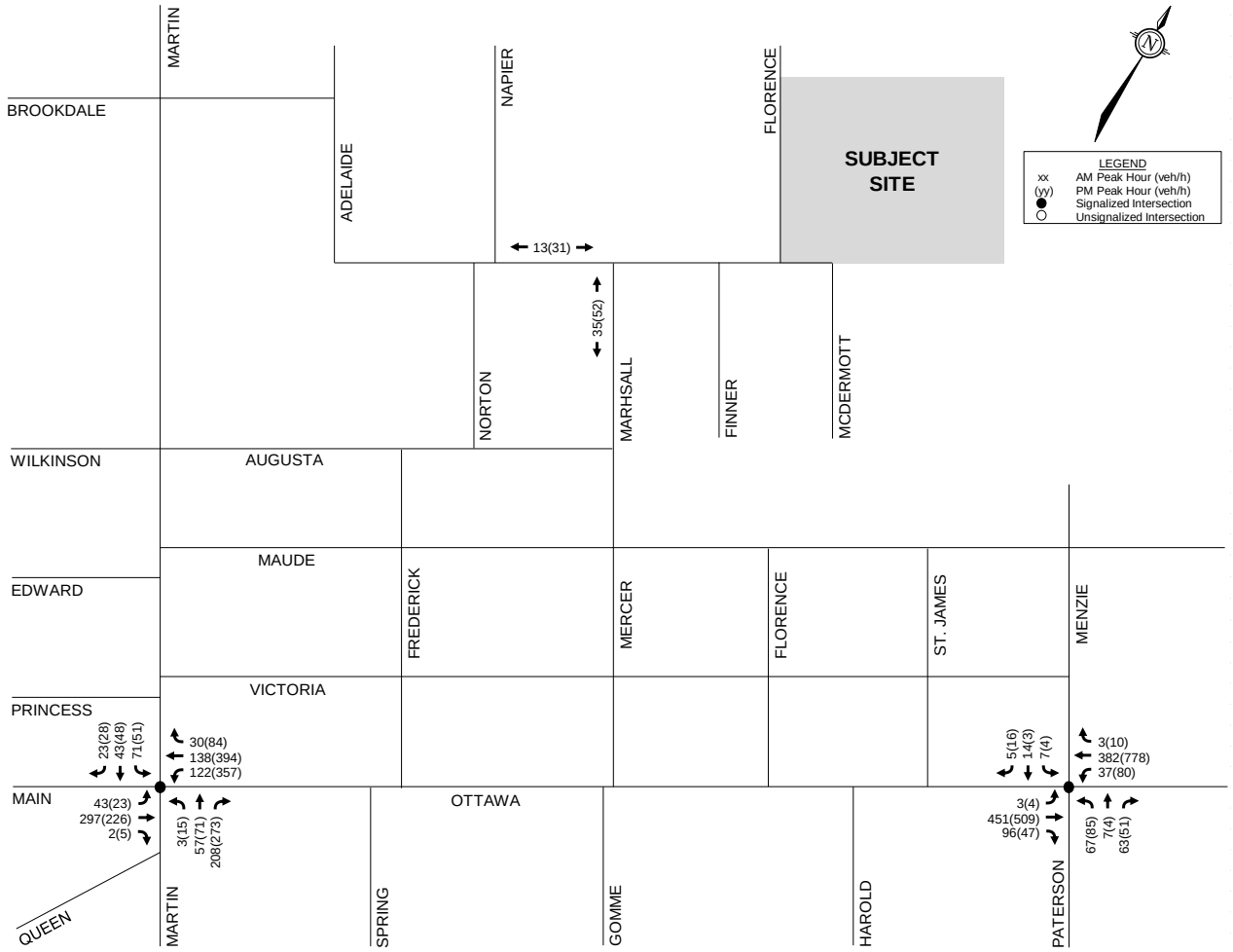
Weekday traffic count data collected at the Ottawa Street/Main Street/Martin Street and Ottawa Street/ Menzie Street/Patterson Street intersections on November 7, 2019 were provided by the Town of Mississippi Mills. The Town also provided tube count data at Adelaide Street (between Marshall Street and Napier Lane) and at Marshall Street (between Augusta Street and Adelaide Street). The data described above is included in **Appendix B**. The observed traffic volumes at the study area intersections and average two-way traffic volumes based on the tube counts at Adelaide Street and Marshall Street (accounting for outlier volumes that appear unusually low) are shown in **Figure 3**.

2.6 Operating Speeds

The tube count data described in the previous section also included operating speed survey data on Adelaide Street (between Marshall Street and Napier Lane) and at Marshall Street (between Augusta Street and Adelaide Street). All vehicles travelling to/from the proposed subdivision will be required to travel through one of these two sections of roadway.

The operating speed is taken as the 85th-percentile speed, which is the speed at which 85% of motorists will operate in free-flowing traffic and favourable driving conditions. Based on the speed survey data collected, the 85th-percentile speed on Adelaide Street and Marshall Street is 31 km/h and 37 km/h, respectively.

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 was anticipated by the end of 2022, and appears to be complete. A TIS for Phase 1 of the Mill Run subdivision was prepared in October 2007 and revised in 2012, and a TIS for Phases 2-5 was prepared in May 2015. At a later date, Phase 5 was separated into two phases (i.e. Phases 5 and 6). In November 2023, a TIS was prepared in support of Phases 7 and 8. 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 single-detached, 23 townhouses);
- Phase 4B: 29 units (19 single-detached, 10 townhouses);
- Phase 5: 53 units (19 single-detached, 12 semi-detached, 22 townhouses);
- Phase 6: 45 units (20 single-detached, 10 semi-detached, 15 townhouses);
- Phases 7-8: 125 units (47 single-detached, 18 semi-detached, 60 townhouses).

Therefore, projected traffic generated by these remaining units within the Mill Run subdivision has been added to the 2027 and 2032 background volumes, as they were not captured during the 2019 traffic counts.

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 was anticipated by 2022, but has not occurred. Projected traffic generated by the proposed redevelopment has been added to the 2027 and 2032 background volumes.

It is understood that the lands to the south of the subject site (south of the Adelaide Street extension and east of McDermott Street) are in the development application process to create a new subdivision referred to as 'Menzie Enclave.' The subdivision is proposed to include 55 dwellings, and assumed to be completed prior to the 2027 build-out year. Projected traffic generated by the proposed Menzie Enclave subdivision has been added to the 2027 and 2032 background volumes.

4.0 TRAVEL DEMAND FORECASTING

4.1 Development-Generated Traffic

4.1.1 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, 11th Edition*. The trip generation calculations are summarized in the following table.

Table 1: Site Trip Generation

Land Use	Units	AM Peak Hour (vph)			PM Peak Hour (vph)		
		IN	OUT	TOT	IN	OUT	TOT
Multifamily Housing (Low-Rise)	110 units	14	43	*57*	43	25	*68*

Based on the above, the development is anticipated to generate 57 trips (14 in, 43 out) in the AM peak hour and 68 trips (43 in, 25 out) in the PM peak hour.

4.1.2 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.

4.1.3 Trip Assignment

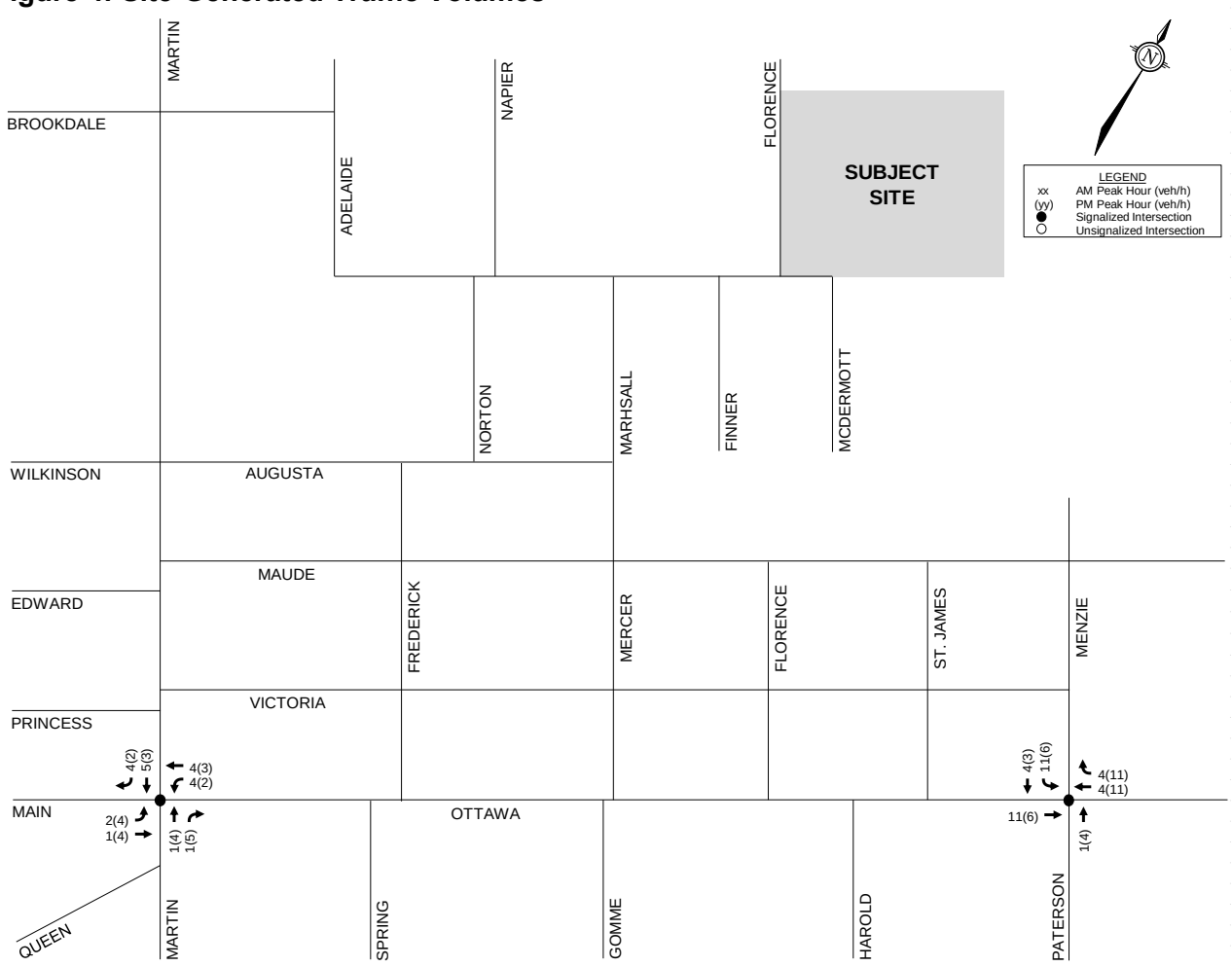
Half of all trips assigned to the east via Ottawa Street have been assumed to utilize Menzie Street via Maude Street, while the other half have been assumed to utilize the other side streets (Mercer Street, Florence Street, or St. James Street).

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

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

Traffic volumes generated by site have been assigned to the study area intersections and are shown in **Figure 4**.

Figure 4: Site-Generated Traffic Volumes



4.2 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 Town'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, 11th Edition*. The trip generation calculations are summarized in the following table.

Table 2: Trip Generation – Other Future Development

Land Use	Units	AM Peak (vph)			PM Peak (vph)		
		IN	OUT	TOT	IN	OUT	TOT
Mill Run Subdivision							
Single-Family Detached Housing	128 units	23	70	*93*	79	46	*125*
Multifamily Housing (Low-Rise)	242 units	23	75	*98*	79	46	*125*
Total Mill Run		**46**	**145**	***191***	**158**	**92**	***250***
Menzie Enclave							
Multifamily Housing (Low-Rise)	55 units	5	17	*22*	18	10	*28*

1. vph: vehicle trips per hour

Traffic generated by the future phases of the Mill Run Subdivision 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 Menzie Enclave subdivision follows the same trip distribution and assignment assumptions as the subject development, and these assumptions are outlined in Sections 4.1.2 and 4.1.3. 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.

4.3 Future Traffic Volumes

Projected 2027 and 2032 background traffic volumes are shown in **Figures 5** and **6**, respectively.

