



5520 & 5552 Eighth Line Residential Development

Traffic Impact Study Final

July 29, 2024



Prepared for:

Mattamy (Erin) Limited
and 2779181 Ontario Inc.



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Inc.

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RVA 215876

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EXECUTIVE SUMMARY

R.V. Anderson Associates Limited (RVA) was retained by Mattamy (Erin) Limited and 2779181 Ontario Inc. to complete a Traffic Impact Study (TIS) for the proposed residential subdivision development located at 5520 and 5552 Eighth Line in the Town of Erin. The development is planned to include 409 single family detached units, 121 townhouse units and two medium density blocks, with vehicular access to the development via two new local road intersections along Eighth Line and Sideroad 17. The proposed internal road network layout of the subject development is considered acceptable per TAC geometric design guidelines. An AutoTurn Analysis was conducted for the 90-degree bend on Street 'C' (adjacent to the stormwater management pond) to confirm that all critical design vehicles will be able to effectively navigate the corner.

The proposed development is projected to generate approximately 385 total two-way trips during the weekday a.m. peak hour (96 inbound and 287 outbound), and 496 total two-way trips during the weekday p.m. peak hour (309 inbound and 187 outbound).

As per the results of the intersection capacity analysis, the site generated traffic is not expected to result in any capacity, delay, or queuing concerns at the study area intersections as issues are mainly the result of background growth and other proposed developments within the area. The majority of study area intersections are projected to operate with an overall intersection LOS of 'C' or better under all scenarios analyzed.

The Trafalgar Road and Sideroad 17 intersection is forecast to operate at an LOS 'E' in the 2034 future background and LOS 'F' in 2034 future total scenarios, with certain movements operating over capacity and with considerable delay. Further review of the Trafalgar Road and Sideroad 17 intersection found that a traffic signal is warranted under the 2024 future background horizon year as a result of area developments. An auxiliary left-turn lane is warranted at the Sideroad 17 at Eighth Line intersection for the westbound left-turn movements under the 2029 future background horizon year but should be implemented in 2024 to accommodate site generated traffic. The Town/County may consider monitoring operations at these intersections to determine if signalization or left-turn auxiliary lanes are needed to maintain an acceptable level of service in the future.

A westbound auxiliary left-turn lane is warranted at the Sideroad 17 and proposed Street C intersection under the 2024 future total horizon year and should be implemented with build out of the development.

1.0 Introduction

1.1 Study Objective

R.V. Anderson Associates Limited (RVA) was retained by Mattamy (Erin) Limited and 2779181 Ontario Inc. to complete a Traffic Impact Study (TIS) for the proposed residential subdivision development, located at 5520 and 5552 Eighth Line in the Town of Erin.

The study will include the estimation of traffic generation from the proposed development, the completion of intersection capacity analyses for the study area intersections under the existing and future conditions, and the identification of the anticipated operational impacts of the site generated traffic on the study area intersections and recommendations for mitigation measures where required.

1.2 Development Location

The proposed development will be located at 5520 and 5552 Eighth Line in the Town of Erin on the west side of Eighth Line between Sideroad 17 and Dundas Street West. Vehicular access to the property will be provided by two new local road intersections, one along Eighth Line Road (Street “E”) and one along Sideroad 17 (Street “C”).

The development is located west of “downtown” Erin. East of the development is currently an existing golf course. The lands fronting the east side of Eighth Line, south of Sideroad 17, are proposed to be redeveloped into a residential subdivision as discussed in Section 3.2.1. Lands immediately to the west, north, and south of the subject site are primarily forested areas. The location of the proposed development and its relation to the Town of Erin is shown in Figure 1.1.

1.3 Study Area

Traffic analysis was completed for the following study intersections:

- Eighth Line & Access Road (S) (Street E)
- Sideroad 17 & Access Road (N) (Street C)
- Eighth Line & Sideroad 17
- Eighth Line & Erin Heights
- Eighth Line & Dundas Street W
- Eighth Line & Wellington Road (WR) 124
- Dundas St W & Main Street (WR 124)
- Shamrock Road (WR 23) & Main Street (WR 124)
- Sideroad 17 & Trafalgar Road (WR 24)

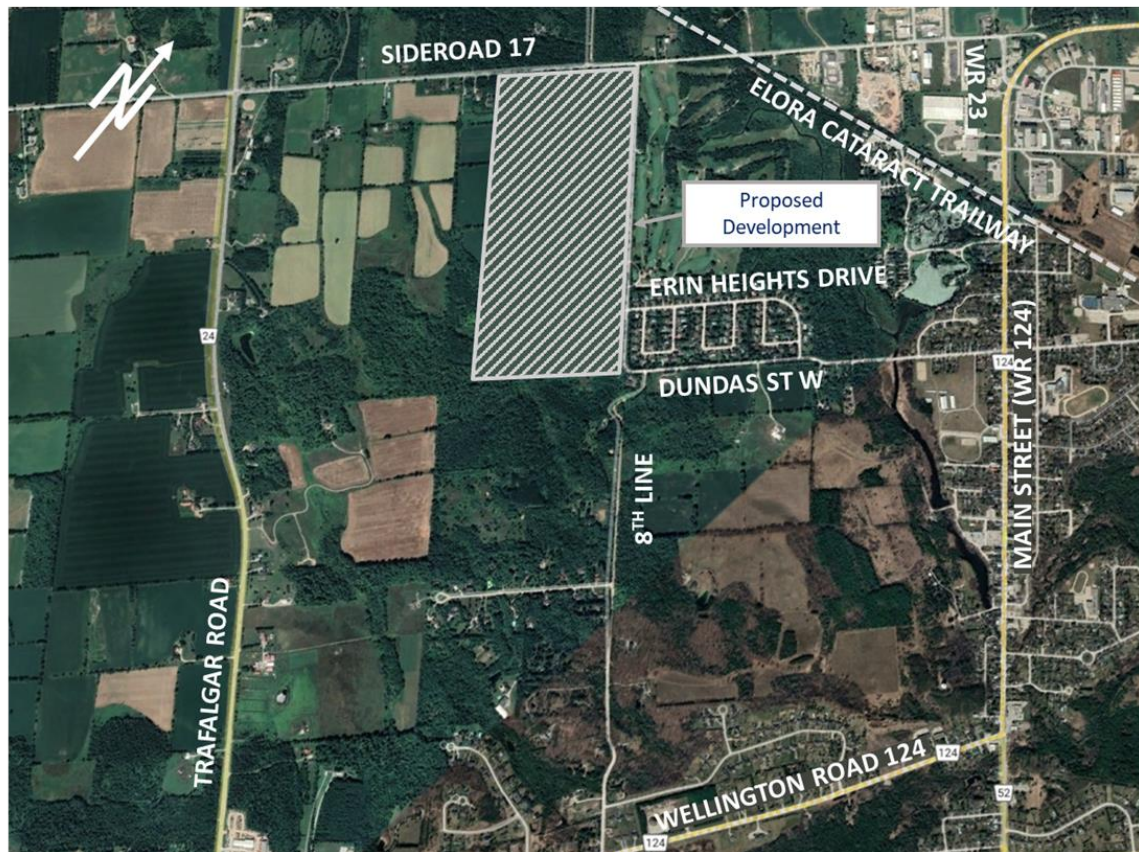


Figure 1.1 – Development Location

2.0 Existing Conditions

2.1 Existing Road Network

Eighth Line is a two-lane north-south collector roadway under the jurisdiction of the Town of Erin and has a posted speed limit of 50 km/h along the subject site's frontage. Between Dundas Street West and Delambro Drive the posted speed limit is 40 km/h and between Delambro Drive and Wellington Road 124 the posted speed limit is 60 km/h. The horizontal alignment of Eighth Line is generally straight and flat north of the Eighth Line/Dundas Street West intersection. South of Dundas Street West, Eighth Line transitions into a gravel road with notable curves in its horizontal alignment and various vertical crests until Delambro Drive, where it transitions back to a paved surface until it intersects with Wellington Road 124. It should be noted that Eighth Line also has a weight limit of 5 tonnes per axle between March 1 to May 15, and there is an existing single lane bridge with a weight limit of 15-tonnes approximately 310 meters north of the proposed Street A.

Dundas Street West is a two-lane east-west collector roadway under the jurisdiction of the Town of Erin, with a posted speed limit of 40km/h. Within the study area, Dundas Street W has a generally straight horizontal alignment with various vertical crests.

Sideroad 17 is a two-lane east-west collector roadway under the jurisdiction of the Town of Erin, with a posted speed limit of 60km/h. Within the study area, Sideroad 17 has a generally straight horizontal alignment with various vertical crests, including at the intersection of Sideroad 17 and Eighth Line.

Erin Heights Drive is a two-lane local roadway under the jurisdiction of the Town of Erin, with a posted speed limit of 40 km/h. Erin Heights Drive has a generally straight horizontal alignment and flat vertical alignment with the exception of the 90-degree bend.

Main Street (WR 124) is a two-lane north-south arterial roadway under the jurisdiction of the County of Wellington, with a posted speed limit of 40 km/h within the study area. Main Street has a generally straight horizontal alignment and flat vertical alignment with the exception of the large curve and gradual sloped roadway between Elm Park Drive and Erinville Drive.

Trafalgar Road (WR 24) is a two-lane north-south arterial roadway under the jurisdiction of the County of Wellington, with an assumed speed limit of 80km/h. Within the study area, the horizontal alignment is generally straight, and the vertical alignment has consistent slopes throughout.

Wellington Road (WR 124) is a two-lane north-south arterial roadway under the jurisdiction of the County of Wellington, with a posted speed limit of 80 km/h west of Eighth Line and 60 km/h east of Eighth Line. Within the study area, the horizontal alignment and vertical alignment is generally straight and flat respectively. Through the town of Erin Wellington Road (WR 124) is referred to as Main Street.

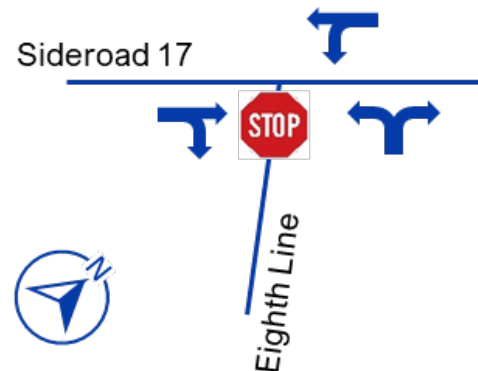
Shamrock Road (WR 23) is a two-lane north-south arterial roadway under the jurisdiction of the County of Wellington, with an assumed speed limit of 50 km/h. Shamrock Road is approximately 200 meters long and extends between Wellington Road 23 in the north and Main Street in the south. Shamrock road is flat and generally straight, with the exception of the curves to intersect Main Street and Wellington Road 23.

2.2 Existing Study Area Intersections

Eighth Line/Sideroad 17

The Eighth Line/Sideroad 17 intersection is an unsignalized, three-legged intersection with STOP control on the minor approach only (Eighth Line). All approaches consist of a single lane that accommodates all possible movements.

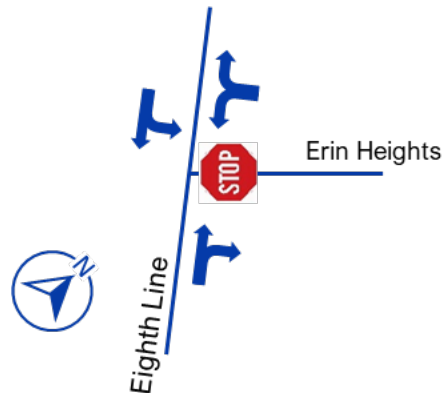
All movements are permitted at this location.



Eighth Line/Erin Heights

The Eighth Line/Erin Heights intersection is an unsignalized, three-legged intersection with STOP control on the minor approach only (Erin Heights). All approaches consist of a single lane that accommodates all possible movements.

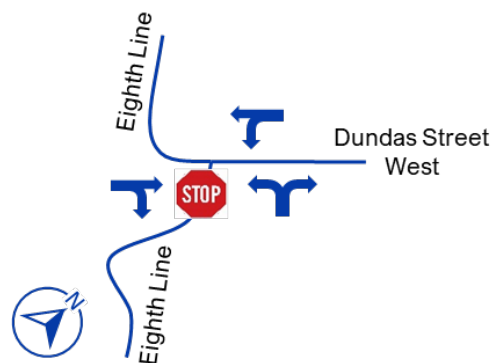
All movements are permitted at this location.



Eighth Line/Dundas Street West

The Eighth Line/Dundas Street West intersection is an unsignalized, three-legged intersection with STOP control on the minor approach only (Eighth Line). All approaches consist of a single lane that accommodates all possible movements.

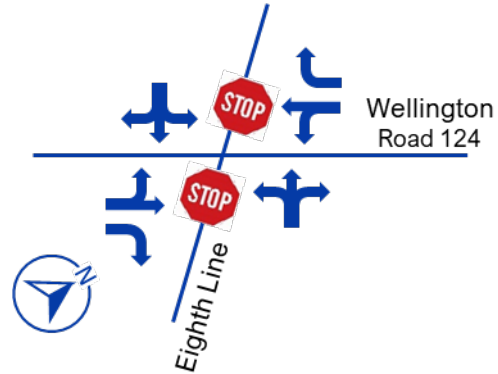
All movements are permitted at this location.



Eighth Line/Wellington Road 124

The Eighth Line/Wellington Road 124 intersection is an unsignalized, four-legged intersection with STOP control on the minor approach only (Eighth Line). The northeast and southwest approaches (Wellington Road 124) each consist of one shared through/left-turn lane and one right-turn lane. The northwest and southeast approaches (Eighth Line) each consist of a single shared lane that accommodates all possible movements.

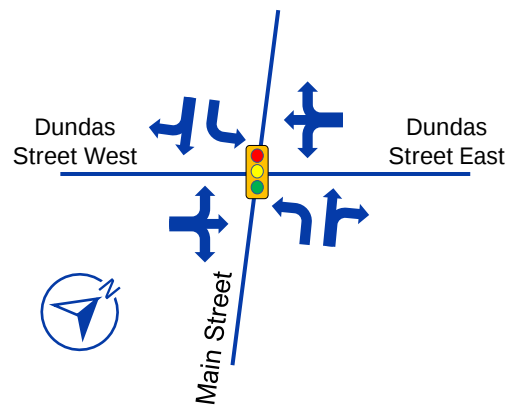
All movements are permitted at this location.



Dundas Street West/Main Street

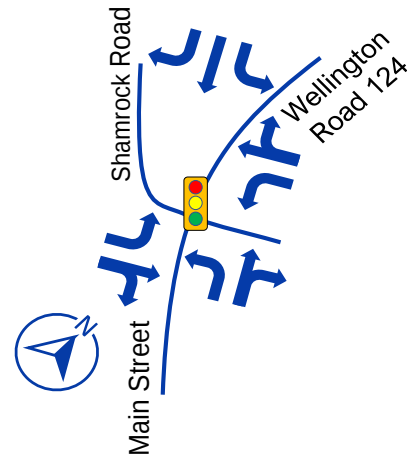
The Dundas Street West/Main Street intersection is a signalized four-legged intersection. The northeast and southwest approaches (Dundas Street East/West) each consist of a single shared lane that accommodates all possible movements. The northwest and southeast approaches (Main Street) each consist of one left-turn lane and one shared through/right-turn lane.

Heavy trucks are prohibited on Dundas Street East; all other movements are permitted.



Shamrock/Main Street

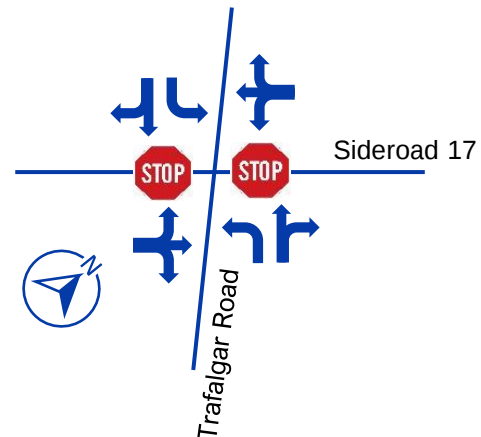
The Shamrock/Main intersection is a signalized four-legged intersection. The north approach (Main Street) consists of one left-turn lane and one shared through/right-turn lane. The south approach (Wellington Road 124) consists of one left-turn lane, one through lane and one right-turn lane. The east and west approaches each consist of one left-turn lane and one shared through/right-turn lane.



All movements are permitted at this location.

Sideroad 17/Trafalgar Road

The Sideroad 17/Trafalgar intersection is an unsignalized four-legged intersection with STOP control on the minor approach only (Trafalgar Road). The northeast and southwest approaches (Sideroad 17) each consist of a single shared lane that accommodates all possible movements. The northwest and southeast approaches (Trafalgar Road) each consist of one shared through/left-turn lane and one right-turn lane.



All movements are permitted at this location.

2.3 Active Transportation Facilities

Sidewalks are currently provided along both sides of Main Street (WR 124), and along the southern side of Dundas Street West for approximately 390 metres where it terminates just before the bridge over the waterway. A sidewalk is also provided on the west side of Wellington Road 124 only from the intersection of Main Street for approximately 345 metres. No other roadways in this study area that have dedicated pedestrian facilities. The Elora Cataract (Trans Canada) Trailway north of the site is an existing east-west cyclist spine route.

In the County of Wellington's 2012 *Active Transportation Master Plan*, an Off-Road Spine Route is proposed just east of the site running NS parallel to Main Street. Along Wellington Road 23 and Highway 52, paved shoulders are proposed. Finally, A proposed signed route with sharrows is proposed along Main Street within the study area.

2.4 Transit Services

Wellington County is completing a Ride Well TM pilot program. Ride Well TM is a County wide demand based public transit service. Currently the pilot program runs from Monday to Friday, 6:00am – 7:00pm. Additionally, Denny Bus Lines Ltd provides Thursday Bus Schedule Servicing during the AM and PM peak hours to Guelph and Orangeville.

2.5 2022 Existing Traffic Data

Historical intersection turning movement count (TMC) data was provided to RVA for all study area intersections and is provided in **Appendix A**. Weekday morning and afternoon peak hour traffic data was collected in September 2021 which was during COVID-19. As directed by the Town, a 10% growth rate has been applied to the existing 2021 traffic volumes to better represent the existing 2022 intersection volumes. An analysis of the data determined the weekday morning and afternoon peak hours to be 8:00 AM to 9:00 AM and 4:00 PM to 5:00 PM, respectively. The following Figure 2.1 depicts the assumed weekday morning and afternoon peak hour vehicular volumes.

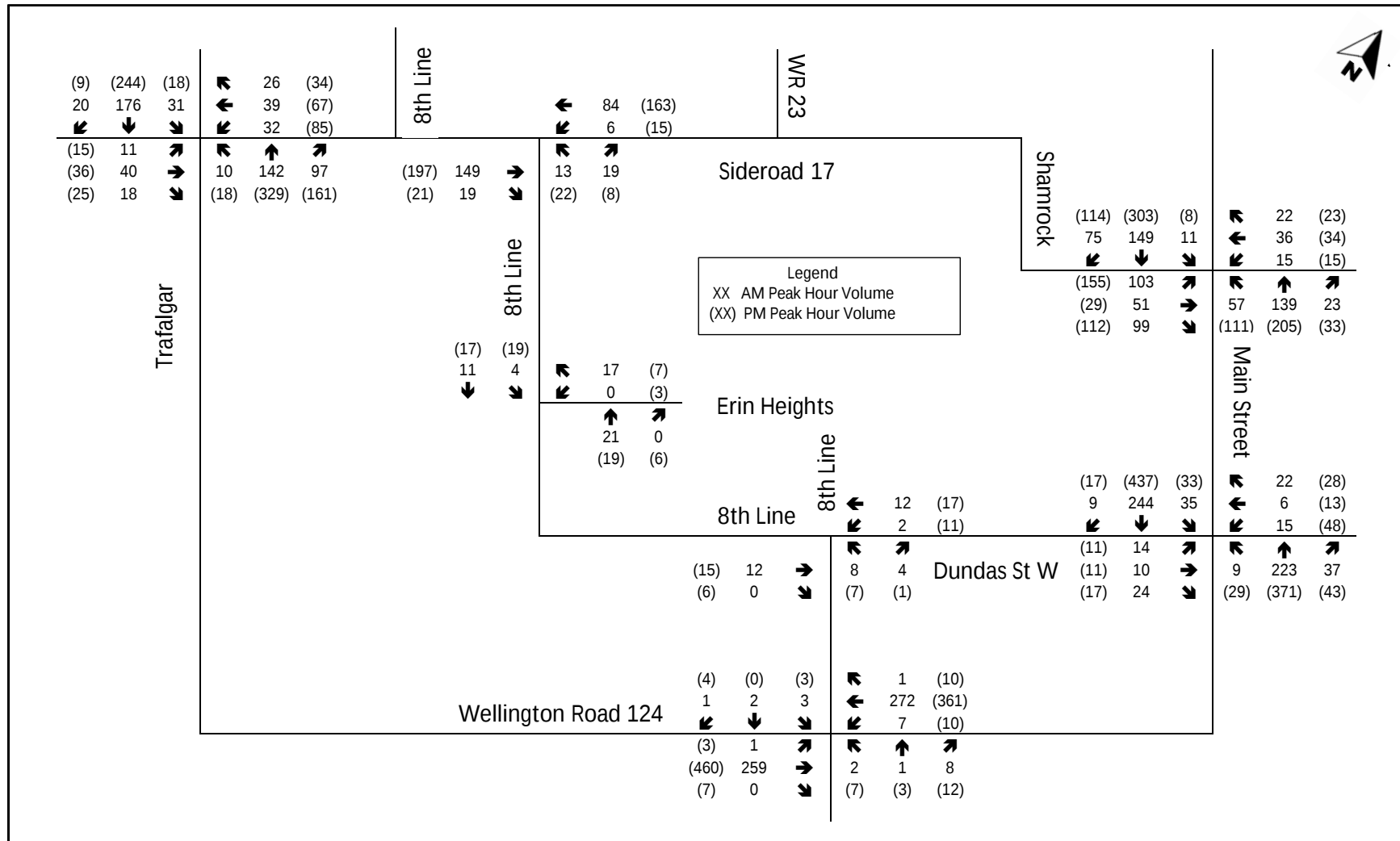


Figure 2.1 – 2022 Existing Traffic Volumes

3.0 Future Background Traffic

3.1 Study Horizon Years

For the purpose of this assessment and as discussed with the Town and County staff Based on consultation with the Town and County staff, the proposed horizon years were selected for analysis:

- **2024** – Estimated full build-out of the subject development
- **2029** – 5 years beyond full build-out
- **2034** – 10 years beyond full build-out

3.2 Future Background Development Traffic Volumes

3.2.1 Empire Residential

The proposed residential subdivision is located on the east side of Eighth Line directly across from the subject development site. The development is planned to consist of approximately 93 single family detached homes and 213 townhomes, with two proposed local road connections. Both connections are proposed to be along Eighth Line, north of the subject site. It is our understanding that the proposed background development will be constructed in a single phase, with an anticipated build-out year of 2024.

