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## 300 Moodie Drive, Ottawa

### Transportation Impact Assessment

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**300 Moodie Drive, Ottawa**  
**Transportation Impact Assessment**

Prepared By:

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Ottawa, Ontario  
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April 2018

Novatech File: 118007  
Ref: R-2018-014

April 16, 2018

City of Ottawa  
Planning and Growth Management Department  
110 Laurier Ave. W., 4<sup>th</sup> Floor,  
Ottawa, Ontario K1P 1J1

**Attention: Ms. Rosanna Baggs**  
**Project Manager, Infrastructure Approvals**

Dear Ms. Baggs:

**Reference: 300 Moodie Drive**  
**Transportation Impact Assessment Report**  
**Novatech File No. 118007**

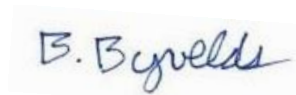
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We are pleased to submit the following Transportation Impact Assessment report in support of a Site Plan Application for 300 Moodie Drive, for your review and signoff. The structure and format of this report is in accordance with the City of Ottawa Transportation Impact Assessment Guidelines (June 2017).

A PDF version of this report and copies of the electronic software files are provided on the enclosed disk. If you have any questions or comments regarding this report, please feel free to contact the undersigned.

Yours truly,

**NOVATECH**



Brad Byvelds, P. Eng.  
Project Coordinator | Transportation/Traffic

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## EXECUTIVE SUMMARY

This Transportation Impact Assessment report has been prepared in support of a redevelopment of the property located at 300 Moodie Drive. The subject site is currently occupied by an auto repair shop, auto parts store, and a Salvation Army thrift store.

The proposed redevelopment will include a 135-suite hotel and 5,000 ft<sup>2</sup> commercial retail unit, and the layout will be modified to accommodate more parking (increasing from approximately 80 to 156 spaces).

The subject site is designated as 'Urban Employment Area' on Schedule 'B' of the Official Plan. The implementing Zoning for the property is "Business Park Industrial Zone" (IP). The proposed uses (hotel, commercial) are permitted uses in the IP Zone. There are no Secondary Plans or Community Design Plans applicable to the subject site. The redevelopment will replace two existing buildings containing an auto repair shop, auto parts store, and a Salvation Army thrift store. The proposed redevelopment is a 6-storey, 135-unit hotel, and a 5,000 ft<sup>2</sup> commercial unit. The site will be arranged to increase the amount of parking spaces available, increasing from approximately 80 to 156. The proposed redevelopment is expected to be completed with full occupancy by the year 2020. The proposed redevelopment will be completed in one stage with no proposed phasing.

From Fitzgerald Road, the southwestern access (full movement driveway) to the property will remain in place, while the two southeastern accesses will be removed, including one loading and one parking lot access. The access along Moodie Drive (right-in/right-out) will remain in place as well.

The study area for this report will include Moodie Drive, Timm Drive, Fitzgerald Road, Menten Place the Loblaws access, and Robertson Road within the vicinity of the subject area. The study area includes the signalized intersections at Moodie Drive/Timm Drive, Moodie Drive/Fitzgerald Road/Menten Place, Moodie Drive/Loblaws access and Moodie Drive/Robertson Road.

The selected time periods for the analysis are the weekday AM and PM peak hours, and the Saturday peak hour, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic. Anticipated parking requirements will also be reviewed for the subject site. The proposed redevelopment is expected to be completed with full occupancy by the year 2020.

The conclusions and recommendations of this TIA can be summarized as follows:

### Development Design and Parking

- Pedestrian facilities will be provided between the main building entrance to the hotel and commercial unit and the proposed parking lot. New sidewalks will be provided to the south and east of the proposed hotel. These new sidewalks will provide pedestrian connectivity between the hotel and commercial unit building entrances and the existing pedestrian facilities in the northwest corner of the Moodie Drive/Fitzgerald Road/Menten Place intersection.
- Bicycle parking for the hotel will be located near the northwest corner of the hotel. Bicycle parking for the commercial unit will be located near the loading area north of the commercial unit.

- All required TDM-supportive design and infrastructure measures in the TDM checklist are met, excluding the minimum parking requirement.
- Based on the City's ZBL, two loading spaces are required for the proposed hotel and one loading space is required for the proposed commercial development. Loading and garbage collection for the proposed development will take place north of the commercial unit (one loading space) and near the northwest corner of the hotel (two loading spaces).
- The proposed bicycle parking meets the minimum requirement of the ZBL, however a variance is required for relief of the minimum vehicular parking requirement. The development proposes a reduction in 19 vehicular parking spaces from the minimum requirement of the ZBL.
- As the subject site will contain multiple land uses, it is anticipated that some trips may be internally captured (i.e. people from the hotel going out for dinner) and will not require an additional parking space. It is also noteworthy that the parking demand for the hotel may fluctuate day-to-day, as not all rooms may not be occupied. Based on the foregoing, spillover parking from the site is anticipated infrequent and minimal. As the proposed parking equates to approximately 90% of the required parking under the ZBL, a review of spillover parking is not required under the TIA guidelines.

#### Boundary Streets

- Moodie Drive, south of Fitzgerald Road, meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS.
- Moodie Drive, north of Fitzgerald Road, meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS. As the subject site borders the City's Greenbelt to the north, the pedestrian desire line is to/from the south. The proposed development will provide pedestrian connections between the main building entrances and the existing pedestrian facilities to the south. This will provide sufficient pedestrian access to the site along the pedestrian desire line.
- If the City wishes to implement a sidewalk along Moodie Drive between the Fitzgerald Road intersection and the paved shoulder to the north, a PLOS D could be achieved.
- To achieve the target BLOS along Moodie Drive, the City could give consideration to a physically separated bicycle facility, or a reduction in operational speed and widening of the existing road platform to implement a southbound bike lane.
- The recommended pedestrian and cycling improvements along Moodie Drive are to address the existing conditions and are not attributable to the site. As the site provides pedestrian and cycling connectivity to the existing facilities along Moodie Drive south of Fitzgerald Road, the implementation of any pedestrian and cycling facilities along Moodie Drive should be a City lead initiative.
- Fitzgerald Road meets the target PLOS, TkLOS and Auto LOS, however it does not meet the target BLOS. To achieve the target BLOS, a reduction of the operational speed could be considered.

### Access Design

- The proposed redevelopment will be served by the existing western all movement access along Fitzgerald Road and right-in right-out access along Moodie Drive. The two existing eastern accesses along Fitzgerald Road will be removed and reinstated with a barrier curb as part of this application.
- The proposed accesses meet the minimum requirements of the City's Private Approach By-law.
- Based on the traffic projections at the accesses, approximately 30 to 40 vehicles are anticipated to arrive using each access during the critical peak hour (Saturday). This equates to one vehicle entering each access every 1.5 to 2 minutes. Based on the foregoing, spillover of queued vehicles onto Moodie Drive or Fitzgerald Road is anticipated to be infrequent, and the proposed clear throat lengths are considered sufficient.

### Transit

- The additional transit trips generated by the proposed redevelopment are not anticipated to have a significant impact on the operations of OC Transpo route 97.

### Intersection Design

- The Moodie Drive/Timm Road intersection meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS.
- The Moodie Drive/Fitzgerald Road/Menten Place intersection meets the target Auto LOS, however it does not meet the target PLOS, BLOS and TkLOS.
- The Moodie Drive/Loblaws Access intersection meets the target Auto LOS, however it does not meet the target PLOS, BLOS and TkLOS.
- The Moodie Drive/Robertson Road intersection meets the target TkLOS, however it does not meet the target PLOS, BLOS, TLOS and Auto LOS.
- A reduction in the east-west crossing distance for pedestrians at the intersections along Moodie Drive and the north-south crossing distance at the Robertson Road intersection would provide the greatest improvement to the PLOS at the study area intersections. However, based on the projected traffic volumes the existing cross section along Moodie Drive and Robertson Road is appropriate.
- Based on the City's criteria for the implementation ladder crosswalks (minimum of 400,000 vehicle/pedestrian conflicts over 8 hours), a ladder crosswalk is warranted on the south approach to the Moodie Drive/Fitzgerald Road/Menten Place intersection, on the north approach to the Moodie Drive/Loblaws Access intersection, as well as all approaches to the Moodie Drive/Robertson Road intersection.
- To improve the BLOS associated with the left turn criteria at the intersections along Moodie Drive, the City could give consideration to implementing two-stage left turn bike boxes on the north and south approaches, as well as the east and west approaches to the Moodie Drive/Robertson Road intersection.

- To improve the BLOS on the west approach to the Moodie Drive/Fitzgerald Road/Menten Place intersection, the City could give consideration to reducing the operating speed.
- To improve the BLOS associated with the right turn criteria on the north approach to the Moodie Drive/Robertson Road intersection, a reduction in the parallel length for the right turn lane could be considered. Based on the projected 2025 total traffic volumes and the TAC right turn storage length equation ( $S=NL/30$ ), a storage length of approximately 45m would be sufficient for this right turn lane.
- Based on the southbound right turning volumes during the AM peak hour (approximately 185 vehicles), consideration could be given to providing a southbound right turn lane at the Moodie Drive/Fitzgerald Road/Menten Place intersection. The combined southbound through and right turning volumes during the AM peak hour equate to approximately half of the capacity of this approach. It is noteworthy that the Synchro analysis does not suggest capacity deficiencies at this intersection, and there is no significant collision history on the southbound approach over the last five years. Based on the foregoing, and in the interest of minimizing the east-west crossing distance for pedestrians, a southbound right turn lane is not recommended at this intersection.
- To meet the target Auto LOS D for this area, a reduction of approximately 110 eastbound through vehicles and 25 southbound left turning vehicles is required during the AM peak hour at the Moodie Drive/Robertson Road intersection. Based on the foregoing, continued support of transportation solutions that maximize the transit, bike and walk modes of travel will be critical along Robertson Road. Options to displace traffic along the study area roads include increased use of non-auto modes of transportation, alternate time of travel for drivers using the corridor to make use of off-peak capacity, and alternate routes for east-west travel.
- Under the background traffic conditions, all intersections are anticipated to meet the target Auto LOS D under the weekday AM and PM, and Saturday peak hours.
- The addition of site generated traffic is not anticipated to have a significant impact on the signalized intersections within the study area.
- Based on the southbound right turning volumes at the Moodie Drive access and the westbound right turning volumes at the Fitzgerald Road access, right turn lanes are not required at the accesses.
- Based on the Ministry of Transportation of Ontario (MTO) left turn lane warrant graphs, an eastbound left turn lane is not required at the Fitzgerald Road access.

## 1.0 INTRODUCTION

This Transportation Impact Assessment report has been prepared in support of a redevelopment of the property located at 300 Moodie Drive. The subject site is currently occupied by an auto repair shop, auto parts store, and a Salvation Army thrift store.

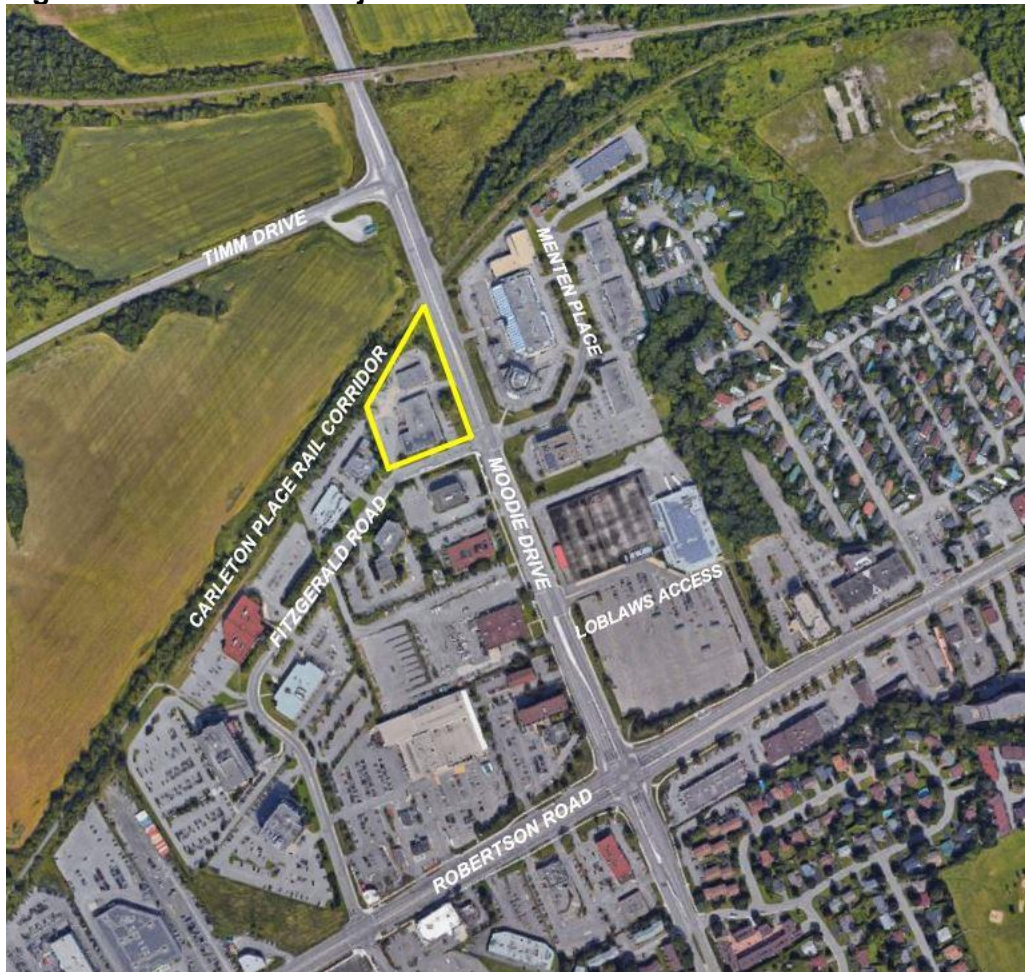
The proposed redevelopment will include a 135-suite hotel and 5,000 ft<sup>2</sup> commercial retail unit, and the layout will be modified to accommodate more parking (increasing from approximately 80 to 156 spaces).

The subject site is surrounded by the following:

- Carleton Place rail corridor to the north;
- Moodie Drive to the east;
- Fitzgerald Road to the south; and
- Business park uses to the west.

A view of the subject site is provided in **Figure 1**.

**Figure 1: View of the Subject Site**



## 2.0 PROPOSED DEVELOPMENT

The subject site is designated as 'Urban Employment Area' on Schedule 'B' of the Official Plan. The implementing Zoning for the property is "Business Park Industrial Zone" (IP). The proposed uses (hotel, commercial) are permitted uses in the IP Zone. There are no Secondary Plans or Community Design Plans applicable to the subject site. The redevelopment will replace two existing buildings containing an auto repair shop, auto parts store, and a Salvation Army thrift store. The proposed redevelopment is a 6-storey, 135-unit hotel, and a 5,000 ft<sup>2</sup> commercial unit. The site will be arranged to increase the amount of parking spaces available, increasing from approximately 80 to 156. The proposed redevelopment is expected to be completed with full occupancy by the year 2020. The proposed redevelopment will be completed in one stage with no proposed phasing.

From Fitzgerald Road, the southwestern access (full movement driveway) to the property will remain in place, while the two southeastern accesses will be removed, including one loading and one parking lot access. The access along Moodie Drive (right-in/right-out) will remain in place as well.

A copy of the proposed site plan is included in **Appendix A**.

## 3.0 SCREENING

### 3.1 Screening Form

The City's 2017 TIA Guidelines identify three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form.

The trigger results are as follows:

- Trip Generation Trigger: The hotel and restaurant are expected to generate over 60 person trips/peak hour more than the existing development; further assessment is required based on this trigger.
- Location Triggers – The development is not located along a Transit Priority or Rapid Transit Route, but it is along a Spine Cycling Route; further assessment is required based on this trigger.
- Safety Triggers – The proposed accesses are within 150 metres of the traffic signal at Moodie Drive/Fitzgerald Road/Menten Place, and one access is within the southbound auxiliary left-turn lane on Moodie Drive. Additionally, the development proposes a drive-thru. For all these reasons, further assessment is required based on this trigger.

A copy of the TIA Screening Form is included in **Appendix B**.

## **4.0 SCOPING**

### **4.1 Existing Conditions**

#### **4.1.1 Roadways**

All roadways within the study area fall under the jurisdiction of the City of Ottawa.

Moodie Drive is an arterial roadway that generally runs on a north-south alignment between Carling Avenue and Old Richmond Road, where the roadway splits into Old Richmond Road to the west and Moodie Drive to the east. Beyond this split, Moodie Drive continues until intersecting with Brophy Drive in Richmond. At the subject site's existing driveway, this road transitions from a four-lane divided urban cross-section to the south to a four-lane divided rural cross-section to the north. The posted speed limit on Moodie Drive is 60 km/h in the subject area. Moodie Drive is classified as an urban truck route, allowing full loads. The City's Official Plan (OP) identifies a right-of-way (ROW) protection for Moodie Drive of 44.5m from the Bells Corners urban limit to Richmond Road. South of this limit, the ROW is 37.5m in the subject area.

Timm Drive is an arterial roadway that generally runs on an east-west alignment between Eagleson Road and Moodie Drive. West of Eagleson Road, this roadway continues as Katimavik Road. It has a two-lane undivided rural cross-section, with a posted speed limit of 80 km/h.

Fitzgerald Road is a collector roadway that runs east-west at the intersection with Moodie Drive. West of the subject site, Fitzgerald curves into a north-south alignment and terminates at Robertson Road. It has a two-lane undivided urban cross-section, and a posted speed limit of 50 km/h, with an advisory speed of 40 km/h for the curve at the west limit of the site. Street parking is not permitted on either side of Fitzgerald Road at the site, however parking is permitted in both directions immediately west of the property line. The ROW at Fitzgerald Road is currently 20m adjacent to the site. A road widening of approximately 2m will be required, as the OP identifies a 24m ROW protection for Fitzgerald Road.

Menten Place is a local roadway that intersects with Moodie Drive, opposite Fitzgerald Road. Menten Place ends in a cul-de-sac approximately 250m from Moodie Drive. It has a two-lane undivided urban cross-section, with a posted speed limit of 40km/h.

Robertson Road is an arterial roadway that generally runs on an east-west alignment between Eagleson Road and Baseline Road. West of Eagleson Road, this roadway continues as Hazeldean Road. East of Baseline Road, this roadway continues as Richmond Road. Within the study area, it has a five-lane undivided urban cross-section with a two-way left turn lane, and a posted speed limit of 60 km/h. Robertson Road is classified as a truck route, allowing full loads.



#### 4.1.2 Intersections

##### Moodie Drive/Timm Drive

- Signalized intersection
- Eastbound: one left turn lane and one channelized right turn lane
- Northbound: two through lanes and one left turn lane
- Southbound: two through lanes and one channelized right turn lane



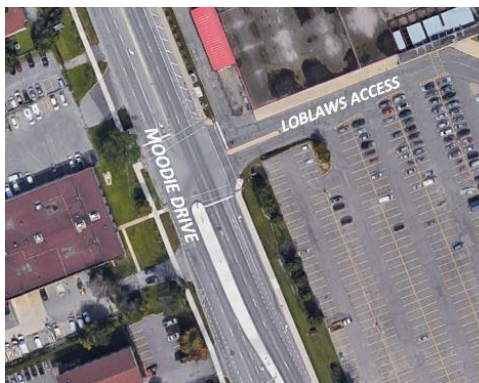
##### Moodie Drive/Fitzgerald Road/ Menten Place

- Signalized intersection
- Eastbound/Westbound: one shared through/right turn lane and one left turn lane
- Northbound/Southbound: one through lane, one shared through/right turn lane, and one left turn lane



##### Moodie Drive/Loblaws access

- Signalized intersection
- Westbound: one shared left turn/right turn lane
- Northbound: two through lanes and one right turn lane
- Southbound: two through lanes and one left turn lane



### Moodie Drive/Robertson Road

- Signalized intersection
- Eastbound/Westbound: one left turn lane, two through lanes, and one channelized right turn lane with bus queue jump
- Northbound/Southbound: two left turn lanes, two through lanes, and one channelized right turn lane



### 4.1.3 Driveways

In accordance with the City's 2017 TIA guidelines, a review of adjacent driveways along the boundary roads are provided as follows:

#### **Fitzgerald Road, North Side:**

- 2 driveways to businesses at 15 & 17 Fitzgerald Road (adjacent driveway offset approximately 38m to the west, measuring nearest edge to nearest edge at the ROW)

#### **Fitzgerald Road, South Side:**

- 3 driveways to businesses at 326 Moodie Drive, 16 Fitzgerald Road, and a Bell office/storage yard at 340 Moodie Drive (adjacent driveway offset approximately 11m to the east, measuring nearest edge to nearest edge)

#### **Moodie Drive, West Side:**

- 2 driveways to businesses at 326, 330 Moodie Drive

#### **Moodie Drive, East Side:**

- 2 driveways to businesses at 303 Moodie Drive, shopping at 2065 Robertson Road

### 4.1.4 Pedestrian and Cycling Facilities

A concrete sidewalk is provided on the south side only of Fitzgerald Road. Adjacent to the subject site, there are no sidewalks along Moodie Drive. South of the Moodie Drive/Fitzgerald Road/Menten Place intersection, there are sidewalks on both sides of Moodie Drive.

Moodie Drive and Robertson Road are classified as part of Ottawa's primary cycling network as Spine Routes. Timm Drive and Fitzgerald Road are classified as local routes, and the adjacent rail corridor (currently used as Trans Canada Trails) is classified as a major pathway. The intersection of Moodie Drive and Robertson Road has designated bike lanes at all approaches. A bike lane is provided northbound along Moodie Drive, and terminates at the Moodie Drive/Fitzgerald Road/Menten Place intersection. Paved shoulders are provided on Moodie Drive north of the subject site, and on Timm Drive. Fitzgerald Road is a suggested cycling route, with connectivity to the Trans Canada Trail.

### 4.1.5 Transit

The nearest bus stops to the subject site are stop #1385 (for route 97; located on the south side of Fitzgerald Road), #1316 (for routes 97, 152, and 252; located southwest of Moodie Drive/Fitzgerald Road) and #5285 (for routes 152 and 252; located southeast of Moodie Drive/Fitzgerald Road). The aforementioned bus stop locations are shown in **Figure 2**.

**Figure 2: OC Transpo Bus Stop Locations**



OC Transpo Route 97 travels from Fitzgerald to Ottawa International Airport. The route operates every 30 minutes on weekdays between 6:00am and 11:00pm, and every 60 minutes on weekends between 8:00am and 10:00pm.

OC Transpo Route 152 travels from either Bell High School or the Moodie station to the Lincoln Fields station. Because it usually stops at the Moodie station, Route 152 only stops near the subject site at 11:30am, 1:30pm and 9:30pm on weekdays. This route does not provide service to the subject site on weekends.

OC Transpo Route 252 travels between the Mackenzie King station and the Cope/Yellowtail station. It is a peak route, operating every 15 minutes from 6:00am to 8:30am and 3:30pm to 7:00pm on weekdays. This route does not operate on weekends.

### 4.1.6 Existing Traffic Volumes

Weekday and Saturday traffic counts completed by the City of Ottawa and Novatech were used to determine the existing pedestrian, cyclist and vehicular traffic volumes at the study area intersections. The traffic counts were completed on the following dates:

- |   |                                  |
|---|----------------------------------|
| • Moodie Drive/Timm Drive                   | March 8, 2017 and March 24, 2018 |
| • Moodie Drive/Fitzgerald Road/Menten Place | March 8, 2017 and March 24, 2018 |



- Moodie Drive/Loblaws access March 8, 2017 and March 24, 2018
- Moodie Drive/Robertson Road March 8, 2017 and March 24, 2018

The weekday counts were completed the Wednesday before March Break (March 13-17, 2017). Based on the 2017 data, Fitzgerald Road has an annual average daily traffic (AADT) of 3,690 vehicles/day. Moodie Drive has an AADT of 15,950 vehicles/day. Existing traffic volumes along the study area roadways are shown in **Figure 3**. Peak hour summary sheets of the above traffic counts are included in **Appendix C**.

#### 4.1.7 Collision Records

Historical collision data from the last five years was obtained from the City's Public Works and Service Department for the study area intersections. Copies of the collision summary reports are included in **Appendix D**.

The collision data has been evaluated to determine if there are any identifiable collision patterns. The following **Table 1** summarizes the number of collisions at each intersection from January 1, 2012 to December 31, 2016.

**Table 1: Reported Collisions**

Intersection	Number of Reported Collisions
Moodie Drive/Timm Drive	5
Moodie Drive/Fitzgerald Road/Menten Place	23
Moodie Drive/Loblaws access	9
Moodie Drive/Robertson Road	70

##### Moodie Drive/Timm Drive

A total of five collisions were reported at this intersection over the last five years, of which there were two rear-end impacts, two turning movement impacts, and one angle impact. Two of the collisions caused injuries, but none caused fatalities.

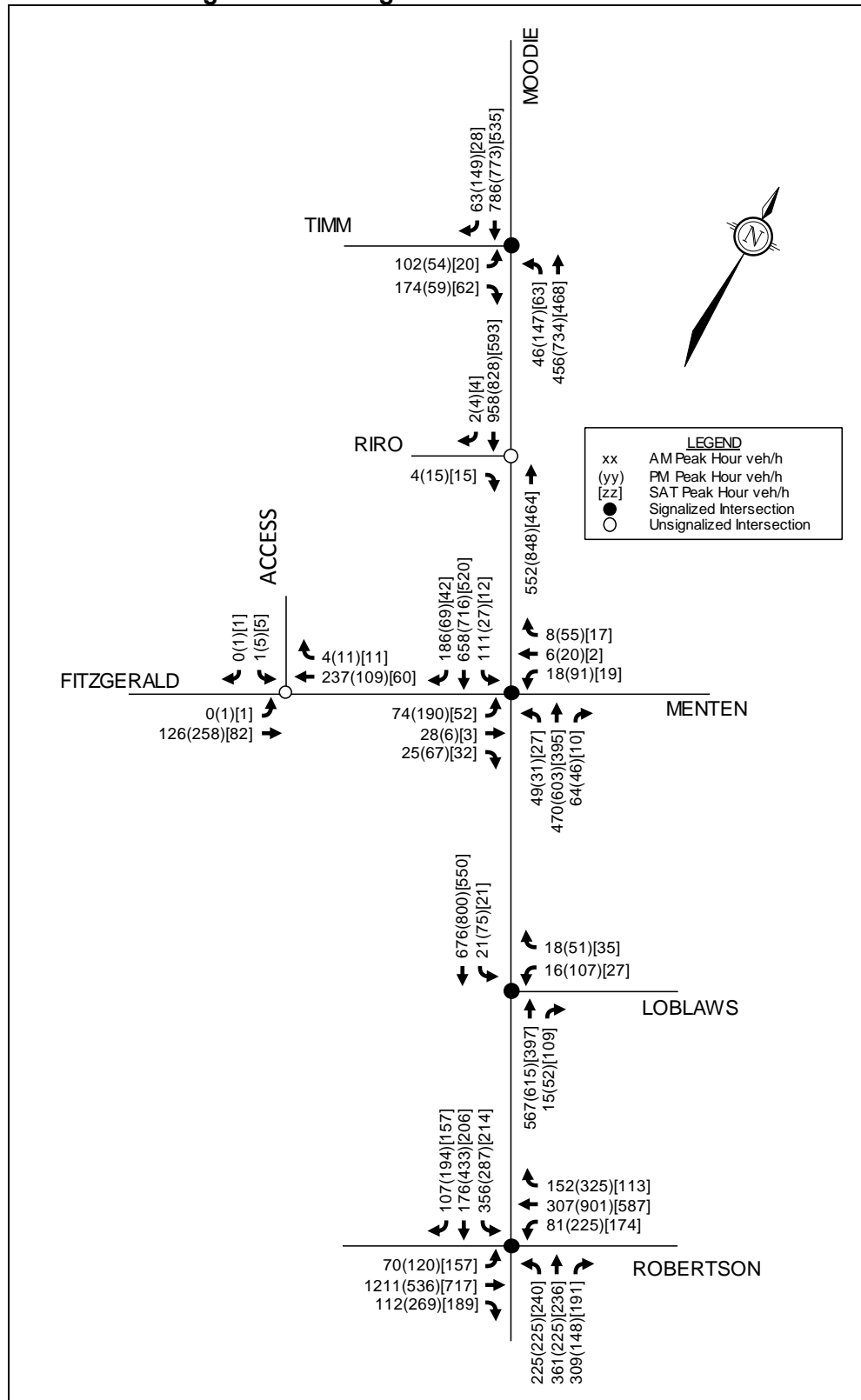
##### Moodie Drive/Fitzgerald Road/Menten Place

A total of 23 collisions were reported at this intersection over the last five years, of which there were eight rear-end impacts, three turning movement impacts, two sideswipe impacts, six angle impacts, and four single-vehicle/other impacts. Five of the collisions caused injuries, but none caused fatalities.

Of the eight rear-end impacts, four occurred at the northbound approach, one occurred at the southbound approach, and three occurred at the eastbound approach.

Of the six angle impacts, three occurred at the northbound approach, one occurred at the southbound approach, and two occurred at the westbound approach.

**Figure 3: Existing Network Traffic Volumes**



NOTE: Existing trips at access are based on trip generation in Section 5.1

#### Moodie Drive/Loblaws access

A total of nine collisions were reported at this intersection over the last five years, of which there were four rear-end impacts, three turning movement impacts, and two angle impacts. Two of the collisions caused injuries, but none caused fatalities.

#### Moodie Drive/Robertson Road

A total of 70 collisions were reported at this intersection over the last five years, of which there were 32 rear-end impacts, 10 turning movement impacts, 11 sideswipe impacts, 11 angle impacts, and 6 single-vehicle/other impacts. Twelve of the collisions caused injuries, but none caused fatalities.

Modifications were made to both Moodie Drive and Robertson Road from August to December 2013, with dual left turn lanes added to Moodie Drive and queue jump lanes for buses added to Robertson Road. Between 2012 and 2016, each year had 10-13 collisions reported except for 2013, which had 22. This can be attributed to the construction period, where 14 collisions occurred between August and December.

Of the 32 rear-end impacts, eight occurred at the northbound approach (two left turn, four right turn, and two through vehicle incidents), five occurred at the southbound approach (three left turn and two right turn incidents), 11 occurred at the eastbound approach (one left turn, one right turn, seven through vehicle, and two unknown incidents), and eight occurred at the westbound approach (two left turn, two right turn, and four through vehicle incidents). Eight of the 32 rear-end impacts took place in poor weather conditions.

Of the 10 turning movement impacts, six involved left turns at the northbound approach, three involved left turns at the southbound approach, and one involved a left turn at the eastbound approach. The road modifications in late 2013 provided dual turning lanes for northbound and southbound traffic.

Of the 11 sideswipe impacts, two occurred at the northbound approach, two occurred at the southbound approach, two occurred at the eastbound approach, and five occurred at the westbound approach. Five of the eleven sideswipe impacts occurred during the construction period.

Of the 11 angle impacts, one involved a northbound vehicle and an eastbound vehicle, one involved a northbound vehicle and a westbound vehicle, six involved a southbound vehicle and an eastbound vehicle and three involved a southbound vehicle and a westbound vehicle. Three of the eleven impacts took place in poor weather conditions.

Of the six single-vehicle/other impacts, two occurred at the northbound approach, one occurred at the southbound approach, two occurred at the eastbound approach, and one occurred at the westbound approach. One of the six collisions involved a pedestrian being struck by a right-turning vehicle from the southbound approach.

## **4.2 Planned Conditions**

The City of Ottawa's 2013 Transportation Master Plan (TMP) does not identify any roadway projects within the study area in its Affordable Road Network. The Affordable Rapid Transit and Transit Priority (RTTP) Network identifies Robertson Road as a Transit Priority Corridor with isolated measures. Traffic signal priority and queue jump lanes are planned for Robertson Road/Richmond

Road between Eagleson Road and Holly Acres Road, to reduce travel time and improve reliability on OC Transpo Route 118, and enhance transit service between Kanata and Bells Corners.

The 2013 Ottawa Cycling Plan identifies a segregated bike facility on Robertson Road/Richmond Road from Moodie Drive to Baseline Road as a Phase 2 (2020-2025) affordable project.

There are no other developments under construction, approved, or in the approval process within the study area.

### 4.3 Study Area and Time Periods

The study area for this report will include Moodie Drive, Timm Drive, Fitzgerald Road, Menten Place the Loblaws access, and Robertson Road within the vicinity of the subject area. The study area includes the signalized intersections at Moodie Drive/Timm Drive, Moodie Drive/Fitzgerald Road/Menten Place, Moodie Drive/Loblaws access and Moodie Drive/Robertson Road.

The selected time periods for the analysis are the weekday AM and PM peak hours, and the Saturday peak hour, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic. Anticipated parking requirements will also be reviewed for the subject site. The proposed redevelopment is expected to be completed with full occupancy by the year 2020.

### 4.4 Exemptions Review

This module reviews possible exemptions from the final Transportation Impact Assessment, as outlined in the TIA Guidelines. The applicable exemptions for this site are shown in **Table 2**.

**Table 2: TIA Exemptions**

Module	Element	Exemption Criteria	Exemption Applies
<b>Design Review Component</b>			
<b>4.1</b> Development Design	4.1.2 Circulation and Access	• Only required for site plans	No
	4.1.3 New Street Networks	• Only required for plans of subdivision	Yes
<b>4.2</b> Parking	4.2.1 Parking Supply	• Only required for site plans	No
	4.2.2 Spillover Parking	• Only required for site plans where parking supply is 15% below unconstrained demand	Yes
<b>Network Impact Component</b>			
<b>4.5</b> Transportation Demand Management	<i>All elements</i>	• Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time	Yes
<b>4.6</b> Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	• Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Yes

Module	Element	Exemption Criteria	Exemption Applies
4.8 Network Concept	<i>All elements</i>	<ul style="list-style-type: none"> <li>Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by the established zoning</li> </ul>	Yes

## 5.0 FORECASTING

### 5.1 Development-Generated Traffic

#### 5.1.1 Trip Generation

Currently, the subject site is occupied by two auto repair shops with a combined 15,600 ft<sup>2</sup> GFA, and a thrift store with approximately 10,600 ft<sup>2</sup> GFA. The three businesses share approximately 82 parking stalls. The number of parking stalls and the gross floor areas were approximated using aerial photography. In the redevelopment, a hotel with 135 units and a restaurant with 5,000 ft<sup>2</sup> GFA are proposed.

As the trips generated by the existing development may not conform to specific land uses in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 9<sup>th</sup> Edition*, the trip generation for the existing uses is presented using two different methods. The two methods show the range of trips anticipated at the site today. **Table 3** outlines the results using ITE trip generation rates for the existing and proposed developments.

**Table 3: Person Trip Generation (using the ITE *Trip Generation Manual*)**

Land Use	ITE Code	Units/ GFA	AM Peak (PPH <sup>1</sup> )			PM Peak (PPH)			Sat (PPH)		
			IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT
Existing Development											
Auto Care <sup>2</sup>	942	15,600 ft <sup>2</sup>	30	15	45	30	32	62	0	0	0
Specialty Retail <sup>3</sup>	826	10,500 ft <sup>2</sup>	6	3	9	16	20	36	24	23	47
Total			36	18	54	46	52	98	24	23	47
Proposed Redevelopment											
Hotel	310	135 units	54	38	92	53	51	104	70	55	125
High Turnover Restaurant	932	5,000 ft <sup>2</sup>	38	31	69	37	25	63	48	42	90
Total			92	69	161	90	76	167	118	97	215
Difference			56	51	107	44	24	69	94	74	168

1) PPH = Persons Per Hour – calculated using an ITE Trip to Person Trip factor of 1.28, consistent with the TIA Guidelines

2) The auto care centres in the subject site are closed on Saturdays, and assumed to generate no trips

3) Data for the AM and Saturday peaks are not available for this land use. Values for the AM and Saturday peaks are pro-rated from the Shopping Centre land use (ITE Code 820).

From the previous table, the proposed redevelopment is anticipated to generate an additional 107 person trips in the AM peak, 69 person trips in the PM peak and 168 person trips on Saturdays.



As the ITE land uses may not reflect the specific land uses currently provided on-site, trip generation has also been conducted based on the number of on-site parking stalls. Table 14-1 of the ITE *Traffic Engineering Handbook, 5<sup>th</sup> Edition*, suggests that the number of trips generated by a parking lot serving a retail/commercial development in the AM peak hour typically range between 10% and 30% of the total available parking for inbound trips and 10% to 20% of the total available parking for outbound trips. In the PM peak hour, the typical range is between 30% and 60% of the total available parking for inbound trips and 40% and 65% of the total available parking for outbound trips. As Saturday ranges are not provided in Table 14-1, the Saturday rates are assumed to be similar to the PM peak rates. Table 14-1 of the ITE *Traffic Engineering Handbook* is included in **Appendix E**.

Aerial photography of the subject site shows that some of the parking for the auto repair centres are used as storage rather than conventional parking. To reflect the reality that not all 82 spaces are truly available for parking, the lower limit of the range has been used to estimate trips generated by the existing developments. **Table 4** outlines the net differential of person trips, using the methodology identified above.

**Table 4: Person Trip Generation (using the ITE *Traffic Engineering Handbook*)**

Land Use	ITE Code	Units/ GFA	AM Peak (PPH <sup>1</sup> )			PM Peak (PPH)			Sat (PPH)		
			IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT
Existing Development											
All businesses	82 parking stalls		11	11	22	32	42	74	32	42	74
Total			21	20	41	32	42	74	32	42	74
Proposed Redevelopment											
Hotel	310	135	54	38	92	53	51	104	70	55	125
High Turnover Restaurant	932	5,000 ft <sup>2</sup>	38	31	69	37	26	63	48	42	90
Total			92	69	161	90	76	167	118	97	215
Difference			81	58	139	58	34	93	86	55	141

1) PPH = Persons Per Hour – calculated using an ITE Trip to Person Trip factor of 1.28, consistent with the TIA Guidelines

From the previous table, the proposed redevelopment is anticipated to generate an additional 139 person trips in the AM peak, 93 person trips in the PM peak and 141 person trips on Saturdays. In the interest of not overestimating the existing traffic, the trip generation values based on the number of parking stalls has been carried forward. This method provided a higher net difference of person trips, resulting in a more robust and conservative analysis.

The modal shares for the proposed redevelopment are anticipated to be consistent with the modal shares outlined in the 2011 *TRANS O-D Survey Report*, specific to the Bayshore/Cedarview region. The modal share values applied to the trips generated by the existing and proposed commercial developments are based on all observed trips within the Bayshore/Cedarview district during the peak hours. The modal share values applied to the trips generated by the hotel are based on all trips to/from the Bayshore/Cedarview district with an origin or destination beyond that area. A full breakdown of the projected net increase in person trips by modal share are shown in **Table 5**.

**Table 5: Person Trips by Modal Share**

Travel Mode	Modal Share	AM Peak			PM Peak			Saturday		
		IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT
Existing Development										
Commercial Person Trips		11	11	22	32	42	74	32	42	74
Auto Driver	50%	6	5	11	16	21	37	16	21	37
Auto Passenger	20%	2	2	4	7	8	15	7	8	15
Transit	10%	1	1	2	3	4	7	3	4	7
Non-Auto	20%	2	3	5	6	9	15	6	9	15
Auto Driver (Total)		6	5	11	16	21	37	16	21	37
Auto Passenger (Total)		2	2	4	7	8	15	7	8	15
Transit (Total)		1	1	2	3	4	7	3	4	7
Non-Auto (Total)		2	3	5	6	9	15	6	9	15
Proposed Redevelopment										
Hotel Person Trips		54	38	92	53	51	104	70	55	125
Auto Driver	65%	35	24	59	34	33	67	45	36	81
Auto Passenger	15%	8	6	14	8	8	16	11	8	19
Transit	15%	8	6	14	8	8	16	11	8	19
Non-Auto	5%	3	2	5	3	2	5	3	3	6
Restaurant Person Trips		38	31	69	37	25	63	48	42	90
Auto Driver	50%	19	16	35	19	13	32	24	21	45
Auto Passenger	20%	8	6	14	7	5	12	10	8	18
Transit	10%	3	3	6	4	3	7	4	5	9
Non-Auto	20%	8	6	14	7	5	12	10	8	18
Auto Driver (Total)		54	40	94	53	46	99	69	57	126
Auto Passenger (Total)		16	12	28	15	13	28	21	16	37
Transit (Total)		11	9	20	12	11	23	15	13	28
Non-Auto (Total)		11	8	19	10	7	17	13	11	24
Auto Driver (Difference)		48	35	83	37	25	62	53	36	89
Auto Pass. (Difference)		14	10	24	8	5	13	14	8	22
Transit (Difference)		10	8	18	9	7	16	12	9	21
Non-Auto (Difference)		9	5	14	4	-2	2	7	2	9

From the previous table, the redevelopment is projected to generate an additional 83 vehicle trips during the AM peak hour, 62 vehicle trips during the PM peak hour and 89 vehicle trips during the Saturday peak.

The commercial land use is expected to generate two types of external peak hour trips: primary and pass-by trips. Primary trips are made for the specific purpose of visiting the site, and pass-by trips are made as intermediate stops on the way to another destination. Peak hour pass-by trips have been estimated based on a pass-by rate of 43%. The *ITE Trip Generation Handbook* identifies this percentage as an average rate for the High Turnover Restaurant (land use 932). The pass-by trips generated by the commercial development are part of the observed background traffic and do not constitute new trips on the adjacent road network. The primary and pass-by trip generation for the commercial land use is summarized in **Table 6**.

**Table 6: Primary and Pass-by Trips (Restaurant)**

Travel Mode	AM Peak			PM Peak			Saturday		
	IN	OUT	TOT	IN	OUT	TOT	IN	OUT	TOT
<i>Restaurant Trips</i>									
Vehicle Trips	19	16	35	19	13	32	24	21	45
Pass-by	7	7	14	6	6	12	9	9	18
<b>Primary</b>	<b>12</b>	<b>9</b>	<b>21</b>	<b>13</b>	<b>7</b>	<b>20</b>	<b>15</b>	<b>12</b>	<b>27</b>

### 5.1.2 Trip Distribution

The assumed distribution of trips generated by the existing and proposed development has been derived from existing traffic patterns on the roadways within the study area. As trips generated by the proposed commercial development will predominantly originate within the district, while the proposed hotel will have more of a regional draw, the distribution for each use will be different.

The distribution for the existing and proposed commercial developments has been derived based on the AADT along the study area roadways, and can be described as follows:

- 20% to/from the north via Moodie Drive
- 15% to/from the south via Moodie Drive
- 30% to/from the east via Robertson Road
- 25% to/from the west via Robertson Road
- 5% to/from the west via Fitzgerald Road
- 5% to/from the west via Timm Drive

Trips generated by the proposed hotel is anticipated to have more of a regional draw, with a higher percentage of trips to/from Highway 417 to the north. Based on the off-peak traffic along Moodie Drive, northbound and southbound traffic is split generally 50/50. Based on the foregoing, it has been assumed that 50% of the hotel trips originate from the north, while the remainder originate from the south (Moodie Drive or Robertson Road). The distribution for the proposed hotel can be described as follows:

- 50% to/from the north via Moodie Drive
- 10% to/from the south via Moodie Drive
- 20% to/from the east via Robertson Road
- 20% to/from the west via Robertson Road

Due to the access restrictions along Moodie Drive (right-in right-out), the trip assignment at the access will be different based on arrival and departure. Trips generated by the existing and proposed development will be assigned to the accesses as follows:

#### Moodie Drive Right-in Right-Out Access

- Trips arriving from the north via Moodie Drive and west via Timm Drive
- Trips departing to the south via Moodie Drive and east/west via Robertson Road

### Fitzgerald Road All Movement Access

- Trips departing to the north via Moodie Drive and west via Timm Drive
- Trips arriving from the south via Moodie Drive and east/west via Robertson Road
- Trips arriving and departing to the west via Fitzgerald Drive

Pass-by trips generated by the proposed redevelopment have been distributed to the site accesses based on existing traffic conditions.

Trips generated by the existing development are shown in **Figure 4**. Trips generated by the proposed development are shown in **Figure 5**.

## **5.2 Background Traffic**

### **5.2.1 General Background Growth Rate**

A rate of background growth has been established through a review of the City of Ottawa's Strategic Long Range Model, comparing snapshots of 2011 and 2031 AM peak volumes. The snapshots suggest a growth rate of 2% per annum along Moodie Drive, 20% per annum along Timm Drive, -3% per annum along Fitzgerald Road and no growth along Robertson Road.

The background growth along Moodie Drive and Robertson Road will be consistent with the snapshots of the long range model, as described above. To provide a conservative analysis, no growth has been assumed along Fitzgerald Road. The 2011 AM peak period snapshots from the long range model suggest nearly zero traffic used Timm Drive in the AM peak period, which is not supported by the installation of traffic signals at the Moodie Drive/Timm Drive intersection in 2009/2010. As such, a comparison between the 2017 traffic count and the 2031 snapshots from the long range model was conducted. This comparison suggests a growth rate of 4% per annum along Timm Drive, and was carried forward in the analysis.

### **5.2.2 Other Area Development**

There are no other developments identified as under construction, approved, or in the approval process within the study area.

Background volumes for the 2020 build-out year and 2025 horizon year are shown in **Figures 6** and **7**, respectively. Total traffic volumes for 2020 and 2025, which subtract the traffic generated by the current development, are shown in **Figures 8** and **9**, respectively.

## **6.0 DEMAND RATIONALIZATION**

Based on the existing peak hour traffic volumes, capacity deficiencies are anticipated at the Moodie Drive/Robertson Road intersection. Based on the review of planned conditions in Section 4.2 above, no roadway widening is planned for Robertson Road to accommodate the existing capacity deficiencies. A review of the required reduction in background traffic volumes to alleviate capacity deficiencies at this intersection will be conducted in Module 4.9 – Intersection Design of the TIA.

