TRAFFIC IMPACT STUDY

5150 NINTH LINE
RESIDENTIAL DEVELOPMENT
CITY OF MISSISSAUGA,
REGIONAL MUNICIPALITY OF PEEL

PREPARED FOR:
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Rev. 0	October 2019	Issued for first submission
Rev. 1	July 2020	Issued for second submission
Rev. 2	November 2020	Issued for third submission

1.0 Executive Summary

C.F. Crozier & Associates Inc. (Crozier) was retained by Mattamy Homes to prepare a Traffic Impact Study in support of the development application for the proposed residential development located at 5150 Ninth Line in the City of Mississauga, Regional Municipality of Peel. The purpose of the study is to evaluate the transportation-related impacts of the proposed development on the boundary road network and to recommend any required mitigation measures, if warranted.

A Traffic Impact Study was submitted in October 2019 in support of the proposed development. The City of Mississauga provided comments (dated February 20, 2020) on the Traffic Impact Study. A Traffic Impact Study Update was prepared and submitted in July 2020 to address the City's comments and reflect the updated site statistics for the development proposal. This Update has been prepared to:

- address outstanding comments received by the City (dated July 15, 2020) regarding the inclusion of background developments; and
- Reflect the updated site statistics for the development proposal.

Per the Concept Plan prepared by Korsiak Urban Planning (dated October 22, 2020), the development will consist of a total of 174 residential townhouse dwelling units constructed over two phases. This unit count reflects a total reduction of one townhouse unit compared to the previous development proposal.

Table E1 outlines the proposed development statistics for both phases of the development.

Table E1: Development Proposal

Phase	Unit Type	Total Units	Assumed Build-Out	Proposed Access Connections
1	Dual Frontage Townhouse	17	2021	Public Road connection to Ninth Line (approximately 120 metres north of Candlelight Drive)
	Street Townhouse	67		
	Freehold Townhouse	17		
	Back-To-Back Townhouse	26		
	Total	**127**		
2	Street Townhouse	5	2022	
	Back-To-Back Townhouse	42		
	Total	**47**		
Full Build-Out	Dual Frontage Townhouse	17	--	--
	Street Townhouse	72		
	Freehold Townhouse	17		
	Back-To-Back Townhouse	68		
	Total	**174**		

The proposed public road within the site will also connect to the adjacent 5080 Ninth Line property to the south upon build-out of the adjacent property. However, the adjacent property is expected to be built-out after full build-out of the subject development.

The Traffic Impact Study analyzes the following intersections:

- Ninth Line and Eglinton Avenue West / East Lower Base Line
- Ninth Line and Skyview Street

- Ninth Line and Candlelight Drive
- Ninth Line and Erin Centre Boulevard
- Ninth Line and Site Access

The boundary road network is currently operating at acceptable levels of service albeit the intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line operating with movements near capacity during the weekday a.m. and p.m. peak hours. These operations are attributed to heavy through volumes on Eglinton Avenue West, East Lower Base Line and Ninth Line.

The 2024 horizon year was analyzed to reflect the five-year horizon and capture full build-out of the proposed development, as confirmed by City staff during pre-consultation. The 2021 horizon year was also analyzed to reflect the interim phase (Phase 1) build-out.

Growth rates from the Ninth Line Corridor Study Transportation Assessment prepared by MMM Group (July 2017) that were provided by the City of Mississauga were applied to this analysis.

The following background developments in the study area identified in the MMM study were accounted for under future background conditions.

- Erin Mills Development;
- 407 Transitway; and
- Emerging Land Use Concept on Ninth Line.

While it is understood that the adjacent 5080 Ninth Line property will be for a future residential development, final development statistics are unknown at this time and thus the property was not accounted for in this analysis.

The City of Mississauga will be undertaking a Municipal Class Environmental Assessment for the widening of Ninth Line from Eglinton Avenue West to Derry Road West. The study is scheduled to begin early 2020, with an anticipated construction date of 2023 as advised by City staff. However, 2024 future background and future total conditions were analyzed without the Ninth Line widening in place. This approach would yield more conservative results as well as identify what improvements are needed, if any, to support the build-out of the proposed development should it occur before Ninth Line is widened.

The MMM study recommended that the west approach of Ninth Line and Eglinton Avenue West / East Lower Base Line be widened to provide two eastbound through lanes, as there are already two receiving lanes in the east leg of this intersection. Thus, the intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line was modelled under 2024 future background conditions under two scenarios: with and without the widening of East Lower Base Line to provide a second eastbound through lane.

The intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line is expected to operate at capacity under 2024 future background conditions with several movements operating near or at capacity, and with 95th percentile queue lengths extending beyond storage lengths (although these extended queues can be accommodated by the taper length for their respective turn lanes). These operations are attributed to the increase in through traffic on Eglinton Avenue West / East Lower Base Line and Ninth Line, as well as background development traffic. If the west approach of the intersection is widened to provide a second eastbound through lane (as recommended in the MMM study), traffic operations are expected to significantly improve at the intersection.

The remaining intersections on Ninth Line are expected to operate at acceptable levels of service under 2024 future background conditions.

The full build-out of the proposed development is expected to generate a total of 81 and 97 total two-way trips during the weekday a.m. and p.m. peak hours, respectively. Trip generation was forecasted using a previous version of the development proposal which included an additional street townhouse for Phase 1. Therefore, the trip generation forecasts and future total traffic analysis are slightly overstated as they reflect an additional unit for both Phase 1 and full build-out.

Analysis of external roadway improvements under 2024 future total conditions has resulted in the following key findings:

- Traffic signals are **not** warranted at the proposed site access to Ninth Line;
- An auxiliary northbound left-turn lane is required on Ninth Line at the proposed site access with a storage length greater than 25 metres in length. The existing two-way left-turn lane (TWLTL) can accommodate northbound left-turn storage requirements at the site access; and
- An auxiliary southbound right-turn lane is **not** required on Ninth Line at the proposed site access.

Based on 2024 future total traffic operations, a two-lane cross-section at the site access to Ninth Line with one outbound lane and one inbound lane would be sufficient to accommodate site generated traffic.

The boundary road network is expected to operate at unchanged levels of service under 2024 future total conditions compared to 2024 future background conditions with a maximum increase in control delay of 2.4 seconds, maximum increase in volume-to-capacity ratio of 0.02, and maximum increase in 95th percentile queue length of 3.3 metres (equivalent to less than one passenger car in length). The proposed site access to Ninth Line is expected to operate at acceptable levels of service.

These operations indicate that the addition of site traffic to the boundary road network is expected to minimally impact traffic operations. Therefore, the proposed development is supportable from a transportation operations perspective.

Analysis of safety components associated with the proposed development indicate the following:

- The proposed access spacing of 120 metres north of the intersection of Ninth Line and Candlelight Drive exceeds the existing spacing between the intersections of Candlelight Drive, Skyview Street and Stardust Drive, while also providing a spacing over 250 metres from Erin Centre Boulevard;
- The available sight distance at the proposed site access exceeds the minimum sight distance requirements set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR), June 2017;
- Roadway alignment of the boundary road network is not considered to be a traffic safety concern for the proposed development;
- The available clear throat length for the proposed site access to Ninth Line satisfies the minimum recommended clear throat length set out in the TAC GDGCR; and
- There are no expected maneuverability constraints within the site for firetrucks nor waste collection trucks.

The analysis contained within this report was prepared using the Concept Plan prepared by Korsiak Urban Planning (dated October 22, 2020). Any minor revisions to the development concept are not expected to affect the conclusions contained with this report.

In conclusion, the proposed development can be supported from a transportation operations and safety perspective.

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2.0 Introduction

2.1 Background

C.F. Crozier & Associates Inc. (Crozier) was retained by Mattamy Homes to prepare a Traffic Impact Study in support of the development application for the proposed residential development located at 5150 Ninth Line in the City of Mississauga, Regional Municipality of Peel.

A Traffic Impact Study was submitted in October 2019 in support of the proposed development. The City of Mississauga provided comments (dated February 20, 2020) on the Traffic Impact Study. A Traffic Impact Study Update was prepared and submitted in July 2020 to address the City's comments and reflect the updated site statistics for the development proposal. This Update has been prepared to:

- address outstanding comments received by the City (dated July 15, 2020) regarding the inclusion of background developments; and
- Reflect the updated site statistics for the development proposal.

2.2 Development Proposal

Per the Concept Plan prepared by Korsiak Urban Planning (dated October 22, 2020), the development will consist of a total of 174 residential townhouse dwelling units constructed over two phases.

Table 1 outlines the proposed development statistics for both phases of the development.

Table 1: Development Proposal

Phase	Unit Type	Total Units	Assumed Build-Out	Proposed Access Connections
1	Dual Frontage Townhouse	17	2021	Public Road connection to Ninth Line (approximately 120 metres north of Candlelight Drive)
	Street Townhouse	67		
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	Street Townhouse	72		
	Freehold Townhouse	17		
	Back-To-Back Townhouse	68		
	Total	**174**		

The proposed public road within the site will also connect to the adjacent 5080 Ninth Line property to the south upon build-out of the adjacent property. However, the adjacent property is expected to be built-out after full build-out of the subject development.

2.3 Purpose and Scope

The purpose of the study is to evaluate the transportation-related impacts of the proposed development on the boundary road network and to recommend any required mitigation measures, if warranted.

The study reviews the following main aspects of the proposed development from a transportation engineering perspective:

- Existing, future background, and future total traffic operations on the boundary road network during the weekday a.m. and p.m. peak hours;
- Forecasted trip generation and distribution of the proposed development;
- Mitigation measures to support the proposed development, if required; and
- Transportation safety components, including: sight distance requirements at the site accesses, access spacing and restrictions, and general safety issues pertaining to road users.

The study has been completed in accordance with the City of Mississauga's Traffic Impact Study Guidelines and in accordance with Terms of Reference established with City of Mississauga staff (City staff). **Appendix B** contains the correspondence outlining the approved terms of reference.

The subject property is within the Ministry of Transportation of Ontario (MTO)'s permit control area, which includes the area within 395 metres of the centre point of a controlled-access highway or 45 metres from a highway right-of-way. However, the nearest interchanges to 400-series freeways are located over two kilometres away from the subject property. Also, the proposed development is expected to generate less than 100 total two-way trips during the weekday a.m. and p.m. peak periods. Therefore, a separate Traffic Brief has been prepared and submitted to the MTO to support the proposed development.

A comprehensive Transportation Demand Management (TDM) Plan has been prepared and submitted separately to support the development application. The TDM Plan analyzes existing and future TDM opportunities to reduce single-occupant vehicle (SOV) trips to and from the site and promote alternate modes of transportation.

3.0 Existing Conditions

3.1 Development Lands

The subject property is located in a residential neighbourhood and is bound by vacant lands to the north, an existing residential dwelling to the south, Ninth Line to the east and Parkland Belt lands and Highway 407 Express Toll Route (ETR) to the west. The subject property is zoned as D "Development" Lands per the City of Mississauga's Zoning By-Law.

The proposed development makes allowance for the future bus-rapid transit (BRT) 407 Transitway planned by the MTO which will span through the subject property running parallel to Highway 407. The 407 Transitway is currently proceeding through the environmental assessment process. The 407 Transitway is discussed in more detail in **Section 4.3.1.**

Figure 1 contains the Site Location Plan.

3.2 Study Intersections

The Traffic Impact Study analyzes the following intersections:

- Ninth Line and Eglinton Avenue West / East Lower Base Line
- Ninth Line and Skyview Street
- Ninth Line and Candlelight Drive
- Ninth Line and Erin Centre Boulevard
- Ninth Line and Site Access

3.3 Boundary Road Network

The arterial boundary road network at the site frontage is described in **Table 2**.

Table 2: Boundary Road Network – Arterial Roadways

Feature	Roadway		
	Ninth Line	**Eglinton Avenue West**	**East Lower Base Line**
Direction	Two-way (North-South)	Two-way (East-West)	Two-way (East-West)
Classification	Arterial	Arterial	Arterial
Jurisdiction	City of Mississauga	City of Mississauga	City of Mississauga – Highway 407 to Ninth Line Town of Milton – West of Highway 407
Surrounding Uses	Residential	Residential	Rural
Cross-Section	Rural-Urban	Urban	Rural
Speed Limit	70 km/h	60 km/h	60 km/h
Number of travel lanes	Two	Four	Two
Median type	Two-way left-turn lane	None	None

The local and collector boundary road network at the site frontage is described in **Table 3**.

Table 3: Boundary Road Network – Local and Collector Roadways

Feature	Roadway		
	Skyview Street	**Candlelight Drive**	**Erin Centre Boulevard**
Direction	Two-way (East-West)	Two-way (East-West)	Two-way (East-West)
Classification	Local	Local	Minor Collector – west of Tenth Line Major Collector – East of Tenth Line
Jurisdiction	City of Mississauga	City of Mississauga	City of Mississauga
Surrounding Uses	Residential	Residential	Residential – west of Winston Churchill Boulevard Residential and commercial – East of Winston Churchill Boulevard [1]
Cross-Section	Urban	Urban	Urban
Speed Limit	50 km/h [2]	50 km/h [2]	50 km/h [2]
Number of travel lanes	Two	Two	Two
Median type	None	None	None

Note 1: Erin Mills Town Centre is located on Erin Centre Boulevard east of Glen Erin Drive.
Note 2: 50 km/h speed limit assumed per municipal regulation.

Table 4 outlines the existing traffic control, configurations, and pedestrian crossing provisions at the study intersections on the boundary road network.

Table 4: Boundary Road Network – Study Intersections

Intersection	Control	Approaches	Major Street	Auxiliary Turn Lanes	Pedestrian Crossing
Ninth Line and Eglinton Avenue West / East Lower Base Line	Signal Semi-Actuated	4	Eglinton Avenue West / East Lower Base Line	EBL WBL WBR NBL NBR WBL	Marked Crosswalks – all approaches
Ninth Line and Skyview Street	Stop (Minor Street)	3	Ninth Line	SBL	None
Ninth Line and Candlelight Drive	Stop (Minor Street)	3	Ninth Line	SBL WBL [1] WBR [1]	East approach (not marked)
Ninth Line and Erin Centre Boulevard	Signal Semi-Actuated	3	Ninth Line	SBL WBL	Marked crosswalks – north and east approaches

Note 1: Although not delineated with pavement markings, Candlelight Drive is wide enough to allow for simultaneous westbound left-turns and right-turns.

Figure 2 illustrates the existing boundary road network, including lane configurations, storage lengths, and intersection control.

3.4 Transit Operations

There are several MiWay Transit bus routes that operate in the surrounding area of the subject property. **Table 5** outlines the existing transit routes, direction, days of operation, peak hour headways, and the location of bus stops in the study area.

Table 5: Existing Transit Services

MiWay Transit					
Route	**Start and End Points**	**Span near study area**	**Days of Operation**	**Peak Hour Headways (min)**	**Bus Stop(s) near study area**
9 Rathburn - Thomas	Square One and Ninth Line/Eglinton Avenue West	Churchill Meadows Boulevard Eglinton Avenue West Ninth Line Erin Centre Boulevard	Monday-Sunday	Varies from 15-30 min	Eglinton Avenue West and Churchill Meadows Boulevard Eglinton Avenue West, east of Ninth Line Ninth Line, south of Skyview Street Ninth Line, south of Erin Centre Boulevard Erin Centre Boulevard at Longford Drive
35 Eglinton-Ninth Line	Islington Station to Ninth Line/Eglinton Avenue West	Eglinton Avenue West Ninth Line Erin Centre Boulevard Tenth Line	Monday-Sunday	Varies from 15-20 min	Eglinton Avenue West, east of Ninth Line Ninth Line, south of Skyview Street Ninth Line, south of Erin Centre Boulevard Erin Centre Boulevard at Longford Drive
341 Ninth Line - Thomas	Churchill Meadows Boulevard to Stephen Lewis Secondary School & St. Joan of Arc Secondary School	Ninth Line Eglinton Avenue West Churchill Meadows Boulevard	Monday – Friday (September to June)	One stop during school peak hours	Ninth Line, south of Skyview Street Ninth Line, south of Erin Centre Boulevard

As outlined above, there are several routes that operate within the surrounding area that provide connectivity to major transit terminals in the area such as Square One, Streetsville GO (served by Route 9) and Islington Station in Toronto. These transit terminals provide connectivity to the rest of the Greater Toronto Area (GTA) via other bus routes and the Milton GO Train line to Union Station in Toronto.

The nearest bus stop in the study area is located on Ninth Line south of Erin Centre Boulevard near the proposed site access.

Therefore, the existing transit services in the study area are sufficient to promote transit as a viable mode of transportation.

The proposed development makes allowance for the future BRT 407 Transitway planned by the MTO which will span through the subject property running parallel to Highway 407 (see **Section 4.3.1**). The proximity of the future BRT to the proposed development will further encourage the use of transit as an alternate mode of transportation.

The boundary road network in **Figure 2** illustrates the existing bus stop locations in the study area. **Appendix C** contains relevant transit information.

3.5 Active Transportation Network

The existing active transportation facilities on the boundary road network are described in **Table 6**.

Table 6: Active Transportation Network

Roadway	Pedestrian Facilities	Separation from Roadway	Cycling Facilities	Separation from Roadway
Ninth Line	1.5 metre concrete sidewalk (east side from Eglinton Avenue West to south of Stardust Drive) Asphalt sidewalk (east side from Stardust Drive to Skyview Street) Asphalt sidewalk (east side from bus stop north of Candlelight Drive to Erin Centre Boulevard)	Grass Boulevard	None	N/A
Eglinton Avenue West	1.5 metre concrete sidewalk (north side)	Grass Boulevard and Parking Lay-By	None	N/A
East Lower Base Line	None	N/A	None	N/A
Skyview Street	1.5 metre concrete sidewalk (north side)	Grass Boulevard	None	N/A
Candlelight Drive	1.5 metre concrete sidewalk (both sides)	Grass Boulevard	None	N/A
Erin Centre Boulevard	1.5 metre concrete sidewalk (both sides)	Grass Boulevard	Bike Lane (both sides)	None

The boundary road network in **Figure 2** illustrates the existing pedestrian and cycling facilities in the study area.

3.6 Traffic Data

Turning movement counts were conducted by Spectrum Traffic Data Inc. staff at the study intersections on Tuesday July 16, 2019 between 6:00 a.m. – 10:00 a.m. and 3:00 p.m. – 7:00 p.m. These time periods are reflective of commuter peak hours and thus were considered appropriate for traffic analysis of the proposed development.

Signal timing plans for the intersections of Ninth Line and Eglinton Avenue West / East Lower Base Line, and Ninth Line and Erin Centre Boulevard were provided by the City.

Intersection analysis was conducted utilizing peak hour factors (PHFs) as calculated for each intersection from the collected traffic data during each time period. **Table 7** outlines the calculated peak hour factors at each intersection during each peak hour.

Table 7: Intersection Count Peak Hour Factors

Intersection	Count Date	Peak Hour	Peak Hour Factor
Ninth Line and Eglinton Avenue West / East Lower Base Line	Tuesday July 16, 2019	Weekday A.M. 7:45 a.m. – 8:45 a.m.	0.99
		Weekday P.M. 5:00 p.m. – 6:00 p.m.	0.96
Ninth Line and Skyview Street	Tuesday July 16, 2019	Weekday A.M. 7:45 a.m. – 8:45 a.m.	0.99
		Weekday P.M. 5:00 p.m. – 6:00 p.m.	0.96
Ninth Line and Candlelight Drive	Tuesday July 16, 2019	Weekday A.M. 7:45 a.m. – 8:45 a.m.	0.97
		Weekday P.M. 5:00 p.m. – 6:00 p.m.	0.94
Ninth Line and Erin Centre Boulevard	Tuesday July 16, 2019	Weekday A.M. 7:45 a.m. – 8:45 a.m.	0.98
		Weekday P.M. 5:00 p.m. – 6:00 p.m.	0.96

The traffic count data and signal timing data are contained in **Appendix D**. **Figure 2** illustrates the 2019 existing traffic volumes that were recorded.

3.7 Traffic Modelling

The boundary road network was modelled in Synchro 9.2 using existing roadway geometrics, collected traffic data and signal timings from the provided timing plans.

The results for signalized intersection operations were derived from Synchro. The results for unsignalized intersection operations were derived using HCM2000 methodology. 95th percentile queue lengths were derived from Synchro. The Level of Service (LOS) definitions for signalized and unsignalized intersections are included in **Appendix E**.

3.7.1. City of Mississauga Modelling Guidelines

The boundary road network was modelled in Synchro 9.2 in conformance with the modelling guidelines per the City of Mississauga's "Traffic Impact Study Guidelines." **Table 8** summarizes the Synchro modelling parameters set out by the City's guidelines.

Table 8: City of Mississauga Synchro Modelling Parameters

Parameter	Value
Ideal (base) saturation flow rate	Protected left-turn: 1,860 veh/hr/lane Exclusive through: 1,900 veh/hr/lane Exclusive right-turn: 1,640 veh/hr/lane
Lost Time [1]	Protected left-turn: 1.0 s Back-to-back left-turns: 1.0 s Main Phase: 5.0 s
Peak Hour Factor	As calculated
Lane widths	As measured

Note 1: Lost time refers to the total lost time for the respective phase (intergreen minus lost time adjustment). Lost time adjustments were calculated so that the total lost time for the respective phases are equal to the values set out in the City's guidelines.

3.7.2. Left-Turn on Intergreen Adjustments

In addition to the City's modelling guidelines, adjustments were applied to account for left-turn on intergreens.

At intersections with high through volumes, left-turning vehicles waiting for gaps in the opposing traffic stream during a permissive phase may only be able maneuver through the intersection during the intergreen period. This behavior is typically observed at intersections approaching capacity and was confirmed by viewing the camera footage collected during the traffic counts.

In accounting for the increased capacity of left-turning vehicles at the intersections in the boundary road network, the Canadian Capacity Guide recommends that up to two passenger cars can be reasonably discharged during each intergreen period for permissive phases.

The number of vehicles that are expected to discharge per intergreen period is determined by the following formula on page 3-20 in the Canadian Capacity Guide:

$$Q_{LTOI} = n * X_{LTOI},$$

Where;
Q_{LTOI} = left-turn flow on intergreen (pcu/hr)
n = number of cycles per hour
X_{LTOI} = average number of left-turn passenger car units per intergreen period (2 assumed)

Left turning volumes were analyzed with a reduction in volumes when movements were found to experience a volume-to-capacity ratio in excess of 1.00 under existing, future background or future total scenarios. Thus, reductions were applied to the westbound left-turn movement at Ninth Line and Eglinton Avenue West / East Lower Base Line during the weekday a.m. peak period, and the eastbound and southbound left-turn movement during the weekday p.m. peak period.

3.8 Intersection Operations

The existing intersection operations at the study intersections were analyzed using the existing traffic volumes illustrated in **Figure 3.** Detailed capacity analysis worksheets are included in **Appendix F**.

Table 9 outlines the 2019 existing traffic operations.

Table 9: 2019 Existing Traffic Operations

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length [3]
Ninth Line and Eglinton Avenue West / East Lower Base Line	Signal	A.M.	D	48.6 s	0.98 (EBTR) 0.93 (SBTR)	None
		P.M.	D	50.6 s	0.96 (WBT) 0.95 (NBT)	40.4 m > 30 m (WBL)
Ninth Line and Skyview Street	Stop (Minor)	A.M.	B	13.5 s	0.04 (WBLR)	None
		P.M.	C	23.9 s	0.04 (WBLR)	None
Ninth Line and Candlelight Drive	Stop (Minor)	A.M.	B	13.3 s	0.06 (WBR)	None
		P.M.	C	24.5 s	0.10 (WBR)	None
Ninth Line and Erin Centre Boulevard	Signal	A.M.	B	12.5 s	0.75 (SBT)	None
		P.M.	B	17.0 s	0.88 (NBTR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection where the maximum v/c ratio does not exceed the critical threshold. All v/c ratios that exceed the critical threshold of 0.85 per the City's guidelines are outlined and highlighted.

Note 3: 95th percentile queue lengths which exceed the designated storage length of the turn lane but can be accommodated by a centre turn lane were not documented in this table.

The intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line is currently operating at LOS "D" during the weekday a.m. and p.m. peak hours with a maximum control delay of 50.6 seconds. The eastbound through/right-turn and southbound through/right-turn movements are operating near capacity during the weekday a.m. peak hour, and the westbound through and northbound through movements are operating near capacity during the weekday p.m. peak hour. These operations are not uncommon at arterial intersections with heavy through volumes.

The 95th percentile queue length for the westbound left-turn movement currently exceeds the designated storage length of 30 metres by 10.4 metres (equivalent to approximately two passenger cars in length) during the weekday p.m. peak hour. However, the effective storage length provided by the taper lane can accommodate the extended queue length and not impede westbound through traffic.

The remaining intersections on Ninth Line are currently operating at LOS "C" or better during the weekday a.m. and p.m. peak hours with a maximum delay of 24.5 seconds and no movements operating near capacity or with extensive 95th percentile queue lengths. The exception is the northbound through movement at Ninth Line and Erin Centre Boulevard during the weekday p.m. peak hour, which currently operates with a volume-to-capacity ratio of 0.88 (attributed to the heavy northbound through volumes on Ninth Line). The future Ninth Line widening will increase capacity on Ninth Line for through traffic (see Section 4.4), and thus improve traffic operations.

Overall, the boundary road network is currently operating at acceptable levels of service.

4.0 Future Background Conditions

4.1 Horizon Years

Per the City's guidelines, the horizon year of analysis is five years from the date of study. Thus, the 2024 horizon year was analyzed to reflect the five-year horizon and capture full build-out of the proposed development, as confirmed by City staff during pre-consultation.

However, the City's guidelines also indicate that horizon years for interim phases of a development must be identified. The interim phase of the proposed development (Phase 1) is expected to be built-out by 2021.

Therefore, in addition to the 2024 horizon year, the 2021 horizon year was analyzed to reflect the Phase 1 build-out.

4.2 Growth Rate

4.2.1. Arterial Roads

The Ninth Line Corridor Study Transportation Assessment prepared by MMM Group (July 2017, herein referred to as the "MMM study") for the City of Mississauga forecasted future background traffic volumes on arterial roads in the surrounding area using compounded growth rates provided by City staff from the City's EMME model projections. The City provided growth rates for Ninth Line and Eglinton Avenue West. These growth rates were applied in this analysis as confirmed by City staff during establishment of Terms of Reference.

Appendix G contains excerpts from the MMM study.

Table 10 outlines the growth rates on the boundary road network.

Table 10: Boundary Road Network Growth Rates

Street	**Ninth Line**	
Direction	**Northbound**	**Southbound**
A.M. Peak Hour	1.17% [1]	0.35% [1]
P.M. Peak Hour	0.49% [1]	0.97% [1]
Street	**Eglinton Avenue West**	
Direction	**Eastbound**	**Westbound**
A.M. Peak Hour	1.09%	2.08%
P.M. Peak Hour	1.77%	1.14%

Note 1: A growth rate of 0.5% compounded annually was applied to movements entering and exiting Skyview Street, Candlelight Drive and Erin Centre Boulevard (see Section 4.2.2).

4.2.2. Local and Collector Roads

At the Ninth Line intersections of Skyview Street, Candlelight Drive and Erin Centre Boulevard, the growth rates for Ninth Line outlined in **Table 10** were applied to through movements only. A growth

rate of 0.5% compounded annually was applied to movements entering and exiting the local roads, as the surrounding residential neighbourhood east of Ninth Line is fully built-out and thus would not be expected to experience significant background traffic growth.

4.3 Background Developments

Background developments were identified in the study area from the MMM study, and thus were accounted for under future background conditions. The developments are outlined in **Table 11.**

Table 11: Background Developments

Development	Location	Development Proposal	Statistics
Erin Mills Development	North-east quadrant of Highway 403 and Highway 407	Industrial Park including retail and office uses	112,630 sq. m of industrial park 6,762 sq. m of retail 8,074 sq. m of office
407 Transitway (see Section 4.3.1)	Future stations on Ninth Line: Britannia Road and Derry Road Future station on Trafalgar Road	Provincial transit system with exclusive right-of-way parallel to Highway 407; includes running way, stations, platforms, parking, and passenger pick-up and drop-off facilities.	---
Emerging Land Use Concept	Ninth Line (west side) from Highway 403 to Highway 401	Greenfield community consisting of residential, commercial retail, general office and general light industrial uses divided into seven zones along Ninth Line.	3,543 residential units 5,467 sq. ft of retail 40,009 sq. ft of general office 296,191 sq. ft of general light industrial

The MMM study forecasts traffic on the boundary road network generated by the developments outlined above. The background development traffic added to the boundary road network in the MMM study was applied to this analysis. **Appendix G** contains excerpts from the MMM study on the background developments.

The proposed public road within the subject property will connect to the adjacent 5080 Ninth Line property to the south upon build-out of the adjacent property. However, the adjacent property is expected to be built-out after full build-out of the subject development.

The City has requested that traffic generated by the build-out of the 5080 Ninth Line development be accounted for in this analysis. However, at the time of this TIS Update preparation, no development details such as site statistics, site layout nor timing have been established for the 5080 Ninth Line property other than the Street "A" connection to the 5150 Ninth Line development. Therefore, given the uncertainly of the development, it cannot reasonably be accounted for in this analysis at this time.

Crozier also represents the developer of the 5080 Ninth Line property as their transportation engineering consultant and will be preparing a Traffic Impact Study in support of their development

application in the future once development details have been established. The Traffic Impact Study that Crozier will prepare for the 5080 Ninth Line property will include the 5150 Ninth Line development as a background development in the analysis. Thus, the Traffic Impact Study will assess future total traffic conditions at all study intersections (including the Street "A" connection to Ninth Line) with the build-out of both the 5150 Ninth Line and 5080 Ninth Line properties.

The City has confirmed that this approach is acceptable and that this addresses their outstanding comment on this Traffic Impact Study (see **Appendix B** for correspondence).

4.3.1. 407 Transitway

The MTO is planning the construction of an exclusive grade separated bus rapid transit (BRT) corridor, with the potential to be converted to a Light Rail Transit (LRT) corridor. The 407 Transitway will run parallel to Highway 407 and will span from Burlington to Pickering. The 407 Transitway infrastructure will provide infrastructure including an exclusive right-of-way, stations, park and ride, and passenger pick up and drop off services.

The intent of the 407 Transitway is to improve mobility across the GTHA by providing an accessible, cost-effective exclusive transit services. This will facilitate increased transit ridership (which will aid municipalities in achieving long-term transit ridership targets) and contribute to reducing auto congestion in the GTHA.

The segment of the 407 Transitway in the study area spans from Brant Street in Burlington to Hurontario Street in the City of Brampton and is scheduled to receive Transit Project Assessment Process (TPAP) approval by the end of 2020. The nearest operating stations are planned to be located on Britannia Road West and Trafalgar Road located to the north and west of the subject property, respectively. The proximity of these stations to the proposed development will encourage the use of transit as an alternate mode of transportation.

The 407 transitway will span through the subject property, although the exact alignment of the transitway is still under evaluation by the MTO. **Appendix H** contains information on the 407 Transitway.

4.3.2. Timing of Developments

The timing of the Erin Mills development is unknown; thus, this development was accounted for during the 2021 and 2024 horizon years.

The timing of the 407 Transitway completion in the study area is unknown at this time, as the MTO is in the process of reviewing the design alternatives from the "Parkway Belt West Plan/407 Transitway EA study." However, the Transit Project Assessment Process (TPAP) is expected to be completed by the end of 2020, thus completing approvals for the entire 407 Transitway corridor. Thus, it has been assumed that the 407 Transitway segment within the study area will be completed by the ultimate 2024 horizon year.

The Emerging Land Use Concept for Ninth Line aims to achieve the City's population and employment growth targets by 2031. Per the "Ninth Line Lands Municipal Comprehensive Review" prepared for Peel Region by Macaulay Shiomi Lowson Ltd. (May 2017), it is anticipated that the Ninth Line lands will need to be developed prior to 2031.

While the exact timing of the Ninth Line lands build-out is unknown, it was assumed that the lands will be partially built-out by both 2021 and 2024 to accelerate the City's growth targets. It was assumed

that approximately 10% of the Emerging Land Use Concept will be build-out by 2021 and approximately one-third (33%) of the Emerging Land Use Concept will be built-out by 2024.

4.3.3. Development Traffic

The MMM study forecasted traffic for the Emerging Land Use Concept for various non-auto modal split scenarios: 5%, 10%, 15%, and 20%. For the purposes of conservative analysis, the site traffic volumes for the lowest non-auto modal split scenario (5%) was applied to this analysis.

Zone "1" of the Emerging Land Use Concept spans from Erin Centre Boulevard to Eglinton Avenue West and includes the subject property (see **Appendix G** for excerpts from the MMM study). The background site traffic associated with the area of Zone "1" that overlaps the subject property was removed from the site accesses to the Zone "1" property. However, for the purposes of conservative analysis, these site traffic volumes were not subtracted on the greater boundary road network.

Figure 4 illustrates the background traffic associated with the Erin Mills development. **Figure 5** illustrates the background traffic associated with the Britannia Road and Derry Road stations of the 407 Transitway initiative. **Figure 6** illustrates the 2021 background traffic associated with the assumed 10% build-out of the Emerging Land Use Concept. **Figure 7** illustrates the 2024 background traffic associated with the assumed 33% build-out of the Emerging Land Use Concept.

4.4 Planned Roadway Improvements

The City of Mississauga will be undertaking a Municipal Class Environmental Assessment for the widening of Ninth Line from Eglinton Avenue West to Derry Road West. The study is scheduled to begin early 2020, with an anticipated construction date of 2023 as advised by City staff (see **Appendix B** for correspondence).

Details regarding the widening are unknown at this time. However, it is assumed that Ninth Line will be widened from two lanes to five lanes (four travel lanes and a centre turn lane or centre median), and active transportation facilities such as bicycle lanes and a continuous sidewalk or multi-use trail.

Although the City's anticipated construction date of 2023 would occur before full build-out of the proposed development (2024), 2024 future background and future total conditions were analyzed without the Ninth Line widening in place. This approach would yield more conservative results as well as identify what improvements are needed, if any, to support the build-out of the proposed development should it occur before Ninth Line is widened.

Additionally, future transit improvements are planned by the City of Mississauga. The MiWay 2020 Annual Service Plan proposes improvements to the Lisgar and Meadowvale Area for October 26, 2020 and includes:

- a new bus stop at the future Churchill Meadows Community Centre and Park at 5320 Ninth Line (within an approximate 10-minute walking distance from the subject property);
- a new bus route from Meadowvale Town Centre and the Winston Churchill Transitway station;
- a new bus route between Streetsville GO and the neighbourhood adjacent the subject property on Ninth Line; and
- modifications to existing bus routes 9, 35 and 39 in the area.

These improvements would increase transit availability in the study area and promote transit as a viable mode of transportation to and from the subject property.

4.5 Additional Roadway Improvements

The MMM study recommended that the west approach of Ninth Line and Eglinton Avenue West / East Lower Base Line be widened to provide two eastbound through lanes, as there are already two receiving lanes in the east leg of this intersection. The MMM study justified this recommendation as a requirement to support future background growth on Eglinton Avenue West and background development traffic.

Thus, the intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line was modelled under 2024 future background conditions under two scenarios: with and without the widening of East Lower Base Line to provide a second eastbound through lane.

4.6 Intersection Operations

The future background intersection operations at the study intersections were analyzed using the 2021 and 2024 future background traffic volumes illustrated in **Figures 8 and 9,** respectively, and optimized signal timings. Detailed capacity analysis worksheets are included in **Appendix F**.

The intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line was modelled under 2024 future background conditions under two scenarios: with and without the widening of East Lower Base Line to provide a second eastbound through lane (as recommended in the MMM study).

Tables 12 and 13 outline the 2021 and 2024 future background traffic operations.

Table 12: 2021 Future Background Traffic Operations

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length [3]
Ninth Line and Eglinton Avenue West / East Lower Base Line	Signal	A.M.	E	63.8 s	1.06 (EBTR) 1.05 (SBTR)	None
		P.M.	D	54.6 s	1.00 (WBT) 0.97 (NBT)	47.1 m > 30 m (WBL)
Ninth Line and Skyview Street	Stop (Minor)	A.M.	B	14.4 s	0.04 (WBLR)	None
		P.M.	D	25.0 s	0.04 (WBLR)	None
Ninth Line and Candlelight Drive	Stop (Minor)	A.M.	B	14.1 s	0.06 (WBR)	None
		P.M.	D	25.6 s	0.10 (WBR)	None
Ninth Line and Erin Centre Boulevard	Signal	A.M.	B	16.4 s	0.87 (SBT)	None
		P.M.	B	17.1 s	0.89 (NBTR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection where the maximum v/c ratio does not exceed the critical threshold. All v/c ratios that exceed the critical threshold of 0.85 per the City's guidelines are outlined and highlighted.

Note 3: 95th percentile queue lengths which exceed the designated storage length of the turn lane but can be accommodated by a centre turn lane were not documented in this table.

Table 13: 2024 Future Background Traffic Operations

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length [3]
Ninth Line and Eglinton Avenue West / East Lower Base Line (no improvements)	Signal	A.M.	E	69.7 s	1.10 (EBTR) 1.08 (SBTR)	31.0 m > 30 m (WBL)
		P.M.	E	66.1 s	0.88 (EBTR) 0.97 (WBL) 1.03 (WBT) 1.06 (NBT) 0.95 (SBL)	20.8 m > 15 m (EBL) 56.2 m > 30 m (WBL)
Ninth Line and Eglinton Avenue West / East Lower Base Line (with improvements)	Signal	A.M.	D	38.0 s	0.93 (SBTR)	17.2 m > 15 m (EBL)
		P.M.	E	59.6 s	1.01 (WBT) 1.03 (NBT) 1.07 (SBL)	20.8 m > 15 m (EBL) 30.1 m > 30 m (WBL)
Ninth Line and Skyview Street	Stop (Minor)	A.M.	C	15.8 s	0.05 (WBLR)	None
		P.M.	D	28.2 s	0.05 (WBLR)	None
Ninth Line and Candlelight Drive	Stop (Minor)	A.M.	C	15.6 s	0.08 (WBR)	None
		P.M.	D	28.8 s	0.12 (WBR)	None
Ninth Line and Erin Centre Boulevard	Signal	A.M.	B	17.6 s	0.89 (SBT)	None
		P.M.	C	21.2 s	0.94 (NBTR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection where the maximum v/c ratio does not exceed the critical threshold. All v/c ratios that exceed the critical threshold of 0.85 per the City's guidelines are outlined and highlighted.

Note 3: 95th percentile queue lengths which exceed the designated storage length of the turn lane but can be accommodated by a centre turn lane were not documented in this table.

The intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line is expected to change from LOS "D" to "E" under 2024 future background conditions compared to existing conditions with a maximum control delay of 69.7 seconds and several movements operating near or at capacity, and with some 95th percentile queue lengths extending beyond storage lengths. These operations are attributed to the increase in through traffic on Eglinton Avenue West / East Lower Base Line and Ninth Line, as well as background development traffic.

If the west approach of the intersection is widened to provide a second eastbound through lane (as recommended in the MMM study), the intersection would be expected to improve to LOS "D" during the weekday a.m. peak period with a reduction in control delay of approximately 31.7 seconds. These operations indicate that the improvements recommended in the MMM study at Ninth Line and Eglinton Avenue West / East Lower Base Line are expected to significantly improve traffic operations.

The intersections of Ninth Line and Skyview Street, and Ninth Line and Candlelight Drive are expected to change from LOS "B" to "C" and LOS "C" to "D" during the weekday a.m. and p.m. peak hours, respectively, with a maximum increase in delay of approximately 4.3 seconds. The intersections are still expected to operate with no movements operating near capacity nor critical 95th percentile

queue lengths.

The intersection of Ninth Line and Erin Centre Boulevard is expected to change from LOS "B" to "C" during the weekday p.m. peak hour with a maximum increase in control delay of 4.2 seconds. The southbound through movement and northbound through movements are expected to operate near capacity during the weekday a.m. and p.m. peak hours, respectively, as a result of background traffic growth and development traffic added to the already heavy through volumes on Ninth Line.

These operations do not account for the planned widening of Ninth Line scheduled for 2023. If the widening is implemented before 2024, then traffic operations on the boundary road network will improve compared to the operations outlined in **Table 13.**

Overall, the boundary road network is expected to operate at acceptable levels of service under 2024 future background conditions with the implementation of the improvements at Ninth Line and Eglinton Avenue West / East Lower Base Line as recommended in the MMM study.

5.0 Site Generated Traffic

The proposed development will result in additional vehicles on the boundary road network that would otherwise not exist. The proposed development will also result in additional turning movements at the study intersections.

5.1 Trip Generation

Trip generation for the proposed development was forecasted using published data from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The ITE Trip Generation Manual is a compendium of industry collected trip generation data across North America for a variety of land uses and is used industry wide as a source for trip generation forecasts.

Land Use Category (LUC) 220 "Multifamily Housing (Low-Rise)" was applied to the proposed residential townhouse dwelling units for both Phase 1 and 2.

A fitted curve equation is provided for all land use categories outlined above, and the number of data plot points exceeds 20 data points. Therefore, the fitted curve equation was used to forecast trip generation for the proposed development.

Trip generation was forecasted using a previous version of the development proposal which included an additional street townhouse for Phase 1. Therefore, the trip generation forecasts and future total traffic analysis are slightly overstated as they reflect an additional unit for both Phase 1 and full build-out.

Table 14 outlines the trip generation for both Phase 1 and full build-out of the proposed development.

Table 14: Trip Generation

Phase 1 (2021)					
ITE Land Use Category	**Units**	**Peak Hour**	**Trips Generated**		
			Inbound	**Outbound**	**Total**
LUC 220 "Multifamily Housing (Low-Rise)"	128	A.M.	14	46	60
		P.M.	46	28	74
Full Build-Out (2024)					
ITE Land Use Category	**Units**	**Peak Hour**	**Trips Generated**		
			Inbound	**Outbound**	**Total**
LUC 220 "Multifamily Housing (Low-Rise)"	175	A.M.	18	63	81
		P.M.	61	36	97

The full build-out of the proposed development is expected to generate a total of 81 and 97 total two-way trips during the weekday a.m. and p.m. peak hours, respectively. Given the sole residential land use, no internal synergy trips or pass-by trips are expected for the proposed development.

5.2 Trip Distribution

The trips generated by the proposed development were distributed to the boundary road network based on 2016 Transportation Tomorrow Survey (TTS) data. TTS is a comprehensive survey of transportation characteristics of households in the Greater Toronto Area (GTA) and surrounding areas.

For the proposed development, TTS results were filtered to auto trips exiting 2006 GTA Zones 3615, 3616, 3809, 3810 and 3811 during the weekday a.m. peak period. These zones consist of the residential zones along the Ninth Line corridor, and thus were considered to be appropriate for trip distribution analysis. The row variable was set to "Planning District of Destination" and the column variable was set to "Use of 407" to quantify the number of trips travelling to each destination that use Highway 407 ETR.

From this query, trip destinations were determined, and percentage of trips assigned to each destination was accounted for. Trips were assumed to travel to and from their destination points based on the most convenient route, taking into account trips using Highway 407 ETR and trips not using Highway 407 ETR.

It was determined that approximately 65% of the total outbound trips exiting the study area during the weekday a.m. peak period are internal to Mississauga. Accordingly, trip distribution internal to Mississauga was determined using a combination of existing travel patterns, expected destinations, and TTS results for trips travelling within Planning District "Mississauga."

The resultant trip distribution is outlined in **Table 15.**

Table 15: Trip Distribution

Arriving From / Departing To	Percentage
Ninth Line (north)	**30%**
Ninth Line (south)	**20%**
Eglinton Avenue West (east)	**40%**
East Lower Base Line (west)	**5%**
Erin Centre Boulevard (east)	**5%**
Total	**100%**

Trips arriving from and departing to the north via Ninth Line include trips using Highway 407 ETR (east) and trips to and from areas internal to Mississauga (e.g. Meadowvale Town Centre).

Trips arriving from and departing to the south via Ninth Line include trips using Highway 403 (west), the Queen Elizabeth Way (QEW), and trips to and from areas internal to Mississauga (e.g. Port Credit).

Trips arriving from and departing to the east via Eglinton Avenue West include trips using Highway 403 (east) via Winston Churchill Boulevard, and trips to and from areas internal to Mississauga along Eglinton Avenue West.

Trips arriving from and departing to the west via East Lower Base Line include trips using Highway 407 ETR (west) via Trafalgar Road.

Figure 10 outlines the trip distribution for the proposed development. **Appendix I** contains the TTS data.

5.3 Trip Assignment

The trip distribution outlined in **Section 5.2** was applied to the site trip generation to calculate the trip assignment for both Phase 1 and full build-out. Trips were assumed to travel to and from their destination points based on the most convenient route.

As this analysis does not account for the adjacent property to the south, all forecasted trips entering and exiting the subject property were assigned to the proposed public road site access on Ninth Line.

Figures 11 and 12 outline the trip assignment for both Phase 1 and full build-out, respectively.

6.0 Future Total Conditions

6.1 Basis of Assessment

The site generated traffic volumes illustrated in **Figure 11** were added to the 2021 future background traffic volumes in **Figure 8** to determine 2021 future total traffic volumes. **Figure 13** illustrates the 2021 future total traffic volumes.

The site generated traffic volumes illustrated in **Figure 12** were added to the 2024 future background traffic volumes in **Figure 9** to determine 2024 future total traffic volumes. **Figure 14** illustrates the 2024 future total traffic volumes.

6.2 Signal Warrant Analysis

A signal warrant analysis was conducted for the site access under 2024 future total conditions with the existing Ninth Line cross-section. The analysis followed the procedures specified in Chapter 4 of the "Ontario Traffic Manual – Book 12", March 2012. Justifications 1 (Minimum Vehicular Volume), 2 (Delay to Cross Traffic), 3 (Combination of Justifications 1 and 2), and 4 (4-Hour Volume) were selected as the most appropriate warrants with which to assess the site connections.

The average hour volume was determined using the following formula from OTM Book 12:

$$AHV = (amPHV + pmPHV) / 4$$

Where;

AHV = average hour volume
PHV = peak hour volume

Despite the existing speed limit of 70 km/h on Ninth Line being considered "free flow" in the signal warrant analysis, an "urban" operating environment was applied to the signal warrant analysis to reflect the urbanization of the Ninth Line corridor.

The City has provided the following comments on the previously undertaken signal warrant analysis:

- The warrant analysis should include pedestrian volumes crossing Ninth Line; and
- The warrant analysis should include collision frequency for collisions susceptible to correction by a traffic signal.

6.2.1. Pedestrian Volumes

To account for pedestrian volumes crossing Ninth Line at the proposed site access, person trips were forecasted for the development using published data from the ITE Trip Generation Manual, 10th Edition.

Per the ITE Trip Generation Handbook, 3rd Edition, person trips include trips made by all modes of transportation. Therefore, to calculate pedestrian trips, the combined pedestrian and transit modal split of approximately 25% in the study area (derived from 2016 Transportation Tomorrow Survey Data as detailed in the TDM plan prepared by Crozier in October 2019) was applied to the forecasted person trips.

Table 16 outlines the pedestrian trip generation for full build-out of the proposed development.

Table 16: Pedestrian Trip Generation

Full Build-Out					
Units	Pedestrian Modal Split	Peak Hour	Trips Generated		
			Inbound	Outbound	Total
175	25%	A.M.	3	13	16
		P.M.	18	12	30

This analysis conservatively assumes that all pedestrians generated by the development would cross Ninth Line.

The forecasted peak hour pedestrian volumes at the unsignalized site access were then applied to Justification 6A (Pedestrian Volume) to determine if traffic signals are warranted based on pedestrian volumes. Pedestrian delay is not known at this time as the pedestrian volumes are based on forecasts. Therefore, Justification 6B (Pedestrian Delay) was not analyzed at this time.

As Justification 6A requires eight-hour vehicle volumes on Ninth Line and eight-hour pedestrian volumes crossing Ninth Line, the Average Hourly Volume (AHV) was calculated for both vehicular and pedestrian traffic using the formula outlined in Section 6.2, and then multiplied by eight hours.

The results of the pedestrian volumes analysis indicate that traffic signals are not warranted at the unsignalized site accesses per Justification 6A.

Appendix J contains the pedestrian volume analysis at the unsignalized site accesses.