Projected site-generated traffic for the background development was estimated using appropriate trip generation rates from the 11th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Based on the location and type of development envisioned, the following Table 3.1 – Trip Generation summarizes the appropriate tripe generation rates for estimated projected site-generated traffic.

Table 3.1 – Trip Generation

LUC	Units	Peak Hours	Total Site Trips	Directional Distribution		Directional Site Trips	
				In	Out	In	Out
210 (Detached Single Family)	93	AM	70	25%	75%	18	52
		PM	93	63%	37%	59	34
215 (Attached Single Family)	213	AM	105	25%	75%	26	79
		PM	124	59%	41%	73	51

Given the nature of the development, the majority of trips generated by the site during the weekday morning and afternoon peak hours will primarily be commuter trips, the 2016 Transportation Tomorrow Survey (TTS) commuter data was reviewed to estimate the distribution of the background development's site-generated traffic. The following Table 3.2 – Empire Trip Distribution outlines the estimated trip distribution assumptions for the site generated trips, which is based on the analyzed TTS data provided in **Appendix B**.

Table 3.2 – Empire Trip Distribution

Direction	Distribution Percentages
Wellington Road 124 (S/W)	33%
Wellington Road 124 (N/E)	20%
Wellington Road 52 (S)	10%
Trafalgar Road (North)	6%
Trafalgar Road (South)	25%
Wellington Road 23 (North)	6%
Total	100%

Based on the above assumed distribution, the background development's site-generated traffic has been assigned to the study area network and is shown in the following Figure 3.1.

3.2.2 Solmar Development

The proposed residential subdivision is located immediately north of Dundas Street East and Sideroad 15. Full build-out the development is planned to consist of 667 single family detached dwellings, 212 semi detached dwellings, 342 townhomes, a senior's residence with 100 units, an affordable housing complex with 130 units, a school for 450 students, 16,415 m² of commercial space and 65,204 m² of industrial space. RVA was provided with a 2022 TIS Addendum for the revised phasing analysis which included future projected site trips and their distribution throughout study area intersections. Based this TIS addendum, it is our understanding that the proposed development will be constructed in three phases; Phase 1 is estimated to be built-out by 2024, Phase 2 by 2025 and Phase 3 by 2026. As a result, the future projected site-generated traffic for this development was taken directly from the *Traffic Impact Study Addendum by LEA Consulting Inc. dated April 2022* and has been explicitly accounted for throughout the study area intersections for the future background 2024 and 2029 horizon years. The following Figure 3.2 depicts the future 2024 projected site-generated trips for Phase 1 and Figure 3.3 depicts the future 2029 projected site generated trips.

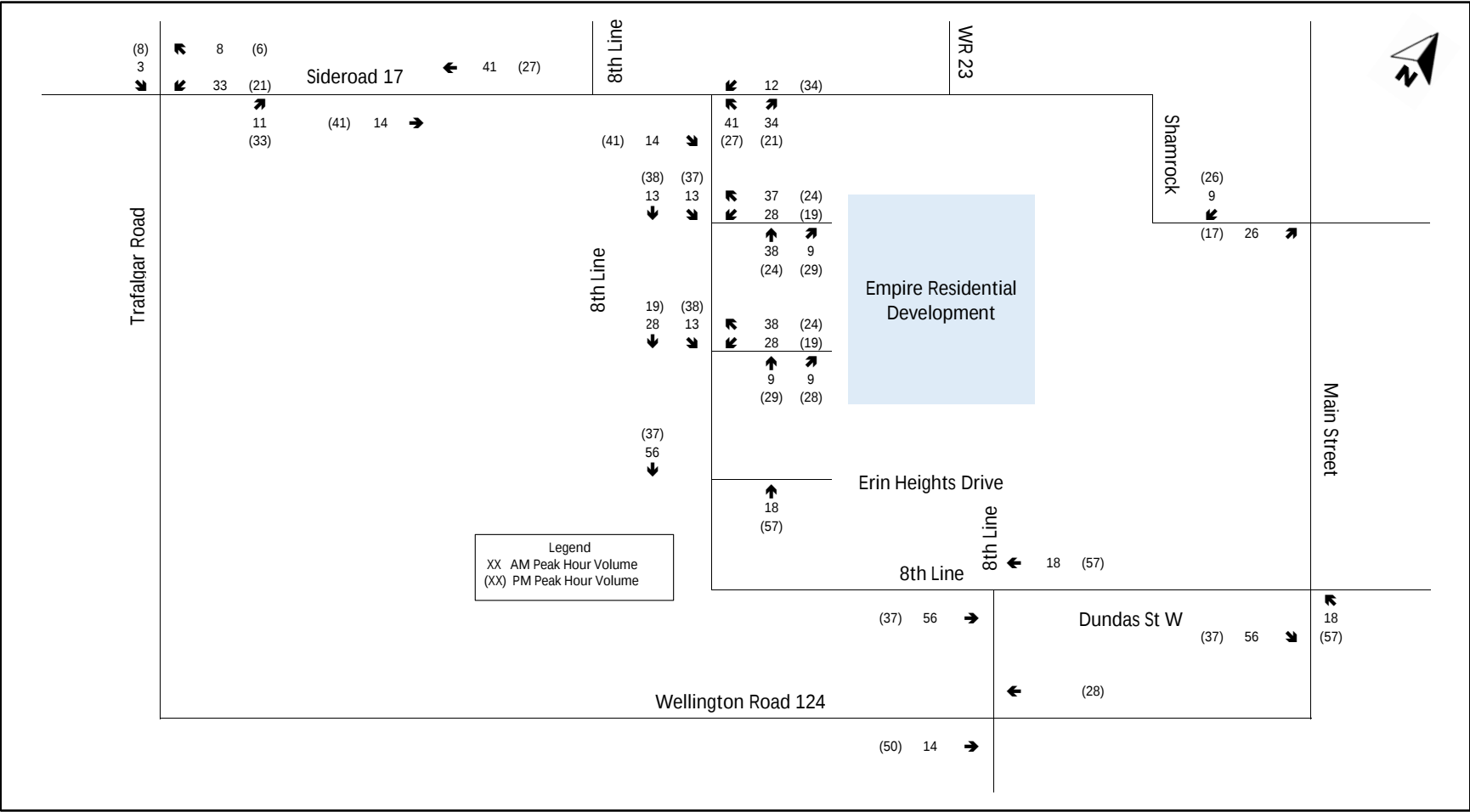


Figure 3.1 – 2024 Empire Residential Development Traffic Volumes

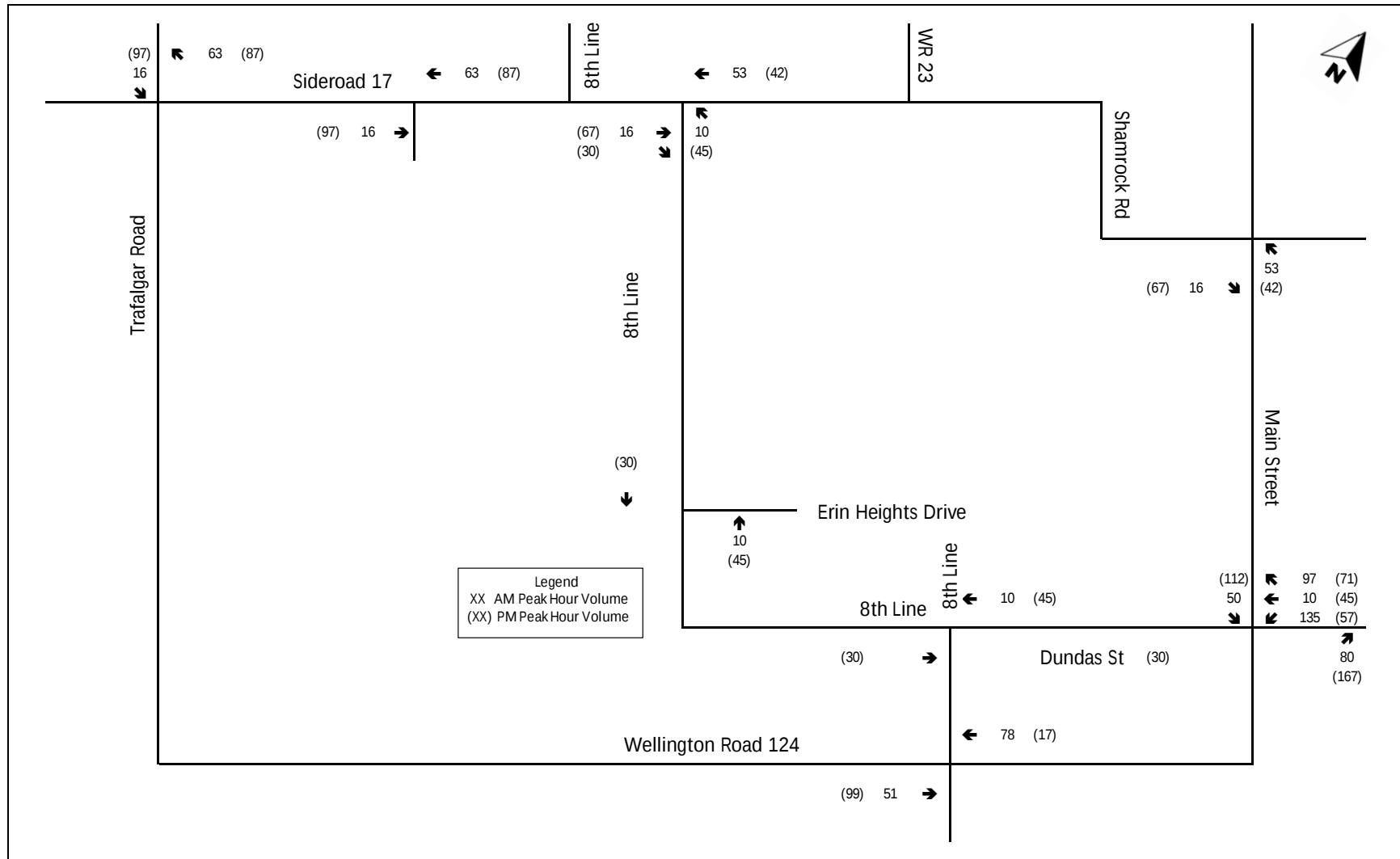


Figure 3.2 – 2024 Solmar Development Traffic Volumes

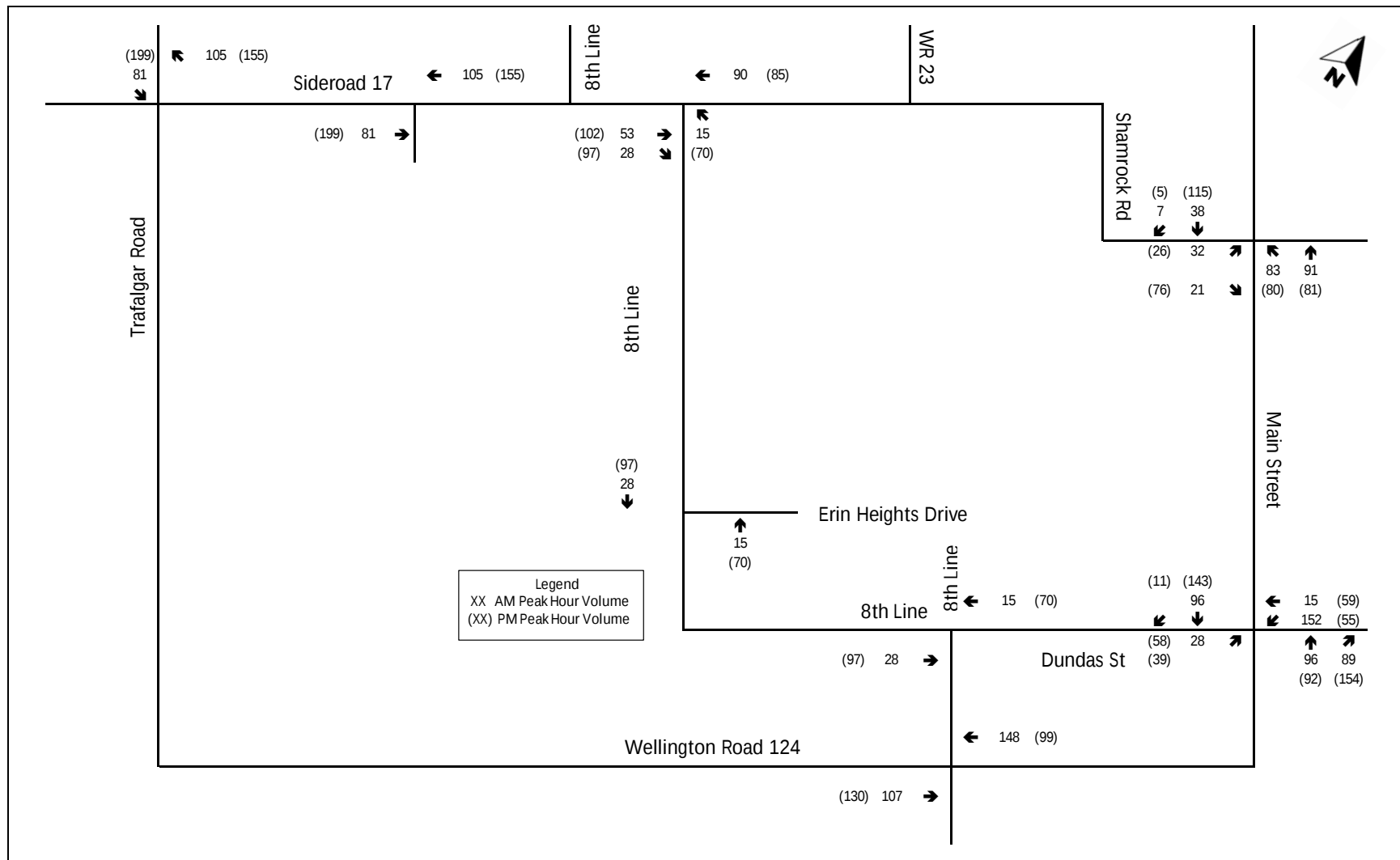


Figure 3.3 – 2026 Solmar Development Traffic Volumes

3.3 Future Background Growth Traffic Volumes

As per consultation with the Town and county staff, a 1% per annum traffic growth rate has been applied to all movements of the Existing 2022 to develop the future background 2024, 2029 and 2034 horizon years. The estimated 2024, 2029 and 2034 future background growth traffic volumes are shown in Figure 3.4, Figure 3.5 and Figure 3.6, respectively.

3.4 Future Background Total Traffic Volumes

The following Figure 3-7, Figure 3-8 and Figure 3-9 depict future background traffic volumes for the horizon years 2024, 2029 and 2034, respectively. These were derived by superimposing the background development site-generated traffic volumes onto future background growth traffic volumes for each respective year (e.g., summing together volumes depicted in Figure 3.1 – *Empire Residential Site Generated Trips* and Figure 3.2 – *Solmar Development Site Generated Trips 2024* and Figure 3.4 – *2024 Future Background Growth*, resulting in Figure 3.7 – *2024 Future Background Traffic Volumes*)