**Figure 4: Existing Site-Generated Traffic Volumes**

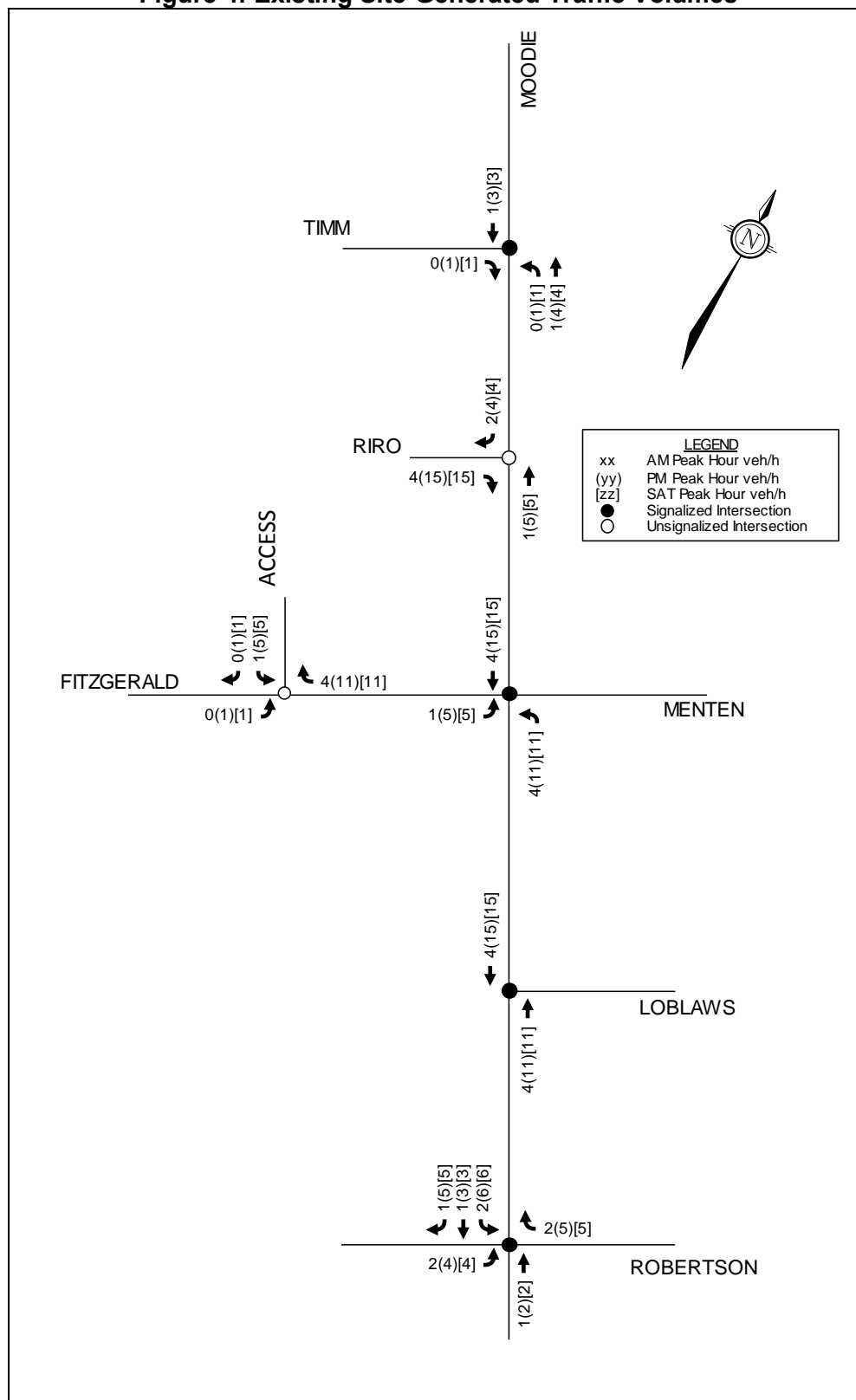


Figure 5: Proposed Redevelopment Traffic

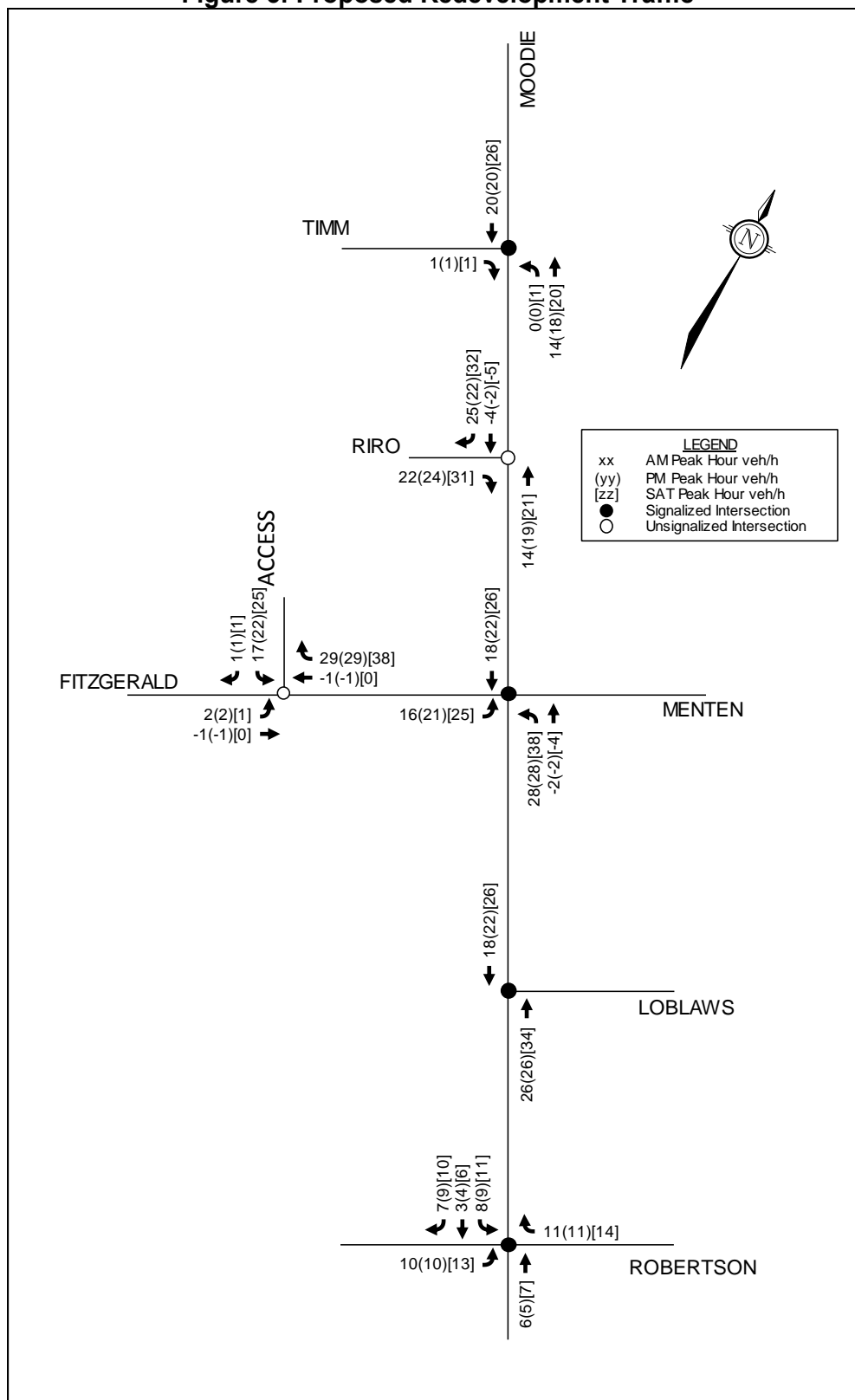


Figure 6: 2020 Background Traffic

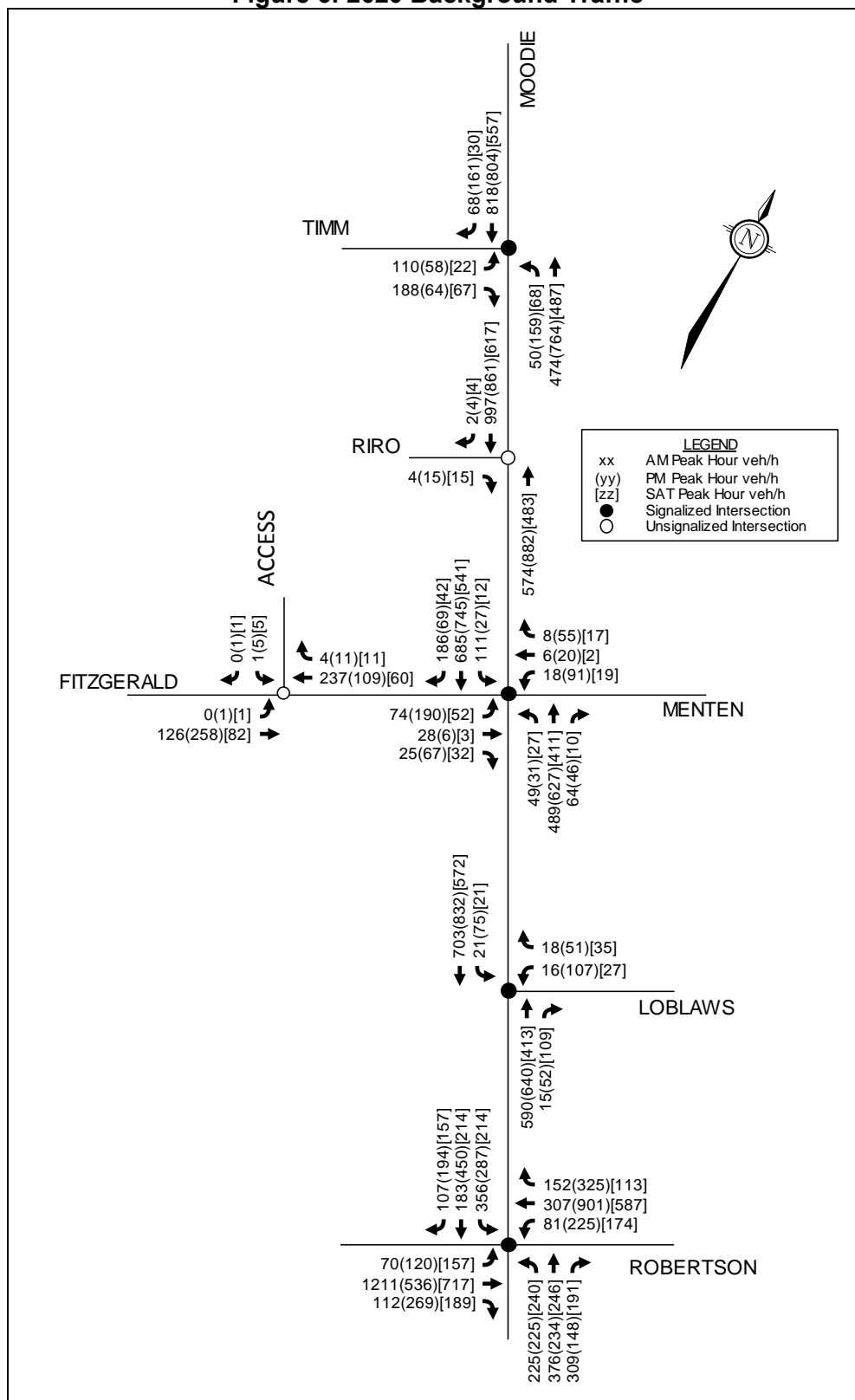


Figure 7: 2025 Background Traffic

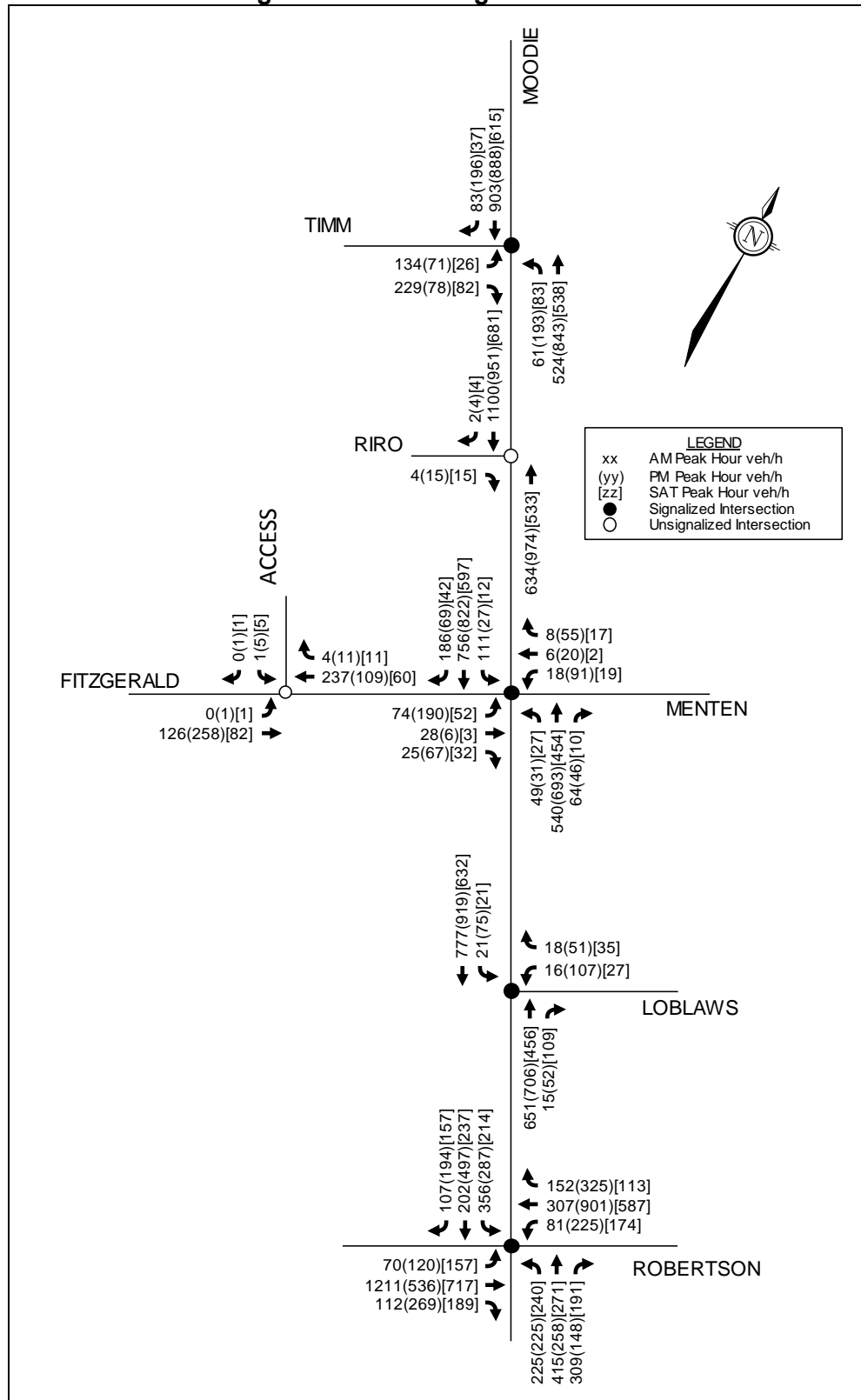




Figure 8: 2020 Total Traffic

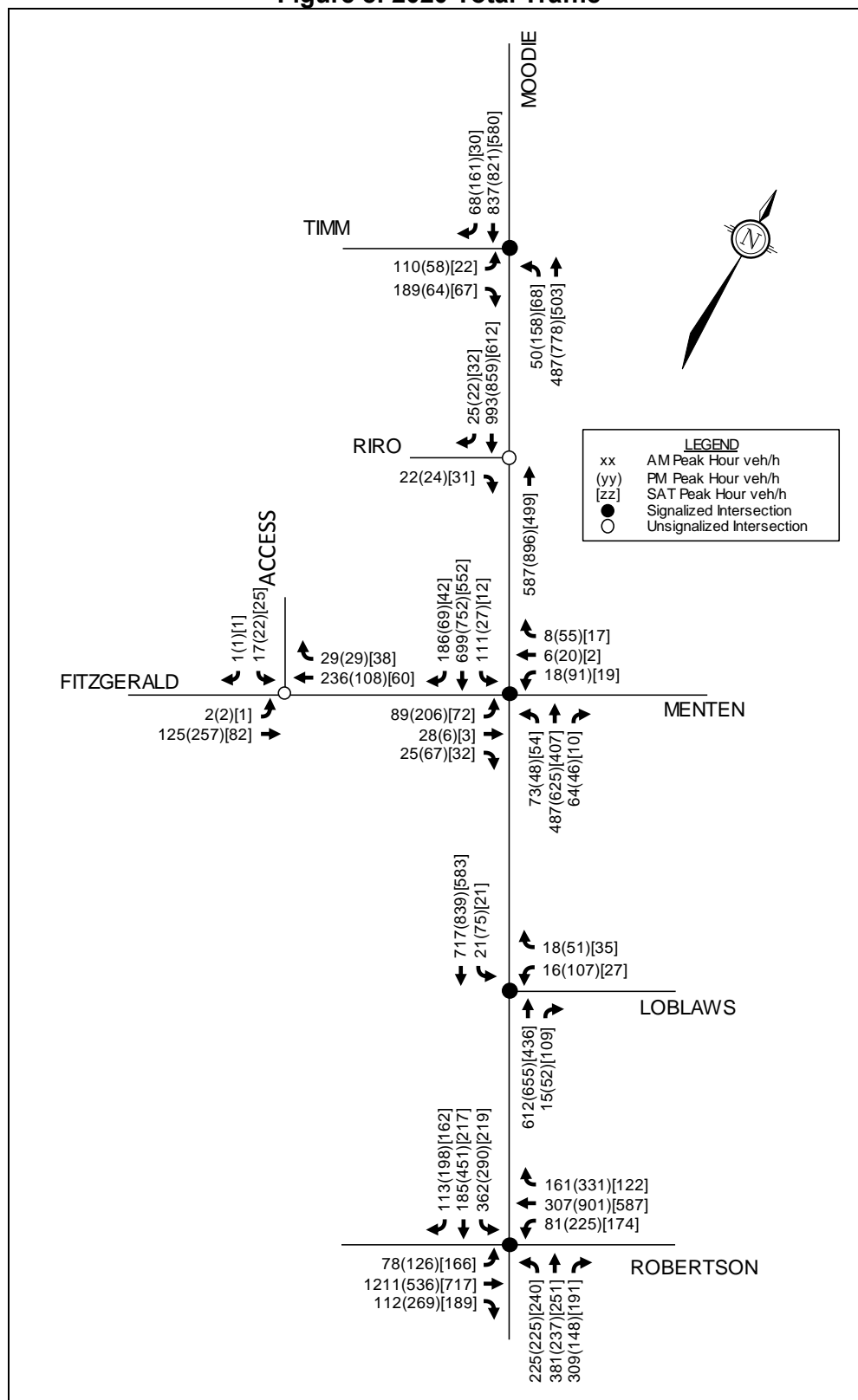
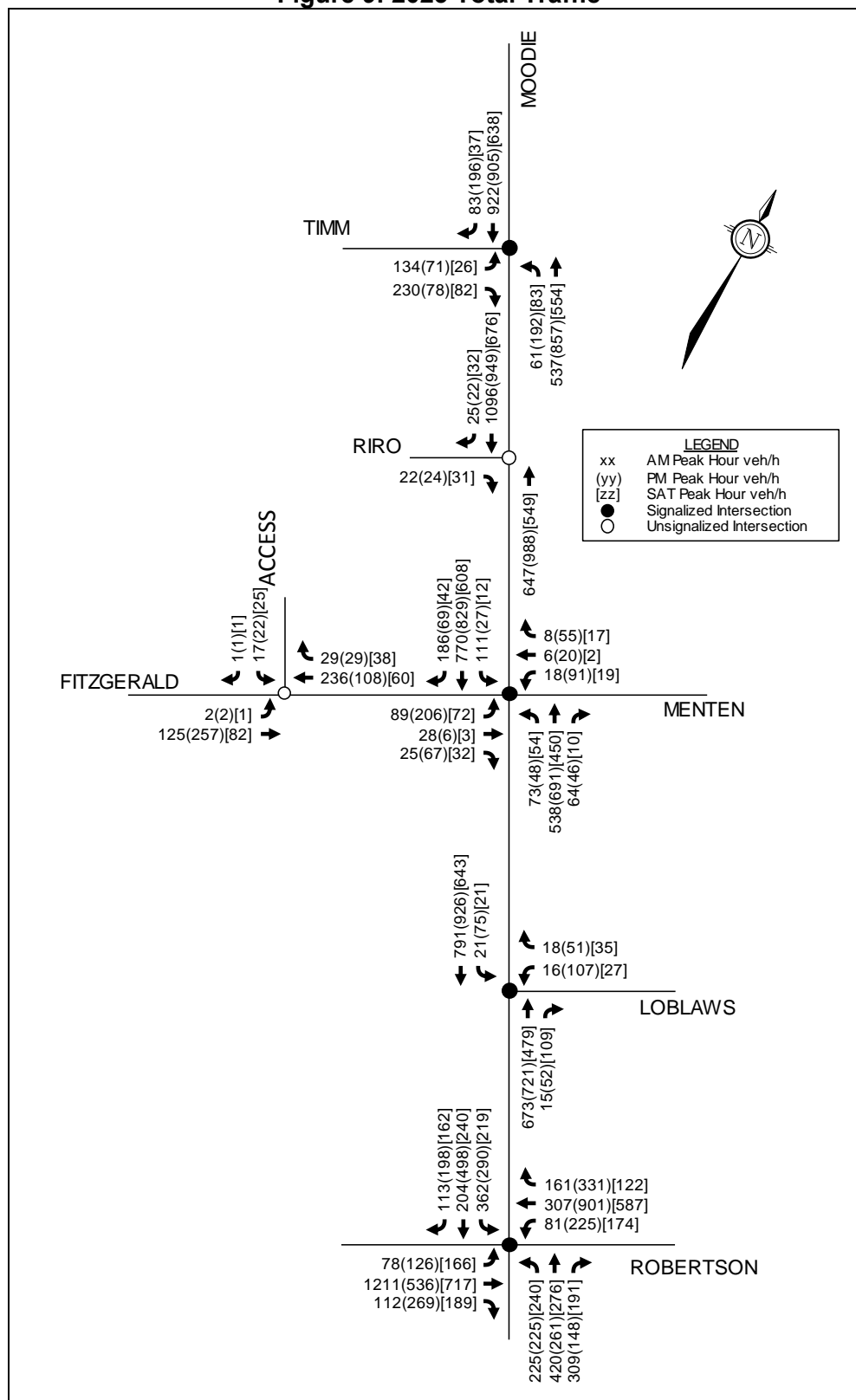


Figure 9: 2025 Total Traffic



## 7.0 ANALYSIS

### 7.1 Development Design

#### 7.1.1 Design for Sustainable Modes

Pedestrian facilities will be provided between the main building entrance to the hotel and commercial unit and the proposed parking lot. New sidewalks will be provided to the south and east of the proposed hotel. These new sidewalks will provide pedestrian connectivity between the hotel and commercial unit building entrances and the existing pedestrian facilities in the northwest corner of the Moodie Drive/Fitzgerald Road/Menten Place intersection.

The nearest bus stops to the subject site are stop #1385 (for route 97; located on the south side of Fitzgerald Road), #1316 (for routes 97, 152, and 252; located southwest of Moodie Drive/ Fitzgerald Road) and #5285 (for routes 152 and 252; located southeast of Moodie Drive/Fitzgerald Road).

Bicycle parking for the proposed development will be in accordance with the minimum requirement of the City's Zoning By-law (ZBL), as described in Section 6.2. Bicycle parking for the hotel will be located near the northwest corner of the hotel. Bicycle parking for the commercial unit will be located near the loading area north of the commercial unit. The location of the bicycle parking is shown on the site plan in **Appendix A**.

A review of the Transportation Demand Management (TDM) – *Supportive Development Design and Infrastructure Checklist* has been conducted. A copy of the TDM checklist is included in **Appendix F**. All required TDM-supportive design and infrastructure measures in the TDM checklist are met, excluding the minimum parking requirement. A variance is being sought for relief of the minimum parking requirement, as described in Section 6.2.

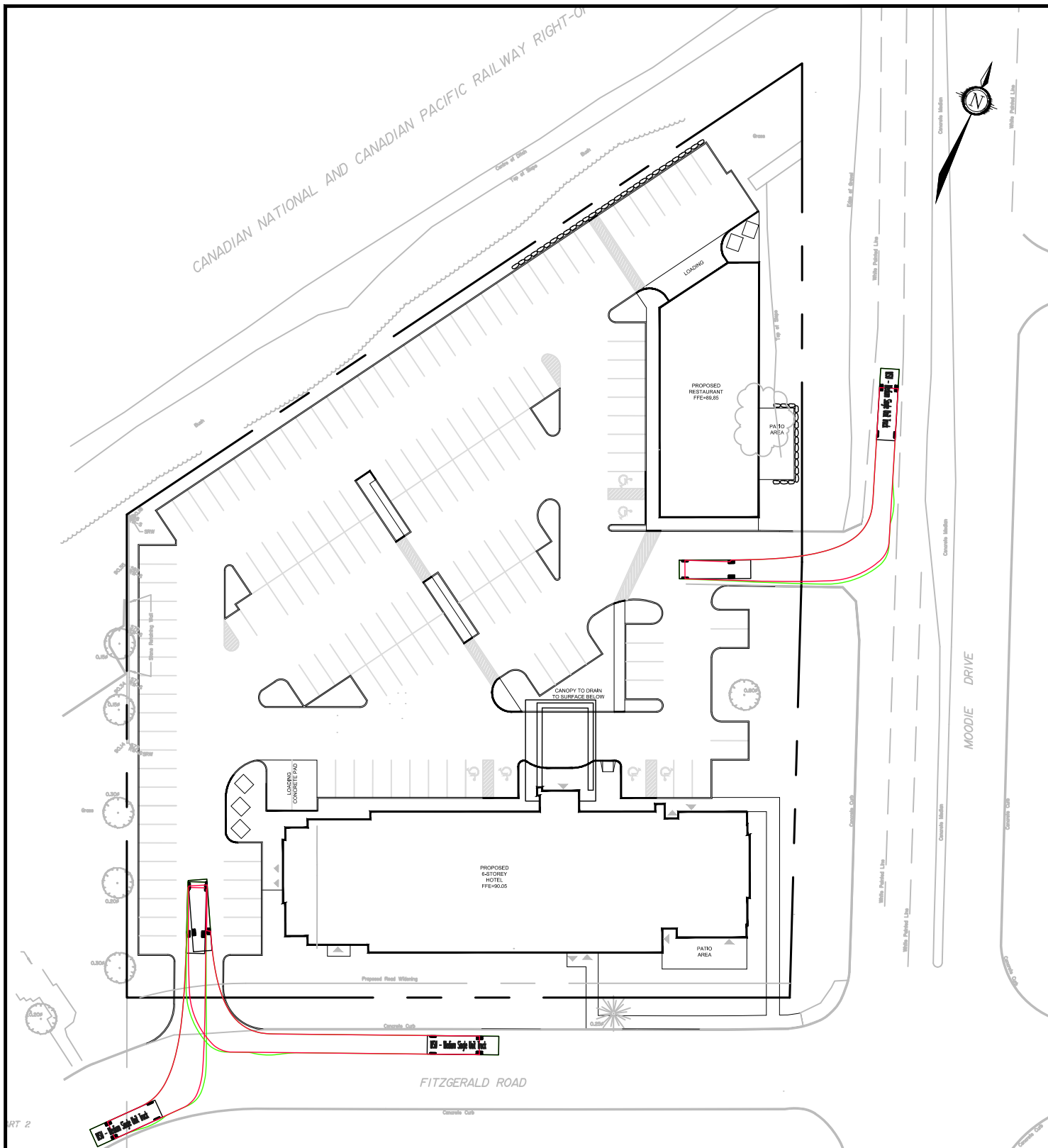
#### 7.1.2 Circulation and Access

Based on the City's ZBL, two loading spaces are required for the proposed hotel and one loading space is required for the proposed commercial development. Loading and garbage collection for the proposed development will take place north of the commercial unit (one loading space) and near the northwest corner of the hotel (two loading spaces). The turning movements for a Medium Single Unit (MSU) Truck entering and exiting the site are shown in **Figures 10 and 11**.

### 7.2 Parking

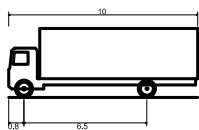
The subject site is located in Area C on Schedule 1 and 1A of the City of Ottawa's ZBL. Minimum vehicular and bicycle parking rates for the proposed development are identified in the ZBL, and are summarized in the following table.

M:\2018\118007\CAD\Design\Figures\Traffic\118007 - AUTOTURN.dwg, FIGURE 10, Apr 02, 2018 - 4:02pm, bbyvelids



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MSU - Medium Single Unit Truck  
Overall Length 10,000m  
Overall Width 2,600m  
Overall Body Height 3,650m  
Min Body Ground Clearance 0,445m  
Track Width 2,600m  
Lock-to-lock time 4,00s  
Curb to Curb Turning Radius 11,100m

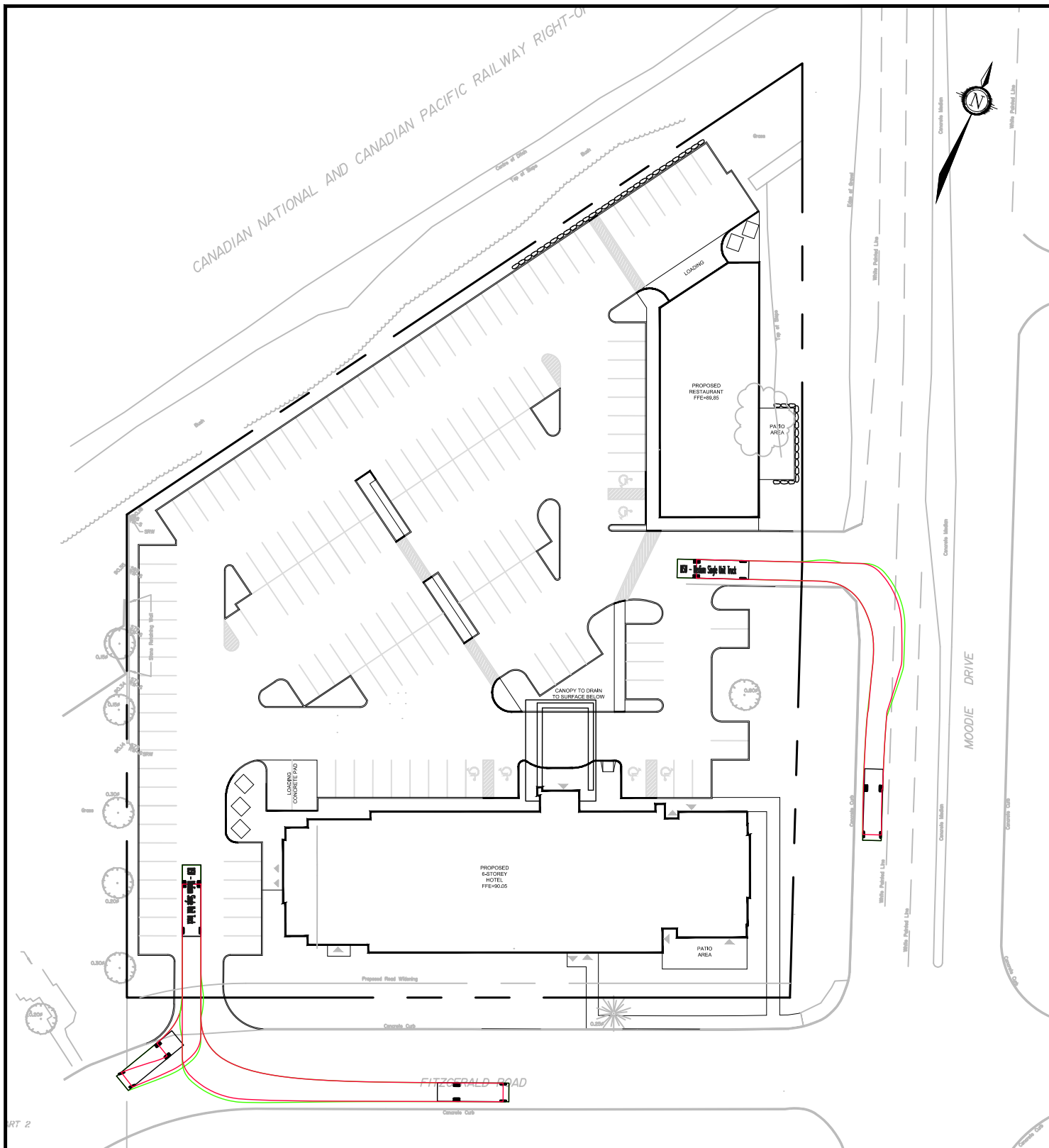
10,000m  
2,600m  
3,650m  
0,445m  
2,600m  
4,00s  
11,100m

300 & 320 MOODIE DRIVE

MEDIUM SINGLE UNIT  
TRUCK (MSU) IN

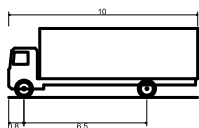
SCALE	1:750	0	10	20	30
DATE	APR 2018	JOB	118007	FIGURE	FIGURE 10

M:\2018\118007\CAD\Design\Figures\Traffic\118007 - AUTOTURN.dwg, FIGURE 11, Apr 02, 2018 - 4:02pm, bbyvelids



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MSU - Medium Single Unit Truck  
Overall Length 10,000m  
Overall Width 2,600m  
Overall Body Height 3,650m  
Min Body Ground Clearance 0,445m  
Track Width 2,600m  
Lock-to-lock time 4,00s  
Curb to Curb Turning Radius 11,100m

10,000m  
2,600m  
3,650m  
0,445m  
2,600m  
4,00s  
11,100m

300 & 320 MOODIE DRIVE

MEDIUM SINGLE UNIT  
TRUCK (MSU) OUT

SCALE	1:750	0	10	20	30
DATE	APR 2018	JOB	118007	FIGURE	FIGURE 11

**Table 7: Parking Requirement**

Land Use	Rate	Units/GFA	Requirement	Provided
<i>Vehicle Parking</i>				
Hotel	1 per Guest Unit	135	135	135
Restaurant	10 per 100m <sup>2</sup> of GFA	465m <sup>2</sup>	47	29
<b>Total</b>			<b>182</b>	<b>163</b>
<i>Bicycle Parking</i>				
Hotel	1 per 1,000m <sup>2</sup> of GFA	7,392m <sup>2</sup>	7	7
Restaurant	1 per 250m <sup>2</sup> of GFA	465m <sup>2</sup>	2	2
<b>Total</b>			<b>9</b>	<b>9</b>

Based on the foregoing, the proposed bicycle parking meets the minimum requirement of the ZBL, however a variance is required for relief of the minimum vehicular parking requirement. The development proposes a reduction in 19 vehicular parking spaces from the minimum requirement of the ZBL.

As the subject site will contain multiple land uses, it is anticipated that some trips may be internally captured (i.e. people from the hotel going out for dinner) and will not require an additional parking space. It is also noteworthy that the parking demand for the hotel may fluctuate day-to-day, as not all rooms may not be occupied. Based on the foregoing, spillover parking from the site is anticipated infrequent and minimal. As the proposed parking equates to approximately 90% of the required parking under the ZBL, a review of spillover parking is not required under the TIA guidelines.

### 7.3 Boundary Streets

This section provides a review of the boundary streets using complete streets principles. The Multi-Modal Level of Service (MMLOS) guidelines produced by IBI Group in 2015 were used to evaluate the LOS of the boundary roadways for each mode of transportation. Schedule B of the City of Ottawa's Official Plan indicates all boundary streets are located in the Urban Employment Area. Photos of the boundary streets (provided by Google Streetview) are provided below.

**Figure 12: Moodie Drive – South of Fitzgerald Road (East Side)**



**Figure 13: Moodie Drive – South of Fitzgerald Road (West Side)**



**Figure 14: Moodie Drive – North of Fitzgerald Road (East Side)**



**Figure 15: Moodie Drive – North of Fitzgerald Road (West Side)**



**Figure 16: Fitzgerald Road**



Target PLOS, BLOS, TLOS, TkLOS and Auto LOS for the study area roadways are based on the Employment Area targets identified in Exhibit 22 of the MMLOS guidelines. The following table summarizes the findings of the MMLOS segment analysis. Detailed segment MMLOS calculations are included in **Appendix G**.

**Table 8: Segment MMLOS Summary**

Segment	PLOS	BLOS	TLOS	TkLOS	Auto LOS
Moodie Drive – South of Fitzgerald Road	D	F	D	A	A
<b>Target</b>	<b>C</b>	<b>C</b>	<b>-</b>	<b>B</b>	<b>D</b>
Moodie Drive – North of Fitzgerald Road	F	F	D	A	A
<b>Target</b>	<b>C</b>	<b>C</b>	<b>-</b>	<b>B</b>	<b>D</b>
Fitzgerald Road	C	D	D	B	A
<b>Target</b>	<b>C</b>	<b>C</b>	<b>-</b>	<b>D</b>	<b>D</b>

**Moodie Drive – South of Fitzgerald Road**

Moodie Drive, south of Fitzgerald Road, meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS. To achieve the target PLOS, a reduction of the operational speed is required. To achieve the target BLOS, the City could give consideration to the following:

- a physically separated bicycle facility; or
- a reduction in operational speed and widening of the existing road platform to implement a southbound bike lane.

**Moodie Drive – North of Fitzgerald Road**

Moodie Drive, north of Fitzgerald Road, meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS. As the subject site borders the City's Greenbelt to the north, the pedestrian desire line is to/from the south. The proposed development will provide pedestrian connections between the main building entrances and the existing pedestrian facilities to the south. This will provide sufficient pedestrian access to the site along the pedestrian desire line. If the City wishes to implement a sidewalk along Moodie Drive between the Fitzgerald Road intersection and the paved shoulder to the north, a PLOS D could be achieved. To achieve the target BLOS, the City could give consideration to the following:

- a physically separated bicycle facility; or
- a reduction in operational speed and widening of the existing road platform to implement bike lanes.

The recommended pedestrian and cycling improvements along Moodie Drive are to address the existing conditions along and are not attributable to the site. As the site provides pedestrian and cycling connectivity to the existing facilities along Moodie Drive south of Fitzgerald Road, the implementation of any pedestrian and cycling facilities along Moodie Drive should be a City lead initiative.



### Fitzgerald Road

Fitzgerald Road meets the target PLOS, TkLOS and Auto LOS, however it does not meet the target BLOS. To achieve the target BLOS, a reduction of the operational speed could be considered.

## **7.4 Access Intersections Design**

The proposed redevelopment will be served by the existing western all movement access along Fitzgerald Road and right-in right-out access along Moodie Drive. The two existing eastern accesses along Fitzgerald Road will be removed and reinstated with a barrier curb as part of this application.

The proposed Fitzgerald Road all movement access will be 6.7m in width, and will be located approximately 6.7m from the western property line and 79m from the Moodie Drive right-of-way limit. The proposed Moodie Drive right-in right-out access will be approximately 7.5m in width, and will be located approximately 65m from the northern property line and 57m from the Fitzgerald Road right-of-way limit. The proposed accesses meet the minimum requirements of the City's Private Approach By-law.

Transportation Association of Canada (TAC) guidelines suggest an access to an arterial and collector serving a hotel with less than 150 rooms should have a minimum clear throat length of 25m and 8m, respectively. A clear throat length of approximately 18m will be provided at the Moodie Drive right-in right-out access, which is sufficient to accommodate approximately three vehicles in queue entering the site. A clear throat length of approximately 5m will be provided at the Fitzgerald Road all movement access, which is sufficient to accommodate approximately one vehicles in queue entering the site.

Based on the traffic projections at the accesses, approximately 30 to 40 vehicles are anticipated to arrive using each access during the critical peak hour (Saturday). This equates to one vehicle entering each access every 1.5 to 2 minutes. Based on the foregoing, spillover of queued vehicles onto Moodie Drive or Fitzgerald Road is anticipated to be infrequent, and the proposed clear throat lengths are considered sufficient.

## **7.5 Transit**

Based on the trip generation presented in Section 5.1, the proposed redevelopment is anticipated to generate an additional 18 transit trips (10 in, 8 out) during the weekday AM peak hour, 16 transit trips (9 in, 7 out) during the weekday PM peak hour and 21 transit trips (12 in, 9 out) during the Saturday peak hour.

It is anticipated that most transit trips will arrive/depart the subject site via OC Transpo route 97. OC Transpo Route 97 travels from Fitzgerald to Ottawa International Airport. The route operates every 30 minutes on weekdays between 6:00am and 11:00pm, and every 60 minutes on weekends between 8:00am and 10:00pm. The additional transit trips generated by the proposed redevelopment are not anticipated to have a significant impact on the operations of OC Transpo route 97.

## 7.6 Intersection Design

### 7.6.1 Existing Intersection MMLOS Analysis

This section provides a review of the study area intersections using complete streets principles. The MMLOS guidelines produced by IBI Group in October 2015 were used to evaluate the LOS of all study area intersections for each mode of transportation. Schedule B of the City of Ottawa's Official Plan indicates the Moodie Drive/Timm Drive intersection is in the Agricultural Resource Area, the Moodie Drive/Fitzgerald Road and Moodie Drive/Loblaws Access intersections are in the Urban Employment Area and the Moodie Drive/Robertson Road intersection is along an Arterial Mainstreet. Aerial photos of the study area intersections are provided in Section 4.1.2.

Target PLOS, BLOS, TLOS, TkLOS and Auto LOS for the study area intersections are based on the targets for the respective land use designation, as identified in Exhibit 22 of the MMLOS guidelines. The following table summarizes the findings of the MMLOS intersection analysis. Detailed intersection MMLOS calculations are included in **Appendix H**.

**Table 9: Intersection MMLOS Summary**

Segment	PLOS	BLOS	TLOS	TkLOS	Auto LOS
Moodie Drive/ Timm Road	E	F	D	C	A
<b>Target</b>	<b>D</b>	<b>C</b>	<b>-</b>	<b>D</b>	<b>D</b>
Moodie Drive/ Fitzgerald Road	E	F	D	F	B
<b>Target</b>	<b>C</b>	<b>C</b>	<b>-</b>	<b>B</b>	<b>D</b>
Moodie Drive/ Loblaws	E	F	B	C	A
<b>Target</b>	<b>C</b>	<b>C</b>	<b>-</b>	<b>B</b>	<b>D</b>
Moodie Drive/ Robertson Road	F	F	F	B	F
<b>Target</b>	<b>C</b>	<b>B</b>	<b>D</b>	<b>D</b>	<b>D</b>

#### Moodie Drive/Timm Drive

This intersection meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS.

A reduction in the east-west crossing distance for pedestrians would provide the greatest improvement to the PLOS at this intersection. However, based on the projected traffic volumes the existing four-lane cross section along Moodie Drive is appropriate.

To achieve the target BLOS on the south approach, the City could give consideration to providing a two-stage left turn bike box. To achieve the target BLOS on the west approach, a reduction in the parallel length for the right turn lane is required. Based on the projected 2025 traffic volumes above and the TAC right turn storage length equation ( $S = NL/30$ ), approximately 55m of storage is required

for this turn lane (exclusive of the deceleration requirement). Based on the foregoing, a reduction in the parallel length for the right turn lane on this approach is not recommended.

#### Moodie Drive/Fitzgerald Road/Menten Place

This intersection meets the target Auto LOS, however it does not meet the target PLOS, BLOS and TkLOS.

A reduction in the east-west crossing distance for pedestrians would provide the greatest improvement to the PLOS at this intersection. However, based on the projected traffic volumes the existing four-lane cross section along Moodie Drive is appropriate. Based on the City's criteria for the implementation ladder crosswalks (minimum of 400,000 vehicle/pedestrian conflicts over 8 hours), a ladder crosswalk is warranted on the south approach.

To achieve the target BLOS on the north and south approaches, the City could give consideration to providing two-stage left turn bike boxes. To achieve the target BLOS on the west approach, consideration could be given to reducing the posted speed limit to 40km/hr.

Based on the criteria in the MMLOS guidelines, a TkLOS B is unachievable where there is one receiving lane on the departure from an intersection. To improve the TkLOS on the north and south approaches, consideration could be given to providing a larger corner radius. It is noteworthy that a larger corner radius will reduce the Pedestrian Exposure to Traffic at Signalized Intersections (PETS) score for the PLOS above.

Based on the southbound right turning volumes during the AM peak hour (approximately 185 vehicles), consideration could be given to providing a southbound right turn lane at this intersection. The capacity of the southbound approach is estimated at approximately 2,000 vehicles per hour. The combined southbound through and right turning volumes during the AM peak hour equate to approximately half of the capacity of this approach. It is noteworthy that the Synchro analysis does not suggest capacity deficiencies at this intersection, and there is no significant collision history on the southbound approach over the last five years. Based on the foregoing, and in the interest of minimizing the east-west crossing distance for pedestrians, a southbound right turn lane is not recommended at this intersection.

#### Moodie Drive/Loblaws Access

This intersection meets the target Auto LOS, however it does not meet the target PLOS, BLOS and TkLOS.

A reduction in the east-west crossing distance for pedestrians would provide the greatest improvement to the PLOS at this intersection. However, based on the projected traffic volumes the existing four-lane cross section along Moodie Drive is appropriate. Based on the City's criteria for the implementation ladder crosswalks (minimum of 400,000 vehicle/pedestrian conflicts over 8 hours), a ladder crosswalk is warranted on the north approach.

To achieve the target BLOS on the north approach, the City could give consideration to providing a two-stage left turn bike box.

The south approach to this intersection does not meet the target TkLOS. This intersection accesses the general parking lot for the commercial development. As there is currently a radius larger than 15m and there is only one lane departing the intersection into the site, the TkLOS on the south

approach cannot be improved. It is noteworthy that loading for the commercial uses is conducted at the rear of the development, with a separate loading access to the north.

#### Moodie Drive/Robertson Road

This intersection meets the target TkLOS, however it does not meet the target PLOS, BLOS, TLOS and Auto LOS.

A reduction in the crossing distance for pedestrians at this intersection would provide the greatest improvement to the PLOS at this intersection. However, based on the projected traffic volumes the existing cross section along Moodie Drive and Robertson Road is appropriate. Based on the City's criteria for the implementation ladder crosswalks (minimum of 400,000 vehicle/pedestrian conflicts over 8 hours), ladder crosswalks are warranted on all approach.

To improve the BLOS on all approaches, the City could give consideration to implementing two-stage left turn bike boxes as part of the City's plan for a segregated cycling facility along Robertson Road, as identified in Section 4.2. To improve the BLOS associated with the right turn criteria on the north approach, a reduction in the parallel length for the right turn lane could be considered. Based on the projected 2025 total traffic volumes and the TAC right turn storage length equation ( $S = NL/30$ ), a storage length of approximately 45m would be sufficient for this right turn lane.

The eastbound through and southbound left turn movement are currently operating with a LOS E during the weekday AM peak hour. AM peak hour traffic signal optimization is not anticipated to improve the Auto LOS at this intersection. The southbound left turn movement is currently operating with a LOS F during the PM peak hour. PM peak hour traffic signal optimization is anticipated to improve the Auto LOS to LOS D, meeting the target for the area.

A review of the required reduction in existing traffic volumes to alleviate capacity deficiencies at this intersection during the AM peak hour has been conducted. To meet the target LOS D for this area, a reduction of approximately 110 eastbound through vehicles and 25 southbound left turning vehicles is required. Based on the foregoing, continued support of transportation solutions that maximize the transit, bike and walk modes of travel will be critical along Robertson Road. Options to displace traffic along the study area roads include:

- increased use of non-auto modes of transportation;
- alternate time of travel for drivers using the corridor to make use of off-peak capacity; and
- alternate routes for east-west travel.

### **7.6.2 2020 Background Intersection Operations**

Intersection capacity analysis has been completed for the 2020 background traffic conditions. The intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The PM peak hour traffic signal timing has been optimized, as described above. The results of the synchro analysis are summarized in the following table for the weekday AM and PM, and Saturday peak hours. Detailed reports are included in **Appendix I**.

**Table 10: 2020 Background Intersection Operations**

Intersection	AM Peak			PM Peak			Saturday Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Moodie Drive/ Timm Road	0.52	A	EBR	0.46	A	SBT	0.24	A	SBT
Moodie Drive/ Fitzgerald Road	0.37	A	SBT/R	0.61	B	EBL	0.23	A	SBT/R
Moodie Drive/ Loblaws Access	0.24	A	SBT	0.53	A	WB	0.22	A	SBT
Moodie Drive/ Robertson Road	0.87	D	SBL	0.80	C	SBL	0.72	C	WBL

Based on the foregoing, all intersections are anticipated to meet the target Auto LOS D under the weekday AM and PM, and Saturday peak hours.

### 7.6.3 2025 Background Intersection Operations

Intersection capacity analysis has been completed for the 2025 background traffic conditions. The intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the synchro analysis are summarized in the following table for the weekday AM and PM, and Saturday peak hours. Detailed reports are included in **Appendix I**.

**Table 11: 2025 Background Intersection Operations**

Intersection	AM Peak			PM Peak			Saturday Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Moodie Drive/ Timm Road	0.65	B	EBR	0.52	A	SBT	0.31	A	SBT
Moodie Drive/ Fitzgerald Road	0.40	A	SBT/R	0.61	B	EBL	0.25	A	SBT/R
Moodie Drive/ Loblaws Access	0.26	A	SBT	0.53	A	WB	0.24	A	SBT
Moodie Drive/ Robertson Road	0.87	D	SBL	0.80	C	SBL	0.72	C	WBL

Based on the foregoing, all intersections are anticipated to meet the target Auto LOS D under the weekday AM and PM and Saturday peak hours.

### 7.6.4 2020 Total Intersection Operations

Intersection capacity analysis has been completed for the 2020 total traffic conditions. The intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the synchro analysis are summarized in the following table for the weekday AM and PM, and Saturday peak hours. Detailed reports are included in **Appendix I**.

**Table 12: 2020 Total Intersection Operations**

Intersection	AM Peak			PM Peak			Saturday Peak		
	V/C or Delay	LOS	Mvmt	V/C or Delay	LOS	Mvmt	V/C or Delay	LOS	Mvmt
Moodie Drive/ Timm Road	0.54	A	EBR	0.47	A	SBT	0.25	A	SBT
Moodie Drive/ Fitzgerald Road	0.38	A	EBL	0.64	B	EBL	0.27	A	EBL
Moodie Drive/ Loblaws Access	0.24	A	SBT	0.53	A	WB	0.22	A	SBT
Moodie Drive/ Robertson Road	0.88	D	SBL	0.81	D	SBL	0.73	C	EBL
Moodie Drive/ RIRO	11 sec	B	EB	9 sec	A	EB	9 sec	A	EB
Fitzgerald Road/ Access	11 sec	B	SB	11 sec	B	SB	9 sec	A	SB

Based on the foregoing, the addition of site generated traffic is not anticipated to have a significant impact on the signalized intersections within the study area.

A review of the turn lane requirements has been conducted at the proposed site accesses. Based on the southbound right turning volumes at the Moodie Drive access and the westbound right turning volumes at the Fitzgerald Road access, right turn lanes are not required at the accesses. Based on the Ministry of Transportation of Ontario (MTO) left turn lane warrant graphs, an eastbound left turn lane is not required at the Fitzgerald Road access. A copy of the MTO left turn lane warrant graph is included in **Appendix J**.

### 7.6.5 2025 Total Intersection Operations

Intersection capacity analysis has been completed for the 2025 total traffic conditions. The intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the synchro analysis are summarized in the following table for the weekday AM and PM, and Saturday peak hours. Detailed reports are included in **Appendix I**.

**Table 13: 2025 Total Intersection Operations**

Intersection	AM Peak			PM Peak			Saturday Peak		
	V/C or Delay	LOS	Mvmt	V/C or Delay	LOS	Mvmt	V/C or Delay	LOS	Mvmt
Moodie Drive/ Timm Road	0.66	B	EBR	0.53	A	SBT	0.32	A	SBT
Moodie Drive/ Fitzgerald Road	0.40	A	SBT/R	0.64	B	EBL	0.28	A	SBT/R
Moodie Drive/ Loblaws Access	0.27	A	SBT	0.53	A	WB	0.24	A	SBT
Moodie Drive/ Robertson Road	0.88	D	SBL	0.81	D	SBL	0.73	C	EBL
Moodie Drive/ RIRO	11 sec	B	EB	9 sec	A	EB	9 sec	A	EB

Intersection	AM Peak			PM Peak			Saturday Peak		
	V/C or Delay	LOS	Mvmt	V/C or Delay	LOS	Mvmt	V/C or Delay	LOS	Mvmt
Fitzgerald Road/ Access	11 sec	B	SB	11 sec	B	SB	9 sec	A	SB

Based on the foregoing, the addition of site generated traffic is not anticipated to have a significant impact on the signalized intersections within the study area.

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, the conclusions and recommendations of this TIA can be summarized as follows:

### Development Design and Parking

- Pedestrian facilities will be provided between the main building entrance to the hotel and commercial unit and the proposed parking lot. New sidewalks will be provided to the south and east of the proposed hotel. These new sidewalks will provide pedestrian connectivity between the hotel and commercial unit building entrances and the existing pedestrian facilities in the northwest corner of the Moodie Drive/Fitzgerald Road/Menten Place intersection.
- Bicycle parking for the hotel will be located near the northwest corner of the hotel. Bicycle parking for the commercial unit will be located near the loading area north of the commercial unit.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met, excluding the minimum parking requirement.
- Based on the City's ZBL, two loading spaces are required for the proposed hotel and one loading space is required for the proposed commercial development. Loading and garbage collection for the proposed development will take place north of the commercial unit (one loading space) and near the northwest corner of the hotel (two loading spaces).
- The proposed bicycle parking meets the minimum requirement of the ZBL, however a variance is required for relief of the minimum vehicular parking requirement. The development proposes a reduction in 19 vehicular parking spaces from the minimum requirement of the ZBL.
- As the subject site will contain multiple land uses, it is anticipated that some trips may be internally captured (i.e. people from the hotel going out for dinner) and will not require an additional parking space. It is also noteworthy that the parking demand for the hotel may fluctuate day-to-day, as not all rooms may not be occupied. Based on the foregoing, spillover parking from the site is anticipated infrequent and minimal. As the proposed parking equates to approximately 90% of the required parking under the ZBL, a review of spillover parking is not required under the TIA guidelines.