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

Figure 5: 2027 Background Traffic Volumes

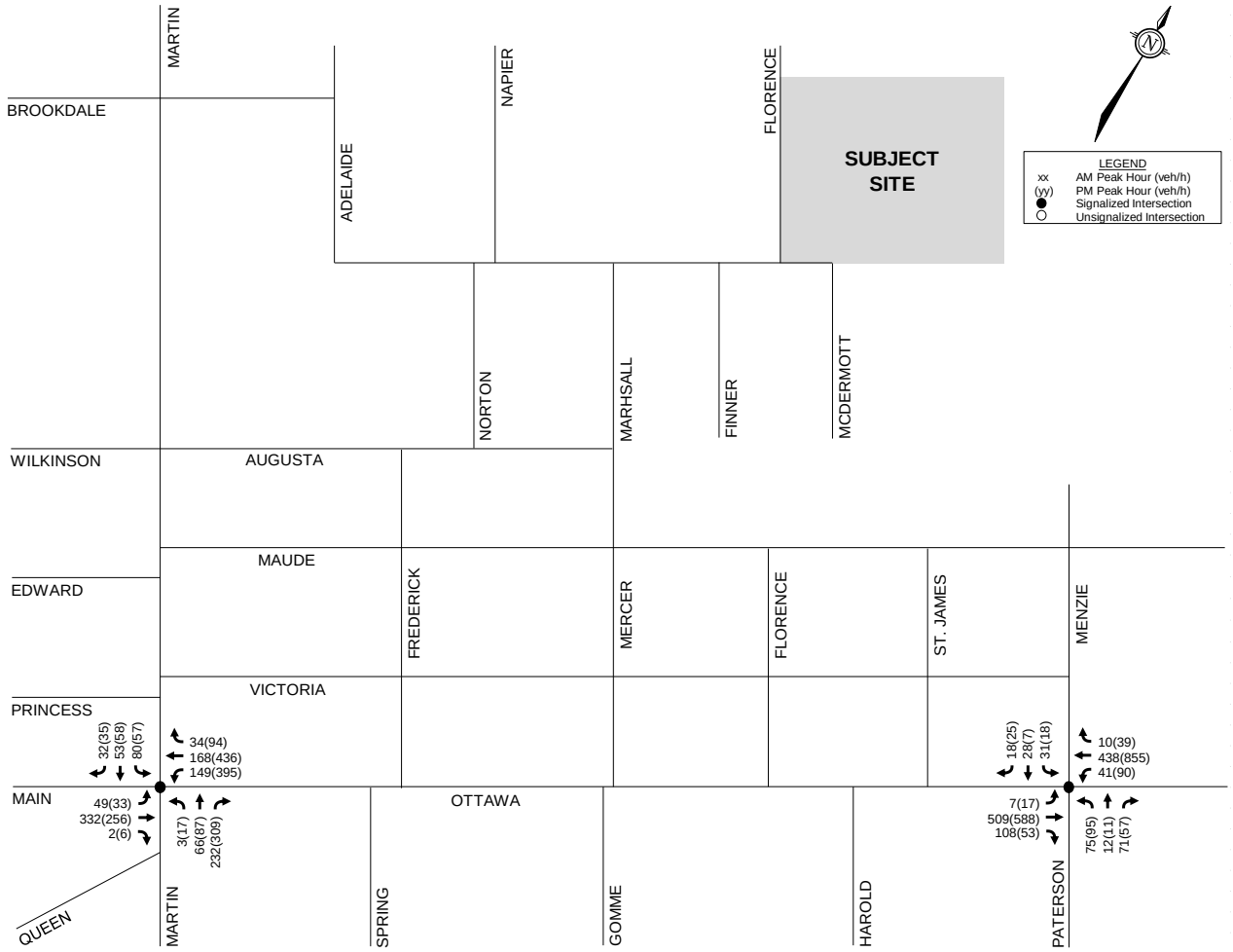


Figure 6: 2032 Background Traffic Volumes

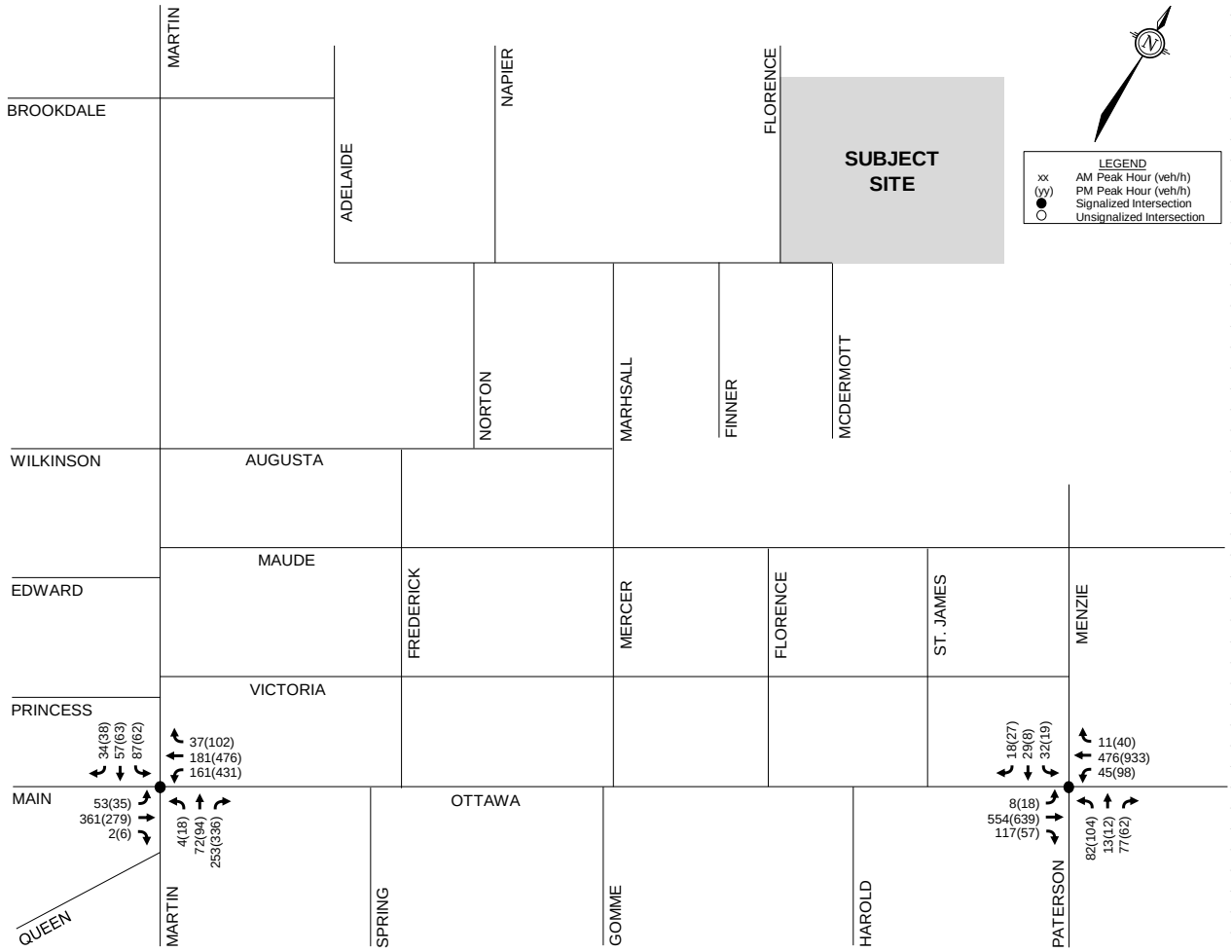


Figure 7: 2027 Total Traffic Volumes

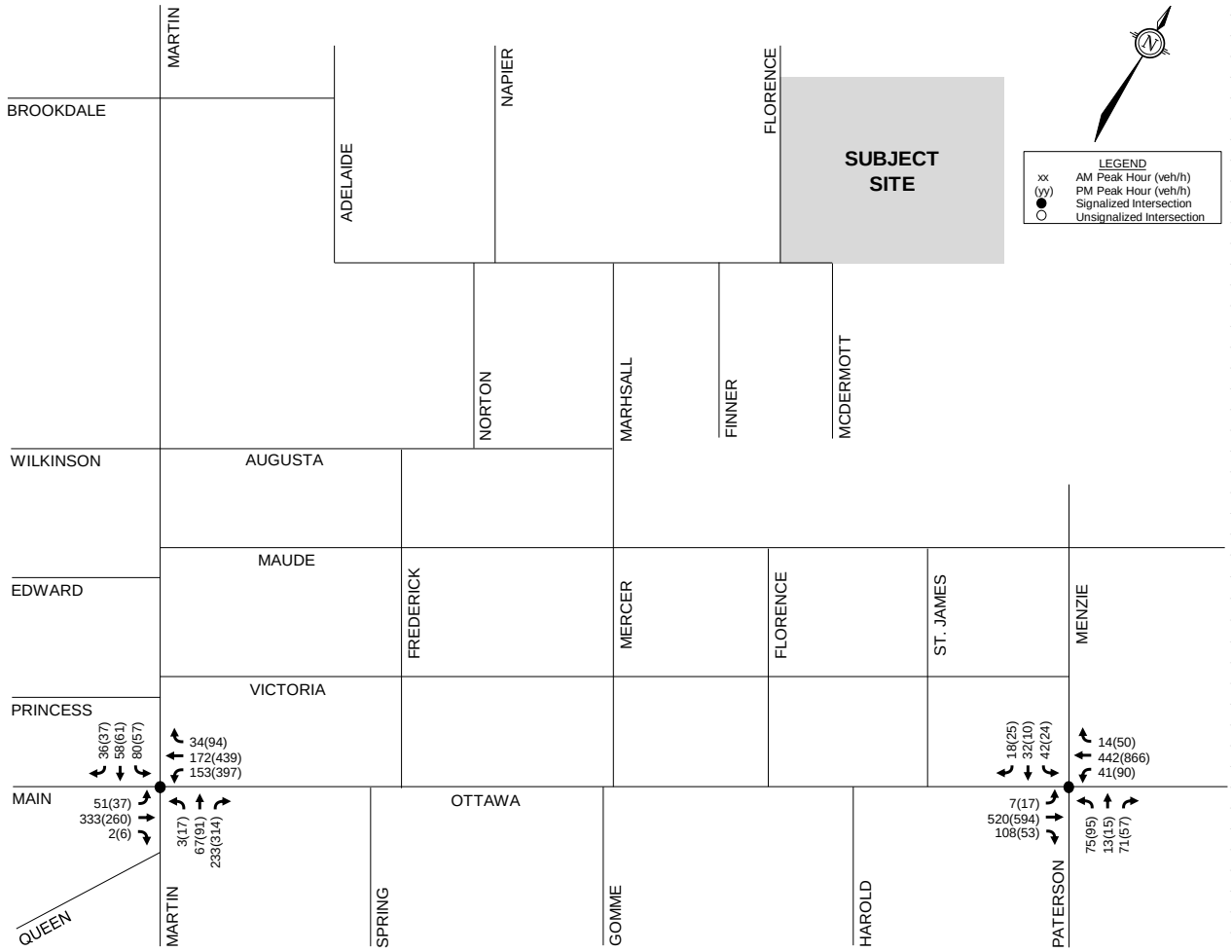
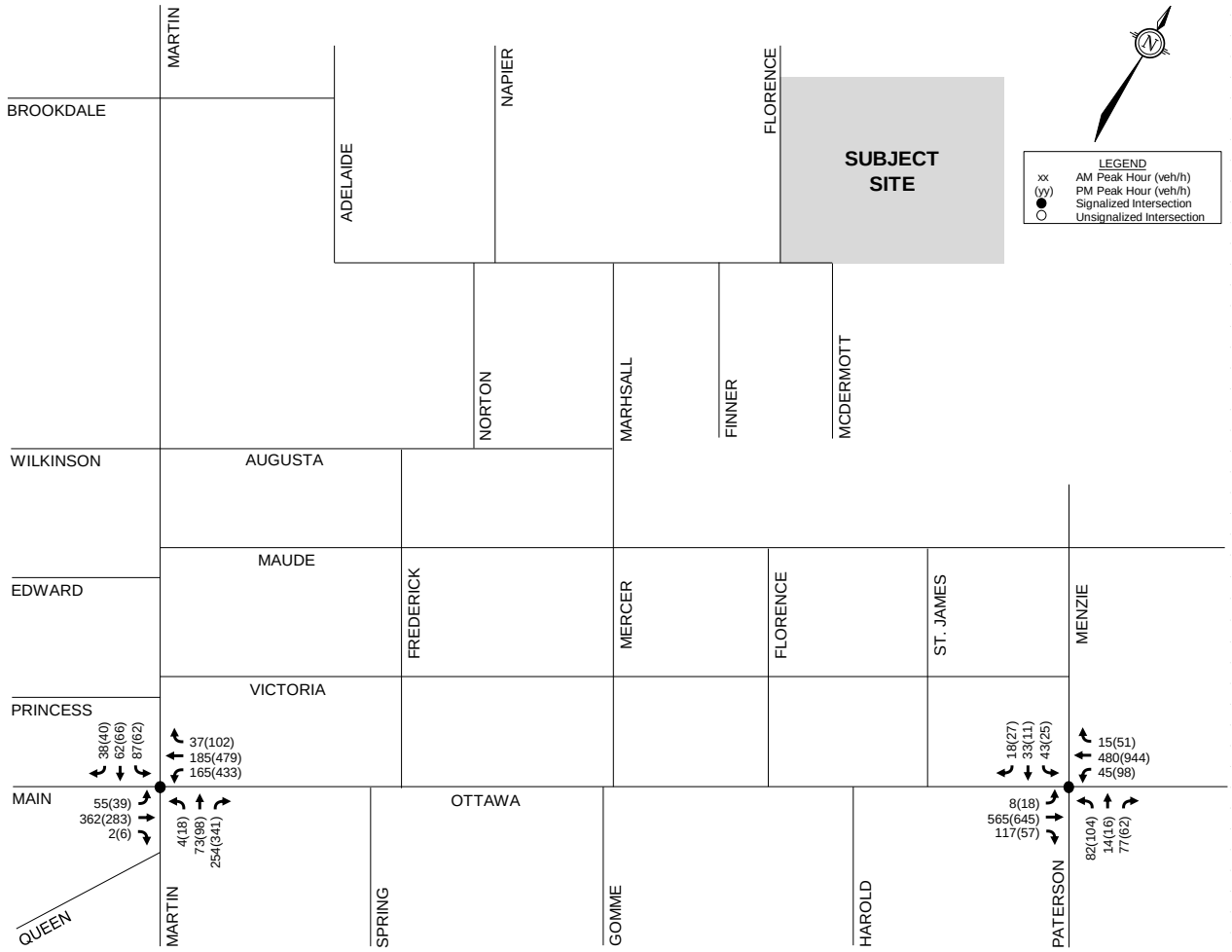


Figure 8: 2032 Total Traffic Volumes



5.0 IMPACT ANALYSIS

5.1 Existing Intersection Analysis

Intersection capacity analysis has been completed for the existing traffic conditions. 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 C**.

Table 3: Existing Intersection Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c	LOS	Mvmt	Max v/c	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 hour and 135m in the PM peak hour. 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 in the PM peak hour. This queue does not extend to the upstream 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. Detailed reports are included in **Appendix C**.

Table 4: Background Intersection Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c	LOS	Mvmt	Max v/c	LOS	Mvmt
2027 Background Traffic						
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	0.68	B	WBT
2032 Background Traffic						
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.

The maximum eastbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is anticipated to be approximately:

- 135m in the AM peak hour and 165m in the PM peak hour, in 2027 background conditions;
- 155m in the AM peak hour and 190m in the PM peak hour, in 2032 background conditions.

These queues extend past the Ottawa Street/St. James Street intersection in the AM and PM peak hours and may periodically block the Ottawa Street/Harold Street intersection in the PM peak hour.

During the PM peak hour, the maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is anticipated to be approximately 160m in the 2027 background conditions and 195m in the 2032 background conditions. This queue is anticipated to extend into and may periodically block the upstream Ottawa Street/Sadler Drive/Industrial Drive intersection.

During the PM peak hour, the maximum westbound left queue at the Ottawa Street/Main Street/ Martin Street/Queen Street intersection is anticipated to be approximately 45m in the 2027 background conditions and 60m in the 2032 background conditions. 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. Detailed reports are included in **Appendix C**.

Table 5: Total Intersection Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c	LOS	Mvmt	Max v/c	LOS	Mvmt
2027 Total Traffic						
Ottawa Street/Main Street/ Martin Street/Queen Street	0.60	A	EBT/R	0.65	B	WBL
Ottawa Street/ Menzie Street/Paterson Street	0.62	B	NB	0.70	B	WBT
2032 Total Traffic						
Ottawa Street/Main Street/ Martin Street/Queen Street	0.63	B	EBT/R	0.72	C	WBL
Ottawa Street/ Menzie Street/Paterson Street	0.66	B	NB	0.77	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 57 two-way trips during the AM peak and 68 two-way trips during the PM peak hour to Adelaide Street. This is equivalent to one vehicle every 50 to 60 seconds.

Table 15 of the Mississippi Mills TMP suggests that the expected traffic volumes for local roadways urban or rural cross-sections is fewer than 1,000 vehicles per day. This is consistent with the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*, which suggest that local roadways have a typical capacity of 1,000 vehicles per day, or 100 vehicles during the peak hour. Based on the traffic volumes shown in **Figure 3**, the PM peak hour traffic volumes on Adelaide Street and Marshall Street are approximately 31 vehicles per hour and 52 vehicle per hour, respectively.

The combination of traffic generated by the proposed development and the Menzie Enclave subdivision is anticipated to increase the traffic volumes on Marshall Street to a magnitude of approximately 95 vehicles during the AM peak hour and 130 vehicles during the PM peak hour. The PM peak hour traffic volumes exceed the typical local roadway thresholds by approximately 30%. However, it should be noted that this still equates to a rate of two to three vehicles per minute. It is understood that a second vehicular connection to Honeyborne Street will not be provided, and therefore the Mill Run subdivision to the east will only be immediately accessible for pedestrians.

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, three streets with 18m rights-of-way are proposed. Street One will connect to Florence Street and Adelaide Street, while Street Two and Street Three will both connect to Adelaide Street and Street One.

Road widths of 8.5m are proposed for Florence Street, Adelaide Street east of Finner Court, and the internal streets. A sidewalk is proposed along one side of each internal street, as well as between the terminus of Adelaide Street and the existing cul-de-sac along Honeyborne Street.

TAC's *Geometric Design Guide* suggests a minimum spacing of 60 meters between intersections along collector and local roads, measuring centre to centre. For adjacent tee intersections on local roads, TAC suggests a minimum spacing of 40 meters. The spacing between the following intersections conform to the TAC guidelines:

- Adelaide Street/Florence Street to Florence Street/Street One: approximately 105m;
- Florence Street/Street One to Street One/Street Two: approximately 65m;
- Street One/Street Two to Street One/Street Three: approximately 80m.

The Menzie Enclave subdivision includes two street connections to Adelaide Street. Measuring centre to centre, Street One at Adelaide Street is offset by approximately 2m to the west from the far Menzie Enclave connection. This offset is marginal. Street Two at Adelaide Street is offset by approximately 14.5m to the east of McDermott Street, and Street Three at Adelaide Street is offset by approximately 13m to the east from the near Menzie Enclave connection. In both of these cases, the minimum spacing is not met, and the intersections are offset in such a way that there could be conflict between opposing left turning vehicles. Due to the low traffic volumes anticipated on the Adelaide Street extension, clear sightlines at all approaches of the proposed intersections, and the low likelihood that a vehicle will travel from the east and turn left into the Menzie Enclave subdivision or onto McDermott Street, safety concerns are not anticipated with these offset intersections.

7.0 ON-STREET PARKING

The supply of parking spaces within the proposed subdivision has been reviewed, accounting for garage parking, driveway parking, and on-street parking. A figure indicating the locations for on-street parking spaces is included in **Appendix D**.

The 82 street townhouses will each include one garage parking space and one driveway parking space, the 24 back-to-back townhouses will each include one garage parking space and two driveway parking spaces in tandem, and the four single-family homes will each include double-wide garages for two garage parking spaces and two driveway parking spaces. Therefore, the total supply of off-street parking includes 114 garage parking spaces and 138 driveway parking spaces (i.e. 252 parking spaces in total).

The on-street parking supply has been reviewed using Part II of the Town's *Traffic and Parking By-Law (02-27)*. For the purposes of this review, a parking space is assumed to have a length of 6.0m and a width of 2.4m. Relevant to this review, the by-law stipulates that vehicles shall not park within 9m of any intersection, within 3m from the closest point on the curb to any fire hydrant, or within 1.5m of any private driveway.

A total of 55 on-street parking spaces are anticipated along the internal streets or extension of Adelaide Street at this stage. This supply is subject to changes in the fire hydrant locations, which will be confirmed at the detailed design stage. A single on-street parking space is identified midblock on both Street Two and Street Three where there is a separation of approximately 7.3m between the two driveways. While this distance would not provide a 1.5m separation between a 6m parking space and each driveway, it is anticipated that this distance is sufficient enough to fit most vehicles and not create a traffic hazard.