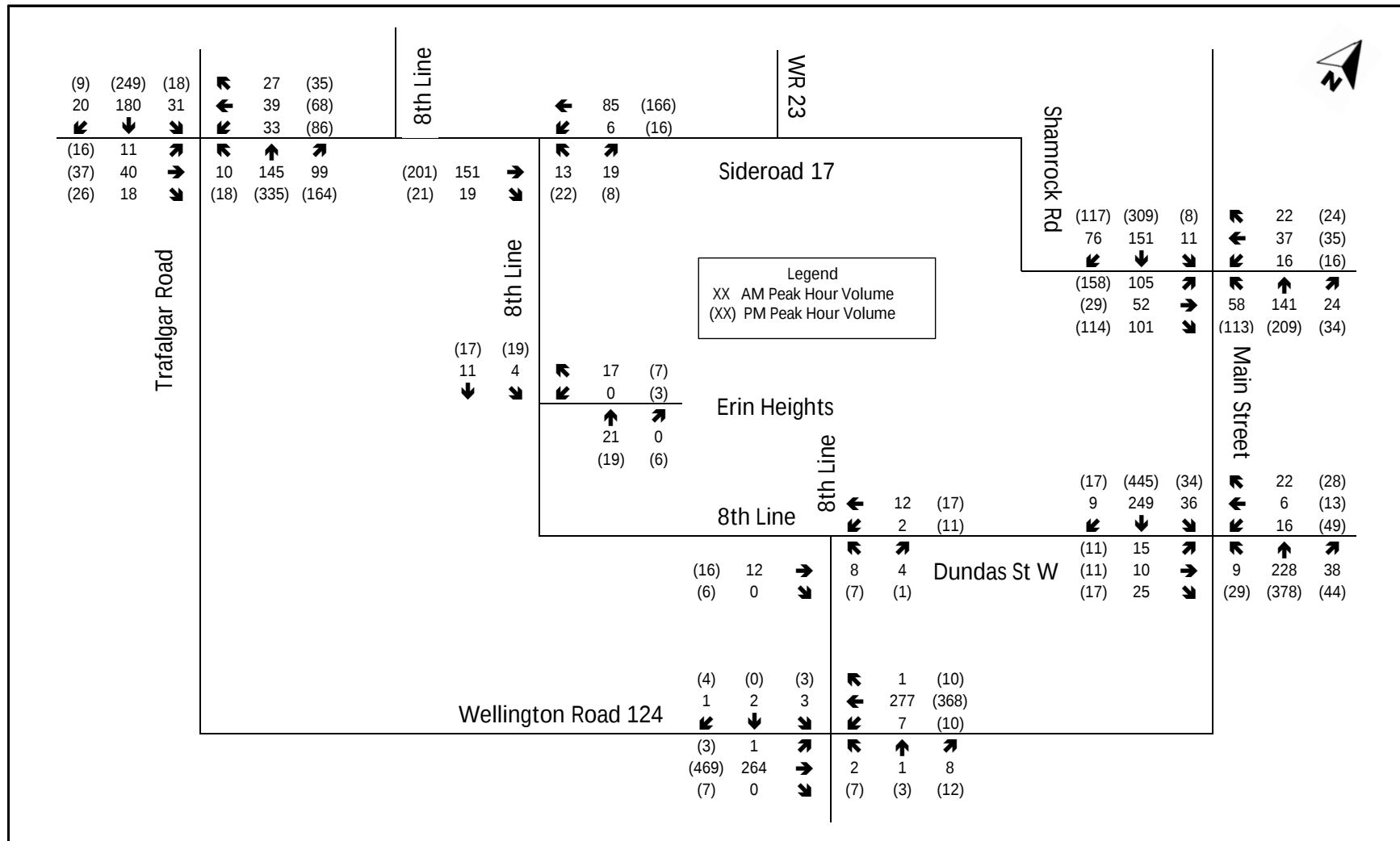


Figure 3.4 – 2024 Future Background Growth Traffic Volumes

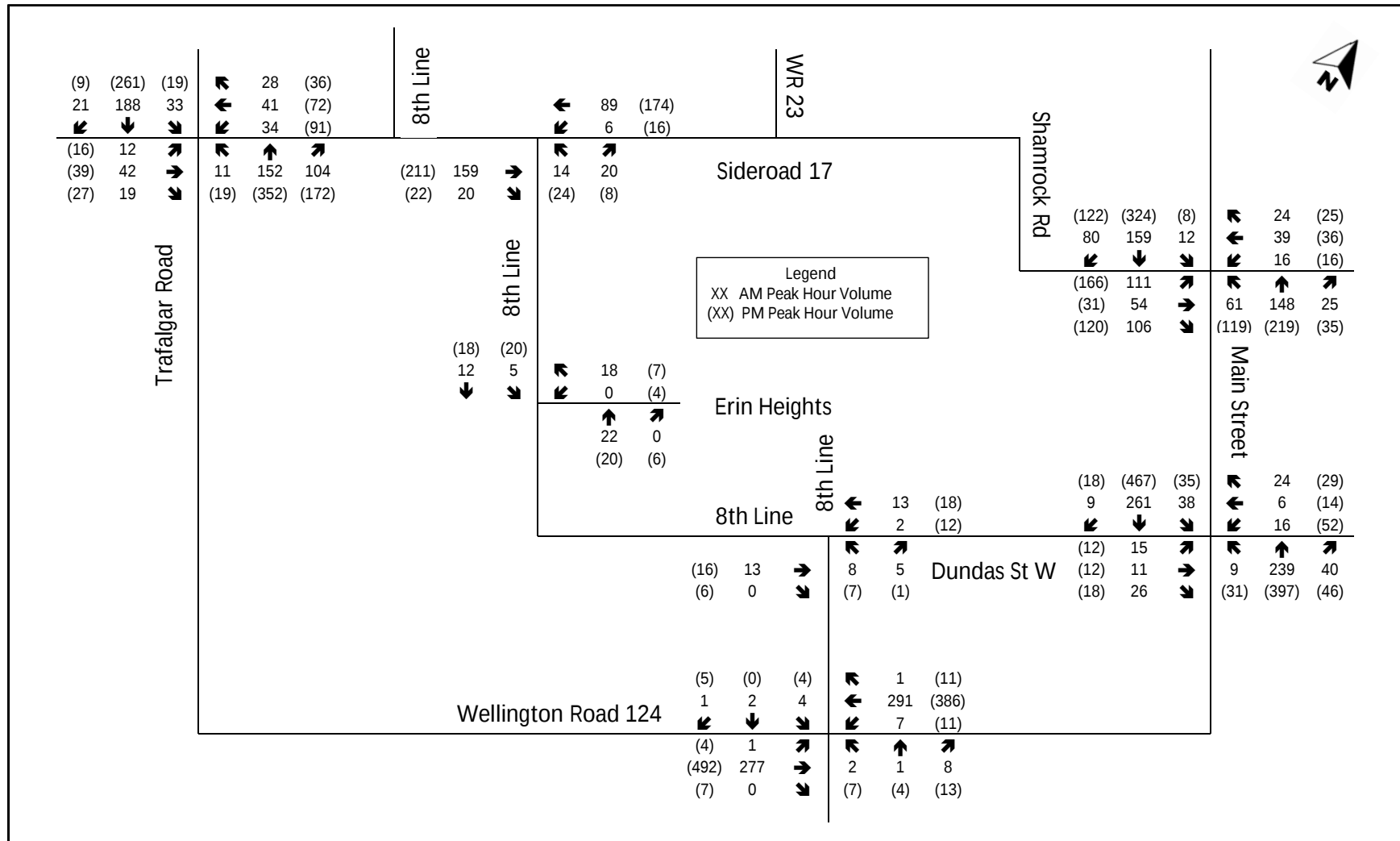


Figure 3.5 – 2029 Future Background Growth Traffic Volumes

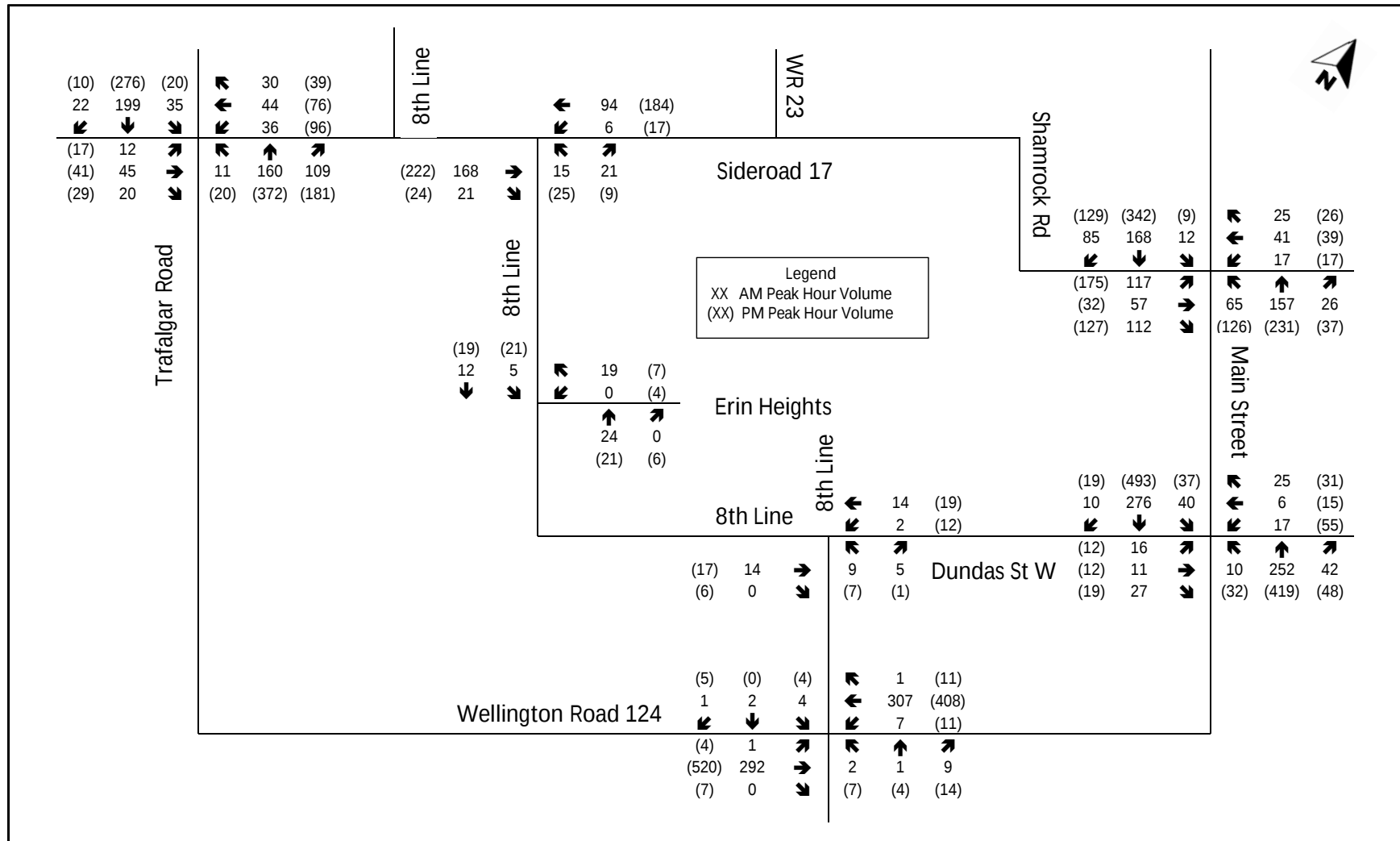
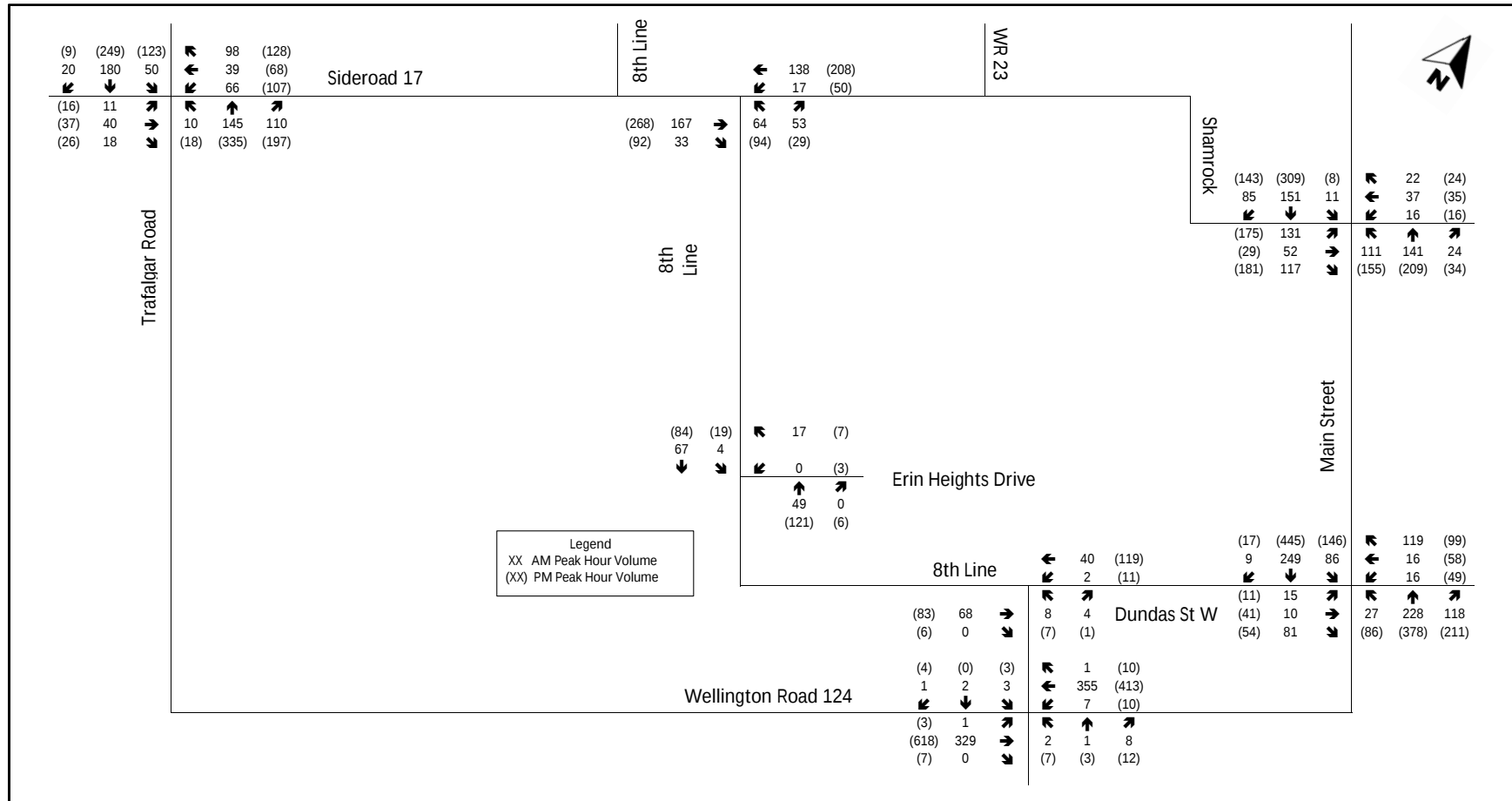


Figure 3.6 – 2034 Future Background Growth Traffic Volumes





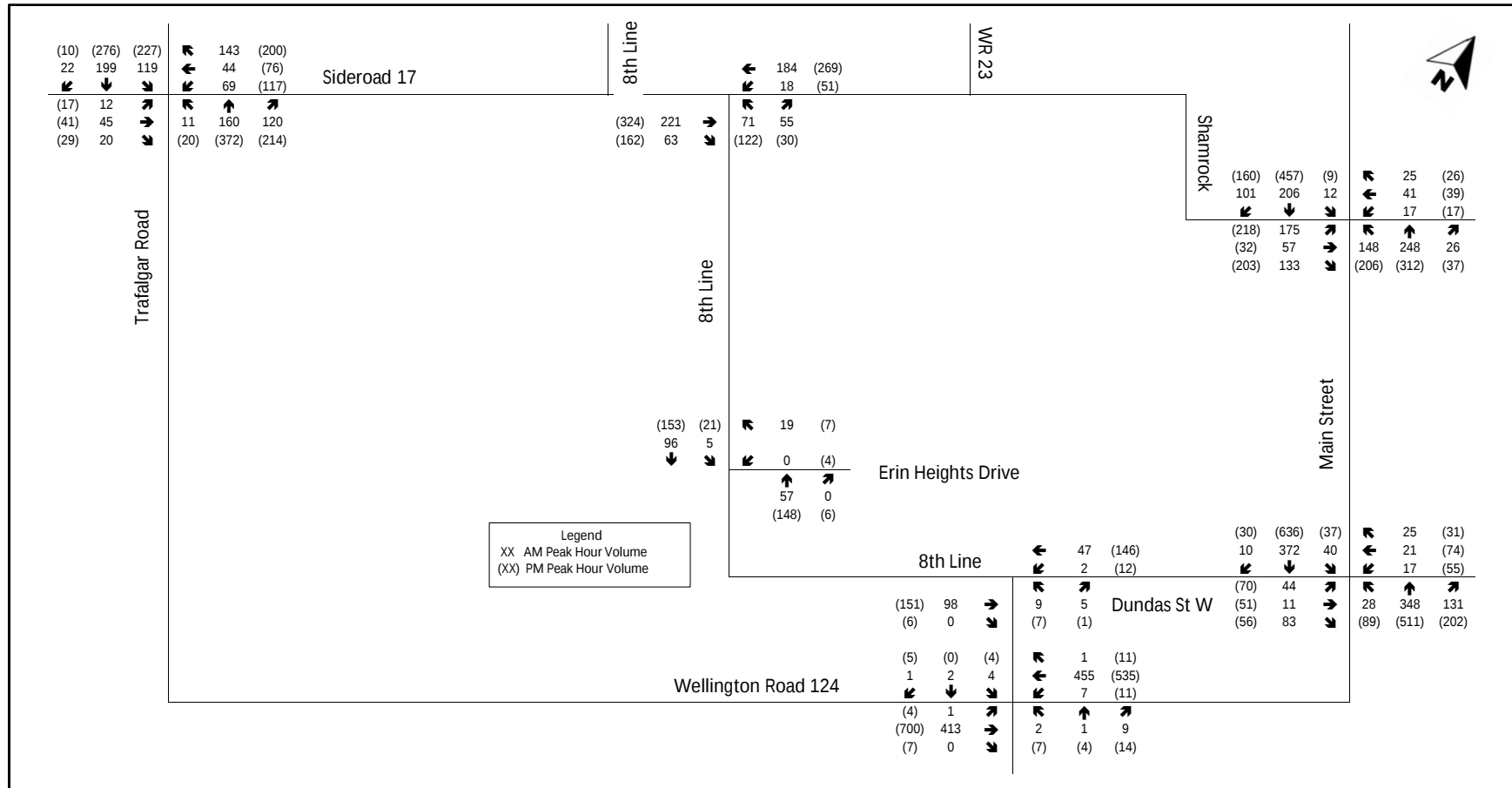


Figure 3.9 – 2034 Future Background Total Traffic Volumes

4.0 Proposed Development

4.1 Draft Plan of Subdivision

The latest Draft Plan of Subdivision indicates that the proposed development will include approximately 409 single family detached dwelling units, 121 single family attached dwelling units, and two medium density blocks consisting of approximately total of 110 units. The subject development can be accessed via the new proposed local roadways, which will connect to Eighth Line and Sideroad 17. The Eighth Line access (Street “E”) will be a 4-legged intersection with Erin Heights Drive, with STOP control on the minor approaches. The Sideroad 17 intersection is currently planned as an unsignalized T-intersection with STOP control on the minor approach only (Street “C”). The following **Appendix C** depicts the developments Draft Plan of Subdivision.

Street “E” and Street “A” are proposed to have a 23 metre-wide-right-of-way (ROW), Street “C” is proposed to have a 20 metre-wide-right-of-way (ROW), and all other internal roads are proposed to have an 18 metre-wide-right-of-way (ROW). The proposed internal roadways compile with the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads minimum requirements for a local roadway, with an overall width of 8.5 metres.

Eighth Line and Street C are approximately 110 metres apart, which complies with the TAC minimum requirements for intersection spacing along a collector roadway with a minimum separation of at least 60 metres.

An AutoTurn analysis has been completed to confirm the operations of the 90-degree bend within the internal road network along Street C as provided in **Appendix D**. Based on this analysis, it was confirmed that critical design vehicles (e.g., HSU, firetruck) will be able to navigate this bend safely and effectively. It is noted that sightlines have not been reviewed as part of this analysis and should be ensured during the design and construction of this subdivision.

Sidewalks will be provided along both sides of the roadway on all roads that have a cross section greater than 20 metres and roadways with an 18-metre cross section will have sidewalks on one side of the roadway only. Pedestrian connections to the neighbouring Empire development will also be provided by a crosswalk across Eighth Line from the stormwater pond path as shown in the figure below. The type of crosswalk is to be determined through separate analysis during the site plan approval process.

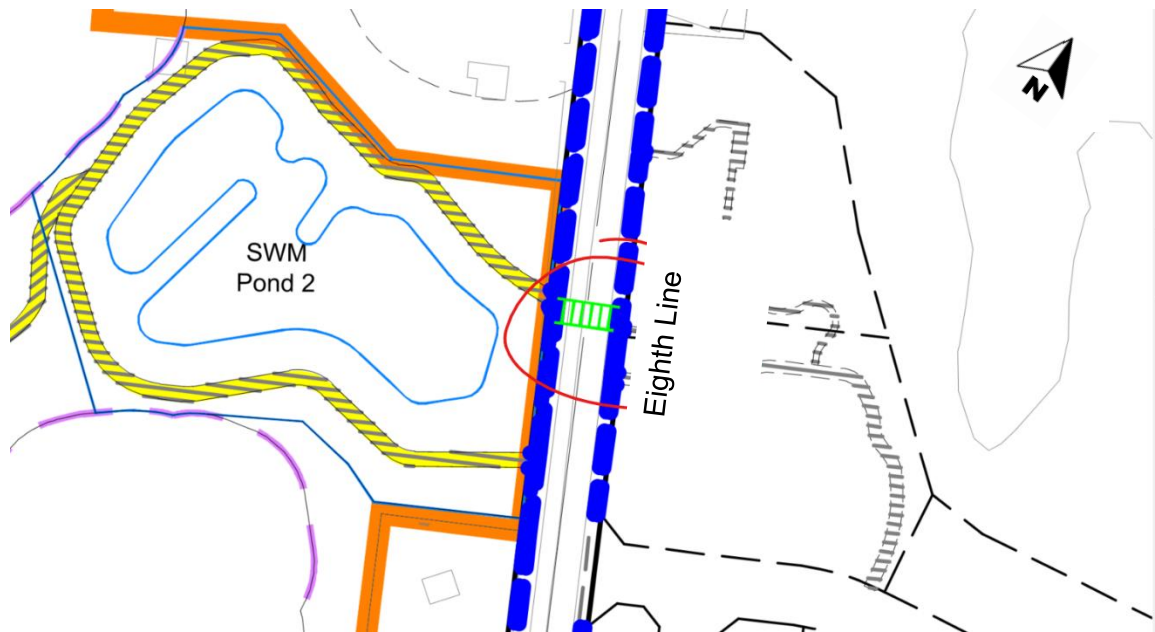


Figure 4.1 – Pedestrian Crossing

Based on anticipated low peak hour intersection volumes internal to the subdivision, and based on the proposed local road network layout, it is proposed that all internal intersections be two-way stop-controlled intersections, with one shared lane that accommodates all possible movements, except for the Street “A” intersection with Street “C”, which is proposed to be an all-way stop. The intersection control and lane configurations are appropriate from an operational perspective, as confirmed in the capacity analysis results presented in Section 6.

4.2 Trip Generation

As previously described, the latest site plan depicts that the proposed development will consist of approximately 409 single family detached dwellings, 121 single family attached dwellings and two medium density blocks consisting of approximately total of 110 units. It has been assumed that the proposed development will be constructed in a single phase, with an anticipated build-out year of 2024.

Projected site generated traffic was estimated using appropriate trip generation rates from the 11th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Based on the location and type of development envisioned, the following Table 4.1 summarizes the appropriate trip generation rates for estimating projected site-generated traffic.

Table 4.1 – ITE Peak Hour Trip Generation Rates

Land Use	ITE Land Use Code	AM Peak Hour	PM Peak Hour
Single-Family Detached Housing	ITE 210 General Urban/Suburban Vehicle Trips	$\ln(T) = 0.91\ln(X) + 0.12$	$T_A = 0.94(X)$
Single-Family Attached Housing	ITE 215 General Urban/Suburban Vehicle Trips	$T_F = 0.52(X) - 5.70$	$T_F = 0.60(X) - 3.93$
Multi-Family Housing (Mid-Rise)	ITE 221 General Urban/Suburban Vehicle Trips	$T_F = 0.44(X) - 11.61$	$T_F = 0.39(X) + 0.34$

Notes: T_A = Average Vehicle Trips
 T_F = Vehicle Trips by Fitted Curve
 X = Per 1000 ft^2

Based on the foregoing the projected weekday morning and afternoon site-generated vehicle traffic is summarized in the following Table 4.2.

Table 4.2 – Trip Generation

LUC	Units	Peak Hours	Total Site Trips	Directional Distribution		Directional Site Trips	
				In	Out	In	Out
210 (Detached Single Family)	409	AM	286	25%	75%	72	214
		PM	384	63%	37%	242	142
215 (Attached Single Family)	121	AM	58	25%	75%	15	43
		PM	69	59%	41%	41	28
221 (Mid-Rise Multi Family)	110	AM	41	23%	77%	9	32
		PM	43	61%	39%	26	17
				Total	AM	96	289
					PM	309	187

As presented in **Table 4-2**, the proposed residential development is projected to generate an approximate two-way total of 385 vehicles during the a.m. peak hour (96 inbound and 287 outbound) and 496 two-way trips (309 inbound and 187 outbound) during the weekday p.m. peak hour.