### Boundary Streets

- Moodie Drive, south of Fitzgerald Road, meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS.
- Moodie Drive, north of Fitzgerald Road, meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS. As the subject site borders the City's Greenbelt to the north, the pedestrian desire line is to/from the south. The proposed development will provide pedestrian connections between the main building entrances and the existing pedestrian facilities to the south. This will provide sufficient pedestrian access to the site along the pedestrian desire line.
- If the City wishes to implement a sidewalk along Moodie Drive between the Fitzgerald Road intersection and the paved shoulder to the north, a PLOS D could be achieved.
- To achieve the target BLOS along Moodie Drive, the City could give consideration to a physically separated bicycle facility, or a reduction in operational speed and widening of the existing road platform to implement a southbound bike lane.
- The recommended pedestrian and cycling improvements along Moodie Drive are to address the existing conditions and are not attributable to the site. As the site provides pedestrian and cycling connectivity to the existing facilities along Moodie Drive south of Fitzgerald Road, the implementation of any pedestrian and cycling facilities along Moodie Drive should be a City lead initiative.
- Fitzgerald Road meets the target PLOS, TkLOS and Auto LOS, however it does not meet the target BLOS. To achieve the target BLOS, a reduction of the operational speed could be considered.

### Access Design

- The proposed redevelopment will be served by the existing western all movement access along Fitzgerald Road and right-in right-out access along Moodie Drive. The two existing eastern accesses along Fitzgerald Road will be removed and reinstated with a barrier curb as part of this application.
- The proposed accesses meet the minimum requirements of the City's Private Approach By-law.
- Based on the traffic projections at the accesses, approximately 30 to 40 vehicles are anticipated to arrive using each access during the critical peak hour (Saturday). This equates to one vehicle entering each access every 1.5 to 2 minutes. Based on the foregoing, spillover of queued vehicles onto Moodie Drive or Fitzgerald Road is anticipated to be infrequent, and the proposed clear throat lengths are considered sufficient.

### Transit

- The additional transit trips generated by the proposed redevelopment are not anticipated to have a significant impact on the operations of OC Transpo route 97.



### Intersection Design

- The Moodie Drive/Timm Road intersection meets the target TkLOS and Auto LOS, however it does not meet the target PLOS and BLOS.
- The Moodie Drive/Fitzgerald Road/Menten Place intersection meets the target Auto LOS, however it does not meet the target PLOS, BLOS and TkLOS.
- The Moodie Drive/Loblaws Access intersection meets the target Auto LOS, however it does not meet the target PLOS, BLOS and TkLOS.
- The Moodie Drive/Robertson Road intersection meets the target TkLOS, however it does not meet the target PLOS, BLOS, TLOS and Auto LOS.
- A reduction in the east-west crossing distance for pedestrians at the intersections along Moodie Drive and the north-south crossing distance at the Robertson Road intersection would provide the greatest improvement to the PLOS at the study area intersections. However, based on the projected traffic volumes the existing cross section along Moodie Drive and Robertson Road is appropriate.
- Based on the City's criteria for the implementation ladder crosswalks (minimum of 400,000 vehicle/pedestrian conflicts over 8 hours), a ladder crosswalk is warranted on the south approach to the Moodie Drive/Fitzgerald Road/Menten Place intersection, on the north approach to the Moodie Drive/Loblaws Access intersection, as well as all approaches to the Moodie Drive/Robertson Road intersection.
- To improve the BLOS associated with the left turn criteria at the intersections along Moodie Drive, the City could give consideration to implementing two-stage left turn bike boxes on the north and south approaches, as well as the east and west approaches to the Moodie Drive/Robertson Road intersection.
- To improve the BLOS on the west approach to the Moodie Drive/Fitzgerald Road/Menten Place intersection, the City could give consideration to reducing the operating speed.
- To improve the BLOS associated with the right turn criteria on the north approach to the Moodie Drive/Robertson Road intersection, a reduction in the parallel length for the right turn lane could be considered. Based on the projected 2025 total traffic volumes and the TAC right turn storage length equation ( $S=NL/30$ ), a storage length of approximately 45m would be sufficient for this right turn lane.
- Based on the southbound right turning volumes during the AM peak hour (approximately 185 vehicles), consideration could be given to providing a southbound right turn lane at the Moodie Drive/Fitzgerald Road/Menten Place intersection. The combined southbound through and right turning volumes during the AM peak hour equate to approximately half of the capacity of this approach. It is noteworthy that the Synchro analysis does not suggest capacity deficiencies at this intersection, and there is no significant collision history on the southbound approach over the last five years. Based on the foregoing, and in the interest of minimizing the east-west crossing distance for pedestrians, a southbound right turn lane is not recommended at this intersection.

- To meet the target Auto LOS D for this area, a reduction of approximately 110 eastbound through vehicles and 25 southbound left turning vehicles is required during the AM peak hour at the Moodie Drive/Robertson Road intersection. Based on the foregoing, continued support of transportation solutions that maximize the transit, bike and walk modes of travel will be critical along Robertson Road. Options to displace traffic along the study area roads include increased use of non-auto modes of transportation, alternate time of travel for drivers using the corridor to make use of off-peak capacity, and alternate routes for east-west travel.
- Under the background traffic conditions, all intersections are anticipated to meet the target Auto LOS D under the weekday AM and PM, and Saturday peak hours.
- The addition of site generated traffic is not anticipated to have a significant impact on the signalized intersections within the study area.
- Based on the southbound right turning volumes at the Moodie Drive access and the westbound right turning volumes at the Fitzgerald Road access, right turn lanes are not required at the accesses.
- Based on the Ministry of Transportation of Ontario (MTO) left turn lane warrant graphs, an eastbound left turn lane is not required at the Fitzgerald Road access.

## NOVATECH

Prepared by:



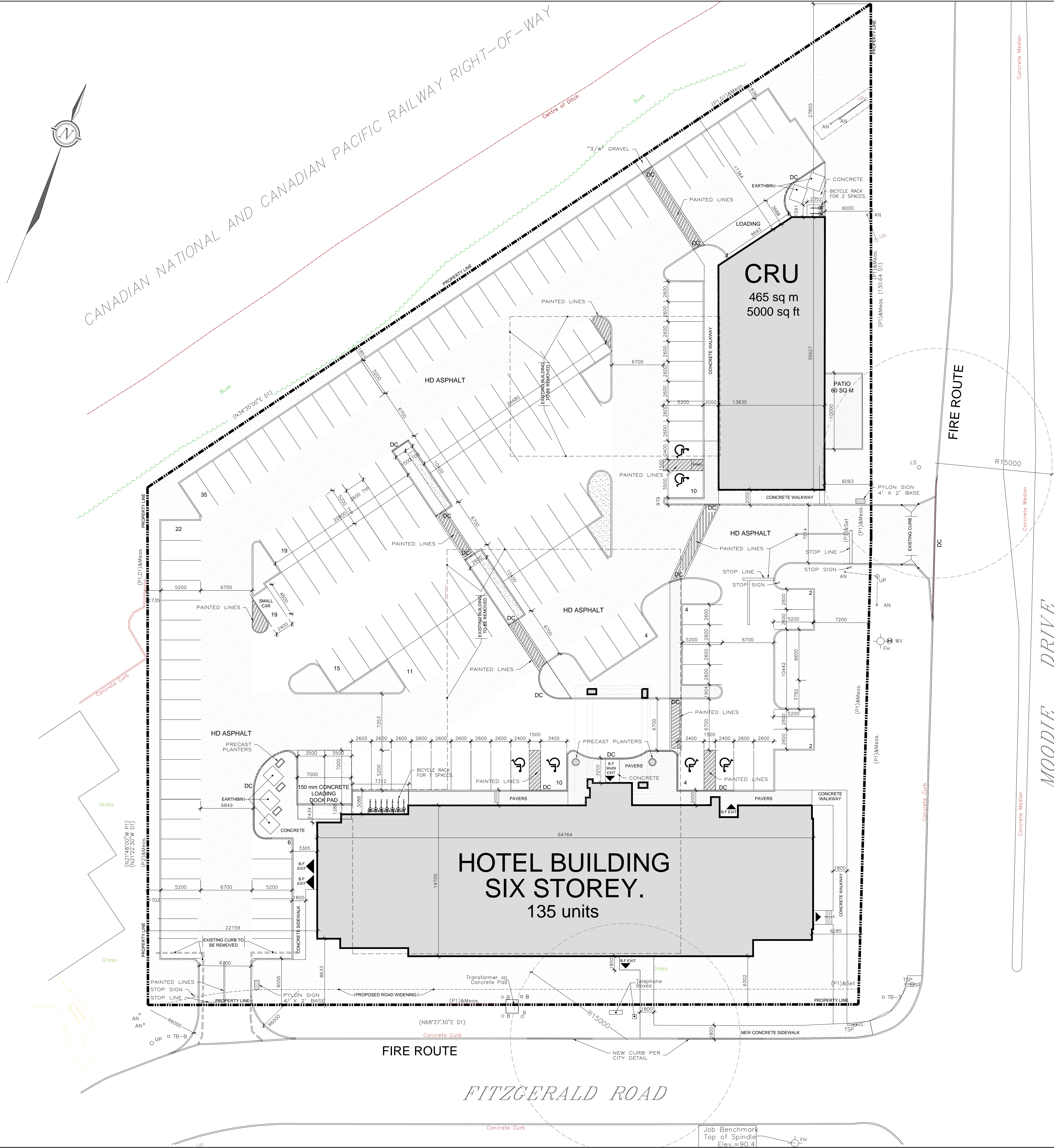
Brad Byvelds, P. Eng.  
Project Coordinator | Transportation/Traffic

## **APPENDIX A**

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Proposed Site Plan





**SURVEYOR'S REAL PROPERTY REPORT**  
**PART 1** Plan of  
**PART OF LOT 10**  
**CONCESSION 2 (Ottawa Front)**  
**Geographic Township of Nepean**  
**CITY OF OTTAWA**  
Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

ZONE PROVISIONS		
ZONING MECHANISM	PROVISIONS	PROVIDED
ZONING CODE	IP (BUSINESS PARK INDUSTRIAL ZONE)	HOTEL RESTAURANT
MINIMUM LOT AREA	750 m <sup>2</sup>	9316 m <sup>2</sup>
MINIMUM LOT WIDTH	NO MINIMUM	
MINIMUM FRONT YARD CORNER & REAR YARD	6 m	6 m
MINIMUM INT. SIDE YARD	3 m	>3 m
MAX. FLOOR SPACE INDEX	2	0.84
MAX. BUILDING HEIGHT	22 m	19 m
LOADING SPACE	HOTEL CRU	2 1
GROSS FLOOR AREA	HOTEL CRU	7392 m <sup>2</sup> = 79567 sq ft 465 m <sup>2</sup> = 5000 sq ft

PARKING REQUIREMENTS		
	REQUIRED	PROVIDED
HOTEL (1 per guest)	135	135
CRU	47	28
TOTAL	182	163

BIKES REQUIREMENTS				
	BIKE SPACE RATE	GFA/sq m	REQUIRED	PROVIDED
HOTEL	1 per 1000 sq m of GFA	7392	7	7
REST.	1 per 250 sq m of GFA	465	2	2
TOTAL			9	9

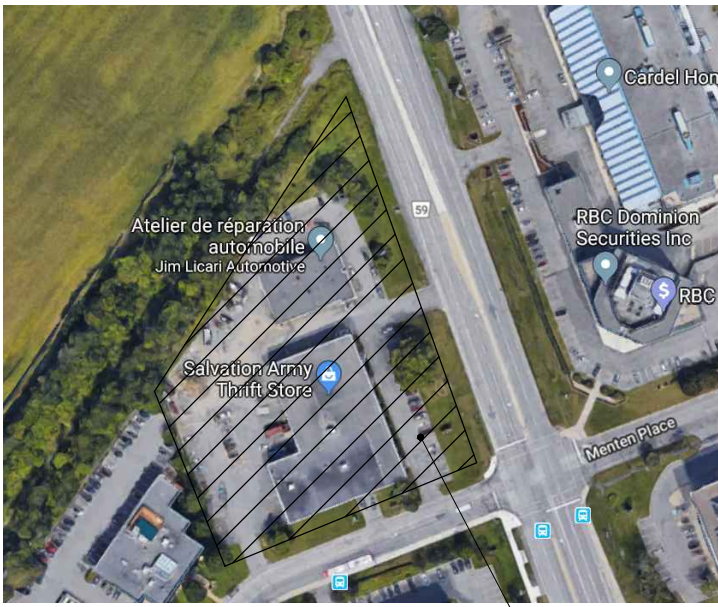
**NOTES & LEGEND**  
**ELEVATION NOTES**  
1. Elevations shown are geodetic and are referred to the CGVD28 geodetic datum.  
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

**UTILITY NOTES**  
1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.  
2. Only visible surface utilities were located.  
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

- DC DEPRESSED CURB  
□ TB - T TRAFFIC TERMINAL BOX  
TSP TRAFFIC SIGNAL POST  
○ UP UTILITY POOL  
○ FH FIRE HYDRANT  
GRASS  
HD ASPHALT  
LINE PAINTING  
CONCRETE  
PAVERS  
PAVERS

ALL CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE AND TO REPORT ALL ERRORS AND/OR OMISSIONS TO THE ARCHITECT.  
ALL CONTRACTORS MUST COMPLY WITH ALL CODES AND BYLAWS AND OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.  
DO NOT SCALE DRAWINGS.  
THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.  
COPYRIGHT RESERVED.

LOCATION:



NO.	REVISION	DATE
23		
22		
21		
20		
19		
14		
13		
12		
11		
10		
09		
08		
07		
06		
05		
04	ISSUED FOR SITE PLAN	04/16/18
03	ISSUED FOR COORDINATION	03/26/18
02	ISSUED FOR COORDINATION	03/09/18
01	ISSUED FOR START-UP	03/07/18
NO.	REVISION	MM/DD/YY DATE

**HILTON** WORLDWIDE **Hilton**

OWNER

**Colonnade**  
DEVELOPMENT MANAGER

**COLONNADE BRIDGEPORT**  
Property Investment & Management

**SiteCast**  
Construction Corp.

**WOODMAN ARCHITECT ASSOCIATES LTD.**  
4 BEECHWOOD, SUITE 201 OTTAWA, ONTARIO, CANADA K1L 6L9  
TEL: 613 228 9850 • FAX: 613 228 9845 • mail@woodmanarchitect.com

PROJECT

**HAMPTON INN**  
300 MOODIE DR.

DRAWING:		DRAWING NO.
DATE	MARCH, 2018	
SCALE	1:200	
DRAWN BY	J.G.	
REVIEWED BY	R.W.	
JOB NO.	1802	
		<b>SP-01</b>



## **APPENDIX B**

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TIA Screening Form

## City of Ottawa 2017 TIA Guidelines Screening Form

### 1. Description of Proposed Development

Municipal Address	<b>300 &amp; 320 Moodie Drive</b>
Description of Location	<b>The 0.92-hectare property is bound by the Carleton Place rail corridor to the north, Moodie Drive to the east, Fitzgerald Road to the south, and existing businesses to the west.</b>
Land Use Classification	<b>Hotel/Restaurant</b>
Development Size (units)	<b>135 units (hotel)</b>
Development Size (m <sup>2</sup> )	<b>4,000 ft<sup>2</sup> (restaurant)</b>
Number of Accesses and Locations	<b>The subject site has one proposed right-in/right-out access on Moodie Drive and one all-movement access on Fitzgerald Road.</b>
Phase of Development	<b>1</b>
Buildout Year	<b>2020</b>

If available, please attach a sketch of the development or site plan to this form.

### 2. Trip Generation Trigger

Considering the Development's Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

Land Use Type	Minimum Development Size
Single-family homes	40 units
Townhomes or apartments	90 units
Office	3,500 m <sup>2</sup>
Industrial	5,000 m <sup>2</sup>
Fast-food restaurant or coffee shop	100 m <sup>2</sup>
Destination retail	1,000 m <sup>2</sup>
Gas station or convenience market	75 m <sup>2</sup>

*\* If the development has a land use type other than what is presented in the table above, estimates of person-trip generation may be made based on average trip generation characteristics represented in the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.*

**If the proposed development size is greater than the sizes identified above, the Trip Generation Trigger is satisfied.**

### 3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit or Spine Bicycle Networks?	✓	
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?*		✓

*\*DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).*

**If any of the above questions were answered with 'Yes,' the Location Trigger is satisfied.**

### 4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 km/hr or greater?		✓
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		✓
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	✓	
Is the proposed driveway within auxiliary lanes of an intersection?	✓	
Does the proposed driveway make use of an existing median break that serves an existing site?		✓
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?		✓
Does the development include a drive-thru facility?	✓	

**If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.**

**5. Summary**

	Yes	No
Does the development satisfy the Trip Generation Trigger?	✓	
Does the development satisfy the Location Trigger?	✓	
Does the development satisfy the Safety Trigger?	✓	

**If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).**



## **APPENDIX C**

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### Traffic Count and Signal Timing Data



# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

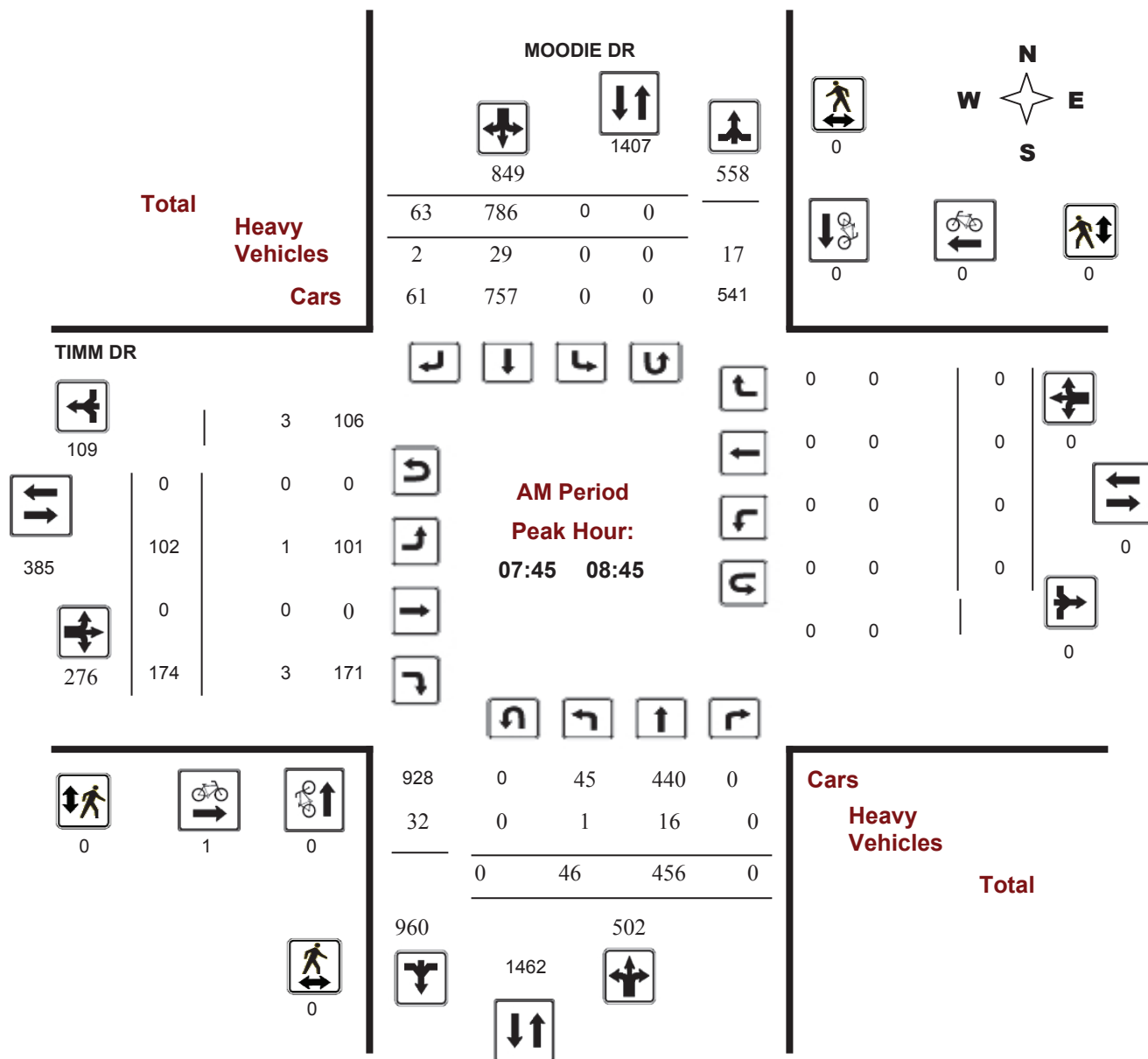
### MOODIE DR @ TIMM DR

**Survey Date:** Wednesday, March 08, 2017

**Start Time:** 07:00

**WO No:** 36388

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

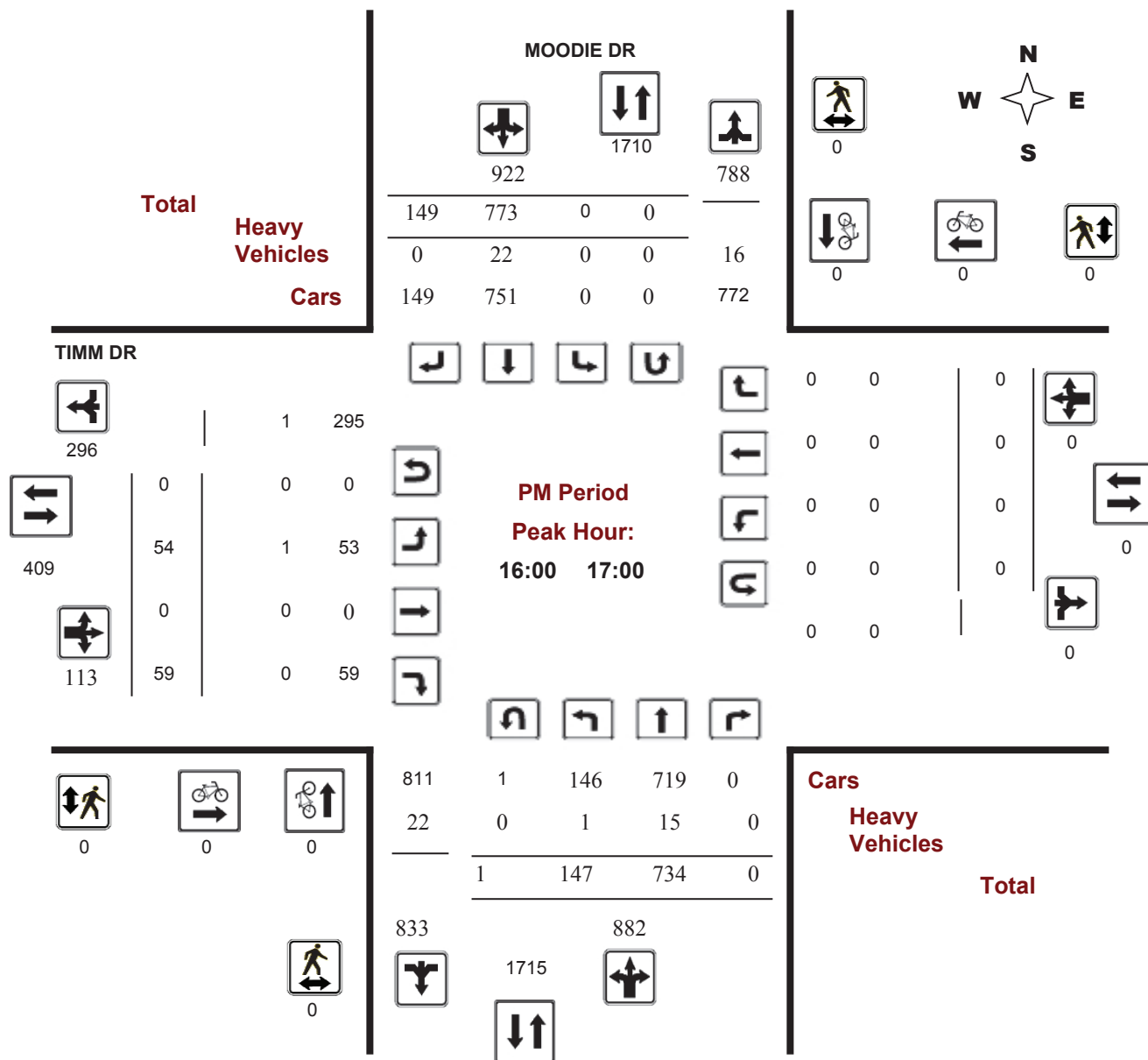
### MOODIE DR @ TIMM DR

**Survey Date:** Wednesday, March 08, 2017

**Start Time:** 07:00

**WO No:** 36388

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

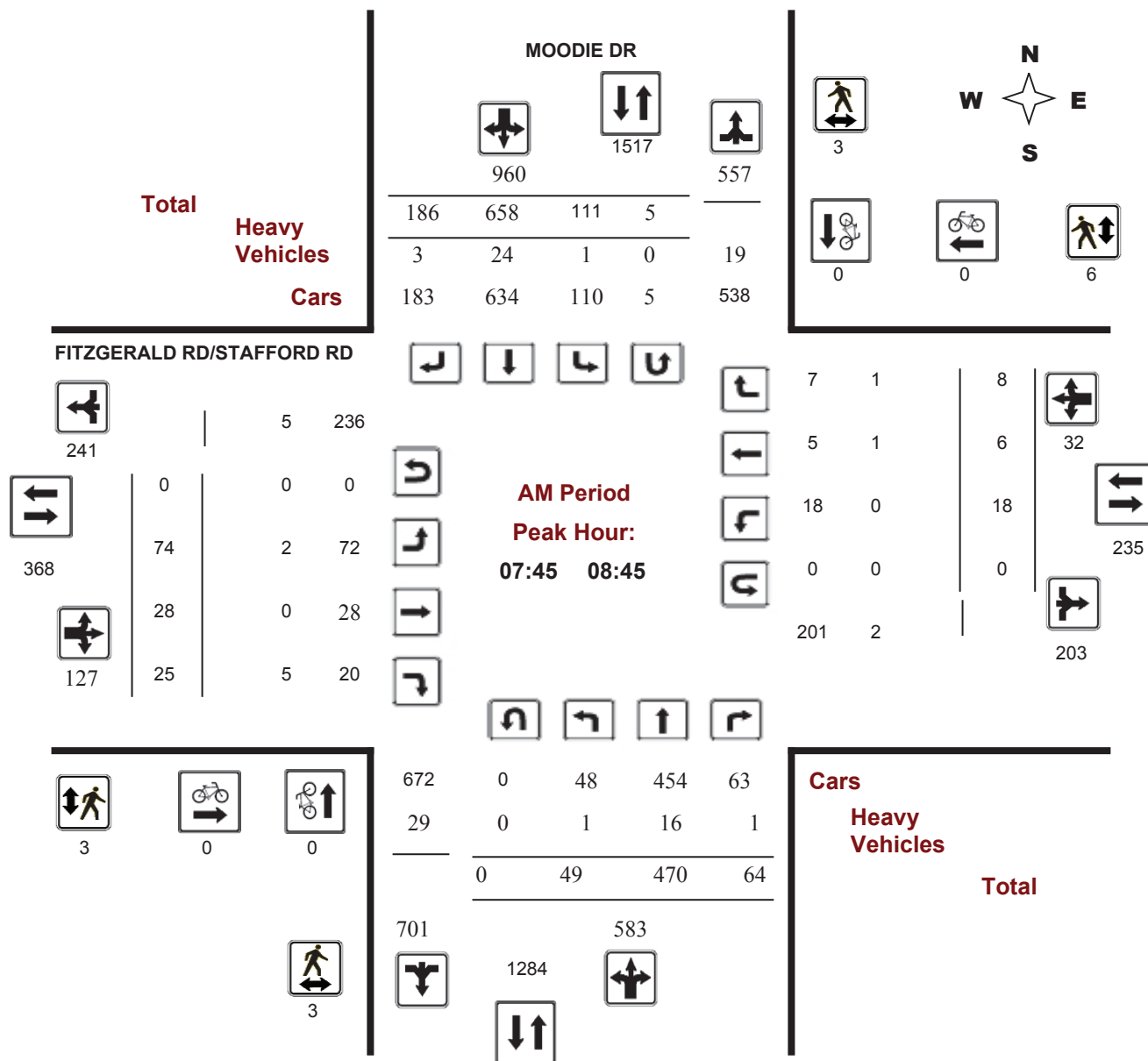
### MOODIE DR @ FITZGERALD RD/STAFFORD RD

**Survey Date:** Wednesday, March 08, 2017

**Start Time:** 07:00

**WO No:** 36641

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

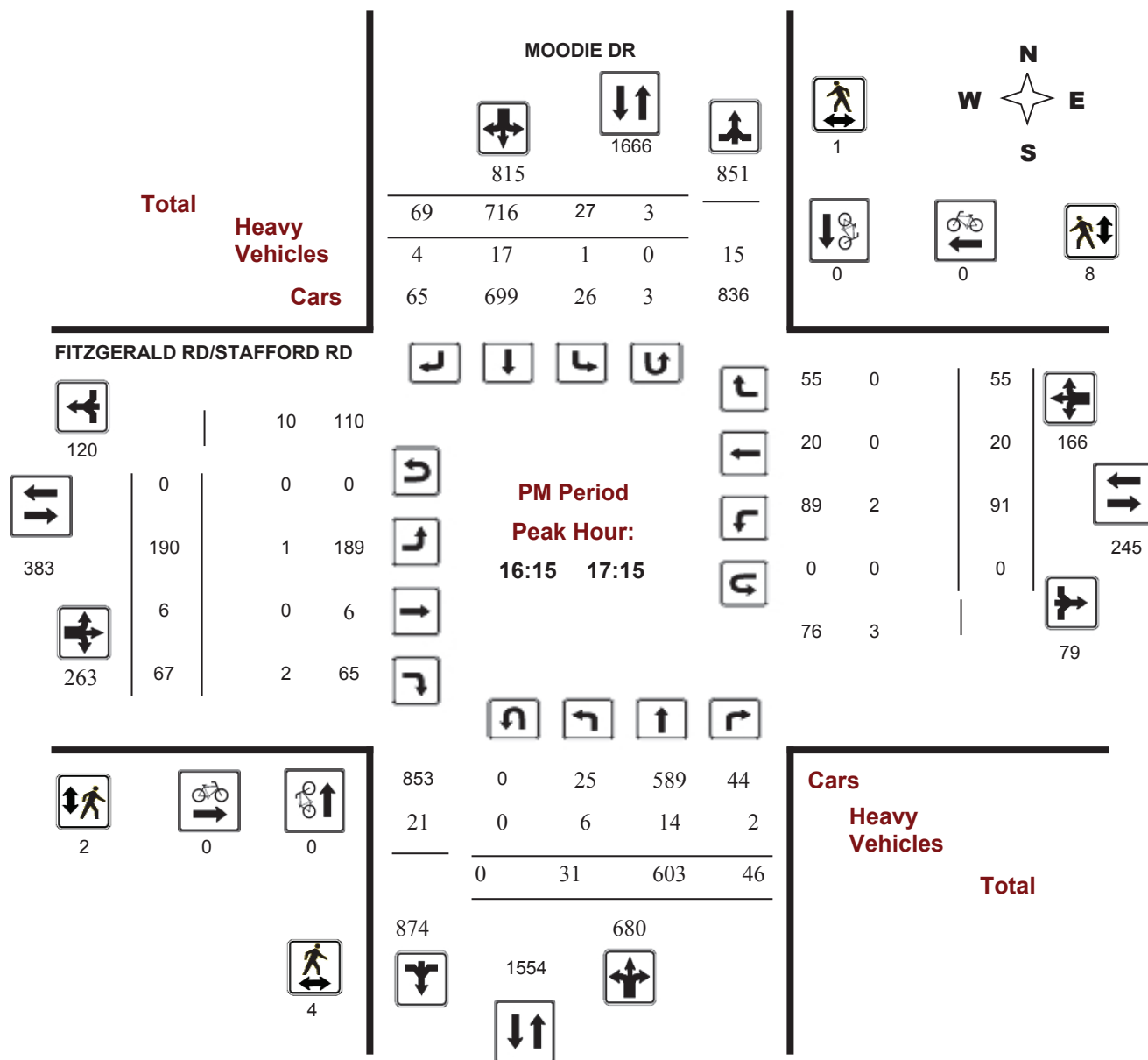
### MOODIE DR @ FITZGERALD RD/STAFFORD RD