6.2.2. Collision Analysis

The City provided Crozier with historical collision data on Ninth Line between Erin Centre Boulevard and Candlelight Drive from 2015-2019 (included in **Appendix K**). Per Justification 5 (Collision Experience) from OTM Book 12, traffic signals are warranted if the frequency of reportable collisions that are susceptible to correction by a traffic signal (i.e. turning movement and angle collisions) meets the minimum warrant value of 15 over a consecutive three-year period.

The intersections and roadway segments at or near the proposed unsignalized site access were analyzed for collision frequency. These locations include:

- Ninth Line between Erin Centre Boulevard and Candlelight Drive
- Ninth Line and Candlelight Drive

Table 17 outlines the total collision frequency from 2015-2019 at each location listed above, as well as the frequency of collisions susceptible to correction by a traffic signal.

Table 17: Collision Analysis (2015-2019)

Location	Collision Frequency (Total)	Collision Frequency (Susceptible to correction by a traffic signal) [1]	OTM Threshold Satisfied?
Ninth Line between Erin Centre Boulevard and Candlelight Drive	5	0	No
Ninth Line and Candlelight Drive	1	0	No

Note 1: These collisions include turning movement and angle collisions.

A review of the historical collision data on Ninth Line at the proposed unsignalized site access indicates one collision over the last five years that is susceptible to correction by a traffic signal. This collision frequency does not meet the minimum OTM threshold for traffic signal installation.

Therefore, traffic signals are not warranted at the unsignalized site accesses per Justification 5.

6.2.3. Signal Warrant Analysis Results

Table 18 outlines the results of the signal warrant analysis.

Table 18: Signal Warrant Analysis Results

Location	Operating Environment	Horizon Year	Number of lanes on major road	Traffic Signals Warranted?
Ninth Line and Site Access	Urban	2024 Future Total	Two	No

The results of the signal warrant analysis indicate that traffic signals are not warranted at the site access due to the low outbound volumes.

Appendix L contains the signal warrant sheets.

6.3 Auxiliary Left-Turn Lane Analysis

Auxiliary left-turn lane warrant analysis was conducted at the proposed site access to Ninth Line under 2024 future total conditions with the existing Ninth Line cross-section. The analysis was conducted using the Ministry of Transportation (MTO)'s "Design Supplement for TAC Geometric Design Guide for Canadian Roads – June 2017." The analysis was conducted using the warrant for "Left Turn Storage Lanes Two Lane Highways Unsignalized." As the proposed site access will be located on the west side Ninth Line, the northbound left-turn movement was analyzed for left-turn lane requirements.

The design speed of a roadway in an urban environment is typically 10-20 km/h greater than the posted speed limit. The posted speed limit on Ninth Line is 70 km/h. Therefore, a design speed of 90 km/h was assumed for the left-turn lane warrant analysis.

Table 19 outlines the results of the left-turn lane warrant analysis.

Table 19: Left-Turn Lane Warrant Analysis Results

Location	Movement	Design Speed	Horizon Year	Number of lanes on major road	Left-Turn Lane Storage Requirement?
Ninth Line and Site Access	Northbound Left-Turn	90 km/h	2024 Future Total	Two	25+ metres

Note 1: The maximum storage threshold for the applicable left-turn lane warrant chart is 25 metres. The calculated advancing and opposing volumes at the site access under 2024 future total conditions triggers a left-turn lane that exceeds the maximum storage threshold of 25 metres.

The results of the left-turn lane analysis indicate that an auxiliary northbound left-turn lane is warranted at the site access under 2024 future total conditions. The reasoning for the required storage is the heavy through volumes on Ninth Line under 2024 future total conditions.

There is an existing centre two-way left-turn lane (TWLTL) on Ninth Line in the study area. As the proposed site access is located between Candlelight Drive and Erin Centre Boulevard, the existing TWLTL can accommodate northbound left-turn storage requirements at the site access and thus not require any additional roadway improvements.

Appendix M contains the left-turn warrant analysis worksheets.

The cross-sectional details of the future Ninth Line widening is unknown at this time; however, it is assumed that a centre turn lane or centre median will be provided. If the future cross-section of Ninth Line includes a centre turn lane, the northbound left-turn storage requirements for the unsignalized site connections can be accommodated by the centre turn lane. If the future cross-section of Ninth Line includes a centre median, then auxiliary northbound left-turn lanes will have to be constructed at the site accesses and be integrated with the centre median of Ninth Line.

6.4 Right-Turn Lane Warrant Analysis

Auxiliary right-turn lane warrant analysis was conducted at the proposed site connections to Ninth Line under 2036 future total conditions. As the proposed site accesses will be located on the west side Ninth Line, the southbound right-turn movement was analyzed for right-turn lane requirements.

Per the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GFGCR), June 2017, a right-turn auxiliary lane on an urban or rural road should be implemented at unsignalized intersections when the volume of decelerating or accelerating vehicles compared with the through traffic volume causes undue hazard.

It is a common convention in traffic engineering that an auxiliary right-turn lane should be provided where right-turn volumes exceed 60 vehicles per hour. The forecasted southbound right-turn volume at the site access to Ninth Line under 2024 future total conditions is comparably lower, at 20 vehicles per hour during the critical weekday p.m. peak period. These volumes do not justify an auxiliary southbound right-turn lane.

It is also noted that there are no existing auxiliary right-turn lanes on Ninth Line at Skyview Street, Candlelight Drive or Erin Centre Boulevard.

Therefore, an auxiliary southbound right-turn lane is not required at the site access.

6.5 Site Access Configuration

Based on the 2024 future total traffic operations outlined in Section 6.6, a two-lane cross-section at the site access to Ninth Line with one outbound lane and one inbound lane would be sufficient to accommodate site generated traffic. Accordingly, the site access was modelled in Synchro with one outbound shared left-turn and right-turn lane and one inbound lane.

6.6 Intersection Operations

The future background intersection operations at the study intersections were analyzed using the 2021 and 2024 future total traffic volumes illustrated in **Figures 13 and 14,** respectively, and optimized signal timings. Detailed capacity analysis worksheets are included in **Appendix F**.

The intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line was modelled under 2024 future total conditions under two scenarios: with and without the widening of East Lower Base Line to provide a second eastbound through lane (as recommended in the MMM study).

Tables 20 and 21 outline the 2021 and 2024 future background traffic operations.

Table 20: 2021 Future Total Traffic Operations

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length [3]
Ninth Line and Eglinton Avenue West / East Lower Base Line	Signal	A.M.	E	65.0 s	1.06 (EBTR) 1.07 (SBTR)	None
		P.M.	E	56.2 s	1.00 (WBT) 0.98 (NBT) 0.87 (SBL)	16.2 m > 15 m (EBL) 47.9 m > 30 m (WBL)
Ninth Line and Skyview Street	Stop (Minor)	A.M.	B	14.6 s	0.04 (WBLR)	None
		P.M.	D	26.3 s	0.05 (WBLR)	None
Ninth Line and Candlelight Drive	Stop (Minor)	A.M.	B	14.3 s	0.06 (WBR)	None
		P.M.	D	27.2 s	0.11 (WBR)	None
Ninth Line and Erin Centre Boulevard	Signal	A.M.	B	16.5 s	0.87 (SBT)	None
		P.M.	B	17.6 s	0.90 (NBTR)	None
Ninth Line and Site Access	Stop (Minor)	A.M.	D	33.5 s	0.28 (EBLR)	None
		P.M.	C	19.5 s	0.11 (EBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection where the maximum v/c ratio does not exceed the critical threshold. All v/c ratios that exceed the critical threshold of 0.85 per the City's guidelines are outlined and highlighted.

Note 3: 95th percentile queue lengths which exceed the designated storage length of the turn lane but can be accommodated by a centre turn lane were not documented in this table.

Table 21: 2024 Future Total Traffic Operations

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length [3]
Ninth Line and Eglinton Avenue West / East Lower Base Line (no improvements)	Signal	A.M.	E	72.1 s	1.10 (EBTR) 0.88 (SBL) 1.09 (SBTR)	31.0 m > 30 m (WBL)
		P.M.	E	68.3 s	0.88 (EBTR) 0.97 (WBL) 1.03 (WBT) 1.08 (NBT) 1.00 (SBL)	24.1 m > 15 m (EBL) 56.2 m > 30 m (WBL)
Ninth Line and Eglinton Avenue West / East Lower Base Line (with improvements)	Signal	A.M.	D	38.4 s	0.93 (SBTR)	17.7 m > 15 m (EBL)
		P.M.	E	61.8 s	1.03 (WBT) 1.04 (NBT) 1.08 (SBL)	24.1 m > 15 m (EBL) 30.6 m > 30 m (WBL)
Ninth Line and Skyview Street	Stop (Minor)	A.M.	C	16.1 s	0.05 (WBLR)	None
		P.M.	D	30.2 s	0.05 (WBLR)	None
Ninth Line and Candlelight Drive	Stop (Minor)	A.M.	C	15.9 s	0.08 (WBR)	None
		P.M.	D	31.2 s	0.13 (WBR)	None
Ninth Line and Erin Centre Boulevard	Signal	A.M.	B	17.9 s	0.89 (SBT)	None
		P.M.	C	22.4 s	0.95 (NBTR)	None
Ninth Line and Site Access	Stop (Minor)	A.M.	E	40.7 s	0.41 (EBLR)	None
		P.M.	D	25.5 s	0.18 (EBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle. The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection where the maximum v/c ratio does not exceed the critical threshold. All v/c ratios that exceed the critical threshold of 0.85 per the City's guidelines are outlined and highlighted.

Note 3: 95th percentile queue lengths which exceed the designated storage length of the turn lane but can be accommodated by a centre turn lane were not documented in this table.

The boundary road network is expected to operate at unchanged levels of service under 2024 future total conditions compared to 2024 future background conditions with a maximum increase in control delay of 2.2 seconds, maximum increase in volume-to-capacity ratio of 0.02, and maximum increase in 95th percentile queue length of 3.3 metres (equivalent to less than one passenger car in length).

As consistent with future background conditions, if the west approach of the intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line is widened to provide a second eastbound through lane (as recommended in the MMM study), the intersection would be expected to improve to LOS "D" during the weekday a.m. peak period. These operations indicate that the improvements recommended in the MMM study at Ninth Line and Eglinton Avenue West / East Lower Base Line are expected to significantly improve traffic operations.

The proposed site access to Ninth Line is expected to operate at LOS "E" and "D" during the weekday a.m. and p.m. peak hours, respectively, with a maximum average delay of 40.7 seconds. These operations are attributed to heavy through volumes on Ninth Line under the existing two-lane scenario. However, these operations are common at side-street stop-controlled site accesses to arterial roadways and thus are considered acceptable. No movements are expected to operate near capacity nor with critical 95th percentile queue lengths.

Overall, the boundary road network is expected to operate at acceptable levels of service under 2024 future total conditions with the implementation of the background improvements at Ninth Line and Eglinton Avenue West / East Lower Base Line as recommended in the MMM study.

These operations do not account for the planned widening of Ninth Line scheduled for 2023. If the widening is implemented before 2024, then traffic operations on the boundary road network will improve compared to the operations outlined in **Table 21.**

These operations indicate that the addition of site traffic to the boundary road network is expected to minimally impact traffic operations. Therefore, the proposed development is supportable from a transportation operations perspective.

7.0 Safety Review

Per the City of Mississauga's guidelines, a safety review of the proposed development is required. The purpose of the safety review is to identify any safety deficiencies for auto drivers, pedestrians and cyclists for the proposed development, and to identify how the development proposes to maximize safety for all road users.

7.1 Access Spacing

The development proposes one public roadway access connection on the west side of Ninth Line located approximately 120 metres north of Candlelight Drive. This spacing exceeds the existing spacing between the intersections of Candlelight Drive, Skyview Street and Stardust Drive, while also providing a spacing over 250 metres from Erin Centre Boulevard. Additionally, the proposed site access is located far enough from Candlelight Drive that the west leg would not form an offset access alignment and thus reduce the potential for vehicle-vehicle conflicts.

7.2 Sight Distance Analysis

The available sightlines at the proposed Ninth Line connections were measured and compared to the standards set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR). Sight distance was measured from the proposed site accesses using the following assumptions:

- A standard driver eye height of 1.08 metres for a passenger car, and
- A 4.4 metre setback from the approximate extension of the outer curb to represent a vehicle waiting to exit the site.

Intersection sight distance is calculated using equation 9.9.1 from the GDGCR as outlined below:

$$ISD = 0.278 * V_{major} * tg$$

Where;
ISD = Intersection Sight Distance
V major = design speed of roadway (km/h)
tg = assumed time gap for vehicles to turn from stop onto roadway (s)

The design speed of a roadway in an urban environment is typically 10-20 km/h greater than the posted speed limit. The posted speed limit on Ninth Line is 70 km/h. Therefore, a design speed of 90 km/h was assumed for the sight distance analysis.

Although the Ninth Line widening was not accounted for under 2024 future background and total conditions, sight distance requirements were determined for the proposed site access under a widening scenario.

Table 22 outlines the sight distance analysis for the proposed site access.

Table 22: Sight Distance Analysis

Feature	Site Access
Access Type	Full-Moves
Intersection Control	Stop (Minor Street)
Posted Speed Limit of Roadway	70 km/h
Assumed Design Speed	90 km/h
Base Time Gap	7.5 s [1]
Additional Time Gap	1.0 (time to cross additional through lane and centre turn lane)
Grade of Roadway	Less than 3%
Horizontal Alignment of Roadway	Straight
Sight Distance Required	215 m [2]
Measured Sight Distance	> 400 m (to north and south)
Minimum Sight Distance Satisfied?	Yes

Note 1: Time gap for left-turning vehicles from a stop onto a two-lane highway with no median and with a grade less than 3%. Value from Table 9.9.3 in the GDGCR.
Note 2: Sight distance values calculated from Intersection Sight Distance equation 9.9.1 in the GDGCR.

As outlined in **Table 22**, minimum sight distance requirements are satisfied at the proposed Ninth Line connections.

Therefore, the proposed development is supportable from a sight distance perspective.

7.3 Roadway Alignment

The horizontal alignment of the boundary road network in the study area is relatively straight, and the vertical alignment of the boundary road network is relatively flat. Therefore, roadway alignment is not considered to be a traffic safety concern for the proposed development.

7.4 Clear Throat Length

Minimum recommended clear throat lengths were analyzed for the site connections to Ninth Line.

Per the TAC GDGCR, Table 8.9.3 "Suggested Minimum Clear Throat Lengths for Major Driveways" indicates that a minimum clear throat length for "apartment" developments between 100-200 units of 25 metres from arterial roads.

The minimum measured clear throat length at the site access is approximately 25-30 metres which is similar to the recommended minimum of 25 metres from arterial roads.

Therefore, the available clear throat length for the internal roadway connecting to Ninth Line satisfies TAC minimum recommended clear throat lengths.

7.5 Internal Site Circulation

City staff have asked that detailed vehicle turning diagrams be provided to illustrate internal site circulation. To address this comment, vehicle turning analysis was conducted for the most constrained vehicle profiles expected to navigate through the site: a standard pumper firetruck and a Region of Peel side-load waste collection truck.

Vehicle turning analysis indicates that there are no expected maneuverability constraints within the site for firetrucks or waste collection trucks.

The City has specified in their comments that turning movements cannot overlap adjacent lanes or curbs. However, accommodating this condition would result in excessive roadway and intersection widths and radii which would conflict with desired safety aspects within the site such as traffic calming and pedestrian and cycling provisions. Therefore, the vehicle maneuvering has allowed for some overlap at intersections. This overlap is not uncommon at intersections in residential subdivisions.

In addition, the following are noted:

- During emergencies, vehicles are legally required to pull over and allow unimpeded access firetrucks; and
- Firetruck and Waste Collection truck presence within the site would be infrequent and thus not impact typical day-to-day operations.

The vehicle turning diagram for the firetruck illustrates that the proposed roadways within the site meet the minimum requirements for fire access routes per the Ontario Building Code (minimum 6.0 metre route width and minimum centreline radii of 12 metres). An additional fire route can be provided via the walkway between Street "A" and Road "G" to provide a secondary emergency access from Street "A" to the northwest section of the site. This walkway fire route is 5.0 metres in width, which can still accommodate a firetruck so long as a minimum 9.5 metre curb radius is provided from Street "A" to the fire route.

The vehicle turning diagram for the waste collection truck illustrates the required centerline radii of 13 metres throughout the site for the waste collection route. Due to the compact nature of the site, a boulevard setback within the internal roadways between the roadway and sidewalk cannot be provided without achieving required unit setbacks from the roadways. The Region has confirmed that the proposed waste collection point locations in relation to the internal roadways are acceptable per previous correspondence.

Appendix N contains the vehicle turning diagrams for each vehicle profile.

8.0 Conclusions

The analysis contained within this report has resulted in the following key findings:

- The boundary road network is currently operating at LOS "D" or better during the weekday a.m. and p.m. peak hours, albeit with the intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line operating with movements near capacity during the weekday a.m. and p.m. peak hours. These operations are attributed to heavy through volumes on Eglinton Avenue West, East Lower Base Line and Ninth Line.

- The intersection of Ninth Line and Eglinton Avenue West / East Lower Base Line is expected to operate at LOS "E" under 2024 future background conditions with several movements operating near or at capacity, and with 95th percentile queue lengths extending beyond storage lengths (although these extended queues can be accommodated by the taper length for their respective turn lanes).

- These operations are attributed to the increase in through traffic on Eglinton Avenue West / East Lower Base Line and Ninth Line, as well as background development traffic.

- If the west approach of the intersection is widened to provide a second eastbound through lane (as recommended in the MMM study), traffic operations are expected to significantly improve at the intersection.

- The remaining intersections on Ninth Line are expected to operate at acceptable levels of service under 2024 future background conditions.

- The full build-out of the proposed development is expected to generate a total of 81 and 97 total two-way trips during the weekday a.m. and p.m. peak hours, respectively. Trip generation was forecasted using a previous version of the development proposal which included an additional street townhouse for Phase 1. Therefore, the trip generation forecasts and future total traffic analysis are slightly overstated as they reflect an additional unit for both Phase 1 and full build-out.

- Analysis of external roadway improvements under 2024 future total conditions has resulted in the following key findings:

    - Traffic signals are **not** warranted at the proposed site access to Ninth Line;
    - An auxiliary northbound left-turn lane is required on Ninth Line at the proposed site access with a storage length greater than 25 metres in length. The existing two-way left-turn lane (TWLTL) can accommodate northbound left-turn storage requirements at the site access; and
    - An auxiliary southbound right-turn lane is **not** required on Ninth Line at the proposed site access.

- Based on 2024 future total traffic operations, a two-lane cross-section at the site access to Ninth Line with one outbound lane and one inbound lane would be sufficient to accommodate site generated traffic.

- The boundary road network is expected to operate at unchanged levels of service under 2024 future total conditions compared to 2024 future background conditions with a maximum increase in control delay of 2.2 seconds, maximum increase in volume-to-capacity ratio of 0.02, and maximum increase in 95th percentile queue length of 3.3 metres (equivalent to less than one passenger car in length).

- The proposed public road site access to Ninth Line is expected to operate at acceptable levels of service.

- These operations indicate that the addition of site traffic to the boundary road network is expected to minimally impact traffic operations. Therefore, the proposed development is supportable from a transportation operations perspective.

- Analysis of safety components associated with the proposed development indicate the following:

    - The proposed access spacing of 120 metres north of the intersection of Ninth Line and Candlelight Drive exceeds the existing spacing between the intersections of Candlelight Drive, Skyview Street and Stardust Drive, while also providing a spacing over 250 metres from Erin Centre Boulevard;
    - The available sight distance at the proposed site access exceeds the minimum sight distance requirements set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR), June 2017;
    - Roadway alignment of the boundary road network is not considered to be a traffic safety concern for the proposed development;
    - The available clear throat length for the proposed site access to Ninth Line satisfies the minimum recommended clear throat length set out in the TAC GDGCR; and
    - There are no expected maneuverability constraints within the site for firetrucks nor waste collection trucks.

The analysis contained within this report was prepared using the Concept Plan prepared by Korsiak Urban Planning (dated October 22, 2020). Any minor revisions to the development concept are not expected to affect the conclusions contained with this report.

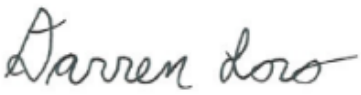
In conclusion, the proposed development can be supported from a transportation operations and safety perspective.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.

Alexander J.W. Fleming, MBA., P.Eng.
Associate

C.F. CROZIER & ASSOCIATES INC.



Darren J. Loro, C.E.T.
Transportation Technologist

/DL

J:\700\780 - Mattamy Development\5251-5150 Ninth Line\Reports\5251_TIS Update (November 2020).docx

APPENDIX A

Concept Plan

5150 NINTH LINE

CONCEPT PLAN

Phase 1

Product Type	Phase 1	Phase 2
Dual Frontage Towns	17	0
Towns	67	5
Towns - Freehold	17	0
Back to Backs	26	42
Total	127	47

Phase 1 Total Area: ±3.18 ha
Phase 1 Developable Area: ±3.03 ha (excludes 10m Buffer and public road)
Phase 1 Density: 41.9 UPH

Phase 2 Total Area: ±0.96 ha
Phase 2 does not form part of this application
Phase 2 sitings are preliminary. Further details will be provided at a later stage.

Visitor Parking Required (excludes freehold):
Phase 1: 110 units x 0.25 spaces/unit = 28 spaces
Phase 2: 47 units x 0.25 spaces/unit = 12 spaces

Visitor Parking Provided: 42 total
40 spaces within Phase 1
2 spaces within Phase 2

Amenity Area (Both Phases):
Amenity Area Required for B2B units is the greater of 5% of lot area or 2.8 m2/unit

Amenity Provided: 734 m^2 (10.79 m^2/unit)

GFA per Unit Type:
Front Loaded Towns: 202 m^2 - 218 m^2
Dual Fronts: 171 m^2 - 187 m^2
B2B: 149 m^2 - 152 m^2

mattamyHOMES | Q4A ARCHITECTS

Scale 1:1000

October 22, 2020

KORSIAK | Urban Planning
206-277 Lakeshore Road East
Oakville, Ontario L6J 1H9
T: 905-257-0227
info@korsiak.com

FUTURE COMMUNITY CENTRE & PARK TO NORTH

WOODLOT

10m BUFFER

LANDSCAPE BUFFER (2.8m)

HIGHWAY 407

±12m TRANSIT CORRIDOR

14m MTO SETBACK

CEC ROAD "D"

CEC ROAD "E"

CEC ROAD "F"

CEC ROAD "G"

CEC ROAD "I"

CEC ROAD "H"

CEC ROAD "C"

CEC ROAD "B"

CEC ROAD "A"

STREET "A"

SIDEWALK (1.5m)

AMENITY 734m^2

PHASE 2

5170

0.3m Reserve

20R-11775

5160

5080

PIN 24931-0183 (LT)

5104

PIN 24931-0108 (LT)

Temporary Turning Circle

0.3m Reserve

LISTED ON THE HERITAGE REGISTRY

NINTH LINE

QUIET CREEK DRIVE

PART 10

s:\korsiak & company\mattamy\mississauga\5150 ninth line\concepts\2020-10\concept plan - october 21 20_ec.dwg

APPENDIX B

Correspondence

Darren Loro

From: Lahini Senthil-kumaran <Lahini.Senthil-kumaran@mississauga.ca>
Sent: September 21, 2020 3:05 PM
To: Darren Loro
Cc: Flora Tang; Craig Scarlett; Alexander Fleming
Subject: RE: 5150 Ninth Line South - 21T-M 19 6 (TIS Comments)

Hello Darren,

As previously discussed, this is acceptable,

Regards,

Lahini Senthil-Kumaran, B.Eng
Traffic Planning Technologist
T 905-615-3200 ext.5798
lahini.senthil-kumaran@mississauga.ca |

City of Mississauga |

From: Darren Loro [mailto:dloro@cfcrozier.ca]
Sent: Monday, September 21, 2020 2:58 PM
To: Lahini Senthil-kumaran
Cc: Flora Tang; Craig Scarlett; Alexander Fleming
Subject: 5150 Ninth Line South - 21T-M 19 6 (TIS Comments)

Good afternoon Lahini,

Thank you for taking the time earlier to discuss the 5150 Ninth Line development application for Mattamy Homes. This e-mail is to summarize and follow up on our discussion.

We (Crozier) are the traffic consultants preparing the TIS for Mattamy Homes. We are preparing a TIS Addendum which will be submitted soon as part of third submission, and your outstanding comment on the TIS from second submission is as follows:

(i) 4.3 Background Developments- Please include the development of 5080 ninth line in background developments, as part of the analysis.

Unfortunately, at this time, no concrete development details have been established for the 5080 site property other than the Street “A” connection to the 5150 site. Therefore, given the uncertainty of the development, it’s difficult for us to account for this development in our analysis supporting the 5150 site.

However, Crozier also represents the developer of the 5080 site as their traffic consultant and will be preparing a Traffic Impact Study in support of their development application in the future once development details have been established. This Traffic Impact Study that we will prepare for the 5080 site will include the 5150 Mattamy site as a

background development in the analysis. Thus, the Traffic Impact Study for the 5080 site will assess future total traffic conditions at all study intersections (including the Street “A” connection to Ninth Line) with the build-out of both the 5150 and 5080 sites.

Per our discussion, please confirm that this approach is acceptable to the City and satisfies the outstanding comment on the 5150 Ninth Line TIS.

I’ve copied Flora Tang and Craig Scarlett from Mattamy Homes, and my supervisor Alex Fleming. If you have any questions or wish to discuss further, please feel free to give us a call!

Cheers,
Darren

Darren Loro C.E.T. | Technologist
2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4
T: 905.875.0026

CROZIER
CONSULTING ENGINEERS

Crozier Connections:

Read our latest news and announcements here.

Darren Loro

From: Greg Borys <Gregory.Borys@mississauga.ca>
Sent: Wednesday, July 24, 2019 11:03 AM
To: Darren Loro
Cc: Alex Fleming
Subject: RE: [CFCA #780-5251] 5150 Ninth Line TIS Proposed Terms of Reference

Good morning Darren,

Thank you for your patience, after further review Traffic Planning have no further comments regarding the proposed ToR.

If you have any other questions or concerns feel free to contact me.

Regards,

Gregory Borys, C.E.T.
Traffic Planning Technologist, Transportation & Works
T 905-615-3200 ext.3597
gregory.borys@mississauga.ca

City of Mississauga | Transportation and Works Department
Transportation and Infrastructure Planning Division

From: Darren Loro [mailto:dloro@cfcrozier.ca]
Sent: 2019/07/23 2:45 PM
To: Greg Borys
Cc: Alex Fleming
Subject: RE: [CFCA #780-5251] 5150 Ninth Line TIS Proposed Terms of Reference

Good afternoon Greg,

We were just wondering if the City had any comments on the rest of our proposed Terms of Reference for the 5150 Ninth Line project. I've highlighted the outstanding items in the Terms of Reference in the e-mail chain below.

If the City has any additional comments, could you please circulate them to us? You can assume that the Terms of Reference items below pertain to the 5150 site only (i.e. not including the adjacent property to the south).

Thank you again for confirming the study intersections and study time periods in advance.

If you have any questions or wish to discuss further, please do not hesitate to give me a call.

Cheers,
Darren

Darren Loro C.E.T. | Technologist
C.F. Crozier & Associates Consulting Engineers
40 Huron Street, Suite 301 | Collingwood, ON L9Y 4R3
cfcrozier.ca | dloro@cfcrozier.ca
tel: 705.446.3510 ext: 142

From: Greg Borys <Gregory.Borys@mississauga.ca>
Sent: Thursday, July 11, 2019 3:18 PM
To: Darren Loro <dloro@cfcrozier.ca>
Cc: Alex Fleming <afleming@cfcrozier.ca>
Subject: RE: [CFCA #780-5251] 5150 Ninth Line TIS Proposed Terms of Reference

Good afternoon Darren,

Thank you for reaching out today to discuss intersections for data collection which have been outlined below in your email. If anything changes with the development to the south please let me know.

Regards,

Gregory Borys, C.E.T.
Traffic Planning Technologist, Transportation & Works
T 905-615-3200 ext.3597
gregory.borys@mississauga.ca

City of Mississauga | Transportation and Works Department
Transportation and Infrastructure Planning Division

From: Darren Loro [mailto:dloro@cfcrozier.ca]
Sent: 2019/07/11 2:45 PM
To: Greg Borys
Cc: Alex Fleming
Subject: RE: [CFCA #780-5251] 5150 Ninth Line TIS Proposed Terms of Reference

Good afternoon Greg,

Thanks again for taking the time earlier to discuss the scope of intersections with us for this project.

As discussed, the City requires analysis of the following intersections for the 5150 Ninth Line site:

- Ninth Line/Eglinton Avenue West

- Ninth Line/Skyview Street
- Ninth Line/Candlelight Drive
- Ninth Line/Erin Centre Boulevard
- Ninth Line/Site Access

In regards to the adjacent property to the south, we are in the process of discussing with our client and the adjacent developer to see if they would like us to do the work simultaneously for both sites. You advised that if we end up doing a consolidated study for both sites, then the scope of intersections and scope of work for the TIS will have to be expanded. We will keep you updated on how we will be proceeding with this project.

We will await your further comments on our proposed scope of work for the 5150 site (per the e-mail below). If you have any questions or wish to discuss further, please do not hesitate to give me a call.

Cheers,
Darren

Darren Loro C.E.T. | Technologist
C.F. Crozier & Associates Consulting Engineers
40 Huron Street, Suite 301 | Collingwood, ON L9Y 4R3
cfcrozier.ca | dloro@cfcrozier.ca
tel: 705.446.3510 ext: 142

From: Darren Loro
Sent: July-10-19 9:36 PM
To: Greg Borys <Gregory.Borys@mississauga.ca>
Cc: Alex Fleming <afleming@cfcrozier.ca>
Subject: [CFCA #780-5251] 5150 Ninth Line TIS Proposed Terms of Reference
Importance: High

Good evening Gregory,

It's been a while since we spoke - hope all is well on your end!

We have been retained by Mattamy Homes to prepare a TIS for the proposed residential development located at 5150 Ninth Line in the City of Mississauga, Regional Municipality of Peel. The subject property is located in a residential neighbourhood and is bound by vacant lands to the north, an existing residential dwelling to the south, Ninth Line to the east and Highway 407 to the west. The latest concept plan is attached.

The development statistics are outlined below:

Proposed Development Statistics Unit Type	Total Units
Rear Lane Townhouse	26
Townhouse	55

Back-To-Back Townhouse	26
Half Back-To-Back Townhouse	28
Rear Lane Duplex	28
Total	**163**

We would like to circulate our proposed Terms of Reference with the City for review and comment.

The subject property is within the Ministry of Transportation of Ontario (MTO)'s permit control area, which includes the area within 395 metres of the centre point of a controlled-access highway or 45 metres from a highway right-of-way. However, the nearest interchanges to 400-series freeways are located over two kilometres away from the subject property. Also, the proposed development is expected to generate less than 100 total two-way trips during the weekday a.m. and p.m. peak periods, and thus the MTO might not consider the proposed development to be a major traffic generator. Accordingly, we assume that the MTO will not require a comprehensive Traffic Impact Study, but that the MTO will accept a scoped traffic analysis in the form of a Traffic Brief. This will be confirmed with the MTO during pre-consultation.

The proposed Terms of Reference is outlined below:

1. The TIS will analyze traffic impacts during the weekday a.m and p.m. peak hours.

2. The following intersections will be analyzed:
    a. Ninth Line and Eglinton Avenue West
    b. Ninth Line and future site access

3. Traffic counts will be commissioned at Ninth Line and Eglinton Avenue West on a typical weekday between the hours of 6:00 a.m. – 10:00 a.m. and 3:00 p.m. – 7:00 p.m.

4. Existing, future background and future total traffic operations will be analyzed using Synchro 9.0. Standard traffic operations metrics for signalized and unsignalized intersections including delays, volume-to-capacity ratios, and 95th percentile queue length will be analyzed and reported on.

5. The TIS will analyze the 2024 horizon year to capture the five-year horizon from the date of study (per the City's TIS guidelines). The development is expected to be fully built-out within the five-year horizon.

6. Background traffic growth will be calculated using the growth rates from the Ninth Line Corridor Study Transportation Assessment prepared for the City of Mississauga by MMM Group (July 2017).

7. The widening of Ninth Line planned for 2023 will be accounted for.

8. Trip generation will be forecasted using the ITE Trip Generation Manual, 10th Edition. Preliminary trip generation estimates indicate that the proposed development is expected to generate less than 100 total two-way trips during the critical weekday a.m. and p.m. peak hours.

8. Trip distribution will be derived from a combination of 2016 Transportation Tomorrow Survey (TTS) data and existing travel patterns.

9. Future total traffic operations will be compared to future background traffic operations under full build-out conditions to determine what mitigation measures are required on the boundary road network to accommodate the full build-out of the development. These mitigation measures include auxiliary turn lanes, signalization, etc.

10. Auxiliary left-turn lane requirements will be analyzed using the MTO's "Design Supplement for the Geometric Design Guide for Canadian Roads" and traffic signal requirements will be analyzed using the warrants set out in the Ontario Traffic Manual (OTM) Book 12 "Traffic Signals";

11. A functional design plan will be prepared for all recommended roadway improvements;

12. The proposed development will be reviewed from a transportation safety perspective to identify any issues pertaining to weaving, merging, queueing, and vehicle turning constraints within the site.

13. Existing and future Transportation Demand Management (TDM) opportunities will be evaluated to reduce auto share and promote non-auto transportation. This will include the impacts arising from the future 407 transitway running parallel to Highway 407.

Please review and comment on the terms of reference as outlined above. If this is satisfactory, we will begin our analysis immediately.

If you want to discuss further, please do not hesitate to give me a call.

Cheers,
Darren

Darren Loro

From: Lahini Senthil-kumaran <Lahini.Senthil-kumaran@mississauga.ca>
Sent: September 21, 2020 3:05 PM
To: Darren Loro
Cc: Flora Tang; Craig Scarlett; Alexander Fleming
Subject: RE: 5150 Ninth Line South - 21T-M 19 6 (TIS Comments)

Hello Darren,

As previously discussed, this is acceptable,

Regards,

Lahini Senthil-Kumaran, B.Eng
Traffic Planning Technologist
T 905-615-3200 ext.5798
lahini.senthil-kumaran@mississauga.ca |

City of Mississauga |

From: Darren Loro [mailto:dloro@cfcrozier.ca]
Sent: Monday, September 21, 2020 2:58 PM
To: Lahini Senthil-kumaran
Cc: Flora Tang; Craig Scarlett; Alexander Fleming
Subject: 5150 Ninth Line South - 21T-M 19 6 (TIS Comments)

Good afternoon Lahini,

Thank you for taking the time earlier to discuss the 5150 Ninth Line development application for Mattamy Homes. This e-mail is to summarize and follow up on our discussion.

We (Crozier) are the traffic consultants preparing the TIS for Mattamy Homes. We are preparing a TIS Addendum which will be submitted soon as part of third submission, and your outstanding comment on the TIS from second submission is as follows:

(i) 4.3 Background Developments- Please include the development of 5080 ninth line in background developments, as part of the analysis.

Unfortunately, at this time, no concrete development details have been established for the 5080 site property other than the Street “A” connection to the 5150 site. Therefore, given the uncertainty of the development, it’s difficult for us to account for this development in our analysis supporting the 5150 site.

However, Crozier also represents the developer of the 5080 site as their traffic consultant and will be preparing a Traffic Impact Study in support of their development application in the future once development details have been established. This Traffic Impact Study that we will prepare for the 5080 site will include the 5150 Mattamy site as a

background development in the analysis. Thus, the Traffic Impact Study for the 5080 site will assess future total traffic conditions at all study intersections (including the Street “A” connection to Ninth Line) with the build-out of both the 5150 and 5080 sites.

Per our discussion, please confirm that this approach is acceptable to the City and satisfies the outstanding comment on the 5150 Ninth Line TIS.

I’ve copied Flora Tang and Craig Scarlett from Mattamy Homes, and my supervisor Alex Fleming. If you have any questions or wish to discuss further, please feel free to give us a call!

Cheers,
Darren

Darren Loro C.E.T. | Technologist
2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4
T: 905.875.0026

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CONSULTING ENGINEERS

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APPENDIX C

Transit Information

Weekday Service Map

Effective: October 29, 2018

MiWay Route Service Types

- Regular Route
- Rush Hour (Peak) Route
- Non-Rush Hour (Off Peak) Route
- MiExpress Route All Day Service
- MiExpress Route AM/PM Rush Hour Service
- Route Number

Connecting Transit Services

- Oakville Transit Route
- Brampton Transit Route
- TTC Bus Route
- TTC Subway & Station
- GO Train & Station

Map Symbols

- Major Transit Terminal
- Transitway Station
- Mississauga Transitway
- Key Transit Stops
- Hospital
- Shopping Centre
- High School, University or College
- Recreation or Community Centre
- Ice Rink
- Public Library
- Living Arts Centre
- Civic Centre (City Hall)
- Court House

All MiWay routes are fully accessible with low floor, wheelchair accessible buses

Scale 1:38 500 (approx.)

0 1/2 1 Kilometre

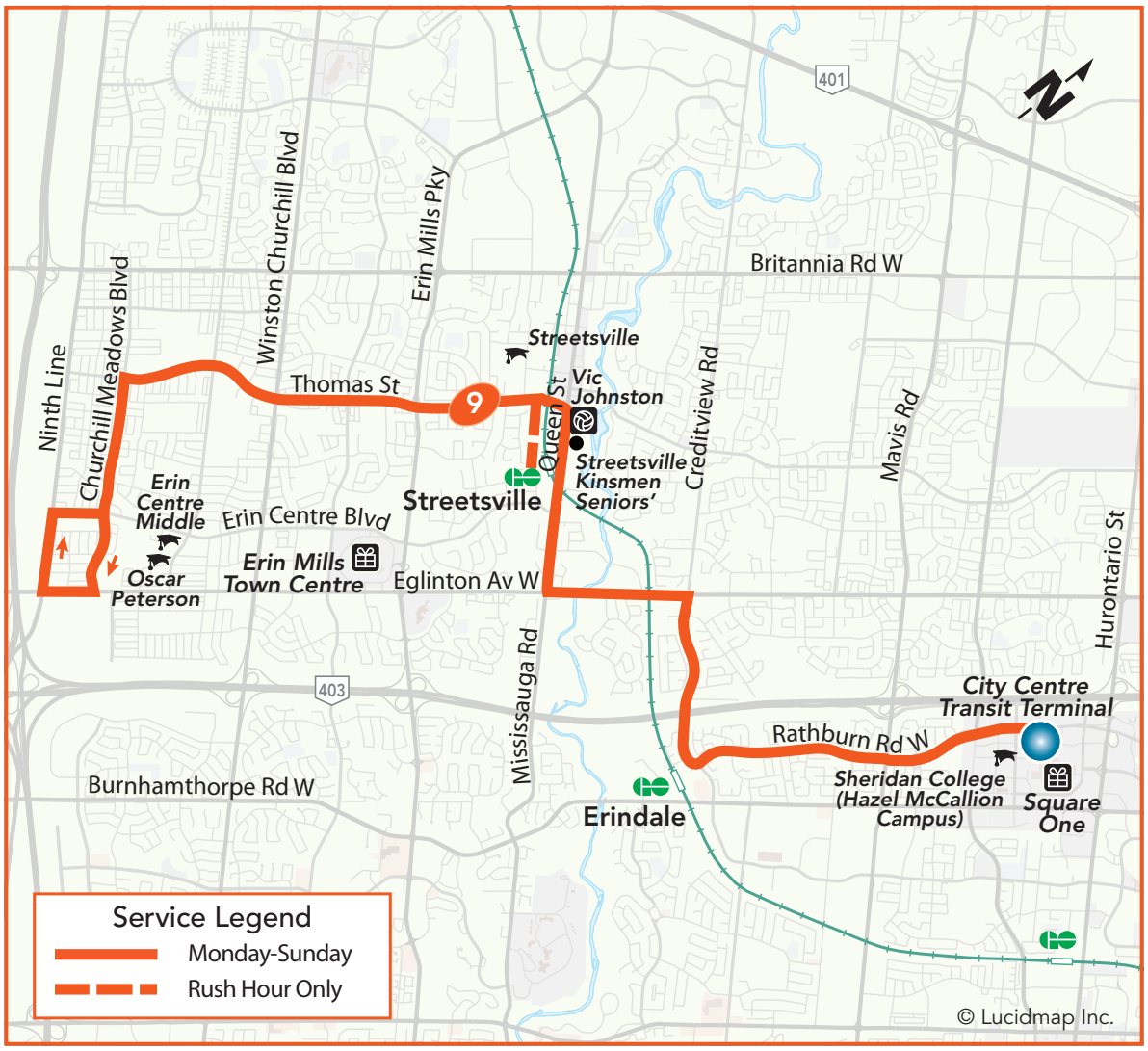
0 1/4 1/2 Mile

mi local

9 Rathburn-Thomas

Monday-Sunday Service

Effective: October 24, 2016



Legend

- TTC Subway Station
- GO Train Station
- Transitway Station
- Major Transit Terminal
- Hospital
- Ice Rink
- Shopping Centre
- High School, University or College
- Recreation or Community Centre
- Public Library
- Living Arts Centre
- Civic Centre (City Hall)

Customer Service - We're here to help

@MiWayHelps
miway.ca/feedback
905-615-INFO (4636)
miway.info@mississauga.ca
TTY: 905-615-3886

Find a schedule or trip plan

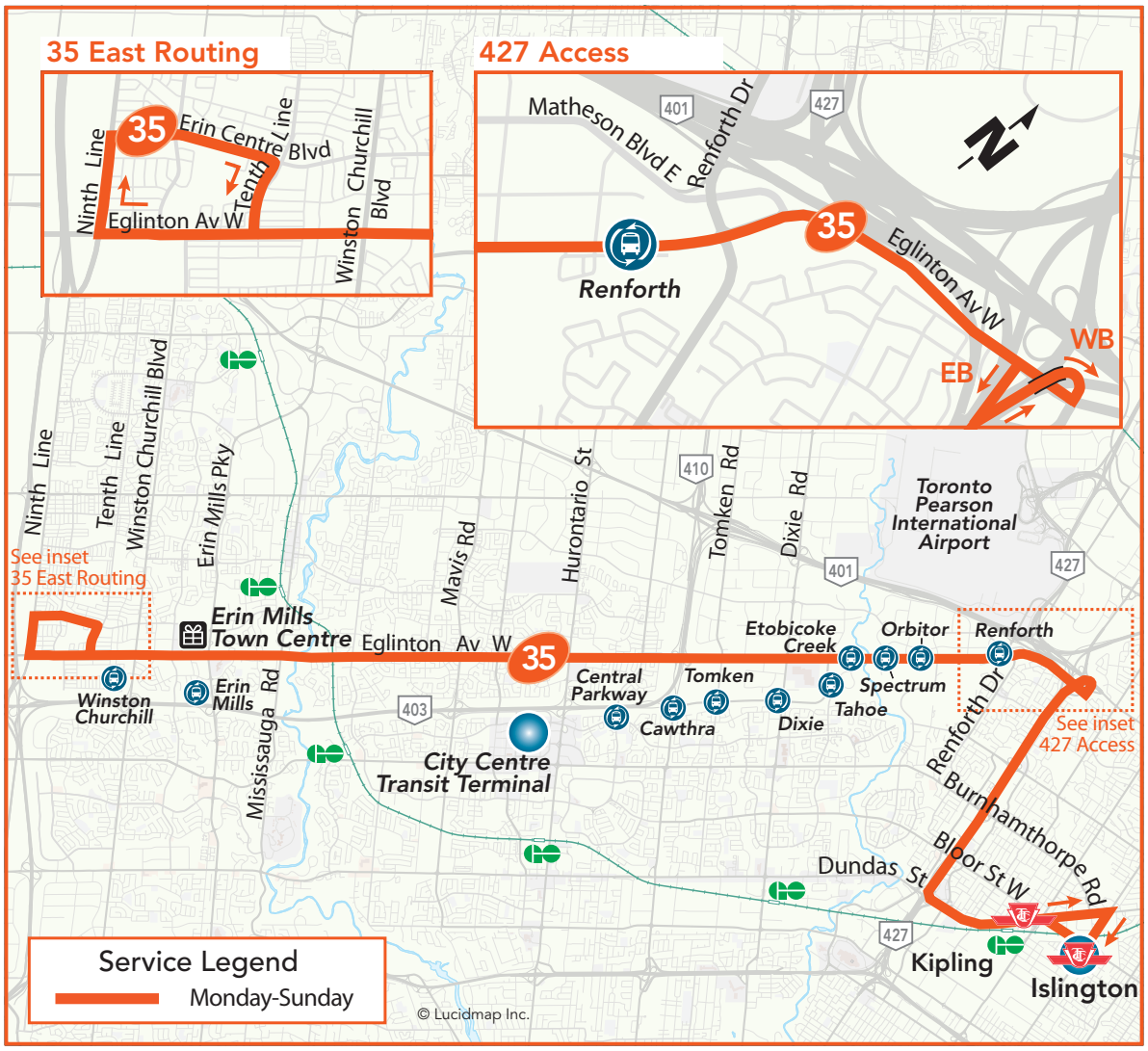
m.miway.ca
miway.ca/planatrip
citylink 905-615-4BUS(4287)
Call and enter a four-digit bus stop number.

MISSISSAUGA

35 Eglinton-Ninth Line

Monday-Sunday Service

Effective: February 26, 2018



Legend

- TTC Subway Station
- GO Train Station
- Transitway Station
- Major Transit Terminal
- Hospital
- Ice Rink
- Shopping Centre
- High School, University or College
- Recreation or Community Centre
- Public Library
- Living Arts Centre
- Civic Centre (City Hall)

MiWay Customer Service		Trip Plans & Schedules	
@MiWayHelps	TTY: 905-615-3886	m.miway.ca Mobile Site	miway.ca/planatrip Online Trip Planner
miway.ca/feedback	miwayhelps@mississauga.ca		citylink 905-615-4BUS(4287) Call and enter a four-digit bus stop number.
905-615-INFO (4636)	Customer Service Ambassadors In person at various locations		

All information subject to change without notice.

341 Ninth Line-Thomas

Monday-Friday Service

Effective: September 4, 2017

Legend

- TTC Subway Station
- GO Train Station
- Transitway Station
- Major Transit Terminal
- Hospital
- Ice Rink
- Shopping Centre
- High School, University or College
- Recreation or Community Centre
- Public Library
- Living Arts Centre
- Civic Centre (City Hall)

MiWay Customer Service

@MiWayHelps
miway.ca/feedback
905-615-INFO (4636)
TTY: 905-615-3886
miwayhelps@mississauga.ca
Customer Service Ambassadors
In person at various locations

Trip Plans & Schedules

m.miway.ca
Mobile Site
miway.ca/planatrip
Online Trip Planner
citylink 905-615-4BUS(4287)
Call and enter a four-digit bus stop number.

All information subject to change without notice.