In total, the proposed subdivision will include 307 parking spaces, consisting of 252 off-street parking spaces and 55 on-street parking spaces within the internal streets or on the extension of Adelaide Street. For 110 dwellings, this equates to 2.79 parking spaces per dwelling.

8.0 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 hour and 135m in the PM peak hour. 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 in the PM peak hour. 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.

- By 2032, the maximum eastbound queue at Ottawa Street/Menzie Street/Paterson Street is anticipated to be approximately 155m in the AM peak hour and 190m in the PM peak hour. This queue is anticipated to extend past the Ottawa Street/St. James Street intersection in the AM and PM peak hours and may periodically block the Ottawa Street/Harold Street intersection in the PM peak hour.

- By 2032, the maximum westbound queue at the Ottawa Street/Menzie Street/Paterson Street intersection is anticipated to be approximately 195m in the PM peak hour. This queue is anticipated to extend into and may periodically block the upstream Ottawa Street/Sadler Drive/Industrial Drive intersection.

- By 2032, 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 57 two-way trips during the AM peak hour and 68 two-way trips during the PM peak hour to Adelaide Street. This is equivalent to one vehicle every 50 to 60 seconds.

- The combination of traffic generated by the proposed development and the Menzie Enclave subdivision is anticipated to increase the traffic volumes on Marshall Street to a magnitude of approximately 95 vehicles during the AM peak hour and 130 vehicles during the PM peak hour. The PM peak hour traffic volumes exceed the typical local roadway thresholds by approximately 30%. However, it should be noted that this still equates to a rate of two to three vehicles per minute. It is understood that a second vehicular connection to Honeyborne Street will not be provided, and therefore the Mill Run subdivision to the east will only be immediately accessible for pedestrians.

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, three streets with 18m rights-of-way are proposed.

- Road widths of 8.5m are proposed for Florence Street, Adelaide Street east of Finner Court, and the internal streets. A sidewalk is proposed along one side of each internal street, as well as between the terminus of Adelaide Street and the existing cul-de-sac along Honeyborne Street.

- The Menzie Enclave subdivision includes two street connections to Adelaide Street. Measuring centre to centre, Street One at Adelaide Street is offset by approximately 2m to the west from the far Menzie Enclave connection. This offset is marginal. Street Two at Adelaide Street is offset by approximately 14.5m to the east of McDermott Street, and Street Three at Adelaide Street is offset by approximately 13m to the east from the near Menzie Enclave connection. In both of these cases, the minimum spacing is not met, and the intersections are offset in such a way that there could be conflict between opposing left turning vehicles. Due to the low traffic volumes anticipated on the Adelaide Street extension, clear sightlines at all approaches of the proposed intersections, and the low likelihood that a vehicle will travel from the east and turn left into the Menzie Enclave subdivision or onto McDermott Street, safety concerns are not anticipated with these offset intersections.

On-Street Parking

- In total, the proposed subdivision will include 307 parking spaces, consisting of 252 off-street parking spaces and 55 on-street parking spaces within the internal streets or on the extension of Adelaide Street. For 110 dwellings, this equates to 2.79 parking spaces per dwelling.

Based on the foregoing, the proposed development is recommended from a transportation perspective.

NOVATECH

Prepared by:

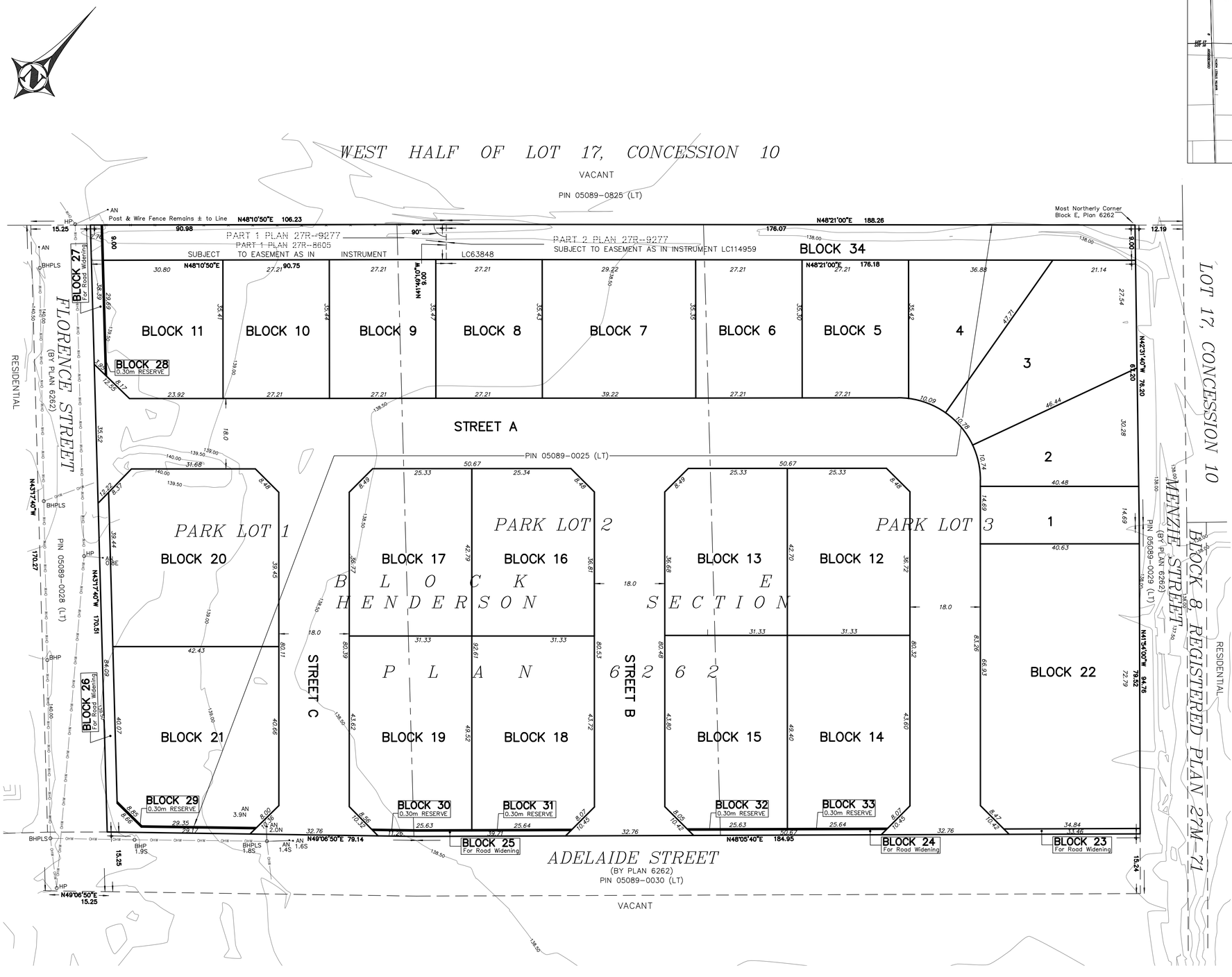
Joshua Audia, P.Eng.
Project Engineer | Transportation

Reviewed by:

Brad Byvelds, P.Eng.
Project Manager | Transportation

APPENDIX A

Draft Plan and Transportation Concept Plan



DRAFT PLAN OF SUBDIVISION
OF
ALL OF PARK LOTS 1, 2 & 3
BLOCK E, HENDERSON SECTION
PLAN 6262
GEOGRAPHIC TOWNSHIP OF RAMSAY
MUNICIPALITY OF MISSISSIPPI MILLS
COUNTY OF LANARK

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 (17) OF THE PLANNING ACT

A. AS SHOWN ON DRAFT PLAN
B. AS SHOWN ON DRAFT PLAN
C. AS SHOWN ON DRAFT PLAN
D. AS DESCRIBED ON THE TITLE BLOCK
E. AS SHOWN ON DRAFT PLAN
F. AS SHOWN ON DRAFT PLAN
G. AS SHOWN ON DRAFT PLAN
H. DEVELOPMENT WILL BE SUPPLIED WITH FULL MUNICIPAL PIPED WATER SERVICE
I. REFER TO SOILS REPORT
J. AS SHOWN ON DRAFT PLAN
K. DEVELOPMENT WILL BE SUPPLIED WITH FULL SANITARY AND STORM WATER SEWER SERVICES
L. AS SHOWN ON DRAFT PLAN

SCHEDULE OF AREAS

LOT/BLOCK	AREA (m²)	TYPE
1	596.0	SINGLE DETACHED
2	849.6	SINGLE DETACHED
3	1326.2	SINGLE DETACHED
4	882.9	SINGLE DETACHED
BLOCK 5	959.9	4 UNIT TOWNHOUSE
BLOCK 6	961.2	4 UNIT TOWNHOUSE
BLOCK 7	1388.2	6 UNIT TOWNHOUSE
BLOCK 8	964.7	4 UNIT TOWNHOUSE
BLOCK 9	964.8	4 UNIT TOWNHOUSE
BLOCK 10	964.0	4 UNIT TOWNHOUSE
BLOCK 11	1048.8	4 UNIT TOWNHOUSE
BLOCK 12	1320.3	6 UNIT TOWNHOUSE
BLOCK 13	1319.7	6 UNIT TOWNHOUSE
BLOCK 14	1530.1	7 UNIT TOWNHOUSE
BLOCK 15	1533.2	7 UNIT TOWNHOUSE
BLOCK 16	1323.2	6 UNIT TOWNHOUSE
BLOCK 17	1322.5	6 UNIT TOWNHOUSE
BLOCK 18	1533.9	7 UNIT TOWNHOUSE
BLOCK 19	1534.5	7 UNIT TOWNHOUSE
BLOCK 20	1920.2	12 UNIT BACK TO BACK
BLOCK 21	1890.1	12 UNIT BACK TO BACK
BLOCK 22	2949.8	STORMWATER MANAGEMENT
BLOCK 23	47.1	FUTURE STREET
BLOCK 24	68.0	FUTURE STREET
BLOCK 25	68.0	FUTURE STREET
BLOCK 26	300.6	FUTURE STREET
BLOCK 27	102.2	FUTURE STREET
BLOCK 28	11.6	RESERVE
BLOCK 29	11.4	RESERVE
BLOCK 30	7.6	RESERVE
BLOCK 31	7.6	RESERVE
BLOCK 32	7.6	RESERVE
BLOCK 33	7.6	RESERVE
BLOCK 34	2375.1	GREENSPACE
TOTAL LOT/BLOCK AREA (m²)		**32,098**

STREET	AREA (m²)	LENGTH (m)
STREET A	5808	313
STREET B	1780	94
STREET C	1775	94
TOTAL SUBDIVISION AREA (m²)		**41,461**

TO BE SUBDIVIDED INTO:

LOTS 1–4 for single detached residential dwellings (4 units total)
BLOCKS 5–6 & 8–11 for 4 unit townhouse residential dwellings (16 units total)
BLOCKS 7, 12–13 & 16–17 for 6 unit townhouse residential dwellings (30 units total)
BLOCKS 14–15 & 18–19 for 7 unit townhouse residential dwellings (28 units total)
BLOCKS 20–21 for 12 unit back to back residential dwellings (24 units)
BLOCK 22 for stormwater management purposes
BLOCKS 23–27 for future municipal road widenings
BLOCKS 28–33 for future reserves
BLOCK 34 for greenspace
STREETS A, B & C – 18 metres wide

APPLICANT AND PROPERTY OWNER

THOMAS CAVANAGH CONSTRUCTION LIMITED
1384341 ONTARIO LTD., c/o THOMAS CAVANAGH CONSTRUCTION LIMITED
9094 CAVANAGH ROAD
ASHTON, ON, K0A 1B0

OWNER'S CERTIFICATE

I HEREBY AUTHORIZE THE PREPARATION AND SUBMISSION OF THIS PLAN TO THE COUNCIL OF THE COUNTY OF LANARK.

DATED ON _____, 2024.

_____
1384341 ONTARIO LTD.
I HAVE THE AUTHORITY TO BIND THIS CORPORATION

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJOINING LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

MAY 15, 2024
DATE

JOHN GAUTHIER
ONTARIO LAND SURVEYOR

LEGEND AND NOTES

AN	"	ANCHOR
HP	"	HYDRO POLE
BHP	"	BELL & HYDRO POLE
BHPLS	"	BELL & HYDRO POLE & LIGHT STANDARD
–OHW–	"	OVERHEAD WIRES
PWF	"	POST AND WIRE FENCE

DISTANCES:

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES AND CAN BE USED TO COMPUTE GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999891.

BEARINGS:

BEARINGS ARE MTM GRID BEARINGS, DERIVED BY REAL TIME NETWORK GNSS OBSERVATIONS ON OBSERVED REFERENCE POINTS 'A' AND 'B' SHOWN HEREON, AND ARE REFERRED TO THE NAD83 CSRS (2010) MTM ZONE 9 COORDINATE SYSTEM.

ELEVATIONS:

ELEVATIONS AND EXISTING TOPOGRAPHIC FEATURES SHOWN ON THIS PLAN WERE PROVIDED BY DRAFT PLAN OF SUBDIVISION, CALLON DIETZ JOB NO. 21–1092.

SCALE 1 : 500
0 10 20 30 40 50 Metres

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

REVISIONS

No.	DESCRIPTION	DATE	BY
1	DRAFT PLAN UPDATED PER CAVANAGH	2024/04/08	MP
2	BLOCK 34 ADDED	2024/04/16	MP

JOB No. 24–2594 | DRAWING # 24–2594 Draft Plan_v3

PREPARED FOR: 1384341 ONTARIO LTD.

egis SURVEYING INC.
info.north-america@egis-group.com
www.egis-group.com
3240 Drummond Con. 5A, R.R. #7
Perth, ON K7H 3C9
Tel: 613-267-6524 Fax: 613-267-7992

EXAMINED: JG | CAD: MP

LEGEND

PROPOSED SIDEWALK

HONEYBORNE STREET

MENZIE STREET

ST. JAMES STREET

SWM POND

STREET ONE

STREET THREE

STREET TWO

ADELAIDE STREET

FUTURE DEVELOPMENT BY OTHERS (MENZIE ENCLAVES)

AUGUSTA STREET

MAUDE STREET

VICTORIA STREET

OTTAWA STREET

FLORENCE STREET

EX. HEADWALL

Undeveloped Land

FINNER COURT

COURT

RAPIDS

M:\2018\118201\CADDesign\118201-Transport.dwg, TCP, May 03, 2024 - 9:17am, mblanton

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

MUNICIPALITY OF MISSISSIPPI MILLS

HANNAN HILLS SUBDIVISION

TRANSPORTATION CONCEPT PLAN

SCALE 1 : 2000 (0, 20, 40, 60, 80)

DATE MAY 2024 | JOB 118201 | FIGURE 1

SHT11X17.DWG 279mmX432mm

APPENDIX B

Traffic Data

ACCURATE TRUSTED TRAFFIC DATA

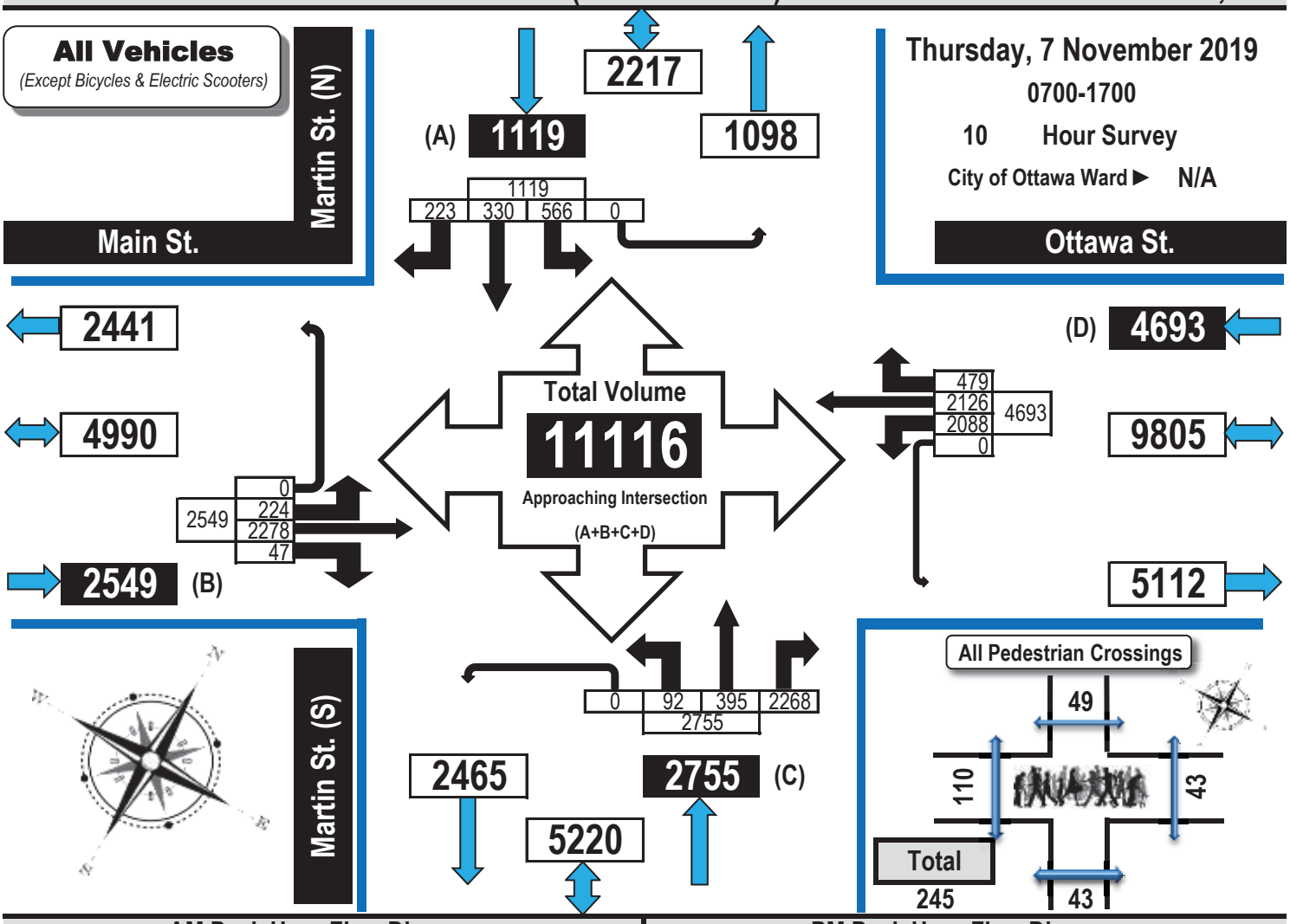
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams

Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses

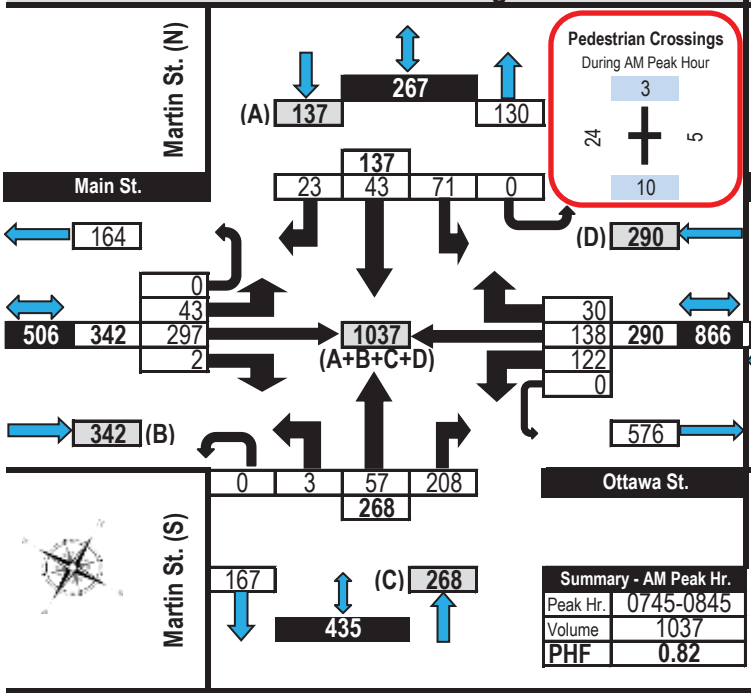
Main Street/Ottawa Street & Martin Street (North & South) — Almonte, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, 7 November 2019
0700-1700
10 Hour Survey
City of Ottawa Ward ► N/A

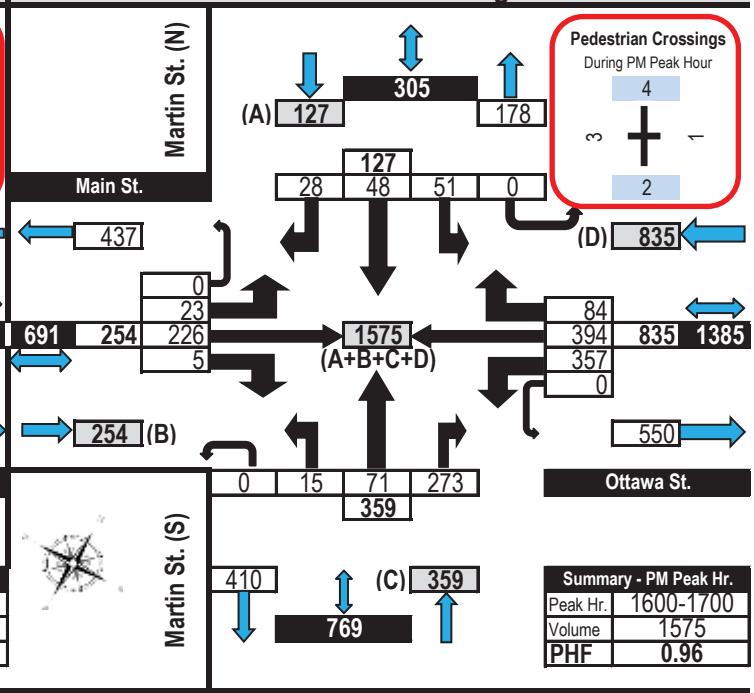


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0745-0845
Volume	1037
PHF	0.82

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1600-1700
Volume	1575
PHF	0.96

ACCURATE TRUSTED TRAFFIC DATA

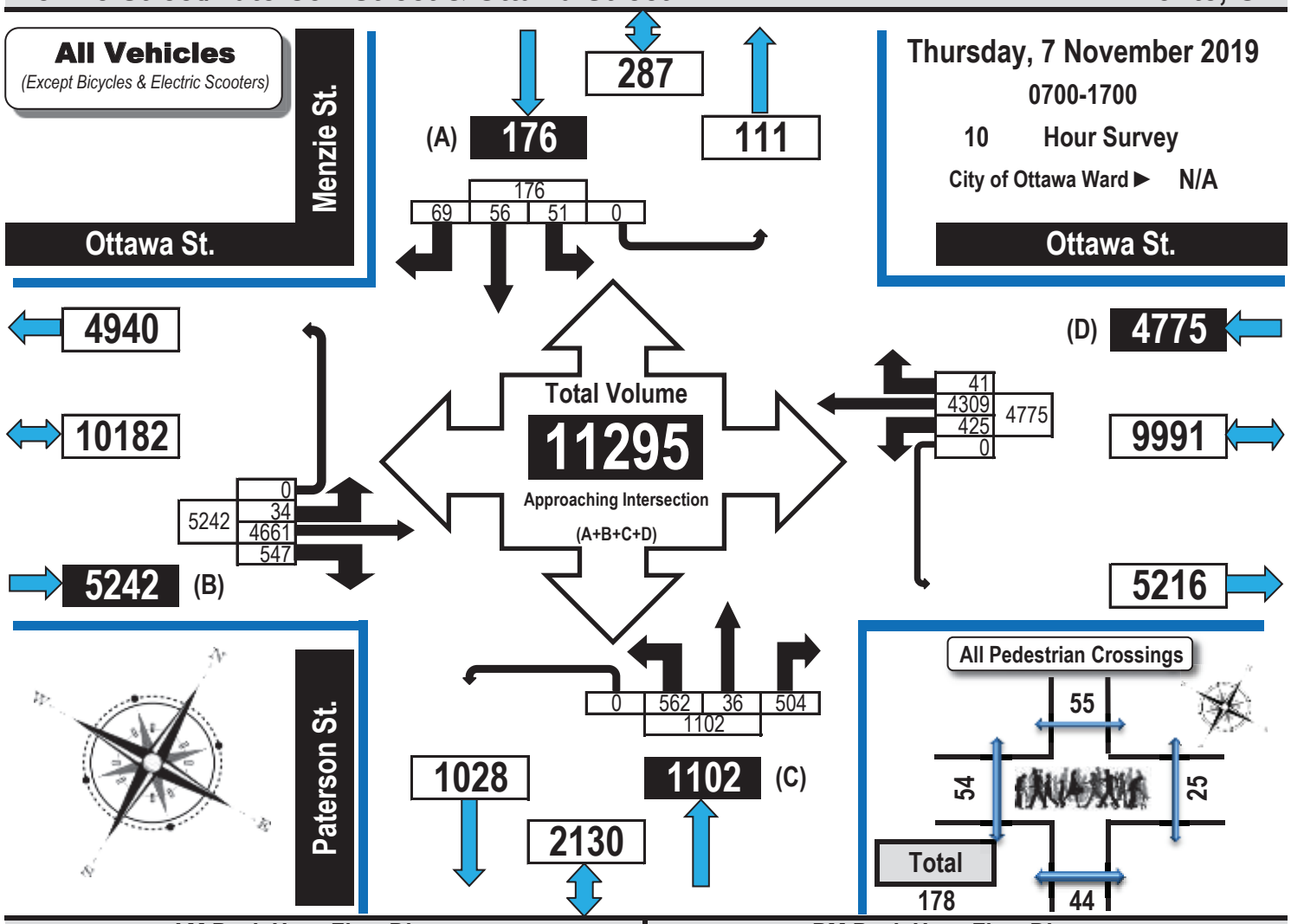
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams

Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses

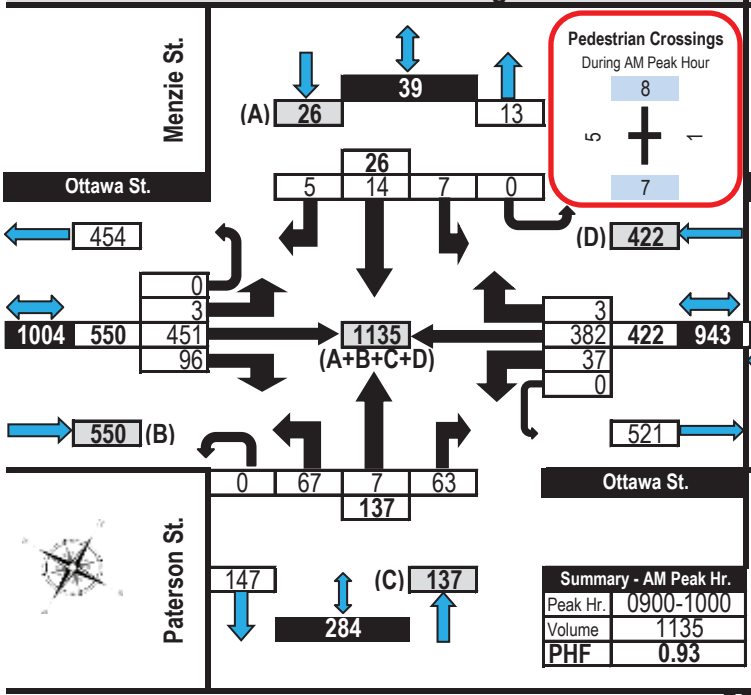
Menzie Street/Paterson Street & Ottawa Street — Almonte, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, 7 November 2019
0700-1700
10 Hour Survey
City of Ottawa Ward ► N/A

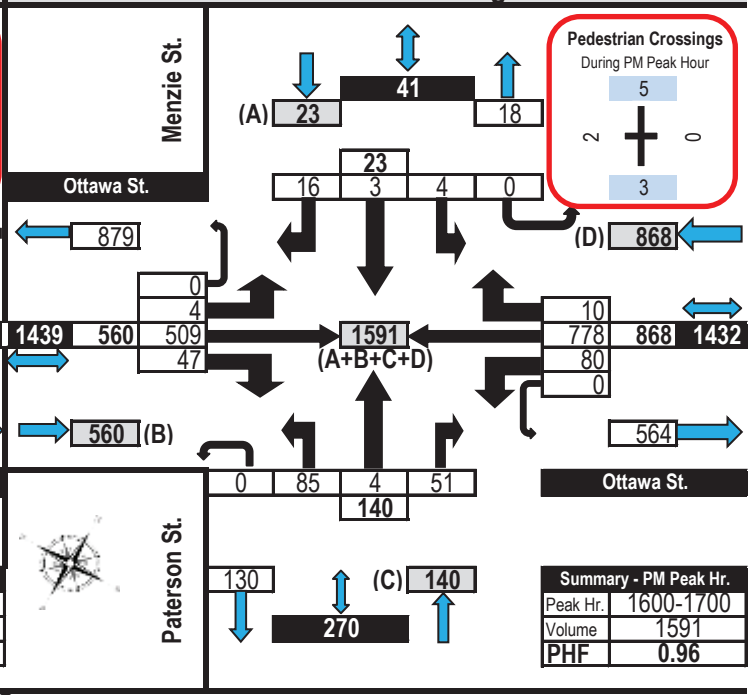


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0900-1000
Volume	1135
PHF	0.93

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1600-1700
Volume	1591
PHF	0.96

Mississippi Mills

Adelaide Street (Marshall-Napier)

Black Cat Traffic Counter Report

July 4 to July 8, 2022

Speed Limit: 50 km/h

Posted: Y / N

Speed Data Averages

Average Speed (km/h)	23
Median Speed (km/h)	23
15th Percentile Speed (km/h)	14
85th Percentile Speed (km/h)	31
AADT	188

Mississippi Mills

Speed Summary

Location: Adelaide St
From: Marshall St
To: Napier Ct

Site Code:
Station ID:

Date Start: 04-Jul-22
Date End: 08-Jul-22

Combined

Date\Speed (KPH)	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	>65	Total
2022-07-04	0	0	3	6	4	7	1	0	1	0	0	0	0	0	22
11:00	0	0	1	4	7	0	4	0	0	0	0	0	0	0	16
12:00	0	0	0	4	8	4	4	0	0	0	0	0	0	0	20
13:00	0	0	2	3	7	5	3	0	0	0	0	0	0	0	20
14:00	0	0	1	6	6	3	3	0	0	0	0	0	0	0	19
15:00	0	0	0	1	3	4	1	2	0	0	0	0	0	0	11
16:00	0	0	1	3	12	10	4	2	0	1	0	0	0	0	33
17:00	0	0	0	3	4	1	4	0	0	1	0	0	0	0	13
18:00	0	0	5	4	4	7	3	1	0	0	0	0	0	0	24
19:00	0	0	0	6	1	4	1	0	0	0	0	0	0	0	12
20:00	0	0	1	5	3	4	0	0	1	0	0	0	0	0	14
21:00	0	0	0	5	4	0	2	0	0	0	0	0	0	0	11
22:00	0	0	2	0	0	1	1	0	0	0	0	0	0	0	4
23:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Day Total	0	0	16	50	63	51	31	5	2	2	0	0	0	0	220
2022-07-05	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
02:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
05:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
06:00	0	0	1	0	1	1	1	0	0	0	0	0	0	0	4
07:00	0	0	2	1	2	1	4	0	0	0	0	1	0	0	11
08:00	0	0	2	3	2	1	2	1	0	0	0	0	0	0	11
09:00	0	0	2	1	4	1	1	0	0	0	0	0	0	0	9
10:00	0	0	3	5	2	1	2	0	0	0	0	0	0	0	13
11:00	0	0	1	7	4	1	4	1	0	0	0	0	0	0	18
12:00	0	0	5	7	5	2	2	0	0	0	0	0	0	0	21
13:00	0	0	0	5	6	3	1	1	0	0	0	0	0	0	16
14:00	0	0	4	10	8	0	0	1	0	0	0	0	0	0	23
15:00	0	0	4	2	1	2	3	3	0	0	0	0	0	0	15
16:00	0	0	5	7	4	4	7	1	0	1	0	0	0	0	29
17:00	0	0	1	5	5	1	3	1	0	0	1	0	0	0	17
18:00	0	0	0	1	7	6	0	2	0	0	0	0	0	0	16
19:00	0	0	0	1	5	2	6	0	0	0	0	0	0	0	14
20:00	0	0	0	1	0	2	1	0	0	0	0	0	0	0	4
21:00	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3
22:00	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
23:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Day Total	0	0	30	61	57	33	40	12	0	1	1	1	0	0	236

Mississippi Mills

Speed Summary

Location: Adelaide St
From: Marshall St
To: Napier Ct

Site Code:
Station ID:

Date Start: 04-Jul-22
Date End: 08-Jul-22

Combined

Date\Speed (KPH)	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	>65	Total
2022-07-06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
06:00	0	0	0	0	2	2	4	0	1	0	0	0	0	0	9
07:00	0	0	8	4	4	4	1	0	0	0	0	0	0	0	21
08:00	0	0	4	6	3	4	2	0	0	0	0	0	0	0	19
09:00	0	0	4	2	1	3	2	0	0	0	0	0	0	0	12
10:00	0	0	5	6	3	4	1	0	0	0	0	0	0	0	19
11:00	0	0	4	5	7	5	1	1	0	0	0	0	0	0	23
12:00	0	0	5	7	8	4	7	0	0	0	0	0	0	0	31
13:00	0	0	1	5	4	1	5	3	0	0	0	0	0	0	19
14:00	0	0	4	2	4	3	5	0	0	0	0	0	0	0	18
15:00	0	0	2	4	2	8	6	0	0	0	0	0	0	0	22
16:00	0	0	10	3	3	1	1	0	0	0	0	0	0	0	18
17:00	0	1	2	1	0	0	0	0	0	0	0	0	0	0	4
18:00	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
19:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
20:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0	1	60	49	41	40	35	4	1	0	0	0	0	0	231
2022-07-07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
07:00	0	0	6	1	0	0	0	0	0	0	0	0	0	0	7
08:00	0	0	4	1	0	0	0	0	0	0	0	0	0	0	5
09:00	0	0	5	1	3	1	0	0	0	0	0	0	0	0	10
10:00	0	0	0	3	4	2	1	2	0	0	0	0	0	0	12
11:00	0	0	0	6	5	1	6	0	0	0	0	0	0	0	18
12:00	0	0	5	1	2	0	0	0	0	0	0	0	0	0	8
13:00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	6	1	1	1	1	0	0	0	0	0	0	0	10
17:00	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
18:00	0	0	2	2	1	1	0	0	0	0	0	0	0	0	6
19:00	0	0	4	1	0	0	0	0	0	0	0	0	0	0	5
20:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
21:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0	0	45	20	17	7	8	2	0	0	0	0	0	0	99

Mississippi Mills

Speed Summary

Location: Adelaide St
From: Marshall St
To: Napier Ct

Site Code:
Station ID:

Date Start: 04-Jul-22
Date End: 08-Jul-22

Combined

Date\Speed (KPH)	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	>65	Total
2022-07-08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	0	4	1	0	0	0	0	0	0	0	0	0	0	5
08:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
Combined Total	0	1	158	181	179	131	114	23	3	3	1	1	0	0	795

85 percentile = 30

Mississippi Mills

Speed Summary

Location: Adelaide St
From: Marshall St
To: Napier Ct

Site Code:
Station ID:

COMBINED

Report for 2022-07-04 10:17:02 AM to 2022-07-08 7:59:59 AM

SPEED STATISTICS - 25 to 121+ by 8 KPH

Speed in KPH	1 - 24	25 - 32	33 - 40	41 - 48	49 - 56	57 - 64	65 - 72	73 - 80	81 - 88	89 - 96	97 - 104	105 - 112	113 - 120	121 - 9999
Count	517	190	78	6	2	0	0	0	0	0	0	0	0	0
Percent	65.2	24.0	9.8	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Over Speed	24	32	40	48	56	64	72	80	88	96	104	112	120	9999
Count	276	86	8	2	0	0	0	0	0	0	0	0	0	0
Percent	34.8	10.8	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	11	11	14	21	23	23	31	34	35

Average (Mean)	23
Pace Speed	18-27
Number in Pace	439
Percent in Pace	55.4

Township of Mississippi Mills

SPEED SUMMARY
Mon 2022-07-04

Station #: 000000024610
Site ID: 000000024610
Location: MARSHALL AUGUSTA ADELAIDE
Direction: ROAD TOTAL
Lane:

File: D0704001.prn
City:
County:

TIME	<30	<35	<40	<45	<50	<55	<60	<65	<70	<75	<80	<85	<90	<250	Total
09:00	12	2	0	1	0	1	1	0	0	0	0	0	0	25	42
10:00	13	8	8	1	1	0	1	0	0	0	0	0	0	0	32
11:00	11	5	9	0	0	0	0	0	0	0	0	0	0	0	25
12:00	22	14	6	2	0	0	0	0	0	0	0	0	0	0	44
13:00	20	5	5	3	0	0	0	0	0	0	0	0	0	0	33
14:00	14	6	7	1	0	0	0	0	0	0	0	0	0	0	28
15:00	10	8	4	2	2	0	0	0	0	0	0	0	0	0	26
16:00	24	16	8	0	1	0	0	0	0	0	0	0	0	0	49
17:00	14	9	4	0	0	0	0	0	0	0	0	0	0	0	27
18:00	14	9	5	6	0	0	0	0	0	0	0	0	0	0	34
19:00	10	6	1	0	0	0	0	0	0	0	0	0	0	0	17
20:00	9	4	2	1	0	0	0	0	0	0	0	0	0	0	16
21:00	9	5	1	0	0	0	0	0	0	0	0	0	0	0	15
22:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	184	98	60	17	4	1	2	0	0	0	0	0	0	25	391
PERCENTS	47.1%	25.1%	15.3%	4.3%	1.0%	0.3%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.4%	100.0%

Statistical Information...

15th Percentile Speed
31.4 kph

85th Percentile Speed
39.7 kph

Median Speed
34.7 kph

Average Speed
35.8 kph

10 KPH Pace Speed
25 kph to 35 kph
98 vehicles in pace
Representing 53.8% of the total vehicles

Vehicles > 65 KPH
0
0.0%

Station #: 000000024610
Site ID: 000000024610
Location: MARSHALL AUGUSTA ADELAIDE
Direction: ROAD TOTAL
Lane:

File: D0704001.prn
City:
County:

TIME	<30	<35	<40	<45	<50	<55	<60	<65	<70	<75	<80	<85	<90	<250	Total
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	4	1	1	0	0	0	0	0	0	0	0	0	0	0	6
06:00	12	2	0	0	0	0	0	0	0	0	0	0	0	0	14
07:00	18	7	4	2	0	0	0	0	0	0	0	0	0	0	31
08:00	10	5	4	1	0	0	0	0	0	0	0	0	0	0	20
09:00	7	3	6	1	0	0	0	0	0	0	0	0	0	2	19
10:00	9	6	2	0	0	0	0	0	0	0	0	0	0	0	17
11:00	13	5	6	1	0	0	0	0	0	0	0	0	0	0	25
12:00	19	7	4	0	0	0	0	0	0	0	0	0	0	0	30
13:00	13	8	5	1	0	0	0	0	0	0	0	0	0	0	27
14:00	14	12	4	1	0	0	0	0	0	0	0	0	0	0	31
15:00	15	6	5	0	1	0	0	0	0	0	0	0	0	0	27
16:00	27	19	7	0	0	0	0	0	0	0	0	0	0	0	53
17:00	15	10	6	4	0	0	0	0	0	0	0	0	0	0	35
18:00	9	9	2	0	0	0	0	0	0	0	0	0	0	0	20
19:00	7	7	1	0	0	0	1	0	0	0	0	0	0	0	16
20:00	3	4	4	2	0	0	0	0	0	0	0	0	0	0	13
21:00	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4
22:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
23:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
DAY TOTAL	202	113	64	14	1	0	1	0	0	0	0	0	0	2	397
PERCENTS	50.9%	28.5%	16.1%	3.5%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	100.0%

Statistical Information...

15th Percentile Speed
31.3 kph

85th Percentile Speed
39.0 kph

Median Speed
34.3 kph

Average Speed
35.1 kph

10 KPH Pace Speed
25 kph to 35 kph
113 vehicles in pace
Representing 58.5% of the total vehicles

Vehicles > 65 KPH
0
0.0%

Township of Mississippi Mills

SPEED SUMMARY
Wed 2022-07-06

Station #: 000000024610
Site ID: 000000024610
Location: MARSHALL AUGUSTA ADELAIDE
Direction: ROAD TOTAL
Lane:

File: D0704001.prn
City:
County:

TIME	<30	<35	<40	<45	<50	<55	<60	<65	<70	<75	<80	<85	<90	<250	Total
00:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
06:00	5	5	4	0	1	1	0	0	0	0	0	0	0	0	16
07:00	11	13	3	3	0	0	0	0	0	0	0	0	0	0	30
08:00	23	9	4	0	0	0	0	0	0	0	0	0	0	5	41
09:00	13	9	2	0	0	0	0	0	0	0	0	0	0	0	24
10:00	17	10	5	1	0	0	0	0	0	0	0	0	0	0	33
11:00	15	14	5	1	0	0	0	0	0	0	0	0	0	0	35
12:00	21	9	10	1	0	0	0	0	0	0	0	0	0	0	41
13:00	25	11	5	1	0	0	0	0	0	0	0	0	0	0	42
14:00	17	9	5	0	0	0	0	0	0	0	0	0	0	0	31
15:00	18	6	6	3	2	0	0	0	0	0	0	0	0	0	35
16:00	24	9	7	1	0	0	0	0	0	0	0	0	0	0	41
17:00	32	9	6	5	2	0	0	0	0	0	0	0	0	0	54
18:00	23	4	2	1	0	0	0	0	0	0	0	0	0	0	30
19:00	24	2	0	0	0	0	0	0	0	0	0	0	0	0	26
20:00	14	2	2	0	0	0	0	0	0	0	0	0	0	0	18
21:00	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7
22:00	3	1	2	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	298	126	68	17	5	1	0	0	0	0	0	0	0	5	520
PERCENTS	57.3%	24.2%	13.1%	3.3%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	100.0%

Statistical Information...

15th Percentile Speed
31.3 kph

85th Percentile Speed
39.3 kph

Median Speed
34.3 kph

Average Speed
35.3 kph

10 KPH Pace Speed
25 kph to 35 kph
126 vehicles in pace
Representing 58.1% of the total vehicles

Vehicles > 65 KPH
0
0.0%

Township of Mississippi Mills

SPEED SUMMARY
Thu 2022-07-07

Station #: 000000024610
Site ID: 000000024610
Location: MARSHALL AUGUSTA ADELAIDE
Direction: ROAD TOTAL
Lane:

File: D0704001.prn
City:
County:

TIME	<30	<35	<40	<45	<50	<55	<60	<65	<70	<75	<80	<85	<90	<250	Total
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
06:00	9	7	4	3	0	0	0	0	0	0	0	0	0	0	23
07:00	15	7	3	3	0	0	0	0	0	0	0	0	0	0	28
08:00	11	10	3	4	0	0	0	1	0	0	0	0	0	0	29
09:00	11	10	5	1	0	0	0	0	0	0	0	0	0	0	27
10:00	15	4	2	2	0	0	0	0	0	0	0	0	0	1	24
11:00	16	8	6	1	2	0	0	0	0	0	0	0	0	0	33
12:00	21	4	11	3	0	0	0	0	0	0	0	0	0	0	39
13:00	13	13	5	2	0	0	0	0	0	0	0	0	0	0	33
14:00	32	15	6	4	1	0	0	0	0	0	0	0	0	0	58
15:00	19	8	8	2	0	0	0	0	0	0	0	0	0	0	37
16:00	42	17	6	1	0	0	0	0	0	0	0	0	0	0	66
17:00	13	15	9	3	2	1	0	0	0	0	0	0	0	0	43
18:00	11	11	1	3	0	0	0	0	0	0	0	0	0	0	26
19:00	12	6	3	0	0	0	0	0	0	0	0	0	0	0	21
20:00	9	1	0	0	0	0	0	0	0	0	0	0	0	0	10
21:00	7	2	1	0	0	0	0	0	0	0	0	0	0	0	10
22:00	3	0	2	0	0	0	0	0	0	0	0	0	0	0	5
23:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
DAY TOTAL	270	138	76	32	5	1	0	1	0	0	0	0	0	1	524
PERCENTS	51.5%	26.3%	14.5%	6.1%	1.0%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	100.0%

Statistical Information...

15th Percentile Speed
31.4 kph

85th Percentile Speed
40.2 kph

Median Speed
34.6 kph

Average Speed
35.8 kph

10 KPH Pace Speed
25 kph to 35 kph
138 vehicles in pace
Representing 54.5% of the total vehicles

Vehicles > 65 KPH
0
0.0%

Station #: 000000024610
Site ID: 000000024610
Location: MARSHALL AUGUSTA ADELAIDE
Direction: ROAD TOTAL
Lane:

File: D0704001.prn
City:
County:

TIME	<30	<35	<40	<45	<50	<55	<60	<65	<70	<75	<80	<85	<90	<250	Total
00:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
01:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	11	3	7	2	1	0	0	0	0	0	0	0	0	0	24
07:00	15	9	6	5	0	0	0	0	0	0	0	0	0	0	35
08:00	18	15	10	4	2	0	0	0	0	0	0	0	0	0	49
09:00	5	0	0	0	0	0	0	0	0	0	0	0	0	2	7
DAY TOTAL	54	30	25	11	3	0	0	0	0	0	0	0	0	2	125
PERCENTS	43.2%	24.0%	20.0%	8.8%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	100.0%

Statistical Information...

15th Percentile Speed
31.7 kph

85th Percentile Speed
41.7 kph

Median Speed
35.9 kph

Average Speed
36.6 kph

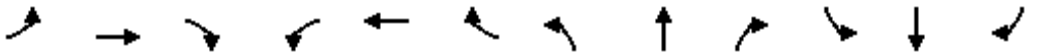
10 KPH Pace Speed
25 kph to 35 kph
30 vehicles in pace
Representing 43.5% of the total vehicles

Vehicles > 65 KPH
0
0.0%

GRAND TOTAL	1008	505	293	91	18	3	3	1	0	0	0	0	0	35	1957
PERCENTS	51.5%	25.8%	15.0%	4.6%	0.9%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	100.0%

APPENDIX C

Synchro Reports



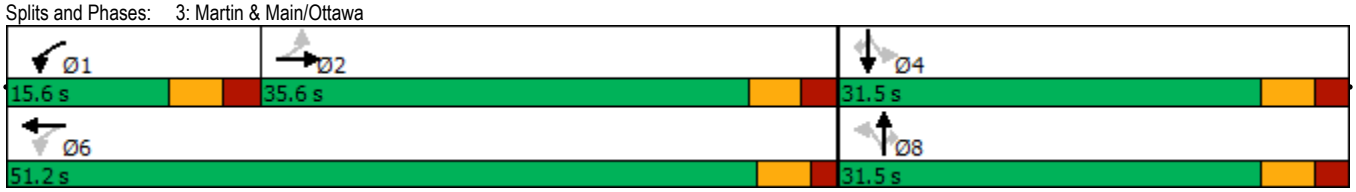
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	297	2	122	138	30	3	57	208	71	43	23
Future Volume (vph)	43	297	2	122	138	30	3	57	208	71	43	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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
Frt		0.999			0.973				0.850			0.850
Flt Protected	0.950			0.950				0.998			0.970	
Satd. Flow (prot)	1695	1782	0	1695	1728	0	0	1781	1517	0	1731	1517
Flt 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

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
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

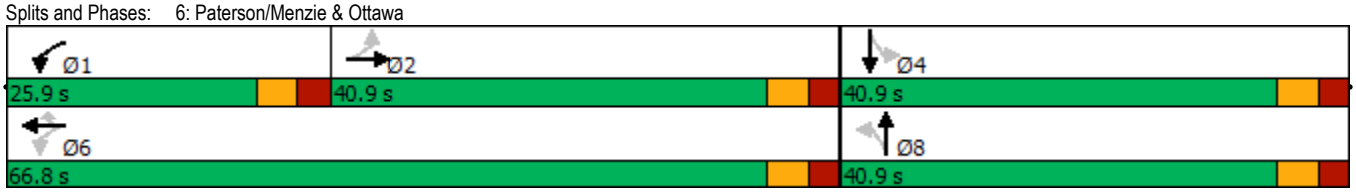


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	451	96	37	382	3	67	7	63	7	14	5
Future Volume (vph)	3	451	96	37	382	3	67	7	63	7	14	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		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	

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

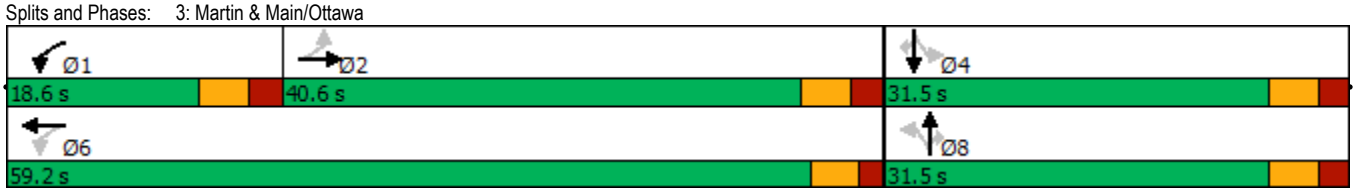


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	226	5	357	394	84	15	71	273	51	48	28
Future Volume (vph)	23	226	5	357	394	84	15	71	273	51	48	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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
Frt		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

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
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 LOS: B	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
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			