4.3 Trip Distribution and Assignment

4.3.1 Trip Distribution

The projected distribution of site-generated traffic was derived based on existing travel patterns, the site's connections to/from the surrounding road network, the 2016 Transportation Tomorrow Survey (TTS) commuter data, and our local area knowledge. The

following Table 4.3 outlines the estimated trip distribution assumptions for the site-generated trips and the TTS data is provided in **Appendix B**.

Table 4.3 – Mattamy Trip Distribution

Direction	Distribution Percentages
Wellington Road 124 (South)	33%
Wellington Road 124 (N/E)	20%
Wellington Road 52 (S)	10%
Trafalgar Road (North)	6%
Trafalgar Road (South)	25%
Wellington Road 23 (North)	6%
Total	100%

4.3.2 Trip Assignment

Based on the above assumed distribution, projected 'new' site-generated traffic was assigned to the study area network and is depicted in the following Figure 4.2.

Through the public consultation with the town, residents brought concerns forth about potential cut-through traffic using Erin heights Drive, resulting in speeding and unsafe driver behaviour. It is not anticipated that drivers will use this route as a cut through. Typically, drivers try to find the path of least resistance to reduce delays in their commute. Drivers taking Erin Heights would experience two stop-controlled intersections, while drivers using Eighth Line and Dundas Street W would only wait at one stop-controlled intersection. Every stop-controlled intersection a driver faces will increase their commute duration as they must determine if conflicting vehicles are approaching each time. As a result, Erin Heights is the less desirable route.

A median at the intersection of Eighth Line, Street "E", and Erin Heights Drive is being considered by the developer to limit the vehicular through movements from the proposed site into the Erin Heights Neighbourhood. Although the median would have the desired effect to restrict through movements into Erin Heights, it would also restrict all left-turning movements from all approaches. The proposed median would effectively render Erin heights Drive and Street "E" as right-in right-out only streets. Although acceptable from an access management perspective, it would impact all residents in these two developments by causing detours potentially up to 2km long.

Alternatively, there are other options to mitigate this issue. Signage and traffic calming measures along Erin Heights Drive would make this more undesirable as a cut-through route.

As a result, the trips were assigned to the network assuming the Street "E" intersection will allow all movements.

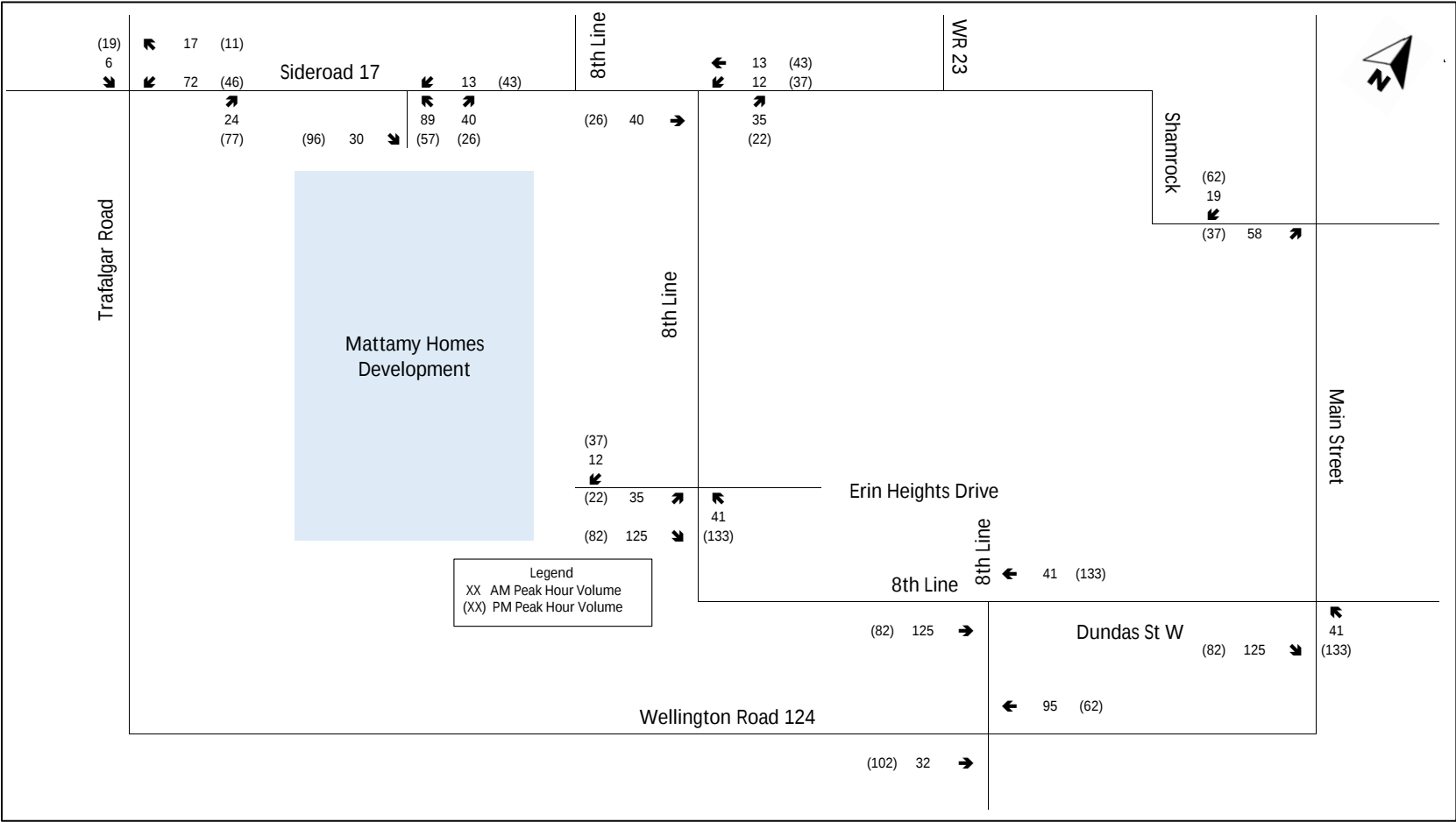
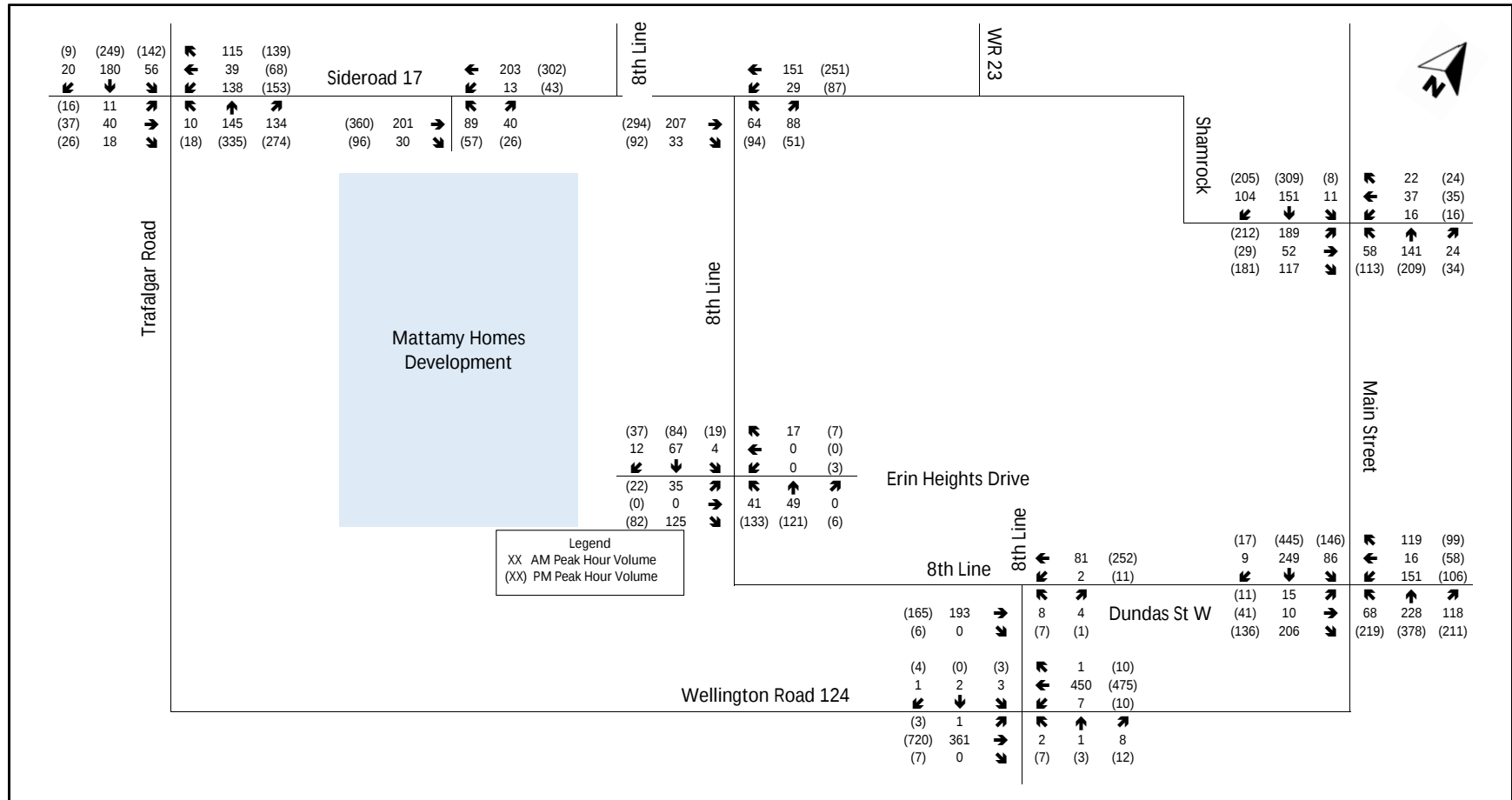


Figure 4.2 – Mattamy Residential Development Traffic Volumes

5.0 Future Total Traffic

5.1 Future Total Traffic Volumes

The following Figure 5.1, Figure 5.2 and Figure 5.3 depict future total traffic volumes for the horizon years 2024, 2029 and 2034, respectively. These were derived by superimposing the projected site generated traffic volumes onto future background growth traffic volumes for each respective year (e.g., summing together volumes depicted in Figure 3.7 – 2024 *Future Background Traffic Volumes* and Figure 4.2 – *Future Site Generated Traffic Volumes*, resulting in Figure 5.1 – 2024 *Future Total Traffic Volumes*).



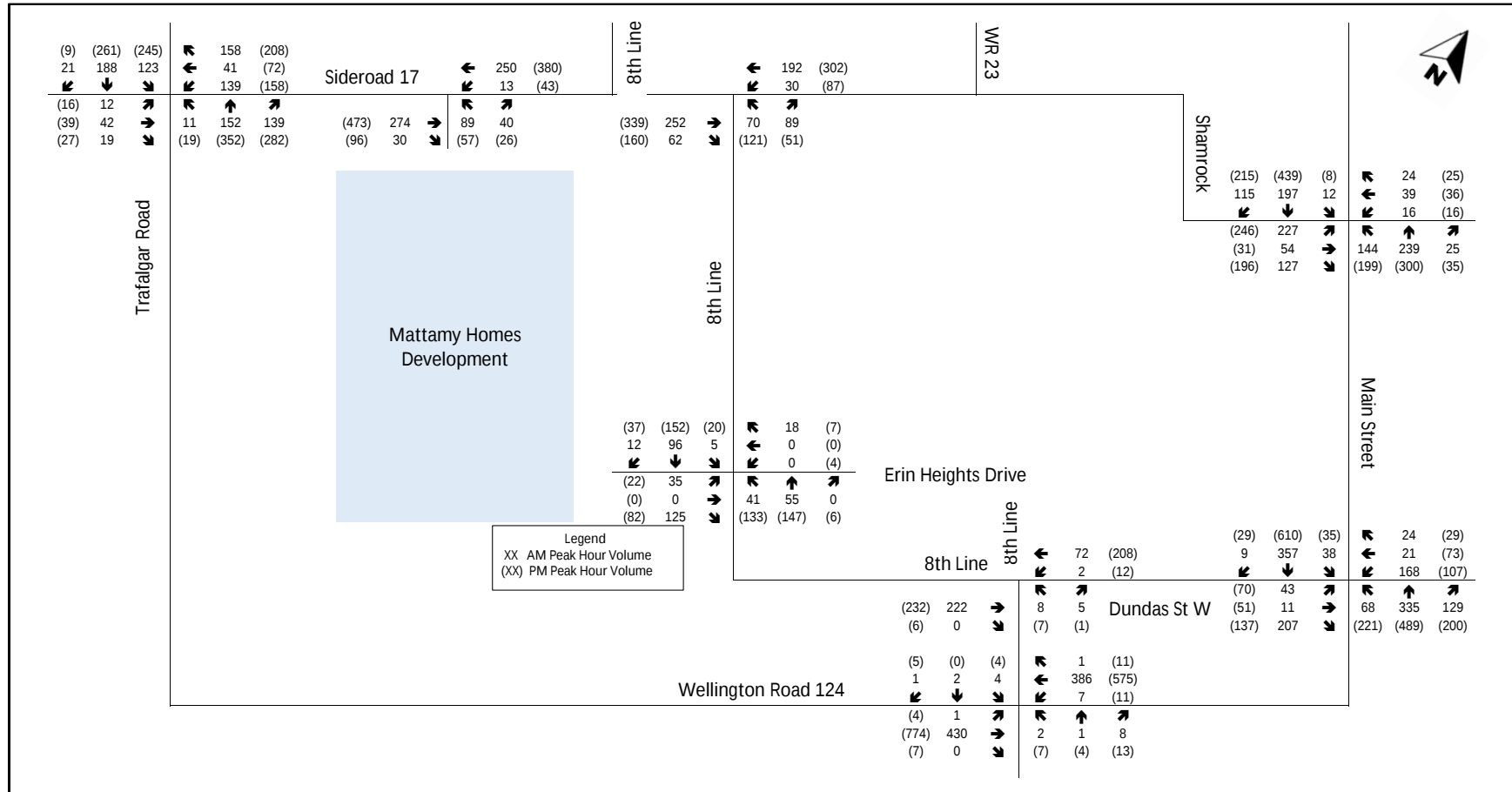


Figure 5.2 – 2029 Future Total Traffic Volumes



6.0 Intersection Operational Analysis

6.1 Intersection Operational Analysis Methodology

The industry standard Synchro macroscopic traffic analysis software was utilized to analyse the intersections for the various horizon years. Key performance measures such as Level of Service (LOS), volume-to-capacity ratio (v/c ratio), and 95th percentile queuing was reported, and are defined below:

- **Average vehicle control delay** is used to characterize LOS for the entire intersection, an approach, or movement. Delay quantifies the variations in travel time and is also a surrogate measure of driver discomfort and fuel consumption.
- **V/c ratio** quantifies the degree to which the capacity of each signal phase is utilized by a defined lane group.
- **95th percentile queue** is the queue length which is expected to be exceeded only 5% of the time; it is common practice to identify preferred storage length requirements for auxiliary turn lanes at signalized intersections based on estimated peak hour 95th percentile queueing.

Table 6.1 identifies the control delay thresholds (seconds of delay per vehicle) for each LOS based on Highway Capacity Manual (HCM 2000) methodology.

Table 6.1 – Characteristics of Level of Service at Intersections

LEVEL OF SERVICE (LOS)	CONTROL DELAY (seconds / vehicle)	
	SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION
A	≤ 10	≤ 10
B	> 10 to 20	> 10 to 15
C	> 20 to 35	> 15 to 25
D	> 35 to 55	> 25 to 35
E	> 55 to 80	> 35 to 50
F	> 80	> 50

Existing signal timing plans for the signalized study area intersections were provided by the Town for use in the analysis; the signal timing plans are provided in **Appendix E**.

6.2 Intersection Operational Analysis Results

The following tables present the capacity analysis results for the study area intersections under all existing and future conditions scenarios. Detailed Highway Capacity Manual (HCM 2000) output reports from the Synchro software are provided in **Appendix F**. The results of the analysis can be summarized as follows:

Table 6.2 – Operational Analysis Results – Eighth Line & Street E/ Erin Heights Drive

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
2022 Existing	WBLR	0.02	A	0	0.01	A	0
	SBLT	0.00	A	0	0.02	A	0
	Overall	-	A	-	-	A	-
2024 Future Background	WBLR	0.02	A	0	0.02	A	0
	SBLT	0.00	A	0	0.02	A	0
	Overall	0.17	A	-	0.26	A	-
2029 Future Background	WBLR	0.02	A	1	0.02	B	1
	SBLT	0.00	A	0	0.02	A	1
	Overall	0.19	A	-	0.31	A	-
2034 Future Background	WBLR	0.02	A	1	0.02	B	1
	SBLT	0.00	A	0	0.02	A	1
	Overall	0.19	A	-	0.31	A	-
2024 Future Total	EBLTR	0.19	A	5	0.23	B	7
	WBLTR	0.02	A	0	0.03	B	1
	NBLTR	0.03	A	1	0.13	A	3
	SBLTR	0.00	A	0	0.02	A	0
	Overall	0.35	A	-	0.39	A	-
2029 Future Total	EBLTR	0.20	B	6	0.27	B	8
	WBLTR	0.02	A	1	0.05	C	1
	NBLTR	0.03	A	1	0.14	A	4
	SBLTR	0.00	A	0	0.02	A	1
	Overall	0.35	A	-	0.44	A	-
2034 Future Total	EBLTR	0.20	B	6	0.27	B	8
	WBLTR	0.02	A	1	0.05	C	1
	NBLTR	0.03	A	1	0.14	A	4
	SBLTR	0.00	A	0	0.02	A	1
	Overall	0.35	A	-	0.44	A	-

As shown in Table 6.2, the proposed intersection is projected to operate similar to existing conditions with an overall LOS of 'A' during weekday a.m. and p.m. peak hours, even with the additional leg of the intersection. All movements are projected to operate with a LOS 'C' or better during both peak hours with reserve capacity with reasonable queues of up to 1 vehicle.

Table 6.3 – Operational Analysis Results – Eighth Line & Sideroad 17

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
2022 Existing	WBLT	0.00	A	0	0.01	A	0
	NBLR	0.04	A	1	0.05	B	1
	Overall	-	A	-	-	A	-
2024 Future Background	WBLT	0.01	A	0	0.04	A	1
	NBLR	0.18	B	5	0.29	C	9
	Overall	0.35	A	-	0.50	A	-
2029 Future Background	WBLT	0.02	A	0	0.05	A	1
	NBLR	0.22	B	6	0.43	C	16
	Overall	0.38	A	-	0.61	B	-
2034 Future Background	WBLT	0.02	A	0	0.05	A	1
	NBLR	0.23	B	7	0.45	C	17
	Overall	0.39	A	-	0.63	B	-
2024 Future Total	WBLT	0.02	A	1	0.08	A	2
	NBLR	0.25	B	7	0.39	C	14
	Overall	0.41	A	-	0.57	B	-
2029 Future Total	WBLT	0.03	A	1	0.09	A	2
	NBLR	0.29	B	9	0.58	D	26
	Overall	0.48	A	-	0.68	C	-
2034 Future Total	WBLT	0.03	A	1	0.09	A	2
	NBLR	0.30	B	10	0.60	D	28
	Overall	0.49	A	-	0.70	C	-

As shown in Table 6.3, the study area intersection is projected to operate well with an overall LOS 'A' during weekday a.m. and p.m. peak hours into the 2034 horizon year. With regard to individual movements, they are projected to operate with a LOS 'D' or better during both peak hours, with reserve capacity. In terms of 95th percentile queues, the longest queue length during the 2034 horizon year is the northbound movement, which is estimated to be no longer than 28 metres and is not anticipated to cause any queuing issues.

Table 6.4 – Operational Analysis Results – Eighth Line & Dundas Street W

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
2022 Existing	WBLT	0.00	A	0	0.01	A	0
	NBLR	0.01	A	0	0.01	A	0
	Overall	-	A	-	-	A	-
2024 Future Background	WBLT	0.00	A	0	0.01	A	0
	NBLR	0.02	A	0	0.01	A	0
	Overall	0.14	A	-	0.24	A	-
2029 Future Background	WBLT	0.00	A	0	0.01	A	0
	NBLR	0.02	A	0	0.01	B	0
	Overall	0.15	A	-	0.28	A	-
2034 Future Background	WBLT	0.00	A	0	0.01	A	0
	NBLR	0.02	A	1	0.01	B	0
	Overall	0.15	A	-	0.28	A	-
2024 Future Total	WBLT	0.00	A	0	0.01	A	0
	NBLR	0.02	B	1	0.02	B	0
	Overall	0.20	A	-	0.32	A	-
2029 Future Total	WBLT	0.00	A	0	0.01	A	0
	NBLR	0.02	B	1	0.02	B	0
	Overall	0.22	A	-	0.31	A	-
2034 Future Total	WBLT	0.00	A	0	0.01	A	0
	NBLR	0.03	B	1	0.02	B	0
	Overall	0.22	A	-	0.31	A	-

As shown in Table 6.4, the study area intersection is projected to operate well with an overall LOS 'A' during weekday a.m. and p.m. peak hours into the 2034 horizon year. With regard to individual movements, they are projected to operate with a LOS 'B' or better during both peak hours and with reserve capacity and no anticipated queuing issues.