APPENDIX D

Traffic Data

Turning Movement Count (1 . NINTH LINE & EGLINTON AVE W)

Start Time	N Approach NINTH LINE						E Approach EGLINTON AVE W						S Approach NINTH LINE						W Approach EGLINTON AVE W						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
06:00:00	2	51	24	0	0	77	8	22	6	0	2	36	2	8	2	0	0	12	9	59	3	0	0	71	196	
06:15:00	6	85	37	0	0	128	9	22	4	0	0	35	5	19	2	0	0	26	11	114	1	0	0	126	315	
06:30:00	9	105	56	0	0	170	14	39	5	0	0	58	2	28	8	0	0	38	13	113	1	0	0	127	393	
06:45:00	11	103	63	0	0	177	17	30	11	0	0	58	5	28	7	0	0	40	18	140	3	0	0	161	436	1340
07:00:00	8	130	56	0	0	194	13	36	4	0	1	53	4	45	5	0	0	54	11	122	4	0	0	137	438	1582
07:15:00	7	134	48	0	1	189	17	55	10	0	1	82	8	47	11	0	0	66	24	179	4	0	0	207	544	1811
07:30:00	19	193	65	0	0	277	20	64	13	0	1	97	16	81	5	0	0	102	18	144	6	0	0	168	644	2062
07:45:00	12	202	62	0	2	276	37	76	14	0	0	127	13	75	4	0	0	92	24	175	8	0	0	207	702	2328
08:00:00	25	181	67	0	0	273	28	73	17	0	0	118	27	94	4	0	0	125	25	152	12	0	0	189	705	2595
08:15:00	17	218	70	0	0	305	39	48	15	0	0	102	19	75	8	0	0	102	32	132	4	0	0	168	677	2728
08:30:00	11	193	77	0	0	281	23	67	19	0	2	109	22	86	5	0	0	113	36	153	4	0	0	193	696	2780
08:45:00	10	188	88	0	1	286	27	53	14	0	0	94	24	75	7	0	0	106	18	162	4	0	0	184	670	2748
09:00:00	14	142	66	0	0	222	23	49	13	0	0	85	27	74	5	0	0	106	32	159	6	0	0	197	610	2653
09:15:00	7	115	61	0	0	183	19	49	11	0	0	79	8	61	5	0	0	74	8	121	4	0	0	133	469	2445
09:30:00	10	109	51	0	0	170	30	51	6	0	0	87	15	65	9	0	0	89	12	125	2	0	0	139	485	2234
09:45:00	12	77	55	0	0	144	23	47	15	0	0	85	13	39	9	0	0	61	15	82	5	0	0	102	392	1956
BREAK																										
15:00:00	14	69	28	0	0	111	61	133	10	0	1	204	4	98	15	0	0	117	9	68	8	0	0	85	517	
15:15:00	13	79	37	0	0	129	45	132	13	0	1	190	12	119	34	0	0	165	6	77	9	0	0	92	576	
15:30:00	11	85	41	0	0	137	59	97	14	0	0	170	14	97	36	0	0	147	11	80	7	0	0	98	552	
15:45:00	10	95	41	0	0	146	61	123	23	0	0	207	10	164	48	0	0	222	11	78	6	0	0	95	670	2315
16:00:00	16	99	34	0	0	149	77	161	12	0	3	250	17	161	42	0	0	220	12	72	10	0	0	94	713	2511
16:15:00	24	90	42	0	0	156	100	193	10	0	0	303	11	159	42	0	0	212	18	101	13	0	0	132	803	2738
16:30:00	16	104	52	0	0	172	64	149	12	0	0	225	15	177	27	0	0	219	12	93	11	0	0	116	732	2918
16:45:00	20	99	58	0	0	177	89	168	14	0	0	271	11	152	25	0	0	188	11	112	13	0	0	136	772	3020
17:00:00	15	104	33	0	0	152	91	181	14	0	2	286	23	171	28	0	0	222	15	112	11	0	0	138	798	3105
17:15:00	9	104	46	0	0	159	87	176	13	0	0	276	21	184	19	0	0	224	10	139	11	0	0	160	819	3121
17:30:00	13	118	62	0	0	193	93	188	17	0	0	298	16	147	19	0	0	182	12	147	20	0	0	179	852	3241
17:45:00	11	113	49	0	0	173	93	149	18	0	0	260	23	178	19	0	0	220	8	123	12	0	0	143	796	3265
18:00:00	17	99	73	0	0	189	70	129	17	1	1	217	27	138	23	0	0	188	13	119	18	0	0	150	744	3211
18:15:00	8	96	61	0	0	165	76	135	18	0	0	229	17	143	7	0	0	167	8	122	9	0	0	139	700	3092

18:30:00	5	107	56	0	0	168	77	104	14	0	1	195	24	166	11	0	0	201	7	72	9	0	0	88	652	2892
18:45:00	14	77	41	0	0	132	60	106	11	0	0	177	8	109	8	0	0	125	6	68	13	0	0	87	521	2617
Grand Total	396	3764	1700	0	4	5860	1550	3105	407	1	16	5063	463	3263	499	0	0	4225	475	3715	251	0	0	4441	**19589**	-
Approach%	6.8%	64.2%	29%	0%		-	30.6%	61.3%	8%	0%		-	11%	77.2%	11.8%	0%		-	10.7%	83.7%	5.7%	0%		-	**-**	-
Totals %	2%	19.2%	8.7%	0%		29.9%	7.9%	15.9%	2.1%	0%		25.8%	2.4%	16.7%	2.5%	0%		21.6%	2.4%	19%	1.3%	0%		22.7%	**-**	-
Heavy	4	67	27	0		-	71	61	9	0		-	9	74	25	0		-	46	73	2	0		-	**-**	-
Heavy %	1%	1.8%	1.6%	0%		-	4.6%	2%	2.2%	0%		-	1.9%	2.3%	5%	0%		-	9.7%	2%	0.8%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

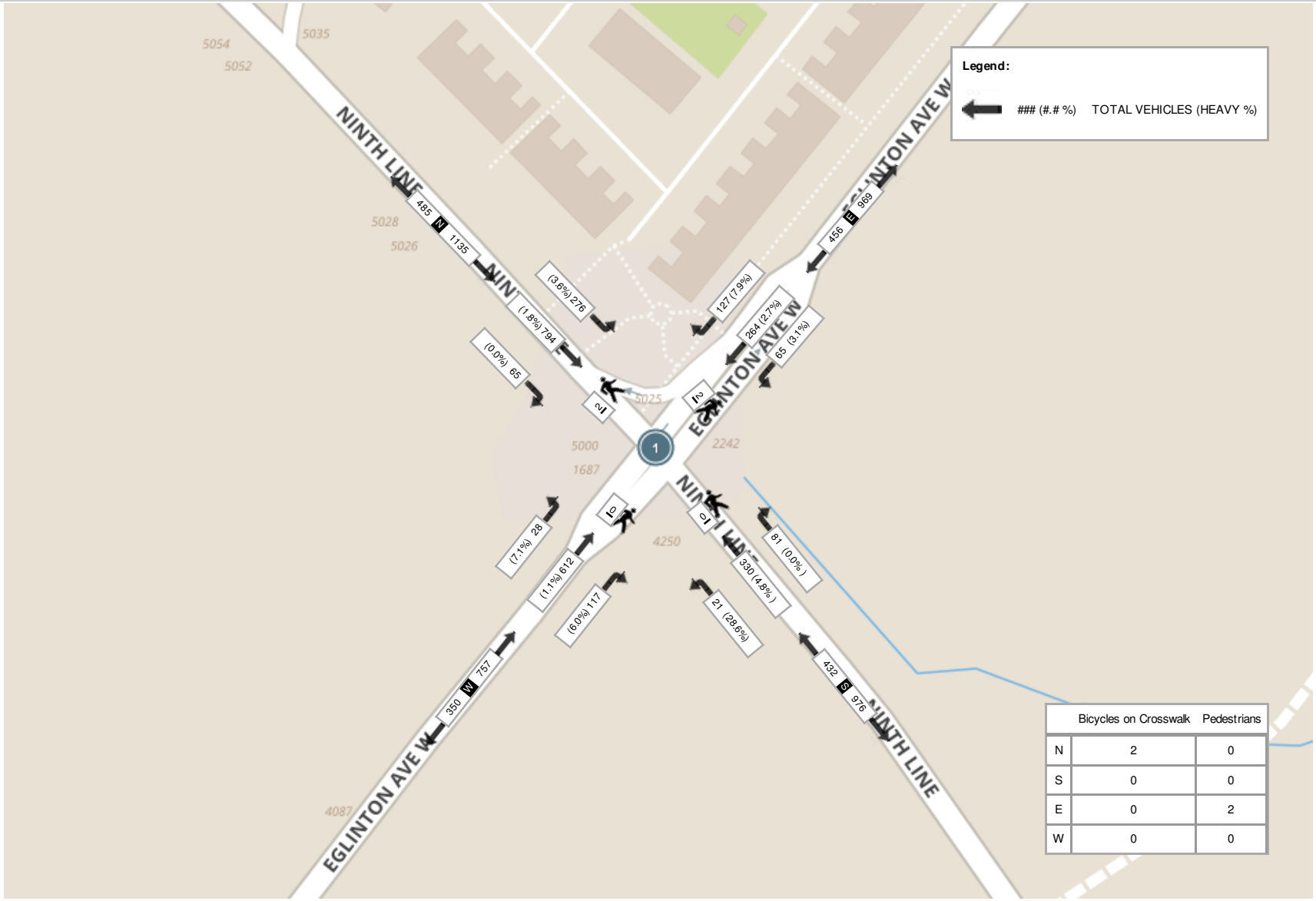
Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (19.07 °C)

Start Time	N Approach NINTH LINE						E Approach EGLINTON AVE W						S Approach NINTH LINE						W Approach EGLINTON AVE W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
07:45:00	12	202	62	0	2	276	37	76	14	0	0	127	13	75	4	0	0	92	24	175	8	0	0	207	702
08:00:00	25	181	67	0	0	273	28	73	17	0	0	118	27	94	4	0	0	125	25	152	12	0	0	189	705
08:15:00	17	218	70	0	0	305	39	48	15	0	0	102	19	75	8	0	0	102	32	132	4	0	0	168	677
08:30:00	11	193	77	0	0	281	23	67	19	0	2	109	22	86	5	0	0	113	36	153	4	0	0	193	696
Grand Total	65	794	276	0	2	1135	127	264	65	0	2	456	81	330	21	0	0	432	117	612	28	0	0	757	**2780**
Approach%	5.7%	70%	24.3%	0%		-	27.9%	57.9%	14.3%	0%		-	18.8%	76.4%	4.9%	0%		-	15.5%	80.8%	3.7%	0%		-	**-**
Totals %	2.3%	28.6%	9.9%	0%		40.8%	4.6%	9.5%	2.3%	0%		16.4%	2.9%	11.9%	0.8%	0%		15.5%	4.2%	22%	1%	0%		27.2%	**-**
PHF	0.65	0.91	0.9	0		0.93	0.81	0.87	0.86	0		0.9	0.75	0.88	0.66	0		0.86	0.81	0.87	0.58	0		0.91	**-**
Heavy	0	14	10	0		24	10	7	2	0		19	0	16	6	0		22	7	7	2	0		16	**-**
Heavy %	0%	1.8%	3.6%	0%		2.1%	7.9%	2.7%	3.1%	0%		4.2%	0%	4.8%	28.6%	0%		5.1%	6%	1.1%	7.1%	0%		2.1%	**-**
Lights	65	779	266	0		1110	117	255	63	0		435	81	314	14	0		409	110	605	26	0		741	**-**
Lights %	100%	98.1%	96.4%	0%		97.8%	92.1%	96.6%	96.9%	0%		95.4%	100%	95.2%	66.7%	0%		94.7%	94%	98.9%	92.9%	0%		97.9%	**-**
Single-Unit Trucks	0	9	6	0		15	3	5	2	0		10	0	14	1	0		15	1	3	0	0		4	**-**
Single-Unit Trucks %	0%	1.1%	2.2%	0%		1.3%	2.4%	1.9%	3.1%	0%		2.2%	0%	4.2%	4.8%	0%		3.5%	0.9%	0.5%	0%	0%		0.5%	**-**
Buses	0	2	0	0		2	6	0	0	0		6	0	0	0	0		0	0	0	1	0		1	**-**
Buses %	0%	0.3%	0%	0%		0.2%	4.7%	0%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	0%	3.6%	0%		0.1%	**-**
Articulated Trucks	0	3	4	0		7	1	2	0	0		3	0	2	5	0		7	6	4	1	0		11	**-**
Articulated Trucks %	0%	0.4%	1.4%	0%		0.6%	0.8%	0.8%	0%	0%		0.7%	0%	0.6%	23.8%	0%		1.6%	5.1%	0.7%	3.6%	0%		1.5%	**-**
Bicycles on Road	0	1	0	0		1	0	2	0	0		2	0	0	1	0		1	0	0	0	0		0	**-**
Bicycles on Road %	0%	0.1%	0%	0%		0.1%	0%	0.8%	0%	0%		0.4%	0%	0%	4.8%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	50%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	50%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

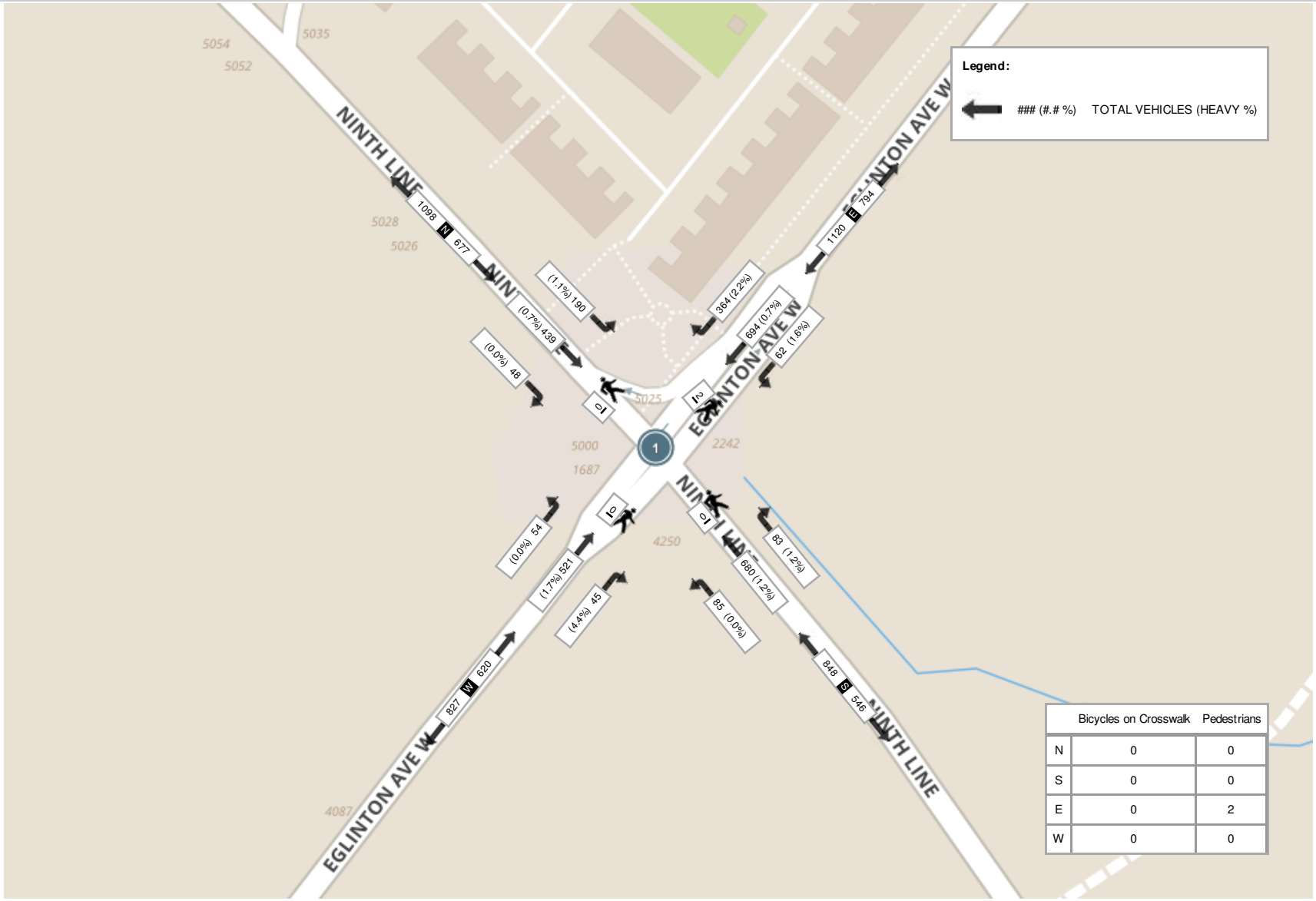
Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (28.48 °C)

Start Time	N Approach NINTH LINE						E Approach EGLINTON AVE W						S Approach NINTH LINE						W Approach EGLINTON AVE W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	15	104	33	0	0	152	91	181	14	0	2	286	23	171	28	0	0	222	15	112	11	0	0	138	798
17:15:00	9	104	46	0	0	159	87	176	13	0	0	276	21	184	19	0	0	224	10	139	11	0	0	160	819
17:30:00	13	118	62	0	0	193	93	188	17	0	0	298	16	147	19	0	0	182	12	147	20	0	0	179	852
17:45:00	11	113	49	0	0	173	93	149	18	0	0	260	23	178	19	0	0	220	8	123	12	0	0	143	796
Grand Total	48	439	190	0	0	677	364	694	62	0	2	1120	83	680	85	0	0	848	45	521	54	0	0	620	**3265**
Approach%	7.1%	64.8%	28.1%	0%		-	32.5%	62%	5.5%	0%		-	9.8%	80.2%	10%	0%		-	7.3%	84%	8.7%	0%		-	-
Totals %	1.5%	13.4%	5.8%	0%		20.7%	11.1%	21.3%	1.9%	0%		34.3%	2.5%	20.8%	2.6%	0%		26%	1.4%	16%	1.7%	0%		19%	-
PHF	0.8	0.93	0.77	0		0.88	0.98	0.92	0.86	0		0.94	0.9	0.92	0.76	0		0.95	0.75	0.89	0.68	0		0.87	-
Heavy	0	3	2	0		5	8	5	1	0		14	1	8	0	0		9	2	9	0	0		11	-
Heavy %	0%	0.7%	1.1%	0%		0.7%	2.2%	0.7%	1.6%	0%		1.3%	1.2%	1.2%	0%	0%		1.1%	4.4%	1.7%	0%	0%		1.8%	-
Lights	48	436	188	0		672	356	688	61	0		1105	82	672	85	0		839	43	512	54	0		609	-
Lights %	100%	99.3%	98.9%	0%		99.3%	97.8%	99.1%	98.4%	0%		98.7%	98.8%	98.8%	100%	0%		98.9%	95.6%	98.3%	100%	0%		98.2%	-
Single-Unit Trucks	0	2	1	0		3	1	2	1	0		4	1	5	0	0		6	1	7	0	0		8	-
Single-Unit Trucks %	0%	0.5%	0.5%	0%		0.4%	0.3%	0.3%	1.6%	0%		0.4%	1.2%	0.7%	0%	0%		0.7%	2.2%	1.3%	0%	0%		1.3%	-
Buses	0	0	1	0		1	7	0	0	0		7	0	0	0	0		0	1	1	0	0		2	-
Buses %	0%	0%	0.5%	0%		0.1%	1.9%	0%	0%	0%		0.6%	0%	0%	0%	0%		0%	2.2%	0.2%	0%	0%		0.3%	-
Articulated Trucks	0	1	0	0		1	0	3	0	0		3	0	3	0	0		3	0	1	0	0		1	-
Articulated Trucks %	0%	0.2%	0%	0%		0.1%	0%	0.4%	0%	0%		0.3%	0%	0.4%	0%	0%		0.4%	0%	0.2%	0%	0%		0.2%	-
Bicycles on Road	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	-
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		-	-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (19.07 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (28.48 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	2
W	0	0

Turning Movement Count (2 . NINTH LINE & SKYVIEW ST)

Start Time	N Approach NINTH LINE					E Approach SKYVIEW ST					S Approach NINTH LINE					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	U-Turn S:S	Peds S:	Approach Total		
06:00:00	77	1	0	0	78	0	1	0	0	1	0	17	0	0	17	96	
06:15:00	125	0	0	0	125	2	1	0	2	3	0	33	0	0	33	161	
06:30:00	170	1	0	0	171	2	1	0	0	3	0	45	0	0	45	219	
06:45:00	179	1	0	0	180	2	1	0	0	3	0	48	0	0	48	231	707
07:00:00	173	0	0	0	173	3	1	0	0	4	0	60	0	0	60	237	848
07:15:00	216	1	0	0	217	2	0	0	0	2	0	76	0	0	76	295	982
07:30:00	241	1	0	0	242	1	2	0	0	3	0	113	0	0	113	358	1121
07:45:00	290	1	0	0	291	3	1	0	0	4	0	127	0	0	127	422	1312
08:00:00	274	0	0	0	274	6	3	0	0	9	1	139	0	0	140	423	1498
08:15:00	288	1	0	0	289	1	1	0	0	2	1	120	0	0	121	412	1615
08:30:00	300	0	0	0	300	2	0	0	1	2	0	115	0	0	115	417	1674
08:45:00	271	1	0	0	272	2	2	0	2	4	1	105	1	0	107	383	1635
09:00:00	213	0	0	0	213	2	1	0	2	3	1	97	0	0	98	314	1526
09:15:00	184	2	0	0	186	0	1	0	1	1	0	95	0	0	95	282	1396
09:30:00	172	0	0	0	172	2	1	0	0	3	1	95	0	0	96	271	1250
09:45:00	148	1	0	0	149	2	0	0	0	2	0	71	0	0	71	222	1089
BREAK																	
15:00:00	117	3	0	0	120	2	1	0	0	3	0	169	0	0	169	292	
15:15:00	127	2	0	0	129	0	1	0	0	1	0	167	0	0	167	297	
15:30:00	145	1	0	0	146	0	0	0	0	0	3	161	0	0	164	310	
15:45:00	141	1	0	0	142	3	0	0	0	3	3	213	0	0	216	361	1260
16:00:00	134	2	0	0	136	1	1	0	0	2	0	238	1	0	239	377	1345
16:15:00	169	4	0	0	173	0	1	0	0	1	3	285	0	0	288	462	1510
16:30:00	156	3	1	0	160	4	4	0	0	8	4	236	0	0	240	408	1608

16:45:00	180	5	0	0	185	1	0	0	0	1	0	256	0	0	256	442	1689
17:00:00	158	6	0	0	164	0	1	0	0	1	1	274	0	0	275	440	1752
17:15:00	150	3	0	0	153	1	1	0	0	2	4	267	0	0	271	426	1716
17:30:00	189	2	0	0	191	0	0	0	0	0	0	274	0	0	274	465	1773
17:45:00	184	3	0	0	187	3	2	0	2	5	0	269	0	0	269	461	1792
18:00:00	177	5	0	0	182	1	1	0	0	2	3	219	0	0	222	406	1758
18:15:00	175	4	0	0	179	1	0	0	0	1	0	235	0	0	235	415	1747
18:30:00	148	6	0	0	154	1	1	0	1	2	1	240	0	0	241	397	1679
18:45:00	132	2	0	0	134	2	2	0	1	4	2	183	0	0	185	323	1541
Grand Total	5803	63	1	0	5867	52	33	0	12	85	29	5042	2	0	5073	**11025**	-
Approach%	98.9%	1.1%	0%		-	61.2%	38.8%	0%		-	0.6%	99.4%	0%		-	**-**	-
Totals %	52.6%	0.6%	0%		53.2%	0.5%	0.3%	0%		0.8%	0.3%	45.7%	0%		46%	**-**	-
Heavy	95	0	0		-	3	2	0		-	0	143	0		-	**-**	-
Heavy %	1.6%	0%	0%		-	5.8%	6.1%	0%		-	0%	2.8%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

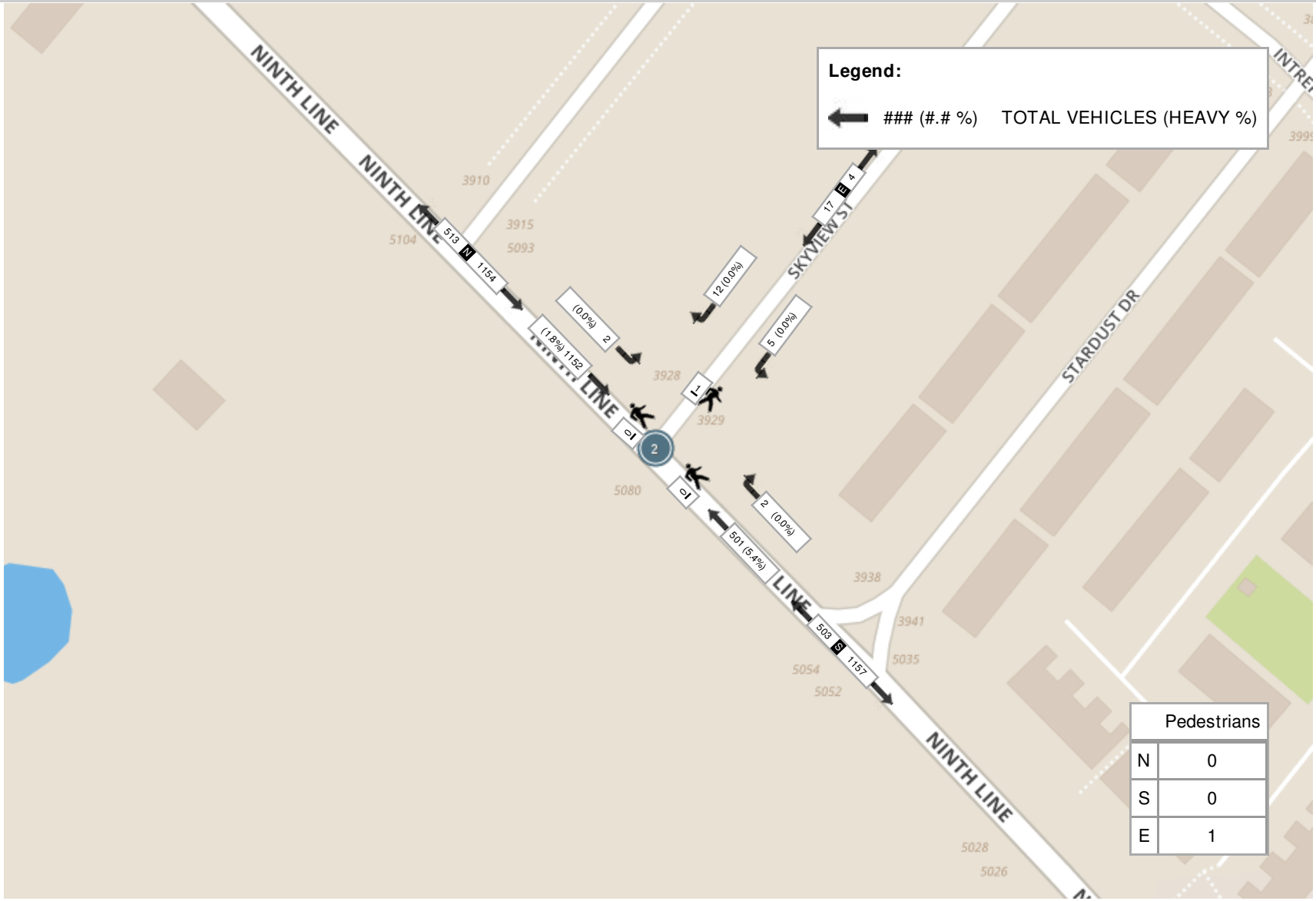
Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (19.07 °C)

Start Time	N Approach NINTH LINE					E Approach SKYVIEW ST					S Approach NINTH LINE					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
07:45:00	290	1	0	0	291	3	1	0	0	4	0	127	0	0	127	422
08:00:00	274	0	0	0	274	6	3	0	0	9	1	139	0	0	140	423
08:15:00	288	1	0	0	289	1	1	0	0	2	1	120	0	0	121	412
08:30:00	300	0	0	0	300	2	0	0	1	2	0	115	0	0	115	417
Grand Total	1152	2	0	0	1154	12	5	0	1	17	2	501	0	0	503	**1674**
Approach%	99.8%	0.2%	0%		-	70.6%	29.4%	0%		-	0.4%	99.6%	0%		-	-
Totals %	68.8%	0.1%	0%		68.9%	0.7%	0.3%	0%		1%	0.1%	29.9%	0%		30%	-
PHF	0.96	0.5	0		0.96	0.5	0.42	0		0.47	0.5	0.9	0		0.9	-
Heavy	21	0	0		21	0	0	0		0	0	27	0		27	-
Heavy %	1.8%	0%	0%		1.8%	0%	0%	0%		0%	0%	5.4%	0%		5.4%	-
Lights	1130	2	0		1132	12	5	0		17	2	474	0		476	-
Lights %	98.1%	100%	0%		98.1%	100%	100%	0%		100%	100%	94.6%	0%		94.6%	-
Single-Unit Trucks	12	0	0		12	0	0	0		0	0	16	0		16	-
Single-Unit Trucks %	1%	0%	0%		1%	0%	0%	0%		0%	0%	3.2%	0%		3.2%	-
Buses	2	0	0		2	0	0	0		0	0	7	0		7	-
Buses %	0.2%	0%	0%		0.2%	0%	0%	0%		0%	0%	1.4%	0%		1.4%	-
Articulated Trucks	7	0	0		7	0	0	0		0	0	4	0		4	-
Articulated Trucks %	0.6%	0%	0%		0.6%	0%	0%	0%		0%	0%	0.8%	0%		0.8%	-
Bicycles on Road	1	0	0		1	0	0	0		0	0	0	0		0	-
Bicycles on Road %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%		-	-	-	100%		-	-	-	0%		-

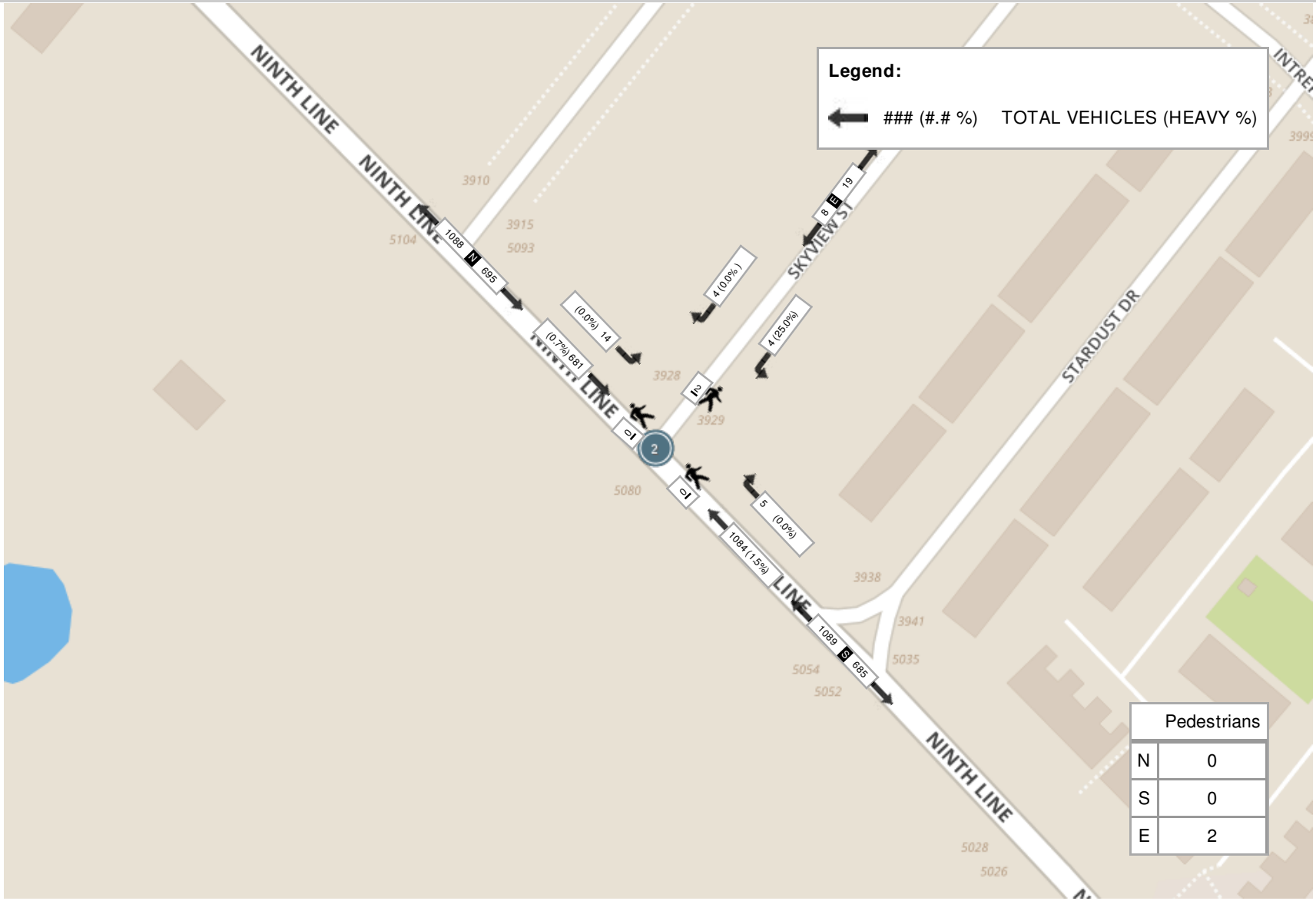
Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (28.48 °C)

Start Time	N Approach NINTH LINE					E Approach SKYVIEW ST					S Approach NINTH LINE					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
17:00:00	158	6	0	0	164	0	1	0	0	1	1	274	0	0	275	440
17:15:00	150	3	0	0	153	1	1	0	0	2	4	267	0	0	271	426
17:30:00	189	2	0	0	191	0	0	0	0	0	0	274	0	0	274	465
17:45:00	184	3	0	0	187	3	2	0	2	5	0	269	0	0	269	461
Grand Total	681	14	0	0	695	4	4	0	2	8	5	1084	0	0	1089	**1792**
Approach%	98%	2%	0%		-	50%	50%	0%		-	0.5%	99.5%	0%		-	-
Totals %	38%	0.8%	0%		38.8%	0.2%	0.2%	0%		0.4%	0.3%	60.5%	0%		60.8%	-
PHF	0.9	0.58	0		0.91	0.33	0.5	0		0.4	0.31	0.99	0		0.99	-
Heavy	5	0	0		5	0	1	0		1	0	16	0		16	-
Heavy %	0.7%	0%	0%		0.7%	0%	25%	0%		12.5%	0%	1.5%	0%		1.5%	-
Lights	676	14	0		690	4	3	0		7	5	1068	0		1073	-
Lights %	99.3%	100%	0%		99.3%	100%	75%	0%		87.5%	100%	98.5%	0%		98.5%	-
Single-Unit Trucks	3	0	0		3	0	1	0		1	0	6	0		6	-
Single-Unit Trucks %	0.4%	0%	0%		0.4%	0%	25%	0%		12.5%	0%	0.6%	0%		0.6%	-
Buses	1	0	0		1	0	0	0		0	0	7	0		7	-
Buses %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	0%	0.6%	0%		0.6%	-
Articulated Trucks	1	0	0		1	0	0	0		0	0	3	0		3	-
Articulated Trucks %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	-
Bicycles on Road	0	0	0		0	0	0	0		0	0	0	0		0	-
Bicycles on Road %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%		-	-	-	100%		-	-	-	0%		-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (19.07 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (28.48 °C)



Turning Movement Count (3 . NINTH LINE & CANDLELIGHT DR)

Start Time	N Approach NINTH LINE					E Approach CANDLELIGHT DR					S Approach NINTH LINE					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	U-Turn S:S	Peds S:	Approach Total		
06:00:00	73	0	0	0	73	2	1	0	0	3	0	19	0	0	19	95	
06:15:00	123	0	0	0	123	1	1	0	0	2	0	33	0	0	33	158	
06:30:00	173	0	0	0	173	3	1	0	0	4	0	49	0	0	49	226	
06:45:00	176	1	0	0	177	4	0	0	0	4	1	47	0	0	48	229	708
07:00:00	178	0	0	0	178	5	0	0	0	5	0	63	0	0	63	246	859
07:15:00	219	1	0	0	220	6	3	0	0	9	2	77	0	0	79	308	1009
07:30:00	251	0	0	0	251	7	3	0	0	10	0	110	0	0	110	371	1154
07:45:00	290	3	0	0	293	10	2	0	0	12	1	131	0	0	132	437	1362
08:00:00	273	4	0	0	277	10	1	0	0	11	1	145	0	0	146	434	1550
08:15:00	287	0	0	0	287	9	5	0	0	14	2	112	0	0	114	415	1657
08:30:00	289	1	0	0	290	5	2	0	1	7	0	121	0	0	121	418	1704
08:45:00	272	0	0	0	272	4	4	0	0	8	2	107	0	0	109	389	1656
09:00:00	210	1	0	0	211	3	1	0	3	4	1	98	0	0	99	314	1536
09:15:00	183	0	0	0	183	4	1	0	1	5	1	94	0	0	95	283	1404
09:30:00	172	1	0	0	173	1	0	0	0	1	1	90	0	0	91	265	1251
09:45:00	145	1	0	0	146	3	3	0	0	6	1	77	0	0	78	230	1092
BREAK																	
15:00:00	120	3	0	0	123	2	2	0	0	4	0	174	0	0	174	301	
15:15:00	123	3	0	0	126	1	3	0	0	4	2	169	0	0	171	301	
15:30:00	145	2	0	0	147	1	2	0	0	3	0	167	0	0	167	317	
15:45:00	146	4	0	0	150	5	2	0	0	7	3	207	0	0	210	367	1286
16:00:00	132	1	0	0	133	4	0	0	0	4	3	241	0	0	244	381	1366
16:15:00	176	4	0	0	180	1	0	0	0	1	5	273	0	0	278	459	1524
16:30:00	152	4	0	0	156	1	1	0	0	2	3	235	0	0	238	396	1603

16:45:00	186	4	0	0	190	1	0	0	0	1	2	263	0	0	265	456	1692
17:00:00	170	5	0	0	175	4	0	0	0	4	3	265	0	0	268	447	1758
17:15:00	149	4	0	0	153	5	1	0	0	6	2	271	0	0	273	432	1731
17:30:00	194	8	0	0	202	6	3	0	0	9	5	271	0	0	276	487	1822
17:45:00	181	5	0	0	186	4	2	0	2	6	4	265	0	0	269	461	1827
18:00:00	179	8	0	0	187	6	2	0	0	8	1	223	0	0	224	419	1799
18:15:00	178	2	0	0	180	3	0	0	1	3	3	230	0	0	233	416	1783
18:30:00	154	0	0	0	154	3	2	0	1	5	2	238	0	0	240	399	1695
18:45:00	131	6	0	0	137	5	1	0	1	6	4	187	0	0	191	334	1568
Grand Total	5830	76	0	0	5906	129	49	0	10	178	55	5052	0	0	5107	**11191**	-
Approach%	98.7%	1.3%	0%		-	72.5%	27.5%	0%		-	1.1%	98.9%	0%		-	**-**	-
Totals %	52.1%	0.7%	0%		52.8%	1.2%	0.4%	0%		1.6%	0.5%	45.1%	0%		45.6%	**-**	-
Heavy	95	0	0		-	0	0	0		-	3	148	0		-	**-**	-
Heavy %	1.6%	0%	0%		-	0%	0%	0%		-	5.5%	2.9%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

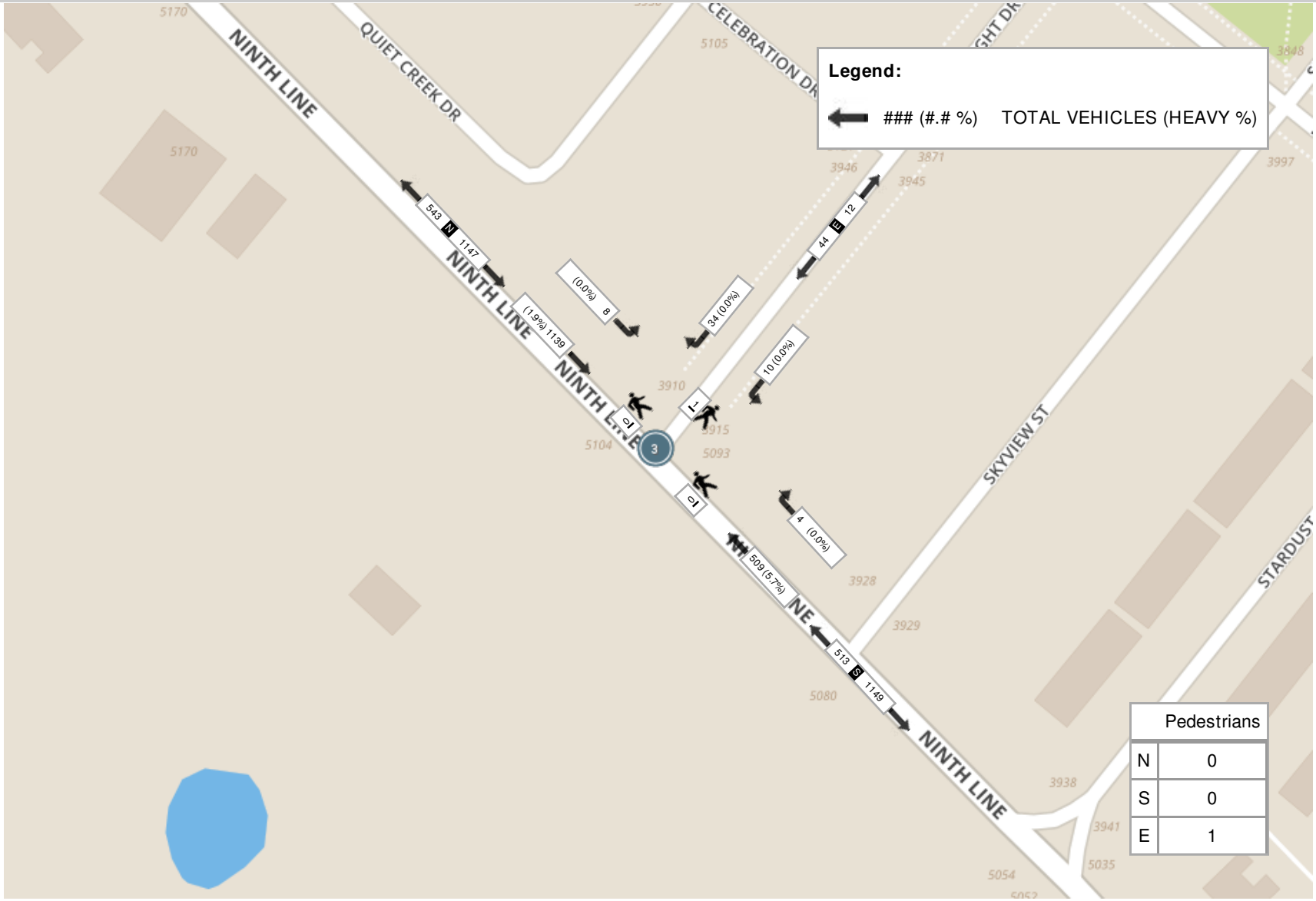
Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (19.07 °C)

Start Time	N Approach NINTH LINE					E Approach CANDLELIGHT DR					S Approach NINTH LINE					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
07:45:00	290	3	0	0	293	10	2	0	0	12	1	131	0	0	132	437
08:00:00	273	4	0	0	277	10	1	0	0	11	1	145	0	0	146	434
08:15:00	287	0	0	0	287	9	5	0	0	14	2	112	0	0	114	415
08:30:00	289	1	0	0	290	5	2	0	1	7	0	121	0	0	121	418
Grand Total	1139	8	0	0	1147	34	10	0	1	44	4	509	0	0	513	**1704**
Approach%	99.3%	0.7%	0%		-	77.3%	22.7%	0%		-	0.8%	99.2%	0%		-	**-**
Totals %	66.8%	0.5%	0%		67.3%	2%	0.6%	0%		2.6%	0.2%	29.9%	0%		30.1%	**-**
PHF	0.98	0.5	0		0.98	0.85	0.5	0		0.79	0.5	0.88	0		0.88	**-**
Heavy	22	0	0		22	0	0	0		0	0	29	0		29	**-**
Heavy %	1.9%	0%	0%		1.9%	0%	0%	0%		0%	0%	5.7%	0%		5.7%	**-**
Lights	1117	8	0		1125	34	9	0		43	4	480	0		484	**-**
Lights %	98.1%	100%	0%		98.1%	100%	90%	0%		97.7%	100%	94.3%	0%		94.3%	**-**
Single-Unit Trucks	13	0	0		13	0	0	0		0	0	18	0		18	**-**
Single-Unit Trucks %	1.1%	0%	0%		1.1%	0%	0%	0%		0%	0%	3.5%	0%		3.5%	**-**
Buses	2	0	0		2	0	0	0		0	0	7	0		7	**-**
Buses %	0.2%	0%	0%		0.2%	0%	0%	0%		0%	0%	1.4%	0%		1.4%	**-**
Articulated Trucks	7	0	0		7	0	0	0		0	0	4	0		4	**-**
Articulated Trucks %	0.6%	0%	0%		0.6%	0%	0%	0%		0%	0%	0.8%	0%		0.8%	**-**
Bicycles on Road	0	0	0		0	0	1	0		1	0	0	0		0	**-**
Bicycles on Road %	0%	0%	0%		0%	0%	10%	0%		2.3%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	100%		-	-	-	0%		**-**

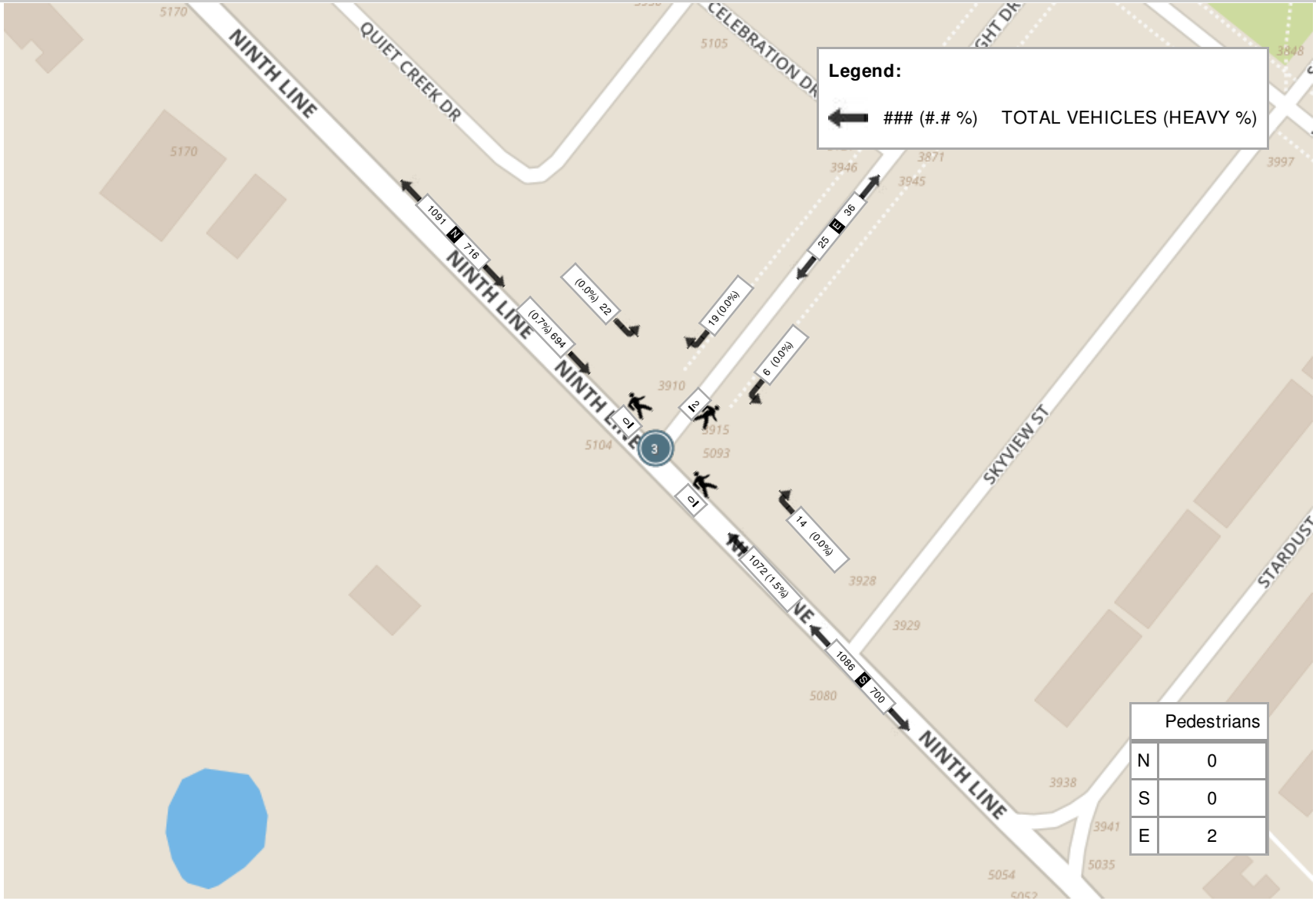
Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (28.48 °C)