**Survey Date:** Wednesday, March 08, 2017

**Start Time:** 07:00

**WO No:** 36641

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

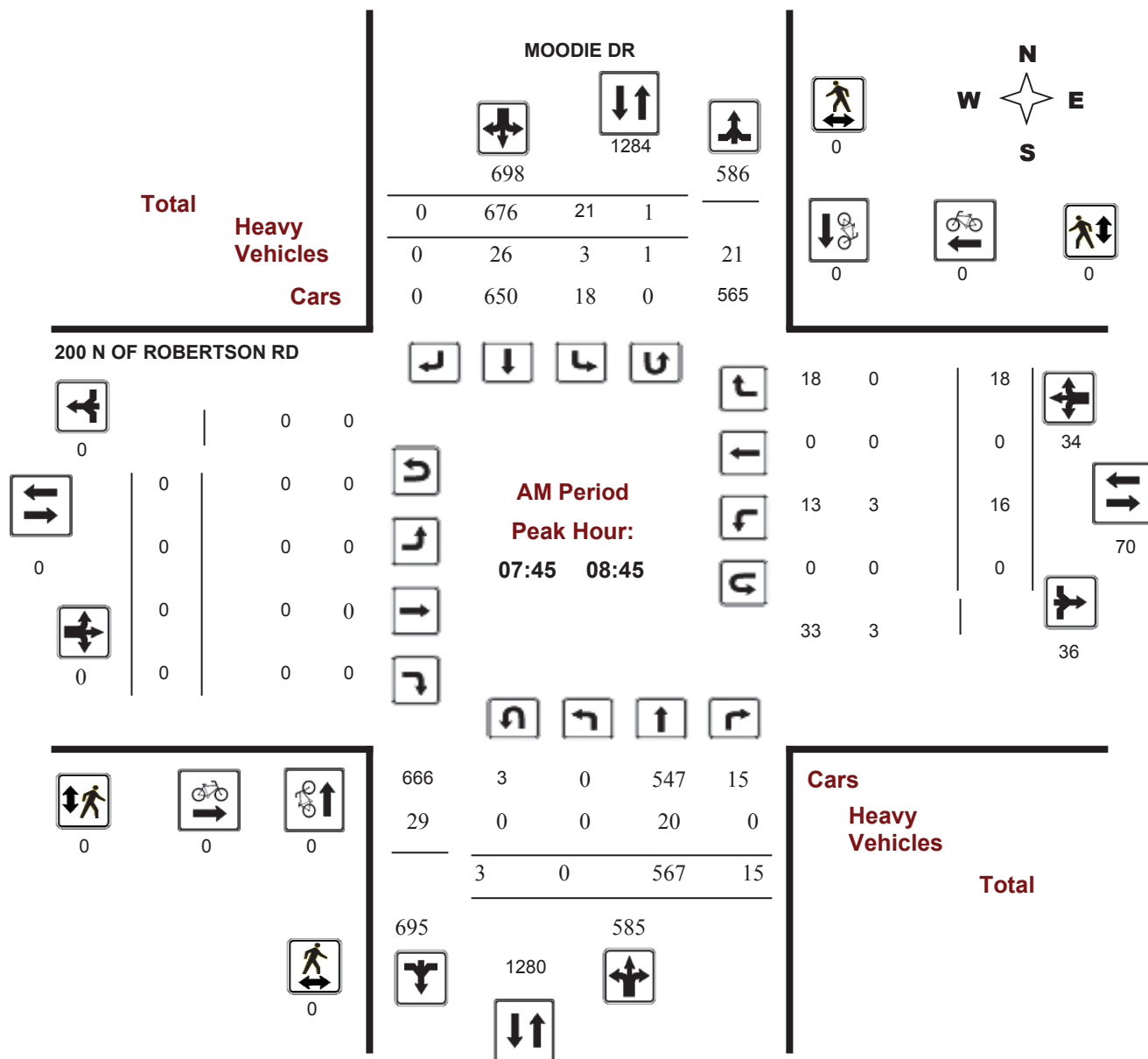
### MOODIE DR @ 200 N OF ROBERTSON RD

**Survey Date:** Wednesday, March 08, 2017

**Start Time:** 07:00

**WO No:** 36596

**Device:** Miovision

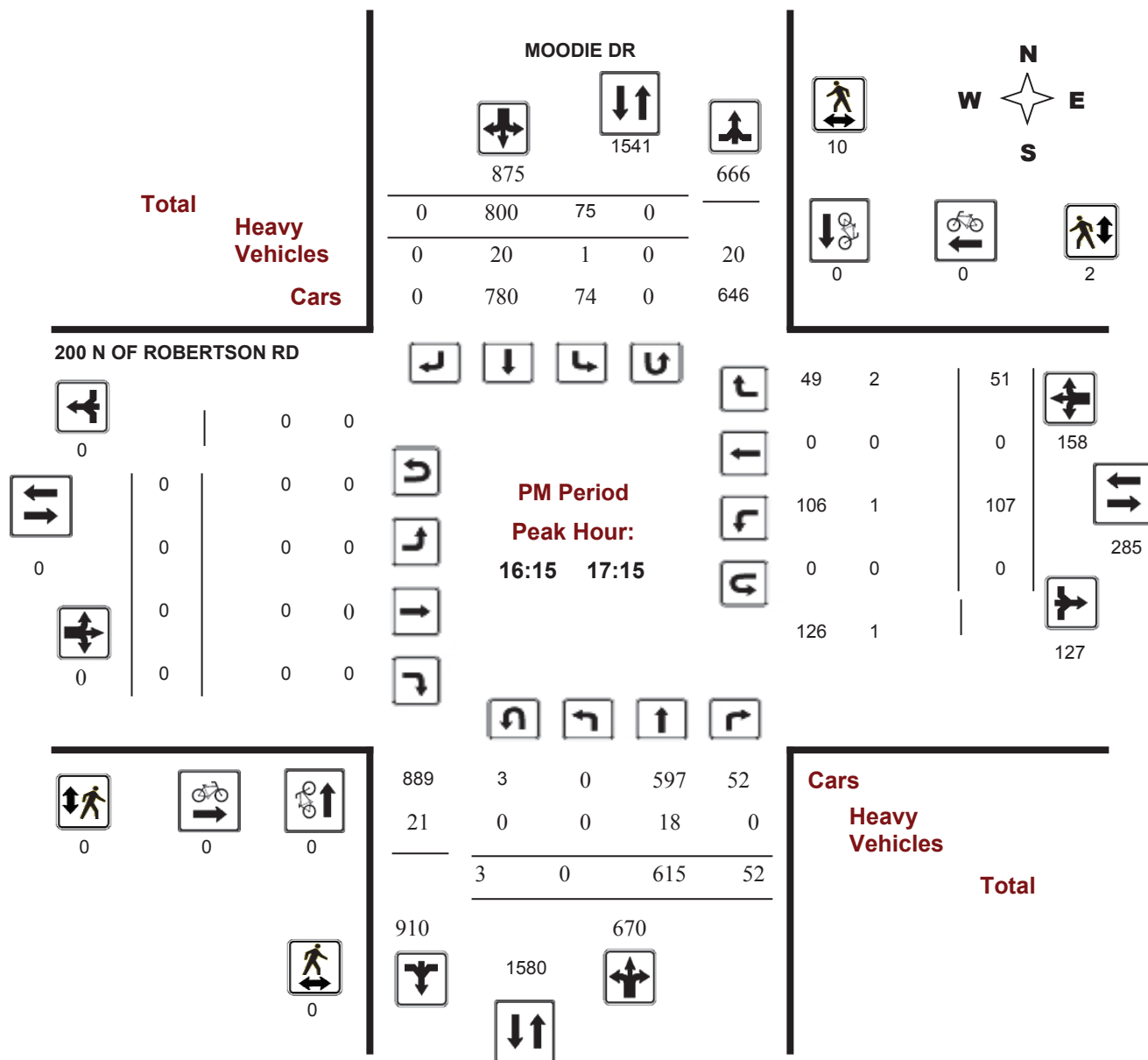


**Survey Date:** Wednesday, March 08, 2017

**Start Time:** 07:00

**WO No:** 36596

**Device:** Miovision

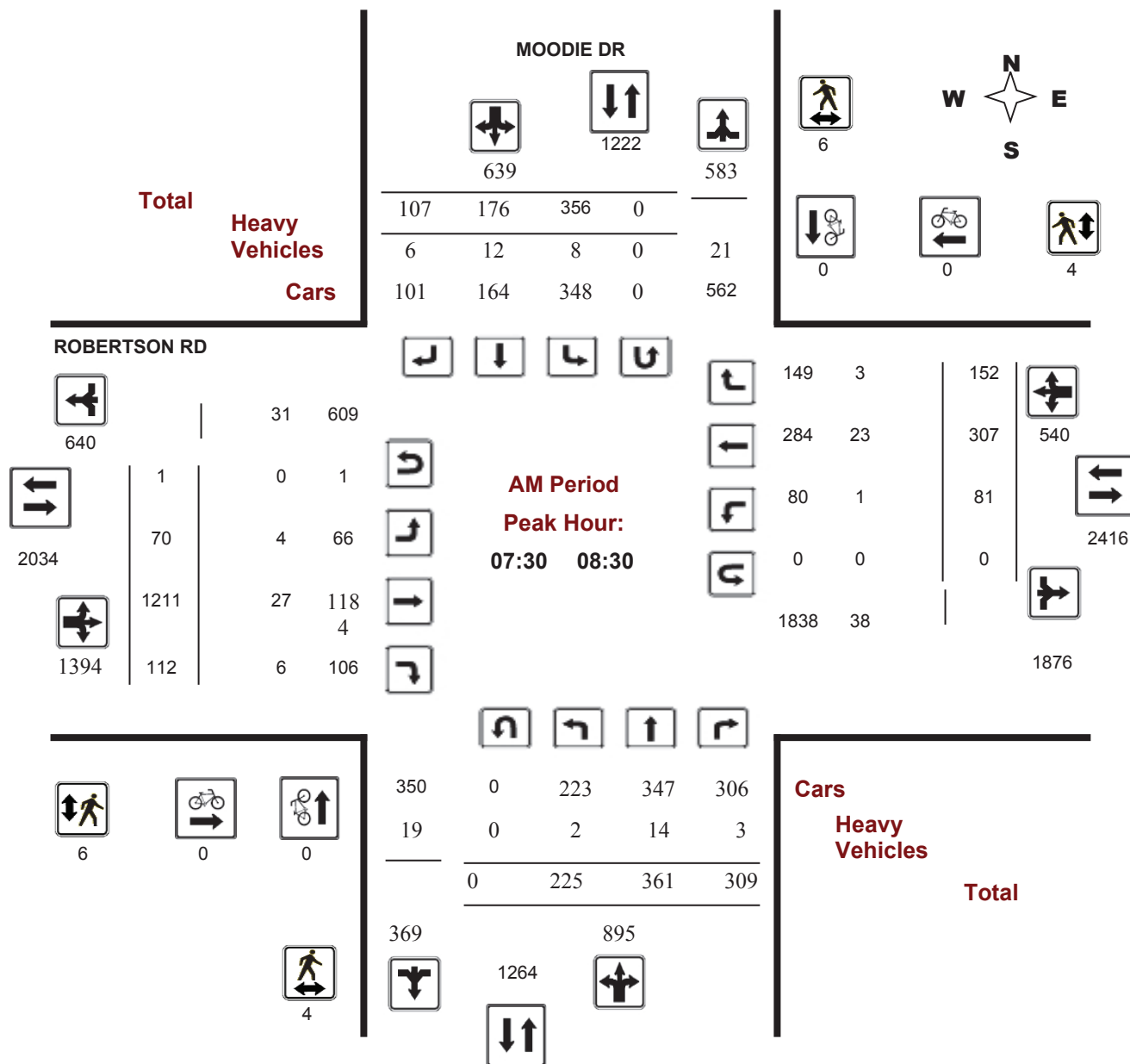


**Survey Date:** Wednesday, March 08, 2017

**Start Time:** 07:00

**WO No:** 36743

**Device:** Miovision



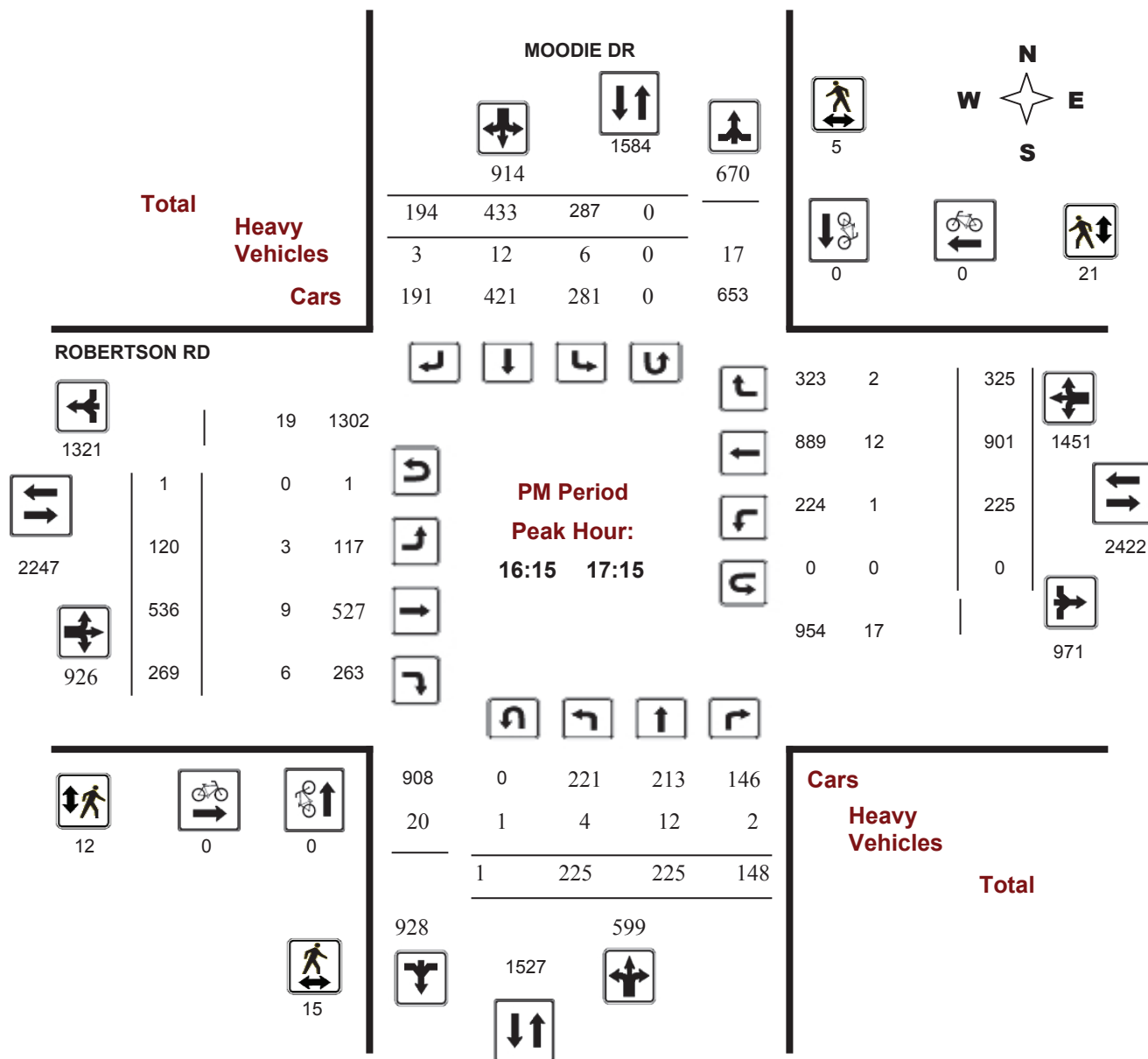


**Survey Date:** Wednesday, March 08, 2017

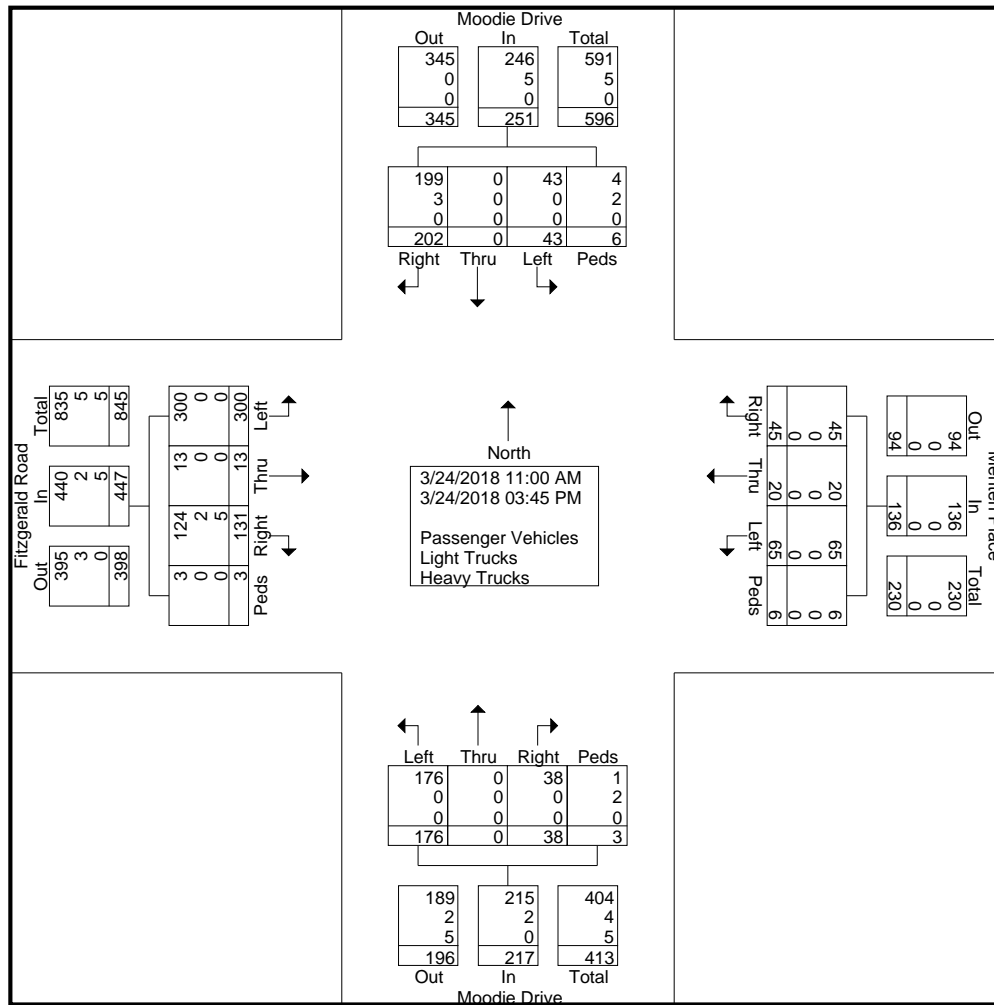
**Start Time:** 07:00

**WO No:** 36743

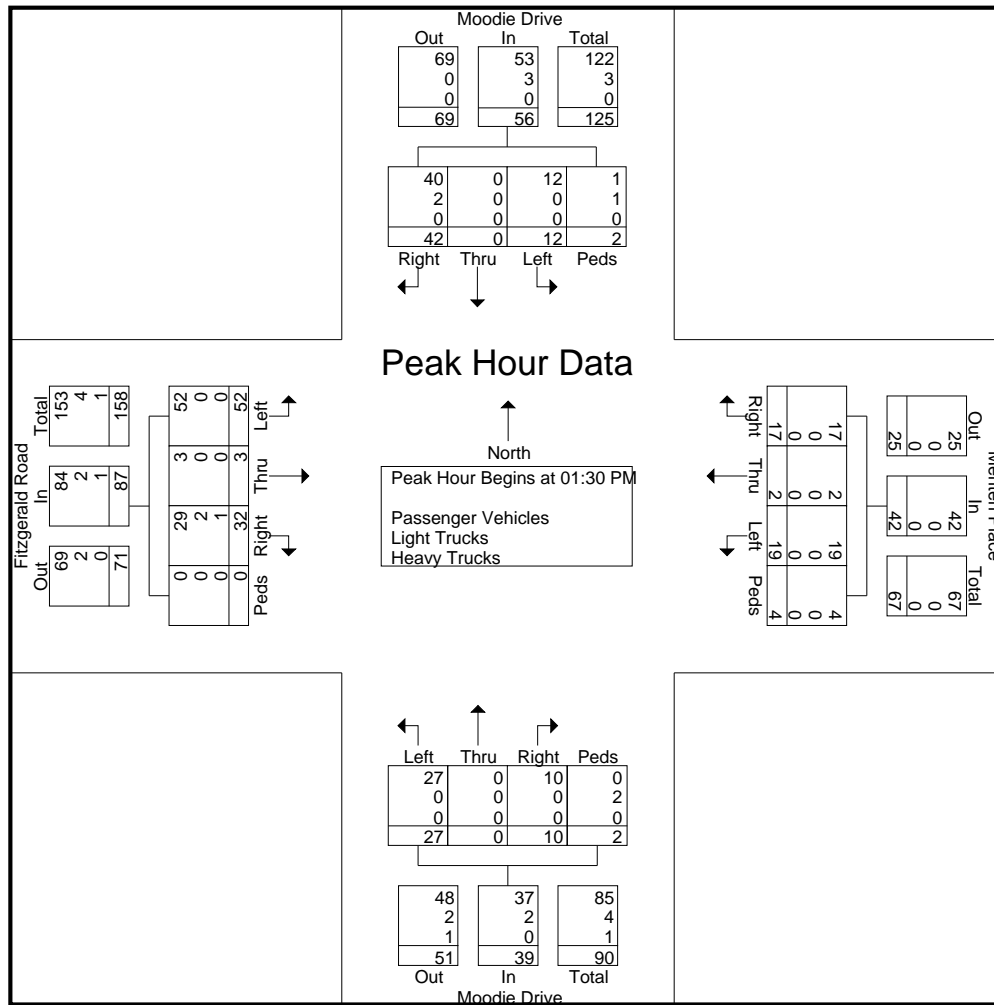
**Device:** Miovision



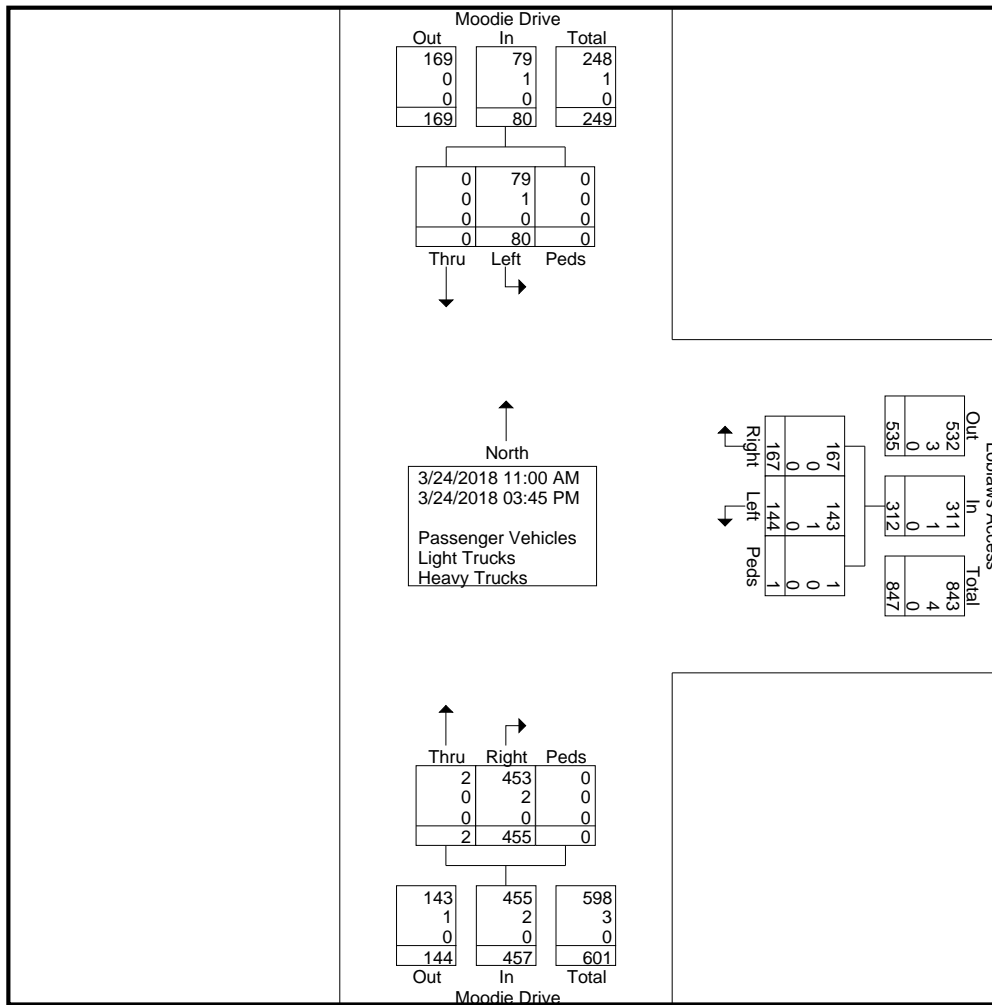
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Site Code : 11800704  
Start Date : 3/24/2018  
Page No : 2



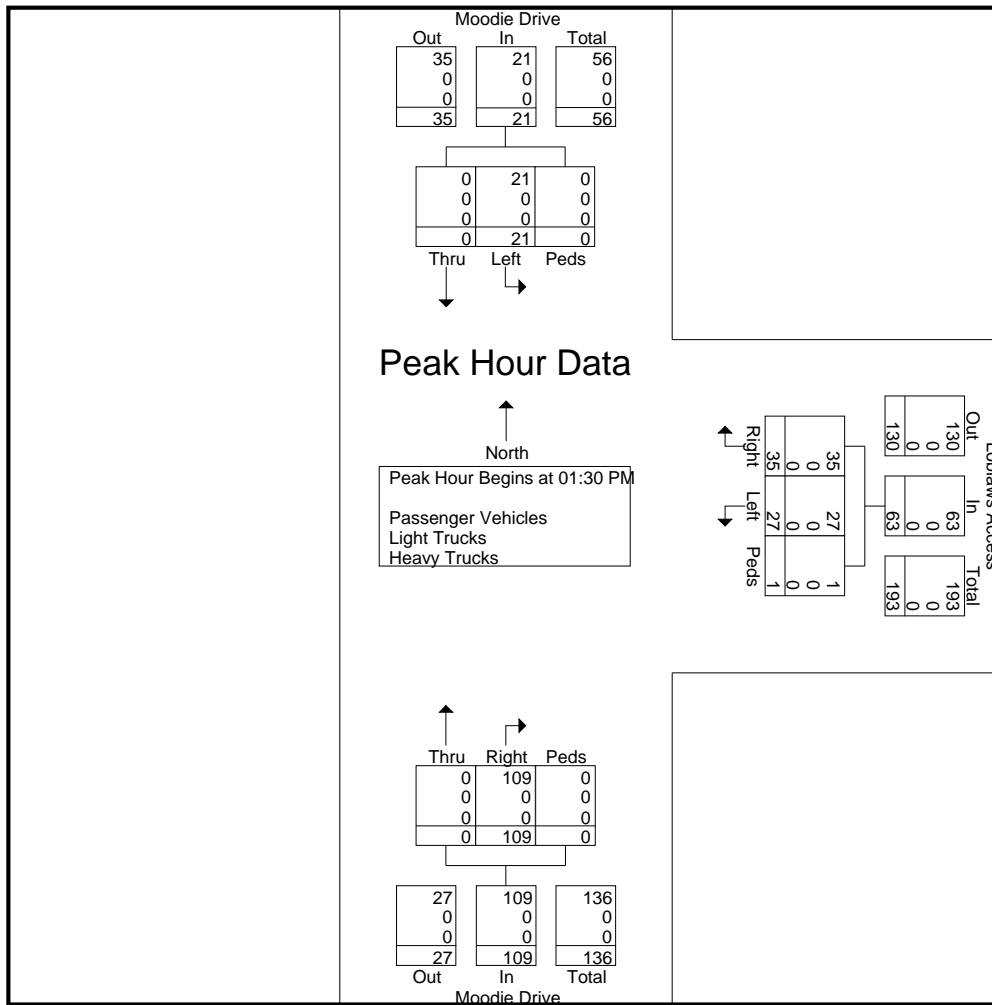
File Name : Moodie\_Fitzgerald\_Menten  
Site Code : 11800704  
Start Date : 3/24/2018  
Page No : 4



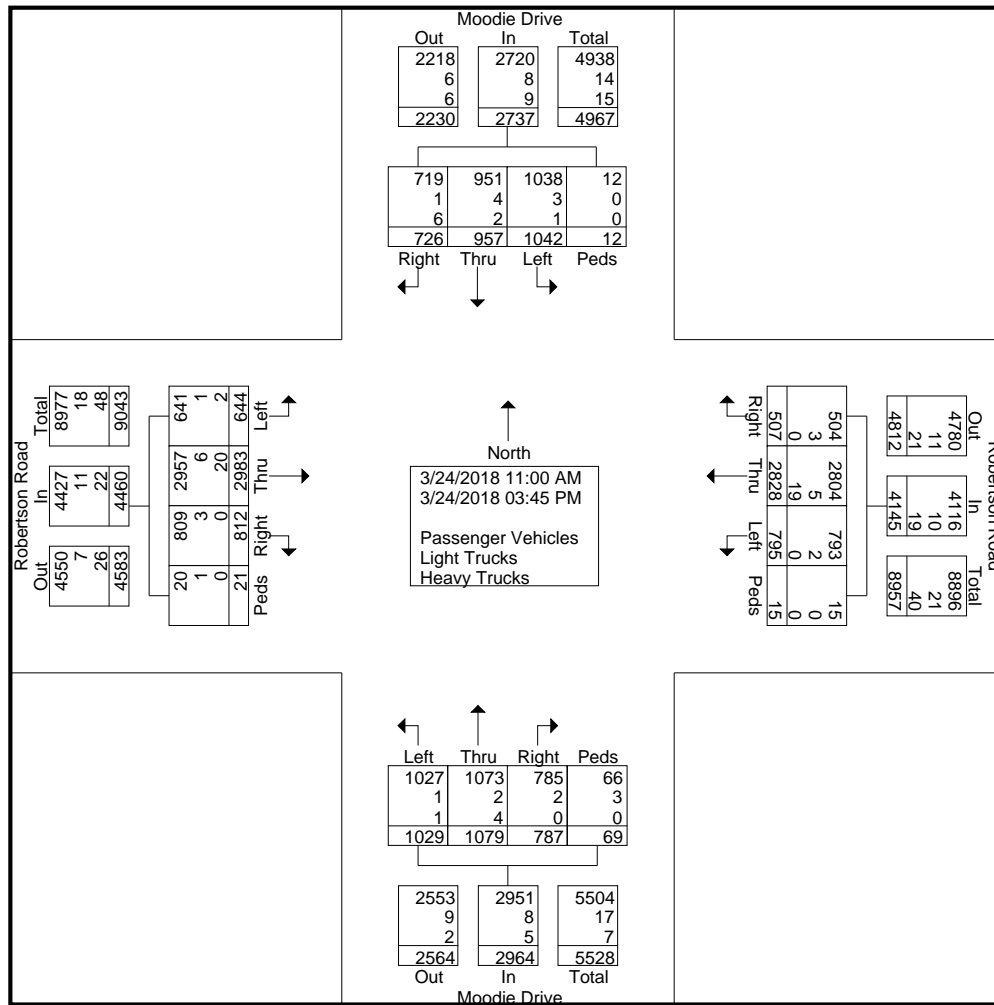
File Name : Moodie\_Loblaws  
Site Code : 11800705  
Start Date : 3/24/2018  
Page No : 2



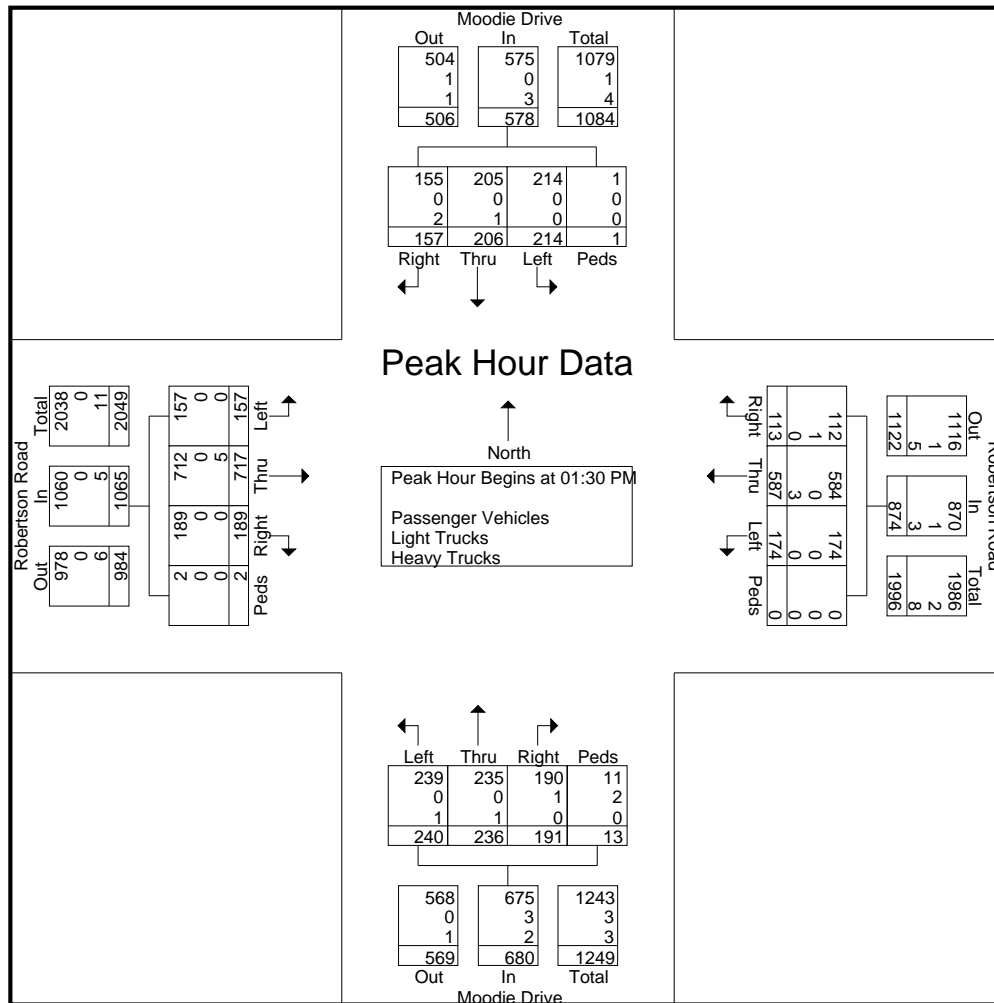
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Site Code : 11800705  
Start Date : 3/24/2018  
Page No : 4



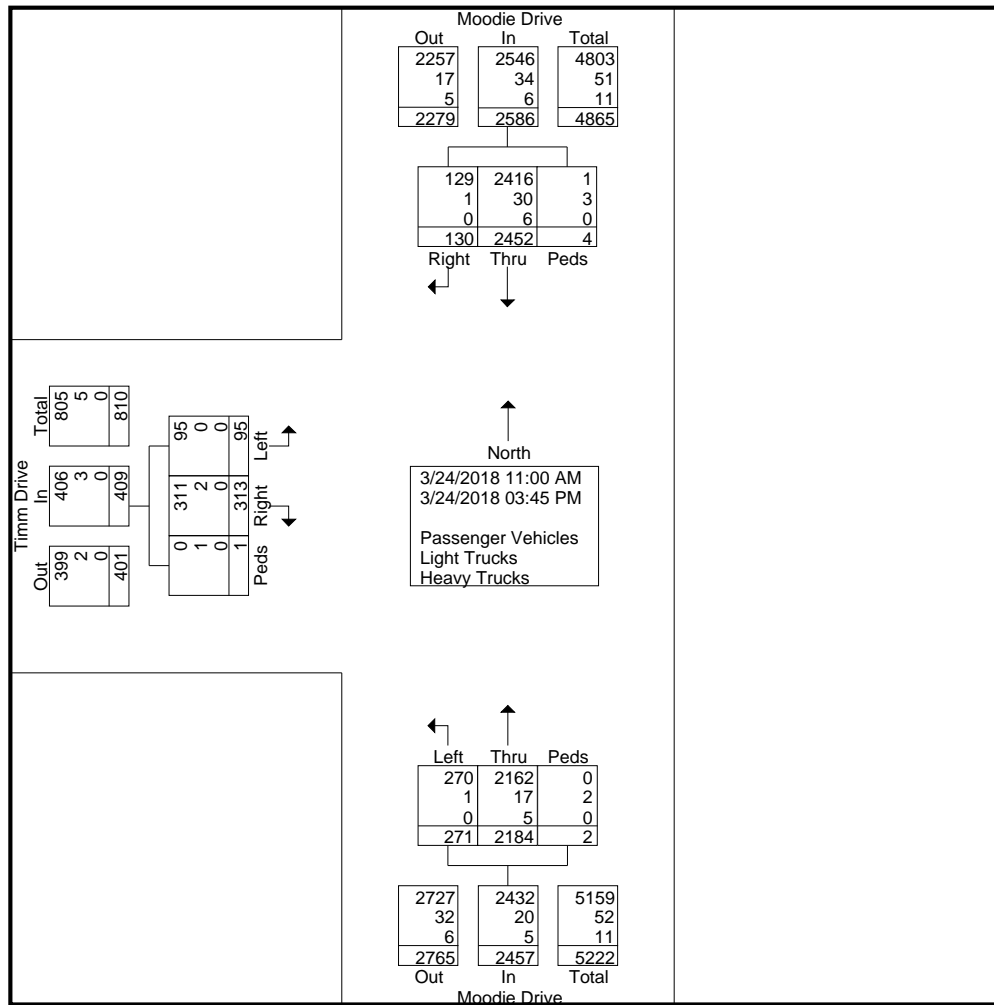
File Name : Moodie\_Robertson  
Site Code : 11800701  
Start Date : 3/24/2018  
Page No : 2



File Name : Moodie\_Robertson  
Site Code : 11800701  
Start Date : 3/24/2018  
Page No : 4

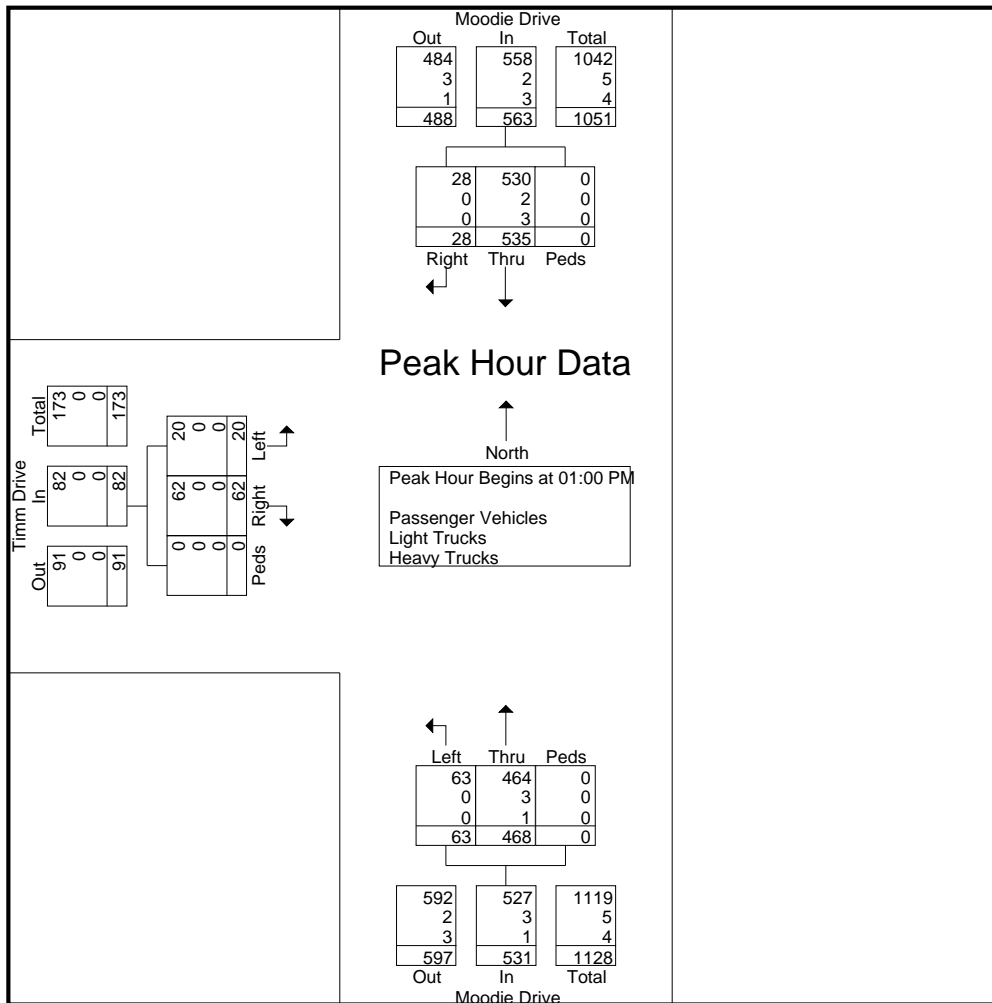


File Name : Moodie\_Timm  
Site Code : 11800703  
Start Date : 3/24/2018  
Page No : 2





File Name : Moodie\_Timm  
Site Code : 11800703  
Start Date : 3/24/2018  
Page No : 4



# Traffic Signal Timing

City of Ottawa, Transportation Services Department

## Traffic Signal Operations Unit

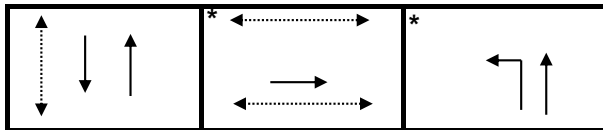
<b>Intersection:</b>	Main: Moodie	Side: Timm
<b>Controller:</b>	MS-3200	<b>TSD:</b> 5989
<b>Author:</b>	Spencer Willows	<b>Date:</b> 25-Jan-2018

## Existing Timing Plans<sup>†</sup>

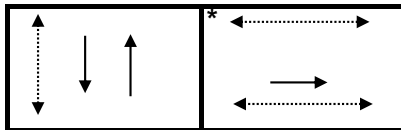
	Plan				Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Walk	DW	A+R
<b>Cycle</b>	80	65	70	60			
<b>Offset</b>	6	48	55	X			
NB Thru	52	37	42	32	-	-	3.7 + 1.9
SB Thru	52	26	31	32	14	5	3.7 + 1.9
EB Thru	28	28	28	28	7	15	4.6 + 1.7
NB Left	-	11	11		-	-	3.7 + 1.9

## Phasing Sequence<sup>‡</sup>

Plan: 2, 3



Plan: 1, 4



## Schedule

Weekday		Saturday		Sunday	
Time	Plan	Time	Plan	Time	Plan
0:15	4	0:15	4	0:15	4
6:30	1	9:00	3	9:00	2
9:30	2	18:00	2	19:00	4
15:00	3	22:00	4		
18:30	2				
21:30	4				

## Notes

†: Time for each direction includes amber and all red intervals  
 ‡: Start of first phase should be used as reference point for offset  
 Asterisk (\*) Indicates actuated phase  
 (fp): Fully Protected Left Turn  
 ◀.....▶ Pedestrian signal

Cost is \$56.50 (\$50 + HST)

# Traffic Signal Timing

City of Ottawa, Transportation Services Department

## Traffic Signal Operations Unit

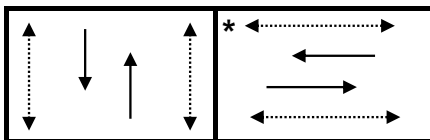
<b>Intersection:</b>	<b>Main:</b> Moodie	<b>Side:</b> Fitzgerald/Stafford
<b>Controller:</b>	<b>ATC-3</b>	<b>TSD:</b> 5871
<b>Author:</b>	<b>Spencer Willows</b>	<b>Date:</b> 25-Jan-2018

## Existing Timing Plans<sup>†</sup>

	Plan				Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Walk	DW	A+R
<b>Cycle</b>	80	65	70	65			
<b>Offset</b>	68	0	0	0			
NB Thru	46	31	36	31	9	16	3.7+2.0
SB Thru	46	31	36	31	9	16	3.7+2.0
EB Thru	34	34	34	34	7	21	3.3+2.7
WB Thru	34	34	34	34	7	21	3.3+2.7

## Phasing Sequence<sup>‡</sup>

Plan: All



## Schedule

### Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
18:30	2
21:30	4

### Saturday

Time	Plan
0:15	4
9:00	3
18:00	2
22:00	4

### Sunday

Time	Plan
0:15	4
9:00	2
19:00	4

## Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (\*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄.....► Pedestrian signal

Cost is \$56.50 (\$50 + HST)

# Traffic Signal Timing

City of Ottawa, Transportation Services Department

## Traffic Signal Operations Unit

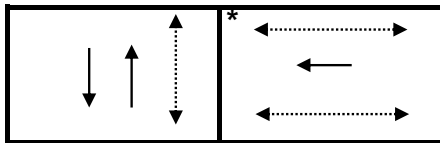
<b>Intersection:</b>	<b>Main:</b> Moodie	<b>Side:</b> Zellers/200 m N of Robertson
<b>Controller:</b>	<b>MS-3200</b>	<b>TSD:</b> 5768
<b>Author:</b>	Spencer Willows	<b>Date:</b> 25-Jan-2018

## Existing Timing Plans<sup>†</sup>

	Plan				Ped Minimum Time		
	AM Peak	Off Peak	PM Peak	Night	Walk	DW	A+R
	1	2	3	4			
<b>Cycle</b>	80	65	70	62			
<b>Offset</b>	58	5	9	X			
NB Thru	47	32	37	29	7	16	3.7+2.2
SB Thru	47	32	37	29	-	-	3.7+2.2
WB Thru	33	33	33	33	7	20	3.3+2.3

## Phasing Sequence<sup>‡</sup>

Plan: All



## Schedule

### Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
18:30	2
21:30	4

### Saturday

Time	Plan
0:15	4
9:00	3
18:00	2
22:00	4

### Sunday

Time	Plan
0:15	4
9:00	2
19:00	4

## Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (\*) Indicates actuated phase

(fp): Fully Protected Left Turn

◀.....▶ Pedestrian signal

Cost is \$56.50 (\$50 + HST)

# Traffic Signal Timing

City of Ottawa, Transportation Services Department

## Traffic Signal Operations Unit

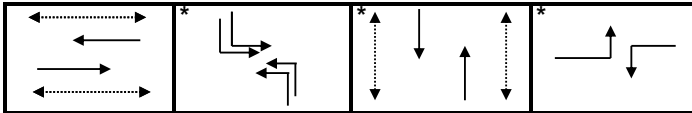
<b>Intersection:</b>	<b>Main:</b> Robertson	<b>Side:</b> Moodie
<b>Controller:</b>	<b>ATC-3</b>	<b>TSD:</b> 5647
<b>Author:</b>	<b>Spencer Willows</b>	<b>Date:</b> 25-Jan-2018

## Existing Timing Plans†

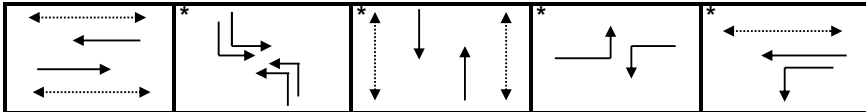
	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 13	Walk	DW	A+R
<b>Cycle</b>	130	110	120	93	130			
<b>Offset</b>	119	0	100	X	0			
EB Thru	54	34	39	34	35	7	20	3.7+2.7
WB Thru	54	34	44	34	40	7	20	3.7+2.7
NB Left (fp)	23	25	18	11	27	-	-	3.7+2.8
SB Left (fp)	23	25	18	11	27	-	-	3.7+2.8
NB Thru	38	37	38	37	37	7	24	3.7+3.0
SB Thru	38	37	38	37	37	7	24	3.7+3.0
EB Left (fp)	15	14	20	11	26	-	-	3.7+2.7
WB Left (fp)	15	14	25	11	31	-	-	3.7+2.7

## Phasing Sequence‡

Plan: 1, 2, 4



Plan: 3, 13



**Notes:** 1) If there is no pedestrian actuation in the north-south direction, the NB and SB Thru phases are forced off 14 seconds early for Plan 2, and 11 seconds early for Plan 4.

## Schedule

Weekday		Saturday		Sunday	
Time	Plan	Time	Plan	Time	Plan
0:15	4	0:15	4	0:15	4
6:30	1	9:00	3	9:00	2
9:30	2	11:00	13	19:00	4
15:00	3	18:00	2		
18:30	2	22:00	4		
21:30	4				

## Notes

†: Time for each direction includes amber and all red intervals  
‡: Start of first phase should be used as reference point for offset  
Asterisk (\*) Indicates actuated phase  
(fp): Fully Protected Left Turn  
◄.....► Pedestrian signal

Cost is \$56.50 (\$50 + HST)

## **APPENDIX D**

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### Collision Records

# Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2012-01-01 TO: 2014-01-01

## 200 N OF ROBERTSON RD & MOODIE DR

Former Municipality: Nepean

Traffic Control: Traffic signal

Number of Collisions: 4

	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	No. PED
1	2012-01-06	Fri	14:41	Clear	Daylight	Turning	P.D. only	V1 N	Wet	Making U-Turn	Truck - closed	Other motor vehicle	0
								V2 N	Wet	Going ahead	Automobile, station	Other motor vehicle	
2	2012-02-22	We	14:48	Clear	Daylight	Rear end	P.D. only	V1 N	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 N	Dry	Going ahead	Automobile, station	Other motor vehicle	
								V3 N	Dry	Stopped	Pick-up truck	Other motor vehicle	
3	2013-01-31	Thu	14:50	Clear	Daylight	Angle	P.D. only	V1 N	Dry	Going ahead	Passenger van	Other motor vehicle	0
								V2 W	Dry	Turning left	Automobile, station	Other motor vehicle	
4	2013-10-25	Fri	19:20	Clear	Dark	Angle	P.D. only	V1 S	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Turning left	Automobile, station	Other motor vehicle	

## FITZGERALD RD & MOODIE DR

Former Municipality: Nepean

Traffic Control: Traffic signal

Number of Collisions: 13

	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	No. PED
5	2012-01-18	We	10:24	Clear	Daylight	Rear end	P.D. only	V1 E	Ice	Turning left	Automobile, station	Other motor vehicle	0
								V2 E	Wet	Turning left	Pick-up truck	Other motor vehicle	
6	2012-01-27	Fri	15:00	Clear	Daylight	Angle	P.D. only	V1 W	Ice	Going ahead	Pick-up truck	Other motor vehicle	0
								V2 S	Ice	Turning left	Pick-up truck	Other motor vehicle	
7	2012-02-09	Thu	17:00	Clear	Dusk	Angle	P.D. only	V1 W	Dry	Turning left	Pick-up truck	Other motor vehicle	0
								V2 N	Dry	Going ahead	Pick-up truck	Other motor vehicle	
8	2012-02-24	Fri	16:15	Snow	Daylight	Single vehicle	P.D. only	V1 N	Loose snow	Turning left	Automobile, station	Skidding/Sliding	0
9	2012-02-24	Fri	14:45	Snow	Daylight	Rear end	P.D. only	V1 N	Ice	Slowing or	Automobile, station	Other motor vehicle	0
								V2 N	Ice	Stopped	Truck - closed	Other motor vehicle	
10	2012-05-25	Fri	15:45	Clear	Daylight	Angle	P.D. only	V1 N	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Turning left	Automobile, station	Other motor vehicle	

(Note: Time of Day = "00:00" represents unknown collision time)

Friday, January 19, 2018

## Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2012-01-01 TO: 2014-01-01

11	2012-06-08	Fri	12:30	Clear	Daylight	Single vehicle	Non-fatal	V1 S	Dry	Turning left	Automobile, station	Pedestrian	1
12	2012-10-04	Thu	12:20	Clear	Daylight	Single vehicle	Non-fatal	V1 E	Dry	Turning left	Automobile, station	Pedestrian	2
13	2012-11-30	Fri	14:10	Clear	Daylight	Other	P.D. only	V1 S	Dry	Making U-Turn	Pick-up truck	Curb	0
								V2 N	Dry	Going ahead	Automobile, station	Other motor vehicle	
								V3 N	Dry	Going ahead	Automobile, station	Other motor vehicle	
14	2013-02-12	Tue	17:21	Clear	Dark	Angle	Non-fatal	V1 S	Wet	Going ahead	Automobile, station	Other motor vehicle	0
								V2 E	Wet	Turning left	Automobile, station	Other motor vehicle	
15	2013-04-03	We	12:41	Clear	Daylight	Turning	P.D. only	V1 E	Dry	Turning right	Automobile, station	Other motor vehicle	0
								V2 E	Dry	Turning right	Automobile, station	Other motor vehicle	
16	2013-07-03	We	13:48	Clear	Daylight	Rear end	P.D. only	V1 N	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 N	Dry	Stopped	Automobile, station	Other motor vehicle	
								V3 N	Dry	Stopped	Automobile, station	Other motor vehicle	
17	2013-11-23	Sat	09:20	Clear	Daylight	Sideswipe	P.D. only	V1 S	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 S	Dry	Going ahead	Automobile, station	Other motor vehicle	

### MOODIE DR & TIMM DR

Former Municipality: Nepean

Traffic Control: Traffic signal

Number of Collisions: 4

	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	No. PED
18	2012-06-12	Tue	12:06	Clear	Daylight	Rear end	P.D. only	V1 N	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 N	Dry	Stopped	Passenger van	Other motor vehicle	
19	2012-10-30	Tue	16:41	Clear	Daylight	Turning	Non-fatal	V1 N	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 S	Dry	Going ahead	Automobile, station	Other motor vehicle	
20	2013-05-15	We	15:00	Clear	Daylight	Rear end	P.D. only	V1 E	Dry	Turning right	Automobile, station	Other motor vehicle	0
								V2 E	Dry	Turning right	Automobile, station	Other motor vehicle	
21	2013-11-08	Fri	17:00	Clear	Dark	Turning	Non-fatal	V1 N	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 S	Dry	Going ahead	Automobile, station	Other motor vehicle	

(Note: Time of Day = "00:00" represents unknown collision time)

Friday, January 19, 2018

Page 2 of 2



# Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2012-01-01 TO: 2014-01-01

## MOODIE DR & ROBERTSON RD

Former Municipality: Nepean

Traffic Control: Traffic signal

Number of Collisions: 35

	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	No. PED
1	2012-01-21	Sat	12:50	Clear	Daylight	Angle	Non-fatal	V1 S	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 E	Dry	Going ahead	Automobile, station	Other motor vehicle	
2	2012-01-31	Tue	16:44	Snow	Dusk	Other	P.D. only	V1 W	Loose snow	Turning left	Pick-up truck	Curb	0
								V2 E	Loose snow	Stopped	Automobile, station	Other motor vehicle	
								V3 E	Loose snow	Stopped	Automobile, station	Other motor vehicle	
3	2012-05-07	Mo	16:23	Clear	Daylight	Sideswipe	P.D. only	V1 W	Dry	Merging	Pick-up truck	Other motor vehicle	0
								V2 W	Dry	Going ahead	Pick-up truck	Other motor vehicle	
4	2012-05-10	Thu	15:00	Rain	Daylight	Angle	P.D. only	V1 S	Wet	Going ahead	Automobile, station	Other motor vehicle	0
								V2 E	Wet	Going ahead	Automobile, station	Other motor vehicle	
								V3 E	Wet	Going ahead	Pick-up truck	Other motor vehicle	
5	2012-05-23	We	04:20	Clear	Dark	Turning	Non-fatal	V1 S	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 N	Dry	Going ahead	Automobile, station	Other motor vehicle	
6	2012-06-22	Fri	14:50	Clear	Daylight	Turning	P.D. only	V1 N	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 S	Dry	Going ahead	Pick-up truck	Other motor vehicle	
7	2012-06-23	Sat	02:01	Clear	Dark	Turning	Non-fatal	V1 N	Dry	Turning left	Pick-up truck	Other motor vehicle	0
								V2 S	Dry	Going ahead	Automobile, station	Other motor vehicle	
8	2012-08-07	Tue	09:46	Clear	Daylight	Angle	P.D. only	V1 S	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 E	Dry	Going ahead	Truck - other	Other motor vehicle	
9	2012-08-08	We	00:30	Clear	Dark	Rear end	P.D. only	V1 W	Dry	Turning left	Pick-up truck	Other motor vehicle	0
								V2 W	Dry	Turning left	Automobile, station	Other motor vehicle	
10	2012-08-28	Tue	21:30	Clear	Dark	Rear end	P.D. only	V1 W	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Turning left	Automobile, station	Other motor vehicle	
11	2012-10-27	Sat	11:11	Rain	Daylight	Turning	P.D. only	V1 N	Wet	Going ahead	Automobile, station	Other motor vehicle	0
								V2 S	Wet	Turning left	Pick-up truck	Other motor vehicle	

(Note: Time of Day = "00:00" represents unknown collision time)

Friday, January 19, 2018

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## Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2012-01-01 TO: 2014-01-01

12	2012-12-20	Thu	19:46	Clear	Dark	Angle	P.D. only	V1 S	Dry	Turning right	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Stopped	Automobile, station	Other motor vehicle	
13	2012-12-26	We	17:25	Clear	Dark	Turning	Non-fatal	V1 N	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 S	Dry	Going ahead	Automobile, station	Other motor vehicle	
14	2013-01-05	Sat	14:03	Clear	Daylight	Turning	P.D. only	V1 N	Wet	Turning left	Automobile, station	Other motor vehicle	0
								V2 S	Wet	Going ahead	Automobile, station	Other motor vehicle	
15	2013-02-09	Sat	12:39	Snow	Daylight	Rear end	P.D. only	V1 S	Ice	Turning left	Passenger van	Other motor vehicle	0
								V2 S	Ice	Turning left	Automobile, station	Other motor vehicle	
16	2013-02-27	We	13:50	Snow	Daylight	Rear end	P.D. only	V1 N	Loose snow	Slowing or	Automobile, station	Other motor vehicle	0
								V2 N	Loose snow	Stopped	Pick-up truck	Other motor vehicle	
17	2013-03-22	Fri	10:57	Clear	Daylight	Rear end	P.D. only	V1 W	Dry	Turning right	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Turning right	Automobile, station	Other motor vehicle	
18	2013-04-23	Tue	11:55	Clear	Daylight	Sideswipe	P.D. only	V1 W	Dry	Turning right	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Stopped	Automobile, station	Other motor vehicle	
19	2013-04-30	Tue	16:15	Clear	Daylight	Rear end	P.D. only	V1 E	Dry	Going ahead	Pick-up truck	Other motor vehicle	0
								V2 E	Dry	Stopped	Pick-up truck	Other motor vehicle	
20	2013-07-03	We	15:45	Clear	Daylight	Rear end	P.D. only	V1 N	Wet	Turning left	Pick-up truck	Other motor vehicle	0
								V2 N	Wet	Turning left	Pick-up truck	Other motor vehicle	
21	2013-07-18	Thu	17:06	Clear	Daylight	Rear end	P.D. only	V1 E	Dry	Going ahead	Pick-up truck	Other motor vehicle	0
								V2 E	Dry	Stopped	Automobile, station	Other motor vehicle	
22	2013-08-07	We	13:08	Clear	Daylight	Turning	P.D. only	V1 S	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 N	Dry	Going ahead	Automobile, station	Other motor vehicle	
23	2013-08-29	Thu	07:55	Clear	Daylight	Rear end	P.D. only	V1 W	Dry	Turning right	Passenger van	Other motor vehicle	0
								V2 W	Dry	Turning right	Automobile, station	Other motor vehicle	
24	2013-09-01	Sun	16:58	Clear	Daylight	Single vehicle	P.D. only	V1 E	Dry	Going ahead	Municipal transit bus	Pole (utility, tower)	0
25	2013-09-07	Sat	13:00	Clear	Daylight	Rear end	P.D. only	V1 W	Dry	Going ahead	Delivery van	Other motor vehicle	0
								V2 W	Dry	Stopped	Automobile, station	Other motor vehicle	
26	2013-09-10	Tue	14:26	Clear	Daylight	Angle	P.D. only	V1 W	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 S	Dry	Going ahead	Automobile, station	Other motor vehicle	

(Note: Time of Day = "00:00" represents unknown collision time)

Friday, January 19, 2018

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## Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2012-01-01 TO: 2014-01-01

27	2013-09-12	Thu	19:21	Rain	Dusk	Sideswipe	P.D. only	V1 E	Wet	Changing lanes	Passenger van	Other motor vehicle	0
								V2 E	Wet	Stopped	Passenger van	Other motor vehicle	
28	2013-09-23	Mo	13:41	Clear	Daylight	Sideswipe	P.D. only	V1 W	Dry	Turning left	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Stopped	Passenger van	Other motor vehicle	
29	2013-10-07	Mo	11:22	Clear	Daylight	Sideswipe	P.D. only	V1 N	Dry	Changing lanes	Automobile, station	Other motor vehicle	0
								V2 N	Dry	Stopped	Automobile, station	Other motor vehicle	
30	2013-10-22	Tue	13:20	Clear	Daylight	Sideswipe	P.D. only	V1 S	Dry	Turning left	Pick-up truck	Other motor vehicle	0
								V2 S	Dry	Stopped	Municipal transit bus	Other motor vehicle	
31	2013-10-28	Mo	18:10	Clear	Daylight	Rear end	P.D. only	V1 E	Dry	Going ahead	Pick-up truck	Other motor vehicle	0
								V2 E	Dry	Stopped	Automobile, station	Other motor vehicle	
32	2013-12-04	We	15:20	Clear	Daylight	Sideswipe	P.D. only	V1 W	Wet	Changing lanes	Automobile, station	Other motor vehicle	0
								V2 W	Wet	Going ahead	Automobile, station	Other motor vehicle	
33	2013-12-11	We	18:18	Clear	Dark	Rear end	Non-fatal	V1 W	Dry	Going ahead	Automobile, station	Other motor vehicle	0
								V2 W	Dry	Stopped	Automobile, station	Other motor vehicle	
34	2013-12-15	Sun	00:29	Snow	Dark	Other	Non-fatal	V1 N	Dry	Going ahead	Pick-up truck	Pole (sign, parking	0
								V2 W	Dry	Turning left	Automobile, station	Other motor vehicle	
35	2013-12-31	Tue	11:25	Snow	Daylight	Rear end	P.D. only	V1 N	Loose snow	Turning right	Automobile, station	Other motor vehicle	0
								V2 N	Loose snow	Turning right	Passenger van	Other motor vehicle	

(Note: Time of Day = "00:00" represents unknown collision time)

Friday, January 19, 2018

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# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2016

**Location:** MOODIE DR @ 200 N OF ROBERTSON RD

**Traffic Control:** Traffic signal

**Total Collisions:** 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2014-May-25, Sun,15:23	Clear	Turning movement	Non-fatal injury	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Motorcycle	Other motor vehicle	
2014-Dec-04, Thu,12:55	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Nov-08, Sat,13:45	Snow	Rear end	P.D. only	Wet	South	Going ahead	Pick-up truck	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jun-24, Wed,12:20	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	
					North	Making "U" turn	Automobile, station wagon	Other motor vehicle	
2016-Jan-21, Thu,20:09	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	

**Location:** MOODIE DR @ FITZGERALD RD/STAFFORD RD

**Traffic Control:** Traffic signal

**Total Collisions:** 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2014-Mar-12, Wed,14:18	Drifting Snow	Angle	P.D. only	Packed snow	North	Going ahead	Passenger van	Other motor vehicle	
					West	Going ahead	Pick-up truck	Other motor vehicle	
2014-May-21, Wed,12:45	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Aug-01, Fri,15:49	Clear	Turning movement	P.D. only	Dry	East	Turning left	Unknown	Other motor vehicle	
					West	Going ahead	Pick-up truck	Other motor vehicle	
2014-Oct-01, Wed,08:27	Clear	Rear end	Non-fatal injury	Dry	South	Slowing or stopping	Municipal transit bus	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jan-27, Tue,16:49	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Sep-09, Fri,09:15	Clear	Turning movement	P.D. only	Dry	South	Turning right	Automobile, station wagon	Cyclist	

					South	Turning right	Bicycle	Other motor vehicle
2016-Aug-08, Mon,12:03	Clear	Rear end	P.D. only	Dry	East	Turning right	Truck - closed	Other motor vehicle
					East	Turning right	Automobile, station wagon	Other motor vehicle
2016-Nov-01, Tue,13:02	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Nov-03, Tue,07:15	Clear	Angle	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Turning right	Truck and trailer	Other motor vehicle
2016-Dec-08, Thu,10:52	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle
					North	Stopped	Automobile, station wagon	Other motor vehicle

**Location:** MOODIE DR @ TIMM DR

**Traffic Control:** Stop sign

**Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Dec-29, Thu,13:00	Snow	Angle	P.D. only	Slush	East	Going ahead	Pick-up truck	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	



# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2016

**Location:** MOODIE DR @ ROBERTSON RD

**Traffic Control:** Traffic signal

**Total Collisions:** 35

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2014-Jan-20, Mon,18:10	Clear	Rear end	P.D. only	Packed snow	South	Turning left	Automobile, station wagon	Other motor vehicle	
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2014-Jan-21, Tue,16:15	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2014-Apr-08, Tue,08:25	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Passenger van	Other motor vehicle	
2014-May-22, Thu,15:05	Clear	Rear end	Non-fatal injury	Dry	East	Other	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2014-May-27, Tue,16:47	Clear	Rear end	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2014-Aug-06, Wed,16:50	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	

					East	Turning right	Automobile, station wagon	Other motor vehicle	
2014-Sep-02, Tue,17:47	Rain	SMV other	Non-fatal injury	Wet	South	Turning right	Unknown	Pedestrian	1
2014-Sep-12, Fri,12:19	Clear	Rear end	P.D. only	Dry	South	Turning left	Truck and trailer	Other motor vehicle	
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2014-Oct-10, Fri,09:59	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Passenger van	Other motor vehicle	
					West	Turning left	Passenger van	Other motor vehicle	
2014-Nov-03, Mon,08:40	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2014-Nov-22, Sat,12:15	Clear	Rear end	P.D. only	Dry	East	Turning right	Passenger van	Other motor vehicle	
					East	Turning right	Pick-up truck	Other motor vehicle	
2014-Dec-23, Tue,15:05	Rain	Sideswipe	P.D. only	Wet	East	Changing lanes	Automobile, station wagon	Other motor vehicle	
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2015-Jan-03, Sat,14:53	Snow	Angle	P.D. only	Loose snow	South	Slowing or stopping	Pick-up truck	Skidding/sliding	
					East	Stopped	Pick-up truck	Other motor vehicle	



2015-Feb-09, Mon,09:23	Snow	SMV other	P.D. only	Loose snow	North	Slowing or stopping	Automobile, station wagon	Snowbank/drift
2015-Mar-29, Sun,15:10	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Jun-24, Wed,15:17	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Sep-25, Fri,10:05	Clear	Rear end	Non-fatal injury	Dry	North	Turning right	Pick-up truck	Other motor vehicle
					North	Turning right	Automobile, station wagon	Other motor vehicle
2015-Sep-30, Wed,08:00	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2015-Oct-09, Fri,11:34	Clear	Rear end	P.D. only	Dry	South	Turning right	Pick-up truck	Other motor vehicle
					South	Turning right	Automobile, station wagon	Other motor vehicle
2015-Nov-03, Tue,13:15	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Nov-22, Sun,14:25	Clear	Angle	P.D. only	Dry	South	Turning right	Pick-up truck	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle

2015-Dec-31, Thu,20:34	Clear	Sideswipe	P.D. only	Wet	North	Changing lanes	Passenger van	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2016-Jan-12, Tue,22:03	Snow	Rear end	P.D. only	Loose snow	East	Slowing or stopping	Pick-up truck	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2016-May-22, Sun,12:48	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle
					North	Turning left	Automobile, station wagon	Other motor vehicle
2016-Jun-17, Fri,17:00	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Passenger van	Other motor vehicle
2016-Jun-23, Thu,16:09	Clear	Rear end	P.D. only	Dry	South	Turning right	Pick-up truck	Other motor vehicle
					South	Turning right	Pick-up truck	Other motor vehicle
2016-Jun-23, Thu,17:52	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Stopped	Automobile, station wagon	Other motor vehicle
					West	Stopped	Automobile, station wagon	Other motor vehicle
2016-Aug-27, Sat,11:24	Clear	Rear end	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle
					East	Turning left	Automobile, station wagon	Other motor vehicle

2016-Sep-04, Sun,14:01	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle
					North	Turning right	Automobile, station wagon	Other motor vehicle
2016-Sep-23, Fri,10:45	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle
					North	Turning right	Automobile, station wagon	Other motor vehicle
2016-Oct-10, Mon,15:30	Clear	Rear end	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2016-Oct-18, Tue,07:49	Clear	Angle	Non-fatal injury	Wet	West	Turning left	Pick-up truck	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2016-Oct-20, Thu,12:35	Rain	Sideswipe	P.D. only	Wet	South	Changing lanes	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2016-Nov-20, Sun,17:20	Snow	SMV other	P.D. only	Packed snow	East	Going ahead	Automobile, station wagon	Skidding/sliding
2016-Dec-22, Thu,10:21	Clear	Rear end	P.D. only	Slush	North	Going ahead	Automobile, station wagon	Other motor vehicle
					North	Turning left	Passenger van	Other motor vehicle

## **APPENDIX E**

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Table 14-1 of the ITE Traffic Engineering Handbook, 5<sup>th</sup> Edition

Table 14-1 Typical Peak-Hour Volumes as a Percentage of the Total Parking Stalls

Type of Activity	A.M. Peak Hour		P.M. Peak Hour	
	In	Out	In	Out
Hotel-motel	30-50	30-50	30-60	10-30
Residential	5-10	30-50	30-50	10-30
Office	40-70	5-15	5-20	40-70
Medical Office	40-60	10-20	10-30	60-80
Hospital				
Visitor	30-40	40-50	40-60	50-75
Employee	60-75	5-10	10-15	60-75
Retail-commercial	10-30	10-20	30-60	40-65
Central business district	40-60	10-20	10-30	40-60
Airport—All Traffic	40-65	30-50	20-30	10-30
Short-term (0-3 hr)	50-75	80-100	90-100	90-100
Mid-term (4-24 hr)	10-30	5-10	10-30	10-30
Long-term (more than 24 hr)	5-10	5-10	5-10	5-10
Special events	Before event—(In) 80-100		After event—(Out) 85-200*	

\*Parking and bypass (loading-unloading).