Table 6.5 – Operational Analysis Results – Eighth Line & Wellington Road 124

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
2022 Existing	EBLT	0.00	A	0	0.00	A	0
	WBLT	0.00	A	0	0.01	A	0
	NBLTR	0.02	B	0	0.07	C	2
	SBLTR	0.01	B	0	0.02	B	1
	Overall	-	A	-	-	A	-
2024 Future Background	EBLT	0.00	A	0	0.00	A	0
	WBLT	0.01	A	0	0.01	A	0
	NBLTR	0.02	B	1	0.10	C	3
	SBLTR	0.02	C	0	0.03	C	1
	Overall	0.34	A	-	0.49	A	-
2029 Future Background	EBLT	0.00	A	0	0.01	A	0
	WBLT	0.01	A	0	0.02	A	0
	NBLTR	0.03	B	1	0.14	D	4
	SBLTR	0.02	C	1	0.06	D	1
	Overall	0.39	A	-	0.52	A	-
2034 Future Background	EBLT	0.00	A	0	0.01	A	0
	WBLT	0.01	A	0	0.02	A	0
	NBLTR	0.03	B	1	0.16	D	4
	SBLTR	0.03	C	1	0.06	D	2
	Overall	0.40	A	-	0.54	A	-
2024 Future Total	EBLT	0.00	A	0	0.00	A	0
	WBLT	0.01	A	0	0.01	A	0
	NBLTR	0.02	B	1	0.13	D	3
	SBLTR	0.02	C	1	0.04	C	1
	Overall	0.39	A	-	0.55	A	-
2029 Future Total	EBLT	0.00	A	0	0.01	A	0
	WBLT	0.01	A	0	0.02	A	0
	NBLTR	0.03	B	1	0.19	D	5
	SBLTR	0.02	C	1	0.08	D	2
	Overall	0.39	A	-	0.58	B	-
2034 Future Total	EBLT	0.00	A	0	0.01	A	0
	WBLT	0.01	A	0	0.02	A	0
	NBLTR	0.03	B	1	0.20	E	6
	SBLTR	0.03	C	1	0.08	E	2
	Overall	0.40	A	-	0.59	A	-

As shown in Table 6.5, the study area intersection is projected to operate well with an overall LOS 'A' during weekday a.m. and p.m. peak hours into the 2034 horizon year. Regarding individual movements, they are projected to operate with a LOS 'D' or better during both peak hours with reserve capacity. 95th percentile queues are estimated to be no longer than 1 vehicle in length during any horizon year.

Table 6.6 – Operational Analysis Results – Trafalgar Road (WR 24) & Sideroad 17

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
2022 Existing	EBLTR	0.14	B	4	0.23	C	7
	WBLTR	0.19	B	5	0.56	D	25
	NBLT	0.01	A	0	0.01	A	0
	SBLT	0.03	A	0	0.02	A	0
	Overall	-	A	-	-	B	-
2024 Future Background	EBLTR	0.16	B	4	0.42	E	14
	WBLTR	0.38	C	13	1.17	F	109
	NBLT	0.01	A	0	0.01	A	0
	SBLT	0.04	A	1	0.13	A	3
	Overall	0.49	A	-	0.73	C	-
2029 Future Background	EBLTR	0.22	C	6	0.88	F	38
	WBLTR	0.53	C	23	2.18	F	242
	NBLT	0.01	A	0	0.02	A	0
	SBLT	0.10	A	3	0.25	A	7
	Overall	0.56	B	-	0.85	E	-
2034 Future Background	EBLTR	0.24	C	7	1.07	F	48
	WBLTR	0.57	C	27	2.53	F	271
	NBLT	0.01	A	0	0.02	A	0
	SBLT	0.10	A	3	0.25	A	8
	Overall	0.58	B	-	0.87	E	-
2024 Future Total	EBLTR	0.17	B	5	0.49	E	18
	WBLTR	0.59	C	29	1.63	F	184
	NBLT	0.01	A	0	0.01	A	0
	SBLT	0.05	A	1	0.16	A	4
	Overall	0.54	A	-	0.77	D	-
2029 Future Total	EBLTR	0.23	C	7	1.09	F	47
	WBLTR	0.82	E	58	3.26	F	Err
	NBLT	0.01	A	0	0.02	A	0
	SBLT	0.11	A	3	0.29	A	9
	Overall	0.62	B	-	0.89	E	-
2034 Future Total	EBLTR	0.26	C	8	1.36	F	58
	WBLTR	0.88	F	68	3.89	F	Err
	NBLT	0.01	A	0	0.02	A	0
	SBLT	0.11	A	3	0.29	A	9
	Overall	0.63	B	-	0.91	F	-

As shown in Table 6.6, the study area intersection is projected to operate well in the morning peak hour with an overall LOS ‘C’ into the 2034 future total horizon year.

During the p.m. peak hour, results indicate that the intersection is projected to operate with an overall LOS ‘E’ during the 2034 future background horizon year as a result of the background growth and other area developments. Certain movements are operating

considerably over capacity and delays of LOS “F”. With the subject site’s generated traffic, the intersection is projected to continue to operate poorly, at an overall LOS ‘F’ during the 2034 horizon year as well.

Based on the intersection operational results, a signal warrant has been completed for this intersection. The results are presented in Section 8.0.

Table 6.7 – Operational Analysis Results – Main Street (WR 124) & Dundas Street W

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			EXISTING STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
2022 Existing	EBLTR	0.28	C	9	0.14	B	7	35m
	WBLTR	0.25	C	8	0.42	C	14	
	NBL	0.01	A	4	0.05	A	2	
	NBTR	0.25	A	21	0.40	A	39	40m
	SBL	0.05	A	5	0.06	A	4	
	SBTR	0.26	A	21	0.43	A	44	
	Overall	0.26	A	-	0.43	A	-	-
2024 Future Background	EBLTR	0.31	A	11	0.27	B	16	35m
	WBLTR	0.41	A	14	0.55	B	32	
	NBL	0.04	A	4	0.19	A	12	
	NBTR	0.36	A	31	0.66	B	74	40m
	SBL	0.15	A	10	0.43	B	23	
	SBTR	0.28	A	25	0.51	B	54	
	Overall	0.29	A	-	0.55	A	-	-
2029 Future Background	EBLTR	0.42	B	17	0.49	C	31	35m
	WBLTR	0.21	B	11	0.44	C	29	
	NBL	0.05	A	4	0.22	A	14	
	NBTR	0.48	A	49	0.64	B	100	40m
	SBL	0.08	A	6	0.10	A	6	
	SBTR	0.39	A	39	0.58	B	89	
	Overall	0.41	A	-	0.53	A	-	-
2034 Future Background	EBLTR	0.43	B	18	0.54	C	31	35m
	WBLTR	0.22	B	12	0.50	C	30	
	NBL	0.05	A	4	0.30	B	15	
	NBTR	0.49	A	52	0.76	B	114	40m
	SBL	0.09	A	6	0.14	A	7	
	SBTR	0.41	A	41	0.70	B	95	
	Overall	0.42	A	-	0.63	B	-	-
2024 Future Total	EBLTR	0.38	A	15	0.36	A	18	35m
	WBLTR	0.75	C	53	0.67	C	46	
	NBL	0.15	B	13	0.54	B	43	
	NBTR	0.50	B	52	0.69	B	95	40m
	SBL	0.23	B	17	0.49	B	31	
	SBTR	0.39	B	42	0.53	B	70	

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			EXISTING STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
	Overall	0.43	A	-	0.56	A	-	-
2029 Future Total	EBLTR	0.46	A	21	0.63	C	39	35m
	WBLTR	0.75	C	52	0.71	C	42	
	NBL	0.18	B	13	0.72	C	65	
	NBTR	0.64	B	78	0.74	B	140	40m
	SBL	0.13	B	9	0.13	B	8	
	SBTR	0.52	B	61	0.67	B	110	
	Overall	0.48	B	-	0.58	B	-	-
2034 Future Total	EBLTR	0.47	A	21	0.62	C	40	35m
	WBLTR	0.75	C	48	0.72	C	43	
	NBL	0.18	B	14	0.80	D	69	
	NBTR	0.65	B	82	0.77	B	150	40m
	SBL	0.14	B	9	0.15	B	9	
	SBTR	0.54	B	64	0.71	B	135	
	Overall	0.48	B	-	0.61	C	-	-

As shown in Table 6.7, the study area intersection is projected to continue operating similar to existing conditions with a maximum overall LOS of 'C' or better during weekday a.m. and p.m. peak hours. All movements are also projected to continue operating similar to existing conditions with a LOS 'C' or better during both peak hours. In terms of 95th percentile queues, the northbound left movement is forecast to operate with queues above the storage length during the all horizon years.

Table 6.8 – Operational Analysis Results – Main Street & Shamrock Road

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			EXISTING STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
2022 Existing	EBL	0.49	C	24	0.57	C	33	15m
	EBTR	0.25	C	17	0.16	B	15	10m
	WBL	0.07	B	5	0.06	B	5	
	WBTR	0.13	C	11	0.11	B	11	
	NBL	0.10	A	8	0.20	A	16	40m
	NBTR	0.18	A	17	0.26	A	28	50m
	SBL	0.02	A	3	0.01	A	2	
	SBT	0.18	A	17	0.32	A	37	
	SBR	0.06	A	5	0.08	A	7	50m
	Overall	0.26	B	-	0.39	B	-	-
2024 Future Background	EBL	0.57	C	29	0.62	C	37	15m
	EBTR	0.42	B	18	0.42	A	17	10m
	WBL	0.07	B	6	0.06	B	6	

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			EXISTING STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
	WBTR	0.17	B	11	0.15	B	11	38m
	NBL	0.20	A	16	0.28	A	23	
	NBTR	0.20	A	20	0.27	A	30	
	SBL	0.02	A	3	0.01	A	3	50m
	SBT	0.19	A	20	0.33	A	41	50m
	SBR	0.11	A	5	0.16	A	8	
	Overall	0.30	B	-	0.38	B	-	
2029 Future Background	EBL	0.67	C	37	0.69	C	44	15m
	EBTR	0.41	A	18	0.43	A	17	10m
	WBL	0.07	B	6	0.06	B	6	
	WBTR	0.16	B	12	0.14	B	11	
	NBL	0.28	B	22	0.46	B	35	40m
	NBTR	0.32	A	35	0.39	B	44	50m
	SBL	0.02	A	3	0.02	A	3	
	SBT	0.26	A	27	0.48	B	61	
	SBR	0.13	A	6	0.17	A	8	50m
	Overall	0.41	B	-	0.50	B	-	-
2034 Future Background	EBL	0.69	C	39	0.72	D	46	15m
	EBTR	0.43	A	19	0.43	A	18	10m
	WBL	0.07	B	6	0.07	B	6	
	WBTR	0.17	B	12	0.15	B	12	
	NBL	0.29	B	23	0.49	B	38	40m
	NBTR	0.34	A	36	0.41	B	46	50m
	SBL	0.02	A	3	0.02	A	3	
	SBT	0.27	A	28	0.50	B	65	
	SBR	0.13	A	6	0.18	A	8	50m
	Overall	0.43	B	-	0.52	B	-	-
2024 Future Total	EBL	0.72	D	42	0.70	C	45	15m
	EBTR	0.38	A	18	0.41	A	17	10m
	WBL	0.06	B	6	0.06	B	6	
	WBTR	0.15	B	11	0.14	B	11	
	NBL	0.11	A	10	0.21	A	17	40m
	NBTR	0.20	A	21	0.28	A	30	50m
	SBL	0.02	A	3	0.01	A	3	
	SBT	0.20	A	21	0.34	B	41	
	SBR	0.14	A	6	0.23	A	9	50m
	Overall	0.42	B	-	0.41	B	-	-
2029 Future Total	EBL	0.80	D	57	0.77	D	55	15m
	EBTR	0.38	A	18	0.41	A	17	10m
	WBL	0.06	B	6	0.06	B	6	
	WBTR	0.14	B	12	0.13	B	11	
	NBL	0.29	B	22	0.47	B	36	40m
	NBTR	0.34	B	35	0.40	B	44	

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			EXISTING STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
	SBL	0.02	A	3	0.02	A	3	50m
	SBT	0.27	B	27	0.49	B	61	
	SBR	0.15	A	6	0.24	A	9	50m
	Overall	0.50	B	-	0.54	B	-	-
2034 Future Total	EBL	0.81	D	59	0.79	D	61	15m
	EBTR	0.39	A	19	0.42	A	18	
	WBL	0.06	B	6	0.06	B	6	10m
	WBTR	0.15	B	12	0.14	B	12	
	NBL	0.30	B	23	0.51	B	38	40m
	NBTR	0.35	B	36	0.41	B	46	
	SBL	0.02	A	3	0.02	A	3	50m
	SBT	0.28	B	28	0.51	B	65	
	SBR	0.16	A	7	0.25	A	9	50m
	Overall	0.50	B	-	0.56	B	-	-

As shown in Table 6.8, the study area intersection is projected to continue operating similar to existing conditions with an overall LOS 'B' during weekday a.m. and p.m. peak hours. All movements are also projected to continue operating similar to existing conditions with a LOS 'D' or better during both peak hours. The 95th percentile queue for the eastbound left-turn lane is exceeding the provided storage length under existing conditions and will continue operating as such under the ultimate horizon years.

Table 6.9 – Operational Analysis Results – Street 'C' & Sideroad 17

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
2024 Future Total	NBLR	0.23	B	7	0.24	C	7
	WBLT	0.01	A	0	0.04	A	1
	Overall	0.35	A	-	0.58	A	-
2029 Future Total	NBLR	0.27	B	8	0.32	C	10
	WBLT	0.01	A	0	0.05	A	1
	Overall	0.38	A	-	0.67	A	-
2034 Future Total	NBLR	0.28	B	9	0.33	C	11
	WBLT	0.01	A	0	0.05	A	1
	Overall	0.38	A	-	0.68	A	-

As shown in Table 6.9, the proposed site access intersection is projected to operate with an overall LOS 'A' during the weekday a.m. peak hour and p.m. peak hour. All movements at the intersection are projected to operate with a LOS 'C' or better during both peak hours with reserve capacity. The longest 95th percentile queue length occurred in the westbound

direction during the 2034 horizon year, which is estimated to be no longer than 11 metres and is not anticipated to cause any queuing issues.

7.0 Left-Turn Lane Warrants

Ontario Ministry of Transportation (MTO) left-turn lane warrants were completed for the proposed site driveways along with the Trafalgar Road and Sideroad 17 intersection. Warrants were completed using volume projections previously illustrated in Figure 3.7. The following presents the results of the warrant analysis. All MTO left-turn lane warrants sheets are provided in **Appendix G**.

Trafalgar Road & Sideroad 17

Left-turn lanes are warranted for the north and southbound directions as a result of the background traffic in 2024, 2029 and 2034. The following are the auxiliary lanes lengths warranted at the intersection in the 2034 future background horizon year as a result of the background growth and development volumes:

- Northbound left-turn lane with at least 25 metres of storage
- Southbound left-turn lane with at least 65 metres of storage

With the addition of the site generated traffic, the left turn lane warrants similar lengths for the left turn lanes.

Storage lengths for both the northbound and southbound left turn lanes are to be confirmed through the operation analysis.

Sideroad 17 & Eighth Line

Left-turn lanes are warranted in the westbound direction as a result of the background traffic in 2034. In this scenario, the intersection volumes warrant a 15-metre westbound left turn lane as a result of the background traffic.

With the addition of the site generated traffic, the intersection continues to warrant a left turn lane. In the 2034 horizon year, a 25-metre left turn lane is warranted.

Sideroad 17 & Street "C"

A 15-metre westbound left-turn lane is warranted in the 2034 horizon years in the future total scenario. This lane should be implemented by the build out year to support the subject site generated traffic.

Eighth Line & Street “E” / Erin Heights Drive

Based on this analysis, northbound or southbound left turn lanes are not warranted at the Eighth Line intersection with Street “E” and Erin Heights Drive in the 2024. In the 2029 and 2034, a southbound left turn lane is not warranted.

During the 2029 and 2034 horizon years, the northbound left turn lane is on the cusp of being warranted. As a result, the Synchro operational results were reviewed, which indicates that there will be no operational issues with a single lane into the 2034 horizon year. As a result, no left turn lane is recommended at this access.

Eighth Line & WR 124

Left-turn lanes are warranted in the eastbound and westbound directions as a result of existing conditions. In this scenario, the intersection volumes warrant a 15-metre left turn lane in each direction.

With the addition of the site generated traffic, the intersection continues to warrant a left turn lane. In the 2034 horizon year, a 25-metre left turn lane is warranted in each direction.

8.0 Signal Warrants

An MTO signal warrant analysis was completed for all unsignalized study area intersections, using the projected future traffic volumes. The MTO signal warrant is completed by analyzing warrant 1A (All-Approach Volumes), 1B (Minor Street Volume), 2A (Major Street Volume), and 2B (multi-modal Crossing Volume). The table below presents the minimum compliance percentage of warrants 1 (A or B) and 2 (A or B). If one of these values is over 100%, signalization of this intersection is considered warranted. If neither of these values are over 100% but both are above 80%, signalization of this intersection is considered warranted.

Traffic signals are not warranted at any of the study area intersections except for the Trafalgar Road and Sideroad 17 intersection. Traffic signal control is warranted at this intersection under the 2024 future background horizon year due to area developments as shown in Table 8.1. The subject site does not trigger the signalization of any intersection in the study area. The Town may choose to monitor to determine when the signal should be implemented. MTO Signal Warrant Sheets are provided in **Appendix H**.

Table 8.1 – Signal Warrant Analysis Results

INTERSECTION	COMPLIANCE % (MIN OF WARRANT 1 / MIN OF WARRANT 2)				RESULTS
	2024 FB	2034 FB	2024 FT	2034 FT	
Trafalgar Road / Sideroad 17	109% / 75%	133% / 91%	124% / 82%	148% / 98%	Warranted in 2024 FB
Sideroad 17 / Street 'C'	-	-	-	21% / 49%	No
Sideroad 17 / Eighth Line	-	-	-	33% / 51%	No
Eighth Line / Street 'E'	-	-	-	35% / 20%	No
Eighth Line / Dundas Street West	-	-	-	2% / 5%	No
Eighth Line / Wellington Road 124	-	-	-	12% / 10%	No

Table 8.2 presents the operational analysis results for the Trafalgar Road and Sideroad 17 intersections under the 2034 future total traffic scenario, assuming traffic signal control and left-turn lanes have been implemented.

Detailed Synchro output data for 2034 future total traffic conditions with mitigative measures is provided in **Appendix I**.

Table 8.2 - Trafalgar Road (WR 24) & Sideroad 17 (FT 2034) with Mitigative Measures

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			PROPOSED STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
2034 Future Total with Mitigative Measures	EBL	0.03	B	4	0.05	B	6	15m
	EBTR	0.10	A	10	0.11	B	13	
	WBL	0.29	B	24	0.36	C	36	40m
	WBTR	0.32	A	15	0.45	A	29	
	NBL	0.03	B	3	0.04	B	5	15m
	NBT	0.25	B	25	0.51	B	56	
	NBR	0.22	A	9	0.37	A	12	
	SBL	0.31	B	22	0.71	C	52	55m
	SBT	0.31	B	30	0.38	B	40	
	SBR	0.03	A	1	0.02	A	0	15m
	Overall	0.19	B	-	0.30	B	-	-

As shown in **Table 8-1**, the intersection of Trafalgar Road and Sideroad 17 is projected to operate with an overall LOS 'B' or better during weekday a.m. and p.m. peak hours. All movements are projected to operate with a LOS 'C' or better during both peak hours.

9.0 Summary of Findings

The findings of the traffic impact study can be summarized as follows:

- The proposed residential development is projected to generate approximately 385 total two-way trips during the weekday a.m. peak hour (96 inbound and 287 outbound), and 496 total two-way trips during the weekday p.m. peak hour (309 inbound and 187 outbound);
- The proposed internal road network layout of the subject development is considered acceptable per TAC geometric design guidelines. An AutoTurn Analysis was conducted for the 90-degree bend on Street 'C' (adjacent to the stormwater management pond) to confirm that all critical design vehicles will be able to effectively navigate the corner.
- Pedestrian connections to the neighbouring Empire development will also be provided by a crosswalk across Eighth Line from the stormwater pond path. The type of crosswalk is to be determined through separate analysis during the site plan approval process.
- As per the results of the intersection capacity analysis, the site generated traffic is not expected to be the result in any capacity, delay, or queuing concerns at the study area intersections as this is a result of background growth and other area developments.
- Study area intersections are projected to operate with an overall intersection LOS of 'C' or better under all scenarios (Future Background 2024, 2029, and 2034 and Total Projected 2024, 2029, and 2034) except for the Trafalgar Road and Sideroad 17 intersection, which is forecast to operate at an LOS 'E' in the 2034 future background and LOS 'F' in 2034 future total scenarios, with certain movements operating over capacity and with considerable delay due to area developments.
- A signal is warranted at the Trafalgar Road and Sideroad 17 intersection under the 2024 future background horizon year as a result of background growth and other developments. The proposed intersection geometry is shown in **Table 8.2**.
- The warranted left turn lanes are as follows in **Table 9.1** below.
- Storage lengths are required as follows in **Table 9.2** below.