Start Time	N Approach NINTH LINE					E Approach CANDLELIGHT DR					S Approach NINTH LINE					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
17:00:00	170	5	0	0	175	4	0	0	0	4	3	265	0	0	268	447
17:15:00	149	4	0	0	153	5	1	0	0	6	2	271	0	0	273	432
17:30:00	194	8	0	0	202	6	3	0	0	9	5	271	0	0	276	487
17:45:00	181	5	0	0	186	4	2	0	2	6	4	265	0	0	269	461
Grand Total	694	22	0	0	716	19	6	0	2	25	14	1072	0	0	1086	**1827**
Approach%	96.9%	3.1%	0%		-	76%	24%	0%		-	1.3%	98.7%	0%		-	-
Totals %	38%	1.2%	0%		39.2%	1%	0.3%	0%		1.4%	0.8%	58.7%	0%		59.4%	-
PHF	0.89	0.69	0		0.89	0.79	0.5	0		0.69	0.7	0.99	0		0.98	-
Heavy	5	0	0		5	0	0	0		0	0	16	0		16	-
Heavy %	0.7%	0%	0%		0.7%	0%	0%	0%		0%	0%	1.5%	0%		1.5%	-
Lights	689	22	0		711	19	6	0		25	14	1056	0		1070	-
Lights %	99.3%	100%	0%		99.3%	100%	100%	0%		100%	100%	98.5%	0%		98.5%	-
Single-Unit Trucks	3	0	0		3	0	0	0		0	0	6	0		6	-
Single-Unit Trucks %	0.4%	0%	0%		0.4%	0%	0%	0%		0%	0%	0.6%	0%		0.6%	-
Buses	1	0	0		1	0	0	0		0	0	7	0		7	-
Buses %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	0%	0.7%	0%		0.6%	-
Articulated Trucks	1	0	0		1	0	0	0		0	0	3	0		3	-
Articulated Trucks %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	-
Bicycles on Road	0	0	0		0	0	0	0		0	0	0	0		0	-
Bicycles on Road %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%		-	-	-	100%		-	-	-	0%		-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (19.07 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (28.48 °C)



Turning Movement Count (4 . NINTH LINE & ERIN CENTRE BLVD)

Start Time	N Approach NINTH LINE					E Approach ERIN CENTRE BLVD					S Approach NINTH LINE					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	U-Turn S:S	Peds S:	Approach Total		
06:00:00	76	3	0	0	79	3	1	0	0	4	2	19	0	0	21	104	
06:15:00	129	3	0	0	132	4	5	0	0	9	3	30	0	0	33	174	
06:30:00	162	1	0	0	163	2	8	0	0	10	4	48	0	0	52	225	
06:45:00	163	2	0	0	165	7	7	0	1	14	4	40	0	0	44	223	726
07:00:00	177	5	0	0	182	3	12	0	0	15	2	75	0	0	77	274	896
07:15:00	212	8	0	0	220	10	9	0	2	19	4	81	0	0	85	324	1046
07:30:00	243	8	0	0	251	4	19	0	0	23	8	100	0	0	108	382	1203
07:45:00	258	12	0	0	270	11	26	0	0	37	4	142	0	0	146	453	1433
08:00:00	254	10	0	0	264	9	35	0	0	44	4	138	0	0	142	450	1609
08:15:00	258	6	0	0	264	11	21	0	0	32	6	130	0	0	136	432	1717
08:30:00	275	6	0	1	281	19	15	0	1	34	6	121	0	0	127	442	1777
08:45:00	251	9	0	0	260	8	13	0	2	21	6	92	0	0	98	379	1703
09:00:00	192	12	0	0	204	4	20	0	0	24	10	101	0	0	111	339	1592
09:15:00	178	9	0	0	187	6	5	0	0	11	5	94	0	0	99	297	1457
09:30:00	163	5	0	0	168	9	11	0	0	20	9	83	0	0	92	280	1295
09:45:00	138	13	0	0	151	12	6	0	0	18	5	73	0	0	78	247	1163
BREAK																	
15:00:00	114	6	0	0	120	8	6	0	0	14	8	158	0	0	166	300	
15:15:00	121	8	0	0	129	15	8	0	0	23	7	169	0	0	176	328	
15:30:00	140	12	0	0	152	8	2	0	0	10	11	159	0	0	170	332	
15:45:00	143	13	0	0	156	20	11	0	1	31	14	190	0	0	204	391	1351
16:00:00	116	8	0	0	124	10	17	1	0	28	14	238	0	0	252	404	1455
16:15:00	169	15	0	0	184	10	10	0	0	20	11	252	0	0	263	467	1594
16:30:00	157	12	0	0	169	13	6	0	4	19	10	232	1	0	243	431	1693

16:45:00	174	13	0	0	187	11	12	0	1	23	15	252	0	0	267	477	1779
17:00:00	173	19	0	1	192	7	4	0	0	11	9	244	0	0	253	456	1831
17:15:00	146	16	0	0	162	14	6	0	0	20	16	274	0	0	290	472	1836
17:30:00	192	18	0	0	210	10	14	0	4	24	8	258	0	0	266	500	1905
17:45:00	172	20	0	0	192	19	8	0	0	27	24	252	0	0	276	495	1923
18:00:00	172	13	0	0	185	10	11	0	0	21	15	221	0	0	236	442	1909
18:15:00	174	15	0	0	189	10	9	0	2	19	11	220	0	0	231	439	1876
18:30:00	148	14	0	0	162	13	8	0	2	21	16	226	0	0	242	425	1801
18:45:00	127	18	0	0	145	8	5	0	1	13	13	176	0	0	189	347	1653
Grand Total	5567	332	0	2	5899	308	350	1	21	659	284	4888	1	0	5173	**11731**	-
Approach%	94.4%	5.6%	0%		-	46.7%	53.1%	0.2%		-	5.5%	94.5%	0%		-	**-**	-
Totals %	47.5%	2.8%	0%		50.3%	2.6%	3%	0%		5.6%	2.4%	41.7%	0%		44.1%	**-**	-
Heavy	90	3	0		-	0	4	0		-	52	91	0		-	**-**	-
Heavy %	1.6%	0.9%	0%		-	0%	1.1%	0%		-	18.3%	1.9%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

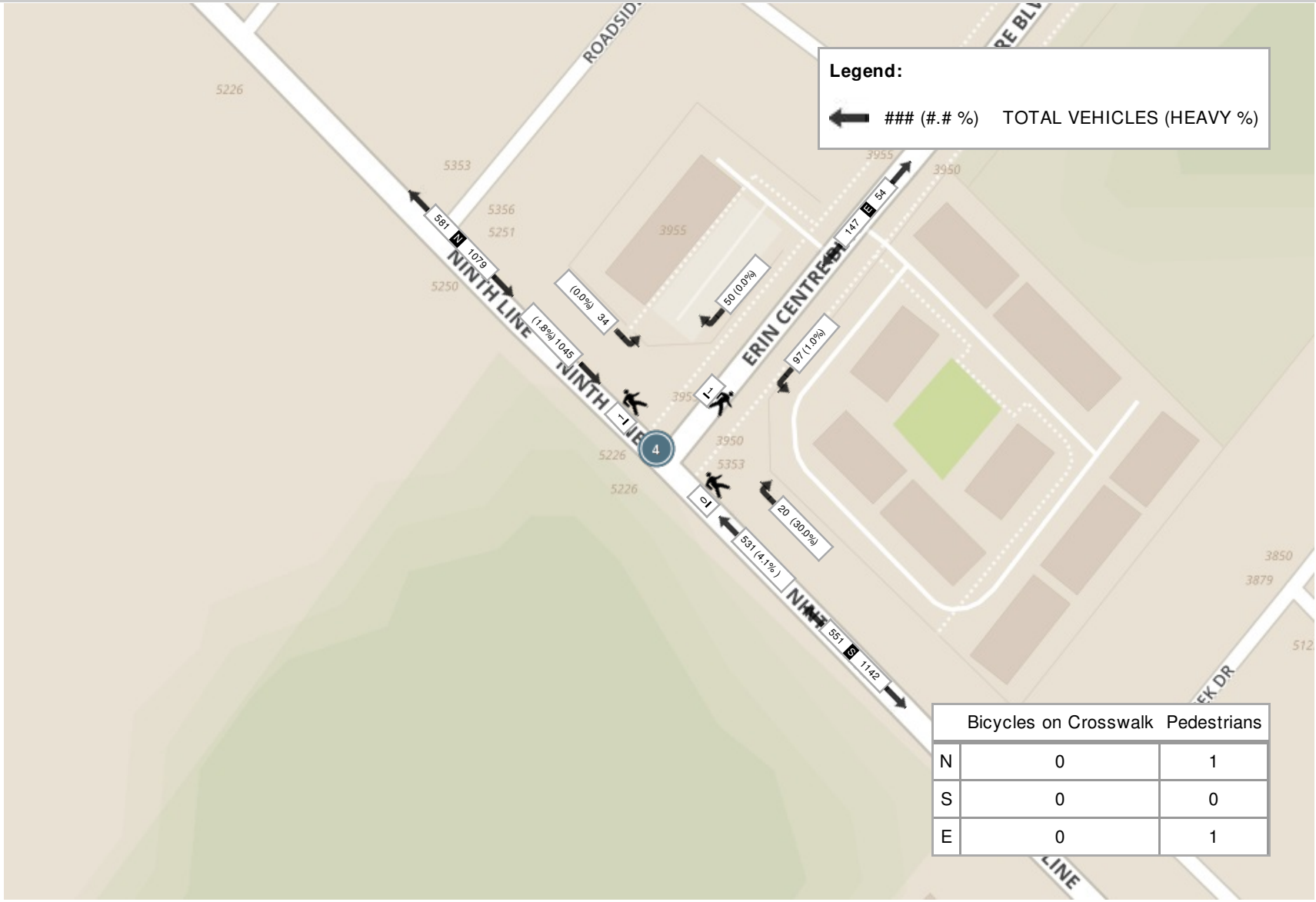
Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (19.07 °C)

Start Time	N Approach NINTH LINE					E Approach ERIN CENTRE BLVD					S Approach NINTH LINE					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
07:45:00	258	12	0	0	270	11	26	0	0	37	4	142	0	0	146	453
08:00:00	254	10	0	0	264	9	35	0	0	44	4	138	0	0	142	450
08:15:00	258	6	0	0	264	11	21	0	0	32	6	130	0	0	136	432
08:30:00	275	6	0	1	281	19	15	0	1	34	6	121	0	0	127	442
Grand Total	1045	34	0	1	1079	50	97	0	1	147	20	531	0	0	551	**1777**
Approach%	96.8%	3.2%	0%		-	34%	66%	0%		-	3.6%	96.4%	0%		-	-
Totals %	58.8%	1.9%	0%		60.7%	2.8%	5.5%	0%		8.3%	1.1%	29.9%	0%		31%	-
PHF	0.95	0.71	0		0.96	0.66	0.69	0		0.84	0.83	0.93	0		0.94	-
Heavy	19	0	0		19	0	1	0		1	6	22	0		28	-
Heavy %	1.8%	0%	0%		1.8%	0%	1%	0%		0.7%	30%	4.1%	0%		5.1%	-
Lights	1026	34	0		1060	50	96	0		146	14	509	0		523	-
Lights %	98.2%	100%	0%		98.2%	100%	99%	0%		99.3%	70%	95.9%	0%		94.9%	-
Single-Unit Trucks	13	0	0		13	0	0	0		0	1	16	0		17	-
Single-Unit Trucks %	1.2%	0%	0%		1.2%	0%	0%	0%		0%	5%	3%	0%		3.1%	-
Buses	1	0	0		1	0	1	0		1	5	2	0		7	-
Buses %	0.1%	0%	0%		0.1%	0%	1%	0%		0.7%	25%	0.4%	0%		1.3%	-
Articulated Trucks	5	0	0		5	0	0	0		0	0	4	0		4	-
Articulated Trucks %	0.5%	0%	0%		0.5%	0%	0%	0%		0%	0%	0.8%	0%		0.7%	-
Bicycles on Road	0	0	0		0	0	0	0		0	0	0	0		0	-
Bicycles on Road %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	-
Pedestrians%	-	-	-	50%		-	-	-	50%		-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (28.48 °C)

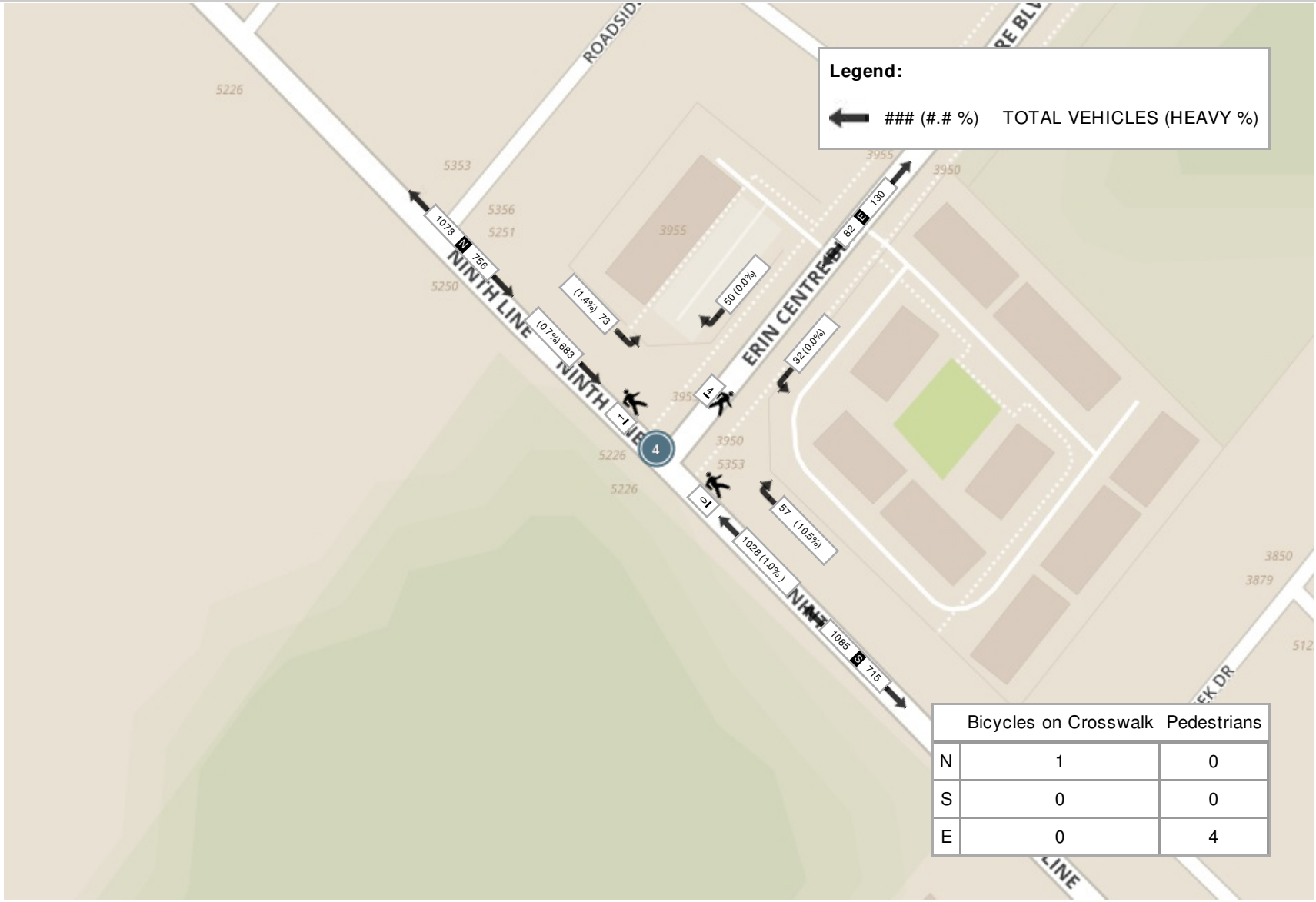
Start Time	N Approach NINTH LINE					E Approach ERIN CENTRE BLVD					S Approach NINTH LINE					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
17:00:00	173	19	0	1	192	7	4	0	0	11	9	244	0	0	253	456
17:15:00	146	16	0	0	162	14	6	0	0	20	16	274	0	0	290	472
17:30:00	192	18	0	0	210	10	14	0	4	24	8	258	0	0	266	500
17:45:00	172	20	0	0	192	19	8	0	0	27	24	252	0	0	276	495
Grand Total	683	73	0	1	756	50	32	0	4	82	57	1028	0	0	1085	**1923**
Approach%	90.3%	9.7%	0%		-	61%	39%	0%		-	5.3%	94.7%	0%		-	-
Totals %	35.5%	3.8%	0%		39.3%	2.6%	1.7%	0%		4.3%	3%	53.5%	0%		56.4%	-
PHF	0.89	0.91	0		0.9	0.66	0.57	0		0.76	0.59	0.94	0		0.94	-
Heavy	5	1	0		6	0	0	0		0	6	10	0		16	-
Heavy %	0.7%	1.4%	0%		0.8%	0%	0%	0%		0%	10.5%	1%	0%		1.5%	-
Lights	678	71	0		749	50	32	0		82	51	1018	0		1069	-
Lights %	99.3%	97.3%	0%		99.1%	100%	100%	0%		100%	89.5%	99%	0%		98.5%	-
Single-Unit Trucks	3	1	0		4	0	0	0		0	0	6	0		6	-
Single-Unit Trucks %	0.4%	1.4%	0%		0.5%	0%	0%	0%		0%	0%	0.6%	0%		0.6%	-
Buses	1	0	0		1	0	0	0		0	6	1	0		7	-
Buses %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	10.5%	0.1%	0%		0.6%	-
Articulated Trucks	1	0	0		1	0	0	0		0	0	3	0		3	-
Articulated Trucks %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	-
Bicycles on Road	0	1	0		1	0	0	0		0	0	0	0		0	-
Bicycles on Road %	0%	1.4%	0%		0.1%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	4	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%		-	-	-	80%		-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	20%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (19.07 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	1
S	0	0
E	0	1

Peak Hour: 05:00 PM - 06:00 PM Weather: Light Rain (28.48 °C)



	Bicycles on Crosswalk	Pedestrians
N	1	0
S	0	0
E	0	4

MISSISSAUGA

File: CA.13.SIG
Signal Timing Request
RT.07.5716
RT.07.5701

August 6, 2019

C.F. Crozier & Associates Consulting Engineers
40 Huron Street, Suite 301
Collingwood, ON, L9Y 4R3

Dear Darren Loro:

Re: Traffic Signal Timing

Please find the attached traffic signal timing for the intersections of:

Ninth Line West at Erin Centre Boulevard
Eglinton Avenue W at Ninth Line West

The side street phases (4,8) are actuated; meaning a vehicle or pedestrian must be present on the side street before the side street is given a green indication. Vehicle presence on the side street would result in a possible green time of between the minimum and maximum time noted, depending on demand. Similarly, phase (1,3) are also actuated. Pedestrian "Walk" and flashing "Don't Walk" time on the side street, as noted, would be used in the event that the pedestrian push button is activated. During the side street pedestrian indications, the side street vehicle green is concurrently displayed. Should there be no demand on the actuated phases, the signals would result in a green indication on the major street (2,6).

Note: All times recorded in seconds, based on full demand.

The time of day plan is used for system control operation. In the event that the coordination pattern has a cycle length, offset and split value identified, the cycle length split and offset values, as noted, would be used. However, when the time of day plan is programed using

'Action' 8, the mode is 'Free', meaning no cycle length, split and offset values are given and the intersection operates using the phase timings provided in the report.

Should you require further information, please contact Ken Moore, at 905-615-3200 ext. 4054.

Sincerely,

Ken Moore
Coordinator, Traffic Systems and ITS
Traffic Signals and Street Lighting
Transportation and Works Department
City of Mississauga
905-615-3200 ext. 4054
Ken.moore@mississauga.ca

c: Javed Khan, Manager, Traffic Signals and Street Lighting
Jim Kartsomanis, Supervisor, Traffic Systems and ITS

Signal Timing Report

Runtime: 2019-08-01 14:28:54

Device: 5701

Region: Mississauga **Signal ID:** 5701 **Location:** EGLINTON AVENUE W W at Ninth Line W

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	10	0	8	0	10	0	8
Ped Clear	Sec	0	15	0	10	0	15	0	10
Min Green	Sec	0	8	5	8	0	8	0	8
Passage	Sec	0.0	4.0	2.0	4.0	0.0	4.0	0.0	4.0
Maximum 1	Sec	0	65	10	71	0	65	0	71
Maximum 2	Sec	0	65	10	71	0	65	0	71
Yellow Change	Sec	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
Red Clearance	Sec	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	redClear	phaseNotOn	phaseNotOn	other	redClear	other	phaseNotOn
[P2] Options	Bit	0	Enabled Non-Actuated 1 Non Lock Det Min Veh Recall Dual Entry	Enabled Non Lock Det	Enabled Non Lock Det Dual Entry	0	Enabled Non-Actuated 1 Non Lock Det Min Veh Recall Dual Entry	0	Enabled Non Lock Det Dual Entry
[P2] Ring	Ring	0	1	1	1	0	2	0	2
[P2] Concurrency	Phase (,)	()	(6)	(8)	(8)	()	(2)	()	(3,4)

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	160	0	160	0	0	0	0	0
Offset	Sec	101	0	22	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	other	none	none	none	other	none	none
Split 1 - Time	Sec	0	70	30	60	0	70	0	90
Split 1 - Coord	Enum	false	true	false	false	false	true	false	false
Split 2 - Mode	Enum	none	other	none	none	none	other	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	true	false	false
Split 3 - Mode	Enum	none	other	none	none	none	other	none	none
Split 3 - Time	Sec	0	70	21	69	0	70	0	90
Split 3 - Coord	Enum	false	true	false	false	false	true	false	false

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F---------	---A--------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	123456789012345678901234567890 1	123456789012345678901234567890 1	123456789012345678901234567890 1	1---------- ------	----------8------ -------	----------9---- --------	----------0----- ------	1---------- ------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	----5---------- ------	-2---------- -------	------------4---------- ------	---------- 5------	---------- 6-----	---------- 4-------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	7	9	15	19	3	0	0
Plan 1 Minute	Min	0	0	30	0	30	0	0	0
Plan 1 Action	Number	8	1	8	3	8	7	0	0
Plan 2 Hour	Hour	0	3	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	7	0	0	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0	0	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Signal Timing Report

Runtime: 2019-08-01 14:25:36

Device: 5716

Region: Mississauga **Signal ID:** 5716 **Location:** NINTH LINE WEST N at Erin Centre Boulevard

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	8	0	8	0	0	0	0
Ped Clear	Sec	0	8	0	8	0	0	0	0
Min Green	Sec	5	8	0	8	0	0	0	0
Passage	Sec	2.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	10	50	0	20	0	0	0	0
Maximum 2	Sec	10	50	0	20	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	2.0	0.0	2.5	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	0	Enabled Non Lock Det	0	0	0	0
[P2] Ring	Ring	1	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F----------	---A--------	----M-------	-----J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	123456789012345678901234567890 1	123456789012345678901234567890 1	123456789012345678901234567890 1	1------------------------------	----------8------	----------9----	----------0-----	1------------------------------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	----5----------	-2----------	----------4----------	----------	----------	----------	0	0
		------	-------	------	5------	6-----	4-------		
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	3	0	0	0	0	0	0
Plan 1 Minute	Min	0	0	0	0	0	0	0	0
Plan 1 Action	Number	8	7	0	0	0	0	0	0
Plan 2 Hour	Hour	0	3	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	7	0	0	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0	0	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

APPENDIX E

Level of Service Definitions

Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

APPENDIX F

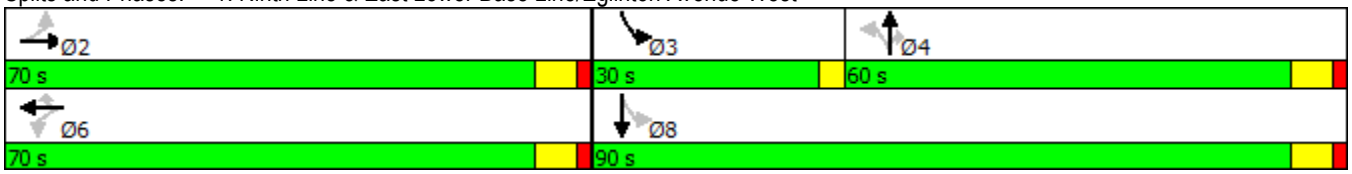
Detailed Capacity Analysis Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	612	117	21	264	127	21	330	81	276	794	65
Future Volume (vph)	28	612	117	21	264	127	21	330	81	276	794	65
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.97			0.98			
Frt		0.976				0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1375	1761	0	1429	1783	1562	1167	1789	1348	1642	1825	0
Flt Permitted	0.501			0.061			0.078			0.382		
Satd. Flow (perm)	723	1761	0	92	1783	1521	96	1789	1324	660	1825	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				128			48		4	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)	2					2			2	2		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	1%	6%	3%	3%	8%	29%	5%	0%	4%	2%	0%
Adj. Flow (vph)	28	618	118	21	267	128	21	333	82	279	802	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	736	0	21	267	128	21	333	82	279	868	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	60.0	60.0	60.0	30.0	90.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%	43.8%	37.5%	37.5%	37.5%	18.8%	56.3%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	53.0	53.0	53.0	27.0	83.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	2	2		2	2	2	2	2	2		2	
Act Effct Green (s)	65.3	65.3		65.3	65.3	65.3	56.0	56.0	56.0	82.0	78.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.43	0.37	0.37	0.37	0.53	0.51	
v/c Ratio	0.09	0.98		0.54	0.35	0.18	0.62	0.51	0.16	0.57	0.93	
Control Delay	30.2	71.1		89.3	32.8	5.0	108.0	41.7	16.5	24.7	52.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.2	71.1		89.3	32.8	5.0	108.0	41.7	16.5	24.7	52.2	
LOS	C	E		F	C	A	F	D	B	C	D	
Approach Delay		69.6			27.1			40.1			45.5	
Approach LOS		E			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 153.3			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 48.6		Intersection LOS: D	
Intersection Capacity Utilization 104.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	28	736	21	267	128	21	333	82	279	868
v/c Ratio	0.09	0.98	0.54	0.35	0.18	0.62	0.51	0.16	0.57	0.93
Control Delay	30.2	71.1	89.3	32.8	5.0	108.0	41.7	16.5	24.7	52.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	71.1	89.3	32.8	5.0	108.0	41.7	16.5	24.7	52.2
Queue Length 50th (m)	5.5	~246.6	5.1	59.1	0.0	5.2	78.6	6.7	46.2	240.1
Queue Length 95th (m)	12.8	#324.7	#21.3	83.6	13.0	#22.5	116.3	20.1	65.2	#330.5
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	307	753	39	759	720	36	679	532	539	1017
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.98	0.54	0.35	0.18	0.58	0.49	0.15	0.52	0.85

Intersection Summary

~ 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.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	12	501	2	2	1152
Future Volume (vph)	5	12	501	2	2	1152
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905		0.999			
Flt Protected	0.986				0.950	
Satd. Flow (prot)	1714	0	1788	0	1506	1842
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1714	0	1788	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	5%	0%	0%	2%
Adj. Flow (vph)	5	12	506	2	2	1164
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	508	0	2	1164
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.6%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	12	501	2	2	1152
Future Volume (Veh/h)	5	12	501	2	2	1152
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	5	12	506	2	2	1164
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.86	0.86			0.86	
vC, conflicting volume	1676	508			509	
vC1, stage 1 conf vol	508					
vC2, stage 2 conf vol	1168					
vCu, unblocked vol	1706	341			343	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	270	604			1050	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	508	2	1164
Volume Left	5	0	2	0
Volume Right	12	2	0	0
cSH	443	1700	1050	1700
Volume to Capacity	0.04	0.30	0.00	0.68
Queue Length 95th (m)	0.9	0.0	0.0	0.0
Control Delay (s)	13.5	0.0	8.4	0.0
Lane LOS	B		A	
Approach Delay (s)	13.5	0.0	0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	34	509	4	8	1139
Future Volume (vph)	10	34	509	4	8	1139
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.999			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1772	0	1506	1842
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1772	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	6%	0%	0%	2%
Adj. Flow (vph)	10	35	525	4	8	1174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	35	529	0	8	1174
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	34	509	4	8	1139
Future Volume (Veh/h)	10	34	509	4	8	1139
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	35	525	4	8	1174
Pedestrians	1					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.86	0.86			0.86	
vC, conflicting volume	1718	528			530	
vC1, stage 1 conf vol	528					
vC2, stage 2 conf vol	1190					
vCu, unblocked vol	1754	367			369	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	94			99	
cM capacity (veh/h)	261	585			1029	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	10	35	529	8	1174
Volume Left	10	0	0	8	0
Volume Right	0	35	4	0	0
cSH	261	585	1700	1029	1700
Volume to Capacity	0.04	0.06	0.31	0.01	0.69
Queue Length 95th (m)	0.9	1.4	0.0	0.2	0.0
Control Delay (s)	19.3	11.5	0.0	8.5	0.0
Lane LOS	C	B		A	
Approach Delay (s)	13.3		0.0	0.1	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	97	50	531	20	34	1045
Future Volume (vph)	97	50	531	20	34	1045
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00		1.00	
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1688	1525	1780	0	1708	1842
Flt Permitted	0.950				0.389	
Satd. Flow (perm)	1688	1491	1780	0	699	1842
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		51	3			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		1	1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	4%	30%	0%	2%
Adj. Flow (vph)	99	51	542	20	35	1066
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	51	562	0	35	1066
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	20.0	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	25.0	25.0	50.0		10.0	60.0
Total Split (%)	29.4%	29.4%	58.8%		11.8%	70.6%
Maximum Green (s)	18.5	18.5	44.0		7.0	54.0
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	1			1
Act Effct Green (s)	12.3	12.3	56.1		63.8	60.9
Actuated g/C Ratio	0.16	0.16	0.71		0.81	0.77
v/c Ratio	0.38	0.19	0.44		0.05	0.75
Control Delay	33.8	10.2	9.2		2.9	12.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	33.8	10.2	9.2		2.9	12.6
LOS	C	B	A		A	B
Approach Delay	25.7		9.2			12.3
Approach LOS	C		A			B

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 79.1			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 70.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	99	51	562	35	1066
v/c Ratio	0.38	0.19	0.44	0.05	0.75
Control Delay	33.8	10.2	9.2	2.9	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	10.2	9.2	2.9	12.6
Queue Length 50th (m)	13.1	0.0	40.3	0.9	82.5
Queue Length 95th (m)	26.1	8.5	78.2	3.5	#220.6
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	427	415	1263	679	1418
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	0.23	0.12	0.44	0.05	0.75

Intersection Summary

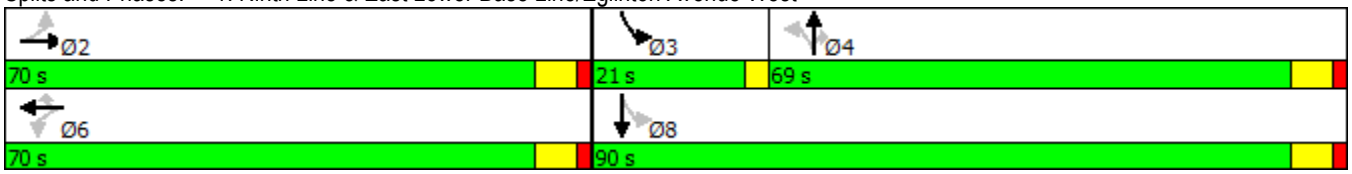
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	521	45	62	694	364	85	680	83	190	439	48
Future Volume (vph)	10	521	45	62	694	364	85	680	83	190	439	48
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor									0.98			
Frt		0.988				0.850			0.850		0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1471	1776	0	1443	1818	1654	1506	1860	1334	1691	1834	0
Flt Permitted	0.061			0.174			0.434			0.063		
Satd. Flow (perm)	94	1776	0	264	1818	1654	688	1860	1311	112	1834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				219			48		5	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	1%	2%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	10	543	47	65	723	379	89	708	86	198	457	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	590	0	65	723	379	89	708	86	198	507	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	69.0	69.0	69.0	21.0	90.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%	43.8%	43.1%	43.1%	43.1%	13.1%	56.3%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	62.0	62.0	62.0	18.0	83.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	2	2	2		2	
Act Effct Green (s)	65.1	65.1		65.1	65.1	65.1	62.5	62.5	62.5	85.3	81.3	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.40	0.40	0.40	0.55	0.52	
v/c Ratio	0.26	0.80		0.59	0.96	0.46	0.32	0.95	0.16	0.82	0.53	
Control Delay	52.4	49.9		62.5	68.2	15.5	37.0	69.1	15.4	66.7	26.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	49.9		62.5	68.2	15.5	37.0	69.1	15.4	66.7	26.9	
LOS	D	D		E	E	B	D	E	B	E	C	
Approach Delay		50.0			50.8			60.6			38.1	
Approach LOS		D			D			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 156.4			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 50.6		Intersection LOS: D	
Intersection Capacity Utilization 105.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	10	590	65	723	379	89	708	86	198	507
v/c Ratio	0.26	0.80	0.59	0.96	0.46	0.32	0.95	0.16	0.82	0.53
Control Delay	52.4	49.9	62.5	68.2	15.5	37.0	69.1	15.4	66.7	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	49.9	62.5	68.2	15.5	37.0	69.1	15.4	66.7	26.9
Queue Length 50th (m)	2.1	165.1	16.2	225.7	35.4	19.4	217.3	7.4	45.0	100.9
Queue Length 95th (m)	9.1	217.2	#40.4	#310.2	64.6	35.5	#297.8	19.4	#80.8	133.7
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	39	741	110	756	816	282	762	565	263	1000
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.80	0.59	0.96	0.46	0.32	0.93	0.15	0.75	0.51

Intersection Summary

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	4	1084	5	14	681
Future Volume (vph)	4	4	1084	5	14	681
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932		0.999			
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1553	0	1859	0	1506	1860
Flt Permitted	0.976				0.950	
Satd. Flow (perm)	1553	0	1859	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	25%	0%	1%	0%	0%	1%
Adj. Flow (vph)	4	4	1129	5	15	709
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	1134	0	15	709
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.4%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	4	1084	5	14	681
Future Volume (Veh/h)	4	4	1084	5	14	681
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	4	4	1129	5	15	709
Pedestrians	2					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.62	0.62			0.62	
vC, conflicting volume	1872	1134			1136	
vC1, stage 1 conf vol	1134					
vC2, stage 2 conf vol	739					
vCu, unblocked vol	2101	909			913	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.3			2.2	
p0 queue free %	98	98			97	
cM capacity (veh/h)	190	208			467	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	8	1134	15	709
Volume Left	4	0	15	0
Volume Right	4	5	0	0
cSH	199	1700	467	1700
Volume to Capacity	0.04	0.67	0.03	0.42
Queue Length 95th (m)	1.0	0.0	0.8	0.0
Control Delay (s)	23.9	0.0	13.0	0.0
Lane LOS	C		B	
Approach Delay (s)	23.9	0.0	0.3	
Approach LOS	C			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	19	1072	14	22	694
Future Volume (vph)	6	19	1072	14	22	694
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1857	0	1506	1860
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1857	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	6	20	1140	15	23	738
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	20	1155	0	23	738
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	19	1072	14	22	694
Future Volume (Veh/h)	6	19	1072	14	22	694
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	20	1140	15	23	738
Pedestrians	2					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.62	0.62			0.62	
vC, conflicting volume	1934	1150			1157	
vC1, stage 1 conf vol	1150					
vC2, stage 2 conf vol	784					
vCu, unblocked vol	2197	937			949	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	90			95	
cM capacity (veh/h)	202	201			455	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	6	20	1155	23	738
Volume Left	6	0	0	23	0
Volume Right	0	20	15	0	0
cSH	202	201	1700	455	1700
Volume to Capacity	0.03	0.10	0.68	0.05	0.43
Queue Length 95th (m)	0.7	2.5	0.0	1.2	0.0
Control Delay (s)	23.4	24.9	0.0	13.3	0.0
Lane LOS	C	C		B	
Approach Delay (s)	24.5		0.0	0.4	
Approach LOS	C				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	50	1028	57	73	683
Future Volume (vph)	32	50	1028	57	73	683
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00			
Frt		0.850	0.993			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1705	1525	1835	0	1691	1860
Flt Permitted	0.950				0.072	
Satd. Flow (perm)	1705	1491	1835	0	128	1860
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		52	5			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		4	4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	1%	11%	1%	1%
Adj. Flow (vph)	33	52	1071	59	76	711
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	52	1130	0	76	711
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	17.2	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	25.0	25.0	50.0		10.0	60.0
Total Split (%)	29.4%	29.4%	58.8%		11.8%	70.6%
Maximum Green (s)	18.5	18.5	44.0		7.0	54.0
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	0			0
Act Effct Green (s)	11.0	11.0	54.9		64.4	61.4
Actuated g/C Ratio	0.14	0.14	0.70		0.82	0.78
v/c Ratio	0.14	0.20	0.88		0.31	0.49
Control Delay	29.7	10.6	24.4		7.5	6.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	29.7	10.6	24.4		7.5	6.0
LOS	C	B	C		A	A
Approach Delay	18.0		24.4			6.2
Approach LOS	B		C			A

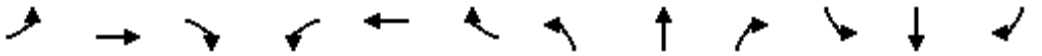
Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 78.4			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 17.0		Intersection LOS: B	
Intersection Capacity Utilization 77.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	33	52	1130	76	711
v/c Ratio	0.14	0.20	0.88	0.31	0.49
Control Delay	29.7	10.6	24.4	7.5	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	10.6	24.4	7.5	6.0
Queue Length 50th (m)	4.2	0.0	133.0	1.6	33.0
Queue Length 95th (m)	11.3	8.5	#278.3	9.4	79.4
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	436	420	1285	285	1456
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	0.08	0.12	0.88	0.27	0.49

Intersection Summary

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

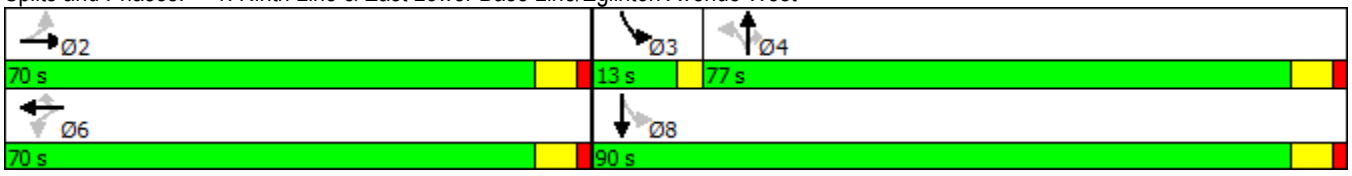


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	634	120	25	282	133	21	340	83	297	947	66
Future Volume (vph)	29	634	120	25	282	133	21	340	83	297	947	66
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.97			0.98	1.00		
Frt		0.976				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1375	1761	0	1429	1783	1562	1167	1789	1348	1642	1826	0
Flt Permitted	0.469			0.062			0.056			0.428		
Satd. Flow (perm)	677	1761	0	93	1783	1521	69	1789	1324	739	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				134			50		3	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)	2					2			2	2		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	1%	6%	3%	3%	8%	29%	5%	0%	4%	2%	0%
Adj. Flow (vph)	29	640	121	25	285	134	21	343	84	300	957	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	761	0	25	285	134	21	343	84	300	1024	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	77.0	77.0	77.0	13.0	90.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%	43.8%	48.1%	48.1%	48.1%	8.1%	56.3%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	70.0	70.0	70.0	10.0	83.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	2	2		2	2	2	2	2	2		2	
Act Effct Green (s)	65.0	65.0		65.0	65.0	65.0	72.0	72.0	72.0	89.0	85.0	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.45	0.45	0.45	0.56	0.53	
v/c Ratio	0.11	1.06		0.68	0.39	0.19	0.68	0.43	0.13	0.63	1.05	
Control Delay	31.0	94.7		114.5	35.6	5.0	122.5	32.0	12.1	27.0	80.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.0	94.7		114.5	35.6	5.0	122.5	32.0	12.1	27.0	80.6	
LOS	C	F		F	D	A	F	C	B	C	F	
Approach Delay		92.4			30.8			32.5			68.5	
Approach LOS		F			C			C			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 63.8		Intersection LOS: E	
Intersection Capacity Utilization 113.7%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	29	761	25	285	134	21	343	84	300	1024
v/c Ratio	0.11	1.06	0.68	0.39	0.19	0.68	0.43	0.13	0.63	1.05
Control Delay	31.0	94.7	114.5	35.6	5.0	122.5	32.0	12.1	27.0	80.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	94.7	114.5	35.6	5.0	122.5	32.0	12.1	27.0	80.6
Queue Length 50th (m)	5.7	~263.3	6.4	63.8	0.0	5.2	73.5	6.1	50.4	~354.6
Queue Length 95th (m)	13.3	#341.4	#25.8	89.3	13.4	#23.4	100.8	16.7	70.7	#436.7
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	275	719	37	724	697	31	805	623	478	971
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	1.06	0.68	0.39	0.19	0.68	0.43	0.13	0.63	1.05

Intersection Summary

~ 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.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	12	516	2	2	1321
Future Volume (vph)	5	12	516	2	2	1321
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905		0.999			
Flt Protected	0.986				0.950	
Satd. Flow (prot)	1714	0	1788	0	1506	1842
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1714	0	1788	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	5%	0%	0%	2%
Adj. Flow (vph)	5	12	521	2	2	1334
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	523	0	2	1334
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 79.5%		ICU Level of Service D	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	12	516	2	2	1321
Future Volume (Veh/h)	5	12	516	2	2	1321
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	5	12	521	2	2	1334
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1861	523			524	
vC1, stage 1 conf vol	523					
vC2, stage 2 conf vol	1338					
vCu, unblocked vol	1915	378			379	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	227	586			1036	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	523	2	1334
Volume Left	5	0	2	0
Volume Right	12	2	0	0
cSH	400	1700	1036	1700
Volume to Capacity	0.04	0.31	0.00	0.78
Queue Length 95th (m)	1.0	0.0	0.0	0.0
Control Delay (s)	14.4	0.0	8.5	0.0
Lane LOS	B		A	
Approach Delay (s)	14.4	0.0	0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	34	524	4	8	1308
Future Volume (vph)	10	34	524	4	8	1308
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.999			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1772	0	1506	1842
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1772	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	6%	0%	0%	2%
Adj. Flow (vph)	10	35	540	4	8	1348
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	35	544	0	8	1348
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 78.8%		ICU Level of Service D	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	34	524	4	8	1308
Future Volume (Veh/h)	10	34	524	4	8	1308
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	35	540	4	8	1348
Pedestrians	1					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1907	543			545	
vC1, stage 1 conf vol	543					
vC2, stage 2 conf vol	1364					
vCu, unblocked vol	1967	403			405	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	94			99	
cM capacity (veh/h)	219	568			1015	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	10	35	544	8	1348
Volume Left	10	0	0	8	0
Volume Right	0	35	4	0	0
cSH	219	568	1700	1015	1700
Volume to Capacity	0.05	0.06	0.32	0.01	0.79
Queue Length 95th (m)	1.1	1.5	0.0	0.2	0.0
Control Delay (s)	22.2	11.8	0.0	8.6	0.0
Lane LOS	C	B		A	
Approach Delay (s)	14.1		0.0	0.1	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	99	52	550	21	36	1214
Future Volume (vph)	99	52	550	21	36	1214
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00		1.00	
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1688	1525	1780	0	1708	1842
Flt Permitted	0.950				0.379	
Satd. Flow (perm)	1688	1491	1780	0	681	1842
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		53	4			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		1	1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	4%	30%	0%	2%
Adj. Flow (vph)	101	53	561	21	37	1239
Shared Lane Traffic (%)						
Lane Group Flow (vph)	101	53	582	0	37	1239
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	20.0	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	22.5	22.5	53.0		9.5	62.5
Total Split (%)	26.5%	26.5%	62.4%		11.2%	73.5%
Maximum Green (s)	16.0	16.0	47.0		6.5	56.5
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	1			1
Act Effct Green (s)	12.5	12.5	58.4		66.2	63.2
Actuated g/C Ratio	0.15	0.15	0.72		0.81	0.77
v/c Ratio	0.39	0.19	0.46		0.06	0.87
Control Delay	35.4	10.5	9.2		2.9	18.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.4	10.5	9.2		2.9	18.9
LOS	D	B	A		A	B
Approach Delay	26.8		9.2			18.4
Approach LOS	C		A			B

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 81.6			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 16.4		Intersection LOS: B	
Intersection Capacity Utilization 79.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	101	53	582	37	1239
v/c Ratio	0.39	0.19	0.46	0.06	0.87
Control Delay	35.4	10.5	9.2	2.9	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	10.5	9.2	2.9	18.9
Queue Length 50th (m)	13.9	0.0	42.9	0.9	125.4
Queue Length 95th (m)	27.5	8.8	81.3	3.6	#284.4
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	362	361	1276	659	1427
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	0.15	0.46	0.06	0.87

Intersection Summary

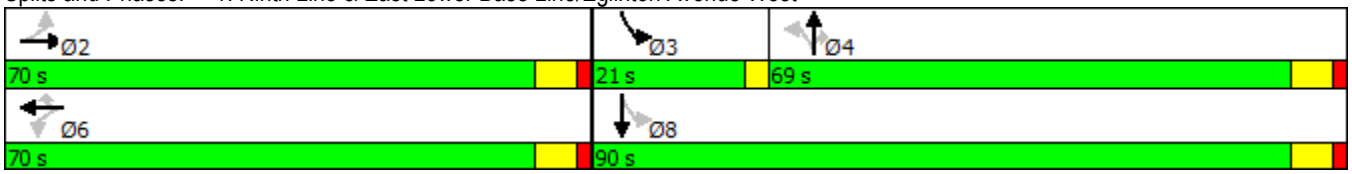
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	545	47	63	717	375	86	695	85	196	536	50
Future Volume (vph)	14	545	47	63	717	375	86	695	85	196	536	50
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor									0.98			
Frt		0.988				0.850			0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1471	1776	0	1443	1818	1654	1506	1860	1334	1691	1838	0
Flt Permitted	0.062			0.144			0.336			0.062		
Satd. Flow (perm)	96	1776	0	219	1818	1654	533	1860	1311	110	1838	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				218			48		4	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	1%	2%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	15	568	49	66	747	391	90	724	89	204	558	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	617	0	66	747	391	90	724	89	204	610	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	69.0	69.0	69.0	21.0	90.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%	43.8%	43.1%	43.1%	43.1%	13.1%	56.3%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	62.0	62.0	62.0	18.0	83.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	2	2	2		2	
Act Effct Green (s)	65.0	65.0		65.0	65.0	65.0	63.5	63.5	63.5	86.6	82.6	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.40	0.40	0.40	0.55	0.52	
v/c Ratio	0.38	0.84		0.73	1.00	0.48	0.42	0.97	0.16	0.85	0.63	
Control Delay	66.8	53.7		85.5	77.8	16.5	42.0	71.7	15.8	70.4	30.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	66.8	53.7		85.5	77.8	16.5	42.0	71.7	15.8	70.4	30.1	
LOS	E	D		F	E	B	D	E	B	E	C	
Approach Delay		54.0			58.3			63.2			40.2	
Approach LOS		D			E			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 157.6			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 54.6		Intersection LOS: D	
Intersection Capacity Utilization 107.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	617	66	747	391	90	724	89	204	610
v/c Ratio	0.38	0.84	0.73	1.00	0.48	0.42	0.97	0.16	0.85	0.63
Control Delay	66.8	53.7	85.5	77.8	16.5	42.0	71.7	15.8	70.4	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	53.7	85.5	77.8	16.5	42.0	71.7	15.8	70.4	30.1
Queue Length 50th (m)	3.4	176.8	17.8	~243.0	39.0	20.6	225.2	8.1	47.4	132.2
Queue Length 95th (m)	#14.2	#235.9	#47.1	#326.0	69.1	38.9	#309.0	20.5	#86.0	172.7
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	39	734	90	750	810	216	755	561	260	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.84	0.73	1.00	0.48	0.42	0.96	0.16	0.78	0.61