Splits and Phases: 3: Martin & Main/Ottawa



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	

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)		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 LOS: B
Intersection Capacity Utilization 88.6% — ICU Level of Service E
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

Splits and Phases: 6: Paterson/Menzie & Ottawa

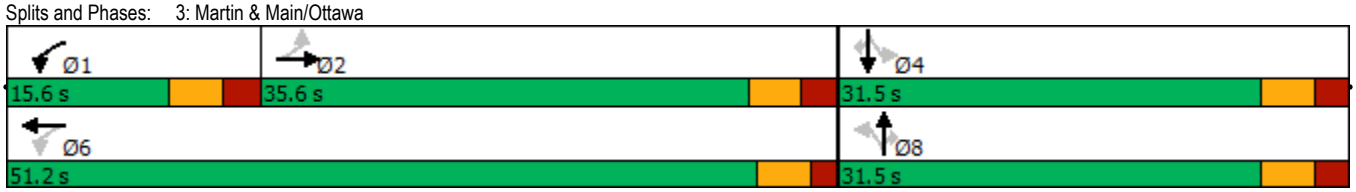
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	332	2	149	168	34	3	66	232	80	53	32
Future Volume (vph)	49	332	2	149	168	34	3	66	232	80	53	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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
Frt		0.999			0.975				0.850			0.850
Flt Protected	0.950			0.950				0.998			0.971	
Satd. Flow (prot)	1695	1782	0	1695	1732	0	0	1781	1517	0	1733	1517
Flt Permitted	0.631			0.356				0.987			0.776	
Satd. Flow (perm)	1121	1782	0	630	1732	0	0	1758	1471	0	1377	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20				232			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	332	2	149	168	34	3	66	232	80	53	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	334	0	149	202	0	0	69	232	0	133	32
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

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
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	27.1			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		0.30	0.22			0.16	0.43		0.39	0.07
Control Delay	15.7	21.4		7.8	6.0			19.3	6.2		23.2	0.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.7	21.4		7.8	6.0			19.3	6.2		23.2	0.3
LOS	B	C		A	A			B	A		C	A
Approach Delay		20.6			6.8			9.2			18.8	
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		9.4	35.2		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)	14.6	14.6		7.6	28.4		10.3	10.3	10.3	10.3	10.3	10.3
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)	34	257		60	74			51	34		104	0
Fuel Used(l)	2	16		12	16			3	5		13	2
CO Emissions (g/hr)	38	297		222	292			51	92		233	35
NOx Emissions (g/hr)	7	57		43	56			10	18		45	7
VOC Emissions (g/hr)	9	68		51	67			12	21		54	8
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.1	24.8		5.3	6.4			5.0	0.0		10.2	0.0
Queue Length 95th (m)	11.3	58.4		16.4	19.6			15.7	14.5		28.2	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)	709	1127		550	1518			964	911		755	823
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		0.27	0.13			0.07	0.25		0.18	0.04

Intersection Summary

Area Type: Other
Cycle Length: 82.7
Actuated Cycle Length: 51.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 13.5 — Intersection LOS: B
Intersection Capacity Utilization 61.3% — ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 71.8
70th %ile Actuated Cycle: 58.2
50th %ile Actuated Cycle: 49.2
30th %ile Actuated Cycle: 45.7
10th %ile Actuated Cycle: 31.1

Splits and Phases: 3: Martin & Main/Ottawa

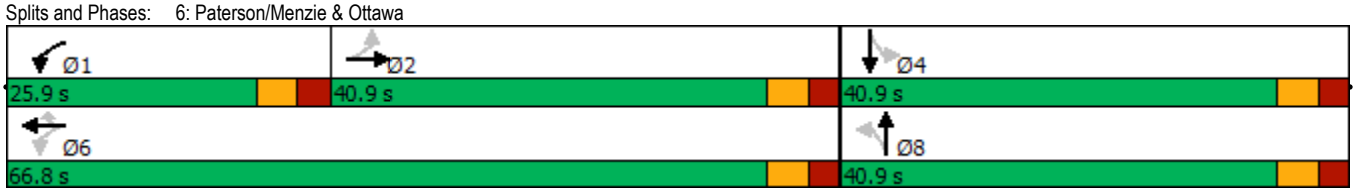


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	509	108	41	438	10	75	12	71	31	28	18
Future Volume (vph)	7	509	108	41	438	10	75	12	71	31	28	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.977				0.850		0.939			0.968	
Flt Protected		0.999		0.950				0.977			0.980	
Satd. Flow (prot)	0	1730	0	1695	1784	1517	0	1621	0	0	1679	0
Flt Permitted		0.995		0.357				0.841			0.807	
Satd. Flow (perm)	0	1723	0	637	1784	1457	0	1386	0	0	1382	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				29		40			15	
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	509	108	41	438	10	75	12	71	31	28	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	624	0	41	438	10	0	158	0	0	77	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)		56.4		63.9	63.9	63.9		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			0.33	
Control Delay		15.5		5.7	6.9	0.7		35.5			29.3	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		15.5		5.7	6.9	0.7		35.5			29.3	
LOS		B		A	A	A		D			C	
Approach Delay		15.5			6.7			35.5			29.3	
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)	48.5	48.5		6.5	60.9	60.9	15.5	15.5		15.5	15.5	
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	12.8	12.8		12.8	12.8	
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	10.3	10.3		10.3	10.3	
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)		382		14	165	0		106			53	
Fuel Used(l)		57		1	13	0		11			4	
CO Emissions (g/hr)		1052		21	241	3		208			81	
NOx Emissions (g/hr)		203		4	46	1		40			16	
VOC Emissions (g/hr)		243		5	55	1		48			19	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		62.0		1.7	22.9	0.0		18.2			9.2	
Queue Length 95th (m)		132.9		6.6	56.2	0.6		36.7			21.0	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1078		685	1261	1039		563			546	
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			0.14	

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: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 97.7			
70th %ile Actuated Cycle: 88.2			
50th %ile Actuated Cycle: 85.5			
30th %ile Actuated Cycle: 83			
10th %ile Actuated Cycle: 97.7			

Splits and Phases: 6: Paterson/Menzie & Ottawa



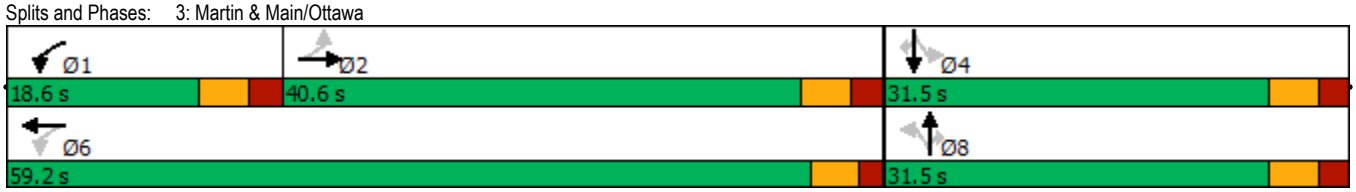
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	256	6	395	436	94	17	87	309	57	58	35
Future Volume (vph)	33	256	6	395	436	94	17	87	309	57	58	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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			0.99	0.97		1.00	0.93
Frt		0.997			0.973				0.850			0.850
Flt Protected	0.950			0.950				0.992			0.976	
Satd. Flow (prot)	1695	1777	0	1695	1728	0	0	1770	1517	0	1741	1517
Flt Permitted	0.467			0.399				0.936			0.790	
Satd. Flow (perm)	831	1777	0	704	1728	0	0	1657	1469	0	1403	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			21				309			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)	33	256	6	395	436	94	17	87	309	57	58	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	262	0	395	530	0	0	104	309	0	115	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)	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

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
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			12.0	12.0		12.0	12.0
Actuated g/C Ratio	0.26	0.26		0.58	0.59			0.22	0.22		0.22	0.22
v/c Ratio	0.15	0.56		0.64	0.52			0.29	0.55		0.38	0.09
Control Delay	18.5	23.3		12.4	9.0			21.9	7.2		23.9	0.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	18.5	23.3		12.4	9.0			21.9	7.2		23.9	0.5
LOS	B	C		B	A			C	A		C	A
Approach Delay		22.8			10.4			10.9			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)	16.7	16.7		13.0	35.9		11.2	11.2	11.2	11.2	11.2	11.2
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	12.9	12.9		12.2	31.3		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)	11.0	11.0		10.5	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		8.8	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)	26	205		193	269			80	42		90	0
Fuel Used(l)	2	13		34	44			4	7		11	2
CO Emissions (g/hr)	28	242		628	820			82	126		202	38
NOx Emissions (g/hr)	5	47		121	158			16	24		39	7
VOC Emissions (g/hr)	7	56		145	189			19	29		47	9
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	2.4	21.2		16.5	22.2			8.4	0.0		9.5	0.0
Queue Length 95th (m)	9.2	48.0		44.8	61.0			22.4	16.7		25.0	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)	541	1159		645	1621			802	870		679	731
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		0.61	0.33			0.13	0.36		0.17	0.05

Intersection Summary

Area Type:	Other		
Cycle Length: 90.7			
Actuated Cycle Length: 55.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 68.0%		ICU Level of Service C	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 72.7			
70th %ile Actuated Cycle: 57.6			
50th %ile Actuated Cycle: 51.8			
30th %ile Actuated Cycle: 48.2			
10th %ile Actuated Cycle: 45.5			

Splits and Phases: 3: Martin & Main/Ottawa

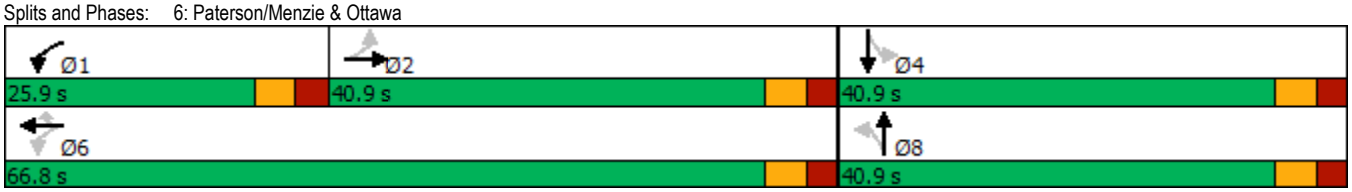


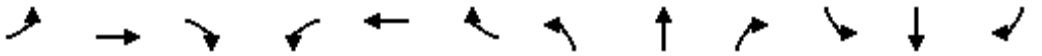
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	588	53	90	855	39	95	11	57	18	7	25
Future Volume (vph)	17	588	53	90	855	39	95	11	57	18	7	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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	
Frt		0.989				0.850		0.953			0.932	
Flt Protected		0.999		0.950				0.972			0.982	
Satd. Flow (prot)	0	1757	0	1695	1784	1517	0	1640	0	0	1605	0
Flt Permitted		0.972		0.331				0.792			0.873	
Satd. Flow (perm)	0	1710	0	591	1784	1457	0	1325	0	0	1426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		27			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)	17	588	53	90	855	39	95	11	57	18	7	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	658	0	90	855	39	0	163	0	0	50	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)		52.9		63.8	63.8	63.8		15.5			15.5	
Actuated g/C Ratio		0.58		0.70	0.70	0.70		0.17			0.17	
v/c Ratio		0.66		0.18	0.68	0.04		0.66			0.19	
Control Delay		20.0		6.3	12.8	3.1		41.3			19.6	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		20.0		6.3	12.8	3.1		41.3			19.6	
LOS		B		A	B	A		D			B	
Approach Delay		20.0			11.8			41.3			19.6	
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	17.1	17.1		17.1	17.1	
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	14.2	14.2		14.2	14.2	
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	11.5	11.5		11.5	11.5	
30th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	75.3	75.3		0.0	75.3	75.3	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		445		30	498	7		124			24	
Fuel Used(l)		63		3	33	1		12			2	
CO Emissions (g/hr)		1168		47	615	16		232			41	
NOx Emissions (g/hr)		225		9	119	3		45			8	
VOC Emissions (g/hr)		269		11	142	4		54			10	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		73.7		4.0	69.4	0.4		21.5			3.6	
Queue Length 95th (m)		#166.8		12.1	159.4	4.2		40.6			12.6	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		994		656	1249	1028		526			564	
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		0.66		0.14	0.68	0.04		0.31			0.09	

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: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 97.7			
70th %ile Actuated Cycle: 89.8			
50th %ile Actuated Cycle: 86.9			
30th %ile Actuated Cycle: 84.2			
10th %ile Actuated Cycle: 97.1			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Paterson/Menzie & Ottawa





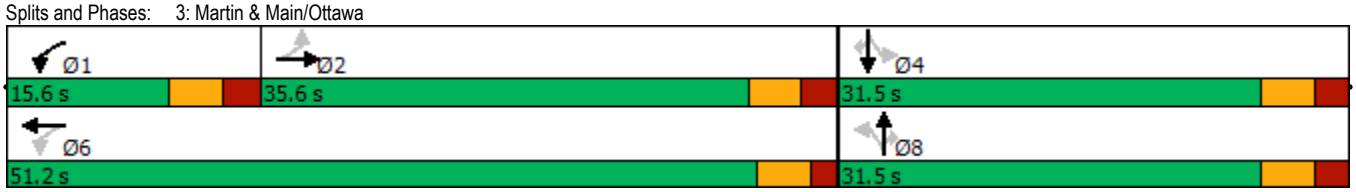
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	361	2	161	181	37	4	72	253	87	57	34
Future Volume (vph)	53	361	2	161	181	37	4	72	253	87	57	34
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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
Frt		0.999			0.975				0.850			0.850
Flt Protected	0.950			0.950				0.997			0.971	
Satd. Flow (prot)	1695	1782	0	1695	1732	0	0	1779	1517	0	1733	1517
Flt Permitted	0.622			0.333				0.983			0.771	
Satd. Flow (perm)	1105	1782	0	590	1732	0	0	1750	1471	0	1368	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)	53	361	2	161	181	37	4	72	253	87	57	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	363	0	161	218	0	0	76	253	0	144	34
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

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
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)	17.3	17.3		27.8	28.4			13.2	13.2		13.2	13.2
Actuated g/C Ratio	0.33	0.33		0.52	0.54			0.25	0.25		0.25	0.25
v/c Ratio	0.15	0.63		0.33	0.23			0.18	0.46		0.42	0.08
Control Delay	15.6	21.9		8.1	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	15.6	21.9		8.1	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)	22.1	22.1		9.7	38.0		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		11.0	11.0	11.0	11.0	11.0	11.0
50th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	13.0	13.0		7.0	26.2		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)	37	281		65	81			57	36		113	0
Fuel Used(l)	2	18		13	17			3	5		14	2
CO Emissions (g/hr)	41	326		240	316			58	101		255	37
NOx Emissions (g/hr)	8	63		46	61			11	19		49	7
VOC Emissions (g/hr)	9	75		55	73			13	23		59	9
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.5	28.6		6.1	7.3			5.8	0.0		11.7	0.0
Queue Length 95th (m)	11.9	63.8		17.5	21.0			17.5	15.5		31.4	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)	680	1097		536	1477			934	903		730	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

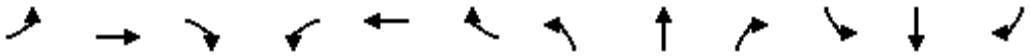
Intersection Summary

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 C	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 73.6			
70th %ile Actuated Cycle: 62.2			
50th %ile Actuated Cycle: 51.5			
30th %ile Actuated Cycle: 46.7			
10th %ile Actuated Cycle: 31.1			

Splits and Phases: 3: Martin & Main/Ottawa



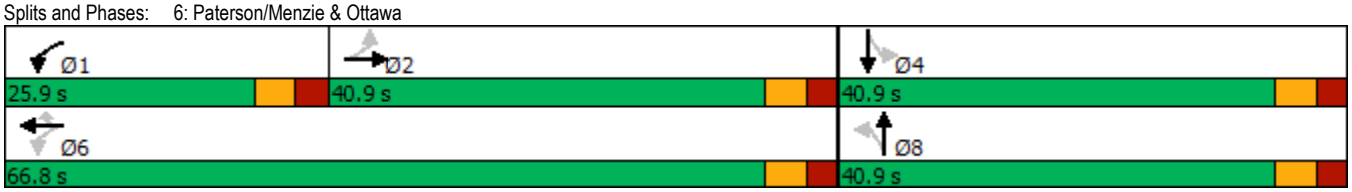
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	554	117	45	476	11	82	13	77	32	29	18
Future Volume (vph)	8	554	117	45	476	11	82	13	77	32	29	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.977				0.850		0.940			0.969	
Flt Protected		0.999		0.950				0.977			0.980	
Satd. Flow (prot)	0	1730	0	1695	1784	1517	0	1622	0	0	1681	0
Flt Permitted		0.995		0.332				0.839			0.798	
Satd. Flow (perm)	0	1723	0	592	1784	1457	0	1384	0	0	1368	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				29		40			15	
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)	8	554	117	45	476	11	82	13	77	32	29	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	679	0	45	476	11	0	172	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	