Table 9.1 – Left Turn Lane Warrant Results

Intersection	Direction	2024 Future Background	2034 Future Background	2034 Future Total
WR 124 & Eighth Line	Eastbound	15m	25m	25m
	Westbound	15m	25m	25m
Sideroad 17 & Eighth Line	Westbound	No	15m	25m

Eighth Line & Street E	Northbound	No	No	No
	Southbound	No	No	No
Sideroad 17 & Street C	Westbound	-	15m	15m

Table 9.2 – Storage Length Requirements

Intersection	Direction	Existing Storage	Max Queue length				Required storage
			2024 Future Background	2024 Future Total	2034 Future Background	2034 Future Total	
Main Street & Dundas Street W	NBL	35	12	43	15	63	65
	SBL	40	23	31	7	8	35
Main Street & Shamrock Rd	EBL	15	37	45	46	61	65
	WBL	10	6	6	6	6	15
	NBL	40	23	17	38	38	40
	SBL	50	3	3	3	3	15
	SBR	50	8	9	8	9	15

10.0 Recommendations

A 15-metre auxiliary left-turn lane is warranted at the Sideroad 17 and Street 'C' intersection for the westbound left-turn movements under the 2024 future total horizon year. There are no additional geometric improvements recommended at the study area intersections based on the addition of site generated traffic.

The subject site does not trigger the signalization or left turn warrant of any other intersection in the study area. These intersection improvements are not warranted as a result of the site generated traffic, but by the area background developments, which may vary in terms of site and opening dates in the future. The Town/County may consider monitoring operations and volumes at the intersection of Trafalgar Road at Sideroad 17 and Wellington Road 124 at Eighth Line to determine when these improvements should occur.

A median at the intersection of Eighth Line, Street "E", and Erin Heights Drive is being considered by the developer to limit the vehicular through movements from the proposed site into the Erin Heights Neighbourhood. Although the median would have the desired effect to restrict through movements into Erin Heights, it would also restrict all left-turning movements from all approaches. The proposed median would effectively render Erin heights Drive and Street "E" as right-in right-out only streets. This is acceptable from an access management perspective, however, it would impact all residents in these two developments by causing detours potentially up to 2km long.

The Town/County may consider monitoring operations at the intersections of WR 124 at Eighth line to determine if auxiliary left turn lanes are needed to maintain an acceptable level of service in the future. However, these improvements are not warranted as a result of the site generated traffic, but by the area developments and these may change in the future.

APPENDIX A

TMC Data



Eighth Line @ Dundas St W

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Wellington

Site #: 0000000003

Intersection: Dundas St W & Eighth Line

TFR File #: 3

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

**** Non-Signalized Intersection ****

Major Road: Dundas St W runs W/E

East Leg Total: 28

East Entering: 13

East Peds: 0

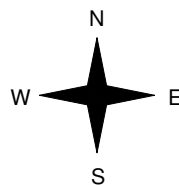
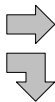
Peds Cross: X

Heavys	Trucks	Cars	Totals
0	0	18	18



Dundas St W

Heavys	Trucks	Cars	Totals
0	0	11	11
0	0	0	0
0	0	11	



Eighth Line

Cars	Trucks	Heavys	Totals
11	0	0	11
2	0	0	2
13	0	0	



Dundas St W

Cars	Trucks	Heavys	Totals
15	0	0	15



Peds Cross: X
West Peds: 0
West Entering: 11
West Leg Total: 29

Cars	2
Trucks	0
Heavys	0
Totals	2



Cars	7	4	11
Trucks	0	0	0
Heavys	0	0	0
Totals	7	4	

Peds Cross: X
South Peds: 0
South Entering: 11
South Leg Total: 13

Comments

Eighth Line @ Dundas St W

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 17:00:00

To: 18:00:00

Municipality: Wellington

Site #: 0000000003

Intersection: Dundas St W & Eighth Line

TFR File #: 3

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

**** Non-Signalized Intersection ****

Major Road: Dundas St W runs W/E

East Leg Total: 40

East Entering: 25

East Peds: 2

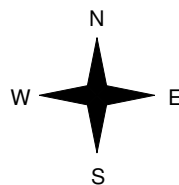
Peds Cross: 8

Heavys	Trucks	Cars	Totals
0	0	21	21



Dundas St W

Heavys	Trucks	Cars	Totals
0	0	14	14
0	0	5	5
0	0	19	



Eighth Line

Cars	Trucks	Heavys	Totals
15	0	0	15
10	0	0	10
25	0	0	



Dundas St W

Cars	Trucks	Heavys	Totals
15	0	0	15

Peds Cross: 8
West Peds: 2
West Entering: 19
West Leg Total: 40

Cars	15
Trucks	0
Heavys	0
Totals	15



Cars	6	1	7
Trucks	0	0	0
Heavys	0	0	0
Totals	6	1	

Peds Cross: 2
South Peds: 2
South Entering: 7
South Leg Total: 22

Comments

Eighth Line @ Dundas St W

Total Count Diagram

Municipality: Wellington
Site #: 0000000003
Intersection: Dundas St W & Eighth Line
TFR File #: 3
Count date: 1-Sep-2021

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Dundas St W runs W/E

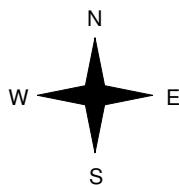
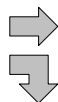
East Leg Total: 108
 East Entering: 60
 East Peds: 2
 Peds Cross: 8

Heavys	Trucks	Cars	Totals
0	0	63	63



Dundas St W

Heavys	Trucks	Cars	Totals
0	0	36	36
0	0	12	12
0	0	48	



Eighth Line



Cars	27
Trucks	0
Heavys	0
Totals	27

Cars	18	11	29
Trucks	0	1	1
Heavys	0	0	0
Totals	18	12	

Cars	Trucks	Heavys	Totals
45	0	0	45
15	0	0	15
60	0	0	



Dundas St W

Cars	Trucks	Heavys	Totals
47	1	0	48

Peds Cross: 8
 South Peds: 4
 South Entering: 30
 South Leg Total: 57

Comments

Eighth Line @ Erin Heights Dr

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Wellington

Site #: 0000000002

Intersection: Eighth Line & Erin Heights Dr

TFR File #: 2

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Non-Signalized Intersection **

Major Road: Eighth Line runs N/S

North Leg Total: 48

North Entering: 14

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
0	0	0	0
0	0	0	0
0	10	4	14
0	10	4	14



Heavys 0

Trucks 0

Cars 34

Totals 34

East Leg Total: 19

East Entering: 15

East Peds: 1

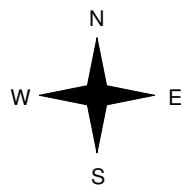
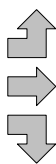
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
0	0	0	0



Driveway

Heavys	Trucks	Cars	Totals
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



Eighth Line

Eighth Line

Cars	Trucks	Heavys	Totals
15	0	0	15
0	0	0	0
0	0	0	0
15	0	0	15

Erin Heights Dr



Cars	Trucks	Heavys	Totals
4	0	0	4

Peds Cross: $\nlessgtr$

West Peds: 1

West Entering: 0

West Leg Total: 0

Cars	Trucks	Heavys	Totals
10	0	0	10
0	0	0	0
0	0	0	0
0	0	0	0
10	0	0	10



Peds Cross: $\nlessgtr$

South Peds: 0

South Entering: 19

South Leg Total: 29

Comments

Eighth Line @ Erin Heights Dr

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 17:00:00

To: 18:00:00

Municipality: Wellington

Site #: 0000000002

Intersection: Eighth Line & Erin Heights Dr

TFR File #: 2

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Non-Signalized Intersection **

Major Road: Eighth Line runs N/S

North Leg Total: 55

North Entering: 32

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	0	15	17	32
Totals	0	15	17	



Heavys 0

Trucks 0

Cars 23

Totals 23

East Leg Total: 31

East Entering: 9

East Peds: 1

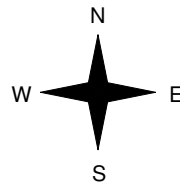
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
0	0	0	0



Driveway

Heavys	Trucks	Cars	Totals
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



Eighth Line

Eighth Line

Cars	Trucks	Heavys	Totals
6	0	0	6
0	0	0	0
3	0	0	3
9	0	0	

Erin Heights Dr



Cars	Trucks	Heavys	Totals
22	0	0	22

Peds Cross: $\nlessgtr$

West Peds: 0

West Entering: 0

West Leg Total: 0

Cars	18
Trucks	0
Heavys	0
Totals	18



Cars	0	17	5	22
Trucks	0	0	0	0
Heavys	0	0	0	0
Totals	0	17	5	

Peds Cross: $\nlessgtr$

South Peds: 0

South Entering: 22

South Leg Total: 40

Comments

Eighth Line @ Erin Heights Dr

Total Count Diagram

Municipality: Wellington
Site #: 0000000002
Intersection: Eighth Line & Erin Heights Dr
TFR File #: 2
Count date: 1-Sep-2021

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Eighth Line runs N/S

North Leg Total: 172
 North Entering: 80
 North Peds: 0
 Peds Cross: $\nless$

	Heavys	Trucks	Cars	Totals
North	0	0	1	1
East	0	0	0	0
South	0	40	39	79
West	0	40	40	



	Heavys	Trucks	Cars	Totals
North	1	0	91	92
East	0	0	0	0
South	0	0	0	0
West	0	0	0	0

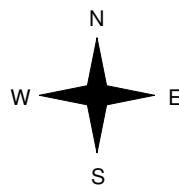
East Leg Total: 89
 East Entering: 42
 East Peds: 5
 Peds Cross: $\nless$

Heavys	Trucks	Cars	Totals
0	0	0	0



Driveway

Heavys	Trucks	Cars	Totals
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0



Eighth Line

Eighth Line

Cars	Trucks	Heavys	Totals
37	0	1	38
0	0	0	0
4	0	0	4
41	0	1	

Erin Heights Dr



Cars	Trucks	Heavys	Totals
46	0	1	47

Peds Cross: $\nless$
 West Peds: 4
 West Entering: 0
 West Leg Total: 0

	Cars	Trucks	Heavys	Totals
West	44	0	0	44
East	0	0	0	0
South	0	0	0	0
North	0	0	0	0



	Cars	Trucks	Heavys	Totals
West	0	0	0	0
East	54	0	0	54
South	7	0	0	7
North	61	0	0	61

Peds Cross: $\nless$
 South Peds: 0
 South Entering: 61
 South Leg Total: 105

Comments

Eighth Line @ Sideroad 17

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Wellington

Site #: 0000000001

Intersection: Sideroad 17 & Eighth Line

TFR File #: 1

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

**** Non-Signalized Intersection ****

Major Road: Sideroad 17 runs W/E

East Leg Total: 233

East Entering: 81

East Peds: 0

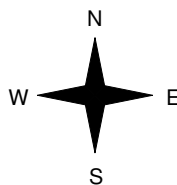
Peds Cross: X

Heavys	Trucks	Cars	Totals
5	1	82	88



Sideroad 17

Heavys	Trucks	Cars	Totals
4	5	126	135
0	0	17	17
4	5	143	



Eighth Line



Cars	22
Trucks	0
Heavys	0
Totals	22

Cars	12	17	29
Trucks	0	0	0
Heavys	0	0	0
Totals	12	17	

Cars	Trucks	Heavys	Totals
70	1	5	76
5	0	0	5
75	1	5	



Sideroad 17



Cars	Trucks	Heavys	Totals
143	5	4	152

Peds Cross: X

West Peds: 0

West Entering: 152

West Leg Total: 240

Peds Cross: X

South Peds: 0

South Entering: 29

South Leg Total: 51

Comments

Eighth Line @ Sideroad 17

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Wellington

Site #: 0000000001

Intersection: Sideroad 17 & Eighth Line

TFR File #: 1

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

**** Non-Signalized Intersection ****

Major Road: Sideroad 17 runs W/E

East Leg Total: 348

East Entering: 162

East Peds: 0

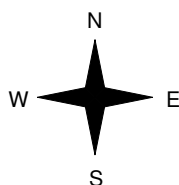
Peds Cross: X

Heavys	Trucks	Cars	Totals
1	4	163	168



Sideroad 17

Heavys	Trucks	Cars	Totals
5	4	170	179
0	0	19	19
5	4	189	



Eighth Line

Cars	Trucks	Heavys	Totals
143	4	1	148
14	0	0	14
157	4	1	



Sideroad 17

Cars	Trucks	Heavys	Totals
177	4	5	186

Peds Cross: X
West Peds: 1
West Entering: 198
West Leg Total: 366

Cars	33
Trucks	0
Heavys	0
Totals	33



Cars	20	7	27
Trucks	0	0	0
Heavys	0	0	0
Totals	20	7	

Peds Cross: X
South Peds: 1
South Entering: 27
South Leg Total: 60

Comments

Eighth Line @ Sideroad 17

Total Count Diagram

Municipality: Wellington
Site #: 0000000001
Intersection: Sideroad 17 & Eighth Line
TFR File #: 1
Count date: 1-Sep-2021

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Sideroad 17 runs W/E

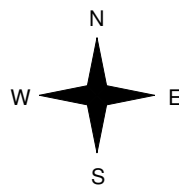
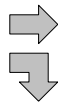
East Leg Total: 1053
 East Entering: 425
 East Peds: 0
 Peds Cross: X

Heavys	Trucks	Cars	Totals
12	6	429	447



Sideroad 17

Heavys	Trucks	Cars	Totals
14	13	563	590
1	0	67	68
15	13	630	



Eighth Line

Cars	Trucks	Heavys	Totals
378	6	11	395
30	0	0	30
408	6	11	



Sideroad 17

Cars	Trucks	Heavys	Totals
601	13	14	628



Peds Cross: X
 West Peds: 1
 West Entering: 658
 West Leg Total: 1105

Cars	97
Trucks	0
Heavys	1
Totals	98



Cars	51	38	89
Trucks	0	0	0
Heavys	1	0	1
Totals	52	38	

Peds Cross: X
 South Peds: 2
 South Entering: 90
 South Leg Total: 188

Comments

Eighth Line @ Wellington Rd 124

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:45:00

To: 8:45:00

Municipality: Wellington

Site #: 0000000007

Intersection: Wellington Rd 124 & Eighth Line

TFR File #: 7

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Non-Signalized Intersection **

Major Road: Wellington Rd 124 runs W/E

North Leg Total: 9

North Entering: 6

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	1	2	3	6
Totals	1	2	3	



Heavys 0

Trucks 0

Cars 3

Totals 3

East Leg Total: 499

East Entering: 254

East Peds: 0

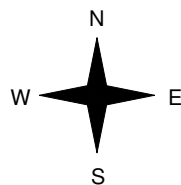
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
16	3	231	250



Wellington Rd 124

Heavys	Trucks	Cars	Totals
0	0	1	1
24	3	208	235
0	0	0	0
24	3	209	



Eighth Line

Eighth Line

Cars	Trucks	Heavys	Totals
1	0	0	1
228	3	16	247
6	0	0	6
235	3	16	



Wellington Rd 124



Cars	Trucks	Heavys	Totals
218	3	24	245

Peds Cross: $\nlessgtr$

West Peds: 2

West Entering: 236

West Leg Total: 486

Cars	8
Trucks	0
Heavys	0
Totals	8



Cars	2	1	7	10
Trucks	0	0	0	0
Heavys	0	0	0	0
Totals	2	1	7	

Peds Cross: $\nlessgtr$

South Peds: 0

South Entering: 10

South Leg Total: 18

Comments

Eighth Line @ Wellington Rd 124

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:15:00

To: 17:15:00

Municipality: Wellington

Site #: 0000000007

Intersection: Wellington Rd 124 & Eighth Line

TFR File #: 7

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Non-Signalized Intersection **

Major Road: Wellington Rd 124 runs W/E

North Leg Total: 22

North Entering: 7

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	4	0	3	7
Totals	4	0	3	



Heavys	0
Trucks	0
Cars	15
Totals	15

East Leg Total: 778

East Entering: 346

East Peds: 0

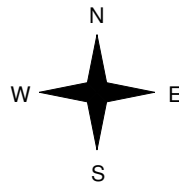
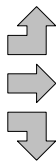
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
26	3	309	338



Wellington Rd 124

Heavys	Trucks	Cars	Totals
0	0	3	3
25	6	387	418
0	0	6	6
25	6	396	



Eighth Line

Cars	Trucks	Heavys	Totals
9	0	0	9
299	3	26	328
9	0	0	9
317	3	26	



Wellington Rd 124



Cars	Trucks	Heavys	Totals
400	6	26	432

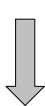
Peds Cross: $\nlessgtr$

West Peds: 0

West Entering: 427

West Leg Total: 765

Cars	15	Cars	6	3	10	19
Trucks	0	Trucks	0	0	0	0
Heavys	0	Heavys	0	0	1	1
Totals	15	Totals	6	3	11	



Peds Cross: $\nlessgtr$

South Peds: 0

South Entering: 20

South Leg Total: 35

Comments

Eighth Line @ Wellington Rd 124

Total Count Diagram

Municipality: Wellington
Site #: 0000000007
Intersection: Wellington Rd 124 & Eighth Line
TFR File #: 7
Count date: 1-Sep-2021

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Non-Signalized Intersection ****

Major Road: Wellington Rd 124 runs W/E

North Leg Total: 61
 North Entering: 30
 North Peds: 0
 Peds Cross: $\nless$

	Heavys	Trucks	Cars	Totals
North	0	0	0	0
East	0	0	1	1
South	10	6	13	29
Totals	10	6	14	

	Heavys	Trucks	Cars	Totals
North	0	0	0	0
East	0	0	31	31
South	0	0	0	0
Totals	0	0	31	

East Leg Total: 2410
 East Entering: 1136
 East Peds: 0
 Peds Cross: $\nless$

Heavys	Trucks	Cars	Totals
81	14	1009	1104

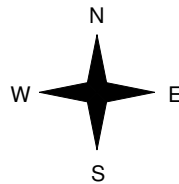


Wellington Rd 124

Heavys	Trucks	Cars	Totals
0	0	8	8
80	19	1114	1213
0	0	14	14
80	19	1136	



Eighth Line



Cars	Trucks	Heavys	Totals
17	0	0	17
987	14	81	1082
36	1	0	37
1040	15	81	

Wellington Rd 124



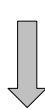
Cars	Trucks	Heavys	Totals
1173	20	81	1274



Eighth Line

Peds Cross: $\nless$
 West Peds: 2
 West Entering: 1235
 West Leg Total: 2339

	Cars	Trucks	Heavys	Totals
West	56	1	0	57



	Cars	Trucks	Heavys	Totals
West	12	0	0	12
East	6	0	0	6
South	46	0	1	47
Totals	64	0	1	

Peds Cross: $\nless$
 South Peds: 0
 South Entering: 65
 South Leg Total: 122

Comments

Main St @ Dundas St

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Wellington

Site #: 0000000004

Intersection: Main St & Dundas St

TFR File #: 4

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Main St runs N/S

North Leg Total: 498

North Entering: 262

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	1	23	0	24
Trucks	0	5	0	5
Cars	7	194	32	233
Totals	8	222	32	

Heavys 13

Trucks 2

Cars 221

Totals 236

East Leg Total: 114

East Entering: 39

East Peds: 4

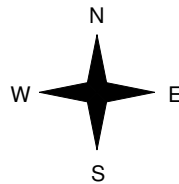
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
1	0	20	21



Dundas St W

Heavys	Trucks	Cars	Totals
0	0	13	13
0	0	9	9
0	0	22	22
0	0	44	



Main St

Cars	Trucks	Heavys	Totals
19	0	1	20
5	0	0	5
14	0	0	14
38	0	1	

Dundas St E



Cars	Trucks	Heavys	Totals
73	1	1	75

Peds Cross: $\nlessgtr$

West Peds: 1

West Entering: 44

West Leg Total: 65

Cars	230	Cars	8	189	32	229
Trucks	5	Trucks	0	2	1	3
Heavys	23	Heavys	0	12	1	13
Totals	258	Totals	8	203	34	



Peds Cross: $\nlessgtr$

South Peds: 3

South Entering: 245

South Leg Total: 503

Comments

Main St @ Dundas St

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:15:00

To: 17:15:00

Municipality: Wellington

Site #: 0000000004

Intersection: Main St & Dundas St

TFR File #: 4

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Main St runs N/S

North Leg Total: 814

North Entering: 442

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	0	19	0	19
Trucks	0	3	0	3
Cars	15	375	30	420
Totals	15	397	30	

Heavys 23

Trucks 5

Cars 344

Totals 372

East Leg Total: 160

East Entering: 81

East Peds: 4

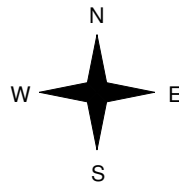
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
0	0	53	53



Dundas St W

Heavys	Trucks	Cars	Totals
0	0	10	10
0	0	10	10
0	0	15	15
0	0	35	



Main St

Cars	Trucks	Heavys	Totals
25	0	0	25
12	0	0	12
43	1	0	44
80	1	0	

Dundas St E



Cars	Trucks	Heavys	Totals
79	0	0	79

Peds Cross: $\nlessgtr$

West Peds: 7

West Entering: 35

West Leg Total: 88

Cars	433	Cars	26	309	39	374
Trucks	4	Trucks	0	5	0	5
Heavys	19	Heavys	0	23	0	23
Totals	456	Totals	26	337	39	