Intersection Summary

~ 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.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	4	1102	5	14	783
Future Volume (vph)	4	4	1102	5	14	783
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932		0.999			
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1553	0	1859	0	1506	1860
Flt Permitted	0.976				0.950	
Satd. Flow (perm)	1553	0	1859	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	25%	0%	1%	0%	0%	1%
Adj. Flow (vph)	4	4	1148	5	15	816
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	1153	0	15	816
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 68.3%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	4	1102	5	14	783
Future Volume (Veh/h)	4	4	1102	5	14	783
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	4	4	1148	5	15	816
Pedestrians	2					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.61	0.61			0.61	
vC, conflicting volume	1998	1152			1155	
vC1, stage 1 conf vol	1152					
vC2, stage 2 conf vol	846					
vCu, unblocked vol	2313	933			937	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.3			2.2	
p0 queue free %	98	98			97	
cM capacity (veh/h)	178	199			452	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	8	1153	15	816
Volume Left	4	0	15	0
Volume Right	4	5	0	0
cSH	188	1700	452	1700
Volume to Capacity	0.04	0.68	0.03	0.48
Queue Length 95th (m)	1.0	0.0	0.8	0.0
Control Delay (s)	25.0	0.0	13.2	0.0
Lane LOS	D		B	
Approach Delay (s)	25.0	0.0	0.2	
Approach LOS	D			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	19	1090	14	22	797
Future Volume (vph)	6	19	1090	14	22	797
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1857	0	1506	1860
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1857	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	6	20	1160	15	23	848
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	20	1175	0	23	848
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 68.2%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	19	1090	14	22	797
Future Volume (Veh/h)	6	19	1090	14	22	797
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	20	1160	15	23	848
Pedestrians	2					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.61	0.61			0.61	
vC, conflicting volume	2064	1170			1177	
vC1, stage 1 conf vol	1170					
vC2, stage 2 conf vol	894					
vCu, unblocked vol	2416	963			975	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	90			95	
cM capacity (veh/h)	189	192			439	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	6	20	1175	23	848
Volume Left	6	0	0	23	0
Volume Right	0	20	15	0	0
cSH	189	192	1700	439	1700
Volume to Capacity	0.03	0.10	0.69	0.05	0.50
Queue Length 95th (m)	0.7	2.6	0.0	1.3	0.0
Control Delay (s)	24.7	25.9	0.0	13.6	0.0
Lane LOS	C	D		B	
Approach Delay (s)	25.6		0.0	0.4	
Approach LOS	D				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	33	52	1048	59	75	789
Future Volume (vph)	33	52	1048	59	75	789
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00			
Frt		0.850	0.993			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1705	1525	1835	0	1691	1860
Flt Permitted	0.950				0.069	
Satd. Flow (perm)	1705	1491	1835	0	123	1860
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		54	5			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		4	4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	1%	11%	1%	1%
Adj. Flow (vph)	34	54	1092	61	78	822
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	54	1153	0	78	822
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	17.2	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	22.5	22.5	53.0		9.5	62.5
Total Split (%)	26.5%	26.5%	62.4%		11.2%	73.5%
Maximum Green (s)	16.0	16.0	47.0		6.5	56.5
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	0			0
Act Effct Green (s)	11.0	11.0	57.0		66.6	63.6
Actuated g/C Ratio	0.14	0.14	0.71		0.83	0.79
v/c Ratio	0.15	0.22	0.89		0.32	0.56
Control Delay	31.0	10.9	24.9		8.3	6.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	31.0	10.9	24.9		8.3	6.9
LOS	C	B	C		A	A
Approach Delay	18.7		24.9			7.0
Approach LOS	B		C			A

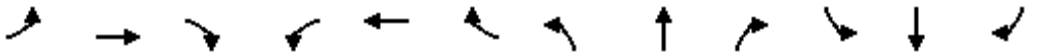
Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 80.6			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	34	54	1153	78	822
v/c Ratio	0.15	0.22	0.89	0.32	0.56
Control Delay	31.0	10.9	24.9	8.3	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	10.9	24.9	8.3	6.9
Queue Length 50th (m)	4.5	0.0	140.3	1.7	42.1
Queue Length 95th (m)	11.8	9.0	#291.0	10.4	101.8
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	371	366	1298	267	1467
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	0.15	0.89	0.29	0.56

Intersection Summary

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

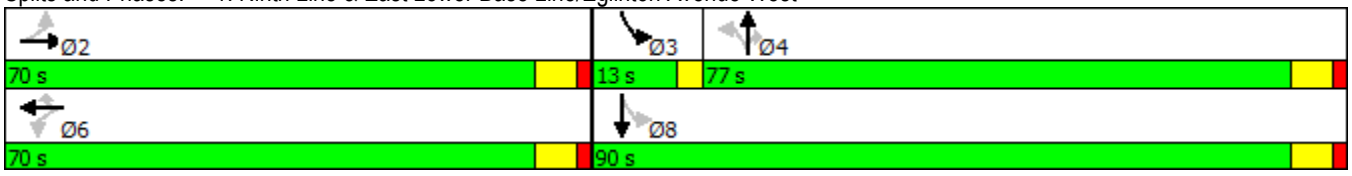


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	655	125	30	300	166	22	458	86	308	967	69
Future Volume (vph)	31	655	125	30	300	166	22	458	86	308	967	69
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.97			0.98			
Frt		0.976				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1375	1761	0	1429	1783	1562	1167	1789	1348	1642	1826	0
Flt Permitted	0.449			0.062			0.056			0.317		
Satd. Flow (perm)	648	1761	0	93	1783	1521	69	1789	1324	548	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				168			48		3	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)	2					2			2	2		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	1%	6%	3%	3%	8%	29%	5%	0%	4%	2%	0%
Adj. Flow (vph)	31	662	126	30	303	168	22	463	87	311	977	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	788	0	30	303	168	22	463	87	311	1047	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	77.0	77.0	77.0	13.0	90.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%	43.8%	48.1%	48.1%	48.1%	8.1%	56.3%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	70.0	70.0	70.0	10.0	83.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	2	2		2	2	2	2	2	2		2	
Act Effct Green (s)	65.0	65.0		65.0	65.0	65.0	72.0	72.0	72.0	89.0	85.0	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.45	0.45	0.45	0.56	0.53	
v/c Ratio	0.12	1.10		0.81	0.42	0.23	0.71	0.58	0.14	0.81	1.08	
Control Delay	31.4	106.5		144.6	36.2	4.7	129.9	36.2	13.0	39.5	88.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.4	106.5		144.6	36.2	4.7	129.9	36.2	13.0	39.5	88.3	
LOS	C	F		F	D	A	F	D	B	D	F	
Approach Delay		103.6			32.1			36.3			77.1	
Approach LOS		F			C			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 69.7		Intersection LOS: E	
Intersection Capacity Utilization 116.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West

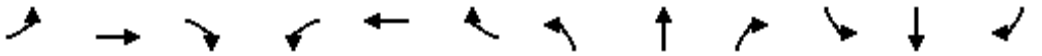


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	31	788	30	303	168	22	463	87	311	1047
v/c Ratio	0.12	1.10	0.81	0.42	0.23	0.71	0.58	0.14	0.81	1.08
Control Delay	31.4	106.5	144.6	36.2	4.7	129.9	36.2	13.0	39.5	88.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	106.5	144.6	36.2	4.7	129.9	36.2	13.0	39.5	88.3
Queue Length 50th (m)	6.1	~281.3	8.3	68.6	0.0	5.6	108.2	7.0	52.6	~370.0
Queue Length 95th (m)	14.0	#360.1	#31.0	95.4	14.6	#24.7	144.1	18.0	#80.6	#451.4
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	263	719	37	724	717	31	805	622	386	971
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	1.10	0.81	0.42	0.23	0.71	0.58	0.14	0.81	1.08

Intersection Summary

~ 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.

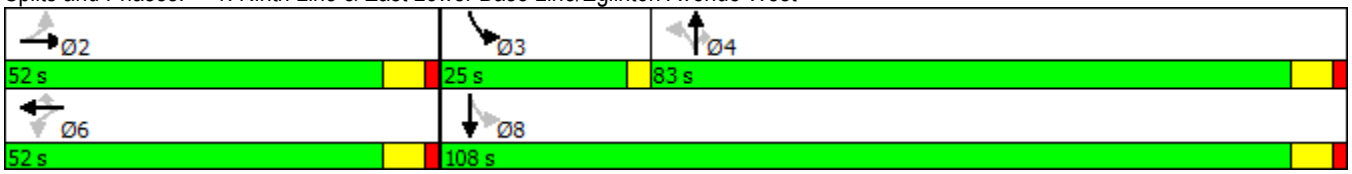


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	655	125	30	300	166	22	458	86	308	967	69
Future Volume (vph)	31	655	125	30	300	166	22	458	86	308	967	69
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.97			0.98			
Frt		0.976				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1375	3346	0	1429	1783	1562	1167	1789	1348	1642	1826	0
Flt Permitted	0.386			0.163			0.069			0.343		
Satd. Flow (perm)	557	3346	0	245	1783	1521	85	1789	1324	593	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				168			48		5	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)	2					2			2	2		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	1%	6%	3%	3%	8%	29%	5%	0%	4%	2%	0%
Adj. Flow (vph)	31	662	126	30	303	168	22	463	87	311	977	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	788	0	30	303	168	22	463	87	311	1047	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	52.0	52.0		52.0	52.0	52.0	83.0	83.0	83.0	25.0	108.0	
Total Split (%)	32.5%	32.5%		32.5%	32.5%	32.5%	51.9%	51.9%	51.9%	15.6%	67.5%	
Maximum Green (s)	45.0	45.0		45.0	45.0	45.0	76.0	76.0	76.0	22.0	101.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	2	2		2	2	2	2	2	2		2	
Act Effct Green (s)	47.4	47.4		47.4	47.4	47.4	72.2	72.2	72.2	96.0	92.0	
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32	0.48	0.48	0.48	0.64	0.62	
v/c Ratio	0.18	0.74		0.39	0.54	0.28	0.54	0.54	0.13	0.61	0.93	
Control Delay	45.0	51.4		62.9	48.6	6.8	78.7	29.7	10.9	16.8	40.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.0	51.4		62.9	48.6	6.8	78.7	29.7	10.9	16.8	40.4	
LOS	D	D		E	D	A	E	C	B	B	D	
Approach Delay		51.1			35.5			28.7			35.0	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 149.5			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 38.0		Intersection LOS: D	
Intersection Capacity Utilization 104.1%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	31	788	30	303	168	22	463	87	311	1047
v/c Ratio	0.18	0.74	0.39	0.54	0.28	0.54	0.54	0.13	0.61	0.93
Control Delay	45.0	51.4	62.9	48.6	6.8	78.7	29.7	10.9	16.8	40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	51.4	62.9	48.6	6.8	78.7	29.7	10.9	16.8	40.4
Queue Length 50th (m)	7.4	120.2	7.7	82.5	0.0	4.5	93.4	6.0	38.1	263.0
Queue Length 95th (m)	17.2	145.3	20.4	114.6	17.6	#21.3	133.5	16.6	53.2	348.5
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	176	1070	77	565	597	45	960	732	550	1271
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.74	0.39	0.54	0.28	0.49	0.48	0.12	0.57	0.82

Intersection Summary

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

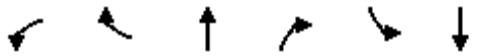
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	12	661	2	2	1345
Future Volume (vph)	5	12	661	2	2	1345
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905					
Flt Protected	0.986				0.950	
Satd. Flow (prot)	1714	0	1790	0	1506	1842
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1714	0	1790	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	5%	0%	0%	2%
Adj. Flow (vph)	5	12	668	2	2	1359
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	670	0	2	1359
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 80.8%		ICU Level of Service D	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	12	661	2	2	1345
Future Volume (Veh/h)	5	12	661	2	2	1345
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	5	12	668	2	2	1359
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	2033	670			671	
vC1, stage 1 conf vol	670					
vC2, stage 2 conf vol	1363					
vCu, unblocked vol	2162	470			471	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	213	481			886	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	670	2	1359
Volume Left	5	0	2	0
Volume Right	12	2	0	0
cSH	351	1700	886	1700
Volume to Capacity	0.05	0.39	0.00	0.80
Queue Length 95th (m)	1.2	0.0	0.1	0.0
Control Delay (s)	15.8	0.0	9.1	0.0
Lane LOS	C		A	
Approach Delay (s)	15.8	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	35	669	4	8	1332
Future Volume (vph)	10	35	669	4	8	1332
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.999			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1771	0	1506	1842
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1771	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	6%	0%	0%	2%
Adj. Flow (vph)	10	36	690	4	8	1373
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	36	694	0	8	1373
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 80.1%		ICU Level of Service D	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	35	669	4	8	1332
Future Volume (Veh/h)	10	35	669	4	8	1332
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	36	690	4	8	1373
Pedestrians	1					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	2082	693			695	
vC1, stage 1 conf vol	693					
vC2, stage 2 conf vol	1389					
vCu, unblocked vol	2223	498			501	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	92			99	
cM capacity (veh/h)	205	464			864	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	10	36	694	8	1373
Volume Left	10	0	0	8	0
Volume Right	0	36	4	0	0
cSH	205	464	1700	864	1700
Volume to Capacity	0.05	0.08	0.41	0.01	0.81
Queue Length 95th (m)	1.2	1.9	0.0	0.2	0.0
Control Delay (s)	23.5	13.4	0.0	9.2	0.0
Lane LOS	C	B		A	
Approach Delay (s)	15.6		0.0	0.1	
Approach LOS	C				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	102	53	707	25	41	1238
Future Volume (vph)	102	53	707	25	41	1238
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00			
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1688	1525	1781	0	1708	1842
Flt Permitted	0.950				0.285	
Satd. Flow (perm)	1688	1491	1781	0	512	1842
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		54	4			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		1	1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	4%	30%	0%	2%
Adj. Flow (vph)	104	54	721	26	42	1263
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	54	747	0	42	1263
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	20.0	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	22.5	22.5	53.0		9.5	62.5
Total Split (%)	26.5%	26.5%	62.4%		11.2%	73.5%
Maximum Green (s)	16.0	16.0	47.0		6.5	56.5
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	1			1
Act Effct Green (s)	12.5	12.5	58.3		66.0	63.0
Actuated g/C Ratio	0.15	0.15	0.72		0.81	0.77
v/c Ratio	0.40	0.20	0.59		0.08	0.89
Control Delay	35.4	10.4	11.5		3.0	20.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.4	10.4	11.5		3.0	20.5
LOS	D	B	B		A	C
Approach Delay	26.9		11.5			19.9
Approach LOS	C		B			B

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 81.5			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 80.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	104	54	747	42	1263
v/c Ratio	0.40	0.20	0.59	0.08	0.89
Control Delay	35.4	10.4	11.5	3.0	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	10.4	11.5	3.0	20.5
Queue Length 50th (m)	14.4	0.0	64.3	1.1	134.5
Queue Length 95th (m)	28.1	9.0	122.3	3.9	#292.9
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	363	363	1274	539	1424
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	0.29	0.15	0.59	0.08	0.89

Intersection Summary

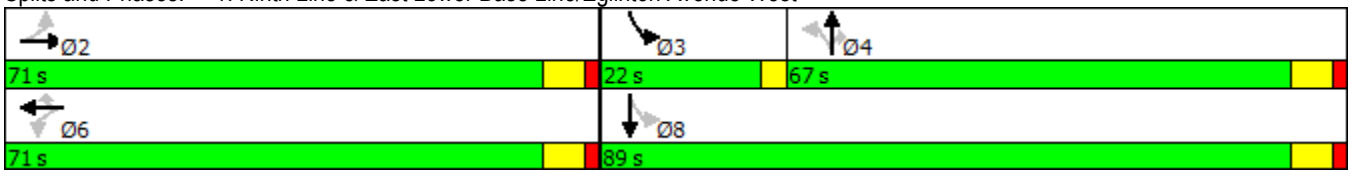
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	574	49	66	741	403	88	734	87	243	670	53
Future Volume (vph)	20	574	49	66	741	403	88	734	87	243	670	53
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor									0.98			
Frt		0.988				0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1471	1776	0	1443	1818	1654	1506	1860	1334	1691	1841	0
Flt Permitted	0.061			0.114			0.210			0.063		
Satd. Flow (perm)	94	1776	0	173	1818	1654	333	1860	1311	112	1841	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				229			48		4	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	1%	2%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	21	598	51	69	772	420	92	765	91	253	698	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	649	0	69	772	420	92	765	91	253	753	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	71.0	71.0		71.0	71.0	71.0	67.0	67.0	67.0	22.0	89.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%	44.4%	41.9%	41.9%	41.9%	13.8%	55.6%	
Maximum Green (s)	64.0	64.0		64.0	64.0	64.0	60.0	60.0	60.0	19.0	82.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	2	2	2		2	
Act Effct Green (s)	66.0	66.0		66.0	66.0	66.0	62.0	62.0	62.0	87.9	83.9	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.39	0.39	0.39	0.55	0.52	
v/c Ratio	0.55	0.88		0.97	1.03	0.51	0.71	1.06	0.17	0.95	0.78	
Control Delay	90.3	58.3		146.3	86.2	17.3	72.8	97.4	16.8	89.1	37.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	90.3	58.3		146.3	86.2	17.3	72.8	97.4	16.8	89.1	37.3	
LOS	F	E		F	F	B	E	F	B	F	D	
Approach Delay		59.3			66.5			87.3			50.3	
Approach LOS		E			E			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 159.9			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 66.1		Intersection LOS: E	
Intersection Capacity Utilization 113.9%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West

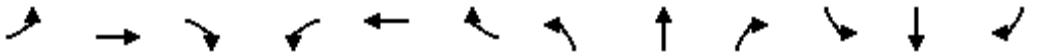


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	649	69	772	420	92	765	91	253	753
v/c Ratio	0.55	0.88	0.97	1.03	0.51	0.71	1.06	0.17	0.95	0.78
Control Delay	90.3	58.3	146.3	86.2	17.3	72.8	97.4	16.8	89.1	37.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.3	58.3	146.3	86.2	17.3	72.8	97.4	16.8	89.1	37.3
Queue Length 50th (m)	5.0	189.1	21.4	~261.6	43.7	24.7	~266.6	8.6	65.0	187.4
Queue Length 95th (m)	#20.8	#260.4	#56.2	#339.4	75.4	#56.3	#344.4	21.5	#119.6	242.6
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	38	734	71	749	816	129	720	537	268	968
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.88	0.97	1.03	0.51	0.71	1.06	0.17	0.94	0.78

Intersection Summary

~ 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.

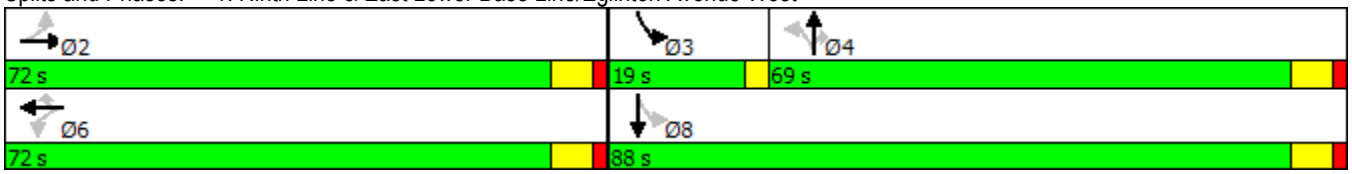


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	574	49	66	741	403	88	734	87	243	670	53
Future Volume (vph)	20	574	49	66	741	403	88	734	87	243	670	53
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor									0.98			
Frt		0.988				0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1471	3375	0	1443	1818	1654	1506	1860	1334	1691	1841	0
Flt Permitted	0.060			0.304			0.194			0.062		
Satd. Flow (perm)	93	3375	0	462	1818	1654	308	1860	1311	110	1841	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				232			48		4	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	1%	2%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	21	598	51	69	772	420	92	765	91	253	698	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	649	0	69	772	420	92	765	91	253	753	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	72.0	72.0		72.0	72.0	72.0	69.0	69.0	69.0	19.0	88.0	
Total Split (%)	45.0%	45.0%		45.0%	45.0%	45.0%	43.1%	43.1%	43.1%	11.9%	55.0%	
Maximum Green (s)	65.0	65.0		65.0	65.0	65.0	62.0	62.0	62.0	16.0	81.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	2	2	2		2	
Act Effct Green (s)	67.0	67.0		67.0	67.0	67.0	64.0	64.0	64.0	87.0	83.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.40	0.40	0.40	0.54	0.52	
v/c Ratio	0.55	0.46		0.36	1.01	0.51	0.75	1.03	0.16	1.07	0.79	
Control Delay	89.8	34.4		38.6	81.7	16.7	77.6	86.8	16.1	121.6	38.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.8	34.4		38.6	81.7	16.7	77.6	86.8	16.1	121.6	38.5	
LOS	F	C		D	F	B	E	F	B	F	D	
Approach Delay		36.1			57.7			79.1			59.4	
Approach LOS		D			E			E			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 59.6		Intersection LOS: E	
Intersection Capacity Utilization 113.9%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	649	69	772	420	92	765	91	253	753
v/c Ratio	0.55	0.46	0.36	1.01	0.51	0.75	1.03	0.16	1.07	0.79
Control Delay	89.8	34.4	38.6	81.7	16.7	77.6	86.8	16.1	121.6	38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.8	34.4	38.6	81.7	16.7	77.6	86.8	16.1	121.6	38.5
Queue Length 50th (m)	5.0	76.8	14.9	~257.9	42.4	24.9	~258.9	8.5	~72.5	190.0
Queue Length 95th (m)	#20.8	94.4	30.1	#335.6	73.6	#58.3	#336.7	21.0	#129.9	246.1
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	38	1417	193	761	827	123	744	553	237	956
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.46	0.36	1.01	0.51	0.75	1.03	0.16	1.07	0.79

Intersection Summary

~ 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.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	4	1155	5	14	1005
Future Volume (vph)	4	4	1155	5	14	1005
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932		0.999			
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1553	0	1859	0	1506	1860
Flt Permitted	0.976				0.950	
Satd. Flow (perm)	1553	0	1859	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	25%	0%	1%	0%	0%	1%
Adj. Flow (vph)	4	4	1203	5	15	1047
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	1208	0	15	1047
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	4	1155	5	14	1005
Future Volume (Veh/h)	4	4	1155	5	14	1005
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	4	4	1203	5	15	1047
Pedestrians	2					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.62	0.62			0.62	
vC, conflicting volume	2284	1208			1210	
vC1, stage 1 conf vol	1208					
vC2, stage 2 conf vol	1077					
vCu, unblocked vol	2772	1026			1030	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.3			2.2	
p0 queue free %	97	98			96	
cM capacity (veh/h)	151	177			420	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	8	1208	15	1047
Volume Left	4	0	15	0
Volume Right	4	5	0	0
cSH	163	1700	420	1700
Volume to Capacity	0.05	0.71	0.04	0.62
Queue Length 95th (m)	1.2	0.0	0.8	0.0
Control Delay (s)	28.2	0.0	13.9	0.0
Lane LOS	D		B	
Approach Delay (s)	28.2	0.0	0.2	
Approach LOS	D			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	19	1143	14	23	1018
Future Volume (vph)	6	19	1143	14	23	1018
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1857	0	1506	1860
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1857	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	6	20	1216	15	24	1083
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	20	1231	0	24	1083
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	19	1143	14	23	1018
Future Volume (Veh/h)	6	19	1143	14	23	1018
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	20	1216	15	24	1083
Pedestrians	2					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.62	0.62			0.62	
vC, conflicting volume	2356	1226			1233	
vC1, stage 1 conf vol	1226					
vC2, stage 2 conf vol	1131					
vCu, unblocked vol	2887	1056			1068	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	88			94	
cM capacity (veh/h)	160	170			407	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	6	20	1231	24	1083
Volume Left	6	0	0	24	0
Volume Right	0	20	15	0	0
cSH	160	170	1700	407	1700
Volume to Capacity	0.04	0.12	0.72	0.06	0.64
Queue Length 95th (m)	0.9	3.0	0.0	1.4	0.0
Control Delay (s)	28.4	28.9	0.0	14.4	0.0
Lane LOS	D	D		B	
Approach Delay (s)	28.8		0.0	0.3	
Approach LOS	D				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	56	1105	61	78	1022
Future Volume (vph)	36	56	1105	61	78	1022
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00			
Frt		0.850	0.993			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1705	1525	1835	0	1691	1860
Flt Permitted	0.950				0.070	
Satd. Flow (perm)	1705	1491	1835	0	125	1860
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		58	5			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		4	4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	1%	11%	1%	1%
Adj. Flow (vph)	38	58	1151	64	81	1065
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	58	1215	0	81	1065
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	17.2	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	22.5	22.5	53.0		9.5	62.5
Total Split (%)	26.5%	26.5%	62.4%		11.2%	73.5%
Maximum Green (s)	16.0	16.0	47.0		6.5	56.5
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	0			0
Act Effct Green (s)	11.1	11.1	56.5		66.1	63.1
Actuated g/C Ratio	0.14	0.14	0.70		0.82	0.79
v/c Ratio	0.16	0.23	0.94		0.33	0.73
Control Delay	31.2	10.8	31.2		8.5	10.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	31.2	10.8	31.2		8.5	10.9
LOS	C	B	C		A	B
Approach Delay	18.9		31.2			10.7
Approach LOS	B		C			B

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 80.2			
Natural Cycle: 110			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 21.2		Intersection LOS: C	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

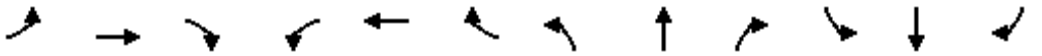
Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	38	58	1215	81	1065
v/c Ratio	0.16	0.23	0.94	0.33	0.73
Control Delay	31.2	10.8	31.2	8.5	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	10.8	31.2	8.5	10.9
Queue Length 50th (m)	5.1	0.0	~192.6	1.7	71.2
Queue Length 95th (m)	12.9	9.3	#314.2	10.7	#190.4
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	373	371	1294	269	1464
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	0.16	0.94	0.30	0.73

Intersection Summary

~ 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.

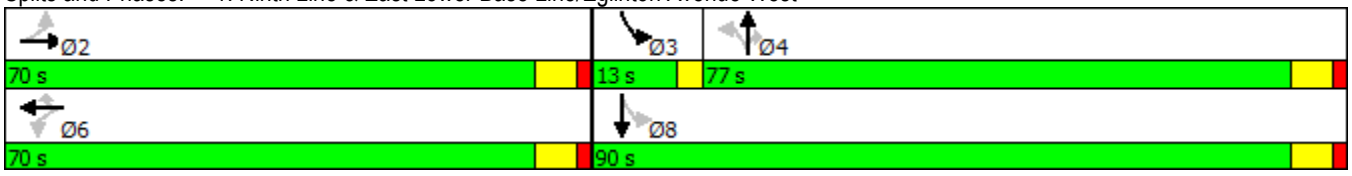


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	634	120	25	282	139	21	343	83	315	956	68
Future Volume (vph)	30	634	120	25	282	139	21	343	83	315	956	68
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.97			0.98	1.00		
Frt		0.976				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1375	1761	0	1429	1783	1562	1167	1789	1348	1642	1826	0
Flt Permitted	0.469			0.062			0.056			0.425		
Satd. Flow (perm)	677	1761	0	93	1783	1521	69	1789	1324	733	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				140			49		3	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)	2					2			2	2		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	1%	6%	3%	3%	8%	29%	5%	0%	4%	2%	0%
Adj. Flow (vph)	30	640	121	25	285	140	21	346	84	318	966	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	761	0	25	285	140	21	346	84	318	1035	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	77.0	77.0	77.0	13.0	90.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%	43.8%	48.1%	48.1%	48.1%	8.1%	56.3%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	70.0	70.0	70.0	10.0	83.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	2	2		2	2	2	2	2	2		2	
Act Effct Green (s)	65.0	65.0		65.0	65.0	65.0	72.0	72.0	72.0	89.0	85.0	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.45	0.45	0.45	0.56	0.53	
v/c Ratio	0.11	1.06		0.68	0.39	0.20	0.68	0.43	0.14	0.67	1.07	
Control Delay	31.1	94.7		114.5	35.6	4.9	122.5	32.1	12.4	28.9	84.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.1	94.7		114.5	35.6	4.9	122.5	32.1	12.4	28.9	84.2	
LOS	C	F		F	D	A	F	C	B	C	F	
Approach Delay		92.3			30.4			32.6			71.2	
Approach LOS		F			C			C			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 110			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 65.0		Intersection LOS: E	
Intersection Capacity Utilization 114.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	30	761	25	285	140	21	346	84	318	1035
v/c Ratio	0.11	1.06	0.68	0.39	0.20	0.68	0.43	0.14	0.67	1.07
Control Delay	31.1	94.7	114.5	35.6	4.9	122.5	32.1	12.4	28.9	84.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	94.7	114.5	35.6	4.9	122.5	32.1	12.4	28.9	84.2
Queue Length 50th (m)	5.9	~263.3	6.4	63.8	0.0	5.2	74.3	6.2	54.2	~362.0
Queue Length 95th (m)	13.7	#341.4	#25.8	89.3	13.6	#23.4	101.6	16.9	75.3	#443.4
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	275	719	37	724	701	31	805	622	475	971
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	1.06	0.68	0.39	0.20	0.68	0.43	0.14	0.67	1.07

Intersection Summary

~ 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.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	12	525	2	2	1351
Future Volume (vph)	5	12	525	2	2	1351
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905		0.999			
Flt Protected	0.986				0.950	
Satd. Flow (prot)	1714	0	1788	0	1506	1842
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1714	0	1788	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	5%	0%	0%	2%
Adj. Flow (vph)	5	12	530	2	2	1365
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	532	0	2	1365
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 81.1%		ICU Level of Service D	
Analysis Period (min) 15			

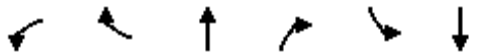
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	12	525	2	2	1351
Future Volume (Veh/h)	5	12	525	2	2	1351
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	5	12	530	2	2	1365
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1901	532			533	
vC1, stage 1 conf vol	532					
vC2, stage 2 conf vol	1369					
vCu, unblocked vol	1961	386			388	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	220	578			1026	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	532	2	1365
Volume Left	5	0	2	0
Volume Right	12	2	0	0
cSH	391	1700	1026	1700
Volume to Capacity	0.04	0.31	0.00	0.80
Queue Length 95th (m)	1.0	0.0	0.0	0.0
Control Delay (s)	14.6	0.0	8.5	0.0
Lane LOS	B		A	
Approach Delay (s)	14.6	0.0	0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	34	533	4	8	1338
Future Volume (vph)	10	34	533	4	8	1338
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.999			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1771	0	1506	1842
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1771	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	6%	0%	0%	2%
Adj. Flow (vph)	10	35	549	4	8	1379
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	35	553	0	8	1379
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 80.4%		ICU Level of Service D	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	34	533	4	8	1338
Future Volume (Veh/h)	10	34	533	4	8	1338
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	35	549	4	8	1379
Pedestrians	1					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1947	552			554	
vC1, stage 1 conf vol	552					
vC2, stage 2 conf vol	1395					
vCu, unblocked vol	2013	411			413	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	94			99	
cM capacity (veh/h)	212	561			1006	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	10	35	553	8	1379
Volume Left	10	0	0	8	0
Volume Right	0	35	4	0	0
cSH	212	561	1700	1006	1700
Volume to Capacity	0.05	0.06	0.33	0.01	0.81
Queue Length 95th (m)	1.1	1.5	0.0	0.2	0.0
Control Delay (s)	22.8	11.8	0.0	8.6	0.0
Lane LOS	C	B		A	
Approach Delay (s)	14.3		0.0	0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	100	52	564	23	36	1218
Future Volume (vph)	100	52	564	23	36	1218
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00		1.00	
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1688	1525	1779	0	1708	1842
Flt Permitted	0.950				0.369	
Satd. Flow (perm)	1688	1491	1779	0	663	1842
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		53	4			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		1	1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	4%	30%	0%	2%
Adj. Flow (vph)	102	53	576	23	37	1243
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	53	599	0	37	1243
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	20.0	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	22.5	22.5	53.0		9.5	62.5
Total Split (%)	26.5%	26.5%	62.4%		11.2%	73.5%
Maximum Green (s)	16.0	16.0	47.0		6.5	56.5
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	1			1
Act Effct Green (s)	12.5	12.5	58.4		66.2	63.2
Actuated g/C Ratio	0.15	0.15	0.72		0.81	0.77
v/c Ratio	0.40	0.19	0.47		0.06	0.87
Control Delay	35.4	10.5	9.4		2.9	19.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.4	10.5	9.4		2.9	19.1
LOS	D	B	A		A	B
Approach Delay	26.9		9.4			18.7
Approach LOS	C		A			B

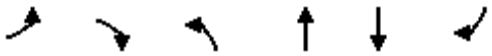
Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 81.6			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 79.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	102	53	599	37	1243
v/c Ratio	0.40	0.19	0.47	0.06	0.87
Control Delay	35.4	10.5	9.4	2.9	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	10.5	9.4	2.9	19.1
Queue Length 50th (m)	14.1	0.0	44.8	0.9	126.9
Queue Length 95th (m)	27.7	8.8	85.2	3.6	#285.7
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	362	361	1274	646	1427
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	0.15	0.47	0.06	0.87

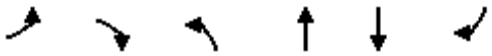
Intersection Summary

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	30	9	558	1316	5
Future Volume (vph)	16	30	9	558	1316	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		15.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.911					
Flt Protected	0.983		0.950			
Satd. Flow (prot)	1687	0	1789	1883	1883	0
Flt Permitted	0.983		0.950			
Satd. Flow (perm)	1687	0	1789	1883	1883	0
Link Speed (k/h)	50			70	70	
Link Distance (m)	89.1			77.1	81.5	
Travel Time (s)	6.4			4.0	4.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	33	10	607	1430	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	0	10	607	1435	0
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)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	30	9	558	1316	5
Future Volume (Veh/h)	16	30	9	558	1316	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	33	10	607	1430	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2060	1432	1435			
vC1, stage 1 conf vol	1432					
vC2, stage 2 conf vol	627					
vCu, unblocked vol	2060	1432	1435			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	80	98			
cM capacity (veh/h)	202	164	473			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	50	10	607	1435
Volume Left	17	10	0	0
Volume Right	33	0	0	5
cSH	176	473	1700	1700
Volume to Capacity	0.28	0.02	0.36	0.84
Queue Length 95th (m)	8.5	0.5	0.0	0.0
Control Delay (s)	33.5	12.8	0.0	0.0
Lane LOS	D	B		
Approach Delay (s)	33.5	0.2		0.0
Approach LOS	D			

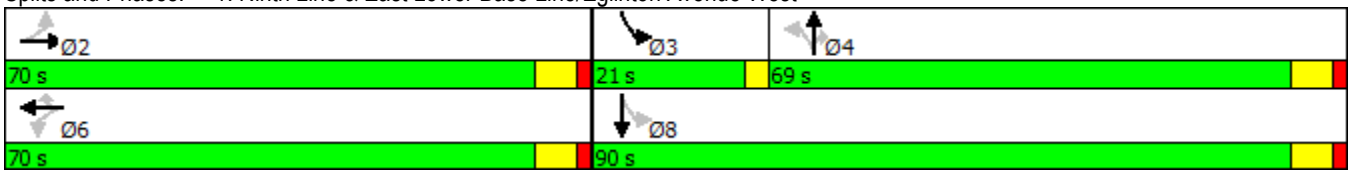
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	545	47	63	717	393	86	704	85	207	542	51
Future Volume (vph)	16	545	47	63	717	393	86	704	85	207	542	51
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor									0.98			
Frt		0.988				0.850			0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1471	1776	0	1443	1818	1654	1506	1860	1334	1691	1838	0
Flt Permitted	0.062			0.140			0.334			0.062		
Satd. Flow (perm)	96	1776	0	213	1818	1654	530	1860	1311	110	1838	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				228			48		5	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	1%	2%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	17	568	49	66	747	409	90	733	89	216	565	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	617	0	66	747	409	90	733	89	216	618	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	69.0	69.0	69.0	21.0	90.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%	43.8%	43.1%	43.1%	43.1%	13.1%	56.3%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	62.0	62.0	62.0	18.0	83.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	2	2	2		2	
Act Effct Green (s)	65.0	65.0		65.0	65.0	65.0	64.0	64.0	64.0	87.8	83.8	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.40	0.40	0.40	0.55	0.53	
v/c Ratio	0.44	0.85		0.76	1.00	0.50	0.42	0.98	0.16	0.87	0.64	
Control Delay	73.1	54.8		91.0	80.3	16.9	42.2	74.4	15.8	75.2	30.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	73.1	54.8		91.0	80.3	16.9	42.2	74.4	15.8	75.2	30.1	
LOS	E	D		F	F	B	D	E	B	E	C	
Approach Delay		55.3			59.7			65.5			41.8	
Approach LOS		E			E			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 158.8			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 56.2		Intersection LOS: E	
Intersection Capacity Utilization 109.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	617	66	747	409	90	733	89	216	618
v/c Ratio	0.44	0.85	0.76	1.00	0.50	0.42	0.98	0.16	0.87	0.64
Control Delay	73.1	54.8	91.0	80.3	16.9	42.2	74.4	15.8	75.2	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.1	54.8	91.0	80.3	16.9	42.2	74.4	15.8	75.2	30.1
Queue Length 50th (m)	3.9	176.8	18.0	~243.0	41.4	20.6	229.9	8.1	51.7	134.4
Queue Length 95th (m)	#16.2	#235.9	#47.9	#326.0	72.4	39.0	#315.0	20.5	#95.4	175.5
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	39	728	87	744	811	213	749	557	259	986
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.85	0.76	1.00	0.50	0.42	0.98	0.16	0.83	0.63

Intersection Summary

~ 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.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	4	1132	5	14	801
Future Volume (vph)	4	4	1132	5	14	801
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932		0.999			
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1553	0	1859	0	1506	1860
Flt Permitted	0.976				0.950	
Satd. Flow (perm)	1553	0	1859	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	25%	0%	1%	0%	0%	1%
Adj. Flow (vph)	4	4	1179	5	15	834
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	1184	0	15	834
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	4	1132	5	14	801
Future Volume (Veh/h)	4	4	1132	5	14	801
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	4	4	1179	5	15	834
Pedestrians	2					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.61	0.61			0.61	
vC, conflicting volume	2048	1184			1186	
vC1, stage 1 conf vol	1184					
vC2, stage 2 conf vol	864					
vCu, unblocked vol	2399	981			985	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.3			2.2	
p0 queue free %	98	98			97	
cM capacity (veh/h)	168	186			431	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	8	1184	15	834
Volume Left	4	0	15	0
Volume Right	4	5	0	0
cSH	177	1700	431	1700
Volume to Capacity	0.05	0.70	0.03	0.49
Queue Length 95th (m)	1.1	0.0	0.8	0.0
Control Delay (s)	26.3	0.0	13.6	0.0
Lane LOS	D		B	
Approach Delay (s)	26.3	0.0	0.2	
Approach LOS	D			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	19	1120	14	22	815
Future Volume (vph)	6	19	1120	14	22	815
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1857	0	1506	1860
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1857	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	6	20	1191	15	23	867
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	20	1206	0	23	867
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.8%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	19	1120	14	22	815
Future Volume (Veh/h)	6	19	1120	14	22	815
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	20	1191	15	23	867
Pedestrians	2					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.61	0.61			0.61	
vC, conflicting volume	2114	1200			1208	
vC1, stage 1 conf vol	1200					
vC2, stage 2 conf vol	913					
vCu, unblocked vol	2504	1010			1022	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	89			95	
cM capacity (veh/h)	179	179			419	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	6	20	1206	23	867
Volume Left	6	0	0	23	0
Volume Right	0	20	15	0	0
cSH	179	179	1700	419	1700
Volume to Capacity	0.03	0.11	0.71	0.05	0.51
Queue Length 95th (m)	0.8	2.8	0.0	1.3	0.0
Control Delay (s)	25.8	27.6	0.0	14.1	0.0
Lane LOS	D	D		B	
Approach Delay (s)	27.2		0.0	0.4	
Approach LOS	D				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	52	1056	60	75	803
Future Volume (vph)	35	52	1056	60	75	803
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00			
Frt		0.850	0.993			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1705	1525	1834	0	1691	1860
Flt Permitted	0.950				0.069	
Satd. Flow (perm)	1705	1491	1834	0	123	1860
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		54	6			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		4	4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	1%	11%	1%	1%
Adj. Flow (vph)	36	54	1100	63	78	836
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	54	1163	0	78	836
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	17.2	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	22.5	22.5	53.0		9.5	62.5
Total Split (%)	26.5%	26.5%	62.4%		11.2%	73.5%
Maximum Green (s)	16.0	16.0	47.0		6.5	56.5
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	0			0
Act Effct Green (s)	11.1	11.1	56.9		66.4	63.5
Actuated g/C Ratio	0.14	0.14	0.71		0.82	0.79
v/c Ratio	0.15	0.22	0.90		0.32	0.57
Control Delay	31.1	10.9	25.8		8.3	7.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	31.1	10.9	25.8		8.3	7.0
LOS	C	B	C		A	A
Approach Delay	19.0		25.8			7.1
Approach LOS	B		C			A

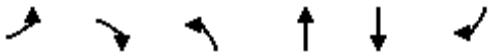
Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 80.5			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	36	54	1163	78	836
v/c Ratio	0.15	0.22	0.90	0.32	0.57
Control Delay	31.1	10.9	25.8	8.3	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	10.9	25.8	8.3	7.0
Queue Length 50th (m)	4.8	0.0	143.9	1.7	43.5
Queue Length 95th (m)	12.3	9.0	#294.5	10.4	105.2
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	371	367	1297	267	1466
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	0.15	0.90	0.29	0.57

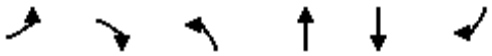
Intersection Summary

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	18	30	1109	819	16
Future Volume (vph)	10	18	30	1109	819	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		15.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.913				0.997	
Flt Protected	0.983		0.950			
Satd. Flow (prot)	1690	0	1789	1883	1878	0
Flt Permitted	0.983		0.950			
Satd. Flow (perm)	1690	0	1789	1883	1878	0
Link Speed (k/h)	50			70	70	
Link Distance (m)	89.1			77.1	81.5	
Travel Time (s)	6.4			4.0	4.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	20	33	1205	890	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	33	1205	907	0
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)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

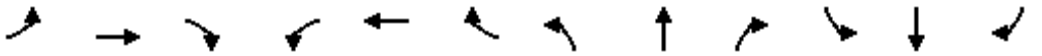
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	18	30	1109	819	16
Future Volume (Veh/h)	10	18	30	1109	819	16
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	20	33	1205	890	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2170	898	907			
vC1, stage 1 conf vol	898					
vC2, stage 2 conf vol	1271					
vCu, unblocked vol	2170	898	907			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	94	96			
cM capacity (veh/h)	211	338	750			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	31	33	1205	907
Volume Left	11	33	0	0
Volume Right	20	0	0	17
cSH	279	750	1700	1700
Volume to Capacity	0.11	0.04	0.71	0.53
Queue Length 95th (m)	2.8	1.0	0.0	0.0
Control Delay (s)	19.5	10.0	0.0	0.0
Lane LOS	C	B		
Approach Delay (s)	19.5	0.3		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

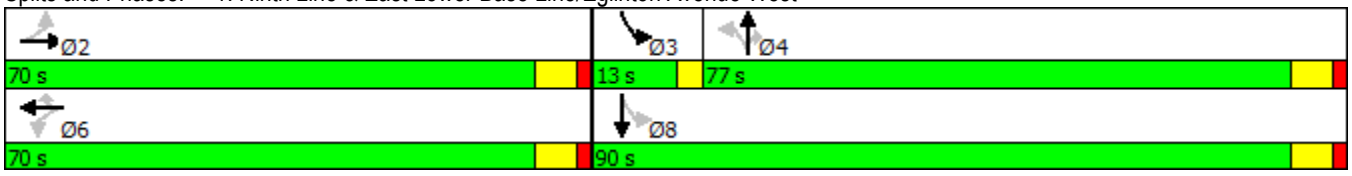


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	655	125	30	300	173	22	462	86	333	980	72
Future Volume (vph)	32	655	125	30	300	173	22	462	86	333	980	72
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.97			0.98			
Frt		0.976				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1375	1761	0	1429	1783	1562	1167	1789	1348	1642	1826	0
Flt Permitted	0.449			0.062			0.056			0.313		
Satd. Flow (perm)	648	1761	0	93	1783	1521	69	1789	1324	541	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				175			48		4	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)	2					2			2	2		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	1%	6%	3%	3%	8%	29%	5%	0%	4%	2%	0%
Adj. Flow (vph)	32	662	126	30	303	175	22	467	87	336	990	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	788	0	30	303	175	22	467	87	336	1063	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	70.0	70.0		70.0	70.0	70.0	77.0	77.0	77.0	13.0	90.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%	43.8%	48.1%	48.1%	48.1%	8.1%	56.3%	
Maximum Green (s)	63.0	63.0		63.0	63.0	63.0	70.0	70.0	70.0	10.0	83.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	2	2		2	2	2	2	2	2		2	
Act Effct Green (s)	65.0	65.0		65.0	65.0	65.0	72.0	72.0	72.0	89.0	85.0	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.45	0.45	0.45	0.56	0.53	
v/c Ratio	0.12	1.10		0.81	0.42	0.24	0.71	0.58	0.14	0.88	1.09	
Control Delay	31.4	106.5		144.6	36.2	4.6	129.9	36.4	13.0	48.5	94.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.4	106.5		144.6	36.2	4.6	129.9	36.4	13.0	48.5	94.0	
LOS	C	F		F	D	A	F	D	B	D	F	
Approach Delay		103.5			31.7			36.4			83.0	
Approach LOS		F			C			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 72.1		Intersection LOS: E	
Intersection Capacity Utilization 117.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West

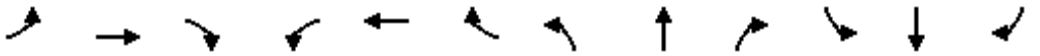


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	788	30	303	175	22	467	87	336	1063
v/c Ratio	0.12	1.10	0.81	0.42	0.24	0.71	0.58	0.14	0.88	1.09
Control Delay	31.4	106.5	144.6	36.2	4.6	129.9	36.4	13.0	48.5	94.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	106.5	144.6	36.2	4.6	129.9	36.4	13.0	48.5	94.0
Queue Length 50th (m)	6.3	~281.3	8.3	68.6	0.0	5.6	109.4	7.0	58.0	~380.3
Queue Length 95th (m)	14.3	#360.1	#31.0	95.4	14.8	#24.7	145.6	18.0	#100.2	#461.7
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	263	719	37	724	721	31	805	622	383	971
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	1.10	0.81	0.42	0.24	0.71	0.58	0.14	0.88	1.09

Intersection Summary

~ 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.