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)		55.9		63.5	63.5	63.5		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			0.33	
Control Delay		17.5		5.9	7.5	0.8		37.4			29.2	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		17.5		5.9	7.5	0.8		37.4			29.2	
LOS		B		A	A	A		D			C	
Approach Delay		17.5			7.2			37.4			29.2	
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	16.8	16.8		16.8	16.8	
70th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
50th %ile Green (s)	48.8	48.8		6.2	60.9	60.9	13.9	13.9		13.9	13.9	
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	11.1	11.1		11.1	11.1	
30th %ile Term Code	Hold	Hold		Skip	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	73.6	73.6		0.0	73.6	73.6	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		430		14	189	1		119			54	
Fuel Used(l)		63		1	14	0		12			4	
CO Emissions (g/hr)		1169		23	269	4		232			83	
NOx Emissions (g/hr)		226		4	52	1		45			16	
VOC Emissions (g/hr)		270		5	62	1		54			19	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		74.0		1.9	27.1	0.0		20.7			9.5	
Queue Length 95th (m)		#154.9		7.0	62.6	0.7		40.3			21.3	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1067		659	1250	1030		561			539	
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			0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 107.7			
Actuated Cycle Length: 90.6			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 82.8%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 97.7			
70th %ile Actuated Cycle: 89.5			
50th %ile Actuated Cycle: 86.6			
30th %ile Actuated Cycle: 83.8			
10th %ile Actuated Cycle: 95.4			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Paterson/Menzie & Ottawa



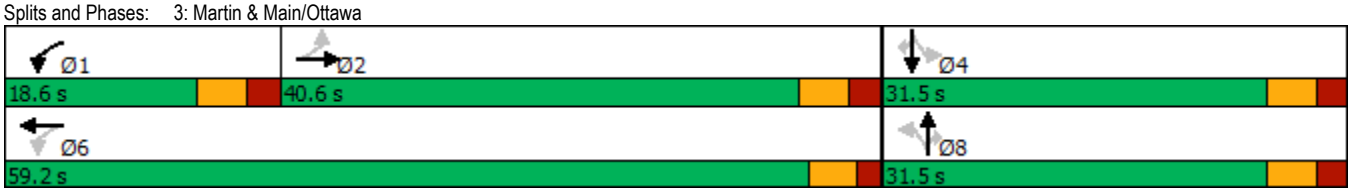
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	279	6	431	476	102	18	94	336	62	63	38
Future Volume (vph)	35	279	6	431	476	102	18	94	336	62	63	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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
Frt		0.997			0.974				0.850			0.850
Flt Protected	0.950			0.950				0.992			0.976	
Satd. Flow (prot)	1695	1777	0	1695	1730	0	0	1770	1517	0	1741	1517
Flt 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

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
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 LOS: B
Intersection Capacity Utilization 71.3% ICU Level of Service C
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

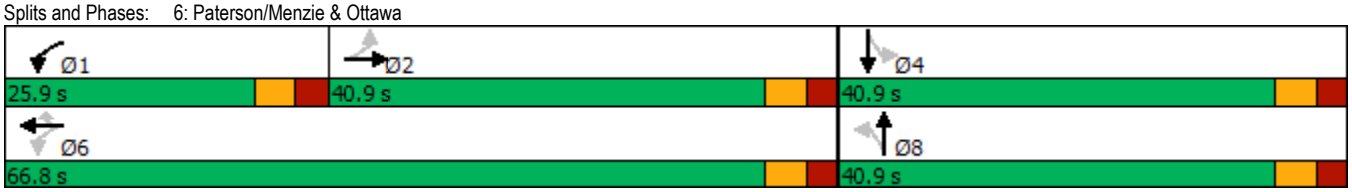


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	639	57	98	933	40	104	12	62	19	8	27
Future Volume (vph)	18	639	57	98	933	40	104	12	62	19	8	27
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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	
Frt		0.989				0.850		0.953			0.932	
Flt Protected		0.999		0.950				0.972			0.983	
Satd. Flow (prot)	0	1758	0	1695	1784	1517	0	1640	0	0	1606	0
Flt Permitted		0.969		0.305				0.789			0.870	
Satd. Flow (perm)	0	1705	0	544	1784	1457	0	1320	0	0	1421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		26			27	
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)	18	639	57	98	933	40	104	12	62	19	8	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	714	0	98	933	40	0	178	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	

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)		52.0		63.0	63.0	63.0		16.2			16.2	
Actuated g/C Ratio		0.57		0.69	0.69	0.69		0.18			0.18	
v/c Ratio		0.73		0.21	0.76	0.04		0.70			0.20	
Control Delay		23.1		6.7	15.7	3.2		43.7			19.4	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		23.1		6.7	15.7	3.2		43.7			19.4	
LOS		C		A	B	A		D			B	
Approach Delay		23.1			14.4			43.7			19.4	
Approach LOS		C			B			D			B	
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	18.5	18.5		18.5	18.5	
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	15.4	15.4		15.4	15.4	
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)	71.1	71.1		0.0	71.1	71.1	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		497		33	587	7		138			25	
Fuel Used(l)		70		3	39	1		14			2	
CO Emissions (g/hr)		1305		52	728	16		260			44	
NOx Emissions (g/hr)		252		10	140	3		50			9	
VOC Emissions (g/hr)		301		12	168	4		60			10	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		88.2		4.6	87.8	0.5		24.4			3.9	
Queue Length 95th (m)		#192.6		12.8	#194.3	4.4		45.0			13.0	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		976		630	1235	1017		524			563	
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	0.76	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 LOS: C	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 97.7			
70th %ile Actuated Cycle: 91.2			
50th %ile Actuated Cycle: 88.1			
30th %ile Actuated Cycle: 85.3			
10th %ile Actuated Cycle: 92.9			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Paterson/Menzie & Ottawa



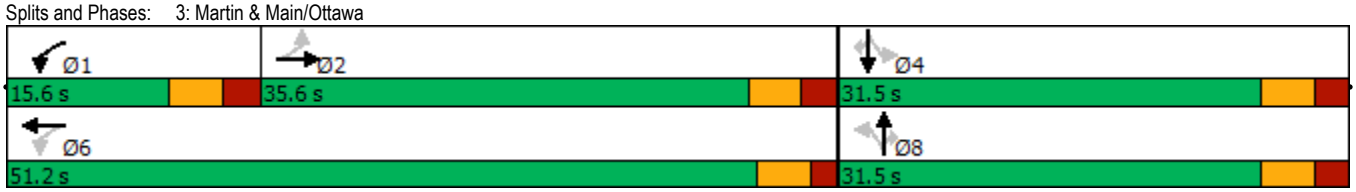
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	333	2	153	172	34	3	67	233	80	58	36
Future Volume (vph)	51	333	2	153	172	34	3	67	233	80	58	36
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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
Frt		0.999			0.975				0.850			0.850
Flt Protected	0.950			0.950				0.998			0.972	
Satd. Flow (prot)	1695	1782	0	1695	1732	0	0	1781	1517	0	1734	1517
Flt Permitted	0.629			0.354				0.987			0.782	
Satd. Flow (perm)	1117	1782	0	626	1732	0	0	1758	1471	0	1388	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					19				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	333	2	153	172	34	3	67	233	80	58	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	335	0	153	206	0	0	70	233	0	138	36
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

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
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		26.6	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		0.31	0.22			0.16	0.43		0.40	0.08
Control Delay	15.8	21.5		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	21.5		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			6.9			9.2			18.6	
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		12.8	12.8	12.8	12.8	12.8	12.8
70th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	14.8	14.8		7.7	28.7		10.5	10.5	10.5	10.5	10.5	10.5
50th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	12.2	12.2		6.9	25.3		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		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	258		63	76			54	34		107	0
Fuel Used(l)	2	16		12	16			3	5		13	2
CO Emissions (g/hr)	40	298		228	299			53	92		241	39
NOx Emissions (g/hr)	8	58		44	58			10	18		47	8
VOC Emissions (g/hr)	9	69		53	69			12	21		56	9
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.3	25.1		5.5	6.7			5.1	0.0		10.7	0.0
Queue Length 95th (m)	11.7	58.6		16.8	20.1			15.9	14.6		29.2	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)	704	1123		548	1513			960	909		758	821
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	0.14			0.07	0.26		0.18	0.04

Intersection Summary

Area Type: Other
Cycle Length: 82.7
Actuated Cycle Length: 51.4
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: 58.6
50th %ile Actuated Cycle: 49.7
30th %ile Actuated Cycle: 45.8
10th %ile Actuated Cycle: 31.1

Splits and Phases: 3: Martin & Main/Ottawa



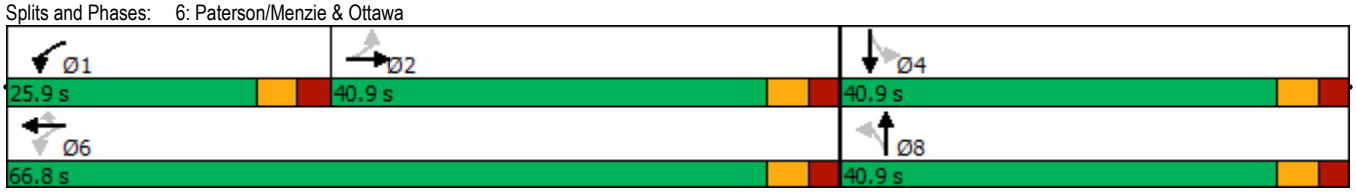
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	520	108	41	442	14	75	13	71	42	32	18
Future Volume (vph)	7	520	108	41	442	14	75	13	71	42	32	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.977				0.850		0.940			0.974	
Flt Protected		0.999		0.950				0.977			0.978	
Satd. Flow (prot)	0	1730	0	1695	1784	1517	0	1622	0	0	1688	0
Flt Permitted		0.995		0.352				0.830			0.758	
Satd. Flow (perm)	0	1723	0	628	1784	1457	0	1370	0	0	1307	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				29		40			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	520	108	41	442	14	75	13	71	42	32	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	635	0	41	442	14	0	159	0	0	92	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)		56.1		63.6	63.6	63.6		14.7			14.7	
Actuated g/C Ratio		0.62		0.71	0.71	0.71		0.16			0.16	
v/c Ratio		0.59		0.08	0.35	0.01		0.62			0.41	
Control Delay		15.8		5.7	7.0	1.1		35.9			33.5	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		15.8		5.7	7.0	1.1		35.9			33.5	
LOS		B		A	A	A		D			C	
Approach Delay		15.8			6.7			35.9			33.5	
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)	48.5	48.5		6.5	60.9	60.9	15.7	15.7		15.7	15.7	
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	12.9	12.9		12.9	12.9	
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	10.4	10.4		10.4	10.4	
30th %ile Term Code	Hold	Hold		Skip	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	73.9	73.9		0.0	73.9	73.9	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		393		14	169	1		107			67	
Fuel Used(l)		58		1	13	0		11			6	
CO Emissions (g/hr)		1075		21	244	5		210			104	
NOx Emissions (g/hr)		207		4	47	1		41			20	
VOC Emissions (g/hr)		248		5	56	1		48			24	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		63.9		1.7	23.2	0.0		18.4			12.0	
Queue Length 95th (m)		136.8		6.6	57.0	1.1		37.0			25.2	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1075		681	1259	1036		558			516	
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		0.59		0.06	0.35	0.01		0.28			0.18	

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: 0.62
Intersection Signal Delay: 16.0 — Intersection LOS: B
Intersection Capacity Utilization 79.5% — ICU Level of Service D
Analysis Period (min) 15
90th %ile Actuated Cycle: 97.7
70th %ile Actuated Cycle: 88.4
50th %ile Actuated Cycle: 85.6
30th %ile Actuated Cycle: 83.1
10th %ile Actuated Cycle: 95.7

Splits and Phases: 6: Paterson/Menzie & Ottawa

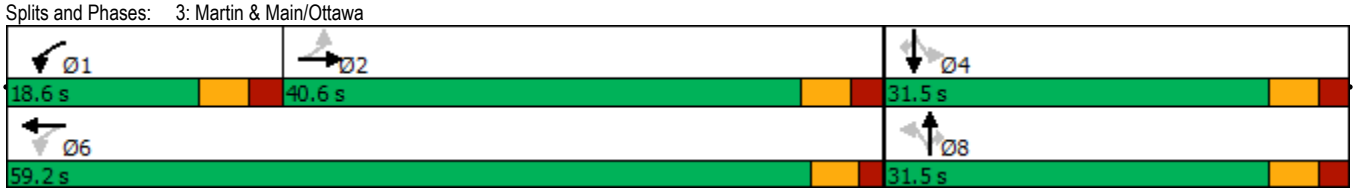


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	260	6	397	439	94	17	91	314	57	61	37
Future Volume (vph)	37	260	6	397	439	94	17	91	314	57	61	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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
Frt		0.997			0.974				0.850			0.850
Flt Protected	0.950			0.950				0.992			0.976	
Satd. Flow (prot)	1695	1777	0	1695	1730	0	0	1770	1517	0	1741	1517
Flt Permitted	0.466			0.394				0.938			0.792	
Satd. Flow (perm)	829	1777	0	695	1730	0	0	1662	1469	0	1407	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			21				314			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)	37	260	6	397	439	94	17	91	314	57	61	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	266	0	397	533	0	0	108	314	0	118	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

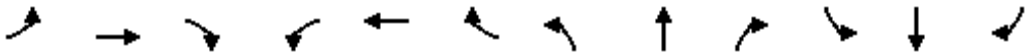
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0		7.0	7.0	7.0	7.0	7.0	7.0
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)	14.5	14.5		31.9	32.5			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	0.17	0.57		0.65	0.52			0.30	0.56		0.39	0.10
Control Delay	18.9	23.6		12.7	9.0			22.1	7.2		24.2	0.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	18.9	23.6		12.7	9.0			22.1	7.2		24.2	0.5
LOS	B	C		B	A			C	A		C	A
Approach Delay		23.0			10.6			11.0			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)	16.9	16.9		13.0	36.1		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)	13.1	13.1		12.3	31.6		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		8.9	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)	28	209		194	270			82	42		93	0
Fuel Used(l)	2	13		34	44			5	7		11	2
CO Emissions (g/hr)	31	247		632	825			85	128		208	41
NOx Emissions (g/hr)	6	48		122	159			16	25		40	8
VOC Emissions (g/hr)	7	57		146	190			20	29		48	9
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	2.7	21.8		16.6	22.3			8.8	0.0		9.8	0.0
Queue Length 95th (m)	10.0	49.0		45.0	61.7			23.1	16.8		25.7	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)	538	1154		641	1621			801	871		678	729
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	0.23		0.62	0.33			0.13	0.36		0.17	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 90.7			
Actuated Cycle Length: 55.4			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 68.4%		ICU Level of Service C	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 72.7			
70th %ile Actuated Cycle: 58			
50th %ile Actuated Cycle: 52.1			
30th %ile Actuated Cycle: 48.4			
10th %ile Actuated Cycle: 45.6			

Splits and Phases: 3: Martin & Main/Ottawa



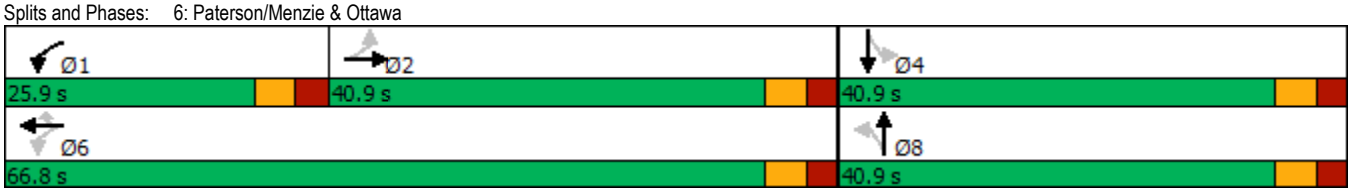
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	594	53	90	866	50	95	15	57	24	10	25
Future Volume (vph)	17	594	53	90	866	50	95	15	57	24	10	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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	
Frt		0.989				0.850		0.954			0.943	
Flt Protected		0.999		0.950				0.972			0.980	
Satd. Flow (prot)	0	1758	0	1695	1784	1517	0	1642	0	0	1625	0
Flt Permitted		0.972		0.328				0.791			0.840	
Satd. Flow (perm)	0	1710	0	585	1784	1457	0	1326	0	0	1392	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)	17	594	53	90	866	50	95	15	57	24	10	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	664	0	90	866	50	0	167	0	0	59	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	