\*Maximum assume a 30-min departure.

Source: Adapted from Robert A. Weant and Herbert S. Levinson, *Parking*, Westport, Conn.: Eno Foundation for Transportation, Inc., 1990; Adapted from Robert W. Crommelin, *Entrance-Exit Design and Control for Major Parking Facilities*, a seminar presentation (Encino, Calif., 1972); and Anthony P. Chest, Mary S. Smith, and Sam Bhuyan, *Parking Structures: Planning, Design, Construction, Maintenance and Repair* (New York: Van Nostrand Reinhold, 1989).

on the type of generator served, user characteristics (employee, shopper, etc.), and parking capacity. Volumes are typically expressed as a ratio of the number of vehicles to the number of parking stalls in the facility. Table 14-1 gives peak-hour ratios for a number of activities.

The number of vehicles that can enter (acceptance rate) or leave a parking facility, per lane, is related to the angle of approach (sharp turns have less capacity than straight-in runs), whether any control is used, the familiarity of the driver with the facility, the freedom of internal circulation (for entry), the amount of vehicular traffic on the streets (for exit) and the degree of conflict with pedestrians crossing the driveway. In general, for a self-parking facility with no control, the capacity per lane ranges up to 800 vph. One engineer has recommended a design value of 400 vph.<sup>5</sup> Guidelines have been developed for considering capacities related to control methods, and also to street traffic (but not pedestrian sidewalk conflicts).<sup>6</sup>

Table 14-2 Vehicle Acceptance Rates of Large Parking Areas

Approach to Entrance	Number of Studies	Average Acceptance Rates Vehicles per Hour per Lane	
		Unfamiliar Entrance	Familiar Entrance
Straight approach (no turn movement)	20	850	1,100
90° right turn	15	750	1,000
90° left turn	24	830	900
Oblique angle, right	8	650	1,000
Oblique angle, left	4	720	

\* Includes racetracks, stadiums, and other facilities not frequently visited by the same individuals.

\* Includes industrial plants, military bases, and other facilities where the same drivers enter daily.

No data available

Source: A.A. Carter, Jr. "Vehicle Acceptance Rate of Parking Areas," *Public Roads* (Oct. 1959).

R.T. Hintersteiner, "Parking Control Guidelines for the Design of Parking Facility Portals," *ITE Journal* (Jan. 1989), p. 24-31

J.M. Frantzakakis, "Traffic Flow Analysis for Dimensioning Entrances-Exits and Reservoir Space for Off-Street Parking," *ITE Journal* (May 1981), pp. 16-24

## **APPENDIX F**

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### **TDM – Supportive Development Design Checklist**

## **TDM-Supportive Development Design and Infrastructure Checklist:** *Non-Residential Developments (office, institutional, retail or industrial)*

<b>Legend</b>	
<b>REQUIRED</b>	The Official Plan or Zoning By-law provides related guidance that must be followed
<b>BASIC</b>	The measure is generally feasible and effective, and in most cases would benefit the development and its users
<b>BETTER</b>	The measure could maximize support for users of sustainable modes, and optimize development performance

<b>TDM-supportive design &amp; infrastructure measures:</b> <i>Non-residential developments</i>		<b>Check if completed &amp; add descriptions, explanations or plan/drawing references</b>
<b>1. WALKING &amp; CYCLING: ROUTES</b>		
<b>1.1 Building location &amp; access points</b>		
<b>BASIC</b>	1.1.1 Locate building close to the street, and do not locate parking areas between the street and building entrances	<input checked="" type="checkbox"/>
<b>BASIC</b>	1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	<input checked="" type="checkbox"/>
<b>BASIC</b>	1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	<input checked="" type="checkbox"/>
<b>1.2 Facilities for walking &amp; cycling</b>		
<b>REQUIRED</b>	1.2.1 Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations ( <i>see Official Plan policy 4.3.3</i> )	<input checked="" type="checkbox"/>
<b>REQUIRED</b>	1.2.2 Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible ( <i>see Official Plan policy 4.3.12</i> )	<input checked="" type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks ( <i>see Official Plan policy 4.3.10</i> )	<input checked="" type="checkbox"/>
REQUIRED	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps ( <i>see Official Plan policy 4.3.10</i> )	<input checked="" type="checkbox"/>
REQUIRED	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians ( <i>see Official Plan policy 4.3.11</i> )	<input checked="" type="checkbox"/>
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	<input checked="" type="checkbox"/>
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	<input checked="" type="checkbox"/>
BASIC	1.2.8 Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	<input type="checkbox"/>
<b>1.3 Amenities for walking &amp; cycling</b>		
BASIC	1.3.1 Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	<input type="checkbox"/>
BASIC	1.3.2 Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	<input type="checkbox"/>



TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
<b>2. WALKING &amp; CYCLING: END-OF-TRIP FACILITIES</b>		
<b>2.1 Bicycle parking</b>		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see <i>Official Plan policy 4.3.6</i> )	<input checked="" type="checkbox"/>
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (see <i>Zoning By-law Section 111</i> )	<input checked="" type="checkbox"/>
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (see <i>Zoning By-law Section 111</i> )	<input checked="" type="checkbox"/>
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	<input type="checkbox"/>
BETTER	2.1.5 Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	<input type="checkbox"/>
<b>2.2 Secure bicycle parking</b>		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (see <i>Zoning By-law Section 111</i> )	<input type="checkbox"/> N/A
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met)	<input type="checkbox"/>
<b>2.3 Shower &amp; change facilities</b>		
BASIC	2.3.1 Provide shower and change facilities for the use of active commuters	<input type="checkbox"/>
BETTER	2.3.2 In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	<input type="checkbox"/>
<b>2.4 Bicycle repair station</b>		
BETTER	2.4.1 Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
<b>3. TRANSIT</b>		
<b>3.1 Customer amenities</b>		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	<input checked="" type="checkbox"/>
BASIC	3.1.2 Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	<input checked="" type="checkbox"/>
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	<input checked="" type="checkbox"/>
<b>4. RIDESHARING</b>		
<b>4.1 Pick-up &amp; drop-off facilities</b>		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	<input checked="" type="checkbox"/>
<b>4.2 Carpool parking</b>		
BASIC	4.2.1 Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	<input checked="" type="checkbox"/>
BETTER	4.2.2 At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	<input checked="" type="checkbox"/>
<b>5. CARSHARING &amp; BIKESHARING</b>		
<b>5.1 Carshare parking spaces</b>		
BETTER	5.1.1 Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces ( <i>see Zoning By-law Section 94</i> )	<input checked="" type="checkbox"/>
<b>5.2 Bikeshare station location</b>		
BETTER	5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	<input checked="" type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
<b>6. PARKING</b>		
<b>6.1 Number of parking spaces</b>		
<b>REQUIRED</b>	6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	<input checked="" type="checkbox"/> Variance is being applied for
<b>BASIC</b>	6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	<input checked="" type="checkbox"/>
<b>BASIC</b>	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly ( <i>see Zoning By-law Section 104</i> )	<input checked="" type="checkbox"/>
<b>BETTER</b>	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking ( <i>see Zoning By-law Section 111</i> )	<input checked="" type="checkbox"/>
<b>6.2 Separate long-term &amp; short-term parking areas</b>		
<b>BETTER</b>	6.2.1 Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	<input checked="" type="checkbox"/>
<b>7. OTHER</b>		
<b>7.1 On-site amenities to minimize off-site trips</b>		
<b>BETTER</b>	7.1.1 Provide on-site amenities to minimize mid-day or mid-commute errands	<input checked="" type="checkbox"/>

## **APPENDIX G**

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### Segment MMLOS Analysis

**Pedestrian Level of Service (PLOS)**

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed <sup>1</sup>	Segment PLOS
<b>Moodie Drive – South of Fitzgerald Road (East Side)</b>					
2.0m	>2.0m	>3,000 vpd	No	>60 km/hr	D
<b>Moodie Drive – South of Fitzgerald Road (West Side)</b>					
2.0m	>2.0m	>3,000 vpd	No	>60 km/hr	D
<b>Moodie Drive – North of Fitzgerald Road (East Side)<sup>2</sup></b>					
None	None	>3,000 vpd	No	>60 km/hr	F
<b>Moodie Drive – North of Fitzgerald Road (West Side)<sup>2</sup></b>					
None	None	>3,000 vpd	No	>60 km/hr	F
<b>Fitzgerald Road</b>					
2.0m	None	≤3,000 vpd	Yes	60 km/hr	C

1. Operating Speed identified as 10 km/h above the speed limit

2. No sidewalk between Fitzgerald Road/Menten Place and access to 299 and 300 Moodie Drive; Paved shoulders north of access. No sidewalk governs segment PLOS

**Bicycle Level of Service (BLOS)**

Road Class	Bike Route	Type of Bikeway	Travel Lanes	Centerline Markings	Operating Speed	Segment BLOS
<b>Moodie Drive – South of Fitzgerald Road (East Side)</b>						
Arterial	Spine	Bike Lane	4	N/A	60 km/hr	E
<b>Moodie Drive – South of Fitzgerald Road (West Side)</b>						
Arterial	Spine	Mixed Traffic	4	N/A	60 km/hr	F
<b>Moodie Drive – North of Fitzgerald Road (East Side)<sup>1</sup></b>						
Arterial	Spine	Mixed Traffic	4	N/A	60 km/hr	F
<b>Moodie Drive – North of Fitzgerald Road (West Side)<sup>1</sup></b>						
Arterial	Spine	Mixed Traffic	4	N/A	60 km/hr	F
<b>Fitzgerald Road</b>						
Collector	Local	Mixed Traffic	2	Yes	50km/hr	D

1. Mixed traffic between Fitzgerald Road/Menten Place and access to 299 and 300 Moodie Drive; Paved shoulders north of access. Mixed traffic governs segment PLOS

**Transit Level of Service (TLOS)**

Facility Type	Level/Exposure to Congestion Delay, Friction and Incidents			Segment TLOS
	Congestion	Friction	Incident Potential	
Moodie Drive – South of Fitzgerald Road (East Side)				
Mixed Traffic	Yes	Low	Medium	D
Moodie Drive – South of Fitzgerald Road (West Side)				
Mixed Traffic	Yes	Low	Medium	D
Moodie Drive – North of Fitzgerald Road (East Side)				
Mixed Traffic	Yes	Low	Medium	D
Moodie Drive – North of Fitzgerald Road (West Side)				
Mixed Traffic	Yes	Low	Medium	D
Fitzgerald Road				
Mixed Traffic	Yes	Low	Medium	D

**Truck Level of Service (TkLOS)**

Curb Lane Width	Number of Travel Lanes (Per Direction)	Segment TkLOS
<b>Moodie Drive – South of Fitzgerald Road (East Side)</b>		
≤3.5m	2	A
<b>Moodie Drive – South of Fitzgerald Road (West Side)</b>		
>3.7m	2	A
<b>Moodie Drive – North of Fitzgerald Road (East Side)</b>		
>3.7m	2	A
<b>Moodie Drive – North of Fitzgerald Road (West Side)</b>		
>3.7m	2	A
<b>Fitzgerald Road</b>		
>3.7m	1	B

**Auto LOS**

Direction	Directional Capacity <sup>1</sup>	Traffic Volumes			V/C Ratio and LOS						Auto LOS
		AM Peak	PM Peak	SAT Peak	AM Peak		PM Peak		SAT Peak		
					V/C	LOS	V/C	LOS	V/C	LOS	
Moodie Drive – South of Fitzgerald Road (East Side)											
NB	2000 vph	583	680	432	0.29	A	0.34	A	0.22	A	A
Moodie Drive – North of Fitzgerald Road (West Side)											
SB	2000 vph	701	874	571	0.35	A	0.44	A	0.29	A	A
Moodie Drive – North of Fitzgerald Road (East Side)											
NB	2000 vph	557	851	464	0.28	A	0.43	A	0.23	A	A
Moodie Drive – North of Fitzgerald Road (West Side)											
SB	2000 vph	960	815	574	0.48	A	0.41	A	0.29	A	A
Fitzgerald Road											
EB	600 vph	127	263	87	0.21	A	0.44	A	0.15	A	A
WB	600 vph	241	120	71	0.40	A	0.20	A	0.12	A	

1. Typical lane capacity based on the City's guidelines for the TRANS long-range transportation model

## Segment MMLOS Summary

	Segment	Moodie South of Fitzgerald	Moodie North of Fitzgerald	Fitzgerald
Pedestrian	Sidewalk Width	2.0m	None	2.0m
	Boulevard Width	>2.0m	None	None
	Average Daily Curb Lane Traffic Volume	> 3000 vpd	>3000 vpd	≤3000 vpd
	On-Street Parking	No	No	Yes
	Operating Speed	>60 km/h	>60 km/hr	60 km/hr
	Level of Service	D	F	C
	Target	C		
Cyclist	Road Classification	Arterial	Arterial	Collector
	Bike Route Classification	Spine	Spine	Local
	Type of Bikeway	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Travel Lanes	4	4	2
	Centerline Markings	N/A	N/A	Yes
	Operating Speed	60 km/h	60 km/hr	50 km/hr
	Level of Service	F	F	D
	Target	C		
Transit	Facility Type	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Friction/Congestion/Incident Potential	Limited	Limited	Limited
	Level of Service	D	D	D
	Target	-		
Truck	Lane Width	≤3.5m	>3.7m	>3.7m
	Travel Lanes (per direction)	2	2	1
	Level of Service	A	A	B
	Target	B		
Auto	Volume	874 vph	960 vph	263 vph
	Capacity	2000 vph	2000 vph	600 vph
	Volume to Capacity Ratio	0.44	0.48	0.44
	Level of Service	A	A	A
	Target	D		



## **APPENDIX H**

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### Intersection MMLOS Analysis

## Pedestrian Level of Service (PLOS)

### Moodie Drive/Timm Road

CRITERIA	North Approach		South Approach		West Approach	
PETSI SCORE						
CROSSING DISTANCE CONDITIONS						
Median > 2.4m in Width	No	55	No	55	No	88
Lanes Crossed	6		6		4	
SIGNAL PHASING AND TIMING						
Left Turn Conflict	Permissive	-8	No Left Turn/Prohibited	0	Perm + Prot	-8
Right Turn Conflict	No Right Turn/Prohibited	0	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	N/A	0	N/A	0	N/A	0
Leading Pedestrian Interval	No	-2	No	-2	No	-2
CORNER RADIUS						
Parallel Radius	No Right Turn	0	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	No Right Turn	0	Smart Channel	2	Smart Channel	2
Perpendicular Radius	> 15m to 25m	-8	N/A	0	> 15m to 25m	-8
Perpendicular Right Turn Channel	Smart Channel	2	N/A	0	Smart Channel	2
CROSSING TREATMENT						
Treatment	Standard	-7	Standard	-7	Standard	-7
PETSI SCORE		32	PETSI SCORE		35	54
LOS		E	LOS		E	D
DELAY SCORE						
Cycle Length		80		80		70
Pedestrian Walk Time		6.7		6.7		20.4
DELAY SCORE		33.6	DELAY SCORE		33.6	17.6
LOS		D	LOS		D	B
OVERALL		E	OVERALL		E	D

### Moodie Drive/Fitzgerald Road/Menten Place

CRITERIA	North Approach		South Approach		East Approach		West Approach	
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	72	No	72	No	105	No	105
Lanes Crossed	5		5		3		3	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Permissive	-8	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 10m to 15m	-6	> 5m to 10m	-5	> 10m to 15m	-6	> 5m to 10m	-5
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
PETSI SCORE		37			38			71
LOS		E			E			C
DELAY SCORE								
Cycle Length		70		70		70		70
Pedestrian Walk Time		7		7		14.3		14.3
DELAY SCORE		28.4			28.4			22.2
LOS		C			C			C
OVERALL		E			E			C

**Moodie Drive/Loblaws Access**

CRITERIA	North Approach		South Approach		East Approach	
PETS I SCORE						
CROSSING DISTANCE CONDITIONS						
Median > 2.4m in Width	No	55	No	55	No	88
Lanes Crossed	6		6		4	
SIGNAL PHASING AND TIMING						
Left Turn Conflict	No Left Turn/Prohibited	0	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	No Right Turn/Prohibited	0	Permissive or Yield	-5
Right Turn on Red	N/A	0	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2
CORNER RADIUS						
Parallel Radius	> 10m to 15m	-6	No Right Turn	0	> 15m to 25m	-8
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn	0	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT						
Treatment	Standard	-7	Standard	-7	Standard	-7
PETS I SCORE		31	PETS I SCORE		35	51
LOS		E	LOS		E	D
DELAY SCORE						
Cycle Length		70		70		70
Pedestrian Walk Time		7.4		7.4		15.1
DELAY SCORE		28	DELAY SCORE		28	21.5
LOS		C	LOS		C	C
OVERALL		E	OVERALL		E	D

**Moodie Drive/Robertson Road**

CRITERIA	North Approach		South Approach		East Approach		West Approach	
PETS I SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	23	No	23	No	6	No	6
Lanes Crossed	8		8		9		9	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Protected	0	Protected	0	Protected	0	Protected	0
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	N/A	0	N/A	0	N/A	0	N/A	0
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 10m to 15m	-6	> 10m to 15m	-6	> 10m to 15m	-6	> 10m to 15m	-6
Parallel Right Turn Channel	Smart Channel	2	Smart Channel	2	Smart Channel	2	Smart Channel	2
Perpendicular Radius	> 10m to 15m	-6	> 10m to 15m	-6	> 10m to 15m	-6	> 10m to 15m	-6
Perpendicular Right Turn Channel	Smart Channel	2	Smart Channel	2	Smart Channel	2	Smart Channel	2
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
PETS I SCORE		1	PETS I SCORE		1	PETS I SCORE		-16
LOS		F	LOS		F	LOS		F
DELAY SCORE								
Cycle Length		130		130		130		130
Pedestrian Walk Time		27.6		27.6		7.3		7.3
DELAY SCORE		40.3	DELAY SCORE		40.3	DELAY SCORE		57.9
LOS		E	LOS		E	LOS		E
OVERALL		F	OVERALL		F	OVERALL		F

**Bicycle Level of Service (BLOS)**

Approach	Bikeway Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
Moodie Drive/Timm Road				
North Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane ≤50m; Turning speed ≤25km/hr	B
		Left Turn Accommodation	No left turn	-
South Approach	Paved Shoulder	Right Turn Lane Characteristics	No impact on LTS	A
		Left Turn Accommodation	Two lanes crossed; ≥50km/hr	F
West Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane ≥50m; turning speed ≤30km/hr	D
		Left Turn Accommodation	No lanes crossed; ≥60km/hr	C
Moodie Drive/Fitzgerald Road/Menten Place				
North Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	Two lanes crossed; ≥50km/hr	F
South Approach	Bike Lane	Right Turn Lane Characteristics	No impact to LTS	A
		Left Turn Accommodation	Two lanes crossed; ≥50km/hr	F
East Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	One lane crossed; 50km/hr	D
West Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	One lane crossed; ≤40km/hr	B
Moodie Drive/Loblaws Access				
North Approach	Mixed Traffic	Right Turn Lane Characteristics	No impact to LTS	A
		Left Turn Accommodation	Two lanes crossed; ≥50km/hr	F
South Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane ≤50m; Turning speed ≤25km/hr	B
		Left Turn Accommodation	No left turn	-
East Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared right/left turn lane	A
		Left Turn Accommodation	No lanes crossed; ≤50km/hr	B

Approach	Bikeway Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
<b>Moodie Drive/Robertson Road</b>				
North Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane $\geq 50\text{m}$ ; turning speed $\leq 30\text{km/hr}$	D
		Left Turn Accommodation	Two lanes crossed; $\geq 50\text{km/hr}$ ; Dual left turn lanes	F
South Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane $\leq 50\text{m}$ ; Turning speed $\leq 25\text{km/hr}$	B
		Left Turn Accommodation	Two lanes crossed; $\geq 50\text{km/hr}$ ; Dual left turn lanes	F
East Approach	Bike Lane	Right Turn Lane Characteristics	No impact to LTS	A
		Left Turn Accommodation	Three lanes crossed; $\geq 50\text{km/hr}$	F
West Approach	Bike Lane	Right Turn Lane Characteristics	No impact to LTS	A
		Left Turn Accommodation	Three lanes crossed; $\geq 50\text{km/hr}$	F

**Transit Level of Service (TLOS)**

Approach	Facility Type	Delay <sup>1</sup>	TLOS
<b>Moodie Drive/Timm Drive</b>			
North Approach	Mixed Traffic (No TSP)	15 seconds	C
South Approach	Mixed Traffic (No TSP)	5 seconds	B
West Approach	Mixed Traffic (No TSP)	25 seconds	D
<b>Moodie Drive/Fitzgerald Road/Menten Place</b>			
North Approach	Mixed Traffic (No TSP)	10 seconds	B
South Approach	Mixed Traffic (No TSP)	10 seconds	B
East Approach	N/A (No transit service)	N/A	N/A
West Approach	Mixed Traffic (No TSP)	25 seconds	D
<b>Moodie Drive/Loblaws Access</b>			
North Approach	Mixed Traffic (No TSP)	5 seconds	B
South Approach	Mixed Traffic (No TSP)	5 seconds	B
East Approach	N/A (No transit service)	N/A	N/A
<b>Moodie Drive/Robertson Road</b>			
North Approach	Mixed Traffic (No TSP)	65 seconds	F
South Approach	Mixed Traffic (No TSP)	55 seconds	F
East Approach	High Level TSP	≤10 seconds	B
West Approach	High Level TSP	≤10 seconds	B

1. Mixed traffic delay based on approach delay in Synchro analysis

**Truck Level of Service (TkLOS)**

Approach	Effective Corner Radius	Number of Receiving Lanes on Departure from Intersection	LOS
<b>Moodie Drive/Timm Drive</b>			
North Approach	>15m	One	C
South Approach	No Right Turn	N/A	N/A
West Approach	>15m	Two	A
<b>Moodie Drive/Fitzgerald Road/Menten Place</b>			
North Approach	<10m	One	F
South Approach	10m to 15m	One	E
East Approach	10m to 15m	Two	B
West Approach	<10m	Two	D
<b>Moodie Drive/Loblaws Access</b>			
North Approach	No right turn	N/A	N/A
South Approach	>15m	One	C
East Approach	10m to 15m	Two	B
<b>Moodie Drive/Robertson Road</b>			
North Approach	10m to 15m	Three	B
South Approach	10m to 15m	Three	B
East Approach	10m to 15m	Two	B
West Approach	10m to 15m	Two	B

**Auto LOS**

Intersection	AM Peak			PM Peak			Saturday Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Moodie Drive/ Timm Road	0.56	A	EBR	0.49	A	SBT	0.30	A	SBT
Moodie Drive/ Fitzgerald Road	0.40	A	SBT/R	0.66	B	EBL	0.26	A	SBT/R
Moodie Drive/ Loblaws Access	0.27	A	SBT	0.57	A	WB	0.23	A	SBT
Moodie Drive/ Robertson Road	0.99	E	EBT	1.01	F	SBL	0.76	C	EBL

## Notes:

- Intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800vphpl, PHF: 0.90).
- Traffic signal timings obtained from City of Ottawa, included in Appendix C.
- Detailed Synchro reports are included in Appendix I.



MMLOS Summary Table

Intersection		Moodie Drive/Timm Road			Moodie Drive/Fitzgerald Road/Menten Place			
		North	South	West	North	South	East	West
Pedestrian	Median > 2.4m in Width	No	No	No	No	No	No	No
	Lanes	Six	Six	Four	Five	Five	Three	Three
	Conflicting Left Turns	Permissive	N/A	Permitted and Protected	Permissive	Permissive	Permissive	Permissive
	Conflicting Right Turns	N/A	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
	Right Turn on Red	N/A	N/A	N/A	Allowed	Allowed	Allowed	Allowed
	Ped Leading Interval	No	No	No	No	No	No	No
	Parallel Radius	N/A	>15m to 25m	>15m to 25m	>10m to 15m	>5m to 10m	>10m to 15m	>5m to 10m
	Parallel Channel	N/A	Smart Channel	Smart Channel	No Right Turn Channel	No Right Turn Channel	No Right Turn Channel	No Right Turn Channel
	Perpendicular Radius	>15m to 25m	N/A	>15m to 25m	N/A	N/A	N/A	N/A
	Perpendicular Channel	Smart Channel	N/A	Smart Channel	N/A	N/A	N/A	N/A
	Crosswalk Type	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	PETSI Score	32	35	54	37	38	70	71
	Delay Score	33.6	33.6	17.6	28.4	28.4	22.2	22.2
	Level of Service	E	E	D	E	E	C	C
	Target	E			E			
Cyclist	Type of Bikeway	Pocket Bike Lane	Paved Shoulder	Pocket Bike Lane	Mixed Traffic	Bike Lane	Mixed Traffic	Mixed Traffic
	Turning Speed	≤25km/hr	N/A	≤30km/hr	N/A	N/A	N/A	N/A
	Right Turn Storage	≤50m	N/A	≥50m	N/A	N/A	N/A	N/A
	Dual Right Turn Lanes	No	N/A	No	No	No	No	No
	Shared Through-Right Lane	No	N/A	No	Yes	Yes	Yes	Yes
	Bike Box	No	No	No	No	No	No	No
	Lanes Crossed for Left Turns	N/A	Two	None	Two	Two	One	One
	Dual Left Turn Lanes	N/A	No	No	No	No	No	No
	Approach Speed	60km/hr	60km/hr	80km/hr	60km/hr	60km/hr	50km/hr	40km/hr
	Level of Service	B	F	D	F	F	D	B
	Target	F			F			
	Target	C			C			
Transit	Average Signal Delay	15 seconds	5 seconds	25 seconds	10 seconds	10 seconds	N/A	25 seconds
	Level of Service	C	B	D	B	B	N/A	D
	Target	D			D			
Truck	Turning Radius	>15m	N/A	>15m	<10m	10m to 15m	10m to 15m	<10m
	Receiving Lanes	One	N/A	Two	One	One	Two	Two
	Level of Service	C	N/A	A	F	E	B	D
	Target	C			F			
Auto	Level of Service	A			B			
	Target	D			D			

Intersection		Moodie Drive/Loblaws Access			Moodie Drive/Robertson Road			
		North	South	East	North	South	East	West
Pedestrian	Island Refuge	No	No	No	No	No	No	No
	Lanes	Six	Six	Four	Eight	Eight	Nine	Nine
	Conflicting Left Turns	N/A	Permissive	Permissive	Protected	Protected	Protected	Protected
	Conflicting Right Turns	Permissive	N/A	Permissive	Permissive	Permissive	Permissive	Permissive
	Right Turn on Red	N/A	Allowed	Allowed	N/A	N/A	N/A	N/A
	Ped Leading Interval	No	No	No	N/A	N/A	N/A	N/A
	Parallel Radius	>10m to 15m	N/A	>15m to 25m	>10m to 15m	>10m to 15m	>10m to 15m	>10m to 15m
	Parallel Channel	No Right Turn Channel	N/A	No Right Turn Channel	Smart Channel	Smart Channel	Smart Channel	Smart Channel
	Perpendicular Radius	N/A	N/A	N/A	>10m to 15m	>10m to 15m	>10m to 15m	>10m to 15m
	Perpendicular Channel	N/A	N/A	N/A	Smart Channel	Smart Channel	Smart Channel	Smart Channel
	Crosswalk Type	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	PETSI Score	31	35	51	1	1	-16	-16
	Delay Score	28	28	21.5	40.3	40.3	57.9	57.9
	Level of Service	E	E	D	F	F	F	F
	Target	E			F			
Cyclist	Type of Bikeway	Mixed Traffic	Pocket Bike Lane	Mixed Traffic	Pocket Bike Lane	Pocket Bike Lane	Bike Lane	Bike Lane
	Turning Speed	N/A	≤25km/hr	N/A	≤30km/hr	≤25km/hr	N/A	N/A
	Right Turn Storage	N/A	≤50m	N/A	≥50m	≤50m	N/A	N/A
	Dual Right Turn Lanes	N/A	No	No	No	No	No	No
	Shared Through-Right Lane	N/A	No	Yes	No	No	No	No
	Bike Box	No	N/A	No	No	No	No	No
	Lanes Crossed for Left Turns	Two	N/A	None	Two	Two	Three	Three
	Dual Left Turn Lanes	No	N/A	No	Yes	Yes	No	No
	Approach Speed	60km/hr	60km/hr	40km/hr	60km/hr	60km/hr	60km/hr	60km/hr
	Level of Service	F	B	B	F	F	F	F
	Target	F			F			
	Target	C			B			
Transit	Average Signal Delay	5 seconds	5 seconds	N/A	65 seconds	55 seconds	≤10 seconds	≤10 seconds
	Level of Service	B	B	N/A	F	F	B	B
	Target	B			F			
Truck	Turning Radius	N/A	>15m	10m to 15m	10m to 15m	10m to 15m	10m to 15m	10m to 15m
	Receiving Lanes	N/A	One	Two	Three	Three	Two	Two
	Level of Service	N/A	C	B	B	B	B	B
	Target	C			B			
	Target	B			D			
Auto	Level of Service	A			F			
	Target	D			D			

## **APPENDIX I**

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### Synchro Analysis Reports

1: Moodie Dr & Timm Dr  
AM Peak

300 Moodie Drive  
Existing Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	102	174	46	456	786	63
Future Volume (vph)	102	174	46	456	786	63
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99				
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1712	1517	1695	3325	3325	1502
Flt Permitted	0.950		0.311			
Satd. Flow (perm)	1712	1497	555	3325	3325	1502
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		149				70
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	2%	4%	4%	3%
Adj. Flow (vph)	113	193	51	507	873	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	193	51	507	873	70
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	15.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	52.0	52.0	52.0	52.0
Total Split (%)	35.2%	35.2%	64.8%	64.8%	64.8%	64.8%
Maximum Green (s)	22.0	22.0	46.4	46.4	46.4	46.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9

1: Moodie Dr & Timm Dr  
AM Peak

300 Moodie Drive  
Existing Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.6	11.6	56.8	56.8	56.8	56.8
Actuated g/C Ratio	0.14	0.14	0.71	0.71	0.71	0.71
v/c Ratio	0.46	0.56	0.13	0.22	0.37	0.06
Control Delay	37.4	16.1	5.2	4.5	5.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	16.1	5.2	4.5	5.4	1.4
LOS	D	B	A	A	A	A
Approach Delay	23.9			4.6	5.1	
Approach LOS	C			A	A	
Queue Length 50th (m)	16.3	6.1	2.0	10.9	21.7	0.0
Queue Length 95th (m)	29.5	23.3	6.5	19.7	36.9	3.5
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	469	518	392	2353	2353	1083
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	0.24	0.37	0.13	0.22	0.37	0.06

Intersection Summary

Area Type: Other

Cycle Length: 80.3

Actuated Cycle Length: 80.3

Offset: 6 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 8.1

Intersection LOS: A

Intersection Capacity Utilization 54.2%

ICU Level of Service A





















Analysis Period (min) 15

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
AM Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	28	25	18	6	8	49	470	64	111	658	186
Future Volume (vph)	74	28	25	18	6	8	49	470	64	111	658	186
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Frt		0.929			0.916			0.982			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	1534	0	1729	1413	0	1695	3289	0	1712	3211	0
Flt Permitted	0.747			0.719			0.287			0.428		
Satd. Flow (perm)	1317	1534	0	1305	1413	0	512	3289	0	768	3211	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			9			27			65	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	3		3	3		3	3		6	6		3
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
Heavy Vehicles (%)	3%	0%	20%	0%	17%	17%	2%	3%	2%	1%	4%	2%
Adj. Flow (vph)	82	31	28	20	7	9	54	522	71	123	731	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	59	0	20	16	0	54	593	0	123	938	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%		57.5%	57.5%		57.5%	57.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0		40.3	40.3		40.3	40.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
AM Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	14.1	14.1		14.1	14.1		58.5	58.5		58.5	58.5	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.73	0.73		0.73	0.73	
v/c Ratio	0.35	0.20		0.09	0.06		0.14	0.25		0.22	0.40	
Control Delay	31.1	16.6		24.7	16.1		5.6	3.7		8.1	6.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.1	16.6		24.7	16.1		5.6	3.7		8.1	6.7	
LOS	C	B		C	B		A	A		A	A	
Approach Delay		25.0			20.9			3.8			6.9	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	11.8	4.3		2.7	1.0		0.4	0.0		5.0	21.3	
Queue Length 95th (m)	18.2	10.6		6.3	4.5		11.7	37.4		22.1	62.5	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	460	555		456	500		374	2413		561	2366	
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	0.18	0.11		0.04	0.03		0.14	0.25		0.22	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 68 (85%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 7.5

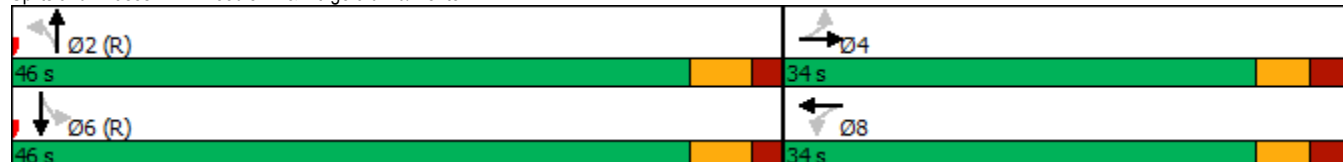
Intersection LOS: A

Intersection Capacity Utilization 60.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI



3: Moodie Dr & Loblaw's  
AM Peak







300 Moodie Drive  
Existing Traffic

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	18	567	15	21	676
Future Volume (vph)	16	18	567	15	21	676
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.929			0.850		
Flt Protected	0.977				0.950	
Satd. Flow (prot)	1515	0	3325	1547	1517	3325
Flt Permitted	0.977				0.413	
Satd. Flow (perm)	1515	0	3325	1547	659	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	20			17		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	19%	0%	4%	0%	14%	4%
Adj. Flow (vph)	18	20	630	17	23	751
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	630	17	23	751
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		47.0	47.0	47.0	47.0
Total Split (%)	41.3%		58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	27.4		41.1	41.1	41.1	41.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9



3: Moodie Dr & Loblaws  
AM Peak

300 Moodie Drive  
Existing Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	10.0		67.1	67.1	67.1	67.1
Actuated g/C Ratio	0.12		0.84	0.84	0.84	0.84
v/c Ratio	0.18		0.23	0.01	0.04	0.27
Control Delay	21.9		2.8	1.5	3.5	2.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	21.9		2.8	1.5	3.5	2.9
LOS	C		A	A	A	A
Approach Delay	21.9		2.7			2.9
Approach LOS	C		A			A
Queue Length 50th (m)	2.5		13.4	0.0	0.8	15.8
Queue Length 95th (m)	10.7		18.6	1.3	m2.5	24.5
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	532		2789	1300	552	2789
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.07		0.23	0.01	0.04	0.27

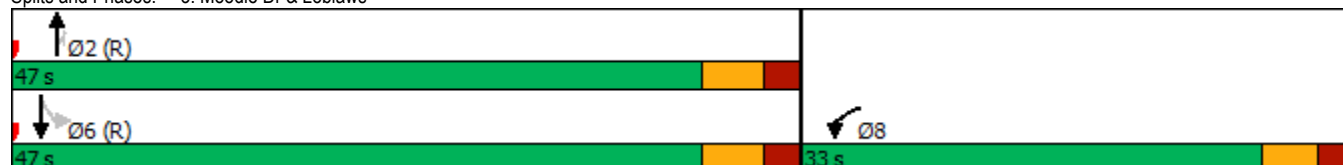
Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 58 (73%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.27  
 Intersection Signal Delay: 3.3  
 Intersection Capacity Utilization 37.6%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1211	112	81	307	152	225	361	309	356	176	107
Future Volume (vph)	70	1211	112	81	307	152	225	361	309	356	176	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1631	3390	1473	1712	3232	1517	3321	3325	1532	3288	3232	1459
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1622	3390	1447	1710	3232	1486	3289	3325	1506	3273	3232	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139			169			137			137
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	6		4	4		6	6		4	4		6
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
Heavy Vehicles (%)	6%	2%	5%	1%	7%	2%	1%	4%	1%	2%	7%	6%
Adj. Flow (vph)	78	1346	124	90	341	169	250	401	343	396	196	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	1346	124	90	341	169	250	401	343	396	196	119
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	15.0	54.0	54.0	15.0	54.0	54.0	23.0	38.0	38.0	23.0	38.0	38.0
Total Split (%)	11.5%	41.5%	41.5%	11.5%	41.5%	41.5%	17.7%	29.2%	29.2%	17.7%	29.2%	29.2%
Maximum Green (s)	8.6	47.6	47.6	8.6	47.6	47.6	16.5	31.3	31.3	16.5	31.3	31.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	9.5	52.3	52.3	10.1	52.9	52.9	14.4	25.1	25.1	16.5	27.1	27.1
Actuated g/C Ratio	0.07	0.40	0.40	0.08	0.41	0.41	0.11	0.19	0.19	0.13	0.21	0.21
v/c Ratio	0.66	0.99	0.19	0.68	0.26	0.24	0.68	0.63	0.86	0.95	0.29	0.29
Control Delay	83.9	60.5	3.9	83.3	27.5	4.9	65.0	51.9	49.8	89.3	43.7	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.9	60.5	3.9	83.3	27.5	4.9	65.0	51.9	49.8	89.3	43.7	6.3
LOS	F	E	A	F	C	A	E	D	D	F	D	A
Approach Delay		57.1			29.5			54.5			62.8	
Approach LOS		E			C			D			E	
Queue Length 50th (m)	19.4	~202.4	0.0	22.2	31.8	0.0	32.0	49.4	52.7	52.6	22.2	0.0
Queue Length 95th (m)	#45.3	#245.7	9.9	#52.4	44.4	14.6	45.4	63.0	86.0	#82.9	32.2	11.2
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	121	1364	665	133	1315	705	421	800	466	417	778	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.99	0.19	0.68	0.26	0.24	0.59	0.50	0.74	0.95	0.25	0.27

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 119 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 53.2

Intersection LOS: D

Intersection Capacity Utilization 84.9%

ICU Level of Service E

Analysis Period (min) 15

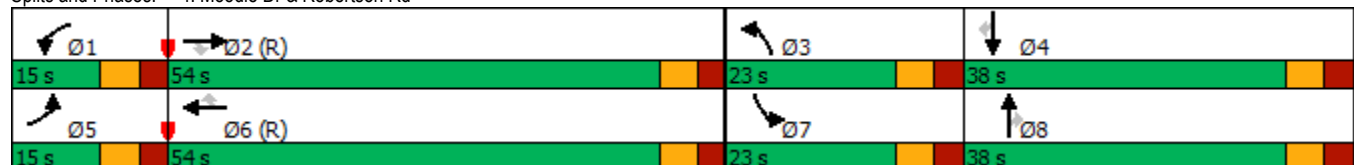
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd



1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
Existing Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	59	147	734	773	149
Future Volume (vph)	54	59	147	734	773	149
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1547	1712	3390	3357	1547
Flt Permitted	0.950		0.235			
Satd. Flow (perm)	1695	1547	423	3390	3357	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		66				166
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	1%	2%	3%	0%
Adj. Flow (vph)	60	66	163	816	859	166
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	66	163	816	859	166
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6

1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
Existing Traffic



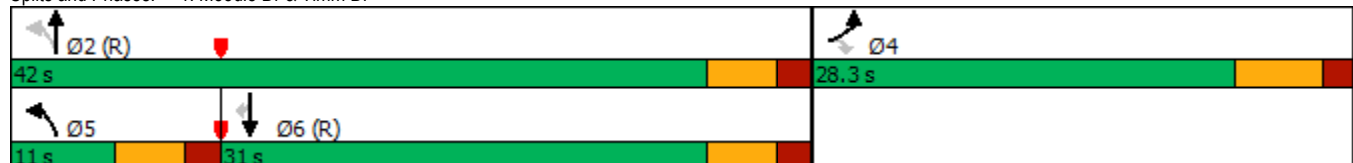
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	49.3	50.4	36.7	36.7
Actuated g/C Ratio	0.18	0.18	0.70	0.72	0.52	0.52
v/c Ratio	0.20	0.20	0.38	0.34	0.49	0.19
Control Delay	24.7	7.7	8.4	6.2	14.2	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	7.7	8.4	6.2	14.2	3.2
LOS	C	A	A	A	B	A
Approach Delay	15.8			6.6	12.5	
Approach LOS	B			A	B	
Queue Length 50th (m)	7.2	0.0	6.1	19.0	37.7	0.0
Queue Length 95th (m)	13.2	7.6	19.9	46.3	69.3	10.7
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	530	529	424	2429	1752	886
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	0.11	0.12	0.38	0.34	0.49	0.19

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.49  
Intersection Signal Delay: 10.0  
Intersection Capacity Utilization 54.1%  
Analysis Period (min) 15





















Intersection LOS: A  
ICU Level of Service A

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
PM Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	6	67	91	20	55	31	603	46	27	716	69
Future Volume (vph)	190	6	67	91	20	55	31	603	46	27	716	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Frt		0.863			0.890			0.989			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	1508	0	1695	1605	0	1453	3341	0	1662	3328	0
Flt Permitted	0.703			0.704			0.290			0.357		
Satd. Flow (perm)	1266	1508	0	1253	1605	0	443	3341	0	622	3328	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			61			14			18	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	1		4	4		1	2		8	8		2
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
Heavy Vehicles (%)	1%	0%	3%	2%	0%	0%	19%	2%	4%	4%	2%	6%
Adj. Flow (vph)	211	7	74	101	22	61	34	670	51	30	796	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	81	0	101	83	0	34	721	0	30	873	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
PM Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	17.8	17.8		17.8	17.8		40.5	40.5		40.5	40.5	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.58	0.58		0.58	0.58	
v/c Ratio	0.66	0.18		0.32	0.18		0.13	0.37		0.08	0.45	
Control Delay	31.9	6.1		21.5	7.9		8.8	7.2		10.2	10.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.9	6.1		21.5	7.9		8.8	7.2		10.2	10.6	
LOS	C	A		C	A		A	A		B	B	
Approach Delay		24.7			15.4			7.3			10.6	
Approach LOS		C			B			A			B	
Queue Length 50th (m)	25.1	0.7		10.9	2.2		1.5	15.6		1.5	29.2	
Queue Length 95th (m)	35.9	7.6		17.9	9.0		4.8	25.0		7.1	60.3	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	506	647		501	678		255	1937		359	1931	
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	0.42	0.13		0.20	0.12		0.13	0.37		0.08	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 11.8

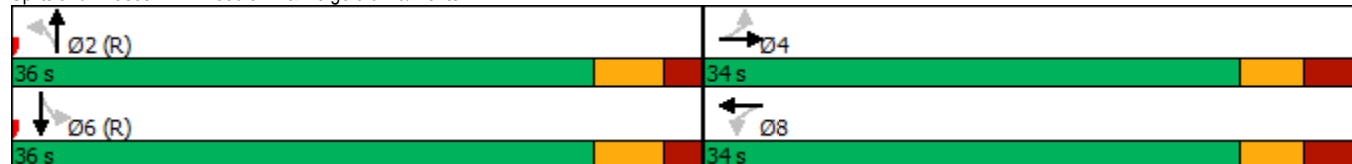
Intersection LOS: B

Intersection Capacity Utilization 55.4%

ICU Level of Service B












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI



3: Moodie Dr & Loblaws  
PM Peak


300 Moodie Drive  
Existing Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	107	51	615	52	75	800
Future Volume (vph)	107	51	615	52	75	800
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99			0.98	1.00	
Frt	0.956			0.850		
Flt Protected	0.967				0.950	
Satd. Flow (prot)	1538	0	3357	1547	1712	3357
Flt Permitted	0.967				0.391	
Satd. Flow (perm)	1538	0	3357	1511	704	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	40			58		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)		10		2	2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	11%	4%	3%	0%	1%	3%
Adj. Flow (vph)	119	57	683	58	83	889
Shared Lane Traffic (%)						
Lane Group Flow (vph)	176	0	683	58	83	889
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2



3: Moodie Dr & Loblaws  
PM Peak

300 Moodie Drive  
Existing Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.7		45.8	45.8	45.8	45.8
Actuated g/C Ratio	0.18		0.65	0.65	0.65	0.65
v/c Ratio	0.57		0.31	0.06	0.18	0.40
Control Delay	26.9		6.1	2.0	3.5	3.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	26.9		6.1	2.0	3.5	3.1
LOS	C		A	A	A	A
Approach Delay	26.9		5.8			3.2
Approach LOS	C		A			A
Queue Length 50th (m)	16.5		16.4	0.0	1.7	9.9
Queue Length 95th (m)	31.1		31.0	3.8	4.0	14.2
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	626		2198	1009	460	2198
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.28		0.31	0.06	0.18	0.40