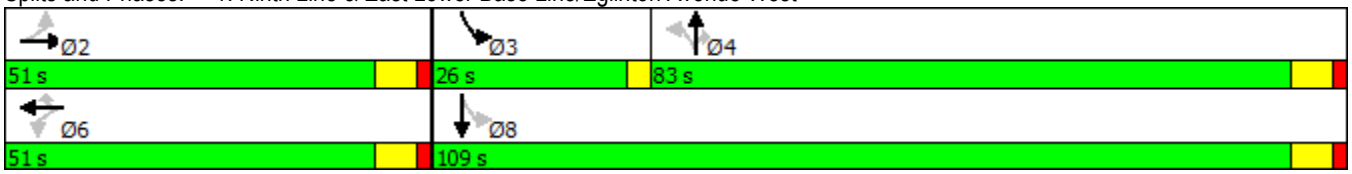


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	655	125	30	300	173	22	462	86	333	980	72
Future Volume (vph)	32	655	125	30	300	173	22	462	86	333	980	72
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.97			0.98			
Frt		0.976				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1375	3346	0	1429	1783	1562	1167	1789	1348	1642	1826	0
Flt Permitted	0.378			0.156			0.066			0.340		
Satd. Flow (perm)	546	3346	0	235	1783	1521	81	1789	1324	588	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				175			48		5	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)	2					2			2	2		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	1%	6%	3%	3%	8%	29%	5%	0%	4%	2%	0%
Adj. Flow (vph)	32	662	126	30	303	175	22	467	87	336	990	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	788	0	30	303	175	22	467	87	336	1063	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	51.0	51.0		51.0	51.0	51.0	83.0	83.0	83.0	26.0	109.0	
Total Split (%)	31.9%	31.9%		31.9%	31.9%	31.9%	51.9%	51.9%	51.9%	16.3%	68.1%	
Maximum Green (s)	44.0	44.0		44.0	44.0	44.0	76.0	76.0	76.0	23.0	102.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	2	2		2	2	2	2	2	2		2	
Act Effct Green (s)	46.4	46.4		46.4	46.4	46.4	72.4	72.4	72.4	97.2	93.2	
Actuated g/C Ratio	0.31	0.31		0.31	0.31	0.31	0.48	0.48	0.48	0.65	0.62	
v/c Ratio	0.19	0.75		0.42	0.55	0.30	0.56	0.54	0.13	0.65	0.93	
Control Delay	46.2	52.8		66.6	49.8	6.9	85.4	29.7	10.9	17.4	40.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.2	52.8		66.6	49.8	6.9	85.4	29.7	10.9	17.4	40.3	
LOS	D	D		E	D	A	F	C	B	B	D	
Approach Delay		52.6			36.0			29.0			34.8	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 149.7			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 38.4		Intersection LOS: D	
Intersection Capacity Utilization 105.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



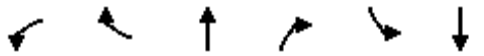
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	788	30	303	175	22	467	87	336	1063
v/c Ratio	0.19	0.75	0.42	0.55	0.30	0.56	0.54	0.13	0.65	0.93
Control Delay	46.2	52.8	66.6	49.8	6.9	85.4	29.7	10.9	17.4	40.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	52.8	66.6	49.8	6.9	85.4	29.7	10.9	17.4	40.3
Queue Length 50th (m)	7.8	121.3	7.8	83.3	0.0	4.5	94.5	6.0	41.0	267.5
Queue Length 95th (m)	17.7	146.6	20.9	115.7	18.0	#21.9	135.0	16.6	56.8	355.0
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	168	1047	72	552	592	43	958	731	559	1281
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.75	0.42	0.55	0.30	0.51	0.49	0.12	0.60	0.83

Intersection Summary

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	12	673	2	2	1386
Future Volume (vph)	5	12	673	2	2	1386
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905					
Flt Protected	0.986				0.950	
Satd. Flow (prot)	1714	0	1790	0	1506	1842
Flt Permitted	0.986				0.950	
Satd. Flow (perm)	1714	0	1790	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	5%	0%	0%	2%
Adj. Flow (vph)	5	12	680	2	2	1400
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	682	0	2	1400
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			



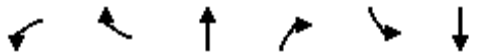
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	12	673	2	2	1386
Future Volume (Veh/h)	5	12	673	2	2	1386
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	5	12	680	2	2	1400
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	2086	682			683	
vC1, stage 1 conf vol	682					
vC2, stage 2 conf vol	1404					
vCu, unblocked vol	2230	482			483	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	97			100	
cM capacity (veh/h)	204	472			875	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	682	2	1400
Volume Left	5	0	2	0
Volume Right	12	2	0	0
cSH	340	1700	875	1700
Volume to Capacity	0.05	0.40	0.00	0.82
Queue Length 95th (m)	1.2	0.0	0.1	0.0
Control Delay (s)	16.1	0.0	9.1	0.0
Lane LOS	C		A	
Approach Delay (s)	16.1	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	35	681	4	8	1373
Future Volume (vph)	10	35	681	4	8	1373
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.999			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1771	0	1506	1842
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1771	0	1506	1842
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				1	1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	6%	0%	0%	2%
Adj. Flow (vph)	10	36	702	4	8	1415
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	36	706	0	8	1415
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	35	681	4	8	1373
Future Volume (Veh/h)	10	35	681	4	8	1373
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	36	702	4	8	1415
Pedestrians	1					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.80	0.80			0.80	
vC, conflicting volume	2136	705			707	
vC1, stage 1 conf vol	705					
vC2, stage 2 conf vol	1431					
vCu, unblocked vol	2292	510			512	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	92			99	
cM capacity (veh/h)	196	455			853	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	10	36	706	8	1415
Volume Left	10	0	0	8	0
Volume Right	0	36	4	0	0
cSH	196	455	1700	853	1700
Volume to Capacity	0.05	0.08	0.42	0.01	0.83
Queue Length 95th (m)	1.2	1.9	0.0	0.2	0.0
Control Delay (s)	24.4	13.6	0.0	9.3	0.0
Lane LOS	C	B		A	
Approach Delay (s)	15.9		0.0	0.1	
Approach LOS	C				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	103	53	726	28	41	1243
Future Volume (vph)	103	53	726	28	41	1243
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00			
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1688	1525	1779	0	1708	1842
Flt Permitted	0.950				0.272	
Satd. Flow (perm)	1688	1491	1779	0	489	1842
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		54	4			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		1	1	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	4%	30%	0%	2%
Adj. Flow (vph)	105	54	741	29	42	1268
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	54	770	0	42	1268
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-3.0	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	20.0	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	22.5	22.5	53.0		9.5	62.5
Total Split (%)	26.5%	26.5%	62.4%		11.2%	73.5%
Maximum Green (s)	16.0	16.0	47.0		6.5	56.5
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	1			1
Act Effct Green (s)	12.5	12.5	58.2		65.9	62.9
Actuated g/C Ratio	0.15	0.15	0.71		0.81	0.77
v/c Ratio	0.40	0.20	0.61		0.08	0.89
Control Delay	35.5	10.4	11.9		3.0	20.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.5	10.4	11.9		3.0	20.9
LOS	D	B	B		A	C
Approach Delay	27.0		11.9			20.3
Approach LOS	C		B			C

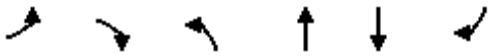
Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 81.4			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 17.9		Intersection LOS: B	
Intersection Capacity Utilization 80.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	105	54	770	42	1268
v/c Ratio	0.40	0.20	0.61	0.08	0.89
Control Delay	35.5	10.4	11.9	3.0	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	10.4	11.9	3.0	20.9
Queue Length 50th (m)	14.5	0.0	68.1	1.1	137.2
Queue Length 95th (m)	28.5	9.0	129.3	3.9	#294.6
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	363	363	1272	523	1424
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	0.29	0.15	0.61	0.08	0.89

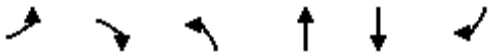
Intersection Summary

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	41	12	704	1340	6
Future Volume (vph)	22	41	12	704	1340	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		15.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.912				0.999	
Flt Protected	0.983		0.950			
Satd. Flow (prot)	1688	0	1789	1883	1882	0
Flt Permitted	0.983		0.950			
Satd. Flow (perm)	1688	0	1789	1883	1882	0
Link Speed (k/h)	50			70	70	
Link Distance (m)	89.1			77.1	81.5	
Travel Time (s)	6.4			4.0	4.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	45	13	765	1457	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	13	765	1464	0
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)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	41	12	704	1340	6
Future Volume (Veh/h)	22	41	12	704	1340	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	45	13	765	1457	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2252	1460	1464			
vC1, stage 1 conf vol	1460					
vC2, stage 2 conf vol	791					
vCu, unblocked vol	2252	1460	1464			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	72	97			
cM capacity (veh/h)	189	158	461			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	69	13	765	1464
Volume Left	24	13	0	0
Volume Right	45	0	0	7
cSH	168	461	1700	1700
Volume to Capacity	0.41	0.03	0.45	0.86
Queue Length 95th (m)	13.9	0.7	0.0	0.0
Control Delay (s)	40.7	13.0	0.0	0.0
Lane LOS	E	B		
Approach Delay (s)	40.7	0.2		0.0
Approach LOS	E			

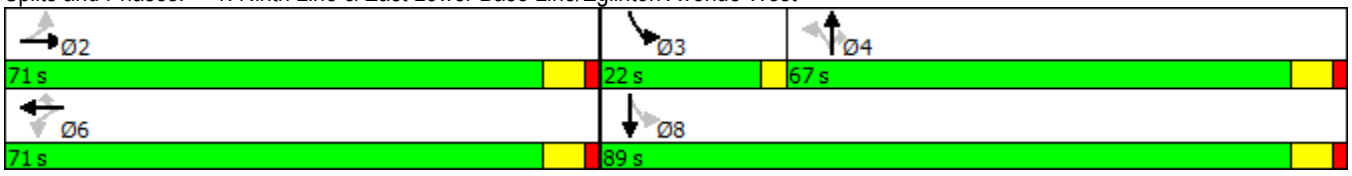
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	574	49	66	741	427	88	746	87	257	677	55
Future Volume (vph)	23	574	49	66	741	427	88	746	87	257	677	55
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor									0.98			
Frt		0.988				0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1471	1776	0	1443	1818	1654	1506	1860	1334	1691	1841	0
Flt Permitted	0.061			0.114			0.202			0.063		
Satd. Flow (perm)	94	1776	0	173	1818	1654	320	1860	1311	112	1841	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				243			48		4	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	1%	2%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	24	598	51	69	772	445	92	777	91	268	705	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	649	0	69	772	445	92	777	91	268	762	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	71.0	71.0		71.0	71.0	71.0	67.0	67.0	67.0	22.0	89.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%	44.4%	41.9%	41.9%	41.9%	13.8%	55.6%	
Maximum Green (s)	64.0	64.0		64.0	64.0	64.0	60.0	60.0	60.0	19.0	82.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	2	2	2		2	
Act Effct Green (s)	66.0	66.0		66.0	66.0	66.0	62.0	62.0	62.0	88.0	84.0	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.39	0.39	0.39	0.55	0.52	
v/c Ratio	0.63	0.88		0.97	1.03	0.54	0.74	1.08	0.17	1.00	0.79	
Control Delay	104.2	58.4		146.3	86.4	17.7	77.6	102.7	16.8	102.5	37.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	104.2	58.4		146.3	86.4	17.7	77.6	102.7	16.8	102.5	37.9	
LOS	F	E		F	F	B	E	F	B	F	D	
Approach Delay		60.0			65.8			92.1			54.7	
Approach LOS		E			E			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 68.3		Intersection LOS: E	
Intersection Capacity Utilization 115.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West

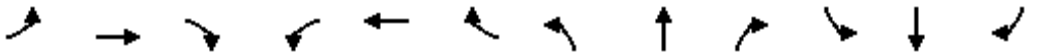


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	24	649	69	772	445	92	777	91	268	762
v/c Ratio	0.63	0.88	0.97	1.03	0.54	0.74	1.08	0.17	1.00	0.79
Control Delay	104.2	58.4	146.3	86.4	17.7	77.6	102.7	16.8	102.5	37.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.2	58.4	146.3	86.4	17.7	77.6	102.7	16.8	102.5	37.9
Queue Length 50th (m)	6.0	189.1	21.4	~261.6	47.2	25.1	~274.5	8.6	70.7	191.0
Queue Length 95th (m)	#24.1	#260.4	#56.2	#339.4	80.5	#58.0	#352.9	21.5	#130.9	247.6
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	38	734	71	749	825	124	720	537	268	968
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.88	0.97	1.03	0.54	0.74	1.08	0.17	1.00	0.79

Intersection Summary

~ 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.

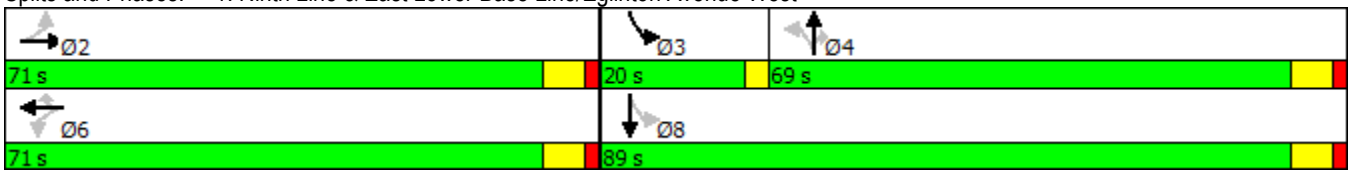


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	574	49	66	741	427	88	746	87	257	677	55
Future Volume (vph)	23	574	49	66	741	427	88	746	87	257	677	55
Ideal Flow (vphpl)	1640	1900	1900	1640	1900	1900	1640	1900	1640	1860	1900	1900
Lane Width (m)	3.1	3.3	3.3	3.1	3.3	4.0	3.3	3.5	3.3	3.3	3.5	3.3
Storage Length (m)	15.0		0.0	30.0		0.0	65.0		30.0	65.0		0.0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (m)	30.0			45.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor									0.98			
Frt		0.988				0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1471	3375	0	1443	1818	1654	1506	1860	1334	1691	1841	0
Flt Permitted	0.061			0.301			0.195			0.062		
Satd. Flow (perm)	94	3375	0	457	1818	1654	309	1860	1311	110	1841	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				243			48		4	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		93.8			153.4			112.3			274.9	
Travel Time (s)		5.6			9.2			5.8			14.1	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	1%	2%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	24	598	51	69	772	445	92	777	91	268	705	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	649	0	69	772	445	92	777	91	268	762	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)		3.1			3.1			3.3			3.3	
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											Yes	
Headway Factor	1.29	1.04	1.04	1.29	1.04	0.94	1.26	1.01	1.26	1.07	1.01	1.04
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template						Right						
Leading Detector (m)	10.0	30.5		10.0	30.5	6.1	7.0	30.5	7.0	10.0	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	-3.0	-3.0	-3.0	0.0	0.0	
Detector 1 Size(m)	10.0	10.0		10.0	10.0	6.1	10.0	10.0	10.0	10.0	10.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6		6	4		4	8		
Detector Phase	2	2		6	6	6	4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	
Minimum Split (s)	32.0	32.0		32.0	32.0	32.0	25.0	25.0	25.0	11.0	25.0	
Total Split (s)	71.0	71.0		71.0	71.0	71.0	69.0	69.0	69.0	20.0	89.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%	44.4%	43.1%	43.1%	43.1%	12.5%	55.6%	
Maximum Green (s)	64.0	64.0		64.0	64.0	64.0	62.0	62.0	62.0	17.0	82.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	1.0	5.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	2.0	4.0	
Recall Mode	Max	Max		Max	Max	Max	None	None	None	None	None	
Walk Time (s)	10.0	10.0		10.0	10.0	10.0	8.0	8.0	8.0		8.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0	15.0	10.0	10.0	10.0		10.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	2	2	2		2	
Act Effct Green (s)	66.0	66.0		66.0	66.0	66.0	64.0	64.0	64.0	88.0	84.0	
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.40	0.40	0.40	0.55	0.52	
v/c Ratio	0.63	0.46		0.37	1.03	0.54	0.75	1.04	0.16	1.08	0.79	
Control Delay	104.2	35.1		39.7	86.4	17.7	77.5	91.1	16.1	124.6	37.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	104.2	35.1		39.7	86.4	17.7	77.5	91.1	16.1	124.6	37.9	
LOS	F	D		D	F	B	E	F	B	F	D	
Approach Delay		37.6			60.1			82.7			60.4	
Approach LOS		D			E			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 61.8		Intersection LOS: E	
Intersection Capacity Utilization 115.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Ninth Line & East Lower Base Line/Eglinton Avenue West



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	24	649	69	772	445	92	777	91	268	762
v/c Ratio	0.63	0.46	0.37	1.03	0.54	0.75	1.04	0.16	1.08	0.79
Control Delay	104.2	35.1	39.7	86.4	17.7	77.5	91.1	16.1	124.6	37.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.2	35.1	39.7	86.4	17.7	77.5	91.1	16.1	124.6	37.9
Queue Length 50th (m)	6.0	77.6	15.1	~261.6	47.2	24.9	~266.9	8.5	~79.0	191.0
Queue Length 95th (m)	#24.1	95.5	30.6	#339.4	80.5	#58.1	#345.3	21.0	#137.7	247.6
Internal Link Dist (m)		69.8		129.4			88.3			250.9
Turn Bay Length (m)	15.0		30.0			65.0		30.0	65.0	
Base Capacity (vph)	38	1396	188	749	825	123	744	553	248	968
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.46	0.37	1.03	0.54	0.75	1.04	0.16	1.08	0.79

Intersection Summary

~ 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.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	4	1195	5	14	1028
Future Volume (vph)	4	4	1195	5	14	1028
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.7	3.7	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	15.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.6				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932		0.999			
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1553	0	1858	0	1506	1860
Flt Permitted	0.976				0.950	
Satd. Flow (perm)	1553	0	1858	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	154.4		274.9			86.2
Travel Time (s)	11.1		14.1			4.4
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	25%	0%	1%	0%	0%	1%
Adj. Flow (vph)	4	4	1245	5	15	1071
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	1250	0	15	1071
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	0.99	0.99	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.2%		ICU Level of Service D	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	4	1195	5	14	1028
Future Volume (Veh/h)	4	4	1195	5	14	1028
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	4	4	1245	5	15	1071
Pedestrians	2					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			275			
pX, platoon unblocked	0.62	0.62			0.62	
vC, conflicting volume	2350	1250			1252	
vC1, stage 1 conf vol	1250					
vC2, stage 2 conf vol	1101					
vCu, unblocked vol	2879	1094			1098	
tC, single (s)	6.6	6.2			4.1	
tC, 2 stage (s)	5.6					
tF (s)	3.7	3.3			2.2	
p0 queue free %	97	98			96	
cM capacity (veh/h)	142	162			396	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	8	1250	15	1071
Volume Left	4	0	15	0
Volume Right	4	5	0	0
cSH	151	1700	396	1700
Volume to Capacity	0.05	0.74	0.04	0.63
Queue Length 95th (m)	1.3	0.0	0.9	0.0
Control Delay (s)	30.2	0.0	14.4	0.0
Lane LOS	D		B	
Approach Delay (s)	30.2	0.0	0.2	
Approach LOS	D			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	19	1183	14	23	1041
Future Volume (vph)	6	19	1183	14	23	1041
Ideal Flow (vphpl)	1900	1900	1900	1900	1640	1900
Lane Width (m)	3.3	3.3	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0		0.0	30.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.6				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1745	1561	1857	0	1506	1860
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1745	1561	1857	0	1506	1860
Link Speed (k/h)	50		70			70
Link Distance (m)	132.5		86.2			405.3
Travel Time (s)	9.5		4.4			20.8
Confl. Peds. (#/hr)				2	2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	6	20	1259	15	24	1107
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	20	1274	0	24	1107
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.04	1.04	1.01	1.01	1.26	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.1%		ICU Level of Service D	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	19	1183	14	23	1041
Future Volume (Veh/h)	6	19	1183	14	23	1041
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	20	1259	15	24	1107
Pedestrians	2					
Lane Width (m)	3.3					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)			361			
pX, platoon unblocked	0.62	0.62			0.62	
vC, conflicting volume	2424	1268			1276	
vC1, stage 1 conf vol	1268					
vC2, stage 2 conf vol	1155					
vCu, unblocked vol	2994	1125			1138	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	87			94	
cM capacity (veh/h)	150	155			383	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	6	20	1274	24	1107
Volume Left	6	0	0	24	0
Volume Right	0	20	15	0	0
cSH	150	155	1700	383	1700
Volume to Capacity	0.04	0.13	0.75	0.06	0.65
Queue Length 95th (m)	0.9	3.3	0.0	1.5	0.0
Control Delay (s)	29.9	31.6	0.0	15.0	0.0
Lane LOS	D	D		C	
Approach Delay (s)	31.2		0.0	0.3	
Approach LOS	D				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	39	56	1116	63	78	1040
Future Volume (vph)	39	56	1116	63	78	1040
Ideal Flow (vphpl)	1900	1900	1900	1900	1860	1900
Lane Width (m)	3.1	3.1	3.5	3.5	3.3	3.5
Storage Length (m)	40.0	0.0		0.0	15.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	55.0				20.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00			
Frt		0.850	0.993			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1705	1525	1834	0	1691	1860
Flt Permitted	0.950				0.070	
Satd. Flow (perm)	1705	1491	1834	0	125	1860
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		58	6			
Link Speed (k/h)	50		70			70
Link Distance (m)	98.2		405.3			177.0
Travel Time (s)	7.1		20.8			9.1
Confl. Peds. (#/hr)		1		4	4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	1%	11%	1%	1%
Adj. Flow (vph)	41	58	1163	66	81	1083
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	58	1229	0	81	1083
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.1		3.3			3.3
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane			Yes			Yes
Headway Factor	1.08	1.08	1.01	1.01	1.07	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2		1	2
Detector Template			Thru			Thru
Leading Detector (m)	17.0	17.0	30.5		25.0	30.5
Trailing Detector (m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Position(m)	-0.2	-3.0	0.0		15.0	0.0
Detector 1 Size(m)	17.2	20.0	1.8		10.0	1.8
Detector 1 Type	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
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			Cl+Ex			Cl+Ex
Detector 2 Channel						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0		5.0	8.0
Minimum Split (s)	22.5	22.5	23.5		9.5	23.5
Total Split (s)	22.5	22.5	53.0		9.5	62.5
Total Split (%)	26.5%	26.5%	62.4%		11.2%	73.5%
Maximum Green (s)	16.0	16.0	47.0		6.5	56.5
Yellow Time (s)	4.0	4.0	4.0		3.0	4.0
All-Red Time (s)	2.5	2.5	2.0		0.0	2.0
Lost Time Adjust (s)	-1.5	-1.5	-1.0		-2.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0		1.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		2.0	3.0
Recall Mode	None	None	Max		None	Max
Walk Time (s)	8.0	8.0	8.0			8.0
Flash Dont Walk (s)	8.0	8.0	8.0			8.0
Pedestrian Calls (#/hr)	1	1	0			0
Act Effct Green (s)	11.1	11.1	56.4		66.0	63.0
Actuated g/C Ratio	0.14	0.14	0.70		0.82	0.79
v/c Ratio	0.17	0.23	0.95		0.33	0.74
Control Delay	31.4	10.8	33.2		8.5	11.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	31.4	10.8	33.2		8.5	11.4
LOS	C	B	C		A	B
Approach Delay	19.3		33.2			11.2
Approach LOS	B		C			B

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 80.1			
Natural Cycle: 110			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 22.4		Intersection LOS: C	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

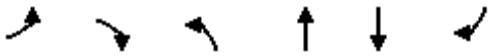
Splits and Phases: 4: Ninth Line & Erin Centre Boulevard

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	41	58	1229	81	1083
v/c Ratio	0.17	0.23	0.95	0.33	0.74
Control Delay	31.4	10.8	33.2	8.5	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	10.8	33.2	8.5	11.4
Queue Length 50th (m)	5.5	0.0	~197.0	1.7	74.0
Queue Length 95th (m)	13.7	9.3	#319.4	10.7	#226.9
Internal Link Dist (m)	74.2		381.3		153.0
Turn Bay Length (m)	40.0			15.0	
Base Capacity (vph)	373	371	1292	269	1462
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	0.11	0.16	0.95	0.30	0.74

Intersection Summary

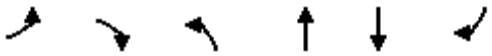
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	23	40	1162	1041	21
Future Volume (vph)	13	23	40	1162	1041	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		15.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.913				0.997	
Flt Protected	0.982		0.950			
Satd. Flow (prot)	1689	0	1789	1883	1878	0
Flt Permitted	0.982		0.950			
Satd. Flow (perm)	1689	0	1789	1883	1878	0
Link Speed (k/h)	50			70	70	
Link Distance (m)	89.1			77.1	81.5	
Travel Time (s)	6.4			4.0	4.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	25	43	1263	1132	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	43	1263	1155	0
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)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	23	40	1162	1041	21
Future Volume (Veh/h)	13	23	40	1162	1041	21
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	25	43	1263	1132	23
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2492	1144	1155			
vC1, stage 1 conf vol	1144					
vC2, stage 2 conf vol	1349					
vCu, unblocked vol	2492	1144	1155			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	90	93			
cM capacity (veh/h)	176	243	605			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	39	43	1263	1155
Volume Left	14	43	0	0
Volume Right	25	0	0	23
cSH	214	605	1700	1700
Volume to Capacity	0.18	0.07	0.74	0.68
Queue Length 95th (m)	4.9	1.7	0.0	0.0
Control Delay (s)	25.5	11.4	0.0	0.0
Lane LOS	D	B		
Approach Delay (s)	25.5	0.4		0.0
Approach LOS	D			

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

APPENDIX G

Ninth Line Corridor Study (MMM) Excerpts

SHAPING NINTH LINE

Mississauga's Northwestern Gateway

Ninth Line Corridor Study

Transportation Assessment

City of Mississauga

16-13112-001-T01

COMMUNITIES

TRANSPORTATION

BUILDINGS

INFRASTRUCTURE

MMM GROUP

July 2017

7.0 FUTURE BACKGROUND CONDITIONS (BUSINESS AS USUAL)

7.1 Future Background Inputs

The future background (business as usual) volumes were developed based on the combination of general growth and traffic generated by background developments.

7.1.1 General Growth

Existing traffic volumes in Figures 2.3A and 2.3B were grown from the year of the count date to the horizon 2041 based on the compound growth rates provided by the City as shown below.

NORTH/ SOUTH DEMAND

	AM PEAK HOUR		PM PEAK HOUR	
	2011 vs 2041 Without		2011 vs 2041 Without	
Ninth Line	**NB**	**SB**	**NB**	**SB**
-btwn Britannia Rd and Eglinton Ave	1.17%	0.35%	0.49%	0.97%
-btwn Derry Rd and Britannia Rd	1.00%	0.00%	0.00%	1.05%
-btwn 401 and Derry Rd	1.36%	1.13%	0.80%	1.34%
Average	**1.19%**	**0.47%**	**0.46%**	**1.12%**

	2011 vs 2041 Without		2011 vs 2041 Without	
Winston Churchill Blvd	**NB**	**SB**	**NB**	**SB**
-btwn Britannia Rd and Eglinton Ave	1.72%	0.95%	1.19%	1.54%
-btwn Derry Rd and Britannia Rd	1.64%	1.65%	1.88%	1.87%
-btwn 401 and Derry Rd	1.15%	2.76%	3.37%	1.30%
Average	**1.48%**	**1.62%**	**2.02%**	**1.54%**

EAST/ WEST DEMAND

	AM PEAK HOUR		PM PEAK HOUR	
	2011 vs 2041 Without		2011 vs 2041 Without	
	EB	**WB**	**EB**	**WB**
Derry Rd btwn Eight Ln and Tenth Ln	1.94%	2.04%	1.67%	1.45%
Britannia Rd btwn Eight Ln and Tenth Ln	2.71%	2.04%	1.85%	2.39%
Eglinton Ave btwn Eight Ln and Tenth Ln	1.09%	2.08%	1.77%	1.14%
Dundas St btwn just west of 9th Ln to WCB	1.30%	1.69%	1.59%	1.56%
Average	**1.70%**	**1.95%**	**1.71%**	**1.67%**

The above growth rates are based on the City's EMME model projections and are applied on a compound basis. As per discussion with City staff, the growth rates do not assume the widening of Ninth Line within the City of Mississauga (from a two-lane cross-section to a four-lane cross-section). The purpose of this approach is to understand how much background general growth would materialize based on the current configuration of Ninth Line, since the widening of Ninth Line is primarily associated with the development of the Emerging Land Use Scenario under future total conditions. Documentation of this discussion is provided in **Appendix I**.

In addition to the City's growth rates, a 2% per annum growth rate has also been applied to the freeway off-ramp approaches at the following MTO off-ramps, as per MTO's input in Appendix I.

- Highway 401 WB/ Winston Churchill Blvd.;
- Highway 401 EB/ Winston Churchill Blvd.;
- Highway 403 WB/ Winston Churchill Blvd.;
- Highway 403 EB/ Winston Churchill Blvd.;
- Highway 403 NB/ Dundas St.; and
- Highway 403 SB/ Dundas St.

The weekday a.m. and p.m. peak hour general traffic volume growths are presented in **Figures 7.1A** and **7.1B**.

7.1.2 Background Developments

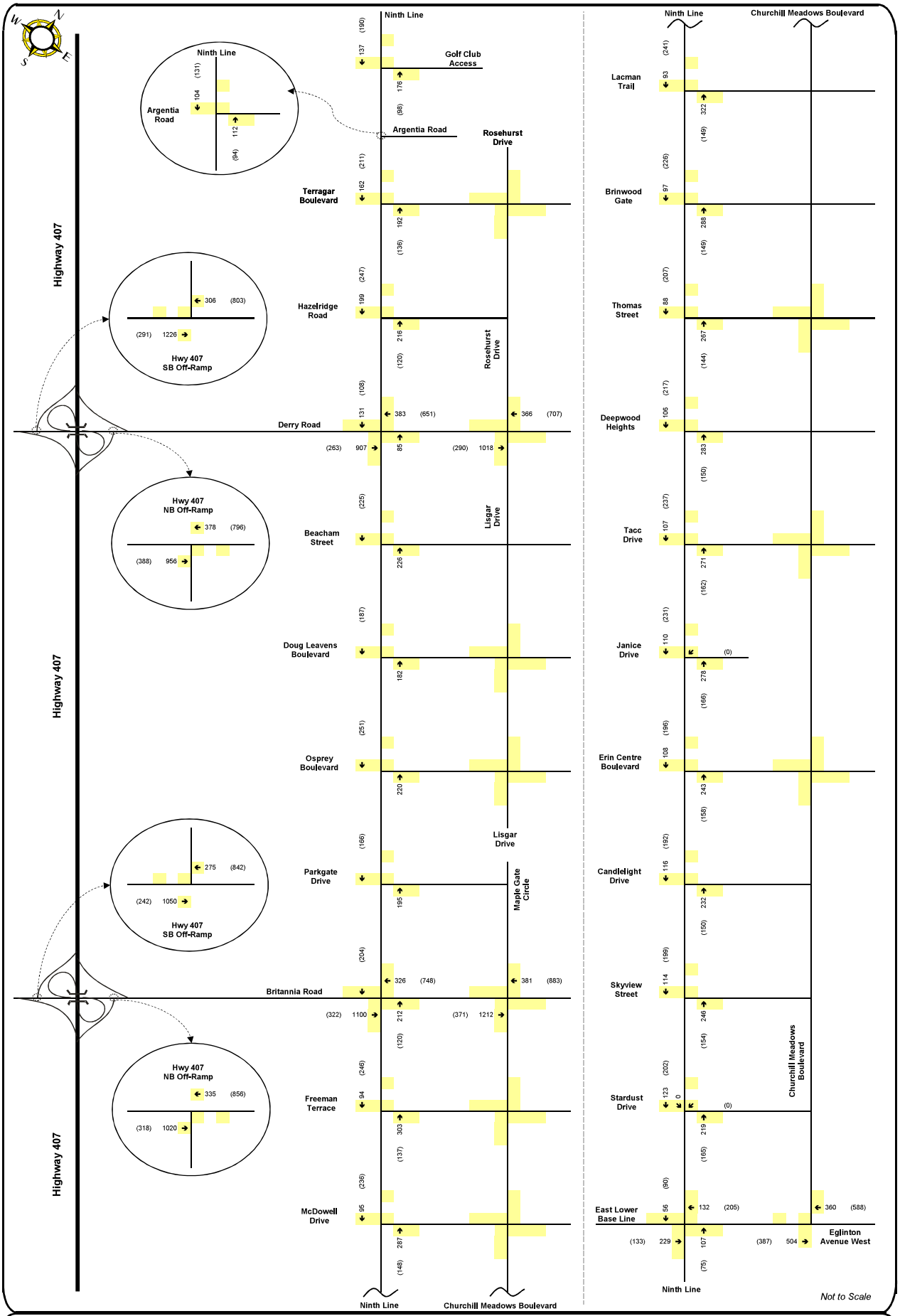
Based on discussion with City staff, the following background developments need to be considered in the future background conditions:

- Erin Mills Development – Northeast quadrant of Highway 403/407: This development comprises approximately 112,630 sq.m. of industrial park, 6,762 sq.m. of retail, and 8,074 sq.m. of office use. City staff provided a Traffic Impact Study, dated February 2014, completed by AECOM to provide context for this Ninth Line study. The site-generated traffic information was extracted and are provided in **Appendix H**. The traffic study only provides high-level site-traffic assignment information and MMM was instructed by City staff to interpret the results and incorporate the results into the future background conditions of this Ninth Line Study. The resulting site-generated traffic volumes for the Erin Mills development are shown in **Figures 7.2A** and **7.2B**.

- ProLogis Industrial Development – 10th Line at Argentia Road: This development comprises approximately 180,507 sq.m. of warehouse land use. City staff informed MMM that this background development has been incorporated in the City's EMME model and thus the growth volumes shown in Figures 7.1A and 7.1B already includes the site-generated volumes of the ProLogis development, therefore, no further forecasting was required.

7.1.3 407 Transitway Initiative

In 2008, Metrolinx's Board of Directors adopted the "Big Move", a plan that outlines a vision for a new regional transportation system, including the 407 Transitway. The Transitway is to be a separate right-of-way, located parallel to Highway 407 and includes running way, stations, platforms, parking, passenger pick-up and drop-off facilities. The Transitway will initially be implemented as bus rapid transit, with an opportunity to convert to light rail transit in the future.



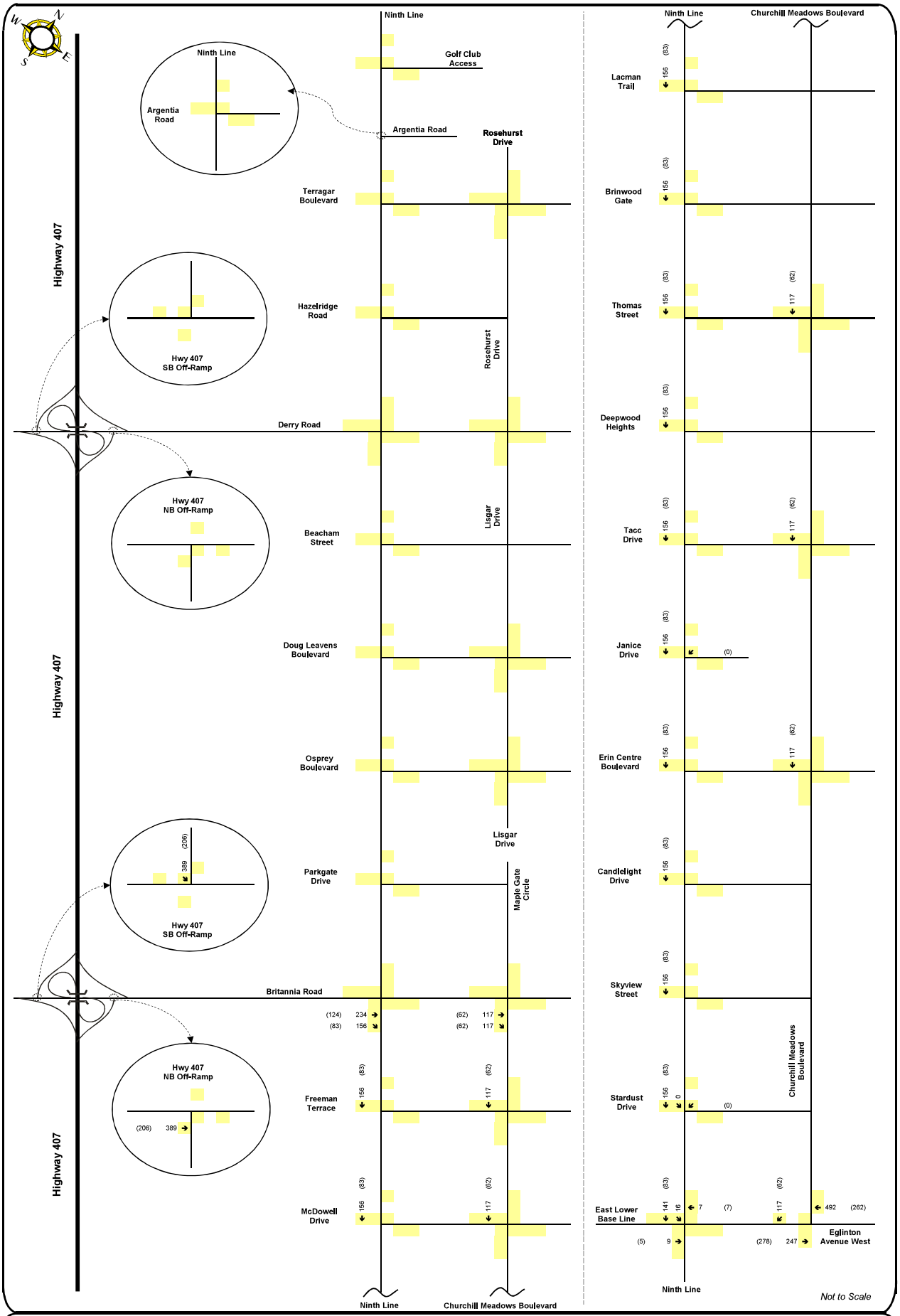
LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

FIGURE 7.1A

Background Growth Traffic Volumes - Primary Study Area

MMM GROUP



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

MMM GROUP

FIGURE 7.2A

Background Development Traffic Volumes-
Primary Study Area

- The Transitway trips were assigned based on the combined consideration of the distribution information extracted from the City's EMME model for the 2041 horizon year for both the AM and PM peak periods, as well as assumptions made on the forecast demographics of rider. For instance, the majority of riders were assumed to enter the study area via the easterly and westerly gateways of Derry Road and Britannia Road, the northerly and southerly gateways of Ninth Line, the residential uses on the east side of Ninth Line. The rationale is that the Transitway stations would attract riders from residential uses within a manageable distance of the stations. For example, people living in Mississauga but who are located closer to Oakville would not likely access the Derry or Britannia Transitway stations because there would likely be another Transitway station that is closer and more convenient.

- The resulting Transitway-related trip generation and assignment are shown in **Figures 7.3A** and **7.3B**.

The documentation of the confirmation on the above methodology from City Staff is provided in **Appendix I**.

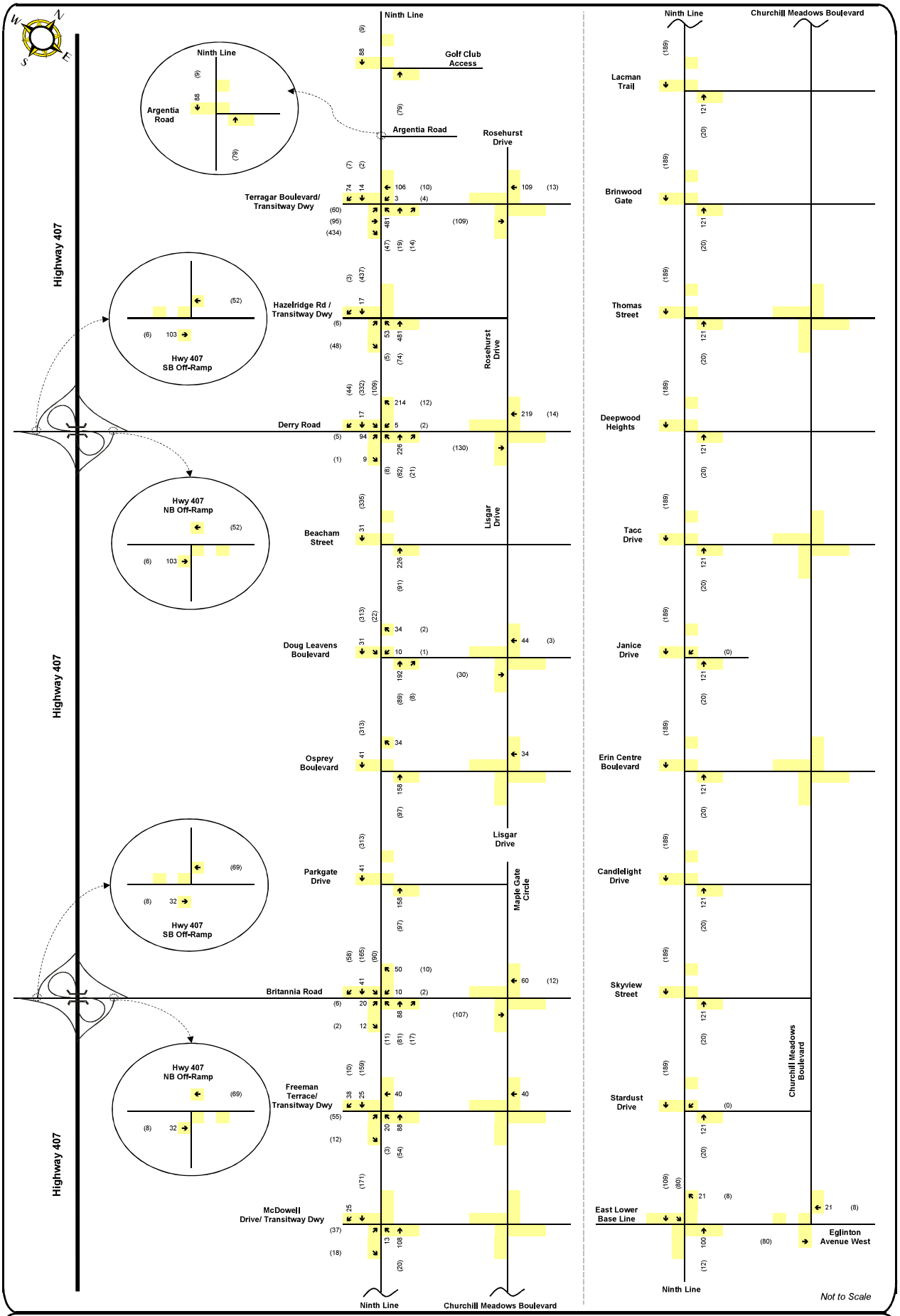
2) Influence on non-auto modal split of the land uses in the vicinity of the stations. The non-auto modal split impacts of the two 407 Transitway stations will be discussed further in **Section 8.2** as part of the trip generation of the Emerging Land Use Concept. It should be noted that a conservative approach has been adopted where the future background non-auto modal splits have been assumed to remain the same as existing splits despite the implementation of the 407 Transitway initiative.

7.2 Future Background Volumes

The 2041 future background volumes were derived by superimposing Figures 7.1A-B, Figures 7.2A-B, and Figures 7.3A-B onto the existing volumes in Figures 2.3A-B. The resulting weekday a.m. and p.m. future background volumes are shown in **Figures 7.4A** and **7.4B**.

7.3 Future Background Improvements

There are two types of future background improvements that were incorporated in the evaluation of the business as usual conditions. The first type are those that are planned and incorporated in the City's EMME model as shown in **Appendix J**. For the second type, City staff asked MMM to identify improvements that are not planned but required to support the future background traffic volumes. Both of these types of improvements are documented below and illustrated in **Figures 7.5A** and **7.5B**.



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

FIGURE 7.3A

407 Transitway Traffic Volumes-
Primary Study Area

MMM GROUP

Use has at the intersection. Further discussion of the future evaluation of this off-ramp intersection are provided in Section 9.0; and

- MTO has indicated that the intersection of Highway 401 Westbound off-ramp at Winston Churchill Boulevard is proposed to be improved in the future. Specifically, the intersection is proposed to be converted from a 3-legged intersection to a 4-legged intersection, with the new leg connecting to a new carpool lot. Upon consultation with City staff, the approach this study takes is to continue evaluating the future forecast volumes based on the current configuration of the off-ramp intersection. Since this intersection is a secondary study intersection, the focus will be on the incremental impact the Emerging Land Use has at the intersection. Further discussion of the future evaluation of this off-ramp intersection are provided in Section 9.0.

7.3.2 Additional Required Improvements

The following additional improvements have been identified by MMM to be required in order to accommodate the future background traffic volumes.

Road Widening:

- Widening of Derry Road from 4 lanes to 6 lanes from the City's westmost limit east to Winston Churchill Boulevard. This improvement is critical because the EMME model has forecast high-levels of growth on Derry Road as a result of the widening of this road within Halton Region (from 2 lanes in each direction to 3 lanes). Without this widening, traffic volumes bottleneck in the vicinity of Ninth Line creating significantly over-capacity movements at the intersections of Derry Road/Ninth Line, and Derry Road/ Rosehurst Drive/Lisgar Drive. This is further detailed in Section 7.4.

- Widening of Britannia Road from 4 lanes to 6 lanes from the City's westmost limit east to Winston Churchill Boulevard. This improvement is critical because the EMME model has forecast high-levels of growth on Britannia Road as a result of the widening of this road within Halton Region (from 1 lane in each direction to 3 lanes). Without this widening, traffic volumes bottleneck in the vicinity of Ninth Line creating significantly over-capacity movements at the intersections of Britannia Road/Ninth Line, and Britannia Road/Maple Gate Circle/Churchill Meadows Boulevard. This is further detailed in Section 7.4.

The above recommendations to Regional roads were based on findings in Section 7.4 that showed the future forecasted traffic volumes would exceed the current capacity without these additional widenings. Regional staff noted that the Region of Peel takes a more strategic and holistic approach to addressing Regional road improvements such as road widening issues, and this is articulated in the Long Range Transportation Plan (LRTP). This approach includes exploring if the Ninth

Line Lands Study recommendations support particular overarching goals such as the movement of goods and sustainable modes of travel, transit strategies and using physical space effectively. These recommendations will be used as an input to the Region's 2017 Update of the LRTP, and subsequently to the upcoming Transportation ROPA. Until such analysis has been undertaken, Regional staff does not propose any amendments to the Regional Official Plan as it relates to transportation.

- Widening the west leg of Eglinton Avenue at Ninth Line from 1 eastbound through lane to 2. There are already two receiving lanes in the east leg of this intersection. This improvement is required to support the general background growth on Eglinton Avenue, as well as traffic generated by the Erin Mills background development in close proximity to the intersection. This is further detailed in Section 7.4.

Control and Signal timing modifications: The following improvements are needed. Signal timings at the critical intersections were also optimized.

- At the intersection of Derry Road and Ninth Line, implement a permissive/ protected phase for the westbound left-turn movement during the weekday a.m. peak hour.

- At the intersection of Derry Road and Rosehurst Drive/Lisgar Drive, implement a permissive/protected phase for the westbound left-turn movement during the weekday a.m. peak hour.

- At the intersection of Britannia Road and Maple Gate Circle/Churchill Meadows Boulevard, implement a permissive/protected phase for the westbound left-turn movement during the weekday a.m. peak hour.

- At the intersection of Ninth Line and Terragar Boulevard/Transitway Driveway, the future background volumes with the Transitway station in place meets the signal warrants as documented in **Appendix K**. The other Transitway Driveways and site driveways do not meet the signal warrant.

- The intersection of Ninth Line/Beacham Street operates at significantly over capacity as stop-controlled on Beacham Street during the weekday a.m. peak hour. As shown in Table 2.1, this intersection already operates with constrained capacity movements under existing traffic conditions. The growth along Ninth Line exacerbates the congestion resulting in long delays and queues for cars from Beacham Street to turn onto Ninth Line. This intersection is approximately 670 m and 600 m from the upstream (Derry Road) and downstream (Doug Leavens) signalized intersections on Ninth Line, respectively. Ontario Traffic Manual (OTM) signal warrant analysis was completed at this intersection based on the future background volumes.