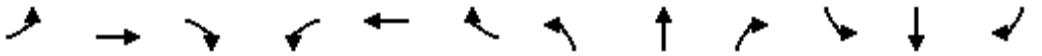


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		5.9		5.9	5.9	5.9		5.9			5.9	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None		None	None	
Walk 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)		52.6		63.5	63.5	63.5		15.6			15.6	
Actuated g/C Ratio		0.58		0.70	0.70	0.70		0.17			0.17	
v/c Ratio		0.67		0.18	0.70	0.05		0.67			0.23	
Control Delay		20.3		6.4	13.2	3.5		42.2			21.8	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		20.3		6.4	13.2	3.5		42.2			21.8	
LOS		C		A	B	A		D			C	
Approach Delay		20.3			12.1			42.2			21.8	
Approach LOS		C			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)	47.3	47.3		7.7	60.9	60.9	17.4	17.4		17.4	17.4	
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	14.5	14.5		14.5	14.5	
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	11.8	11.8		11.8	11.8	
30th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	73.7	73.7		0.0	73.7	73.7	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		451		30	515	10		128			32	
Fuel Used(l)		64		3	34	1		13			3	
CO Emissions (g/hr)		1183		47	632	21		240			52	
NOx Emissions (g/hr)		228		9	122	4		46			10	
VOC Emissions (g/hr)		273		11	146	5		55			12	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		75.3		4.1	72.3	0.9		22.4			4.9	
Queue Length 95th (m)		#169.2		12.1	163.9	5.5		41.9			14.7	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		990		652	1245	1026		527			552	
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		0.67		0.14	0.70	0.05		0.32			0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 107.7			
Actuated Cycle Length: 91			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 17.9		Intersection LOS: B	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 97.7			
70th %ile Actuated Cycle: 90.1			
50th %ile Actuated Cycle: 87.2			
30th %ile Actuated Cycle: 84.5			
10th %ile Actuated Cycle: 95.5			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Paterson/Menzie & Ottawa





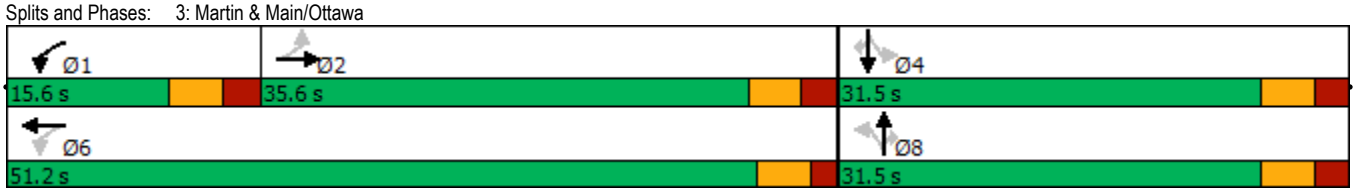
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	362	2	165	185	37	4	73	254	87	62	38
Future Volume (vph)	55	362	2	165	185	37	4	73	254	87	62	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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			1.00	0.97		0.99	0.93
Frt		0.999			0.975				0.850			0.850
Flt Protected	0.950			0.950				0.997			0.972	
Satd. Flow (prot)	1695	1782	0	1695	1732	0	0	1779	1517	0	1734	1517
Flt Permitted	0.620			0.332				0.983			0.776	
Satd. Flow (perm)	1101	1782	0	588	1732	0	0	1750	1471	0	1377	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					20				254			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)	55	362	2	165	185	37	4	73	254	87	62	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	364	0	165	222	0	0	77	254	0	149	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)	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

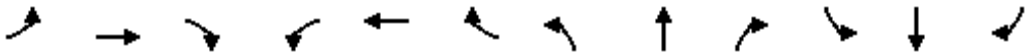
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)	5.6	5.6		5.6	5.0			5.5	5.5		5.5	5.5
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0		7.0	7.0	7.0	7.0	7.0	7.0
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			13.2	13.2		13.2	13.2
Actuated g/C Ratio	0.33	0.33		0.52	0.54			0.25	0.25		0.25	0.25
v/c Ratio	0.15	0.63		0.34	0.24			0.18	0.46		0.44	0.09
Control Delay	15.7	22.0		8.2	6.2			20.4	6.4		25.0	0.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	15.7	22.0		8.2	6.2			20.4	6.4		25.0	0.4
LOS	B	C		A	A			C	A		C	A
Approach Delay		21.2			7.1			9.6			20.0	
Approach LOS		C			A			A			C	
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		9.8	38.1		13.9	13.9	13.9	13.9	13.9	13.9
70th %ile Term Code	Gap	Gap		Gap	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	16.0	16.0		8.0	30.2		11.2	11.2	11.2	11.2	11.2	11.2
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		67	82			58	36		117	0
Fuel Used(l)	2	18		13	17			3	5		14	2
CO Emissions (g/hr)	42	327		247	322			59	101		265	42
NOx Emissions (g/hr)	8	63		48	62			11	19		51	8
VOC Emissions (g/hr)	10	75		57	74			14	23		61	10
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	3.7	28.9		6.3	7.6			5.9	0.0		12.3	0.0
Queue Length 95th (m)	12.2	64.0		18.0	21.4			17.8	15.5		32.2	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)	675	1092		534	1472			930	900		731	801
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		0.20	0.05

Intersection Summary

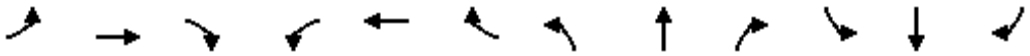
Area Type:	Other		
Cycle Length: 82.7			
Actuated Cycle Length: 53.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 14.0		Intersection LOS: B	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 73.7			
70th %ile Actuated Cycle: 62.5			
50th %ile Actuated Cycle: 51.9			
30th %ile Actuated Cycle: 46.9			
10th %ile Actuated Cycle: 31.2			

Splits and Phases: 3: Martin & Main/Ottawa





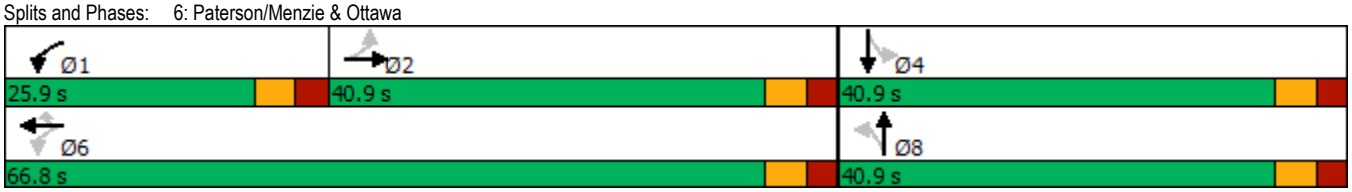
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	565	117	45	480	15	82	14	77	43	33	18
Future Volume (vph)	8	565	117	45	480	15	82	14	77	43	33	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.977				0.850		0.940			0.974	
Flt Protected		0.999		0.950				0.977			0.978	
Satd. Flow (prot)	0	1730	0	1695	1784	1517	0	1623	0	0	1688	0
Flt Permitted		0.995		0.327				0.827			0.751	
Satd. Flow (perm)	0	1723	0	583	1784	1457	0	1365	0	0	1296	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				29		40			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)	8	565	117	45	480	15	82	14	77	43	33	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	690	0	45	480	15	0	173	0	0	94	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)		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	0.38	0.01		0.66			0.41	
Control Delay		17.9		5.9	7.5	1.3		37.8			33.1	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		17.9		5.9	7.5	1.3		37.8			33.1	
LOS		B		A	A	A		D			C	
Approach Delay		17.9			7.2			37.8			33.1	
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	17.0	17.0		17.0	17.0	
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)		438		14	192	1		120			69	
Fuel Used(l)		64		1	15	0		13			6	
CO Emissions (g/hr)		1193		23	273	5		235			106	
NOx Emissions (g/hr)		230		4	53	1		45			20	
VOC Emissions (g/hr)		275		5	63	1		54			24	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		76.3		1.9	27.4	0.0		20.9			12.4	
Queue Length 95th (m)		#164.1		7.0	63.3	1.3		40.6			25.8	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		1064		655	1247	1027		556			512	
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	0.38	0.01		0.31			0.18	

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: 0.66			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 83.5%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 97.7			
70th %ile Actuated Cycle: 89.7			
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



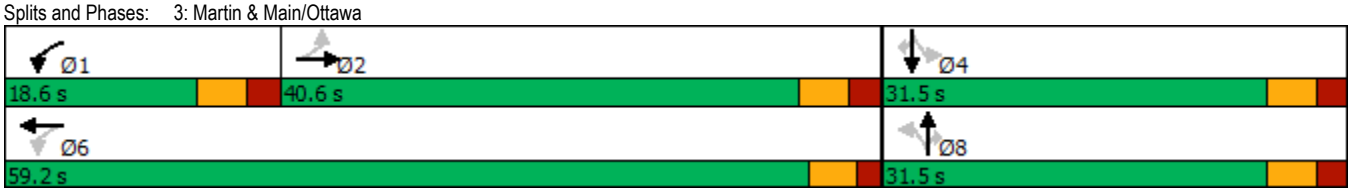
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	283	6	433	479	102	18	98	341	62	66	40
Future Volume (vph)	39	283	6	433	479	102	18	98	341	62	66	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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
Frt		0.997			0.974				0.850			0.850
Flt Protected	0.950			0.950				0.992			0.976	
Satd. Flow (prot)	1695	1778	0	1695	1730	0	0	1770	1517	0	1741	1517
Flt Permitted	0.446			0.368				0.937			0.788	
Satd. Flow (perm)	794	1778	0	650	1730	0	0	1660	1469	0	1399	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			21				341			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)	39	283	6	433	479	102	18	98	341	62	66	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	289	0	433	581	0	0	116	341	0	128	40
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

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
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)	15.0	15.0		32.9	33.5			12.2	12.2		12.2	12.2
Actuated g/C Ratio	0.27	0.27		0.58	0.59			0.22	0.22		0.22	0.22
v/c Ratio	0.18	0.61		0.72	0.56			0.32	0.58		0.42	0.10
Control Delay	19.2	24.7		16.0	9.6			22.8	7.4		25.4	0.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	19.2	24.7		16.0	9.6			22.8	7.4		25.4	0.6
LOS	B	C		B	A			C	A		C	A
Approach Delay		24.1			12.4			11.3			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)	18.0	18.0		13.0	37.2		12.1	12.1	12.1	12.1	12.1	12.1
70th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	14.0	14.0		13.0	33.2		10.2	10.2	10.2	10.2	10.2	10.2
50th %ile Term Code	Gap	Gap		Max	Hold		Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	11.8	11.8		11.5	29.5		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		9.6	25.8		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)	31	231		207	305			89	45		101	0
Fuel Used(l)	2	15		38	49			5	8		12	2
CO Emissions (g/hr)	34	274		708	909			93	140		228	44
NOx Emissions (g/hr)	7	53		137	175			18	27		44	8
VOC Emissions (g/hr)	8	63		163	210			21	32		53	10
Dilemma Vehicles (#)	0	0		0	0			0	0		0	0
Queue Length 50th (m)	2.9	24.6		18.9	25.8			9.9	0.0		11.2	0.0
Queue Length 95th (m)	10.6	53.4		#59.5	70.1			24.6	17.6		27.6	0.3
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)	503	1128		624	1611			782	872		659	714
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		0.69	0.36			0.15	0.39		0.19	0.06

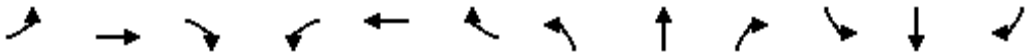
Intersection Summary

Area Type: Other
Cycle Length: 90.7
Actuated Cycle Length: 56.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 14.7 Intersection LOS: B
Intersection Capacity Utilization 71.7% ICU Level of Service C
Analysis Period (min) 15
90th %ile Actuated Cycle: 72.7
70th %ile Actuated Cycle: 59.8
50th %ile Actuated Cycle: 53.9
30th %ile Actuated Cycle: 50
10th %ile Actuated Cycle: 46.3
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Martin & Main/Ottawa



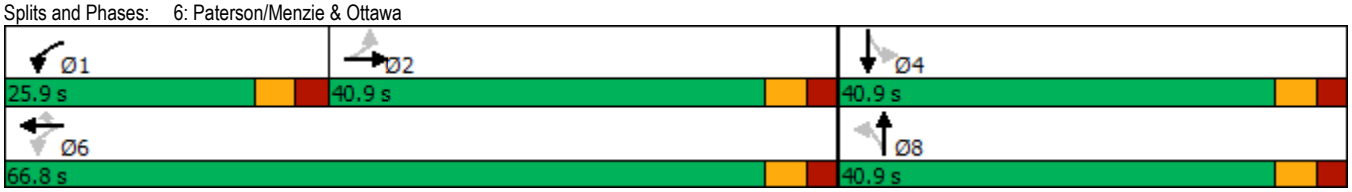
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	645	57	98	944	51	104	16	62	25	11	27
Future Volume (vph)	18	645	57	98	944	51	104	16	62	25	11	27
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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	
Frt		0.989				0.850		0.954			0.942	
Flt Protected		0.999		0.950				0.972			0.981	
Satd. Flow (prot)	0	1758	0	1695	1784	1517	0	1642	0	0	1624	0
Flt Permitted		0.969		0.302				0.788			0.838	
Satd. Flow (perm)	0	1705	0	539	1784	1457	0	1321	0	0	1387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				29		26			27	
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)	18	645	57	98	944	51	104	16	62	25	11	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	720	0	98	944	51	0	182	0	0	63	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)		51.8		62.7	62.7	62.7		16.3			16.3	
Actuated g/C Ratio		0.57		0.69	0.69	0.69		0.18			0.18	
v/c Ratio		0.74		0.21	0.77	0.05		0.71			0.23	
Control Delay		23.6		6.8	16.3	3.6		44.2			21.5	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		23.6		6.8	16.3	3.6		44.2			21.5	
LOS		C		A	B	A		D			C	
Approach Delay		23.6			14.8			44.2			21.5	
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	18.9	18.9		18.9	18.9	
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	15.7	15.7		15.7	15.7	
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	12.8	12.8		12.8	12.8	
30th %ile Term Code	Hold	Hold		Gap	MaxR	MaxR	Gap	Gap		Hold	Hold	
10th %ile Green (s)	69.5	69.5		0.0	69.5	69.5	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell		Skip	Dwell	Dwell	Min	Min		Hold	Hold	
Stops (vph)		504		33	599	10		141			32	
Fuel Used(l)		71		3	40	1		14			3	
CO Emissions (g/hr)		1323		52	746	22		267			55	
NOx Emissions (g/hr)		255		10	144	4		52			11	
VOC Emissions (g/hr)		305		12	172	5		62			13	
Dilemma Vehicles (#)		0		0	0	0		0			0	
Queue Length 50th (m)		90.3		4.7	91.4	1.0		25.1			5.2	
Queue Length 95th (m)		#195.0		12.8	#205.7	5.6		46.1			15.4	
Internal Link Dist (m)		659.5			142.0			295.6			173.0	
Turn Bay Length (m)						30.0						
Base Capacity (vph)		972		626	1231	1014		525			551	
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		0.74		0.16	0.77	0.05		0.35			0.11	

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: 0.77			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 89.2%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 97.7			
70th %ile Actuated Cycle: 91.6			
50th %ile Actuated Cycle: 88.4			
30th %ile Actuated Cycle: 85.5			
10th %ile Actuated Cycle: 91.3			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Paterson/Menzie & Ottawa



APPENDIX D

On-Street Parking Figure

LEGEND

- ON-STREET VISITOR PARKING SPACE (6.0m × 2.4m)
- DRIVEWAY
- SIDEWALK
- DWELLING UNIT

PARKING TABLE

UNIT COUNT: 110

GARAGE PARKING: 114 SPACES

DRIVEWAY PARKING: 138 SPACES

ON-STREET VISITOR PARKING: 55 SPACES

TOTAL PARKING: 307 SPACES

PARKING RATIO: 2.79 SPACES PER UNIT

STREET ONE

STREET TWO

STREET THREE

STREET ONE

FLORENCE STREET

ADELAIDE STREET

8.50m

FUTURE DEVELOPMENT BY
OTHERS (MENZIE ENCLAVES)

EX. TOP OF SLOPE

EX. BOTTOM OF DITCH

NOVATECH
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Facsimile (613) 254-5867
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MUNICIPALITY OF MISSISSIPPI MILLS
HANNAN HILLS SUBDIVISION

ON-STREET PARKING FIGURE

SCALE 1 : 1000 (0, 10m, 20m, 40m)

DATE MAY 2024 | JOB 118201 | FIGURE 118201-PK

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SHT11X17.DWG - 279mmX432mm