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 6.4

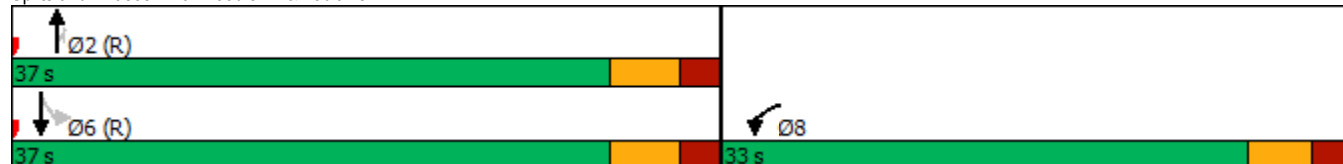
Intersection LOS: A

Intersection Capacity Utilization 55.5%

ICU Level of Service B

























Analysis Period (min) 15

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	536	269	225	901	325	225	225	148	287	433	194
Future Volume (vph)	120	536	269	225	901	325	225	225	148	287	433	194
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.98	0.99		0.96	0.97		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	3390	1517	1729	3424	1532	3288	3293	1532	3288	3357	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	3390	1469	1714	3424	1503	3249	3293	1477	3194	3357	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			299			361			164			216
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	5		15	15		5	12		21	21		12
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
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	2%	5%	1%	2%	3%	2%
Adj. Flow (vph)	133	596	299	250	1001	361	250	250	164	319	481	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	596	299	250	1001	361	250	250	164	319	481	216
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	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	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	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	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	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	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	20.0	39.0	39.0	25.0	44.0	44.0	18.0	38.0	38.0	18.0	38.0	38.0
Total Split (%)	16.7%	32.5%	32.5%	20.8%	36.7%	36.7%	15.0%	31.7%	31.7%	15.0%	31.7%	31.7%
Maximum Green (s)	13.6	32.6	32.6	18.6	37.6	37.6	11.5	31.3	31.3	11.5	31.3	31.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	13.9	37.1	37.1	22.0	45.1	45.1	11.4	23.4	23.4	11.5	23.6	23.6
Actuated g/C Ratio	0.12	0.31	0.31	0.18	0.38	0.38	0.10	0.20	0.20	0.10	0.20	0.20
v/c Ratio	0.68	0.57	0.45	0.79	0.78	0.46	0.80	0.39	0.39	1.01	0.73	0.47
Control Delay	68.6	38.4	6.2	65.4	39.5	5.1	73.0	42.9	8.4	107.8	51.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	38.4	6.2	65.4	39.5	5.1	73.0	42.9	8.4	107.8	51.7	8.3
LOS	E	D	A	E	D	A	E	D	A	F	D	A
Approach Delay		33.0			35.8			45.7			60.1	
Approach LOS		C			D			D			E	
Queue Length 50th (m)	30.2	64.1	0.0	54.9	109.8	0.0	30.2	27.2	0.0	~40.0	56.5	0.0
Queue Length 95th (m)	#53.6	84.7	21.2	#103.1	#160.0	21.3	#49.3	36.8	16.4	#69.3	69.6	18.4
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	208	1048	660	316	1287	790	315	858	506	315	875	545
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.57	0.45	0.79	0.78	0.46	0.79	0.29	0.32	1.01	0.55	0.40

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 42.4

Intersection LOS: D

Intersection Capacity Utilization 83.1%

ICU Level of Service E

Analysis Period (min) 15

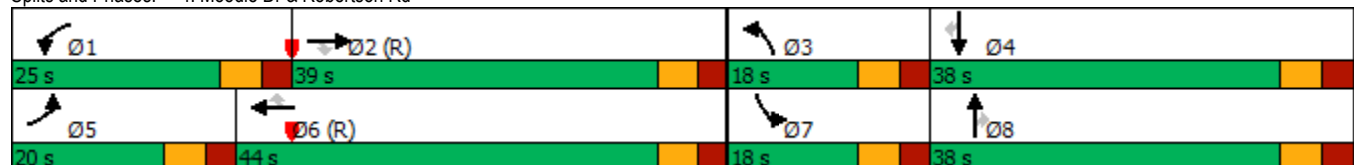
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd



1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
Existing Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	62	63	468	535	28
Future Volume (vph)	20	62	63	468	535	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1729	1547	1729	3424	3424	1547
Flt Permitted	0.950		0.359			
Satd. Flow (perm)	1729	1547	653	3424	3424	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		69				31
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%
Adj. Flow (vph)	22	69	70	520	594	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	69	70	520	594	31
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6

1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
Existing Traffic



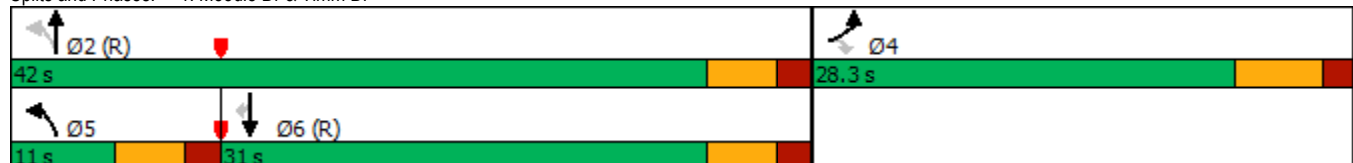
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	49.3	50.4	41.0	41.0
Actuated g/C Ratio	0.18	0.18	0.70	0.72	0.58	0.58
v/c Ratio	0.07	0.21	0.13	0.21	0.30	0.03
Control Delay	22.2	7.5	6.3	5.5	11.5	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	7.5	6.3	5.5	11.5	5.4
LOS	C	A	A	A	B	A
Approach Delay	11.1			5.6	11.2	
Approach LOS	B			A	B	
Queue Length 50th (m)	2.6	0.0	2.5	10.8	22.3	0.0
Queue Length 95th (m)	6.4	7.6	9.8	27.7	44.6	4.8
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	541	531	549	2453	1996	914
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	0.04	0.13	0.13	0.21	0.30	0.03

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.30  
Intersection Signal Delay: 8.7  
Intersection Capacity Utilization 42.7%  
Analysis Period (min) 15





















Intersection LOS: A  
ICU Level of Service A

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
Saturday Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	3	32	19	2	17	27	395	10	12	520	42
Future Volume (vph)	52	3	32	19	2	17	27	395	10	12	520	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				0.99		1.00	1.00		1.00	1.00	
Frt		0.862			0.864			0.996			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	1436	0	1729	1551	0	1729	3409	0	1729	3370	0
Flt Permitted	0.744			0.732			0.415			0.492		
Satd. Flow (perm)	1350	1436	0	1332	1551	0	754	3409	0	894	3370	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			19			4			15	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	4					4	2		2	2		2
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
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%	0%	1%	0%	0%	1%	5%
Adj. Flow (vph)	58	3	36	21	2	19	30	439	11	13	578	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	39	0	21	21	0	30	450	0	13	625	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
Saturday Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	13.6	13.6		13.6	13.6		49.0	49.0		49.0	49.0	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.70	0.70		0.70	0.70	
v/c Ratio	0.22	0.13		0.08	0.07		0.06	0.19		0.02	0.26	
Control Delay	23.4	8.2		20.4	9.3		6.4	5.1		8.0	6.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.4	8.2		20.4	9.3		6.4	5.1		8.0	6.7	
LOS	C	A		C	A		A	A		A	A	
Approach Delay		17.3			14.8			5.2			6.7	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	6.9	0.3		2.4	0.3		1.0	8.6		0.5	13.0	
Queue Length 95th (m)	11.2	5.3		5.5	3.9		4.2	16.2		3.8	40.2	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	540	596		532	631		528	2389		626	2365	
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	0.11	0.07		0.04	0.03		0.06	0.19		0.02	0.26	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 7.2

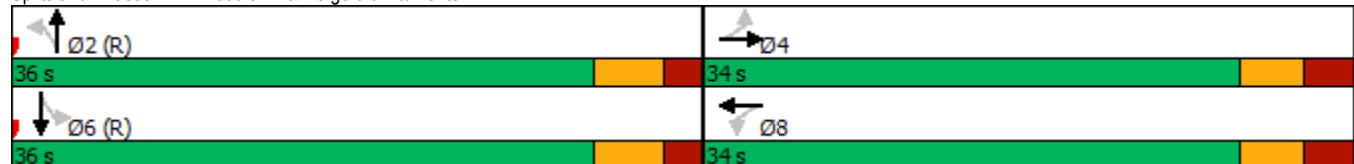
Intersection LOS: A

Intersection Capacity Utilization 43.6%

ICU Level of Service A












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI



3: Moodie Dr & Loblaws  
Saturday Peak

300 Moodie Drive  
Existing Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	27	35	397	109	21	550
Future Volume (vph)	27	35	397	109	21	550
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00					
Frt	0.924			0.850		
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1646	0	3424	1547	1729	3424
Flt Permitted	0.979				0.496	
Satd. Flow (perm)	1646	0	3424	1547	903	3424
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	39			121		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)	1					
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	30	39	441	121	23	611
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	441	121	23	611
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2



3: Moodie Dr & Loblaws  
Saturday Peak

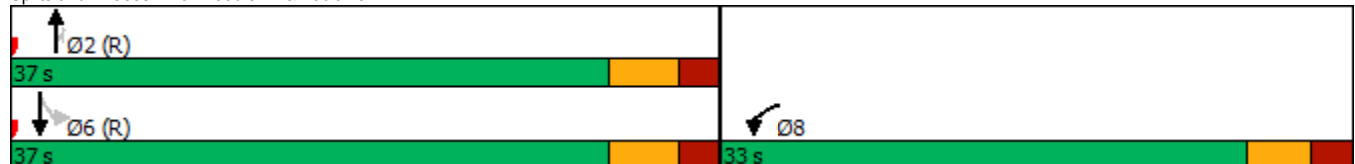
300 Moodie Drive  
Existing Traffic

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	2		2	2		
Act Effct Green (s)	13.4		53.7	53.7	53.7	53.7
Actuated g/C Ratio	0.19		0.77	0.77	0.77	0.77
v/c Ratio	0.20		0.17	0.10	0.03	0.23
Control Delay	12.4		5.5	2.3	2.1	1.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	12.4		5.5	2.3	2.1	1.5
LOS	B		A	A	A	A
Approach Delay	12.4		4.8			1.6
Approach LOS	B		A			A
Queue Length 50th (m)	3.5		8.6	0.0	0.3	3.4
Queue Length 95th (m)	9.3		27.3	7.7	1.1	6.5
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	668		2626	1215	692	2626
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.10		0.17	0.10	0.03	0.23

Intersection Summary

























Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.23	
Intersection Signal Delay: 3.6	Intersection LOS: A
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	717	189	174	587	113	240	236	191	214	206	157
Future Volume (vph)	157	717	189	174	587	113	240	236	191	214	206	157
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.99	1.00			1.00		0.97	0.98		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3424	1547	1729	3424	1532	3321	3424	1532	3321	3424	1532
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1729	3424	1524	1727	3424	1532	3316	3424	1489	3258	3424	1511
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			210			139			212			174
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)			2	2			1		13	13		1
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
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	174	797	210	193	652	126	267	262	212	238	229	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	797	210	193	652	126	267	262	212	238	229	174
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	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	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	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	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	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	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	26.0	35.0	35.0	31.0	40.0	40.0	27.0	37.7	37.7	27.0	37.7	37.7
Total Split (%)	19.9%	26.8%	26.8%	23.7%	30.6%	30.6%	20.7%	28.8%	28.8%	20.7%	28.8%	28.8%
Maximum Green (s)	19.6	28.6	28.6	24.6	33.6	33.6	20.5	31.0	31.0	20.5	31.0	31.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	17.4	52.5	52.5	19.5	54.6	54.6	15.8	18.1	18.1	14.6	16.9	16.9
Actuated g/C Ratio	0.13	0.40	0.40	0.15	0.42	0.42	0.12	0.14	0.14	0.11	0.13	0.13
v/c Ratio	0.76	0.58	0.28	0.75	0.46	0.17	0.67	0.55	0.55	0.64	0.52	0.50
Control Delay	74.9	35.2	6.0	70.8	31.5	5.0	63.1	55.9	11.0	63.4	55.9	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.9	35.2	6.0	70.8	31.5	5.0	63.1	55.9	11.0	63.4	55.9	11.4
LOS	E	D	A	E	C	A	E	E	B	E	E	B
Approach Delay		35.9			35.9			45.6			46.6	
Approach LOS		D			D			D			D	
Queue Length 50th (m)	43.4	80.4	0.0	48.1	61.1	0.0	34.4	34.4	0.0	30.7	30.1	0.0
Queue Length 95th (m)	67.3	#158.4	20.0	70.8	103.0	12.4	47.0	41.5	19.2	42.8	37.2	17.8
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	264	1375	737	326	1430	721	520	819	517	520	812	491
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.58	0.28	0.59	0.46	0.17	0.51	0.32	0.41	0.46	0.28	0.35

Intersection Summary

Area Type: Other

Cycle Length: 130.7

Actuated Cycle Length: 130.7

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 39.9

Intersection LOS: D

Intersection Capacity Utilization 75.3%













ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

























Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
31 s	35 s		27 s	37.7 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
26 s	40 s		27 s	37.7 s	













4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
Existing Traffic - Optimized

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	536	269	225	901	325	225	225	148	287	433	194
Future Volume (vph)	120	536	269	225	901	325	225	225	148	287	433	194
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.98	0.99		0.96	0.97		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	3390	1517	1729	3424	1532	3288	3293	1532	3288	3357	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	3390	1469	1714	3424	1503	3249	3293	1477	3194	3357	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			299			361			206			216
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	5		15	15		5	12		21	21		12
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
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	2%	5%	1%	2%	3%	2%
Adj. Flow (vph)	133	596	299	250	1001	361	250	250	164	319	481	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	596	299	250	1001	361	250	250	164	319	481	216
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	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	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	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	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	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	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	18.0	34.1	34.1	28.2	44.3	44.3	18.4	37.7	37.7	20.0	39.3	39.3
Total Split (%)	15.0%	28.4%	28.4%	23.5%	36.9%	36.9%	15.3%	31.4%	31.4%	16.7%	32.8%	32.8%
Maximum Green (s)	11.6	27.7	27.7	21.8	37.9	37.9	11.9	31.0	31.0	13.5	32.6	32.6
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
Existing Traffic - Optimized

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	14.4	36.9	36.9	21.9	44.4	44.4	11.7	21.8	21.8	13.5	23.6	23.6
Actuated g/C Ratio	0.12	0.31	0.31	0.18	0.37	0.37	0.10	0.18	0.18	0.11	0.20	0.20
v/c Ratio	0.66	0.57	0.45	0.79	0.79	0.46	0.78	0.42	0.38	0.87	0.73	0.47
Control Delay	66.5	39.5	6.6	65.1	40.6	5.2	70.5	44.7	4.6	75.7	51.6	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	39.5	6.6	65.1	40.6	5.2	70.5	44.7	4.6	75.7	51.6	8.3
LOS	E	D	A	E	D	A	E	D	A	E	D	A
Approach Delay		33.4			36.4			44.5			50.0	
Approach LOS		C			D			D			D	
Queue Length 50th (m)	29.9	63.0	0.0	56.0	111.9	0.0	30.0	27.7	0.0	38.6	56.5	0.0
Queue Length 95th (m)	#56.4	89.8	22.8	#85.4	#158.9	21.2	#47.9	37.5	8.4	#62.4	69.5	18.4
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	204	1041	658	337	1265	783	326	850	534	369	911	558
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.57	0.45	0.74	0.79	0.46	0.77	0.29	0.31	0.86	0.53	0.39

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 40.1

Intersection LOS: D

Intersection Capacity Utilization 83.1%













ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

























Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
28.2 s	34.1 s		18.4 s	39.3 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
18 s	44.3 s		20 s	37.7 s	













4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
Existing Traffic - Reduction

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1101	112	81	307	152	225	361	309	331	176	107
Future Volume (vph)	70	1101	112	81	307	152	225	361	309	331	176	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1631	3390	1473	1712	3232	1517	3321	3325	1532	3288	3232	1459
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1622	3390	1447	1710	3232	1486	3289	3325	1506	3273	3232	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139			169			141			137
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	6		4	4		6	6		4	4		6
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
Heavy Vehicles (%)	6%	2%	5%	1%	7%	2%	1%	4%	1%	2%	7%	6%
Adj. Flow (vph)	78	1223	124	90	341	169	250	401	343	368	196	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	1223	124	90	341	169	250	401	343	368	196	119
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	15.0	54.0	54.0	15.0	54.0	54.0	23.0	38.0	38.0	23.0	38.0	38.0
Total Split (%)	11.5%	41.5%	41.5%	11.5%	41.5%	41.5%	17.7%	29.2%	29.2%	17.7%	29.2%	29.2%
Maximum Green (s)	8.6	47.6	47.6	8.6	47.6	47.6	16.5	31.3	31.3	16.5	31.3	31.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
Existing Traffic - Reduction

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	9.6	52.6	52.6	10.2	53.2	53.2	14.4	24.9	24.9	16.4	26.8	26.8
Actuated g/C Ratio	0.07	0.40	0.40	0.08	0.41	0.41	0.11	0.19	0.19	0.13	0.21	0.21
v/c Ratio	0.65	0.89	0.19	0.68	0.26	0.24	0.68	0.63	0.85	0.89	0.29	0.30
Control Delay	83.3	46.5	3.9	82.8	27.3	4.9	65.0	52.2	49.0	79.8	43.9	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.3	46.5	3.9	82.8	27.3	4.9	65.0	52.2	49.0	79.8	43.9	6.3
LOS	F	D	A	F	C	A	E	D	D	E	D	A
Approach Delay		44.8			29.3			54.3			56.7	
Approach LOS		D			C			D			E	
Queue Length 50th (m)	19.4	161.1	0.0	22.2	31.6	0.0	32.0	49.6	51.7	48.5	22.3	0.0
Queue Length 95th (m)	#45.3	#210.7	9.9	#52.4	44.4	14.6	45.4	63.0	84.8	#74.6	32.2	11.2
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	122	1371	667	134	1322	708	421	800	469	417	778	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.89	0.19	0.67	0.26	0.24	0.59	0.50	0.73	0.88	0.25	0.27

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 119 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 47.0

Intersection LOS: D

Intersection Capacity Utilization 80.9%













ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
15 s	54 s		23 s	38 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
15 s	54 s		23 s	38 s	

1: Moodie Dr & Timm Dr  
Timing Plan: AM Peak

300 Moodie Drive  
2020 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	188	50	474	818	68
Future Volume (vph)	110	188	50	474	818	68
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99				
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1712	1517	1695	3325	3325	1502
Flt Permitted	0.950		0.333			
Satd. Flow (perm)	1712	1497	594	3325	3325	1502
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		170				68
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	2%	2%	4%	4%	3%
Adj. Flow (vph)	110	188	50	474	818	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	110	188	50	474	818	68
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	15.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	52.0	52.0	52.0	52.0
Total Split (%)	35.2%	35.2%	64.8%	64.8%	64.8%	64.8%
Maximum Green (s)	22.0	22.0	46.4	46.4	46.4	46.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9



1: Moodie Dr & Timm Dr  
Timing Plan: AM Peak

300 Moodie Drive  
2020 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.4	11.4	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.14	0.14	0.71	0.71	0.71	0.71
v/c Ratio	0.45	0.52	0.12	0.20	0.35	0.06
Control Delay	37.3	12.5	5.0	4.4	5.2	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	12.5	5.0	4.4	5.2	1.4
LOS	D	B	A	A	A	A
Approach Delay	21.6			4.5	4.9	
Approach LOS	C			A	A	
Queue Length 50th (m)	15.9	2.5	1.9	10.0	19.6	0.0
Queue Length 95th (m)	29.0	18.7	6.2	18.2	33.5	3.4
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	469	533	421	2358	2358	1084
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	0.23	0.35	0.12	0.20	0.35	0.06

Intersection Summary

Area Type: Other

Cycle Length: 80.3

Actuated Cycle Length: 80.3

Offset: 6 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 7.7

Intersection LOS: A

Intersection Capacity Utilization 55.1%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
Timing Plan: AM Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	28	25	18	6	8	49	489	64	111	685	186
Future Volume (vph)	74	28	25	18	6	8	49	489	64	111	685	186
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Frt		0.929			0.914			0.983			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	1534	0	1729	1410	0	1695	3293	0	1712	3215	0
Flt Permitted	0.748			0.722			0.312			0.445		
Satd. Flow (perm)	1318	1534	0	1311	1410	0	556	3293	0	798	3215	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			8			26			62	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	3		3	3		3	3		6	6		3
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
Heavy Vehicles (%)	3%	0%	20%	0%	17%	17%	2%	3%	2%	1%	4%	2%
Adj. Flow (vph)	74	28	25	18	6	8	49	489	64	111	685	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	53	0	18	14	0	49	553	0	111	871	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%		57.5%	57.5%		57.5%	57.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0		40.3	40.3		40.3	40.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
Timing Plan: AM Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	13.9	13.9		13.9	13.9		58.7	58.7		58.7	58.7	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.73	0.73		0.73	0.73	
v/c Ratio	0.32	0.18		0.08	0.06		0.12	0.23		0.19	0.37	
Control Delay	30.5	16.7		24.6	16.4		5.7	4.2		7.7	6.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.5	16.7		24.6	16.4		5.7	4.2		7.7	6.4	
LOS	C	B		C	B		A	A		A	A	
Approach Delay		24.7			21.0			4.3			6.6	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	10.6	3.9		2.5	0.8		1.9	11.6		4.3	18.8	
Queue Length 95th (m)	16.7	9.9		6.0	4.2		10.4	34.7		19.5	56.5	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	461	553		458	498		408	2423		585	2375	
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	0.16	0.10		0.04	0.03		0.12	0.23		0.19	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 68 (85%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 7.4

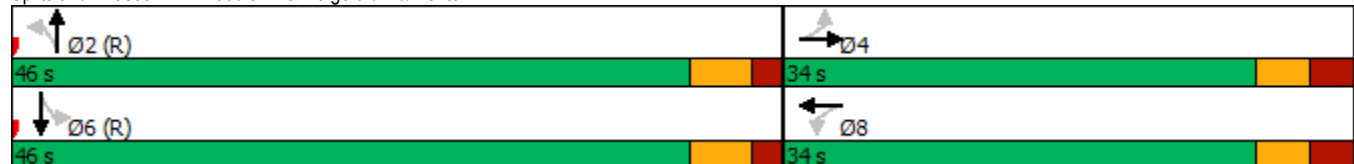
Intersection LOS: A

Intersection Capacity Utilization 61.3%

ICU Level of Service B












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI









3: Moodie Dr & Loblaw's  
Timing Plan: AM Peak

300 Moodie Drive  
2020 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	18	590	15	21	703
Future Volume (vph)	16	18	590	15	21	703
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.929			0.850		
Flt Protected	0.977				0.950	
Satd. Flow (prot)	1516	0	3325	1547	1517	3325
Flt Permitted	0.977				0.429	
Satd. Flow (perm)	1516	0	3325	1547	685	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	18			15		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	19%	0%	4%	0%	14%	4%
Adj. Flow (vph)	16	18	590	15	21	703
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	590	15	21	703
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		47.0	47.0	47.0	47.0
Total Split (%)	41.3%		58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	27.4		41.1	41.1	41.1	41.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9

3: Moodie Dr & Loblaws  
Timing Plan: AM Peak

300 Moodie Drive  
2020 Background Traffic

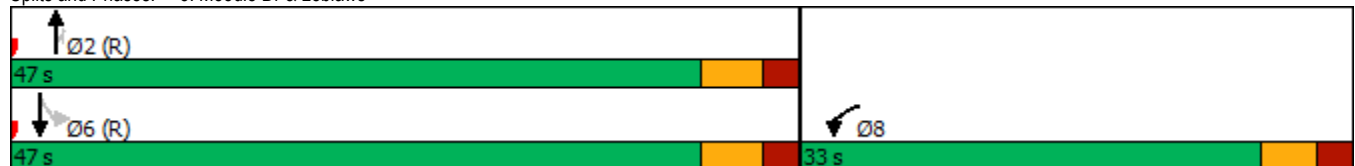
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	10.0		71.4	71.4	71.4	71.4
Actuated g/C Ratio	0.12		0.89	0.89	0.89	0.89
v/c Ratio	0.17		0.20	0.01	0.03	0.24
Control Delay	22.0		2.0	1.5	2.5	1.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	22.0		2.0	1.5	2.5	1.9
LOS	C		A	A	A	A
Approach Delay	22.0		2.0			1.9
Approach LOS	C		A			A
Queue Length 50th (m)	2.2		0.0	0.0	0.0	0.0
Queue Length 95th (m)	9.9		17.3	1.2	m2.0	19.6
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	531		2967	1382	611	2967
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.06		0.20	0.01	0.03	0.24

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 58 (73%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.24  
 Intersection Signal Delay: 2.4  
 Intersection Capacity Utilization 38.4%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

























Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
Timing Plan: AM Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1211	112	81	307	152	225	376	309	356	183	107
Future Volume (vph)	70	1211	112	81	307	152	225	376	309	356	183	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1631	3390	1473	1712	3232	1517	3321	3325	1532	3288	3232	1459
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1622	3390	1447	1710	3232	1486	3289	3325	1506	3272	3232	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139			152			142			137
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	6		4	4		6	6		4	4		6
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
Heavy Vehicles (%)	6%	2%	5%	1%	7%	2%	1%	4%	1%	2%	7%	6%
Adj. Flow (vph)	70	1211	112	81	307	152	225	376	309	356	183	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	1211	112	81	307	152	225	376	309	356	183	107
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	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	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	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	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	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	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	15.0	54.0	54.0	15.0	54.0	54.0	23.0	38.0	38.0	23.0	38.0	38.0
Total Split (%)	11.5%	41.5%	41.5%	11.5%	41.5%	41.5%	17.7%	29.2%	29.2%	17.7%	29.2%	29.2%
Maximum Green (s)	8.6	47.6	47.6	8.6	47.6	47.6	16.5	31.3	31.3	16.5	31.3	31.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
Timing Plan: AM Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	9.8	54.7	54.7	10.2	57.8	57.8	13.8	22.9	22.9	16.2	25.3	25.3
Actuated g/C Ratio	0.08	0.42	0.42	0.08	0.44	0.44	0.11	0.18	0.18	0.12	0.19	0.19
v/c Ratio	0.57	0.85	0.16	0.61	0.21	0.20	0.64	0.64	0.81	0.87	0.29	0.28
Control Delay	76.4	42.0	2.7	76.9	25.1	4.9	64.1	54.2	43.4	77.3	45.0	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.4	42.0	2.7	76.9	25.1	4.9	64.1	54.2	43.4	77.3	45.0	4.6
LOS	E	D	A	E	C	A	E	D	D	E	D	A
Approach Delay		40.5			27.2			53.0			56.1	
Approach LOS		D			C			D			E	
Queue Length 50th (m)	17.4	147.7	0.0	20.1	26.3	0.0	28.8	48.0	43.0	46.7	21.4	0.0
Queue Length 95th (m)	#39.4	#207.3	7.5	#46.0	40.2	13.8	41.4	59.2	71.2	#70.8	30.3	8.1
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	126	1427	689	136	1436	745	421	800	470	417	778	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.85	0.16	0.60	0.21	0.20	0.53	0.47	0.66	0.85	0.24	0.24

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 119 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 44.6

Intersection LOS: D

Intersection Capacity Utilization 85.3%













ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
15 s	54 s		23 s	38 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
15 s	54 s		23 s	38 s	

1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
2020 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	64	159	764	804	161
Future Volume (vph)	58	64	159	764	804	161
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1547	1712	3390	3357	1547
Flt Permitted	0.950		0.258			
Satd. Flow (perm)	1695	1547	465	3390	3357	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		64				161
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	1%	2%	3%	0%
Adj. Flow (vph)	58	64	159	764	804	161
Shared Lane Traffic (%)						
Lane Group Flow (vph)	58	64	159	764	804	161
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6



1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
2020 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	49.3	50.4	36.9	36.9
Actuated g/C Ratio	0.18	0.18	0.70	0.72	0.52	0.52
v/c Ratio	0.19	0.20	0.36	0.31	0.46	0.18
Control Delay	24.6	7.6	8.0	6.1	13.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	7.6	8.0	6.1	13.7	3.3
LOS	C	A	A	A	B	A
Approach Delay	15.7			6.4	12.0	
Approach LOS	B			A	B	
Queue Length 50th (m)	6.9	0.0	5.9	17.4	34.2	0.0
Queue Length 95th (m)	12.9	7.3	19.4	42.7	63.7	10.5
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	530	528	446	2429	1760	887
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	0.11	0.12	0.36	0.31	0.46	0.18

Intersection Summary

Area Type: Other

Cycle Length: 70.3

Actuated Cycle Length: 70.3

Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 9.7

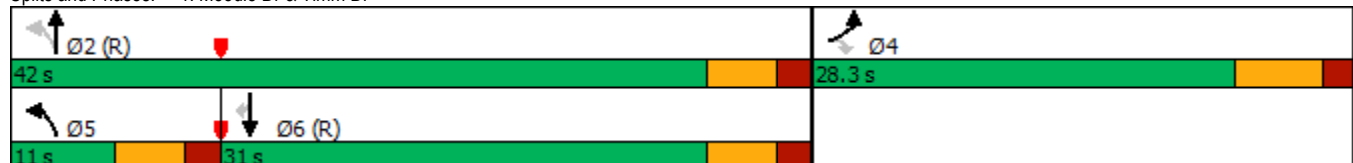
Intersection LOS: A

Intersection Capacity Utilization 55.7%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
PM Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	6	67	91	20	55	31	627	46	27	745	69
Future Volume (vph)	190	6	67	91	20	55	31	627	46	27	745	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Frt		0.862			0.890			0.990			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	1506	0	1695	1605	0	1453	3345	0	1662	3329	0
Flt Permitted	0.708			0.709			0.317			0.383		
Satd. Flow (perm)	1275	1506	0	1262	1605	0	484	3345	0	668	3329	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			55			14			17	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	1		4	4		1	2		8	8		2
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
Heavy Vehicles (%)	1%	0%	3%	2%	0%	0%	19%	2%	4%	4%	2%	6%
Adj. Flow (vph)	190	6	67	91	20	55	31	627	46	27	745	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	73	0	91	75	0	31	673	0	27	814	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
PM Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	17.1	17.1		17.1	17.1		41.2	41.2		41.2	41.2	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.59	0.59		0.59	0.59	
v/c Ratio	0.61	0.17		0.30	0.17		0.11	0.34		0.07	0.41	
Control Delay	30.7	6.3		21.7	8.2		8.3	6.9		9.7	9.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.7	6.3		21.7	8.2		8.3	6.9		9.7	9.8	
LOS	C	A		C	A		A	A		A	A	
Approach Delay		23.9			15.6			7.0			9.8	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	22.7	0.6		10.0	2.1		1.3	14.6		1.3	25.1	
Queue Length 95th (m)	32.2	7.3		16.4	8.5		4.5	23.3		6.4	55.2	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	510	642		504	675		284	1975		393	1967	
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	0.37	0.11		0.18	0.11		0.11	0.34		0.07	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 11.2

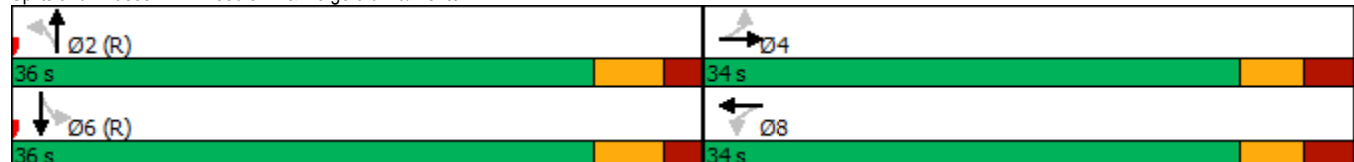
Intersection LOS: B

Intersection Capacity Utilization 55.4%

ICU Level of Service B












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI




3: Moodie Dr & Loblaw's  
PM Peak

300 Moodie Drive  
2020 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	107	51	640	52	75	832
Future Volume (vph)	107	51	640	52	75	832
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99			0.98	1.00	
Frt	0.956			0.850		
Flt Protected	0.967				0.950	
Satd. Flow (prot)	1537	0	3357	1547	1712	3357
Flt Permitted	0.967				0.409	
Satd. Flow (perm)	1537	0	3357	1511	736	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	40			52		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)		10		2	2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	4%	3%	0%	1%	3%
Adj. Flow (vph)	107	51	640	52	75	832
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	0	640	52	75	832
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2

3: Moodie Dr & Loblaws  
PM Peak

300 Moodie Drive  
2020 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.0		46.5	46.5	46.5	46.5
Actuated g/C Ratio	0.17		0.66	0.66	0.66	0.66
v/c Ratio	0.53		0.29	0.05	0.15	0.37
Control Delay	25.9		5.6	1.9	3.1	2.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	25.9		5.6	1.9	3.1	2.9
LOS	C		A	A	A	A
Approach Delay	25.9		5.4			3.0
Approach LOS	C		A			A
Queue Length 50th (m)	14.4		14.3	0.0	1.5	9.1
Queue Length 95th (m)	28.2		27.3	3.5	3.6	12.8
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	625		2227	1020	488	2227
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.25		0.29	0.05	0.15	0.37

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 6.0

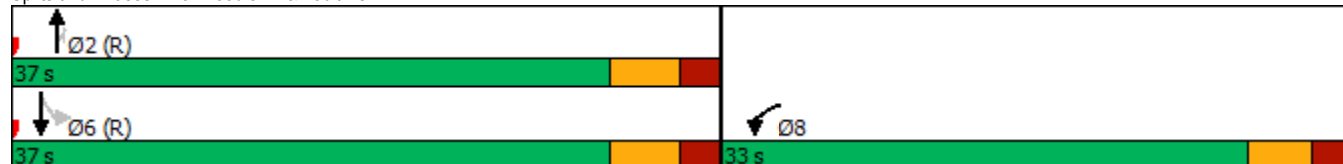
Intersection LOS: A

Intersection Capacity Utilization 55.5%

ICU Level of Service B

























Analysis Period (min) 15

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	536	269	225	901	325	225	234	148	287	450	194
Future Volume (vph)	120	536	269	225	901	325	225	234	148	287	450	194
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.98	0.99		0.96	0.97		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	3390	1517	1729	3424	1532	3288	3293	1532	3288	3357	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1675	3390	1469	1713	3424	1503	3248	3293	1477	3192	3357	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			269			325			206			206
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	5		15	15		5	12		21	21		12
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
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	2%	5%	1%	2%	3%	2%
Adj. Flow (vph)	120	536	269	225	901	325	225	234	148	287	450	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	536	269	225	901	325	225	234	148	287	450	194
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	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	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	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	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	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	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	18.0	34.1	34.1	28.2	44.3	44.3	18.4	37.7	37.7	20.0	39.3	39.3
Total Split (%)	15.0%	28.4%	28.4%	23.5%	36.9%	36.9%	15.3%	31.4%	31.4%	16.7%	32.8%	32.8%
Maximum Green (s)	11.6	27.7	27.7	21.8	37.9	37.9	11.9	31.0	31.0	13.5	32.6	32.6
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	13.5	39.5	39.5	20.4	46.5	46.5	11.5	20.9	20.9	13.2	22.5	22.5
Actuated g/C Ratio	0.11	0.33	0.33	0.17	0.39	0.39	0.10	0.17	0.17	0.11	0.19	0.19
v/c Ratio	0.63	0.48	0.41	0.77	0.68	0.42	0.72	0.41	0.35	0.80	0.71	0.44
Control Delay	65.9	36.0	6.3	64.2	35.4	5.0	65.9	45.3	3.6	69.0	51.9	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	36.0	6.3	64.2	35.4	5.0	65.9	45.3	3.6	69.0	51.9	7.5
LOS	E	D	A	E	D	A	E	D	A	E	D	A
Approach Delay		31.2			33.0			42.8			47.9	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	27.2	53.2	0.0	50.8	93.2	0.0	26.8	26.1	0.0	34.3	53.0	0.0
Queue Length 95th (m)	46.6	80.2	21.4	74.6	128.8	19.8	39.9	35.8	4.8	#53.2	65.7	15.4
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	196	1117	664	330	1325	781	326	850	534	369	911	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.48	0.41	0.68	0.68	0.42	0.69	0.28	0.28	0.78	0.49	0.35

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 37.7

Intersection LOS: D

Intersection Capacity Utilization 83.1%













ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
28.2 s	34.1 s		18.4 s	39.3 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
18 s	44.3 s		20 s	37.7 s	

1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
2020 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	67	68	487	557	30
Future Volume (vph)	22	67	68	487	557	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1729	1547	1729	3424	3424	1547
Flt Permitted	0.950		0.388			
Satd. Flow (perm)	1729	1547	706	3424	3424	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		67				30
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%
Adj. Flow (vph)	22	67	68	487	557	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	67	68	487	557	30
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6



1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
2020 Background Traffic



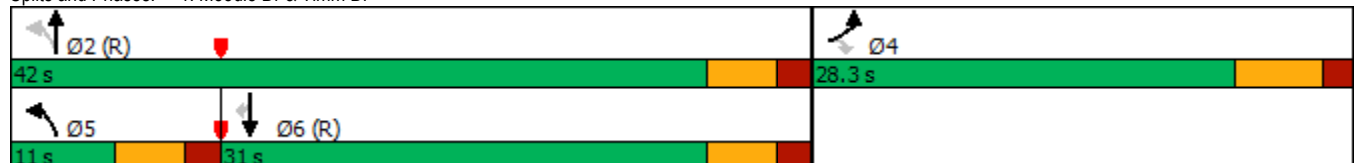
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	52.5	54.8	47.7	47.7
Actuated g/C Ratio	0.18	0.18	0.75	0.78	0.68	0.68
v/c Ratio	0.07	0.20	0.11	0.18	0.24	0.03
Control Delay	22.3	7.6	5.8	4.8	9.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	7.6	5.8	4.8	9.7	5.5
LOS	C	A	A	A	A	A
Approach Delay	11.2			4.9	9.5	
Approach LOS	B			A	A	
Queue Length 50th (m)	2.6	0.0	2.4	10.0	20.5	0.0
Queue Length 95th (m)	6.4	7.6	9.6	25.9	41.6	4.7
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	541	530	613	2667	2323	1059
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	0.04	0.13	0.11	0.18	0.24	0.03

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.24  
Intersection Signal Delay: 7.6  
Intersection Capacity Utilization 43.3%  
Analysis Period (min) 15





















Intersection LOS: A  
ICU Level of Service A

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
Saturday Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	3	32	19	2	17	27	411	10	12	541	42
Future Volume (vph)	52	3	32	19	2	17	27	411	10	12	541	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				0.99		1.00	1.00		1.00	1.00	
Frt		0.863			0.866			0.996			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	1439	0	1729	1555	0	1729	3409	0	1729	3371	0
Flt Permitted	0.745			0.734			0.432			0.506		
Satd. Flow (perm)	1352	1439	0	1336	1555	0	785	3409	0	919	3371	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			17			4			14	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	4					4	2		2	2		2
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
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%	0%	1%	0%	0%	1%	5%
Adj. Flow (vph)	52	3	32	19	2	17	27	411	10	12	541	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	35	0	19	19	0	27	421	0	12	583	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
Saturday Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	13.6	13.6		13.6	13.6		53.4	53.4		53.4	53.4	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.76	0.76		0.76	0.76	
v/c Ratio	0.20	0.11		0.07	0.06		0.05	0.16		0.02	0.23	
Control Delay	23.0	8.4		20.2	9.5		6.3	4.4		8.0	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.0	8.4		20.2	9.5		6.3	4.4		8.0	5.9	
LOS	C	A		C	A		A	A		A	A	
Approach Delay		17.1			14.8			4.6			6.0	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	6.2	0.3		2.2	0.3		0.9	8.0		0.4	12.0	
Queue Length 95th (m)	10.3	5.0		5.0	3.6		3.9	15.3		3.6	37.2	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	540	594		534	632		598	2600		701	2574	
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	0.10	0.06		0.04	0.03		0.05	0.16		0.02	0.23	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.23

Intersection Signal Delay: 6.5

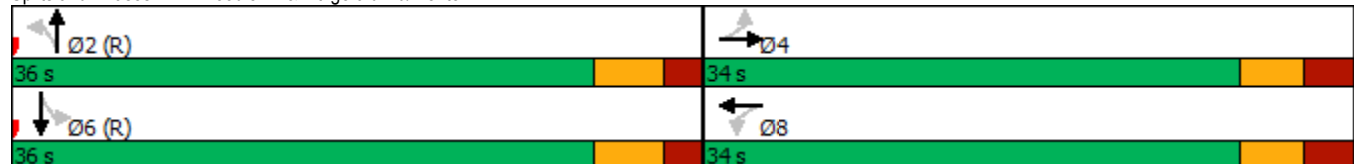
Intersection LOS: A

Intersection Capacity Utilization 43.6%

ICU Level of Service A







Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI



3: Moodie Dr & Loblaws  
Saturday Peak

300 Moodie Drive  
2020 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	27	35	413	109	21	572
Future Volume (vph)	27	35	413	109	21	572
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00					
Frt	0.924			0.850		
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1646	0	3424	1547	1729	3424
Flt Permitted	0.979				0.510	
Satd. Flow (perm)	1646	0	3424	1547	928	3424
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	35			109		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)	1					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	27	35	413	109	21	572
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	413	109	21	572
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2

3: Moodie Dr & Loblaws  
Saturday Peak

300 Moodie Drive  
2020 Background Traffic

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	2		2	2		
Act Effct Green (s)	13.4		53.7	53.7	53.7	53.7
Actuated g/C Ratio	0.19		0.77	0.77	0.77	0.77
v/c Ratio	0.18		0.16	0.09	0.03	0.22
Control Delay	12.5		5.5	2.4	2.0	1.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	12.5		5.5	2.4	2.0	1.5
LOS	B		A	A	A	A
Approach Delay	12.5		4.9			1.5
Approach LOS	B		A			A
Queue Length 50th (m)	3.1		8.1	0.0	0.2	3.2
Queue Length 95th (m)	8.8		25.6	7.3	1.0	6.1
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	665		2626	1212	711	2626
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.09		0.16	0.09	0.03	0.22

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.22

Intersection Signal Delay: 3.6

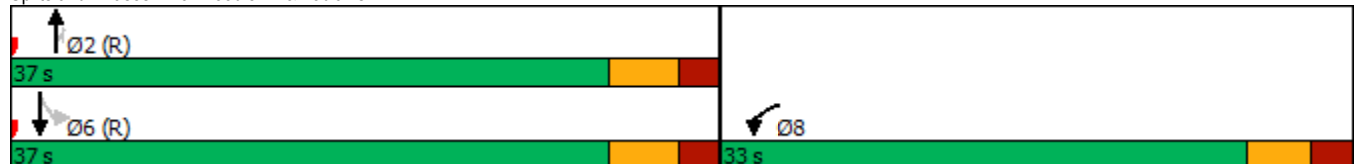
Intersection LOS: A

Intersection Capacity Utilization 36.3%

ICU Level of Service A

























Analysis Period (min) 15

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	717	189	174	587	113	240	246	191	214	214	157
Future Volume (vph)	157	717	189	174	587	113	240	246	191	214	214	157
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.99	1.00			1.00		0.97	0.98		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3424	1547	1729	3424	1532	3321	3424	1532	3321	3424	1532
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1729	3424	1524	1727	3424	1532	3316	3424	1489	3256	3424	1511
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			139			191			157
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)			2	2			1		13	13		1
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
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	157	717	189	174	587	113	240	246	191	214	214	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	717	189	174	587	113	240	246	191	214	214	157
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	26.0	35.0	35.0	31.0	40.0	40.0	27.0	37.7	37.7	27.0	37.7	37.7
Total Split (%)	19.9%	26.8%	26.8%	23.7%	30.6%	30.6%	20.7%	28.8%	28.8%	20.7%	28.8%	28.8%
Maximum Green (s)	19.6	28.6	28.6	24.6	33.6	33.6	20.5	31.0	31.0	20.5	31.0	31.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
2020 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	16.7	55.0	55.0	18.4	56.7	56.7	14.7	17.6	17.6	13.7	16.6	16.6
Actuated g/C Ratio	0.13	0.42	0.42	0.14	0.43	0.43	0.11	0.13	0.13	0.10	0.13	0.13
v/c Ratio	0.71	0.50	0.25	0.72	0.40	0.15	0.64	0.53	0.52	0.61	0.49	0.48
Control Delay	71.8	32.3	5.9	69.6	29.3	3.6	63.3	55.7	11.2	63.4	55.6	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	32.3	5.9	69.6	29.3	3.6	63.3	55.7	11.2	63.4	55.6	11.5
LOS	E	C	A	E	C	A	E	E	B	E	E	B
Approach Delay		33.4			34.0			45.8			46.6	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	39.2	67.2	0.0	43.4	51.5	0.0	30.9	32.3	0.0	27.6	28.1	0.0
Queue Length 95th (m)	60.5	#129.2	18.6	64.2	91.6	9.1	43.2	39.1	18.3	39.3	34.9	17.2
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	264	1440	750	326	1484	742	520	818	500	520	812	478
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.50	0.25	0.53	0.40	0.15	0.46	0.30	0.38	0.41	0.26	0.33

Intersection Summary

Area Type: Other

Cycle Length: 130.7

Actuated Cycle Length: 130.7

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 38.6

Intersection LOS: D

Intersection Capacity Utilization 75.3%









ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
31 s	35 s	27 s	37.7 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
26 s	40 s	27 s	37.7 s

1: Moodie Dr & Timm Dr  
AM Peak

300 Moodie Drive  
2025 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	134	229	61	524	903	83
Future Volume (vph)	134	229	61	524	903	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99				
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1712	1517	1695	3325	3325	1502
Flt Permitted	0.950		0.297			
Satd. Flow (perm)	1712	1497	530	3325	3325	1502
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		139				83
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	2%	2%	4%	4%	3%
Adj. Flow (vph)	134	229	61	524	903	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	229	61	524	903	83
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	15.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	52.0	52.0	52.0	52.0
Total Split (%)	35.2%	35.2%	64.8%	64.8%	64.8%	64.8%
Maximum Green (s)	22.0	22.0	46.4	46.4	46.4	46.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9



1: Moodie Dr & Timm Dr  
AM Peak

300 Moodie Drive  
2025 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	12.7	12.7	55.7	55.7	55.7	55.7
Actuated g/C Ratio	0.16	0.16	0.69	0.69	0.69	0.69
v/c Ratio	0.50	0.65	0.17	0.23	0.39	0.08
Control Delay	36.6	21.8	6.5	5.1	6.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	21.8	6.5	5.1	6.2	1.6
LOS	D	C	A	A	A	A
Approach Delay	27.3			5.3	5.8	
Approach LOS	C			A	A	
Queue Length 50th (m)	19.3	12.7	2.5	12.1	24.1	0.0
Queue Length 95th (m)	32.5	31.6	8.9	23.5	44.5	4.4
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	469	511	367	2307	2307	1067
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	0.29	0.45	0.17	0.23	0.39	0.08

Intersection Summary

Area Type: Other

Cycle Length: 80.3

Actuated Cycle Length: 80.3

Offset: 6 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 9.7

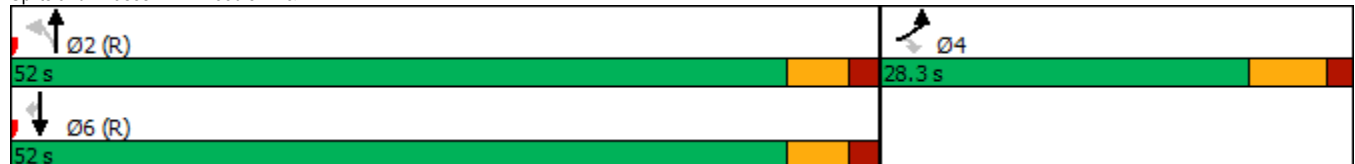
Intersection LOS: A

Intersection Capacity Utilization 57.6%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
AM Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	28	25	18	6	8	49	540	64	111	756	186
Future Volume (vph)	74	28	25	18	6	8	49	540	64	111	756	186
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Frt		0.929			0.914			0.984			0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	1534	0	1729	1410	0	1695	3297	0	1712	3222	0
Flt Permitted	0.748			0.722			0.286			0.423		
Satd. Flow (perm)	1318	1534	0	1311	1410	0	510	3297	0	759	3222	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			8			23			54	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	3		3	3		3	3		6	6		3
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
Heavy Vehicles (%)	3%	0%	20%	0%	17%	17%	2%	3%	2%	1%	4%	2%
Adj. Flow (vph)	74	28	25	18	6	8	49	540	64	111	756	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	53	0	18	14	0	49	604	0	111	942	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%		57.5%	57.5%		57.5%	57.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0		40.3	40.3		40.3	40.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
AM Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	13.9	13.9		13.9	13.9		58.7	58.7		58.7	58.7	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.73	0.73		0.73	0.73	
v/c Ratio	0.32	0.18		0.08	0.06		0.13	0.25		0.20	0.40	
Control Delay	30.5	16.7		24.6	16.4		5.9	4.2		7.9	6.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.5	16.7		24.6	16.4		5.9	4.2		7.9	6.7	
LOS	C	B		C	B		A	A		A	A	
Approach Delay		24.7			21.0			4.4			6.9	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	10.6	3.9		2.5	0.8		1.9	12.9		4.3	21.4	
Queue Length 95th (m)	16.7	9.9		6.0	4.2		10.6	38.4		19.8	63.5	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	461	553		458	498		374	2425		557	2378	
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	0.16	0.10		0.04	0.03		0.13	0.25		0.20	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 68 (85%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 7.4





Intersection LOS: A

Intersection Capacity Utilization 63.4%

ICU Level of Service B












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI

 Ø2 (R)	 Ø4
46 s	34 s
 Ø6 (R)	 Ø8
46 s	34 s







3: Moodie Dr & Loblaws  
AM Peak

300 Moodie Drive  
2025 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	18	651	15	21	777
Future Volume (vph)	16	18	651	15	21	777
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.929			0.850		
Flt Protected	0.977				0.950	
Satd. Flow (prot)	1516	0	3325	1547	1517	3325
Flt Permitted	0.977				0.404	
Satd. Flow (perm)	1516	0	3325	1547	645	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	18			15		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	19%	0%	4%	0%	14%	4%
Adj. Flow (vph)	16	18	651	15	21	777
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	651	15	21	777
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		47.0	47.0	47.0	47.0
Total Split (%)	41.3%		58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	27.4		41.1	41.1	41.1	41.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9

3: Moodie Dr & Loblaws  
AM Peak

300 Moodie Drive  
2025 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	10.0		71.4	71.4	71.4	71.4
Actuated g/C Ratio	0.12		0.89	0.89	0.89	0.89
v/c Ratio	0.17		0.22	0.01	0.04	0.26
Control Delay	22.0		2.1	1.5	3.1	2.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	22.0		2.1	1.5	3.1	2.3
LOS	C		A	A	A	A
Approach Delay	22.0		2.0			2.3
Approach LOS	C		A			A
Queue Length 50th (m)	2.2		0.0	0.0	0.0	0.0
Queue Length 95th (m)	9.9		19.3	1.2	m2.3	25.9
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	531		2967	1382	575	2967
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.06		0.22	0.01	0.04	0.26

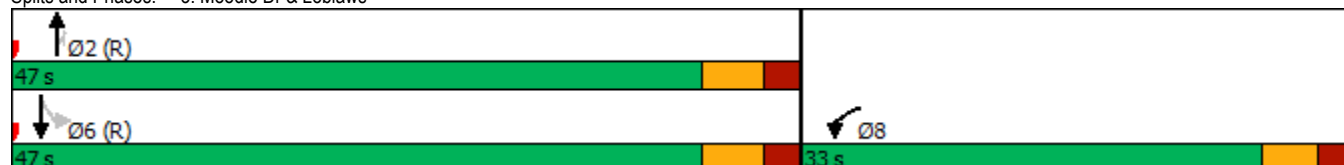
Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 58 (73%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.26  
 Intersection Signal Delay: 2.6  
 Intersection Capacity Utilization 40.6%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1211	112	81	307	152	225	415	309	356	202	107
Future Volume (vph)	70	1211	112	81	307	152	225	415	309	356	202	107
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1631	3390	1473	1712	3232	1517	3321	3325	1532	3288	3232	1459
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1622	3390	1447	1710	3232	1486	3289	3325	1506	3273	3232	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139			152			142			137
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	6		4	4		6	6		4	4		6
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
Heavy Vehicles (%)	6%	2%	5%	1%	7%	2%	1%	4%	1%	2%	7%	6%
Adj. Flow (vph)	70	1211	112	81	307	152	225	415	309	356	202	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	1211	112	81	307	152	225	415	309	356	202	107
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	15.0	54.0	54.0	15.0	54.0	54.0	23.0	38.0	38.0	23.0	38.0	38.0
Total Split (%)	11.5%	41.5%	41.5%	11.5%	41.5%	41.5%	17.7%	29.2%	29.2%	17.7%	29.2%	29.2%
Maximum Green (s)	8.6	47.6	47.6	8.6	47.6	47.6	16.5	31.3	31.3	16.5	31.3	31.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	9.8	54.0	54.0	10.2	57.0	57.0	13.8	23.7	23.7	16.2	26.1	26.1
Actuated g/C Ratio	0.08	0.42	0.42	0.08	0.44	0.44	0.11	0.18	0.18	0.12	0.20	0.20
v/c Ratio	0.57	0.86	0.16	0.61	0.22	0.21	0.64	0.69	0.79	0.87	0.31	0.27
Control Delay	76.4	43.2	2.7	76.9	25.5	4.9	64.1	55.2	41.6	77.3	44.9	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.4	43.2	2.7	76.9	25.5	4.9	64.1	55.2	41.6	77.3	44.9	4.6
LOS	E	D	A	E	C	A	E	E	D	E	D	A
Approach Delay		41.6			27.4			52.9			55.7	
Approach LOS		D			C			D			E	
Queue Length 50th (m)	17.4	150.1	0.0	20.1	26.7	0.0	28.8	53.1	42.5	46.7	23.5	0.0
Queue Length 95th (m)	#39.4	#207.3	7.5	#46.0	40.2	13.8	41.4	65.2	71.2	#70.8	33.2	8.1
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	126	1407	681	136	1417	737	421	800	470	417	778	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.86	0.16	0.60	0.22	0.21	0.53	0.52	0.66	0.85	0.26	0.24

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 119 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 45.1

Intersection LOS: D

Intersection Capacity Utilization 86.3%









ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

			
Ø1	Ø2 (R)	Ø3	Ø4
15 s	54 s	23 s	38 s
			
Ø5	Ø6 (R)	Ø7	Ø8
15 s	54 s	23 s	38 s

1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
2025 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	71	78	193	843	888	196
Future Volume (vph)	71	78	193	843	888	196
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1547	1712	3390	3357	1547
Flt Permitted	0.950		0.221			
Satd. Flow (perm)	1695	1547	398	3390	3357	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		78				196
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	1%	2%	3%	0%
Adj. Flow (vph)	71	78	193	843	888	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	78	193	843	888	196
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6



1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
2025 Background Traffic



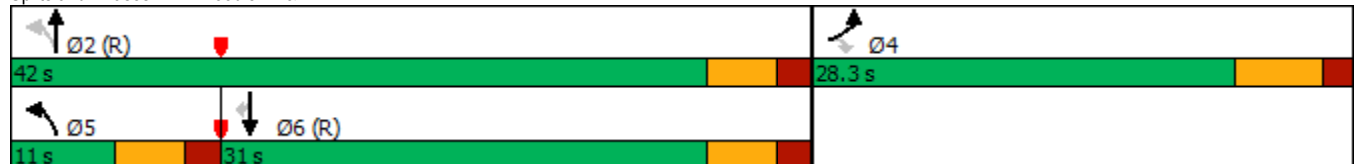
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	49.3	50.4	35.9	35.9
Actuated g/C Ratio	0.18	0.18	0.70	0.72	0.51	0.51
v/c Ratio	0.24	0.23	0.46	0.35	0.52	0.22
Control Delay	25.3	7.4	10.4	6.3	15.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	7.4	10.4	6.3	15.0	3.2
LOS	C	A	B	A	B	A
Approach Delay	16.0			7.1	12.9	
Approach LOS	B			A	B	
Queue Length 50th (m)	8.5	0.0	7.3	19.7	41.0	0.0
Queue Length 95th (m)	15.0	8.2	#25.4	48.3	72.3	11.6
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	530	537	423	2429	1715	886
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	0.13	0.15	0.46	0.35	0.52	0.22

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.52  
Intersection Signal Delay: 10.4  
Intersection Capacity Utilization 60.1%  
Analysis Period (min) 15  
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.





