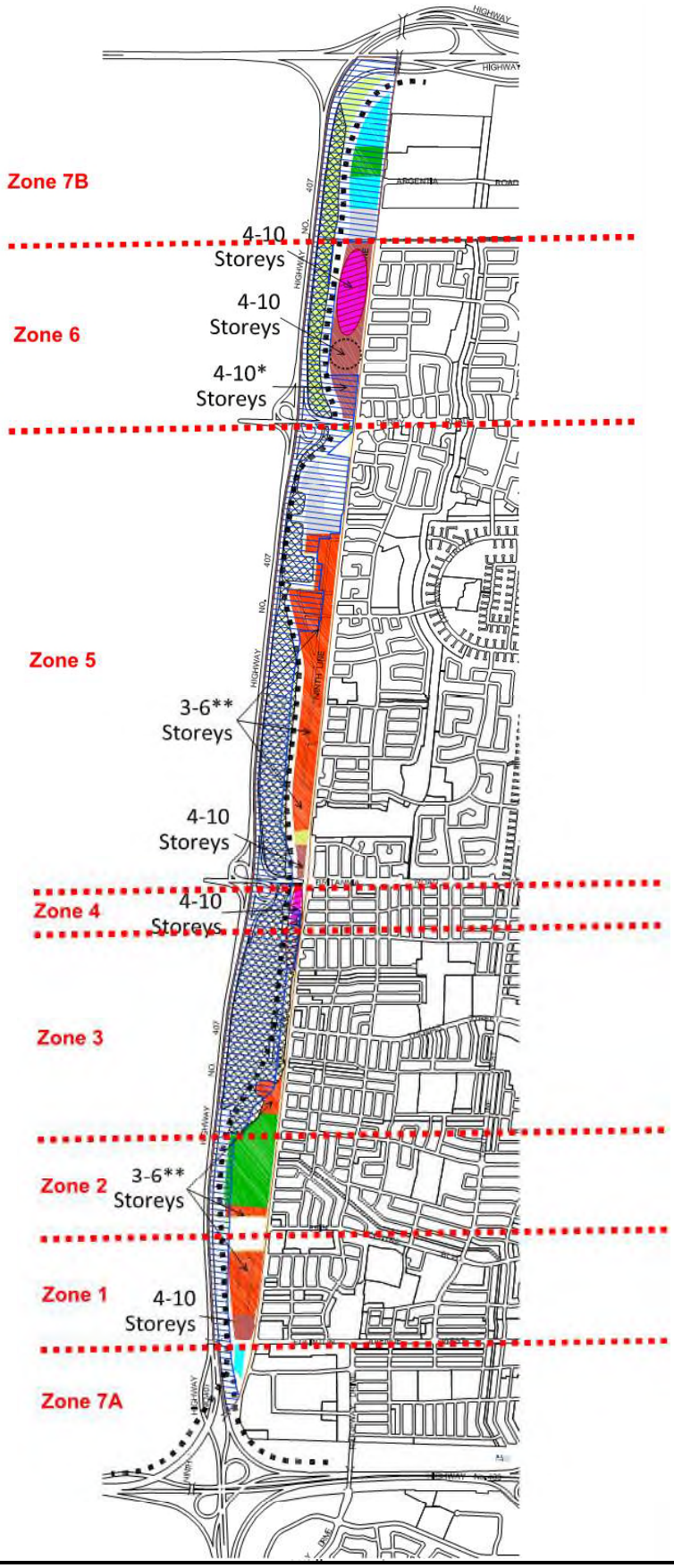
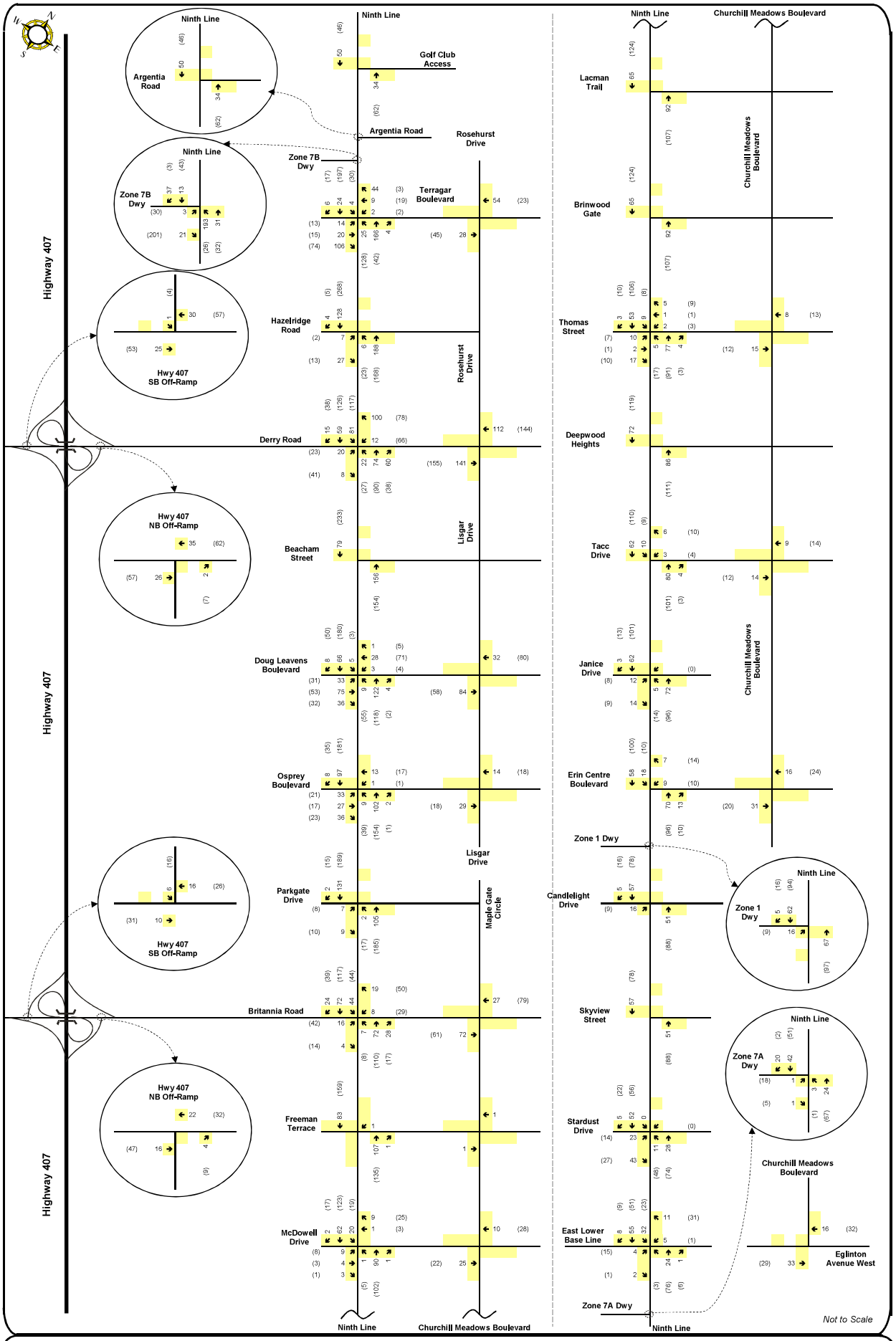


FIGURE 8.1

Ninth Line Land Use Concept
Study Zones

MMM GROUP



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

MMM GROUP

FIGURE 8.2A

Emerging Land Use-Generated Volumes
(5% Non-Auto Transitway Scenario)
Primary Study Area

APPENDIX H

407 Transitway Information

407 TRANSITWAY

HURONTARIO STREET TO BRANT STREET

PUBLIC INFORMATION CENTRE #1

VIC JOHNSTON COMMUNITY CENTRE HALL

Date: Wednesday November 28th, 2018
Time: 4:00 p.m. to 8:00 p.m.
Location: 335 Church Street
Mississauga, Ontario

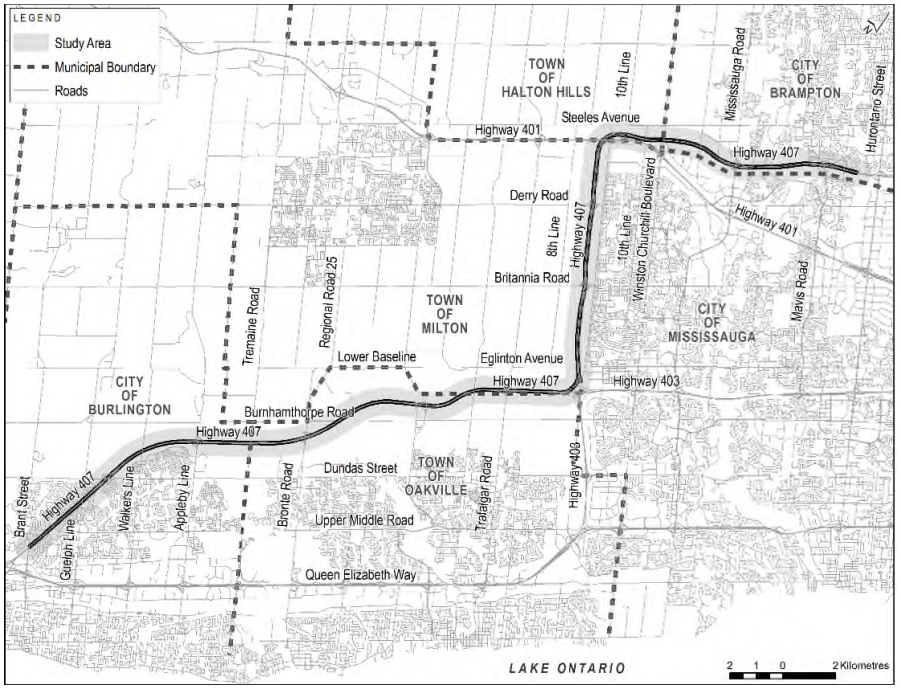
MAINWAY RECREATION CENTRE

Date: Thursday November 29th, 2018
Time: 4:00 p.m. to 8:00 p.m.
Location: 4015 Mainway
Burlington, Ontario

PROJECT WEBSITE: 407Transitway.com

WHAT IS THE 407 TRANSITWAY?

- Exclusive, fully grade separated (no intersections) bus rapid transit corridor, parallel to 407 ETR with potential conversion to light rail transit.
- The 407 Transitway will extend from Burlington to Highway 35/115 (150 km) with up to 50 stations.
- **Study limits for this Section:** west of Brant Street in Burlington to west of Hurontario Street in Mississauga.
  - **43-km exclusive runningway.**




GRADE SEPARATED FACILITY

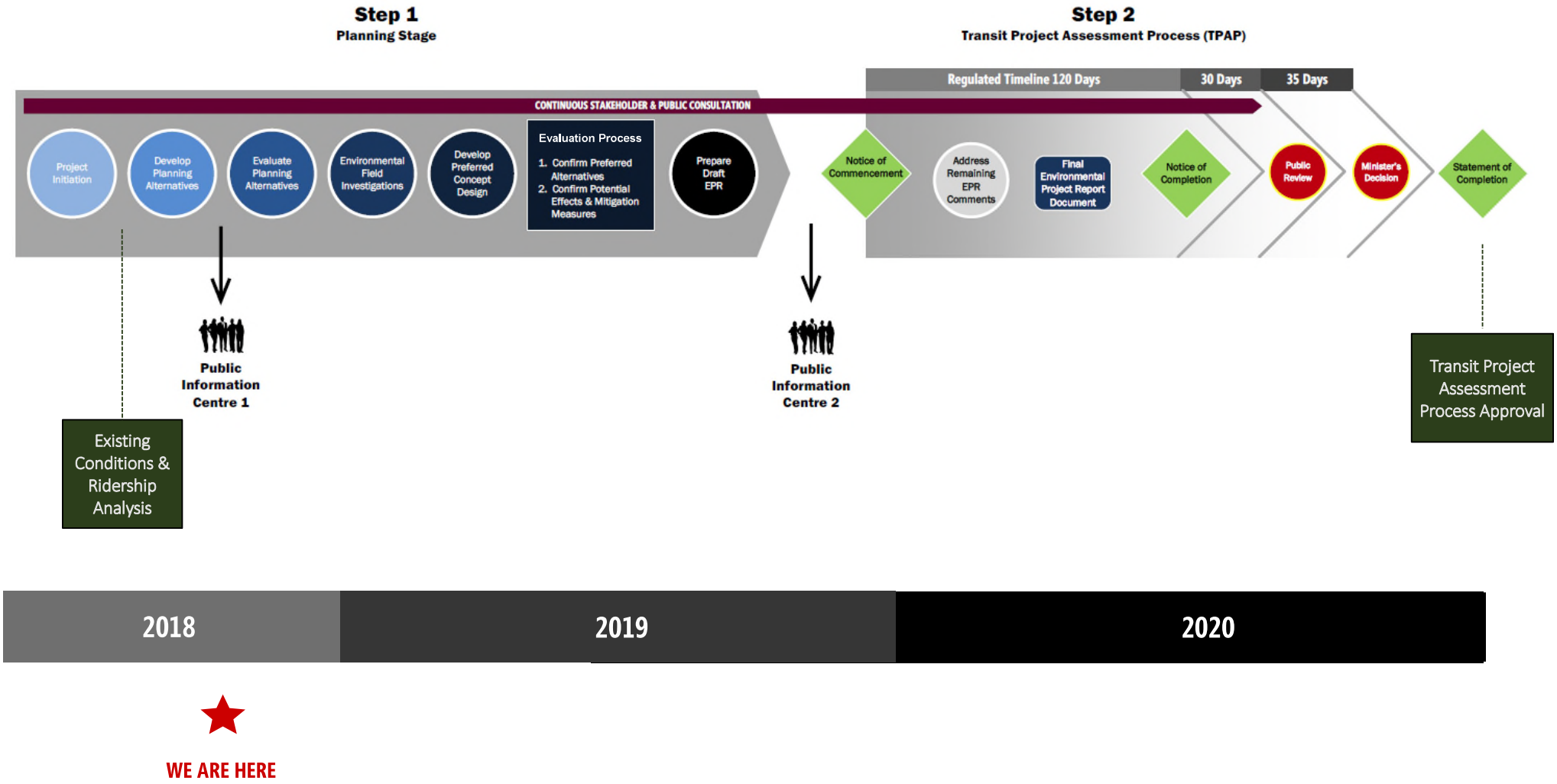

STATION PLATFORM

VERTICAL TRANSFER AT STATION


STATION PLATFORM WITH PARKING

OTTAWA BRT

STUDY SCHEDULE & PROCESS



SERVICE CONCEPT

Operating Concept:

- **Spine services** – line haul services that operate exclusively on the Transitway, including some express routes, to connect to destinations on other portions of the Transitway.
    - e.g. Dundas Station to Hurontario Street Station or to Spadina Subway 407 Station (which will also be the 407 Transitway Jane Station).
- **No-transfer services (Interlining)** – designed to provide one-seat rides between major nodes and residential areas. Routes include portions both on and off the Transitway.
    - e.g. Sheridan College to Dundas Station using the 407 Transitway guideway from Trafalgar Road Station to Burlington GO Station.
- **Early Transitway station implementation** – Transitway stations are being implemented in advance to support ongoing GO bus transit service on 407 ETR at Trafalgar Road (existing), Bronte Road and Dundas Street (in planning).
- Average speed on Transitway including station stop time of between 50-65 km/h depending on service and station node configuration.

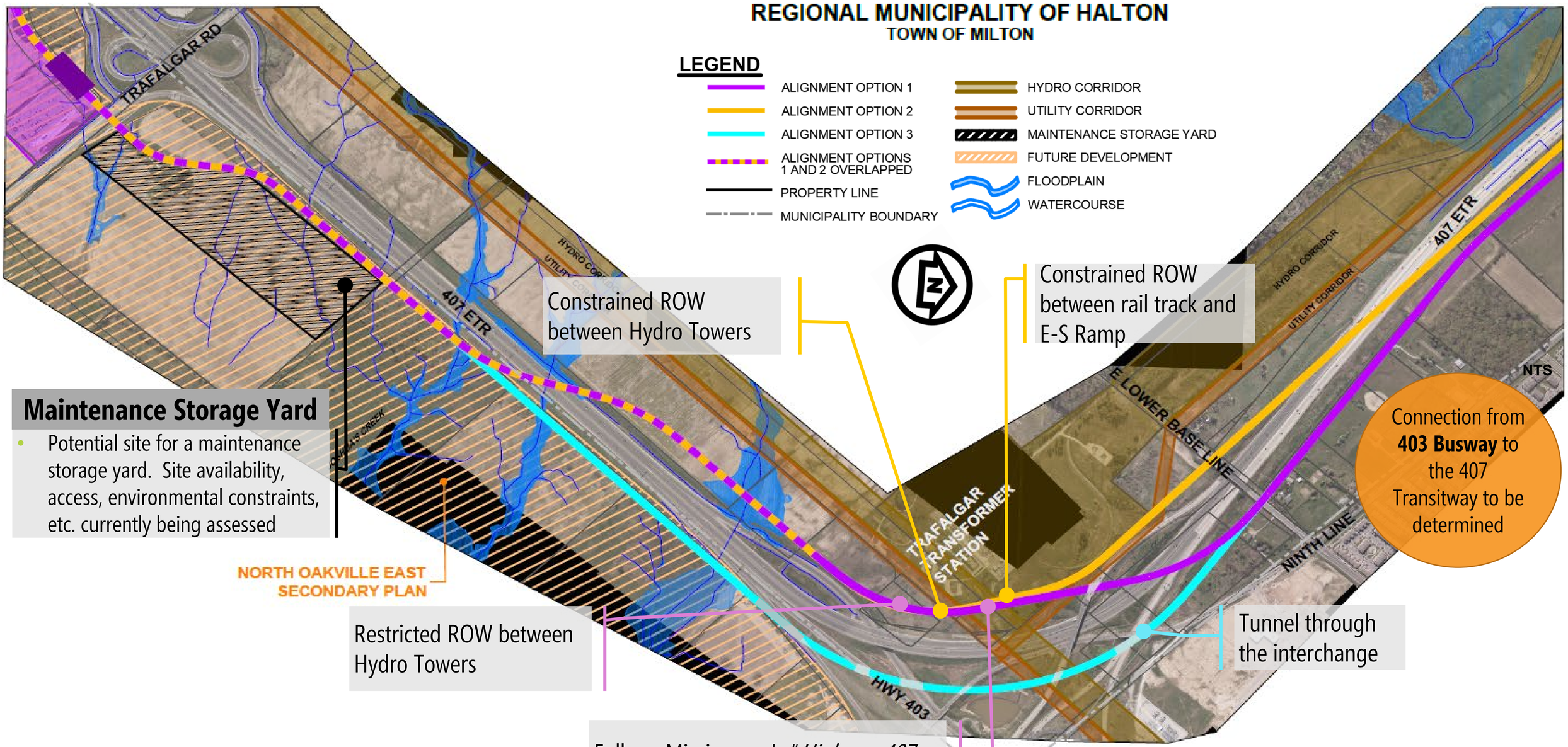
Nodes served by this Transitway section:

- Urban Growth Centres (Hamilton, Oakville, Milton, and Mississauga City Centre).
- Transit Connections (GO Bus and Rail, MiWay, Brampton Züm, TTC).

ALIGNMENT AND STATION SITE ALTERNATIVES

Segment S6: East of Trafalgar Rd to East of Lower Base Line

407 Transitway



Maintenance Storage Yard

- Potential site for a maintenance storage yard. Site availability, access, environmental constraints, etc. currently being assessed

Constrained ROW between Hydro Towers

Constrained ROW between rail track and E-S Ramp

Connection from **403 Busway** to the 407 Transitway to be determined

Restricted ROW between Hydro Towers

Tunnel through the interchange

Follows Mississauga's "*Highway 407 Transitway Corridor Assessment within the Ninth Line Lands*" (2016)

Initial Recommendation: All alignment alternatives and station options being carried forward for further analysis

APPENDIX I

TTS Data

Fri Mar 29 2019 12:16:44 GMT-0400 (Eastern Daylight Time) - Run Time: 1731ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: Use of Hwy 407 - hwy407

Filters:
2006 GTA zone of origin - gta06_orig In 3615, 3616, 3809, 3810, 3811
and
Start time of trip - start_time In 600-900
and
Primary travel mode of trip - mode_prime In D

Trip 2016
Table:

	Unknown	No	Yes	Sum	% use of 407	% total of trips		Route w/407	Route w/o 407
PD 1 of Toronto	77	342	0	419	0.0%	1.7%		Ninth Line south	Ninth Line south
PD 2 of Toronto	18	76	0	94	0.0%	0.4%		Ninth Line south	Ninth Line south
PD 3 of Toronto	92	124	17	233	12.1%	1.0%		407 (east)	403 (east)
PD 4 of Toronto	169	53	11	233	17.2%	1.0%		407 (east)	403 (east)
PD 5 of Toronto	81	80	18	179	18.4%	0.7%		407 (east)	403 (east)
PD 6 of Toronto	0	25	0	25	0.0%	0.1%		Ninth Line south	Ninth Line south
PD 7 of Toronto	164	82	0	246	0.0%	1.0%		Ninth Line south	Ninth Line south
PD 8 of Toronto	222	225	50	497	18.2%	2.0%		407 (east)	403 (east)
PD 9 of Toronto	229	154	88	471	36.4%	1.9%		407 (east)	403 (east)
PD 10 of Toronto	52	218	0	270	0.0%	1.1%		407 (east)	403 (east)
PD 11 of Toronto	35	88	0	123	0.0%	0.5%		407 (east)	403 (east)
PD 12 of Toronto	21	22	0	43	0.0%	0.2%		407 (east)	403 (east)
PD 13 of Toronto	40	85	0	125	0.0%	0.5%		407 (east)	403 (east)
PD 16 of Toronto	55	75	0	130	0.0%	0.5%		407 (east)	403 (east)
Clarington	18	0	0	18	0.0%	0.1%		407 (east)	403 (east)
Aurora	14	0	0	14	0.0%	0.1%		407 (east)	403 (east)
Richmond Hill	32	10	0	42	0.0%	0.2%		407 (east)	403 (east)
Markham	76	122	10	208	7.6%	0.9%		407 (east)	403 (east)
Vaughan	146	188	181	515	49.1%	2.1%		407 (east)	403 (east)
Caledon	26	20	0	46	0.0%	0.2%		407 (east)	403 (east)
Brampton	425	874	133	1432	13.2%	5.9%		407 (east)	403 (east)
Mississauga	7942	7710	228	15880	2.9%	65.4%		See internal breakdown	
Halton Hills	56	140	0	196	0.0%	0.8%	AVERAGE	Ninth Line north	Ninth Line north
Milton	106	368	0	474	0.0%	2.0%	6.6%	Ninth Line north	Ninth Line north
Oakville	430	770	18	1218	2.3%	5.0%		Ninth Line south	Ninth Line south
Burlington	174	151	10	335	6.2%	1.4%		Eglinton (west)	Ninth Line south
Dundas	0	33	0	33	0.0%	0.1%		Eglinton (west)	Ninth Line south
Ancaster	53	0	0	53	0.0%	0.2%		Eglinton (west)	Ninth Line south
Hamilton	134	156	0	290	0.0%	1.2%		Eglinton (west)	Ninth Line south
St. Catharines	15	0	0	15	0.0%	0.1%		Eglinton (west)	Ninth Line south
Waterloo	60	12	0	72	0.0%	0.3%		Ninth Line north	Ninth Line north
Cambridge	14	111	0	125	0.0%	0.5%		Ninth Line north	Ninth Line north
City of Guelph	106	68	0	174	0.0%	0.7%		Ninth Line north	Ninth Line north
Haliburton	8	0	0	8	0.0%	0.0%			
Brantford	0	19	0	19	0.0%	0.1%	AVERAGE	Eglinton (west)	Ninth Line south
External	29	0	0	29	0.0%	0.1%	1.2%		
Sum	11119	12401	764	24284	5.8%	100.0%			

EXTERNAL TO MISSISSAUGA		
Route		
407 (east)	6.6%	
407 (west)	1.2%	
403 (east)	12.2%	
Ninth Line (south)	10.0%	
Ninth Line (north)	4.3%	
Total	34.4%	

INTERNAL TO MISSISSAUGA	
Route	
Eglinton East	30.0%
Ninth Line (south)	10.0%
Ninth Line (north)	20.0%
Erin Centre East	5.0%
Total	65.0%

TOTAL		
Route		
Ninth Line (north)	30.9%	**30%**
Ninth Line (south)	20.0%	**20%**
Eglinton (East)	42.2%	**40%**
Eglinton (West)	1.2%	**5%**
Erin Centre (East)	5.0%	**5%**
	99.4%	**100.0%**

APPENDIX J

Pedestrian Volume Analysis

AM PEAK TOTAL	16
PM PEAK TOTAL	30

PERSON TRIP GENERATION

	in	out	total
am	12	51	63
pm	71	46	119

pedestrian and transit modal split

25%

PEDESTRIAN TRIP GENERATION

	in	out	total
am	3	13	16
pm	18	12	30

5150 NINTH LINE PEDESTRIAN TRIP CALCULATIONS

Ninth Line and Street "A" 2024 FT
Signal Warrant Analysis
Justification 6A –

4.9 Justification 6 – Pedestrian Volume and Delay

Purpose

The minimum pedestrian volume conditions are intended for applications where the traffic volume on a main road is so heavy that pedestrians experience excessive delay or hazard in crossing the main road, or where high pedestrian crossing volumes produce the likelihood of such delays.

The justification is applicable to an unsignalized intersection or a mid-block location.

Once justification has been established, determination of the appropriate crossing protection device should be subject to site-specific engineering judgement (see Guideline 3 for options).

Standard

The need for a traffic control device at an intersection or mid-block location must be considered if both the following minimum pedestrian volume and delay criteria are met:

1. The total eight-hour pedestrian volume crossing the main road at an intersection or mid-block location during the highest eight hours of pedestrian traffic fulfils the

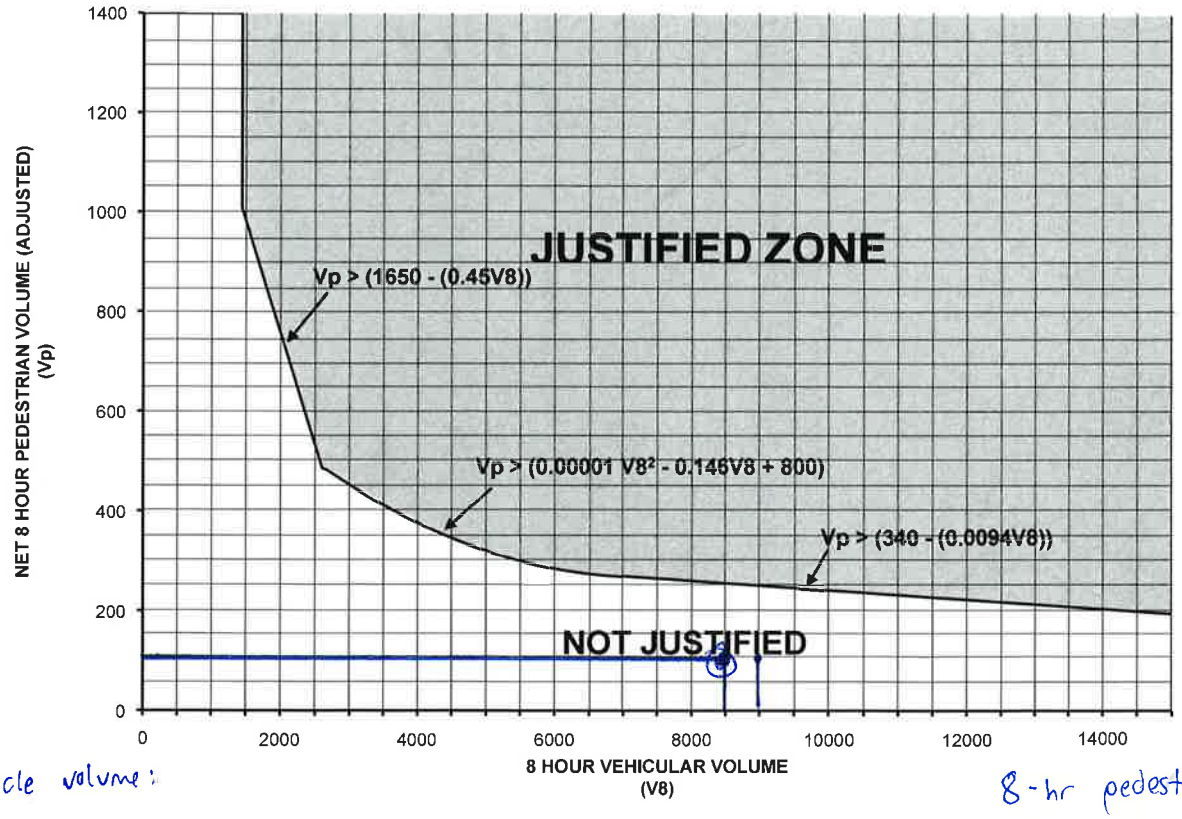


Figure 22 – Justification 6 – Pedestrian Volume

8-hr vehicle volume:
AHV on Ninth Line
595 ↓ ↑ 467
= 1062 veh/hr x 8 hrs
= 8496 veh/8hrs

8-hr pedestrian volume:
PHV crossing Ninth Line:
← 3(18) AM = 16 peds, PM = 30 peds
(12) 13 →
AHV = (16 + 30)/4 = 12 peds x 8 hrs
= 96 peds / 8 hrs

APPENDIX K

Collision Data

Collision Details Report

NINTH LINE ERIN CENTRE BLVD

From: January 1, 2014 **To:** September 28, 2021

Location ..... ERIN CENTRE BLVD @ NINTH LINE **Municipality.....** Mississauga

Traffic Control.... Traffic signal **Total Collisions....** 9

Collision ID	Date/Day/Time	Environment	Impact Type	Classification	Direction	Surface Cond'n	Vehicle Manoeuver	Vehicle type	First Event	Driver Action	No. Ped
140284620	2014-May-28, Wed,22:10	Clear	Turning movement	Non-fatal injury	East	Dry	Turning left	Automobile, station wagon	Other motor vehicle	Improper turn	
Comments:					North	Dry	Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	
170477957	2017-Dec-22, Fri,16:49	Snow	Rear end	P.D. only	North	Loose snow	Going ahead	Automobile, station wagon	Other motor vehicle	Following too close	
Comments:	Statement #1: V1, V2 AND V3 N/B ON NINTH LINE AT ERIN CENTRE BLVD. V3 AND V2 STOP FOR TRAFFIC. V1 STRIKES V2, AS A RESULT V2 STRIKES V3. NO CHARGES LAID DUE TO V1 AND V3 LEAVING PRIOR TO POLICE ARRIVAL AND THE FACT THAT THE DAMAGE WAS MINOR IN NATURE.				North		Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	
190299758	2019-Aug-15, Thu,19:20	Clear	Rear end	P.D. only	North	Dry	Slowing or stopping	Automobile, station wagon	Other motor vehicle	Following too close	
Comments:	Statement #1: V2 WAS N/B ON NINTH LINE AND CAME TO A STOP FOR RED LIGHT AT INTERSECTION 9TH LINE AND ERIN CENTRE.V1 WAS N/B AND HIT V2 FROM BEHIND				North	Dry	Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	
190308622	2019-Aug-22, Thu,18:30	Clear	Rear end	P.D. only	North	Dry	Slowing or stopping	Automobile, station wagon	Other motor vehicle	Following too close	
Comments:	Statement #1: V2 was stopped at a red light northbound on R1 at R2 when it was rear ended by V1.				North	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	
190327634	2019-Sep-01, Sun,15:20	Rain	Turning movement	P.D. only	North	Wet	Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	
Comments:	Statement #1: V2 was travelling northbound on R1. While V2 entered the intersection V1 attempted to complete a right turn from westbound R2 to northbound R1 colliding with V2.Conflicting stories in regards to the traffic signal light for north/south and east/west traffic.				West	Wet	Turning right	Automobile, station wagon	Other motor vehicle	Driving properly	
190363269	2019-Oct-04, Fri,10:28	Clear	Rear end	P.D. only	South	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Following too close	
Comments:	Statement #1: V2 stopped for a red light travelling southbound on R1 at R2. V1 attempted to stop but rear ended V2.				South	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	
190374318	2019-Oct-12, Sat,15:09	Clear	Rear end	Non-fatal injury	North	Dry	Going ahead	Automobile, station wagon	Other motor vehicle	Following too close	
Comments:	Statement #1: V2 STOPPED FULLY AT RED LIGHT N/B R1V1 PROCEEDING N/B R1V1 STRIKES/REARENDS V2 CAUSING A COLLISIONV1 ISSUED PON FOR CARELESS DRIVING S.130(1) HTA #0515529F				North	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	

190399241	2019-Oct-31, Thu,15:54	Rain	Turning movement	P.D. only	North	Wet	Going ahead	Automobile, station wagon	Other motor vehicle	Improper turn
Comments:	Statement #1: V1 WAS DRIVING SOUTH ON NINTH LINE, IN THE CITY OF MISSISSAUGA, APPROACHING ERIN CENTRE BOULEVARD. AT THE SAME TIME, V2 WAS DRIVING NORTH ON NINTH LINE. V1 WAS IN THE LEFT TURN LANE, WAITING TO TURN ONTO ERIN CENTRE BOULEVARD(EAST). THE TRAFFIC SIGNAL TURNED YELLOW AND V1 TURNED INTO THE PATH OF V2 CAUSING THE COLLISION.				South	Wet	Turning left	Automobile, station wagon	Other motor vehicle	Driving properly
200065421	2020-Feb-20, Thu,08:00	Clear	Rear end	P.D. only	South	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Following too close
Comments:	Statement #1: V3 WAS STOPPED FOR TRAFFIC S/B ON NINTH LINE, V2 WAS ABLE TO STOP V1 WAS NOT ABLE TO STOP AND HIT V2 FROM BEHIND CASUING V2 TO HIT V3				South	Dry	Going ahead	Pick-up truck	Other motor vehicle	Driving properly

Collision Details Report

From: January 1, 2014 **To:** September 28, 2021

Location ..... NINTH LINE btwn CANDLELIGHT DR & ERIN CENTRE BLVD **Municipality.....** Mississauga

Traffic Control.... **Total Collisions....** 5

Collision ID	Date/Day/Time	Environment	Impact Type	Classification	Direction	Surface Cond'n	Vehicle Manoeuver	Vehicle type	First Event	Driver Action	No. Ped
150091453	2015-Mar-05, Thu,17:09	Other	Rear end	P.D. only	North	Dry	Going ahead	Automobile, station wagon	Other motor vehicle	Following too close	
Comments:	Statement #1: V1- TRAVEL N/B ON NINTH LINE V2- TRAVEL N/B ON NINTH LINEV1- FAIL TO STOP WITH THE TRAFFIC AND REARENDED V2				North		Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	
160129630	2016-Apr-06, Wed,16:04	Clear	Rear end	P.D. only	North	Dry	Slowing or stopping	Automobile, station wagon	Other motor vehicle	Following too close	
Comments:	Statement #1: V1,V2 AND V3 WERE TRAVELLING NORTHBOUND ON NINTH LINE JUST SLIGHTLY PAST CANDLELIGHT DRIVE. V3 STOPPED AS TRAFFIC STOPPED, V2 DID THE SAME AND V1 WAS UNABLE TO STOP AND COLLIDED WITH V2				North		Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	
160298402	2016-Aug-08, Mon,17:03	Clear	Rear end	P.D. only	North	Dry	Going ahead	Automobile, station wagon	Other motor vehicle	Lost control	
Comments:	Statement #1: V2 TRAVELLING N/B ON R1V1 TRAVELLING N/B ON R1BUMPER TO BUMPER TRAFFICV1 STRIKES V2NOTE: V1 FRONT TWO TIRES COMPLETELY BALD, NO TREAD ON EITHER WHEEL				North		Slowing or stopping	Automobile, station wagon	Other motor vehicle	Driving properly	
180097696	2018-Mar-14, Wed,21:46	Clear	Rear end	Non-fatal injury	North	Dry	Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	
Comments:	Statement #1: V2 STOPPED N/B ON NINTH LINE JUST SOUTH OF ERI CENTER BOULEVARD DUE TO TRAFFIC.V2 BEGINS TO PROCEED.V1 N/B NINTHLIN BEHIND V2. V1 STRIKES REAR OF V2.				North	Dry	Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	
190090229	2019-Mar-11, Mon,07:08	Clear	Sideswipe	P.D. only	South	Ice	Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	
Comments:	Statement #1: V1, V3 S/B R1V2 N/B R1V1 SLID ON BLK ICE, STRUCK V2, THEN HIT V3				North		Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	

Collision Details Report

NINTH LINE CANDLELIGHT DR

From: January 1, 2014 **To:** September 28, 2021

Location ..... CANDLELIGHT DR @ NINTH LINE **Municipality.....** Mississauga

Traffic Control.... Two-way Stop **Total Collisions....** 1

Collision ID	Date/Day/Time	Environment	Impact Type	Classification	Direction	Surface Cond'n	Vehicle Manoeuver	Vehicle type	First Event	Driver Action	No. Ped
150356994	2015-Sep-10, Thu,09:26	Clear	Turning movement	P.D. only	West	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Improper turn	
Comments:	Statement #1: A full size school bus was southboung on Ninth Line and attempted to negotiate a left hand turn onto Candlelight Dr. Due to the vehicle's size it was forced to enter into the opposite lanes on travel on Candlelight Dr however, failed to avoid a stopped vehicle waiting to turn left from Candlelight onto southbound Ninth Line.				East	Dry	Turning left	School bus	Other motor vehicle	Driving properly	

APPENDIX L

Signal Warrant Analysis Worksheets

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision | GO TO Justification:

What are the intersecting roadways? Ninth Line and Site Access

What is the direction of the Main Road street? North-South

When was the data collected? 2024 (Future Total)

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Urban **Population >= 10,000** **AND** **Speed < 70 km/hr**

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	13	467	0	9	0	16	0	595	7	0	0	0	0
8:00	13	467	0	9	0	16	0	595	7	0	0	0	0
9:00	13	467	0	9	0	16	0	595	7	0	0	0	0
12:00	13	467	0	9	0	16	0	595	7	0	0	0	0
13:00	13	467	0	9	0	16	0	595	7	0	0	0	0
16:00	13	467	0	9	0	16	0	595	7	0	0	0	0
17:00	13	467	0	9	0	16	0	595	7	0	0	0	0
18:00	13	467	0	9	0	16	0	595	7	0	0	0	0
Total	**104**	**3,736**	**0**	**72**	**0**	**128**	**0**	**4,760**	**56**	**0**	**0**	**0**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

***** Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Ninth Line and Site Access

Count Date: 2024 (Future Total)

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	1,107	1,107	1,107	1,107	1,107	1,107	1,107	1,107		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
1B	180	255	180	255	25	25	25	25	25	25	25	25		
	COMPLIANCE %				10	10	10	10	10	10	10	10	78	10

Restricted Flow Signal Justification 1:

Both 1A and 1B 100% Fullfilled each of 8 hours — Yes ☐ No ☑

Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	1,082	1,082	1,082	1,082	1,082	1,082	1,082	1,082		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
2B	50	75	50	75	9	9	9	9	9	9	9	9		
	COMPLIANCE %				12	12	12	12	12	12	12	12	96	12

Restricted Flow Signal Justification 2:

Both 2A and 2B 100% Fullfilled each of 8 hours — Yes ☐ No ☑

Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☐	NO ☑	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	7:00	1,082	25	87	29 %	29 %
	8:00	1,082	25	87	29 %	
	9:00	1,082	25	87	29 %	
	12:00	1,082	25	87	29 %	

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Ninth Line and Site Access

Count Date: 2024 (Future Total)

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8 Hour Vehicular Volume V_8		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					Justified
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200			
	200 - 300			
	> 300	Not Justified		

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Ninth Line and Site Access

Count Date: 2024 (Future Total)

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	10	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	12	%		
3. Combination	A	Justificaton 1	10	%	☐	☑
	B	Justification 2	12	%		
4. 4-Hr Volume			29	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification met		☐	☑
	B	Delay	Justification not met			

Proposed Collision Justification (Justification 5A)

Return to Justifications 1- 6

INPUT

a.- Intersection type (no input required): 3

b.- What year is the intersection being considered for traffic signals? 2004

c.- What is the collision history and annual average daily traffic over the past few years? (Please fill in table below)

Year	Traffic Volume		Impact Type/Year						
	Major AADT	Minor AADT	Approach-ing	Angle	Rear end	Sideswipe	Turning movement	SMV	Other
2000	21626	3893	0	4	5	1	4	0	0
2001	22059	3971	0	6	4	1	3	1	1
2002	22500	4050	0	7	5	2	2	1	0
2003	23300	4200	0	8	3	3	2	1	0
2004	23648	6528	0	9	0	4	1	0	0

d.- If known, please enter the expected traffic volume after signals are introduced. Otherwise, leave the cell blank.

Year	Main AADT	Minor AADT
2004		

ANALYSIS

Reducible Collisions

	2000	2001	2002	2003	2004		2004 (Signal)
Total Number of Crashes Per Year	8	9	9	10	10		---
Parameter k	0.81	0.81	0.81	0.81	0.81		0.60
Model Prediction	1.46	1.50	1.53	1.59	2.15		2.15
Ci,y	0.680	0.696	0.712	0.741	1.000		1.000
Comp. Ratio for Period	3.829						1.000

Non-reducible Collisions

	2000	2001	2002	2003	2004		2004 (Signal)
Total Number of Crashes Per Year	6	7	8	7	4		---
Parameter k	1.47	1.47	1.47	1.47	1.47		1.19
Model Prediction	1.17	1.18	1.20	1.23	1.38		1.38
$C_{i,y}$	0.849	0.860	0.870	0.890	1.000		1.000
Comp. Ratio for Period	4.469						1.000

	Reducible Collisions	Non-reducible Collisions
Total Number of Historical Crashes	46	32
Expected Annual Crashes without Signalization based on SPF	2.150	1.377
Expected Annual Crashes without Signalization	11.131	6.046
Variance of Expected Annual Crashes without Signalization	2.647	1.092
Expected Annual Crashes after Signalization based on SPF	2.089	3.286
Expected Annual Crashes after Signalization	10.813	14.425
Variance of Expected Annual Crashes after Signalization	194.857	174.867

	Reducible Collisions	Non-reducible Collisions
Weights for Unsignalized Intersections	0.27	0.18
Weights for Signalized Intersections	0.29	0.25

RESULTS

Justification	Compliance		Signal Justified? YES	Signal Justified? NO
5. Collision Experience	Net Safety Change	2.648	☐	☑
	Total Collisions will ***Increase*** after this intersection is signalized			

APPENDIX M

Left-Turn Lane Warrant Analysis Worksheets

NINTH LINE AND SITE ACCESS
2024 FUTURE TOTAL CONDITIONS
(TWO - LANE SCENARIO)
NORTHBOUND LEFT - TURN LANE

AM PEAK HOUR

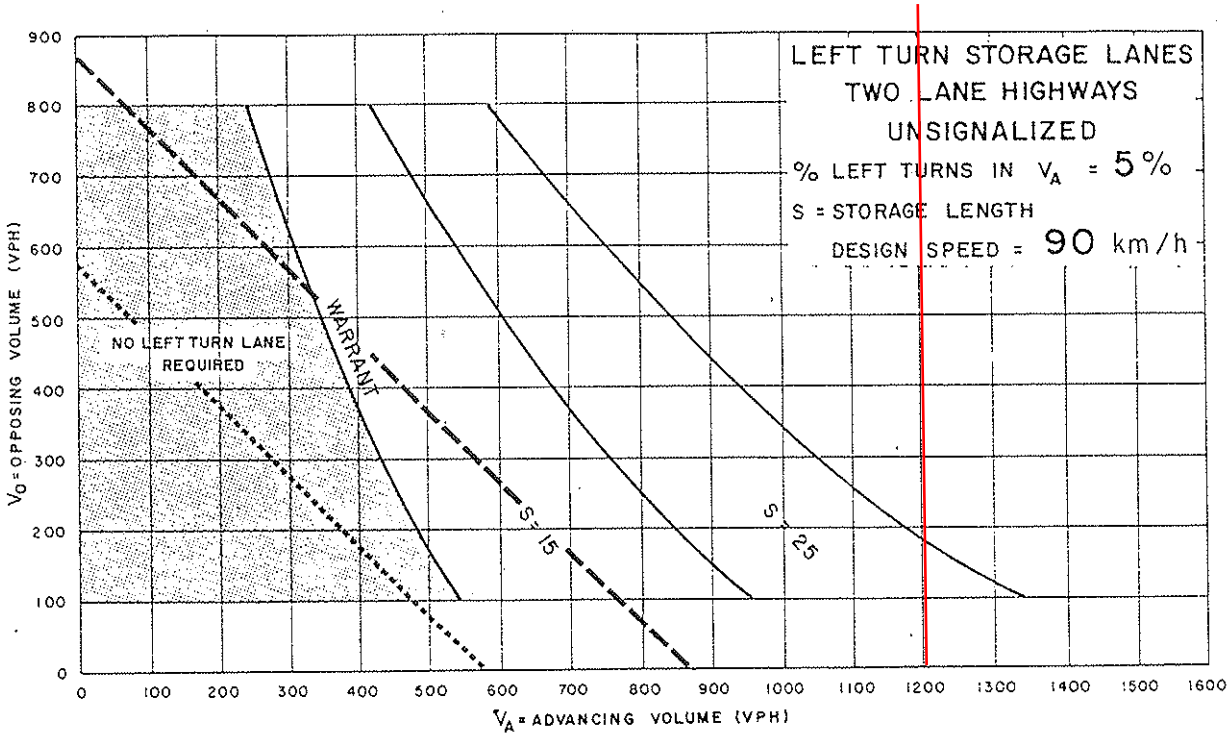
VL = 12 veh/hr

VA = 716 veh/hr

% LT in VA = 1.68%

VO = 1346 veh/hr

NO LT LANE REQ.