Peds Cross: $\nlessgtr$

South Peds: 7

South Entering: 402

South Leg Total: 858

Comments

Main St @ Dundas St

Total Count Diagram

Municipality: Wellington
Site #: 0000000004
Intersection: Main St & Dundas St
TFR File #: 4
Count date: 1-Sep-2021

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Signalized Intersection ****

Major Road: Main St runs N/S

North Leg Total: 2406
 North Entering: 1262
 North Peds: 0
 Peds Cross: $\nless$

	Heavys	Trucks	Cars	Totals
North	1	74	1	76
Trucks	0	20	0	20
Cars	37	1027	102	1166
Totals	38	1121	103	

	Heavys	Trucks	Cars	Totals
South	69	17	1058	1144
Trucks	17			
Cars				
Totals	69	17	1058	1144

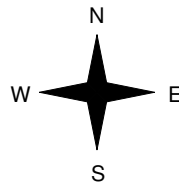
East Leg Total: 514
 East Entering: 260
 East Peds: 17
 Peds Cross: $\nless$

Heavys	Trucks	Cars	Totals
1	0	145	146



Dundas St W

Heavys	Trucks	Cars	Totals
0	0	43	43
0	0	29	29
0	0	71	71
0	0	143	



Main St

Cars	Trucks	Heavys	Totals
108	0	1	109
38	0	0	38
111	1	1	113
257	1	2	

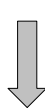
Dundas St E



Cars	Trucks	Heavys	Totals
251	1	2	254

Peds Cross: $\nless$
 West Peds: 24
 West Entering: 143
 West Leg Total: 289

	Cars	Trucks	Heavys	Totals
West	1209	21	75	1305
Trucks				
Heavys				
Totals	1209	21	75	1305



	Cars	Trucks	Heavys	Totals
South	70	0	0	70
Trucks				
Heavys				
Totals	70	0	0	70

Peds Cross: $\nless$
 South Peds: 21
 South Entering: 1184
 South Leg Total: 2489

Comments

Main St @ Shamrock Rd

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Wellington

Site #: 0000000005

Intersection: Main St & Shamrock Rd

TFR File #: 5

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Main St runs N/S

North Leg Total: 453

North Entering: 213

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	4	23	0	27
Trucks	1	3	0	4
Cars	63	109	10	182
Totals	68	135	10	

Heavys 17

Trucks 7

Cars 216

Totals 240

East Leg Total: 144

East Entering: 67

East Peds: 0

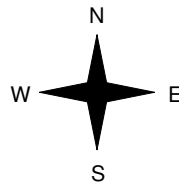
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
6	3	144	153



Shamrock Rd

Heavys	Trucks	Cars	Totals
4	5	85	94
0	0	46	46
4	0	86	90
8	5	217	



Main St

Cars	Trucks	Heavys	Totals
20	0	0	20
33	0	0	33
14	0	0	14
67	0	0	

Shamrock Rd



Cars	Trucks	Heavys	Totals
77	0	0	77

Peds Cross: $\nlessgtr$

West Peds: 0

West Entering: 230

West Leg Total: 383

Cars	209	Cars	48	111	21	180
Trucks	3	Trucks	2	2	0	4
Heavys	27	Heavys	2	13	0	15
Totals	239	Totals	52	126	21	



Peds Cross: $\nlessgtr$

South Peds: 2

South Entering: 199

South Leg Total: 438

Comments

Main St @ Shamrock Rd

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:00:00

To: 17:00:00

Municipality: Wellington

Site #: 0000000005

Intersection: Main St & Shamrock Rd

TFR File #: 5

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Main St runs N/S

North Leg Total: 734

North Entering: 386

North Peds: 0

Peds Cross: $\nless$

Heavys	3	19	0	22
Trucks	0	3	0	3
Cars	101	253	7	361
Totals	104	275	7	



Heavys 26

Trucks 6

Cars 316

Totals 348

East Leg Total: 129

East Entering: 66

East Peds: 0

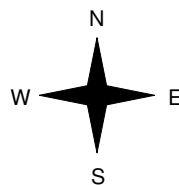
Peds Cross: $\nless$

Heavys	Trucks	Cars	Totals
3	2	231	236



Shamrock Rd

Heavys	Trucks	Cars	Totals
3	2	136	141
0	0	26	26
0	0	102	102
3	2	264	



Main St

Cars	Trucks	Heavys	Totals
21	0	0	21
31	0	0	31
14	0	0	14
66	0	0	

Shamrock Rd



Cars	Trucks	Heavys	Totals
63	0	0	63

Peds Cross: $\nless$

West Peds: 0

West Entering: 269

West Leg Total: 505

Cars	369	Cars	99	159	30	288
Trucks	3	Trucks	2	4	0	6
Heavys	19	Heavys	0	23	0	23
Totals	391	Totals	101	186	30	



Peds Cross: $\nless$

South Peds: 0

South Entering: 317

South Leg Total: 708

Comments

Main St @ Shamrock Rd

Total Count Diagram

Municipality: Wellington
Site #: 0000000005
Intersection: Main St & Shamrock Rd
TFR File #: 5
Count date: 1-Sep-2021

Weather conditions:
 Clear/Dry
Person(s) who counted:
 Cam

**** Signalized Intersection ****

Major Road: Main St runs N/S

North Leg Total: 2158
 North Entering: 1049
 North Peds: 0
 Peds Cross: $\nless$

	Heavys	Trucks	Cars	Totals
North	12	71	0	83
East	5	14	0	19
South	298	614	35	947
Totals	315	699	35	



	Heavys	Trucks	Cars	Totals
North	76	24	1009	1109

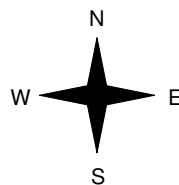
East Leg Total: 508
 East Entering: 258
 East Peds: 0
 Peds Cross: $\nless$

Heavys	Trucks	Cars	Totals
15	12	689	716



Shamrock Rd

Heavys	Trucks	Cars	Totals
10	14	423	447
0	0	130	130
5	3	326	334
15	17	879	



Main St

Cars	Trucks	Heavys	Totals
87	0	0	87
116	0	0	116
54	1	0	55
257	1	0	

Shamrock Rd



Cars	Trucks	Heavys	Totals
249	1	0	250

Peds Cross: $\nless$
 West Peds: 0
 West Entering: 911
 West Leg Total: 1627

	Cars	Trucks	Heavys	Totals
West	994	18	76	1088



	Cars	Trucks	Heavys	Totals
West	275	7	3	285
East	499	10	66	575
South	84	1	0	85
Totals	858	18	69	

Peds Cross: $\nless$
 South Peds: 3
 South Entering: 945
 South Leg Total: 2033

Comments

Trafalgar Rd @ Sideroad 17

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Wellington

Site #: 0000000006

Intersection: Trafalgar Rd & Sideroad 17

TFR File #: 6

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Non-Signalized Intersection **

Major Road: Trafalgar Rd runs N/S

North Leg Total: 369

North Entering: 206

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	0	11	4	15
Trucks	0	5	0	5
Cars	18	144	24	186
Totals	18	160	28	



Heavys 14

Trucks 4

Cars 145

Totals 163

East Leg Total: 240

East Entering: 88

East Peds: 0

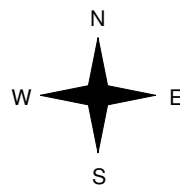
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
1	2	59	62



Sideroad 17

Heavys	Trucks	Cars	Totals
0	0	10	10
0	0	36	36
0	0	16	16
0	0	62	



Trafalgar Rd

Cars	Trucks	Heavys	Totals
20	0	4	24
33	1	1	35
28	1	0	29
81	2	5	

Sideroad 17



Cars	Trucks	Heavys	Totals
143	5	4	152

Peds Cross: $\nlessgtr$

West Peds: 0

West Entering: 62

West Leg Total: 124

Cars 188

Trucks 6

Heavys 11

Totals 205



Cars	8	115	83	206
Trucks	1	4	5	10
Heavys	0	10	0	10
Totals	9	129	88	

Peds Cross: $\nlessgtr$

South Peds: 0

South Entering: 226

South Leg Total: 431

Comments

Trafalgar Rd @ Sideroad 17

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Wellington

Site #: 0000000006

Intersection: Trafalgar Rd & Sideroad 17

TFR File #: 6

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

** Non-Signalized Intersection **

Major Road: Trafalgar Rd runs N/S

North Leg Total: 590

North Entering: 246

North Peds: 0

Peds Cross: $\times$

	Heavys	Trucks	Cars	Totals
North	0	11	1	12
East	0	4	0	4
South	8	207	15	230
Totals	8	222	16	



Heavys 13

Trucks 10

Cars 321

Totals 344

East Leg Total: 364

East Entering: 169

East Peds: 0

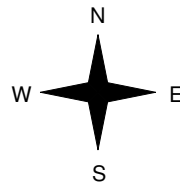
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
0	1	84	85



Sideroad 17

Heavys	Trucks	Cars	Totals
1	0	13	14
0	0	33	33
0	0	23	23
1	0	69	



Trafalgar Rd

Cars	Trucks	Heavys	Totals
27	3	1	31
60	1	0	61
76	0	1	77
163	4	2	

Sideroad 17



Cars	Trucks	Heavys	Totals
183	6	6	195

Peds Cross: $\times$

West Peds: 0

West Entering: 70

West Leg Total: 155

	Cars	Trucks	Heavys	Totals
West	306	4	12	322
North	16	0	0	16
East	281	7	11	299
South	135	6	5	146
Totals	432	13	16	



Peds Cross: $\times$

South Peds: 0

South Entering: 461

South Leg Total: 783

Comments

Trafalgar Rd @ Sideroad 17

Total Count Diagram

Municipality: Wellington

Site #: 0000000006

Intersection: Trafalgar Rd & Sideroad 17

TFR File #: 6

Count date: 1-Sep-2021

Weather conditions:

Clear/Dry

Person(s) who counted:

Cam

**** Non-Signalized Intersection ****

Major Road: Trafalgar Rd runs N/S

North Leg Total: 1831

North Entering: 891

North Peds: 0

Peds Cross: $\times$

Heavys	1	35	5	41
Trucks	0	16	0	16
Cars	42	714	78	834
Totals	43	765	83	



Heavys	45
Trucks	22
Cars	873
Totals	940

East Leg Total: 1098

East Entering: 452

East Peds: 0

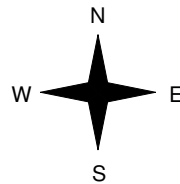
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
2	3	244	249



Sideroad 17

Heavys	Trucks	Cars	Totals
1	1	44	46
0	0	141	141
0	1	62	63
1	2	247	



Trafalgar Rd

Cars	Trucks	Heavys	Totals
81	4	7	92
152	2	1	155
194	2	9	205
427	8	17	

Sideroad 17



Cars	Trucks	Heavys	Totals
614	16	16	646

Peds Cross: $\times$

West Peds: 0

West Entering: 250

West Leg Total: 499

Cars	970	Cars	50	748	395	1193
Trucks	19	Trucks	1	17	16	34
Heavys	44	Heavys	0	37	11	48
Totals	1033	Totals	51	802	422	



Peds Cross: $\times$

South Peds: 0

South Entering: 1275

South Leg Total: 2308

Comments

APPENDIX B

Transportation Tomorrow Survey



Mon Feb 28 2022 11:17:01 GMT-0500 (Eastern Standard Time) - Run Time: 1160ms

Cross Tabulation Query Form - Person - 2016 v1.1

Row: Planning district of household - pd_hhld

Column: Regional municipality of employment - region_emp

RowG:(79)

ColG:

TblG:

Filters:

No Filters

Persons 2016

Table:

	Toronto	York	Peel	Halton	Hamilton	Waterloo	Guelph	Wellington	Orangeville	Simcoe	Dufferin		
1	614	21	1844	721	34	202	152	1708		96	113	71	5576
	11%	0%	33%	13%	1%	4%	3%	31%		2%	2%	1%	100%

ROUTES

124 NW 20%

Trafalgar S 19%

124 SE 11%

Trefalgar N 5%

HWY 23N 6%

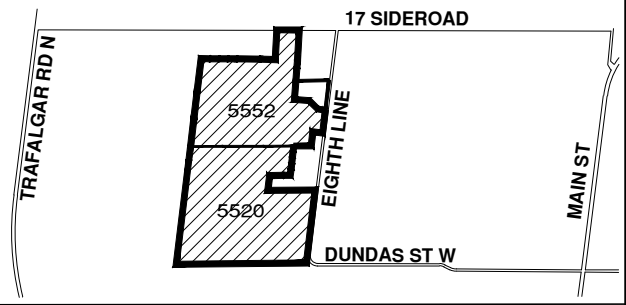
HWY 52 S 38%

100%

APPENDIX C

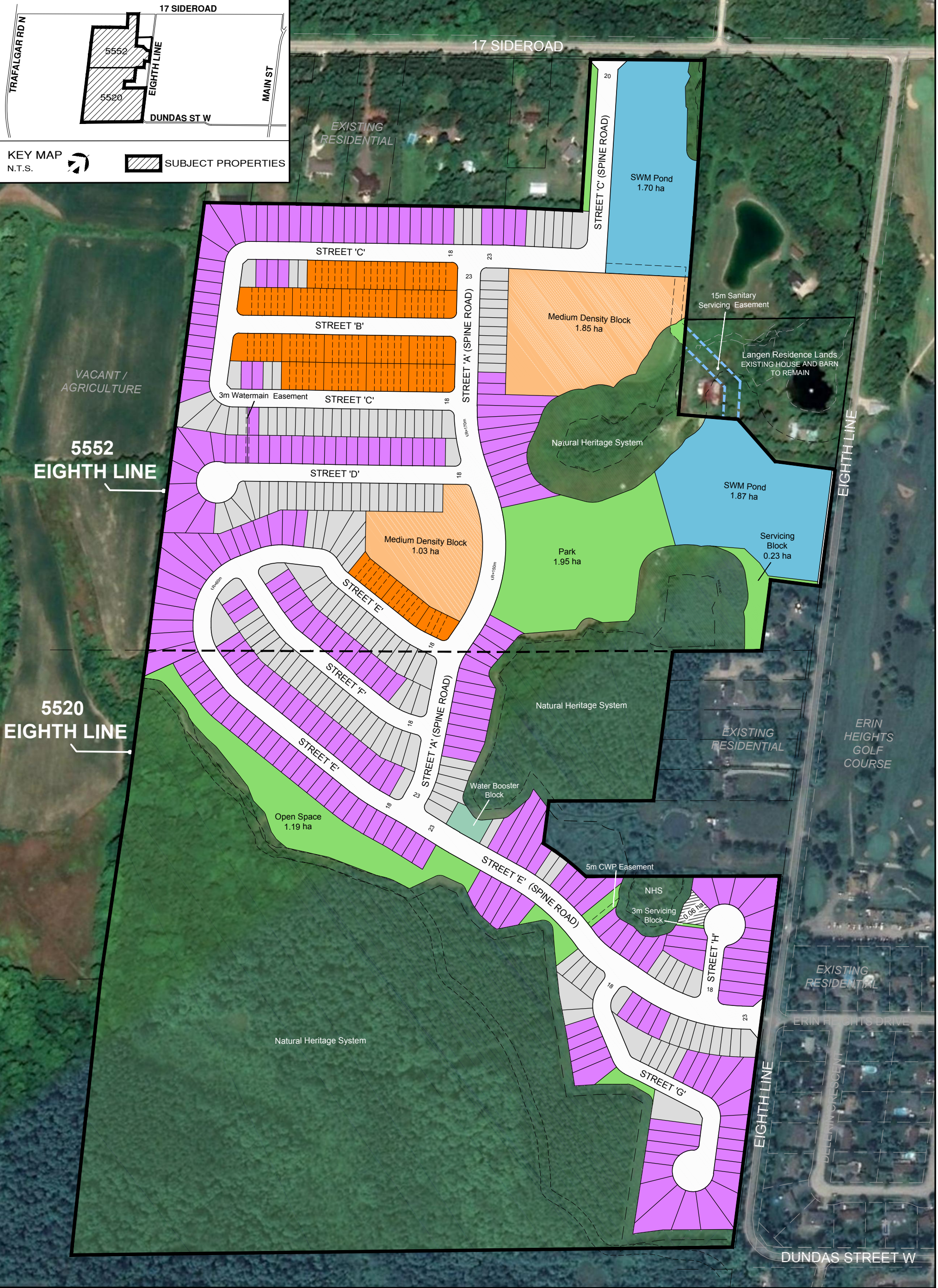
Draft Site Plan





KEY MAP
N.T.S.

SUBJECT PROPERTIES



ERIN 5552 EIGHTH LINE & 5520 EIGHTH LINE

Composite Lotted Plan

Unit Type	Unit Count (±)			%	
	5552	5520	Total	Overall	Singles
30' Singles	103	62	165	31	40
36' Singles	112	132	244	46	60
21' Townhouses	121	0	121	23	-
Total	336	194	530	100	100

External land sale

mattamyHOMES

COSCORP INC.

SCALE 1:3500

July 10, 2024



KORSIAK Urban Planning

APPENDIX D

Swept Path Analysis



(continued)

 R.V. ANDERSON ASSOCIATES LIMITED <i>Innovative solutions for complex challenges</i>	
Project No:	215876
Date:	Sep-2023
Scale:	1:500
Designed	
Checked	MD
Drawn	PH

APPENDIX E

Signal Timing Plans



Wellington County 24-36 - 124 & 23

Configuration Phase Sequence Page 1

Phase Ring (MM)1-1-1

Phase															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	1	1	2	2	2	2	1	1	2	2	1	1	2	2

Hardware Alternate Sequence Enable: No

Phase Ring Sequence

Sequence	Ring	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Barrier Mode	B		B		B		B		B							
1	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
1	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
2	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
2	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
3	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
3	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
4	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
4	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
5	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
5	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
6	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
6	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
7	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
7	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
8	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
8	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
9	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
9	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
10	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
10	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
11	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
11	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
12	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
12	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
13	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
13	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
14	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
14	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
15	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
15	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
16	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
16	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0

**Phase
Compatibility
(MM)1-1-2**

Phase 1	Phase 2
1	5
1	6
2	5
2	6
3	7
3	8
4	7
4	8
9	11
9	12
10	11
10	12
13	15
13	16
14	15
14	16

**Phase Direction
Descriptions**

Phase	Description
-------	-------------

**Overlap Direction
Descriptions**

Overlap	Description
---------	-------------

Administration (MM)1-7-1

Enable CRC Check: No
 CRC: 0000
 Request Download Program Data: No
 Enable Automatic Backup to Datakey: No

Wellington County 24-36 - 124 & 23

Configuration Phase Sequence Page 2

In Use(MM)1-2

Exclusive Ped(MM)1-2

Backup Prevent(MM)1-1-3

Simultaneous Gap(MM)1-1-4

Disable(MM)1-1-4

Phases In Use
2
4
6
8

Phase

PhaseTiming PhaseBackup

PhaseMust Gap with Phase

Phase

Load Switch Assignments (MMU Channel) (MM)1-3

Phase	Overlap	Type	Dim				Auto		Flash Together
			R	Y	G	D	R	Y	
1	1	V				+	Yes		
2	2	V				+	Yes		Yes
3	3	V				+	Yes		
4	4	V				+	Yes		Yes
5	5	V				-	Yes		
6	6	V				-	Yes		Yes
7	7	V				-	Yes		
8	8	V				-	Yes		Yes
9	2	P				+			
10	4	P				+			
11	6	P				-			
12	8	P				-			
13	1	O				+	Yes		
14	2	O				-	Yes		Yes
15	3	O				+	Yes		
16	4	O				-	Yes		Yes

Wellington County 24-36 - 124 & 23

Configuration Port 1 (SDLC)**SDLC Options (MM)1-4-1****Bus Interface Terminal/Facilities**

BIU	Term and Facility Enable	Detector Rack Enable
1	Yes	Yes
2	Yes	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Enable TS2/MMU Type Cabinet: No
 Enable MMU Extended Status: No
 Enable SDLC Stop Time: No
 Enable 3 Critical RFE's Lockup: Yes
 MMU To CU SDLC External Start: Enabled
 Diagnostics (Test Fixture) Enable: No

Secondary To Secondary Addressing

ID	Term and Facility Enable	Detector Rack Enable
1	No	No
2	No	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Secondary To Secondary Addressing MMU: No
 Secondary To Secondary Addressing Diagnostics: No

MMU Program (MM)1-4-2

Channel Can Serve with Channel	
Channel 1	Channel 2
1	5
1	6
1	11
2	5
2	6
2	9
2	11
3	7
3	8
3	12
4	7
4	8
4	10
4	12
5	9
6	9
6	11
7	10
8	10
8	12
9	11
10	12

Color Check Enable (MM)1-4-3

Enable Color Check: Yes

Color Check Enable

MMU Channel	Green	Yellow	Red
1	Yes	Yes	Yes
2	Yes	Yes	Yes
3	Yes	Yes	Yes
4	Yes	Yes	Yes
5	Yes	Yes	Yes
6	Yes	Yes	Yes
7	Yes	Yes	Yes
8	Yes	Yes	Yes
9	Yes	Yes	Yes
10	Yes	Yes	Yes
11	Yes	Yes	Yes
12	Yes	Yes	Yes

Wellington County 24-36 - 124 & 23

Configuration Communications**Ethernet Port Configuration (MM)1-5-1**

Controller IP: 10.70.10.51
 Subnet Mask: 255.255.255.0
 Default Gateway IP: 10.70.10.1
 Server IP: 10.70.10.1