Intersection LOS: B  
ICU Level of Service B

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
PM Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	6	67	91	20	55	31	693	46	27	822	69
Future Volume (vph)	190	6	67	91	20	55	31	693	46	27	822	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Frt		0.862			0.890			0.991			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	1506	0	1695	1605	0	1453	3349	0	1662	3333	0
Flt Permitted	0.708			0.709			0.285			0.351		
Satd. Flow (perm)	1275	1506	0	1262	1605	0	436	3349	0	612	3333	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			55			12			16	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	1		4	4		1	2		8	8		2
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
Heavy Vehicles (%)	1%	0%	3%	2%	0%	0%	19%	2%	4%	4%	2%	6%
Adj. Flow (vph)	190	6	67	91	20	55	31	693	46	27	822	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	73	0	91	75	0	31	739	0	27	891	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
PM Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	17.1	17.1		17.1	17.1		41.2	41.2		41.2	41.2	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.59	0.59		0.59	0.59	
v/c Ratio	0.61	0.17		0.30	0.17		0.12	0.37		0.07	0.45	
Control Delay	30.7	6.3		21.7	8.2		8.5	7.0		9.9	10.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.7	6.3		21.7	8.2		8.5	7.0		9.9	10.2	
LOS	C	A		C	A		A	A		A	B	
Approach Delay		23.9			15.6			7.1			10.2	
Approach LOS		C			B			A			B	
Queue Length 50th (m)	22.7	0.6		10.0	2.1		1.4	16.2		1.3	28.3	
Queue Length 95th (m)	32.2	7.3		16.4	8.5		4.4	25.1		6.4	62.0	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	510	642		504	675		256	1977		360	1969	
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	0.37	0.11		0.18	0.11		0.12	0.37		0.07	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 11.2

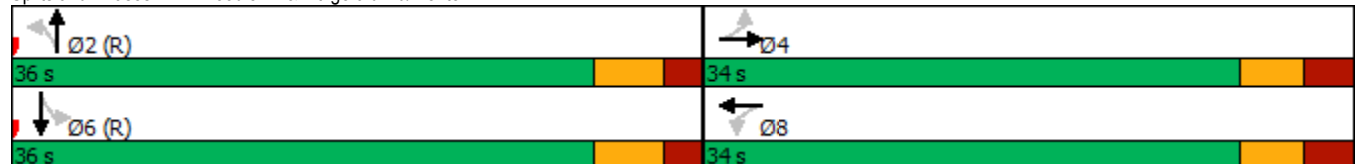
Intersection LOS: B

Intersection Capacity Utilization 55.4%

ICU Level of Service B












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI



3: Moodie Dr & Loblaw's  
PM Peak

300 Moodie Drive  
2025 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	107	51	706	52	75	919
Future Volume (vph)	107	51	706	52	75	919
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99			0.98	1.00	
Frt	0.956			0.850		
Flt Protected	0.967				0.950	
Satd. Flow (prot)	1537	0	3357	1547	1712	3357
Flt Permitted	0.967				0.381	
Satd. Flow (perm)	1537	0	3357	1511	686	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	40			52		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)		10		2	2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	4%	3%	0%	1%	3%
Adj. Flow (vph)	107	51	706	52	75	919
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	0	706	52	75	919
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2

3: Moodie Dr & Loblaws  
PM Peak

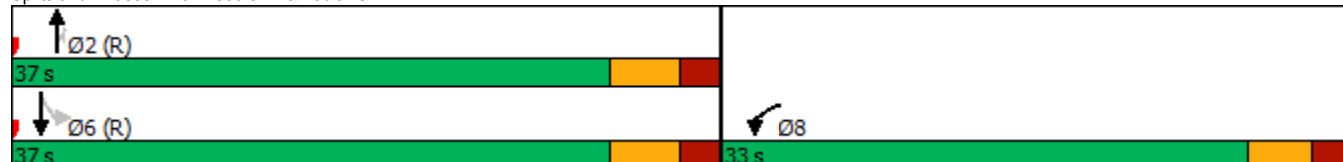
300 Moodie Drive  
2025 Background Traffic

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group						
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.0		46.5	46.5	46.5	46.5
Actuated g/C Ratio	0.17		0.66	0.66	0.66	0.66
v/c Ratio	0.53		0.32	0.05	0.16	0.41
Control Delay	25.9		5.8	1.9	3.1	2.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	25.9		5.8	1.9	3.1	2.9
LOS	C		A	A	A	A
Approach Delay	25.9		5.6			2.9
Approach LOS	C		A			A
Queue Length 50th (m)	14.4		16.2	0.0	1.4	9.5
Queue Length 95th (m)	28.2		30.6	3.5	3.4	13.1
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	625		2227	1020	455	2227
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.25		0.32	0.05	0.16	0.41

Intersection Summary

























Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 5.9	Intersection LOS: A
Intersection Capacity Utilization 56.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	536	269	225	901	325	225	258	148	287	497	194
Future Volume (vph)	120	536	269	225	901	325	225	258	148	287	497	194
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.98	0.99		0.96	0.97		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	3390	1517	1729	3424	1532	3288	3293	1532	3288	3357	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1675	3390	1469	1713	3424	1503	3250	3293	1477	3195	3357	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			269			325			206			206
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	5		15	15		5	12		21	21		12
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
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	2%	5%	1%	2%	3%	2%
Adj. Flow (vph)	120	536	269	225	901	325	225	258	148	287	497	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	536	269	225	901	325	225	258	148	287	497	194
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	18.0	34.1	34.1	28.2	44.3	44.3	18.4	37.7	37.7	20.0	39.3	39.3
Total Split (%)	15.0%	28.4%	28.4%	23.5%	36.9%	36.9%	15.3%	31.4%	31.4%	16.7%	32.8%	32.8%
Maximum Green (s)	11.6	27.7	27.7	21.8	37.9	37.9	11.9	31.0	31.0	13.5	32.6	32.6
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	13.2	38.3	38.3	20.1	45.2	45.2	11.5	22.5	22.5	13.2	24.2	24.2
Actuated g/C Ratio	0.11	0.32	0.32	0.17	0.38	0.38	0.10	0.19	0.19	0.11	0.20	0.20
v/c Ratio	0.65	0.50	0.41	0.78	0.70	0.42	0.72	0.42	0.33	0.80	0.74	0.42
Control Delay	67.9	37.1	6.5	66.0	36.7	5.1	65.9	44.2	3.3	69.0	51.4	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.9	37.1	6.5	66.0	36.7	5.1	65.9	44.2	3.3	69.0	51.4	7.0
LOS	E	D	A	E	D	A	E	D	A	E	D	A
Approach Delay		32.2			34.2			42.4			47.7	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	27.2	54.3	0.0	50.8	95.4	0.0	26.8	28.5	0.0	34.3	58.4	0.0
Queue Length 95th (m)	#50.6	80.2	21.4	76.1	128.8	19.8	39.9	38.4	4.7	#53.2	71.4	15.1
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	191	1081	652	325	1289	768	326	850	534	369	911	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.50	0.41	0.69	0.70	0.42	0.69	0.30	0.28	0.78	0.55	0.35

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 38.3

Intersection LOS: D

Intersection Capacity Utilization 83.1%

















ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

							
Ø1	Ø2 (R)		Ø3		Ø4		
28.2 s	34.1 s		18.4 s		39.3 s		
							
Ø5	Ø6 (R)		Ø7		Ø8		
18 s	44.3 s		20 s		37.7 s		

1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
2025 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	26	82	83	538	615	37
Future Volume (vph)	26	82	83	538	615	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1729	1547	1729	3424	3424	1547
Flt Permitted	0.950		0.349			
Satd. Flow (perm)	1729	1547	635	3424	3424	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		82				37
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			297.6	191.7	
Travel Time (s)	9.9			17.9	11.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%
Adj. Flow (vph)	26	82	83	538	615	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	82	83	538	615	37
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6



1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
2025 Background Traffic



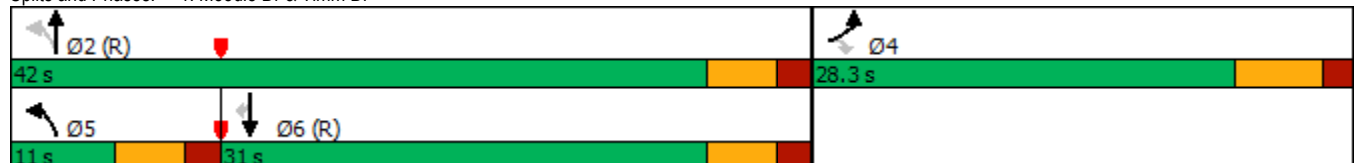
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	49.3	50.4	40.9	40.9
Actuated g/C Ratio	0.18	0.18	0.70	0.72	0.58	0.58
v/c Ratio	0.09	0.24	0.15	0.22	0.31	0.04
Control Delay	22.6	7.4	6.4	5.6	11.7	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	7.4	6.4	5.6	11.7	5.1
LOS	C	A	A	A	B	A
Approach Delay	11.1			5.7	11.3	
Approach LOS	B			A	B	
Queue Length 50th (m)	3.0	0.0	3.0	11.2	23.4	0.0
Queue Length 95th (m)	7.2	8.3	11.2	28.7	46.3	5.2
Internal Link Dist (m)	197.1			273.6	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	541	540	540	2453	1991	915
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	0.05	0.15	0.15	0.22	0.31	0.04

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.31  
Intersection Signal Delay: 8.8  
Intersection Capacity Utilization 45.7%  
Analysis Period (min) 15





















Intersection LOS: A  
ICU Level of Service A

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd/Menten PI  
Saturday Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	3	32	19	2	17	27	454	10	12	597	42
Future Volume (vph)	52	3	32	19	2	17	27	454	10	12	597	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				0.99		1.00	1.00		1.00	1.00	
Frt		0.863			0.866			0.997			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	1439	0	1729	1555	0	1729	3413	0	1729	3376	0
Flt Permitted	0.745			0.734			0.409			0.485		
Satd. Flow (perm)	1352	1439	0	1336	1555	0	744	3413	0	881	3376	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			17			4			13	
Link Speed (k/h)		50			40			60			60	
Link Distance (m)		92.8			87.6			186.4			297.6	
Travel Time (s)		6.7			7.9			11.2			17.9	
Confl. Peds. (#/hr)	4					4	2		2	2		2
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
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%	0%	1%	0%	0%	1%	5%
Adj. Flow (vph)	52	3	32	19	2	17	27	454	10	12	597	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	35	0	19	19	0	27	464	0	12	639	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd/Menten PI  
Saturday Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	13.6	13.6		13.6	13.6		53.4	53.4		53.4	53.4	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.76	0.76		0.76	0.76	
v/c Ratio	0.20	0.11		0.07	0.06		0.05	0.18		0.02	0.25	
Control Delay	23.0	8.4		20.2	9.5		6.3	4.4		8.0	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.0	8.4		20.2	9.5		6.3	4.4		8.0	6.1	
LOS	C	A		C	A		A	A		A	A	
Approach Delay		17.1			14.8			4.5			6.1	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	6.2	0.3		2.2	0.3		0.9	9.0		0.4	13.3	
Queue Length 95th (m)	10.3	5.0		5.0	3.6		3.8	16.4		3.6	41.3	
Internal Link Dist (m)		68.8			63.6			162.4			273.6	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	540	594		534	632		567	2603		671	2577	
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	0.10	0.06		0.04	0.03		0.05	0.18		0.02	0.25	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 6.5

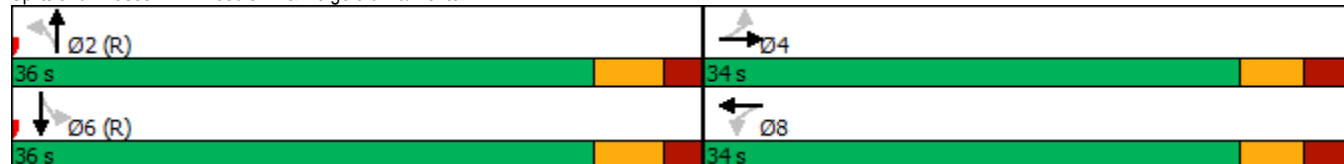
Intersection LOS: A

Intersection Capacity Utilization 43.6%

ICU Level of Service A












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd/Menten PI



3: Moodie Dr & Loblaws  
Saturday Peak

300 Moodie Drive  
2025 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	27	35	456	109	21	632
Future Volume (vph)	27	35	456	109	21	632
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00					
Frt	0.924			0.850		
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1646	0	3424	1547	1729	3424
Flt Permitted	0.979				0.489	
Satd. Flow (perm)	1646	0	3424	1547	890	3424
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	35			109		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)	1					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	27	35	456	109	21	632
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	456	109	21	632
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2

3: Moodie Dr & Loblaws  
Saturday Peak

300 Moodie Drive  
2025 Background Traffic

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	2		2	2		
Act Effct Green (s)	13.4		53.7	53.7	53.7	53.7
Actuated g/C Ratio	0.19		0.77	0.77	0.77	0.77
v/c Ratio	0.18		0.17	0.09	0.03	0.24
Control Delay	12.5		5.6	2.4	2.0	1.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	12.5		5.6	2.4	2.0	1.5
LOS	B		A	A	A	A
Approach Delay	12.5		4.9			1.5
Approach LOS	B		A			A
Queue Length 50th (m)	3.1		9.1	0.0	0.2	3.3
Queue Length 95th (m)	8.8		28.2	7.3	1.0	6.2
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	665		2626	1212	682	2626
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.09		0.17	0.09	0.03	0.24

























Intersection Summary

Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.24	
Intersection Signal Delay: 3.5	Intersection LOS: A
Intersection Capacity Utilization 36.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Moodie Dr & Loblaws














4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	717	189	174	587	113	240	271	191	214	237	157
Future Volume (vph)	157	717	189	174	587	113	240	271	191	214	237	157
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.99	1.00			1.00		0.97	0.98		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3424	1547	1729	3424	1532	3321	3424	1532	3321	3424	1532
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1729	3424	1524	1727	3424	1532	3316	3424	1489	3259	3424	1511
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			139			191			157
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)			2	2			1		13	13		1
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
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	157	717	189	174	587	113	240	271	191	214	237	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	717	189	174	587	113	240	271	191	214	237	157
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	26.0	35.0	35.0	31.0	40.0	40.0	27.0	37.7	37.7	27.0	37.7	37.7
Total Split (%)	19.9%	26.8%	26.8%	23.7%	30.6%	30.6%	20.7%	28.8%	28.8%	20.7%	28.8%	28.8%
Maximum Green (s)	19.6	28.6	28.6	24.6	33.6	33.6	20.5	31.0	31.0	20.5	31.0	31.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
2025 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	16.7	54.3	54.3	18.4	55.9	55.9	14.7	18.3	18.3	13.7	17.3	17.3
Actuated g/C Ratio	0.13	0.42	0.42	0.14	0.43	0.43	0.11	0.14	0.14	0.10	0.13	0.13
v/c Ratio	0.71	0.50	0.25	0.72	0.40	0.15	0.64	0.56	0.51	0.61	0.52	0.47
Control Delay	71.8	32.8	5.9	69.6	29.8	3.6	63.3	55.9	10.8	63.4	55.7	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	32.8	5.9	69.6	29.8	3.6	63.3	55.9	10.8	63.4	55.7	11.2
LOS	E	C	A	E	C	A	E	E	B	E	E	B
Approach Delay		33.8			34.3			46.2			46.9	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	39.2	68.3	0.0	43.4	52.4	0.0	30.9	35.6	0.0	27.6	31.1	0.0
Queue Length 95th (m)	60.5	#129.2	18.6	64.2	91.6	9.1	43.2	42.9	18.3	39.3	38.4	17.2
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	264	1422	743	326	1465	735	520	818	500	520	812	478
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.50	0.25	0.53	0.40	0.15	0.46	0.33	0.38	0.41	0.29	0.33

Intersection Summary

Area Type: Other

Cycle Length: 130.7

Actuated Cycle Length: 130.7

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 39.1

Intersection LOS: D

Intersection Capacity Utilization 75.3%













ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.













Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)	Ø3	Ø4	Ø5	Ø6 (R)
31 s	35 s	27 s	37.7 s	26 s	40 s
					
Ø7	Ø8				
27 s	37.7 s				

1: Moodie Dr & Timm Dr  
AM Peak

300 Moodie Drive  
2020 Total Traffic

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	189	50	487	837	68
Future Volume (vph)	110	189	50	487	837	68
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99				
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1712	1517	1695	3325	3325	1502
Flt Permitted	0.950		0.325			
Satd. Flow (perm)	1712	1497	580	3325	3325	1502
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		163				68
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			218.9	191.7	
Travel Time (s)	9.9			13.1	11.5	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	2%	2%	4%	4%	3%
Adj. Flow (vph)	110	189	50	487	837	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	110	189	50	487	837	68
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	15.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	52.0	52.0	52.0	52.0
Total Split (%)	35.2%	35.2%	64.8%	64.8%	64.8%	64.8%
Maximum Green (s)	22.0	22.0	46.4	46.4	46.4	46.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9



1: Moodie Dr & Timm Dr  
AM Peak

300 Moodie Drive  
2020 Total Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	11.4	11.4	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.14	0.14	0.71	0.71	0.71	0.71
v/c Ratio	0.45	0.54	0.12	0.21	0.35	0.06
Control Delay	37.3	13.6	5.0	4.4	5.2	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	13.6	5.0	4.4	5.2	1.4
LOS	D	B	A	A	A	A
Approach Delay	22.3			4.5	4.9	
Approach LOS	C			A	A	
Queue Length 50th (m)	15.9	3.6	1.9	10.3	20.3	0.0
Queue Length 95th (m)	29.0	20.1	6.2	18.6	34.5	3.4
Internal Link Dist (m)	197.1			194.9	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	469	528	411	2358	2358	1084
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	0.23	0.36	0.12	0.21	0.35	0.06

Intersection Summary

Area Type: Other

Cycle Length: 80.3

Actuated Cycle Length: 80.3

Offset: 6 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 7.8

Intersection LOS: A

Intersection Capacity Utilization 55.7%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 1: Moodie Dr & Timm Dr

 <b>02 (R)</b> 52 s	 <b>04</b> 28.3 s
 <b>06 (R)</b> 52 s	













2: Moodie Dr & Fitzgerald Rd  
AM Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	28	25	18	6	8	73	487	64	111	699	186
Future Volume (vph)	89	28	25	18	6	8	73	487	64	111	699	186
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Frt		0.929			0.914			0.983			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	1534	0	1729	1410	0	1695	3293	0	1712	3215	0
Flt Permitted	0.748			0.722			0.306			0.446		
Satd. Flow (perm)	1318	1534	0	1311	1410	0	545	3293	0	800	3215	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			8			26			60	
Link Speed (k/h)		48			48			60			60	
Link Distance (m)		104.0			87.6			186.4			78.7	
Travel Time (s)		7.8			6.6			11.2			4.7	
Confl. Peds. (#/hr)	3		3	3		3	3		6	6		3
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
Heavy Vehicles (%)	3%	0%	20%	0%	17%	17%	2%	3%	2%	1%	4%	2%
Adj. Flow (vph)	89	28	25	18	6	8	73	487	64	111	699	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	53	0	18	14	0	73	551	0	111	885	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%		57.5%	57.5%		57.5%	57.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0		40.3	40.3		40.3	40.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd  
AM Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	14.3	14.3		14.3	14.3		58.4	58.4		58.4	58.4	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.73	0.73		0.73	0.73	
v/c Ratio	0.38	0.18		0.08	0.05		0.18	0.23		0.19	0.37	
Control Delay	31.6	16.4		24.2	16.1		6.7	4.2		7.9	6.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.6	16.4		24.2	16.1		6.7	4.2		7.9	6.6	
LOS	C	B		C	B		A	A		A	A	
Approach Delay		25.9			20.7			4.5			6.8	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	12.8	3.8		2.5	0.8		3.1	12.0		4.5	20.3	
Queue Length 95th (m)	19.5	9.9		6.0	4.2		15.0	34.4		19.5	57.9	
Internal Link Dist (m)		80.0			63.6			162.4			54.7	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	461	553		458	498		397	2409		584	2361	
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	0.19	0.10		0.04	0.03		0.18	0.23		0.19	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 68 (85%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 7.8

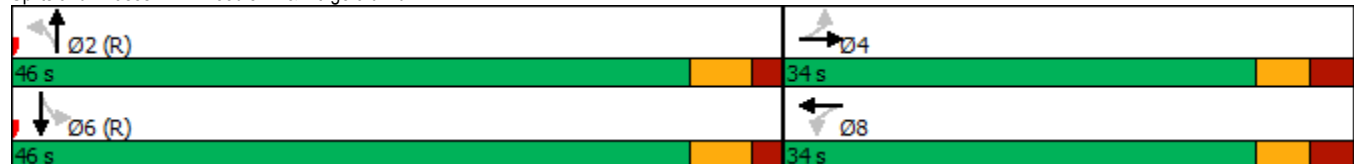
Intersection LOS: A

Intersection Capacity Utilization 62.5%

ICU Level of Service B












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd



3: Moodie Dr & Loblaw's  
AM Peak

300 Moodie Drive  
2020 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	18	612	15	21	717
Future Volume (vph)	16	18	612	15	21	717
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.929			0.850		
Flt Protected	0.977				0.950	
Satd. Flow (prot)	1516	0	3325	1547	1517	3325
Flt Permitted	0.977				0.420	
Satd. Flow (perm)	1516	0	3325	1547	671	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	18			15		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	19%	0%	4%	0%	14%	4%
Adj. Flow (vph)	16	18	612	15	21	717
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	612	15	21	717
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		47.0	47.0	47.0	47.0
Total Split (%)	41.3%		58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	27.4		41.1	41.1	41.1	41.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9

3: Moodie Dr & Loblaws  
AM Peak

300 Moodie Drive  
2020 Total Traffic

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group						
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	10.0		71.4	71.4	71.4	71.4
Actuated g/C Ratio	0.12		0.89	0.89	0.89	0.89
v/c Ratio	0.17		0.21	0.01	0.04	0.24
Control Delay	22.0		2.0	1.5	2.6	2.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	22.0		2.0	1.5	2.6	2.0
LOS	C		A	A	A	A
Approach Delay	22.0		2.0			2.0
Approach LOS	C		A			A
Queue Length 50th (m)	2.2		0.0	0.0	0.0	0.0
Queue Length 95th (m)	9.9		18.1	1.2	m2.1	20.8
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	531		2967	1382	599	2967
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.06		0.21	0.01	0.04	0.24

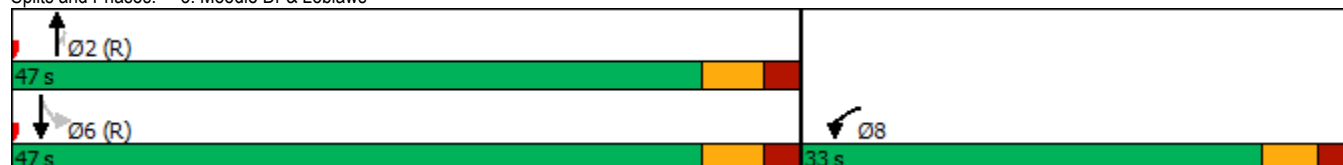
Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 58 (73%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.24  
 Intersection Signal Delay: 2.5  
 Intersection Capacity Utilization 38.8%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	1211	112	81	307	161	225	391	309	362	185	113
Future Volume (vph)	78	1211	112	81	307	161	225	391	309	362	185	113
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1631	3390	1473	1712	3232	1517	3321	3325	1532	3288	3232	1459
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1622	3390	1447	1710	3232	1486	3289	3325	1506	3272	3232	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139			161			142			137
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	6		4	4		6	6		4	4		6
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
Heavy Vehicles (%)	6%	2%	5%	1%	7%	2%	1%	4%	1%	2%	7%	6%
Adj. Flow (vph)	78	1211	112	81	307	161	225	391	309	362	185	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	1211	112	81	307	161	225	391	309	362	185	113
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	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	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	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	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	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	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	15.0	54.0	54.0	15.0	54.0	54.0	23.0	38.0	38.0	23.0	38.0	38.0
Total Split (%)	11.5%	41.5%	41.5%	11.5%	41.5%	41.5%	17.7%	29.2%	29.2%	17.7%	29.2%	29.2%
Maximum Green (s)	8.6	47.6	47.6	8.6	47.6	47.6	16.5	31.3	31.3	16.5	31.3	31.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	10.2	54.5	54.5	10.2	54.4	54.4	13.8	23.1	23.1	16.3	25.6	25.6
Actuated g/C Ratio	0.08	0.42	0.42	0.08	0.42	0.42	0.11	0.18	0.18	0.13	0.20	0.20
v/c Ratio	0.61	0.85	0.16	0.61	0.23	0.23	0.64	0.66	0.80	0.88	0.29	0.29
Control Delay	77.8	42.3	2.7	76.9	26.2	4.9	64.1	54.7	42.9	78.6	44.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	42.3	2.7	76.9	26.2	4.9	64.1	54.7	42.9	78.6	44.8	5.5
LOS	E	D	A	E	C	A	E	D	D	E	D	A
Approach Delay		41.1			27.4			53.0			56.6	
Approach LOS		D			C			D			E	
Queue Length 50th (m)	19.4	147.7	0.0	20.1	26.6	0.0	28.8	50.1	43.0	47.6	21.6	0.0
Queue Length 95th (m)	#45.3	#207.3	7.5	#46.0	40.2	14.2	41.4	61.4	71.2	#72.7	30.7	9.7
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	130	1420	686	136	1352	715	421	800	470	417	778	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.85	0.16	0.60	0.23	0.23	0.53	0.49	0.66	0.87	0.24	0.25

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 119 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 45.0

Intersection LOS: D

Intersection Capacity Utilization 85.8%



















ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

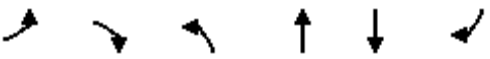



Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

								
Ø1	Ø2 (R)		Ø3			Ø4		
15 s	54 s		23 s			38 s		
								
Ø5	Ø6 (R)		Ø7			Ø8		
15 s	54 s		23 s			38 s		

5: Moodie Dr & RIRO  
AM Peak










300 Moodie Drive  
2020 Total Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	0	587	993	25
Future Volume (Veh/h)	0	22	0	587	993	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	22	0	587	993	25
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				79	219	
pX, platoon unblocked	0.94	0.92	0.92			
vC, conflicting volume	1299	509	1018			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	984	294	847			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	232	646	723			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	22	294	294	662	356	
Volume Left	0	0	0	0	0	
Volume Right	22	0	0	0	25	
cSH	646	1700	1700	1700	1700	
Volume to Capacity	0.03	0.17	0.17	0.39	0.21	
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	10.8	0.0		0.0		
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization			39.8%	ICU Level of Service		A
Analysis Period (min)			15			










6: Fitzgerald Rd & Access  
AM Peak

300 Moodie Drive  
2020 Total Traffic

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	125	236	29	17	1
Future Volume (Veh/h)	2	125	236	29	17	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	125	236	29	17	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			104			
pX, platoon unblocked						
vC, conflicting volume	265				380	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	265				380	250
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1299				622	788
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	127	265	18			
Volume Left	2	0	17			
Volume Right	0	29	1			
cSH	1299	1700	629			
Volume to Capacity	0.00	0.16	0.03			
Queue Length 95th (m)	0.0	0.0	0.7			
Control Delay (s)	0.1	0.0	10.9			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			25.0%	ICU Level of Service		A
Analysis Period (min)			15			

1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
2020 Total Traffic

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	64	158	778	821	161
Future Volume (vph)	58	64	158	778	821	161
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1547	1712	3390	3357	1547
Flt Permitted	0.950		0.251			
Satd. Flow (perm)	1695	1547	452	3390	3357	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		64				161
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			218.3	191.7	
Travel Time (s)	9.9			13.1	11.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	1%	2%	3%	0%
Adj. Flow (vph)	58	64	158	778	821	161
Shared Lane Traffic (%)						
Lane Group Flow (vph)	58	64	158	778	821	161
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6

1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
2020 Total Traffic



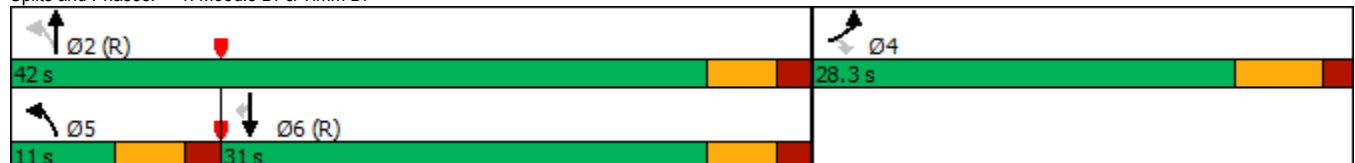
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	49.3	50.4	36.9	36.9
Actuated g/C Ratio	0.18	0.18	0.70	0.72	0.52	0.52
v/c Ratio	0.19	0.20	0.36	0.32	0.47	0.18
Control Delay	24.6	7.6	8.0	6.1	13.9	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	7.6	8.0	6.1	13.9	3.3
LOS	C	A	A	A	B	A
Approach Delay	15.7			6.5	12.1	
Approach LOS	B			A	B	
Queue Length 50th (m)	6.9	0.0	5.9	17.8	35.2	0.0
Queue Length 95th (m)	12.9	7.3	19.4	43.6	65.3	10.5
Internal Link Dist (m)	197.1			194.3	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	530	528	438	2429	1760	887
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	0.11	0.12	0.36	0.32	0.47	0.18

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.47  
Intersection Signal Delay: 9.7  
Intersection Capacity Utilization 56.1%  
Analysis Period (min) 15





















Intersection LOS: A  
ICU Level of Service B

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd  
PM Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	6	67	91	20	55	48	625	46	27	752	69
Future Volume (vph)	206	6	67	91	20	55	48	625	46	27	752	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Frt		0.862			0.890			0.990			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	1506	0	1695	1605	0	1453	3345	0	1662	3329	0
Flt Permitted	0.708			0.709			0.312			0.382		
Satd. Flow (perm)	1275	1506	0	1262	1605	0	477	3345	0	666	3329	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			55			14			17	
Link Speed (k/h)		48			48			60			60	
Link Distance (m)		106.9			87.6			186.4			79.2	
Travel Time (s)		8.0			6.6			11.2			4.8	
Confl. Peds. (#/hr)	1		4	4		1	2		8	8		2
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
Heavy Vehicles (%)	1%	0%	3%	2%	0%	0%	19%	2%	4%	4%	2%	6%
Adj. Flow (vph)	206	6	67	91	20	55	48	625	46	27	752	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	206	73	0	91	75	0	48	671	0	27	821	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd  
PM Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	17.6	17.6		17.6	17.6		40.7	40.7		40.7	40.7	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.58	0.58		0.58	0.58	
v/c Ratio	0.64	0.17		0.29	0.17		0.17	0.34		0.07	0.42	
Control Delay	31.5	6.2		21.0	8.0		9.0	7.1		10.0	10.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.5	6.2		21.0	8.0		9.0	7.1		10.0	10.2	
LOS	C	A		C	A		A	A		A	B	
Approach Delay		24.8			15.2			7.2			10.1	
Approach LOS		C			B			A			B	
Queue Length 50th (m)	24.6	0.6		9.8	2.0		2.1	14.5		1.3	26.5	
Queue Length 95th (m)	34.9	7.3		16.4	8.5		6.0	23.2		6.4	55.8	
Internal Link Dist (m)		82.9			63.6			162.4			55.2	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	510	642		504	675		277	1949		387	1941	
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	0.40	0.11		0.18	0.11		0.17	0.34		0.07	0.42	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 11.5

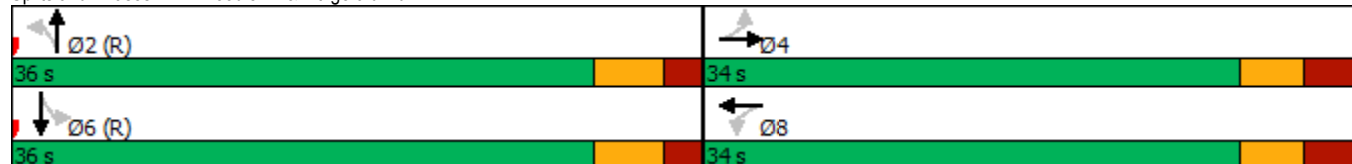
Intersection LOS: B

Intersection Capacity Utilization 66.4%

ICU Level of Service C












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd



3: Moodie Dr & Loblaws  
PM Peak

300 Moodie Drive  
2020 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	107	51	655	52	75	839
Future Volume (vph)	107	51	655	52	75	839
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99			0.98	1.00	
Frt	0.956			0.850		
Flt Protected	0.967				0.950	
Satd. Flow (prot)	1537	0	3357	1547	1712	3357
Flt Permitted	0.967				0.403	
Satd. Flow (perm)	1537	0	3357	1511	725	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	40			52		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)		10		2	2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	4%	3%	0%	1%	3%
Adj. Flow (vph)	107	51	655	52	75	839
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	0	655	52	75	839
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2

3: Moodie Dr & Loblaws  
PM Peak

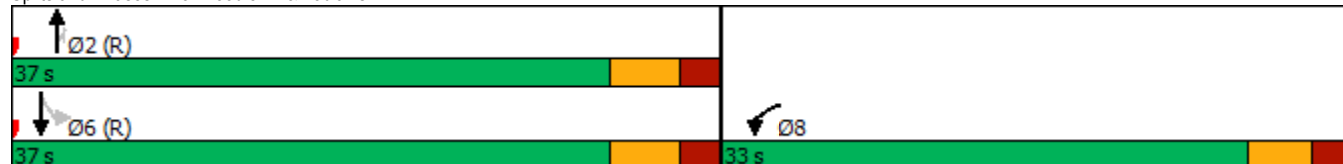
300 Moodie Drive  
2020 Total Traffic

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group						
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.0		46.5	46.5	46.5	46.5
Actuated g/C Ratio	0.17		0.66	0.66	0.66	0.66
v/c Ratio	0.53		0.29	0.05	0.16	0.38
Control Delay	25.9		5.7	1.9	3.1	2.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	25.9		5.7	1.9	3.1	2.9
LOS	C		A	A	A	A
Approach Delay	25.9		5.4			2.9
Approach LOS	C		A			A
Queue Length 50th (m)	14.4		14.7	0.0	1.5	9.0
Queue Length 95th (m)	28.2		28.1	3.5	3.6	12.8
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	625		2227	1020	481	2227
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.25		0.29	0.05	0.16	0.38

Intersection Summary

























Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 6.0	Intersection LOS: A
Intersection Capacity Utilization 55.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Moodie Dr & Loblaws



4: Moodie Dr & Robertson Rd  
PM Peak













300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	536	269	225	901	331	225	237	148	290	451	198
Future Volume (vph)	126	536	269	225	901	331	225	237	148	290	451	198
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.98	0.99		0.96	0.97		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	3390	1517	1729	3424	1532	3288	3293	1532	3288	3357	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1675	3390	1469	1713	3424	1503	3248	3293	1477	3192	3357	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			269			331			206			206
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	5		15	15		5	12		21	21		12
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
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	2%	5%	1%	2%	3%	2%
Adj. Flow (vph)	126	536	269	225	901	331	225	237	148	290	451	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	536	269	225	901	331	225	237	148	290	451	198
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	18.0	34.1	34.1	28.2	44.3	44.3	18.4	37.7	37.7	20.0	39.3	39.3
Total Split (%)	15.0%	28.4%	28.4%	23.5%	36.9%	36.9%	15.3%	31.4%	31.4%	16.7%	32.8%	32.8%
Maximum Green (s)	11.6	27.7	27.7	21.8	37.9	37.9	11.9	31.0	31.0	13.5	32.6	32.6
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0



4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	14.0	39.5	39.5	20.4	46.0	46.0	11.5	20.8	20.8	13.2	22.5	22.5
Actuated g/C Ratio	0.12	0.33	0.33	0.17	0.38	0.38	0.10	0.17	0.17	0.11	0.19	0.19
v/c Ratio	0.64	0.48	0.41	0.77	0.69	0.42	0.72	0.42	0.35	0.81	0.72	0.44
Control Delay	65.7	36.0	6.3	64.2	35.9	5.0	65.9	45.4	3.6	69.6	52.0	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	36.0	6.3	64.2	35.9	5.0	65.9	45.4	3.6	69.6	52.0	7.9
LOS	E	D	A	E	D	A	E	D	A	E	D	A
Approach Delay		31.4			33.2			42.8			48.1	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	28.5	53.2	0.0	50.8	94.1	0.0	26.8	26.4	0.0	34.7	53.1	0.0
Queue Length 95th (m)	48.4	80.2	21.4	74.6	128.8	20.4	39.9	36.2	4.8	#54.0	66.0	16.6
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	201	1117	664	330	1311	779	326	850	534	369	911	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.48	0.41	0.68	0.69	0.42	0.69	0.28	0.28	0.79	0.50	0.36

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 37.9

Intersection LOS: D

Intersection Capacity Utilization 83.2%













ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.










Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
28.2 s	34.1 s		18.4 s	39.3 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
18 s	44.3 s		20 s	37.7 s	

5: Moodie Dr & RIRO  
PM Peak

300 Moodie Drive  
2020 Total Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	24	0	896	859	22
Future Volume (Veh/h)	0	24	0	896	859	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	24	0	896	859	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				79	218	
pX, platoon unblocked	0.90	0.85	0.85			
vC, conflicting volume	1318	440	881			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	660	0	515			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	356	925	892			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	24	448	448	573	308	
Volume Left	0	0	0	0	0	
Volume Right	24	0	0	0	22	
cSH	925	1700	1700	1700	1700	
Volume to Capacity	0.03	0.26	0.26	0.34	0.18	
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	
Control Delay (s)	9.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	9.0	0.0		0.0		
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization			35.8%	ICU Level of Service		A
Analysis Period (min)			15			

6: Fitzgerald Rd & Access  
PM Peak

300 Moodie Drive  
2020 Total Traffic



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	257	108	29	22	1
Future Volume (Veh/h)	2	257	108	29	22	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	257	108	29	22	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			107			
pX, platoon unblocked						
vC, conflicting volume	137				384	122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137				384	122
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				96	100
cM capacity (veh/h)	1447				618	929
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	259	137	23			
Volume Left	2	0	22			
Volume Right	0	29	1			
cSH	1447	1700	627			
Volume to Capacity	0.00	0.08	0.04			
Queue Length 95th (m)	0.0	0.0	0.9			
Control Delay (s)	0.1	0.0	11.0			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	11.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			26.0%	ICU Level of Service		A
Analysis Period (min)			15			

1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	67	68	503	580	30
Future Volume (vph)	22	67	68	503	580	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1729	1547	1729	3424	3424	1547
Flt Permitted	0.950		0.377			
Satd. Flow (perm)	1729	1547	686	3424	3424	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		67				30
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			224.9	191.7	
Travel Time (s)	9.9			13.5	11.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%
Adj. Flow (vph)	22	67	68	503	580	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	67	68	503	580	30
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6

1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic



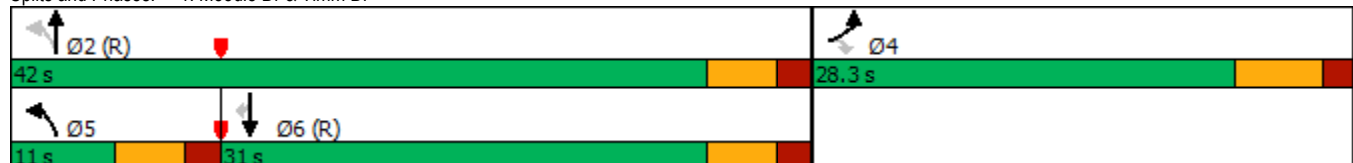
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	52.5	54.8	47.7	47.7
Actuated g/C Ratio	0.18	0.18	0.75	0.78	0.68	0.68
v/c Ratio	0.07	0.20	0.11	0.19	0.25	0.03
Control Delay	22.3	7.6	5.8	4.8	9.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	7.6	5.8	4.8	9.8	5.5
LOS	C	A	A	A	A	A
Approach Delay	11.2			4.9	9.6	
Approach LOS	B			A	A	
Queue Length 50th (m)	2.6	0.0	2.4	10.4	21.5	0.0
Queue Length 95th (m)	6.4	7.6	9.6	26.7	43.5	4.7
Internal Link Dist (m)	197.1			200.9	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	541	530	599	2667	2323	1059
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	0.04	0.13	0.11	0.19	0.25	0.03

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.25  
Intersection Signal Delay: 7.6  
Intersection Capacity Utilization 44.0%  
Analysis Period (min) 15





















Intersection LOS: A  
ICU Level of Service A

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	3	32	19	2	17	54	407	10	12	552	42
Future Volume (vph)	72	3	32	19	2	17	54	407	10	12	552	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				0.99		1.00	1.00		1.00	1.00	
Frt		0.863			0.866			0.996			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	1439	0	1729	1555	0	1729	3409	0	1729	3371	0
Flt Permitted	0.745			0.734			0.428			0.508		
Satd. Flow (perm)	1352	1439	0	1336	1555	0	778	3409	0	923	3371	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			17			4			14	
Link Speed (k/h)		48			48			60			60	
Link Distance (m)		101.2			87.6			186.4			72.7	
Travel Time (s)		7.6			6.6			11.2			4.4	
Confl. Peds. (#/hr)	4					4	2		2	2		2
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
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%	0%	1%	0%	0%	1%	5%
Adj. Flow (vph)	72	3	32	19	2	17	54	407	10	12	552	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	35	0	19	19	0	54	417	0	12	594	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	13.7	13.7		13.7	13.7		48.9	48.9		48.9	48.9	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.70	0.70		0.70	0.70	
v/c Ratio	0.27	0.11		0.07	0.06		0.10	0.18		0.02	0.25	
Control Delay	24.3	8.3		19.9	9.4		6.5	5.1		8.1	6.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.3	8.3		19.9	9.4		6.5	5.1		8.1	6.7	
LOS	C	A		B	A		A	A		A	A	
Approach Delay		19.0			14.7			5.3			6.7	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	8.7	0.3		2.2	0.3		1.9	7.9		0.4	12.2	
Queue Length 95th (m)	13.3	5.0		5.0	3.6		6.2	15.1		3.6	38.1	
Internal Link Dist (m)		77.2			63.6			162.4			48.7	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	540	594		534	632		543	2382		644	2359	
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	0.13	0.06		0.04	0.03		0.10	0.18		0.02	0.25	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 7.5

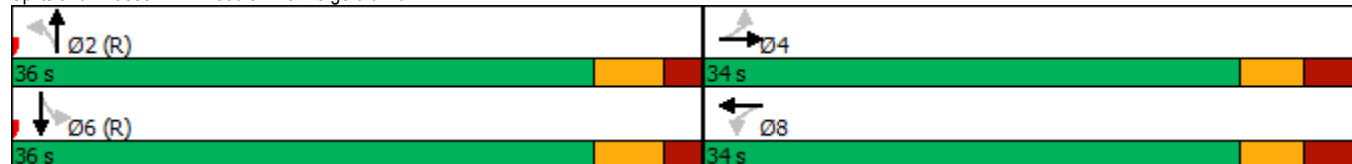
Intersection LOS: A

Intersection Capacity Utilization 54.5%

ICU Level of Service A












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd



3: Moodie Dr & Loblaw's  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	27	35	436	109	21	583
Future Volume (vph)	27	35	436	109	21	583
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00					
Frt	0.924			0.850		
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1646	0	3424	1547	1729	3424
Flt Permitted	0.979				0.499	
Satd. Flow (perm)	1646	0	3424	1547	908	3424
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	35			109		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)	1					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	27	35	436	109	21	583
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	436	109	21	583
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2



3: Moodie Dr & Loblaws  
Saturday Peak

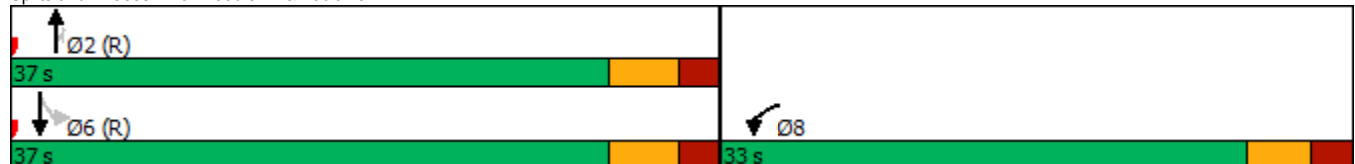
300 Moodie Drive  
2020 Total Traffic

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	2		2	2		
Act Effct Green (s)	13.4		53.7	53.7	53.7	53.7
Actuated g/C Ratio	0.19		0.77	0.77	0.77	0.77
v/c Ratio	0.18		0.17	0.09	0.03	0.22
Control Delay	12.5		5.5	2.4	2.0	1.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	12.5		5.5	2.4	2.0	1.5
LOS	B		A	A	A	A
Approach Delay	12.5		4.9			1.5
Approach LOS	B		A			A
Queue Length 50th (m)	3.1		8.6	0.0	0.2	3.2
Queue Length 95th (m)	8.8		27.0	7.3	1.0	6.0
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	665		2626	1212	696	2626
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.09		0.17	0.09	0.03	0.22

Intersection Summary

























Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.22	
Intersection Signal Delay: 3.6	Intersection LOS: A
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	717	189	174	587	122	240	246	191	219	217	162
Future Volume (vph)	166	717	189	174	587	122	240	246	191	219	217	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.99	1.00			1.00		0.97	0.98		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3424	1547	1729	3424	1532	3321	3424	1532	3321	3424	1532
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1729	3424	1524	1727	3424	1532	3316	3424	1489	3256	3424	1511
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			139			191			162
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)			2	2			1		13	13		1
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
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	166	717	189	174	587	122	240	246	191	219	217	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	717	189	174	587	122	240	246	191	219	217	162
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	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	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	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	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	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	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	26.0	35.0	35.0	31.0	40.0	40.0	27.0	37.7	37.7	27.0	37.7	37.7
Total Split (%)	19.9%	26.8%	26.8%	23.7%	30.6%	30.6%	20.7%	28.8%	28.8%	20.7%	28.8%	28.8%
Maximum Green (s)	19.6	28.6	28.6	24.6	33.6	33.6	20.5	31.0	31.0	20.5	31.0	31.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	17.2	54.9	54.9	18.4	56.1	56.1	14.7	17.5	17.5	13.9	16.7	16.7
Actuated g/C Ratio	0.13	0.42	0.42	0.14	0.43	0.43	0.11	0.13	0.13	0.11	0.13	0.13
v/c Ratio	0.73	0.50	0.25	0.72	0.40	0.17	0.64	0.54	0.52	0.62	0.50	0.49
Control Delay	72.7	32.4	5.9	69.6	29.7	4.5	63.3	55.9	11.2	63.4	55.6	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.7	32.4	5.9	69.6	29.7	4.5	63.3	55.9	11.2	63.4	55.6	11.5
LOS	E	C	A	E	C	A	E	E	B	E	E	B
Approach Delay		34.0			34.1			45.9			46.5	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	41.5	67.5	0.0	43.4	52.2	0.0	30.9	32.3	0.0	28.2	28.5	0.0
Queue Length 95th (m)	63.4	#129.2	18.6	64.2	91.6	11.2	43.2	39.2	18.3	40.1	35.4	17.4
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	266	1438	749	326	1469	736	520	817	500	520	812	481
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.50	0.25	0.53	0.40	0.17	0.46	0.30	0.38	0.42	0.27	0.34

Intersection Summary

Area Type: Other

Cycle Length: 130.7

Actuated Cycle Length: 130.7

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 38.8

Intersection LOS: D

Intersection Capacity Utilization 75.4%













ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.












Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
31 s	35 s		27 s	37.7 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
26 s	40 s		27 s	37.7 s	

5: Moodie Dr & RIRO  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (veh/h)	0	31	0	499	612	32
Future Volume (Veh/h)	0	31	0	499	612	32
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	31	0	499	612	32
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				73	225	
pX, platoon unblocked	0.96	0.94	0.94			
vC, conflicting volume	878	322	644			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	622	159	500			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	100			
cM capacity (veh/h)	402	809	999			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	31	250	250	408	236	
Volume Left	0	0	0	0	0	
Volume Right	31	0	0	0	32	
cSH	809	1700	1700	1700	1700	
Volume to Capacity	0.04	0.15	0.15	0.24	0.14	
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	9.6	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			28.9%	ICU Level of Service		A
Analysis Period (min)			15			

6: Fitzgerald Rd & Access  
Saturday Peak

300 Moodie Drive  
2020 Total Traffic



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	82	60	38	25	1
Future Volume (Veh/h)	1	82	60	38	25	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1	82	60	38	25	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			101			
pX, platoon unblocked						
vC, conflicting volume	98				163	79
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	98				163	79
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1495				827	981
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	83	98	26			
Volume Left	1	0	25			
Volume Right	0	38	1			
cSH	1495	1700	832			
Volume to Capacity	0.00	0.06	0.03			
Queue Length 95th (m)	0.0	0.0	0.7			
Control Delay (s)	0.1	0.0	9.5			
Lane LOS	A		A			
Approach Delay (s)	0.1	0.0	9.5			
Approach LOS			A			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			15.8%	ICU Level of Service		A
Analysis Period (min)			15			

1: Moodie Dr & Timm Dr  
AM Peak

300 Moodie Drive  
2025 Total Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	134	230	61	537	922	83
Future Volume (vph)	134	230	61	537	922	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.99				
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1712	1517	1695	3325	3325	1502
Flt Permitted	0.950		0.290			
Satd. Flow (perm)	1712	1497	517	3325	3325	1502
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		133				83
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			225.7	191.7	
Travel Time (s)	9.9			13.5	11.5	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	2%	2%	4%	4%	3%
Adj. Flow (vph)	134	230	61	537	922	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	230	61	537	922	83
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	15.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	52.0	52.0	52.0	52.0
Total Split (%)	35.2%	35.2%	64.8%	64.8%	64.8%	64.8%
Maximum Green (s)	22.0	22.0	46.4	46.4	46.4	46.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9

1: Moodie Dr & Timm Dr  
AM Peak

300 Moodie Drive  
2025 Total Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	12.8	12.8	55.6	55.6	55.6	55.6
Actuated g/C Ratio	0.16	0.16	0.69	0.69	0.69	0.69
v/c Ratio	0.49	0.66	0.17	0.23	0.40	0.08
Control Delay	36.2	22.7	6.7	5.3	6.4	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	22.7	6.7	5.3	6.4	1.6
LOS	D	C	A	A	A	A
Approach Delay	27.7			5.4	6.0	
Approach LOS	C			A	A	
Queue Length 50th (m)	19.3	13.7	2.6	12.5	24.8	0.0
Queue Length 95th (m)	32.3	32.4	9.2	24.5	46.4	4.5
Internal Link Dist (m)	197.1			201.7	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	469	506	357	2300	2300	1064
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	0.29	0.45	0.17	0.23	0.40	0.08

Intersection Summary

Area Type: Other

Cycle Length: 80.3

Actuated Cycle Length: 80.3

Offset: 6 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 9.8

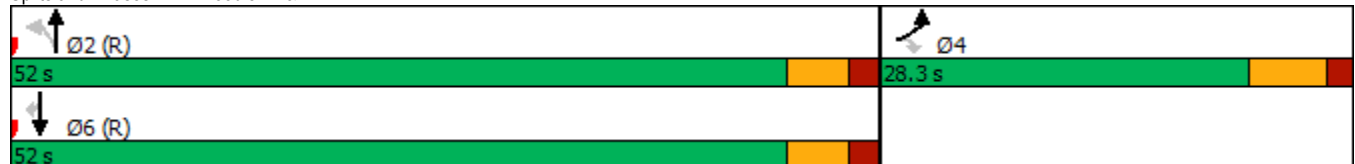
Intersection LOS: A

Intersection Capacity Utilization 58.2%

ICU Level of Service B





















Analysis Period (min) 15

Splits and Phases: 1: Moodie Dr & Timm Dr



2: Moodie Dr & Fitzgerald Rd  
AM Peak













300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	28	25	18	6	8	73	538	64	111	770	186
Future Volume (vph)	89	28	25	18	6	8	73	538	64	111	770	186
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Frt		0.929			0.914			0.984			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	1534	0	1729	1410	0	1695	3297	0	1712	3225	0
Flt Permitted	0.748			0.722			0.280			0.424		
Satd. Flow (perm)	1318	1534	0	1311	1410	0	499	3297	0	761	3225	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			8			23			53	
Link Speed (k/h)		48			48			60			60	
Link Distance (m)		101.2			87.6			186.4			71.9	
Travel Time (s)		7.6			6.6			11.2			4.3	
Confl. Peds. (#/hr)	3		3	3		3	3		6	6		3
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
Heavy Vehicles (%)	3%	0%	20%	0%	17%	17%	2%	3%	2%	1%	4%	2%
Adj. Flow (vph)	89	28	25	18	6	8	73	538	64	111	770	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	53	0	18	14	0	73	602	0	111	956	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%		57.5%	57.5%		57.5%	57.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0		40.3	40.3		40.3	40.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	



2: Moodie Dr & Fitzgerald Rd  
AM Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	14.3	14.3		14.3	14.3		58.4	58.4		58.4	58.4	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.73	0.73		0.73	0.73	
v/c Ratio	0.38	0.18		0.08	0.05		0.20	0.25		0.20	0.40	
Control Delay	31.6	16.4		24.2	16.1		7.0	4.3		8.1	7.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.6	16.4		24.2	16.1		7.0	4.3		8.1	7.0	
LOS	C	B		C	B		A	A		A	A	
Approach Delay		25.9			20.7			4.6			7.1	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	12.8	3.8		2.5	0.8		3.1	13.4		4.5	22.9	
Queue Length 95th (m)	19.5	9.9		6.0	4.2		15.5	38.1		19.8	64.8	
Internal Link Dist (m)		77.2			63.6			162.4			47.9	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	461	553		458	498		364	2411		555	2366	
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	0.19	0.10		0.04	0.03		0.20	0.25		0.20	0.40	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 68 (85%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 7.8

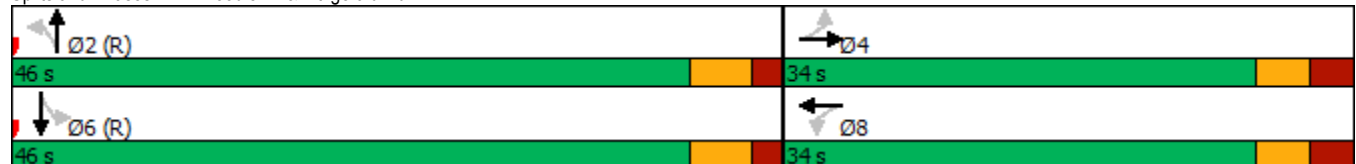
Intersection LOS: A

Intersection Capacity Utilization 64.6%

ICU Level of Service C












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd









3: Moodie Dr & Loblaw's  
AM Peak

300 Moodie Drive  
2025 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	18	673	15	21	791
Future Volume (vph)	16	18	673	15	21	791
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.929			0.850		
Flt Protected	0.977				0.950	
Satd. Flow (prot)	1516	0	3325	1547	1517	3325
Flt Permitted	0.977				0.396	
Satd. Flow (perm)	1516	0	3325	1547	632	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	18			15		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	19%	0%	4%	0%	14%	4%
Adj. Flow (vph)	16	18	673	15	21	791
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	673	15	21	791
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		47.0	47.0	47.0	47.0
Total Split (%)	41.3%		58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	27.4		41.1	41.1	41.1	41.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9

3: Moodie Dr & Loblaws  
AM Peak

300 Moodie Drive  
2025 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	10.0		71.4	71.4	71.4	71.4
Actuated g/C Ratio	0.12		0.89	0.89	0.89	0.89
v/c Ratio	0.17		0.23	0.01	0.04	0.27
Control Delay	22.0		2.1	1.5	3.2	2.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	22.0		2.1	1.5	3.2	2.3
LOS	C		A	A	A	A
Approach Delay	22.0		2.1			2.4
Approach LOS	C		A			A
Queue Length 50th (m)	2.2		0.0	0.0	0.0	0.0
Queue Length 95th (m)	9.9		20.1	1.2	m2.3	27.1
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	531		2967	1382	564	2967
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.06		0.23	0.01	0.04	0.27

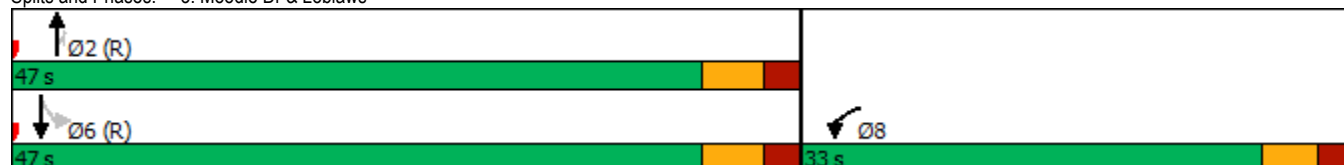
Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 58 (73%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.27  
 Intersection Signal Delay: 2.7  
 Intersection Capacity Utilization 41.0%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	1211	112	81	307	161	225	420	309	362	204	113
Future Volume (vph)	78	1211	112	81	307	161	225	420	309	362	204	113
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1631	3390	1473	1712	3232	1517	3321	3325	1532	3288	3232	1459
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1622	3390	1447	1710	3232	1486	3290	3325	1506	3273	3232	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			139			161			142			137
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	6		4	4		6	6		4	4		6
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
Heavy Vehicles (%)	6%	2%	5%	1%	7%	2%	1%	4%	1%	2%	7%	6%
Adj. Flow (vph)	78	1211	112	81	307	161	225	420	309	362	204	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	1211	112	81	307	161	225	420	309	362	204	113
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	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	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	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	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	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	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	15.0	54.0	54.0	15.0	54.0	54.0	23.0	38.0	38.0	23.0	38.0	38.0
Total Split (%)	11.5%	41.5%	41.5%	11.5%	41.5%	41.5%	17.7%	29.2%	29.2%	17.7%	29.2%	29.2%
Maximum Green (s)	8.6	47.6	47.6	8.6	47.6	47.6	16.5	31.3	31.3	16.5	31.3	31.3
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
AM Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	10.2	53.8	53.8	10.2	53.7	53.7	13.8	23.8	23.8	16.3	26.3	26.3
Actuated g/C Ratio	0.08	0.41	0.41	0.08	0.41	0.41	0.11	0.18	0.18	0.13	0.20	0.20
v/c Ratio	0.61	0.86	0.16	0.61	0.23	0.23	0.64	0.69	0.79	0.88	0.31	0.28
Control Delay	77.8	43.4	2.7	76.9	26.6	4.9	64.1	55.3	41.3	78.6	44.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.8	43.4	2.7	76.9	26.6	4.9	64.1	55.3	41.3	78.6	44.8	5.4
LOS	E	D	A	E	C	A	E	E	D	E	D	A
Approach Delay		42.1			27.7			52.8			56.3	
Approach LOS		D			C			D			E	
Queue Length 50th (m)	19.4	150.5	0.0	20.1	27.1	0.0	28.8	53.7	42.4	47.6	23.7	0.0
Queue Length 95th (m)	#45.3	#207.3	7.5	#46.0	40.2	14.2	41.4	66.0	71.2	#72.7	33.4	9.7
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	130	1402	679	136	1335	708	421	800	470	417	778	448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.86	0.16	0.60	0.23	0.23	0.53	0.53	0.66	0.87	0.26	0.25

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 119 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 45.4

Intersection LOS: D

Intersection Capacity Utilization 86.6%













ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

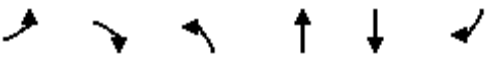



Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
15 s	54 s		23 s	38 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
15 s	54 s		23 s	38 s	










5: Moodie Dr & RIRO  
AM Peak

300 Moodie Drive  
2025 Total Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	0	647	1096	25
Future Volume (Veh/h)	0	22	0	647	1096	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	22	0	647	1096	25
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				72	226	
pX, platoon unblocked	0.93	0.90	0.90			
vC, conflicting volume	1432	560	1121			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1045	287	910			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	207	638	669			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	22	324	324	731	390	
Volume Left	0	0	0	0	0	
Volume Right	22	0	0	0	25	
cSH	638	1700	1700	1700	1700	
Volume to Capacity	0.03	0.19	0.19	0.43	0.23	
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	10.8	0.0		0.0		
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization			42.8%	ICU Level of Service		A
Analysis Period (min)			15			

6: Fitzgerald Rd & Access  
AM Peak

300 Moodie Drive  
2025 Total Traffic

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	125	236	29	17	1
Future Volume (Veh/h)	2	125	236	29	17	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	125	236	29	17	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			101			
pX, platoon unblocked						
vC, conflicting volume	265				380	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	265				380	250
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1299				622	788
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	127	265	18			
Volume Left	2	0	17			
Volume Right	0	29	1			
cSH	1299	1700	629			
Volume to Capacity	0.00	0.16	0.03			
Queue Length 95th (m)	0.0	0.0	0.7			
Control Delay (s)	0.1	0.0	10.9			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			25.0%	ICU Level of Service		A
Analysis Period (min)			15			

1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
2025 Total Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	71	78	192	857	905	196
Future Volume (vph)	71	78	192	857	905	196
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1695	1547	1712	3390	3357	1547
Flt Permitted	0.950		0.214			
Satd. Flow (perm)	1695	1547	386	3390	3357	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		78				196
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			227.5	191.7	
Travel Time (s)	9.9			13.7	11.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	1%	2%	3%	0%
Adj. Flow (vph)	71	78	192	857	905	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	78	192	857	905	196
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6



1: Moodie Dr & Timm Dr  
PM Peak

300 Moodie Drive  
2025 Total Traffic



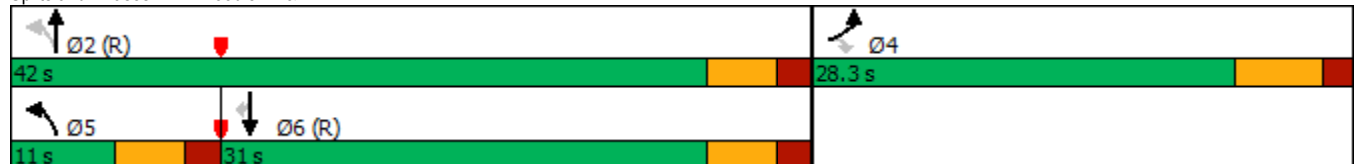
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	49.3	50.4	35.8	35.8
Actuated g/C Ratio	0.18	0.18	0.70	0.72	0.51	0.51
v/c Ratio	0.24	0.23	0.46	0.35	0.53	0.22
Control Delay	25.3	7.4	10.7	6.4	15.2	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	7.4	10.7	6.4	15.2	3.2
LOS	C	A	B	A	B	A
Approach Delay	16.0			7.2	13.1	
Approach LOS	B			A	B	
Queue Length 50th (m)	8.5	0.0	7.3	20.3	42.2	0.0
Queue Length 95th (m)	15.0	8.2	#26.0	49.2	73.9	11.6
Internal Link Dist (m)	197.1			203.5	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	530	537	418	2429	1711	884
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	0.13	0.15	0.46	0.35	0.53	0.22

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.53  
Intersection Signal Delay: 10.6  
Intersection Capacity Utilization 60.6%  
Analysis Period (min) 15  
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.





















Intersection LOS: B  
ICU Level of Service B

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd  
PM Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	6	67	91	20	55	48	691	46	27	829	69
Future Volume (vph)	206	6	67	91	20	55	48	691	46	27	829	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Frt		0.862			0.890			0.991			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	1506	0	1695	1605	0	1453	3349	0	1662	3334	0
Flt Permitted	0.708			0.709			0.280			0.350		
Satd. Flow (perm)	1275	1506	0	1262	1605	0	428	3349	0	610	3334	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			55			12			15	
Link Speed (k/h)		48			48			60			60	
Link Distance (m)		102.5			87.6			186.4			70.1	
Travel Time (s)		7.7			6.6			11.2			4.2	
Confl. Peds. (#/hr)	1		4	4		1	2		8	8		2
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
Heavy Vehicles (%)	1%	0%	3%	2%	0%	0%	19%	2%	4%	4%	2%	6%
Adj. Flow (vph)	206	6	67	91	20	55	48	691	46	27	829	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	206	73	0	91	75	0	48	737	0	27	898	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd  
PM Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	17.6	17.6		17.6	17.6		40.7	40.7		40.7	40.7	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.58	0.58		0.58	0.58	
v/c Ratio	0.64	0.17		0.29	0.17		0.19	0.38		0.08	0.46	
Control Delay	31.5	6.2		21.0	8.0		9.4	7.2		10.1	10.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.5	6.2		21.0	8.0		9.4	7.2		10.1	10.6	
LOS	C	A		C	A		A	A		B	B	
Approach Delay		24.8			15.2			7.4			10.6	
Approach LOS		C			B			A			B	
Queue Length 50th (m)	24.6	0.6		9.8	2.0		2.1	16.2		1.4	29.8	
Queue Length 95th (m)	34.9	7.3		16.4	8.5		6.0	25.0		6.5	62.8	
Internal Link Dist (m)		78.5			63.6			162.4			46.1	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	510	642		504	675		248	1951		354	1943	
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	0.40	0.11		0.18	0.11		0.19	0.38		0.08	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 11.6

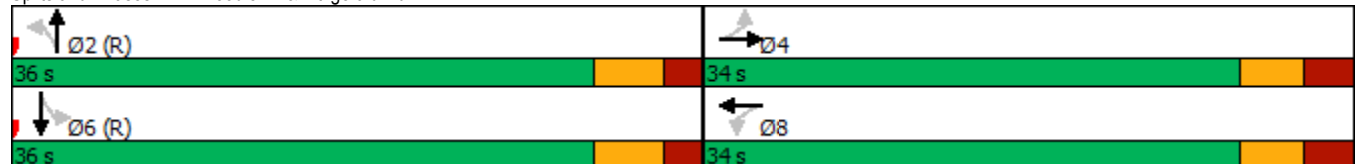
Intersection LOS: B

Intersection Capacity Utilization 68.6%

ICU Level of Service C












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd









3: Moodie Dr & Loblaws  
PM Peak

300 Moodie Drive  
2025 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	107	51	721	52	75	926
Future Volume (vph)	107	51	721	52	75	926
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99			0.98	1.00	
Frt	0.956			0.850		
Flt Protected	0.967				0.950	
Satd. Flow (prot)	1537	0	3357	1547	1712	3357
Flt Permitted	0.967				0.375	
Satd. Flow (perm)	1537	0	3357	1511	675	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	40			52		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)		10		2	2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	4%	3%	0%	1%	3%
Adj. Flow (vph)	107	51	721	52	75	926
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	0	721	52	75	926
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2

3: Moodie Dr & Loblaws  
PM Peak

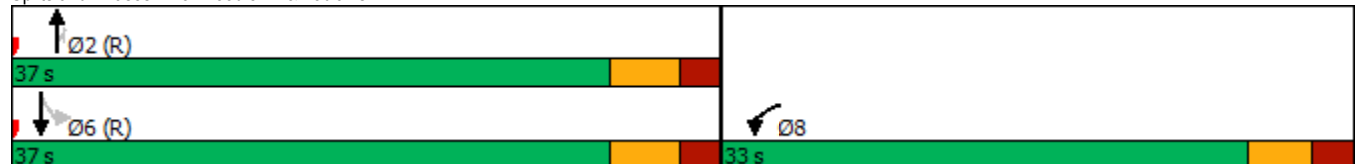
300 Moodie Drive  
2025 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.0		46.5	46.5	46.5	46.5
Actuated g/C Ratio	0.17		0.66	0.66	0.66	0.66
v/c Ratio	0.53		0.32	0.05	0.17	0.42
Control Delay	25.9		5.9	1.9	3.1	2.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	25.9		5.9	1.9	3.1	2.9
LOS	C		A	A	A	A
Approach Delay	25.9		5.6			2.9
Approach LOS	C		A			A
Queue Length 50th (m)	14.4		16.6	0.0	1.4	9.3
Queue Length 95th (m)	28.2		31.4	3.5	3.4	13.1
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	625		2227	1020	447	2227
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.25		0.32	0.05	0.17	0.42

Intersection Summary

























Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 5.9	Intersection LOS: A
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Moodie Dr & Loblaws















4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	536	269	225	901	331	225	261	148	290	498	198
Future Volume (vph)	126	536	269	225	901	331	225	261	148	290	498	198
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.98	0.99		0.96	0.97		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	3390	1517	1729	3424	1532	3288	3293	1532	3288	3357	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1675	3390	1469	1713	3424	1503	3250	3293	1477	3195	3357	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			269			331			206			206
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)	5		15	15		5	12		21	21		12
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
Heavy Vehicles (%)	3%	2%	2%	0%	1%	1%	2%	5%	1%	2%	3%	2%
Adj. Flow (vph)	126	536	269	225	901	331	225	261	148	290	498	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	536	269	225	901	331	225	261	148	290	498	198
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	18.0	34.1	34.1	28.2	44.3	44.3	18.4	37.7	37.7	20.0	39.3	39.3
Total Split (%)	15.0%	28.4%	28.4%	23.5%	36.9%	36.9%	15.3%	31.4%	31.4%	16.7%	32.8%	32.8%
Maximum Green (s)	11.6	27.7	27.7	21.8	37.9	37.9	11.9	31.0	31.0	13.5	32.6	32.6
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0

4: Moodie Dr & Robertson Rd  
PM Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	13.7	38.3	38.3	20.1	44.7	44.7	11.5	22.5	22.5	13.2	24.2	24.2
Actuated g/C Ratio	0.11	0.32	0.32	0.17	0.37	0.37	0.10	0.19	0.19	0.11	0.20	0.20
v/c Ratio	0.66	0.50	0.41	0.78	0.71	0.43	0.72	0.42	0.33	0.81	0.74	0.43
Control Delay	67.7	37.1	6.5	66.0	37.3	5.1	65.9	44.3	3.3	69.6	51.4	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	37.1	6.5	66.0	37.3	5.1	65.9	44.3	3.3	69.6	51.4	7.4
LOS	E	D	A	E	D	A	E	D	A	E	D	A
Approach Delay		32.4			34.4			42.4			47.9	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	28.5	54.3	0.0	50.8	96.3	0.0	26.8	28.8	0.0	34.7	58.5	0.0
Queue Length 95th (m)	#54.0	80.2	21.4	76.1	128.8	20.4	39.9	38.8	4.7	#54.0	71.5	16.3
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	196	1080	652	325	1274	767	326	850	534	369	911	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.50	0.41	0.69	0.71	0.43	0.69	0.31	0.28	0.79	0.55	0.36

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 100 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 38.5

Intersection LOS: D

Intersection Capacity Utilization 83.2%













ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.





Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd

					
Ø1	Ø2 (R)		Ø3	Ø4	
28.2 s	34.1 s		18.4 s	39.3 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
18 s	44.3 s		20 s	37.7 s	

5: Moodie Dr & RIRO  
PM Peak

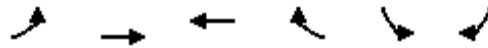
300 Moodie Drive  
2025 Total Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	24	0	988	949	22
Future Volume (Veh/h)	0	24	0	988	949	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	24	0	988	949	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				70	227	
pX, platoon unblocked	0.88	0.82	0.82			
vC, conflicting volume	1454	486	971			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	679	0	537			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	338	893	846			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	24	494	494	633	338	
Volume Left	0	0	0	0	0	
Volume Right	24	0	0	0	22	
cSH	893	1700	1700	1700	1700	
Volume to Capacity	0.03	0.29	0.29	0.37	0.20	
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	
Control Delay (s)	9.1	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	9.1	0.0		0.0		
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization			38.4%	ICU Level of Service		A
Analysis Period (min)			15			



6: Fitzgerald Rd & Access  
PM Peak

300 Moodie Drive  
2025 Total Traffic



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	257	108	29	22	1
Future Volume (Veh/h)	2	257	108	29	22	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	257	108	29	22	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			102			
pX, platoon unblocked						
vC, conflicting volume	137				384	122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137				384	122
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				96	100
cM capacity (veh/h)	1447				618	929
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	259	137	23			
Volume Left	2	0	22			
Volume Right	0	29	1			
cSH	1447	1700	627			
Volume to Capacity	0.00	0.08	0.04			
Queue Length 95th (m)	0.0	0.0	0.9			
Control Delay (s)	0.1	0.0	11.0			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	11.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			26.0%	ICU Level of Service		A
Analysis Period (min)			15			

1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	26	82	83	554	638	37
Future Volume (vph)	26	82	83	554	638	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	100.0	120.0			40.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.6		60.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1729	1547	1729	3424	3424	1547
Flt Permitted	0.950		0.338			
Satd. Flow (perm)	1729	1547	615	3424	3424	1547
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		82				37
Link Speed (k/h)	80			60	60	
Link Distance (m)	221.1			227.4	191.7	
Travel Time (s)	9.9			13.6	11.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%
Adj. Flow (vph)	26	82	83	554	638	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	82	83	554	638	37
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	6.1
Trailing Detector (m)	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
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	28.3	28.3	10.6	15.6	24.6	24.6
Total Split (s)	28.3	28.3	11.0	42.0	31.0	31.0
Total Split (%)	40.3%	40.3%	15.6%	59.7%	44.1%	44.1%
Maximum Green (s)	22.0	22.0	5.4	36.4	25.4	25.4
Yellow Time (s)	4.6	4.6	3.7	3.7	3.7	3.7
All-Red Time (s)	1.7	1.7	1.9	1.9	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.6	5.6	5.6	5.6

1: Moodie Dr & Timm Dr  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic



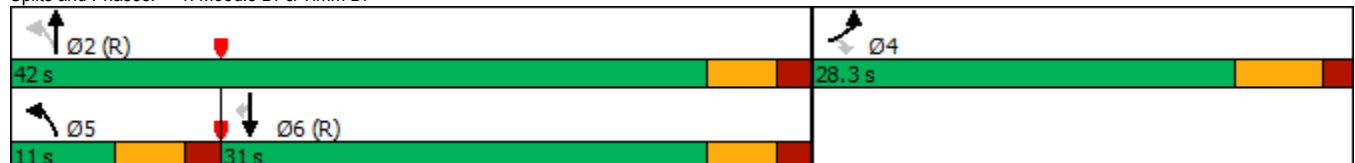
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0			14.0	14.0
Flash Dont Walk (s)	15.0	15.0			5.0	5.0
Pedestrian Calls (#/hr)	2	2			2	2
Act Effct Green (s)	12.4	12.4	49.3	50.4	40.9	40.9
Actuated g/C Ratio	0.18	0.18	0.70	0.72	0.58	0.58
v/c Ratio	0.09	0.24	0.16	0.23	0.32	0.04
Control Delay	22.6	7.4	6.4	5.6	11.8	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	7.4	6.4	5.6	11.8	5.1
LOS	C	A	A	A	B	A
Approach Delay	11.1			5.7	11.4	
Approach LOS	B			A	B	
Queue Length 50th (m)	3.0	0.0	3.0	11.7	24.5	0.0
Queue Length 95th (m)	7.2	8.3	11.2	29.7	48.3	5.2
Internal Link Dist (m)	197.1			203.4	167.7	
Turn Bay Length (m)		100.0	120.0			40.0
Base Capacity (vph)	541	540	528	2453	1991	915
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	0.05	0.15	0.16	0.23	0.32	0.04

Intersection Summary

Area Type: Other  
Cycle Length: 70.3  
Actuated Cycle Length: 70.3  
Offset: 55 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
Natural Cycle: 65  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.32  
Intersection Signal Delay: 8.8  
Intersection Capacity Utilization 46.4%  
Analysis Period (min) 15





















Intersection LOS: A  
ICU Level of Service A

Splits and Phases: 1: Moodie Dr & Timm Dr















2: Moodie Dr & Fitzgerald Rd  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	3	32	19	2	17	54	450	10	12	608	42
Future Volume (vph)	72	3	32	19	2	17	54	450	10	12	608	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	20.0		0.0	65.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	30.0			25.0			40.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				0.99		1.00	1.00		1.00	1.00	
Frt		0.863			0.866			0.997			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	1439	0	1729	1555	0	1729	3413	0	1729	3376	0
Flt Permitted	0.745			0.734			0.405			0.487		
Satd. Flow (perm)	1352	1439	0	1336	1555	0	736	3413	0	885	3376	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			17			4			13	
Link Speed (k/h)		48			48			60			60	
Link Distance (m)		99.8			87.6			186.4			70.2	
Travel Time (s)		7.5			6.6			11.2			4.2	
Confl. Peds. (#/hr)	4					4	2		2	2		2
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
Heavy Vehicles (%)	0%	0%	10%	0%	0%	0%	0%	1%	0%	0%	1%	5%
Adj. Flow (vph)	72	3	32	19	2	17	54	450	10	12	608	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	35	0	19	19	0	54	460	0	12	650	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			3.7			3.7	
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	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		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	
Detector 1 Position(m)	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	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	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	
Detector 1 Delay (s)	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		30.7	30.7		30.7	30.7	
Total Split (s)	34.0	34.0		34.0	34.0		36.0	36.0		36.0	36.0	
Total Split (%)	48.6%	48.6%		48.6%	48.6%		51.4%	51.4%		51.4%	51.4%	
Maximum Green (s)	28.0	28.0		28.0	28.0		30.3	30.3		30.3	30.3	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7	2.7		2.0	2.0		2.0	2.0	

2: Moodie Dr & Fitzgerald Rd  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		9.0	9.0		9.0	9.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	2	2		2	2		2	2		2	2	
Act Effct Green (s)	13.7	13.7		13.7	13.7		48.9	48.9		48.9	48.9	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.70	0.70		0.70	0.70	
v/c Ratio	0.27	0.11		0.07	0.06		0.11	0.19		0.02	0.28	
Control Delay	24.3	8.3		19.9	9.4		6.5	5.1		8.1	6.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.3	8.3		19.9	9.4		6.5	5.1		8.1	6.9	
LOS	C	A		B	A		A	A		A	A	
Approach Delay		19.0			14.7			5.3			6.9	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	8.7	0.3		2.2	0.3		1.9	8.9		0.4	13.6	
Queue Length 95th (m)	13.3	5.0		5.0	3.6		6.2	16.2		3.6	42.2	
Internal Link Dist (m)		75.8			63.6			162.4			46.2	
Turn Bay Length (m)	35.0			20.0			65.0			45.0		
Base Capacity (vph)	540	594		534	632		514	2385		618	2362	
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	0.13	0.06		0.04	0.03		0.11	0.19		0.02	0.28	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.28

Intersection Signal Delay: 7.5

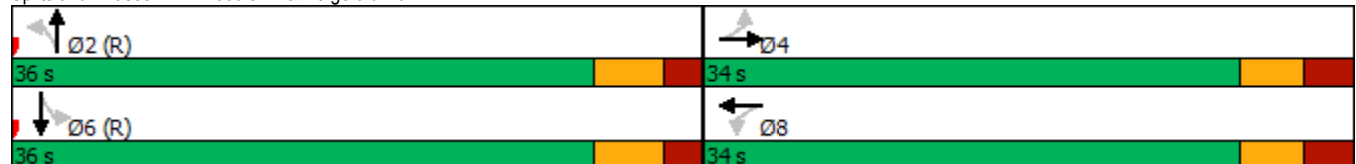
Intersection LOS: A

Intersection Capacity Utilization 54.5%

ICU Level of Service A












Analysis Period (min) 15

Splits and Phases: 2: Moodie Dr & Fitzgerald Rd



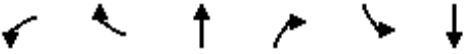
3: Moodie Dr & Loblaws  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	27	35	479	109	21	643
Future Volume (vph)	27	35	479	109	21	643
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		30.0	50.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.6				40.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00					
Frt	0.924			0.850		
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1646	0	3424	1547	1729	3424
Flt Permitted	0.979				0.478	
Satd. Flow (perm)	1646	0	3424	1547	870	3424
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	35			109		
Link Speed (k/h)	40		60			60
Link Distance (m)	60.4		200.0			186.4
Travel Time (s)	5.4		12.0			11.2
Confl. Peds. (#/hr)	1					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	27	35	479	109	21	643
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	479	109	21	643
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		7.4			7.4
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	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
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	6.1		30.5	6.1	6.1	30.5
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1		1.8	6.1	6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	32.6		28.9	28.9	23.9	23.9
Total Split (s)	33.0		37.0	37.0	37.0	37.0
Total Split (%)	47.1%		52.9%	52.9%	52.9%	52.9%
Maximum Green (s)	27.4		31.1	31.1	31.1	31.1
Yellow Time (s)	3.3		3.7	3.7	3.7	3.7
All-Red Time (s)	2.3		2.2	2.2	2.2	2.2

3: Moodie Dr & Loblaws  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6		5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	20.0		16.0	16.0		
Pedestrian Calls (#/hr)	2		2	2		
Act Effct Green (s)	13.4		53.7	53.7	53.7	53.7
Actuated g/C Ratio	0.19		0.77	0.77	0.77	0.77
v/c Ratio	0.18		0.18	0.09	0.03	0.24
Control Delay	12.5		5.6	2.4	2.0	1.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	12.5		5.6	2.4	2.0	1.4
LOS	B		A	A	A	A
Approach Delay	12.5		5.0			1.5
Approach LOS	B		A			A
Queue Length 50th (m)	3.1		9.6	0.0	0.2	3.4
Queue Length 95th (m)	8.8		29.7	7.3	1.0	6.3
Internal Link Dist (m)	36.4		176.0			162.4
Turn Bay Length (m)				30.0	50.0	
Base Capacity (vph)	665		2626	1212	667	2626
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.09		0.18	0.09	0.03	0.24

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 9 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.24

Intersection Signal Delay: 3.6

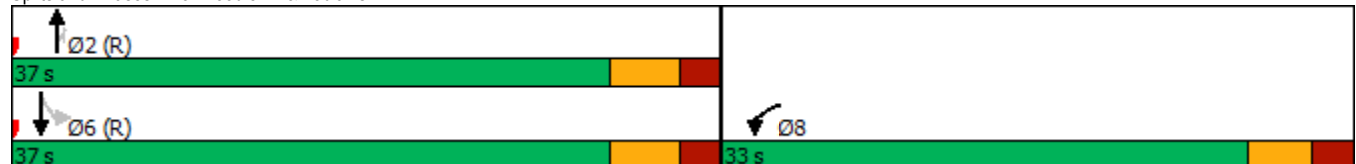
Intersection LOS: A

Intersection Capacity Utilization 36.7%

ICU Level of Service A

























Analysis Period (min) 15

Splits and Phases: 3: Moodie Dr & Loblaws



4: Moodie Dr & Robertson Rd  
Saturday Peak













300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	717	189	174	587	122	240	276	191	219	240	162
Future Volume (vph)	166	717	189	174	587	122	240	276	191	219	240	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	40.0			40.0			40.0			50.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.99	1.00			1.00		0.97	0.98		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3424	1547	1729	3424	1532	3321	3424	1532	3321	3424	1532
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1729	3424	1524	1727	3424	1532	3316	3424	1489	3259	3424	1511
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			139			191			162
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		303.5			384.4			186.5			200.0	
Travel Time (s)		18.2			23.1			11.2			12.0	
Confl. Peds. (#/hr)			2	2			1		13	13		1
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
Heavy Vehicles (%)	0%	1%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	166	717	189	174	587	122	240	276	191	219	240	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	717	189	174	587	122	240	276	191	219	240	162
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			7.4			7.4	
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	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	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	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	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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	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	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	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		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.4	33.4	33.4	11.4	33.4	33.4	11.5	37.7	37.7	11.5	37.7	37.7
Total Split (s)	26.0	35.0	35.0	31.0	40.0	40.0	27.0	37.7	37.7	27.0	37.7	37.7
Total Split (%)	19.9%	26.8%	26.8%	23.7%	30.6%	30.6%	20.7%	28.8%	28.8%	20.7%	28.8%	28.8%
Maximum Green (s)	19.6	28.6	28.6	24.6	33.6	33.6	20.5	31.0	31.0	20.5	31.0	31.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.8	3.0	3.0	2.8	3.0	3.0



4: Moodie Dr & Robertson Rd  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjst (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.7	6.7	6.5	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	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	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	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
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	17.2	54.0	54.0	18.4	55.2	55.2	14.7	18.4	18.4	13.9	17.6	17.6
Actuated g/C Ratio	0.13	0.41	0.41	0.14	0.42	0.42	0.11	0.14	0.14	0.11	0.13	0.13
v/c Ratio	0.73	0.51	0.26	0.72	0.41	0.17	0.64	0.57	0.51	0.62	0.52	0.47
Control Delay	72.7	33.0	5.9	69.6	30.3	4.5	63.3	56.2	10.8	63.4	55.5	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.7	33.0	5.9	69.6	30.3	4.5	63.3	56.2	10.8	63.4	55.5	11.1
LOS	E	C	A	E	C	A	E	E	B	E	E	B
Approach Delay		34.4			34.5			46.3			46.7	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	41.5	68.7	0.0	43.4	53.2	0.0	30.9	36.3	0.0	28.2	31.4	0.0
Queue Length 95th (m)	63.4	#129.2	18.6	64.2	91.6	11.2	43.2	43.7	18.3	40.1	38.9	17.4
Internal Link Dist (m)		279.5			360.4			162.5			176.0	
Turn Bay Length (m)	60.0		200.0	60.0		250.0	60.0		50.0	70.0		70.0
Base Capacity (vph)	266	1415	741	326	1446	727	520	817	500	520	812	481
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.51	0.26	0.53	0.41	0.17	0.46	0.34	0.38	0.42	0.30	0.34

Intersection Summary

Area Type: Other

Cycle Length: 130.7

Actuated Cycle Length: 130.7

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 39.3

Intersection LOS: D

Intersection Capacity Utilization 75.4%

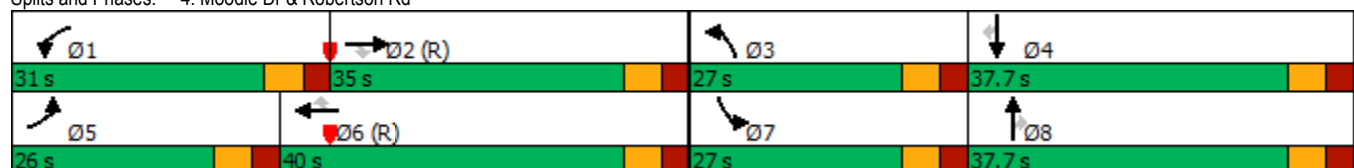
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.










Queue shown is maximum after two cycles.

Splits and Phases: 4: Moodie Dr & Robertson Rd



5: Moodie Dr & RIRO  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	31	0	549	676	32
Future Volume (vph)	0	31	0	549	676	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.993	
Flt Protected						
Satd. Flow (prot)	0	1543	0	3390	3366	0
Flt Permitted						
Satd. Flow (perm)	0	1543	0	3390	3366	0
Link Speed (k/h)	48			60	60	
Link Distance (m)	49.5			70.2	227.4	
Travel Time (s)	3.7			4.2	13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	31	0	549	676	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	31	0	549	708	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 30.8%	ICU Level of Service A					
Analysis Period (min) 15						

6: Fitzgerald Rd & Access  
Saturday Peak

300 Moodie Drive  
2025 Total Traffic



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	82	60	38	25	1
Future Volume (vph)	1	82	60	38	25	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.948		0.995	
Flt Protected		0.999			0.954	
Satd. Flow (prot)	0	1783	1692	0	1694	0
Flt Permitted		0.999			0.954	
Satd. Flow (perm)	0	1783	1692	0	1694	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		55.2	99.8		45.8	
Travel Time (s)		4.1	7.5		3.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	82	60	38	25	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	83	98	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	4.9		1.6	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 15.8%	ICU Level of Service A					
Analysis Period (min) 15						

## **APPENDIX J**

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### MTO Left Turn Lane Warrants

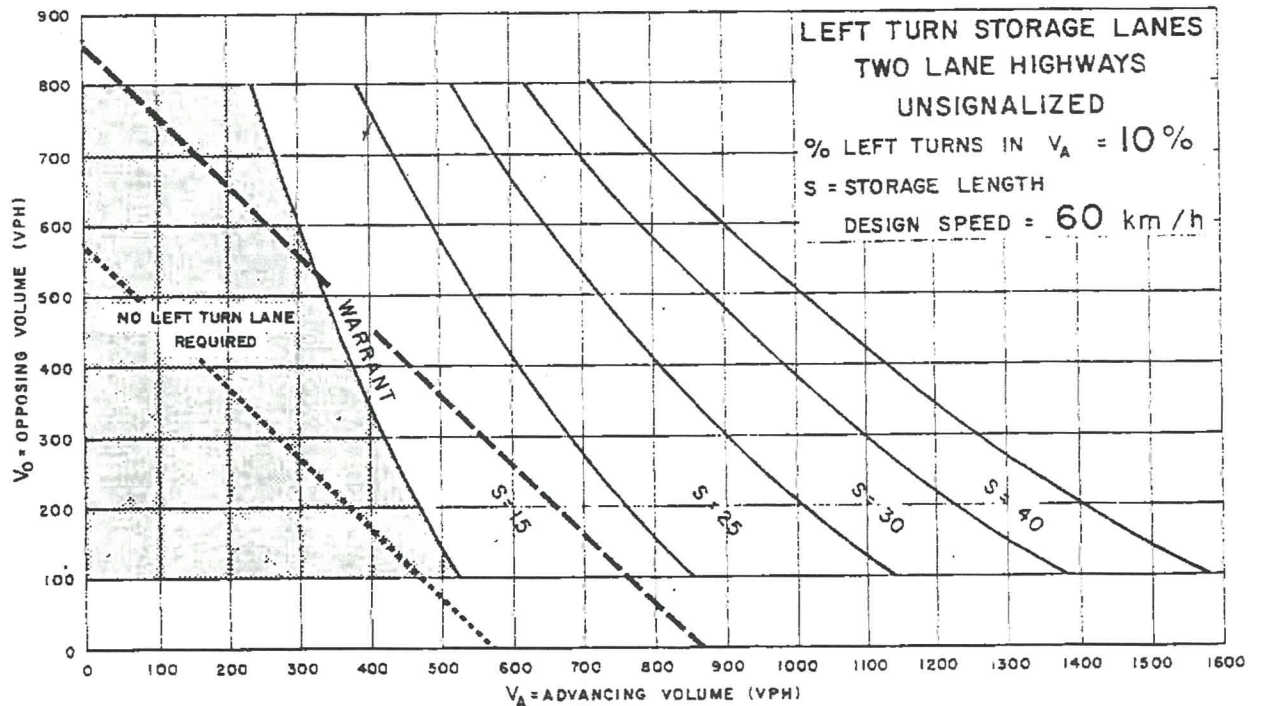
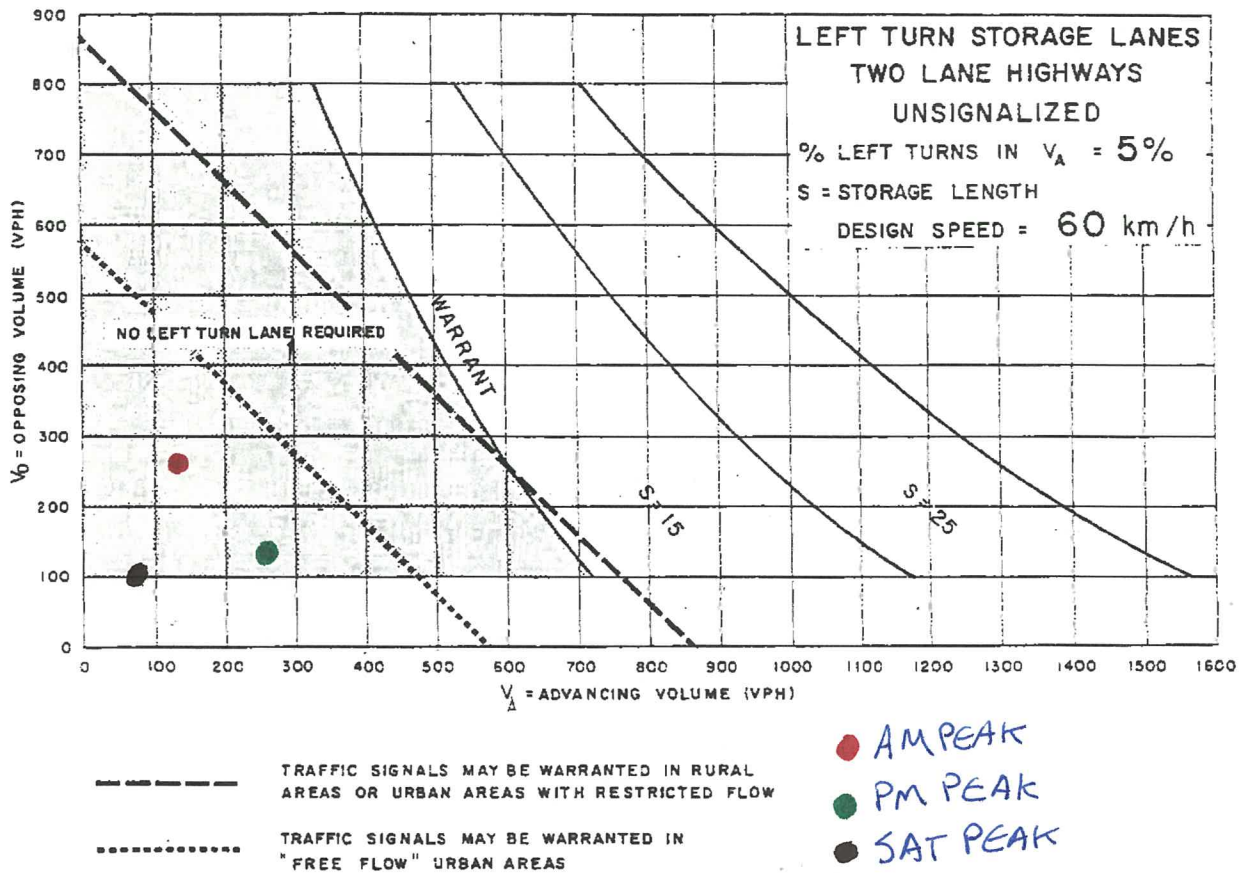


Figure EA-6