PM PEAK HOUR

VL = 40 veh/hr

VA = 1202 veh/hr

% LT in VA = 3.33%

VO = 1062 veh/hr

REQ = 25+ m

TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

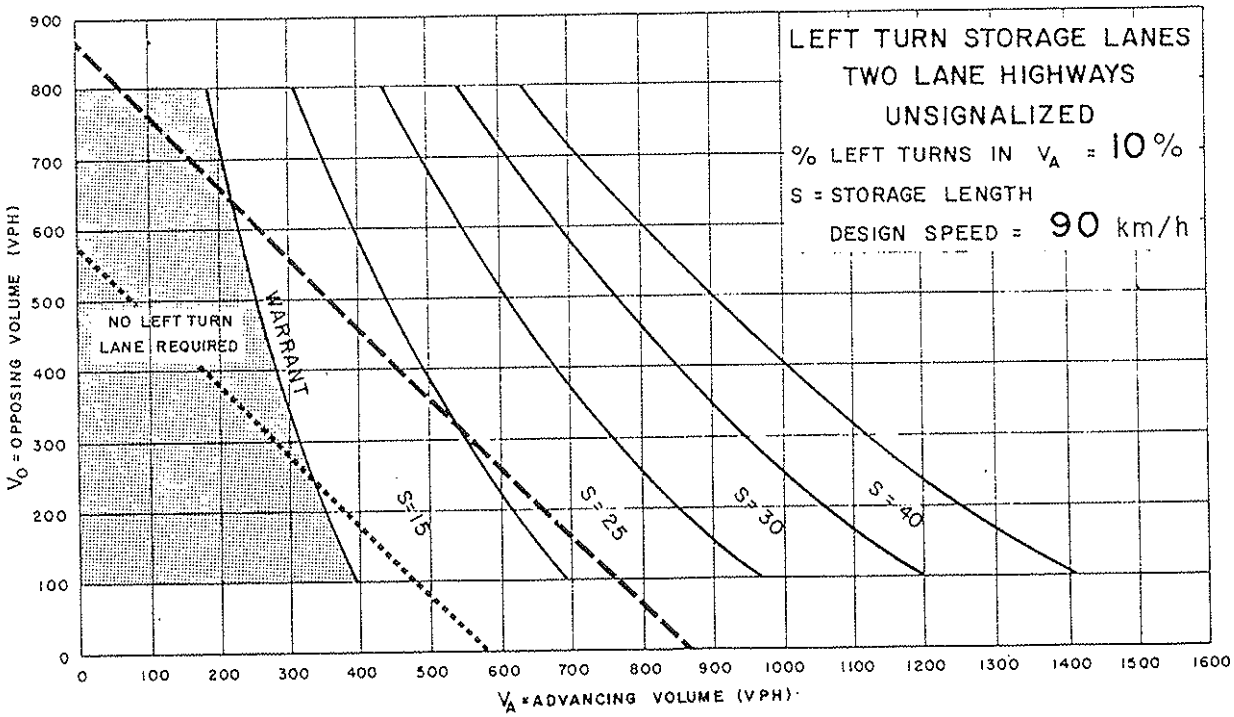


Figure EA-18

APPENDIX N

Vehicle Turning Diagrams

WOODLOT

10m BUFFER

LANDSCAPE BUFFER (2.8m)

CEC ROAD "E"

CEC ROAD "D"

CEC ROAD "G"

CEC ROAD "C"

CEC ROAD "B"

CEC ROAD "A"

CEC ROAD "F"

CEC ROAD "H"

5170

5160

5104

5080

0.3m Reserve

20R-14175

BLOCK 11 'MO'

BLOCK 10 'TA'

BLOCK 14

BLOCK 13 'FM'

BLOCK 12 'MO'

BLOCK 9 'FM'

BLOCK 17 'TA'

BLOCK 18 'FM'

BLOCK 19 'MO'

BLOCK 1 'MO'

BLOCK 2 'MO'

BLOCK 3 'MO'

BLOCK 5 'FM'

BLOCK 4 'TA'

BLOCK 20 'FM'

BLOCK 7 'FM'

BLOCK 6 'TA'

BLOCK 15 'MO'

BLOCK 16 'MO'

AMENITY 734m²

SIDEWALK (1.5m)

HIGHWAY 407

±12m TRANSIT CORRIDOR

14m MTO SETBACK

NINTH LINE

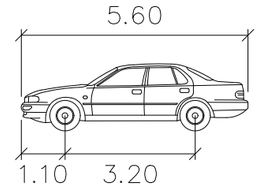
QUIET CREEK DRIVE

Temporary Turning Circle

LISTED ON THE HERITAGE REGISTRY

PIN 24931-0108 (LT)

PHASE 2



P

	meters
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

Project

5150 NINTH LINE
CITY OF MISSISAUGA

Drawing

PASSENGER CAR
TURNING MOVEMENTS

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Collingwood, ON L9Y 4R3
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Drawn By	Design By	Project
S.K.	S.K.	780-5251
Scale: N.T.S.	Date: 10/14/2020	Check By: D.L.	Drawing: 301

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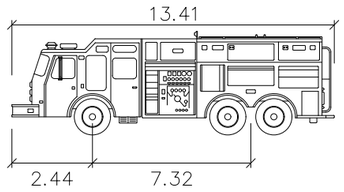

Pumper Fire Truck

	meters
Width	: 2.59
Track	: 2.59
Lock to Lock Time	: 6.0
Steering Angle	: 37.8

PHASE 2

Temporary Turning Circle

Project	5150 NINTH LINE CITY OF MISSISAUGA
Drawing	FIRETRUCK TURNING MOVEMENTS

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Drawn By	S.K.	Design By	S.K.	Project	780-5251
Scale	N.T.S.	Date	10/14/2020	Check By	D.L.	Drawing	302

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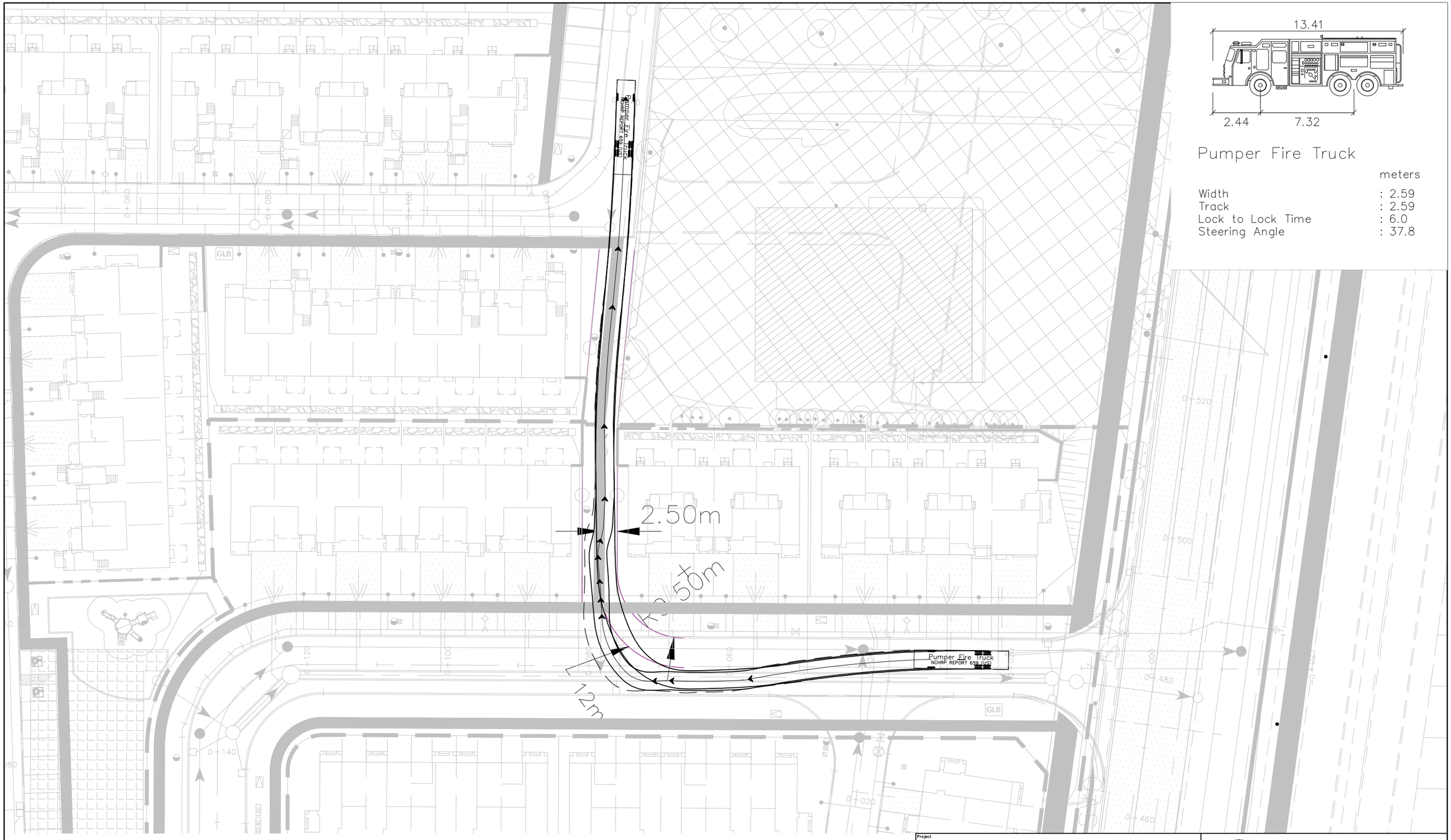
Pumper Fire Truck

	meters
Width	: 2.59
Track	: 2.59
Lock to Lock Time	: 6.0
Steering Angle	: 37.8



Project
5150 NINTH LINE
CITY OF MISSISAUGA

Drawing
FIRETRUCK TURNING
MOVEMENTS BYPASS

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Drawn By	Design By	Project
S.K.	S.K.	780–5251
Scale: N.T.S.	Date: 11/10/2020	Check By: D.L.	Drawing: 302B

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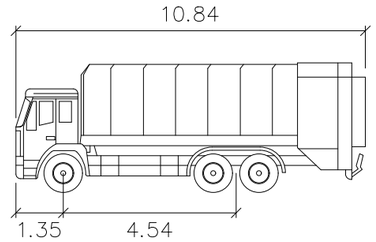

Peel Sideload CFC

	meters
Width	: 2.62
Track	: 2.62
Lock to Lock Time	: 6.0
Steering Angle	: 20.4

PHASE 2

Temporary Turning Circle

Project	5150 NINTH LINE CITY OF MISSISAUGA
Drawing	WASTE COLLECTION TURNING MOVEMENTS

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Drawn By	S.K.	Design By	S.K.	Project	780-5251
Scale	N.T.S.	Date	10/14/2020	Check By	D.L.	Drawing	303

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FIGURES

Legend

Project

5150 NINTH LINE
MATTAMY HOMES

Drawing

SITE LOCATION PLAN

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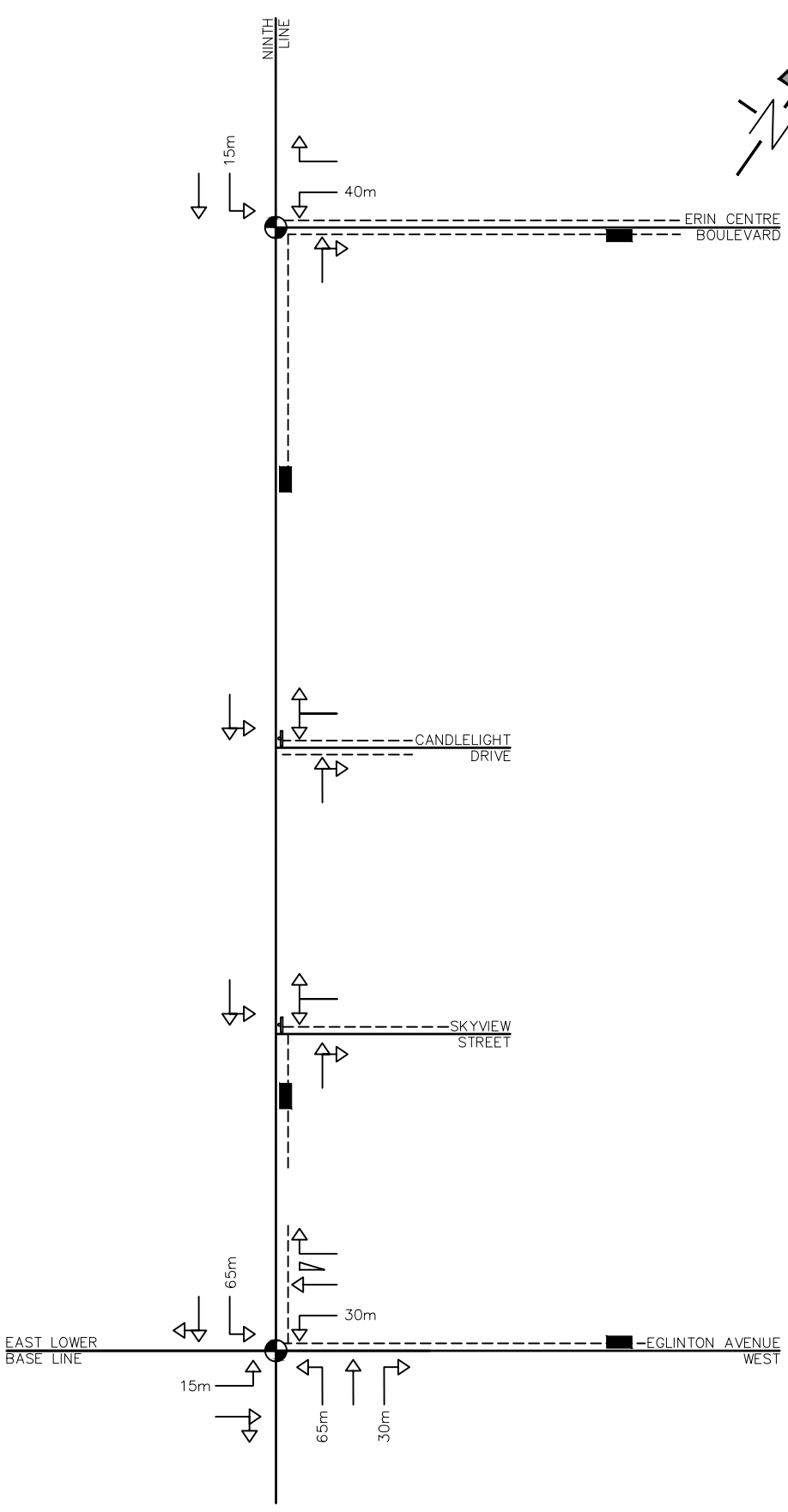
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 1



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- CHANNELIZED RIGHT TURN
- BUS STOP
- PEDESTRIAN SIDEWALK

Project

5150 NINTH LINE
MATTAMY HOMES

Drawing

BOUNDARY ROAD NETWORK

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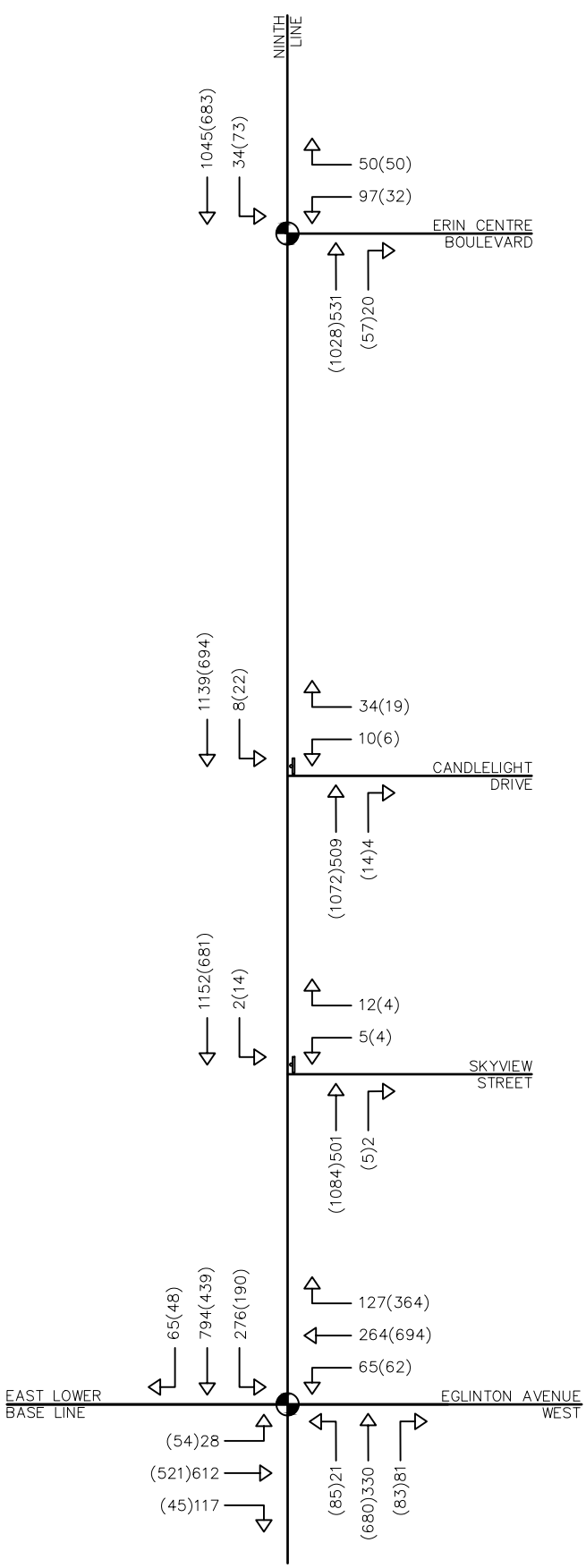
Drawn By	Design By	Project	
D.L.	D.L.		780-5251
Scale	Date	Check By	Drawing
N.T.S.	JULY 31, 2019	A.F.	FIG. 2



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: 2019 EXISTING TRAFFIC VOLUMES

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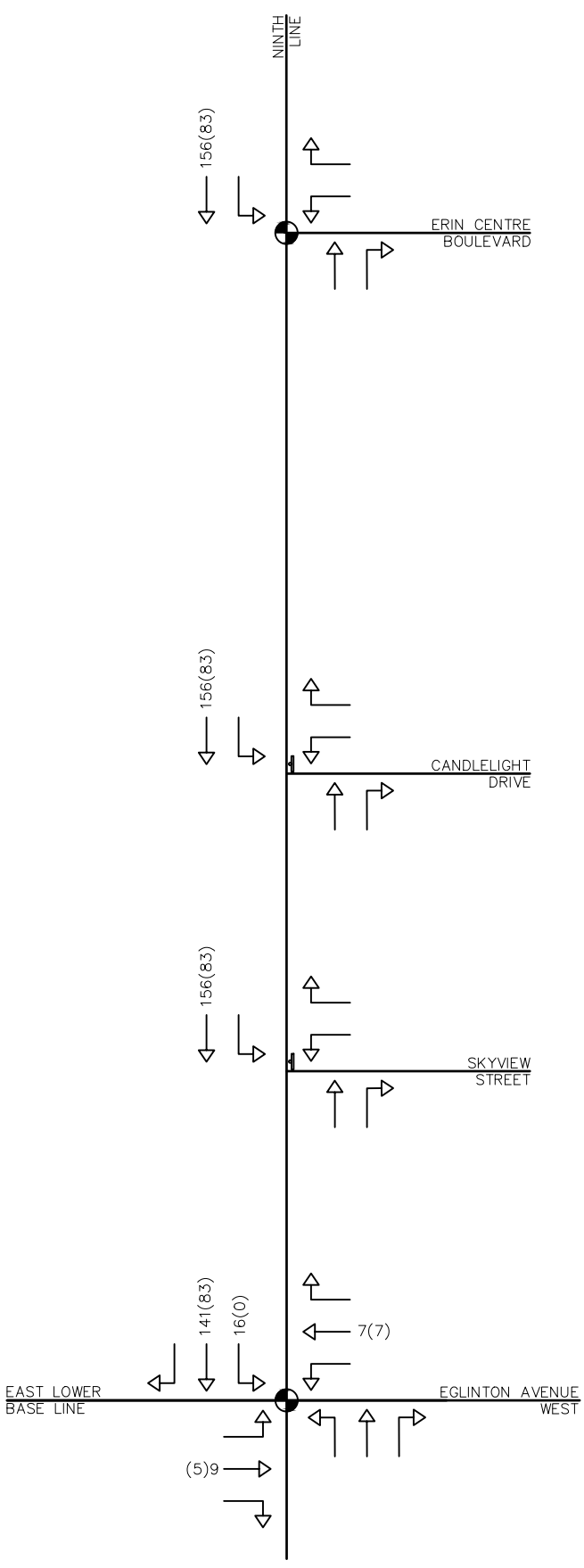
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 3



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: BACKGROUND TRAFFIC (ERIN MILLS)

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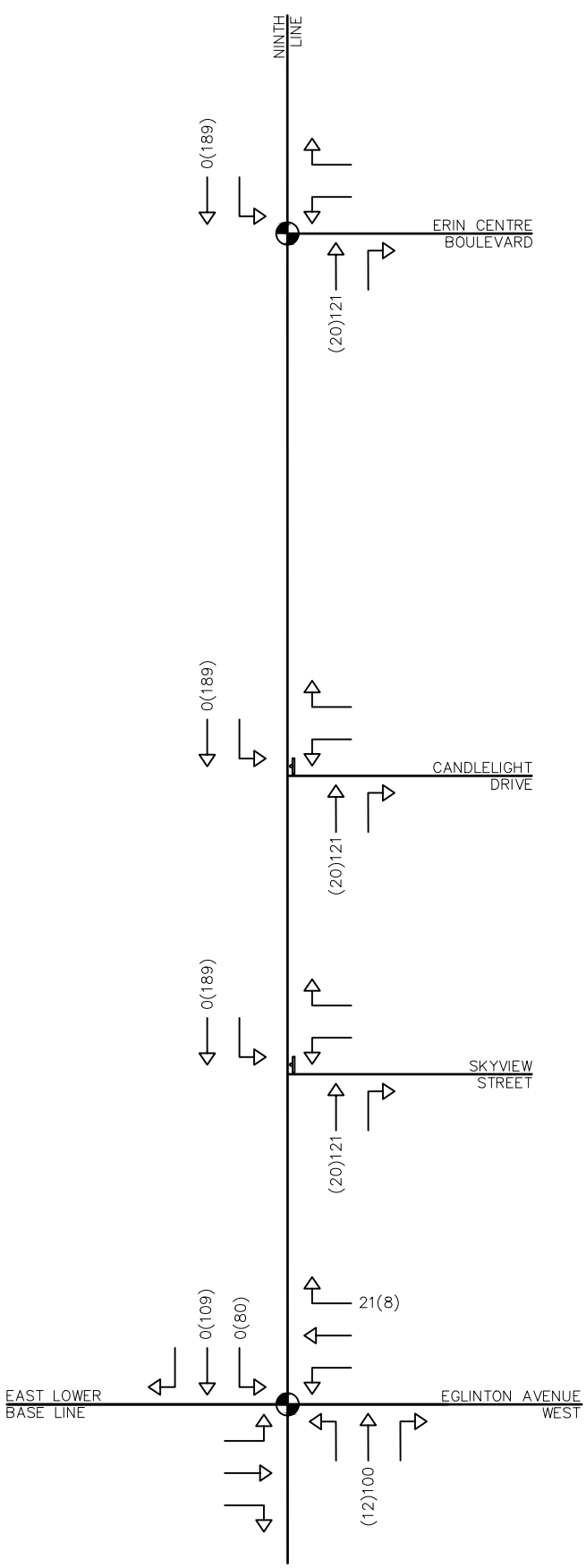
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 4



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: BACKGROUND TRAFFIC (407 TRANSITWAY)

CROZIER CONSULTING ENGINEERS
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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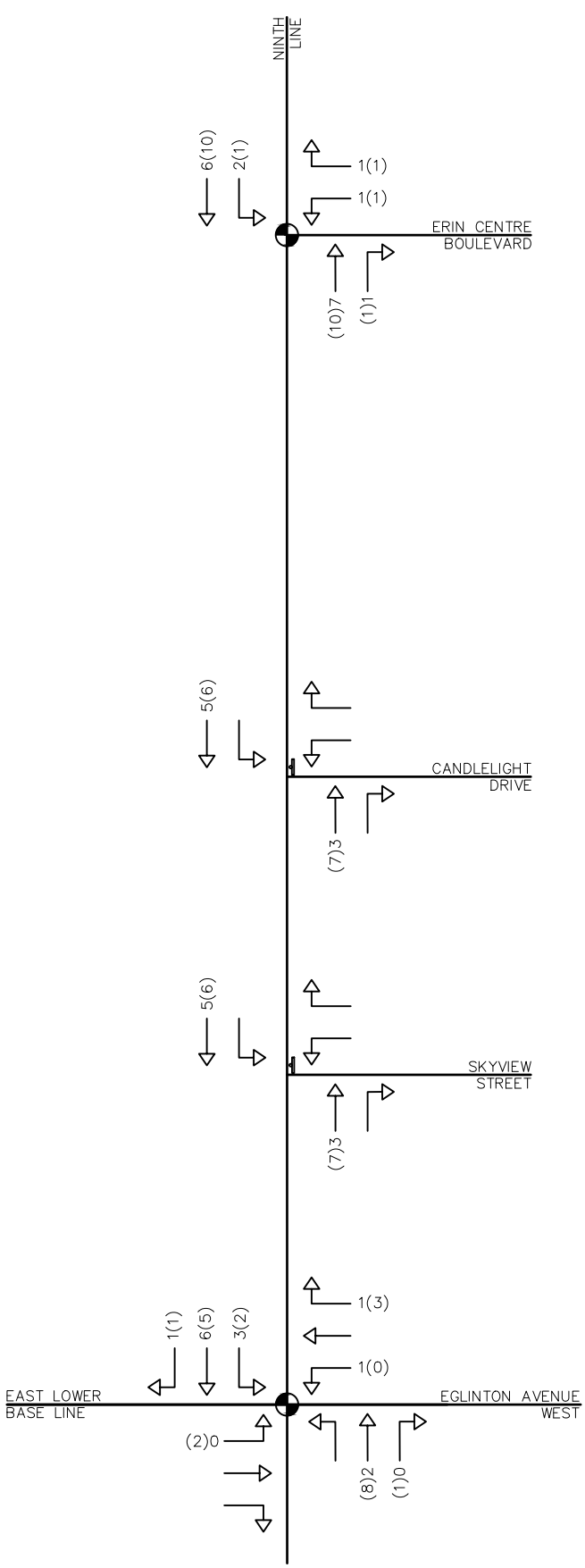
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 5



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: BACKGROUND TRAFFIC (EMERGING LAND USE – 2021)

CROZIER CONSULTING ENGINEERS
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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705 446-3520 F
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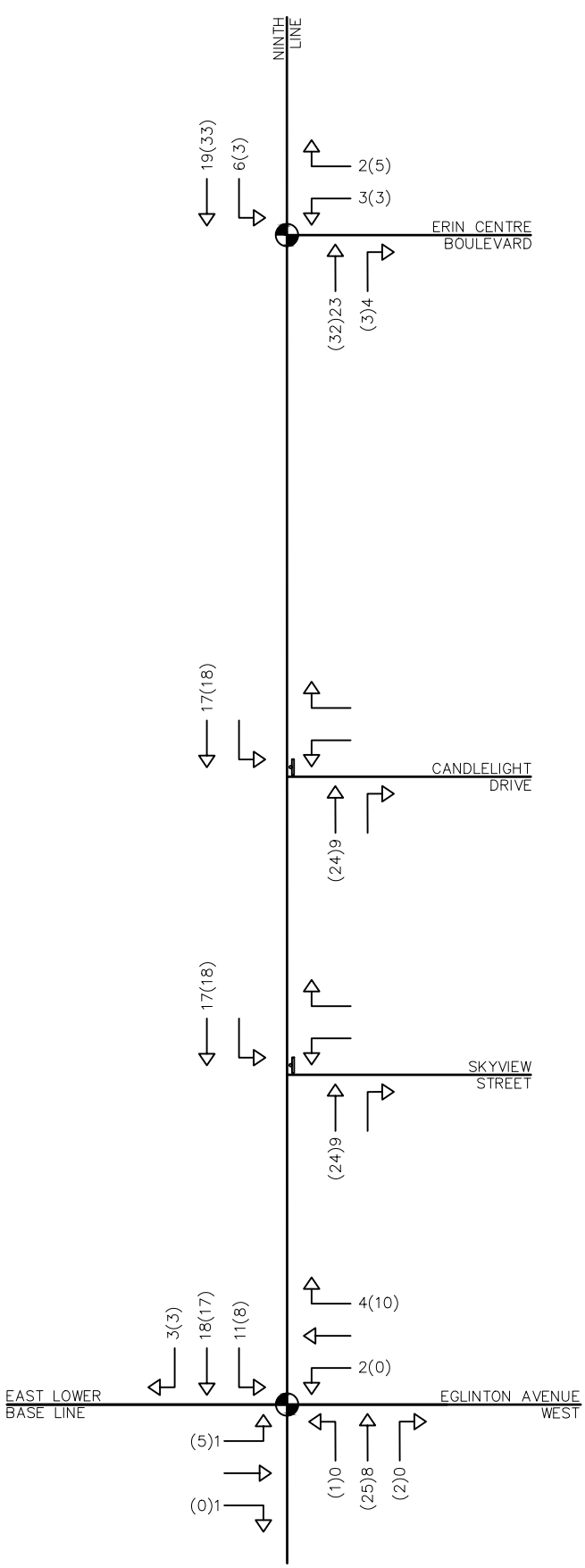
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 6



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: BACKGROUND TRAFFIC (EMERGING LAND USE – 2024)

CROZIER CONSULTING ENGINEERS
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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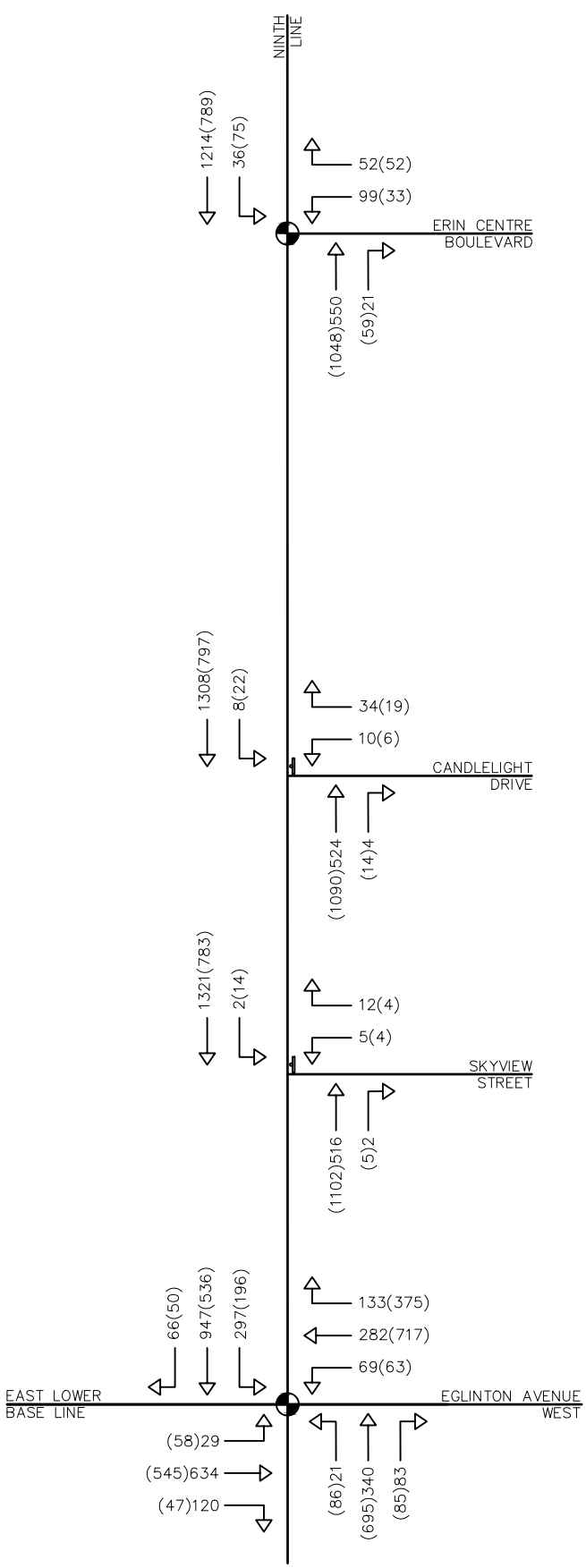
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780–5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 7



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: 2021 FUTURE BACKGROUND TRAFFIC VOLUMES

CROZIER CONSULTING ENGINEERS
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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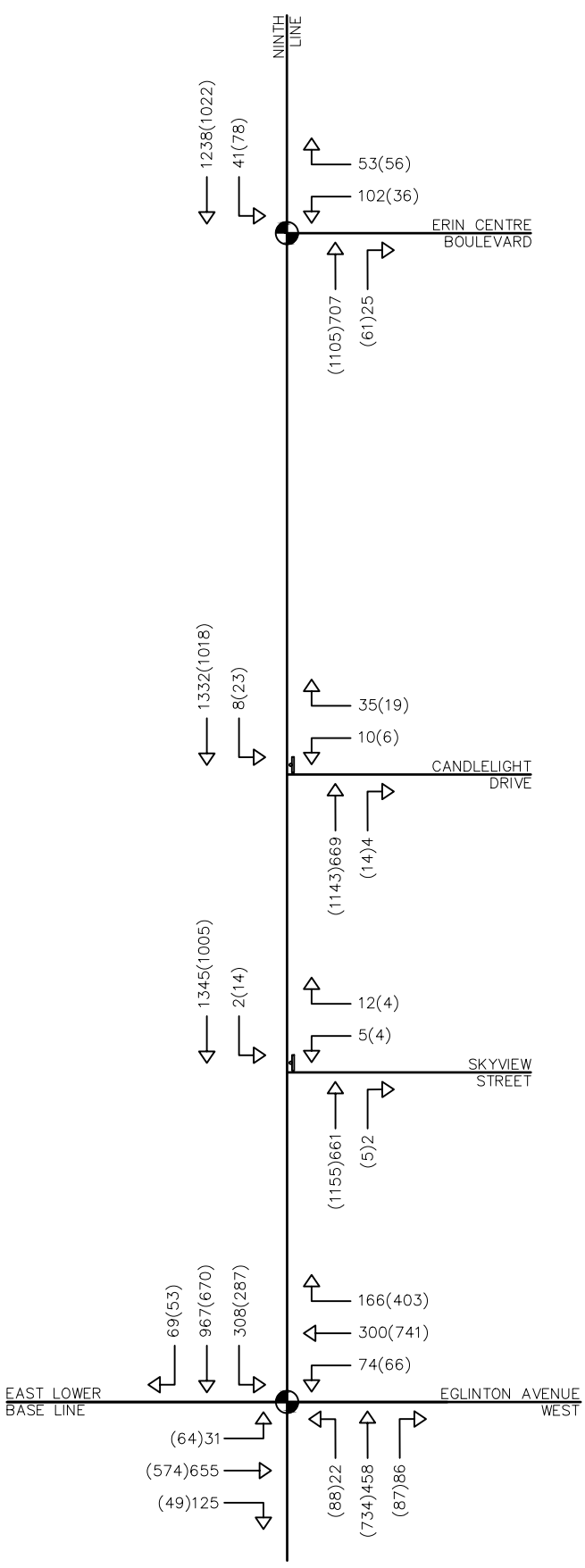
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 8



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: 2024 FUTURE BACKGROUND TRAFFIC VOLUMES

CROZIER CONSULTING ENGINEERS
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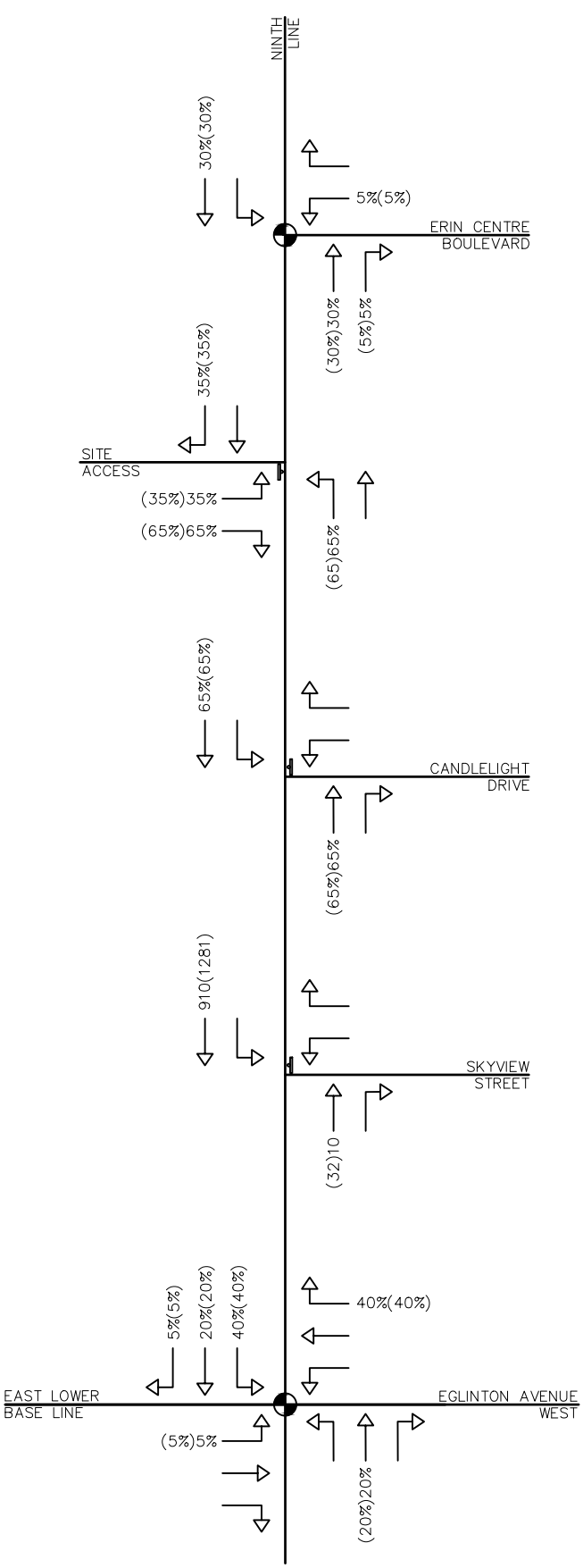
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 9



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: TRIP DISTRIBUTION

CROZIER CONSULTING ENGINEERS
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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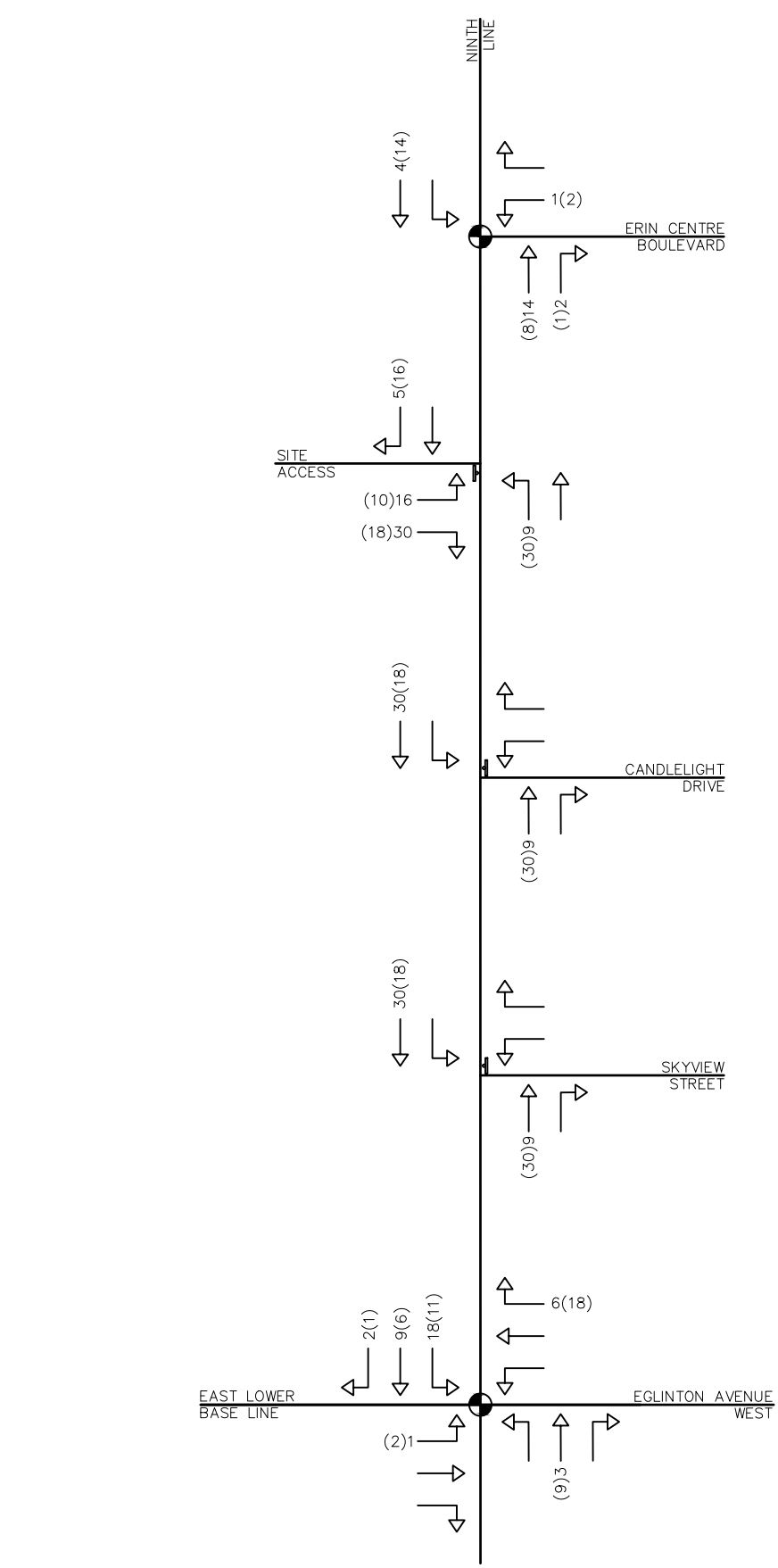
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	JULY 31, 2019	A.F.	FIG. 10



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: TRIP ASSIGNMENT (PHASE 1)

CROZIER CONSULTING ENGINEERS
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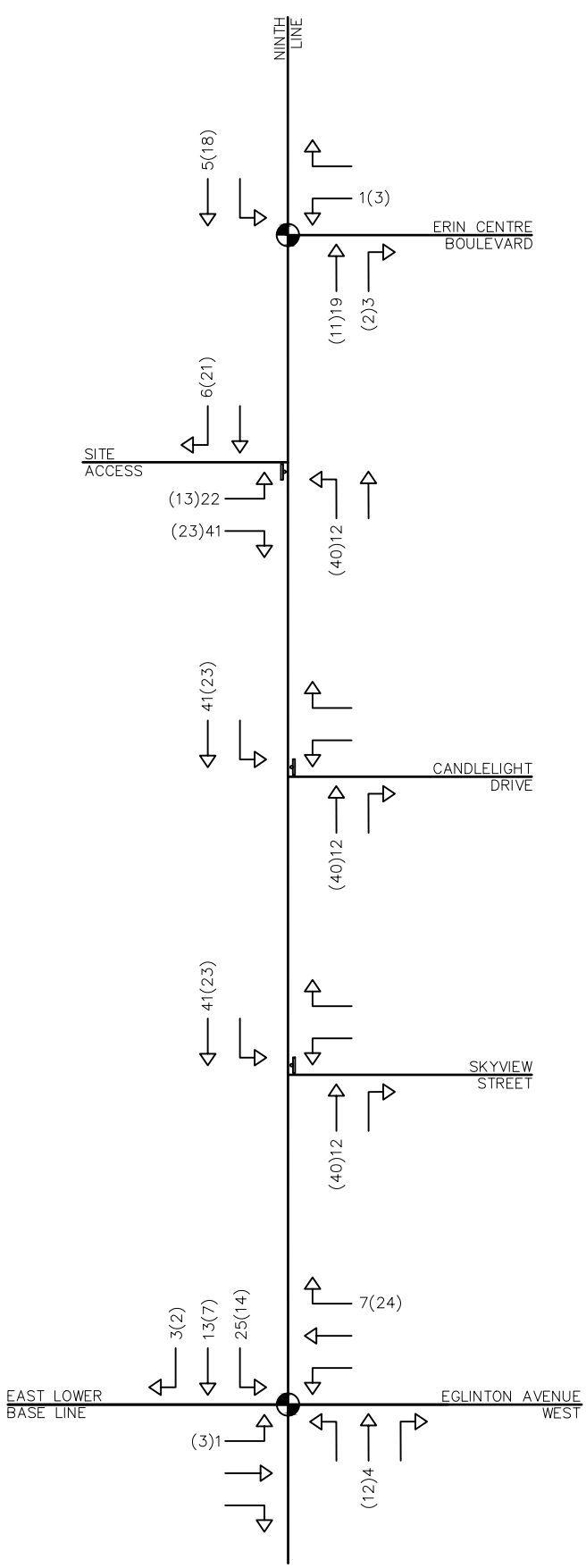
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	AUG 26, 2020	A.F.	FIG. 11



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: TRIP ASSIGNMENT (FULL BUILD-OUT)

CROZIER CONSULTING ENGINEERS
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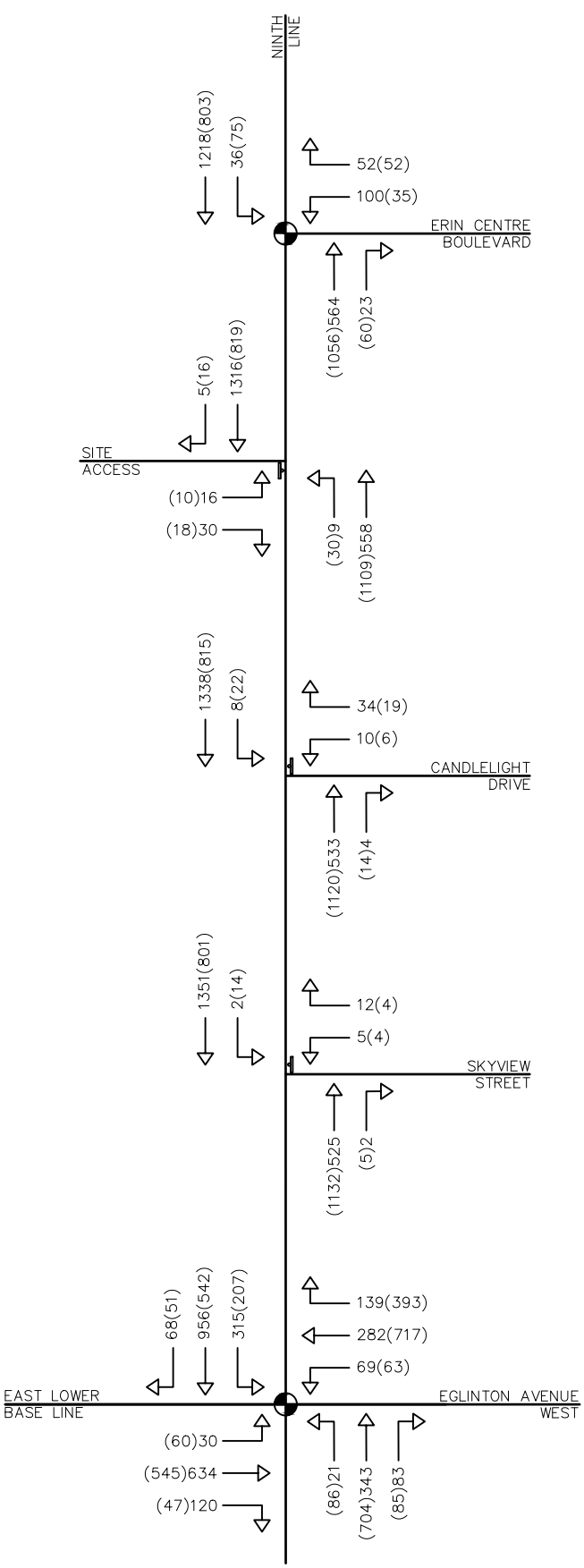
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	AUG 26, 2020	A.F.	FIG. 12



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: 2021 FUTURE TOTAL TRAFFIC VOLUMES

CROZIER CONSULTING ENGINEERS
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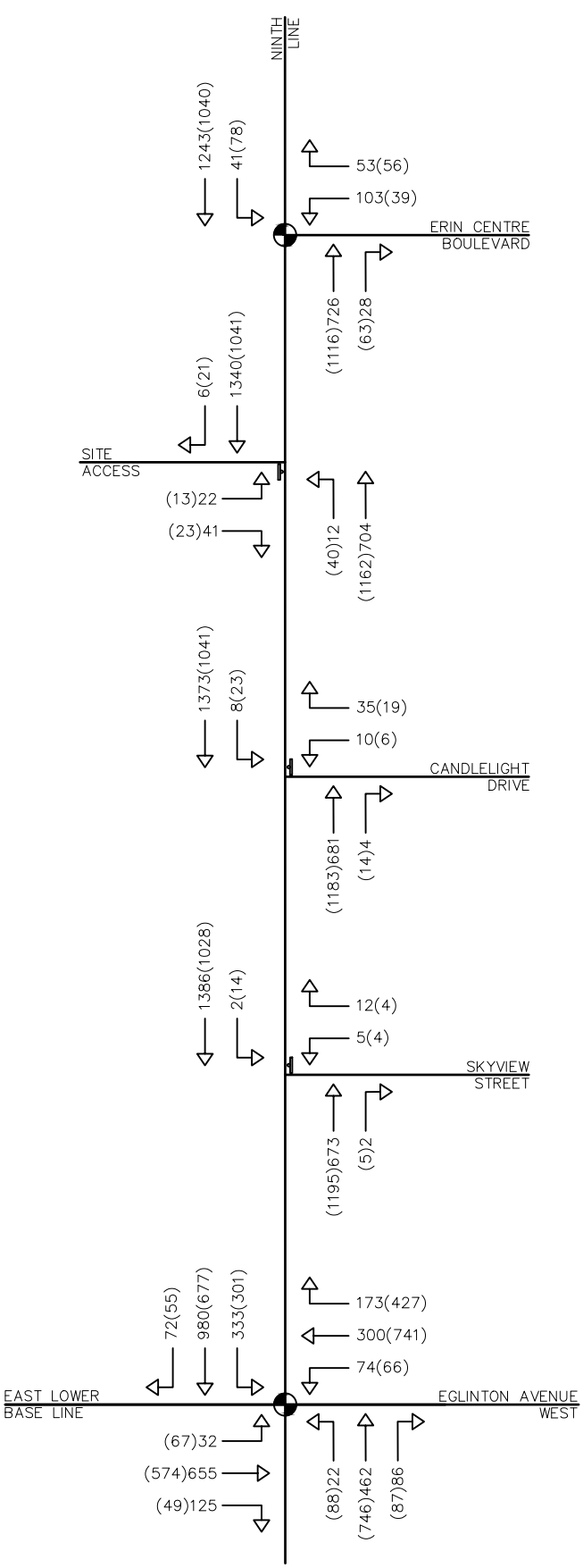
Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	AUG 26, 2020	A.F.	FIG. 13



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) WEEKDAY A.M. (WEEKDAY P.M.) PEAK HOUR VOLUMES

Project: 5150 NINTH LINE MATTAMY HOMES

Drawing: 2024 FUTURE TOTAL TRAFFIC VOLUMES

CROZIER CONSULTING ENGINEERS
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Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	780-5251	N.T.S.	AUG 26, 2020	A.F.	FIG. 14