NTCIP Parameters (MM)1-5-5

Backup Time: 0
 UDP Port: 501
 Ethernet Priority: 1
 Port 2 Priority: 4
 Port 3A Priority: 2
 Port 3B Priority: 3

Note for 2070: Port 2 is C50S, Port 3A is C21S, and Port 3B is C22S

Port Configuration (MM)1-5-2 to 1-5-4

Port	Protocol	Enable	Data Rate	Data Parity Stop	Modem Setup String	User String	Comm Port Address	System Detector 9-1	Telemetry Response Delay	Duplex Half/Full	Flow Control	AB3418 NTCIP Group Address	AB3418 NTCIP Single Flag Enable	RTS to CTS Delay	RTS Turn Off Delay	Droupout Time	Early RTS	FSK Hardware	Rail Road	Rail Road Line	ATCS Group	Wayside Device	ATCS Device	Wayside SubNode	ATCS SubNode
2	NTCIP	Yes	9600	8 N 1	None		1	0	0.0	Half	No	0	No	0.0	0.0	10	No	Yes	0	0	0	0	0	0	0
3A	NTCIP	No	19.2K	8 N 1	None		0	0	0.0	Full	Yes	0	No	0.0	0.0	10	No	Yes	0	0	0	0	0	0	0
3B	ECPIP	No	1200	8 N 1	None		0	0	0.9	Full	Yes	0	No	14.0	2.0	10	No	Yes	0	0	0	0	0	0	0

ECPIP Parameters (MM)1-5-6

Controller Address: 0
 Expanded System Detector Address: 0

Local System Detector

Local System Detector	Number
-----------------------	--------

Wellington County 24-36 - 124 & 23

Configuration Logging/Display**Enable Event Logs (MM)1-6-1**

Critical RFE's:	Yes
3 Critical RFE's in 24 Hours:	Yes
MMU Flash Faults:	Yes
Local Flash Faults:	Yes
Non-Critical RFE's (Det/Test):	Yes
Detector Errors:	Yes
Coordination Errors:	Yes
Controller Download:	Yes
Preempt:	Yes
TSP:	Yes
Power On/Off:	Yes
Low Battery:	Yes
Access:	Yes
Data Change:	Yes

Alarm Logs (MM)1-6-1

Enabled: 12345678910111213141516

Display Options (MM)1-7-2

Key Click Enable:	Yes
Backlight Enable:	Yes
LED Mode:	Auto
Display Mode:	Basic

Wellington County 24-36 - 124 & 23

Logic Processor Page 1

Statement Control (MM)1-8-1

LP	Statement Control
----	-------------------

Wellington County 24-36 - 124 & 23

Logic Processor Page 2

Logic Statements (MM)1-8-2

Wellington County 24-36 - 124 & 23

Controller Timing Plan (MM)2-1

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	35	5	10	5	35	5	10	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	16	0	10	0	16	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	19	0	10	0	19	0	10	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	0	35	20	35	0	35	20	35	35	35	35	35	35	35	35
Max 2	40	0	40	0	40	0	40	0	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Slp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	4.2	3.0	4.2	3.0	4.2	3.0	4.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.7	1.0	2.2	1.0	2.7	1.0	2.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Wellington County 24-36 - 124 & 23

**Controller Overlaps
Vehicle Overlaps (MM)2-2**

Overlap	Type	Lag Green	Yellow	Red	Advance Green
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Phases

Overlap	Phase	Included	Protect	Modifier	Ped Protect	Not Overlap	Lag X Phase	Lag 2 Phase	Flash Green
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PPLT FYA

Overlap	Protected Phase	Permissive Phase	Flash Arrow Output	Flash Arrow Channel	FYA Delay	FYA Clearance	Special Function Disable
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**Guaranteed Minimum Time Data (MM) 2-4
Phase Time Data**

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

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Controller Pedestrian Overlaps	
Pedestrian Overlaps (MM) 2-3	
Included Phase	Ped Overlap

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Controller Start/Fash (MM) 2-5**Startup**

Phase	Phase Setting
2	R
6	R

Overlap
A
B
C
D

Flash > Mon: Yes
Flash Time: 0
All Red: 0
Power Start Sequence: 1

Automatic Flash

Entry Phase
2
6

Exit Phase
2
6

Overlap Exit
A
B
C
D

Flash > Mon: Yes
Exit Flash Interval: W
Minimum Auto Flash: 8
Minimum Recall: No
Cycle Through Phase: No

Wellington County 24-36 - 124 & 23

Controller Options**Controller Options (MM)2-6-1**

Phase	Flashing Green Phase	Guaranteed Passage	Non Act 1	Non Act 2	Dual Entry	Conditional Service	Conditional Reservice	Ped Reservice	Rest In Walk	Flashing Walk	Ped Clear Yellow	Ped Clear Red	IGRN + Veh Ext
2	No	No	No	No	Yes	No	No	No	Yes	No	No	No	No
4	No	No	No	No	Yes	No	No	No	No	No	No	No	No
6	No	No	No	No	Yes	No	No	No	Yes	No	No	No	No
8	No	No	No	No	Yes	No	No	No	No	No	No	No	No

Ped Clear Protect: Off

Red Revert: 2.0

Act Pre-Time (MM)2-7

Pre-Time Mode Enable: No

Free Input Enables Pre-Timed: Yes

Pre-Timed Phase

Phase Recall Options (MM)2-8

Plan	Phase	Lock Detector	Vehicle Recall	Ped Recall	Max Recall	Soft Recall	No Rest	AI Calc
1	2	No	Yes	Yes	No	No	No	No
1	6	No	Yes	Yes	No	No	No	No
1	9	Yes	No	No	No	No	No	No
1	10	Yes	No	No	No	No	No	No
1	11	Yes	No	No	No	No	No	No
1	12	Yes	No	No	No	No	No	No
1	13	Yes	No	No	No	No	No	No
1	14	Yes	No	No	No	No	No	No
1	15	Yes	No	No	No	No	No	No
1	16	Yes	No	No	No	No	No	No
2	1	Yes	No	No	No	No	No	No
2	2	Yes	No	No	No	No	No	No
2	3	Yes	No	No	No	No	No	No
2	4	Yes	No	No	No	No	No	No
2	5	Yes	No	No	No	No	No	No
2	6	Yes	No	No	No	No	No	No
2	7	Yes	No	No	No	No	No	No
2	8	Yes	No	No	No	No	No	No
2	9	Yes	No	No	No	No	No	No
2	10	Yes	No	No	No	No	No	No
2	11	Yes	No	No	No	No	No	No
2	12	Yes	No	No	No	No	No	No
2	13	Yes	No	No	No	No	No	No
2	14	Yes	No	No	No	No	No	No
2	15	Yes	No	No	No	No	No	No
2	16	Yes	No	No	No	No	No	No
3	1	Yes	No	No	No	No	No	No
3	2	Yes	No	No	No	No	No	No
3	3	Yes	No	No	No	No	No	No
3	4	Yes	No	No	No	No	No	No
3	5	Yes	No	No	No	No	No	No
3	6	Yes	No	No	No	No	No	No
3	7	Yes	No	No	No	No	No	No
3	8	Yes	No	No	No	No	No	No
3	9	Yes	No	No	No	No	No	No
3	10	Yes	No	No	No	No	No	No
3	11	Yes	No	No	No	No	No	No
3	12	Yes	No	No	No	No	No	No
3	13	Yes	No	No	No	No	No	No
3	14	Yes	No	No	No	No	No	No
3	15	Yes	No	No	No	No	No	No
3	16	Yes	No	No	No	No	No	No
4	1	Yes	No	No	No	No	No	No
4	2	Yes	No	No	No	No	No	No
4	3	Yes	No	No	No	No	No	No
4	4	Yes	No	No	No	No	No	No
4	5	Yes	No	No	No	No	No	No
4	6	Yes	No	No	No	No	No	No
4	7	Yes	No	No	No	No	No	No
4	8	Yes	No	No	No	No	No	No
4	9	Yes	No	No	No	No	No	No
4	10	Yes	No	No	No	No	No	No
4	11	Yes	No	No	No	No	No	No
4	12	Yes	No	No	No	No	No	No
4	13	Yes	No	No	No	No	No	No
4	14	Yes	No	No	No	No	No	No
4	15	Yes	No	No	No	No	No	No
4	16	Yes	No	No	No	No	No	No

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Coordination Options**Coordination Options (MM)3-1**

Manual Pattern: Auto
 ECPI Coord: Yes
 System Source: TBC
 System Format: STD
 Splits In: Seconds
 Offsets In: Seconds
 Transition: Smooth
 Max Select: MAXINH
 Dwell/Add Time: 0
 Dly Coord Wz-Lz: No
 Force Off: Float
 Offset Reference: Lead
 Use Ped Time: Yes
 Ped Recall: No
 Ped Resv: No
 Local Zero Ovrd: No
 Fo Add Ini Green: No
 Re-sync Count: 0
 Multisync: No

Split Demand (MM)3-5**Demand 1 Demand 2**

Phase	Phase
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Demand	Detector	Call Time	Cycle Count
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Auto Perm Minimum Green (Seconds) (MM)3-4

Phase	Min Green
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Coordination Pattern Data**Pattern Data (MM)3-2**

Pattern	Split Pattern	TS2	Cycle	Std(COS)	Offset Value	Splits In	Offsets In	Actuated Coord
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Pattern	Timing Plan	Actuated Walk Rest	Sequence	Phase Reservice	Action Plan	XArt Pattern	Vehicle Perm 1	Vehicle Perm 2	Vehicle Perm 3
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Pattern	Ring Split Ext 1	Ring Split Ext 2	Ring Split Ext 3	Ring Split Ext 4	Split Demand Pattern 1	Split Demand Pattern 2	Ring Displ 2	Ring Displ 3	Ring Displ 4
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Split Preference Phases

Pattern	Phase	Preference 1	Preference 2
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Special Functions

Pattern	Function	Output
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Split Pattern Data (MM)3-3**Coord Phases**

Split Pattern	Phase	Split
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Split/Modes

Split Pattern	Mode	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Wellington County 24-36 - 124 & 23

Preemptor Preempt Plan (MM)4-1

Preempt Phases

Preempt	Phase	Track Clear Veh	Dwell Veh	Dwell Ped	Cycling Veh	Cycling Ped	Exit Phase	Exit Calls	Special Function
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Preempt Overlaps

Preempt	Overlap	Track Clear	Enable Trailing	Dwell Overlap	Cycling Overlap
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Preempt	Enable	Preempt Override	Interlock Enable	Detector Lock	Delay	Inhibit	Override Flash	Duration	CLR > GRN
1	No	Yes	No	Yes	0	0	No	0	No
2	No	Yes	No	Yes	0	0	No	0	No
3	No	Yes	No	Yes	0	0	No	0	No
4	No	Yes	No	Yes	0	0	No	0	No
5	No	Yes	No	Yes	0	0	No	0	No
6	No	Yes	No	Yes	0	0	No	0	No
7	No	Yes	No	Yes	0	0	No	0	No
8	No	Yes	No	Yes	0	0	No	0	No
9	No	Yes	No	Yes	0	0	No	0	No
10	No	Yes	No	Yes	0	0	No	0	No

Preempt	Term Overlap Asap	PC Through Yellow	Terminate Phase	Ped Dark	Track Clearance Re-service	Dwell Flash	Linked Pmt	Flash Exit Color	Preempt To Coord	Fault Type
1	No	No	No	No	No	Off	0	Red	No	Hard
2	No	No	No	No	No	Off	0	Green	No	Hard
3	No	No	No	No	No	Off	0	Green	No	Hard
4	No	No	No	No	No	Off	0	Green	No	Hard
5	No	No	No	No	No	Off	0	Green	No	Hard
6	No	No	No	No	No	Off	0	Green	No	Hard
7	No	No	No	No	No	Off	0	Green	No	Hard
8	No	No	No	No	No	Off	0	Green	No	Hard
9	No	No	No	No	No	Off	0	Green	No	Hard
10	No	No	No	No	No	Off	0	Green	No	Hard

Preempt	Exit Timing Plan	Reservice	Free During Pmt Ring 1	Free During Pmt Ring 2	Free During Pmt Ring 3	Free During Pmt Ring 4
1	0	0	No	No	No	No
2	0	0	No	No	No	No
3	0	0	No	No	No	No
4	0	0	No	No	No	No
5	0	0	No	No	No	No
6	0	0	No	No	No	No
7	0	0	No	No	No	No
8	0	0	No	No	No	No
9	0	0	No	No	No	No
10	0	0	No	No	No	No

Preempt	Entrance Walk	Entrance Ped Clear	Entrance Min Green	Entrance Yellow	Entrance Red	Track Clear Min Green	Gate Down Ext Green	Gate Down Max Green	Track Clear Yellow	Track Clear Red
1	0	255	5	4.0	1.0	0	0	0	4.0	1.0
2	0	255	5	4.0	1.0	0	0	0	4.0	1.0
3	0	255	5	4.0	1.0	0	0	0	4.0	1.0
4	0	255	5	4.0	1.0	0	0	0	4.0	1.0
5	0	255	5	4.0	1.0	0	0	0	4.0	1.0
6	0	255	5	4.0	1.0	0	0	0	4.0	1.0
7	0	255	5	4.0	1.0	0	0	0	4.0	1.0
8	0	255	5	4.0	1.0	0	0	0	4.0	1.0
9	0	255	5	4.0	1.0	0	0	0	4.0	1.0
10	0	255	5	4.0	1.0	0	0	0	4.0	1.0

Preempt	Min Dwell Time	Extend Preempt Input Time	Max Preempt Call Time	Exit Yellow Time	Exit Red Time	Preempt Active Out	Preempt Active Dwell	Other Priority Preempt	Non-Priority Preempt
1	0	0.0	0	4.0	1.0	On	No	Off	Off
2	0	0.0	0	4.0	1.0	On	No	Off	Off
3	0	0.0	0	4.0	1.0	On	No	Off	Off
4	0	0.0	0	4.0	1.0	On	No	Off	Off
5	0	0.0	0	4.0	1.0	On	No	Off	Off
6	0	0.0	0	4.0	1.0	On	No	Off	Off
7	0	0.0	0	4.0	1.0	On	No	Off	Off
8	0	0.0	0	4.0	1.0	On	No	Off	Off
9	0	0.0	0	4.0	1.0	On	No	Off	Off
10	0	0.0	0	4.0	1.0	On	No	Off	Off

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Preemptor Preempt Filtering
Enable Preempt Filtering and TSP/SCP
(MM)4-2

Input	Solid	Pulsing
3	Preemption -3	Preemption -7
4	Preemption -4	Preemption -8
5	Preemption -5	Preemption -9
6	Preemption -6	Preemption -10

Wellington County 24-36 - 124 & 23

**Time Base Clock/Calendar
Clock/Calendar Options (MM)5-1**

Enable Action Plan: 0
Sync Reference Time: 12:00 AM
Sync Reference: Reference Time
Day Light Savings: No
Time Reset Input Set Time: 3:30:00
Standard Time From GMT: 0

Wellington County 24-36 - 124 & 23

Time Base Action Plan**Action Plan (MM)5-2**

Plan	Pattern	Veh Det Plan	Flash	Red Rest	Controller Seq	Timing Plan	System Override	Detector Log	Veh Det Diag Plan	Ped Det Diag Plan	Dimming Enable
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Action Plan Phases

Plan	Phase	Ped Rcl	Walk 2	Vex 2	Veh Rcl	Max Rcl	Max 2	Max 3	CS Inhibit	Omit
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Action Plan Special Functions

Plan	Function
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Action Plan**Auxiliary Functions**

Plan	Function
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Logic Statement Control

Plan	LP	Statement Control
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Wellington County 24-36 - 124 & 23

Time Base Day Plan/Schedule**Day Plan (MM)5-3**

Plan	Event	Action Plan	Start Time
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Schedule (MM)5-4

Schedule Number	Day Plan Number	Months	Days of Week	Days of Month
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Wellington County 24-36 - 124 & 23

Time Base Exceptions
Exception Day Program (MM)5-5

Day	Fixed/Float	Month	Day of Week/Month	Week of Month/Year	Day Plan
1	FLOAT	0	0	0	0
2	FLOAT	0	0	0	0
3	FLOAT	0	0	0	0
4	FLOAT	0	0	0	0
5	FLOAT	0	0	0	0
6	FLOAT	0	0	0	0
7	FLOAT	0	0	0	0
8	FLOAT	0	0	0	0
9	FLOAT	0	0	0	0
10	FLOAT	0	0	0	0
11	FLOAT	0	0	0	0
12	FLOAT	0	0	0	0
13	FLOAT	0	0	0	0
14	FLOAT	0	0	0	0
15	FLOAT	0	0	0	0
16	FLOAT	0	0	0	0
17	FLOAT	0	0	0	0
18	FLOAT	0	0	0	0
19	FLOAT	0	0	0	0
20	FLOAT	0	0	0	0
21	FLOAT	0	0	0	0
22	FLOAT	0	0	0	0
23	FLOAT	0	0	0	0
24	FLOAT	0	0	0	0
25	FLOAT	0	0	0	0
26	FLOAT	0	0	0	0
27	FLOAT	0	0	0	0
28	FLOAT	0	0	0	0
29	FLOAT	0	0	0	0
30	FLOAT	0	0	0	0
31	FLOAT	0	0	0	0
32	FLOAT	0	0	0	0
33	FLOAT	0	0	0	0
34	FLOAT	0	0	0	0
35	FLOAT	0	0	0	0
36	FLOAT	0	0	0	0

Wellington County 24-36 - 124 & 23

Detectors**Detectors Page 1****Vehicle Detectors Setup (MM)6-1**

Vehicle Plan	Detector Number	Called	Type
4	4	4	N
4	8	8	G

Vehicle Detector Setup (MM)6-2 continued

Detector Number	ECPI	TS2 Detector	Detector Description
1	N-NTCIP	Yes	
2	N-NTCIP	Yes	
3	N-NTCIP	Yes	
4	N-NTCIP	Yes	
5	N-NTCIP	Yes	
6	N-NTCIP	Yes	
7	N-NTCIP	Yes	
8	G-GREEN EXT	Yes	
9	N-NTCIP	Yes	
10	N-NTCIP	Yes	
11	N-NTCIP	Yes	
12	N-NTCIP	Yes	
13	N-NTCIP	Yes	
14	N-NTCIP	Yes	
15	N-NTCIP	Yes	
16	N-NTCIP	Yes	
17	N-NTCIP	Yes	
18	N-NTCIP	Yes	
19	N-NTCIP	Yes	
20	N-NTCIP	Yes	
21	N-NTCIP	Yes	
22	N-NTCIP	Yes	
23	N-NTCIP	Yes	
24	N-NTCIP	Yes	
25	N-NTCIP	Yes	
26	N-NTCIP	Yes	
27	N-NTCIP	Yes	
28	N-NTCIP	Yes	
29	N-NTCIP	Yes	
30	N-NTCIP	Yes	
31	N-NTCIP	Yes	
32	N-NTCIP	Yes	
33	N-NTCIP	Yes	
34	N-NTCIP	Yes	
35	N-NTCIP	Yes	
36	N-NTCIP	Yes	
37	N-NTCIP	Yes	
38	N-NTCIP	Yes	
39	N-NTCIP	Yes	
40	N-NTCIP	Yes	
41	N-NTCIP	Yes	
42	N-NTCIP	Yes	
43	N-NTCIP	Yes	
44	N-NTCIP	Yes	
45	N-NTCIP	Yes	
46	N-NTCIP	Yes	
47	N-NTCIP	Yes	
48	N-NTCIP	Yes	
49	N-NTCIP	Yes	
50	N-NTCIP	Yes	
51	N-NTCIP	Yes	
52	N-NTCIP	Yes	
53	N-NTCIP	Yes	
54	N-NTCIP	Yes	
55	N-NTCIP	Yes	
56	N-NTCIP	Yes	
57	N-NTCIP	Yes	
58	N-NTCIP	Yes	
59	N-NTCIP	Yes	
60	N-NTCIP	Yes	
61	N-NTCIP	Yes	
62	N-NTCIP	Yes	
63	N-NTCIP	Yes	
64	N-NTCIP	Yes	

Vehicle Detector Setup (MM)6-2 continued

Detector Number	Vehicle Plan	Assigned Phase	Switch Phase	Extend Time/Passage Time	Delay Time	Queue Limit/Disconnect Time	Added Option	Call Option	NTCIP Occupancy	NTCIP Volume	ECPI Log	Lock In	Ext Option
1	1	1	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
1	2	1	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
1	3	1	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
1	4	1	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
2	1	2	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
2	2	2	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
2	3	2	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
2	4	2	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
3	1	4	0	0.0	10.0	0	No	Yes	No	No	No	None	Passage
3	2	4	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
3	3	3	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
3	4	3	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
4	1	4	0	0.0	10.0	0	No	Yes	No	No	No	None	Passage
4	2	4	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
4	3	4	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
4	4	4	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
5	1	5	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
5	2	5	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
5	3	5	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
5	4	5	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
6	1	6	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage

6	2	6	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
6	3	6	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
6	4	6	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
7	1	7	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
7	2	7	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
7	3	7	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
7	4	7	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
8	1	8	0	0.0	4.0	0	No	Yes	No	No	No	None	Passage
8	2	8	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
8	3	8	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
8	4	8	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
9	1	9	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
9	2	9	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
9	3	9	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
9	4	9	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
10	1	10	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
10	2	10	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
10	3	10	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
10	4	10	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
11	1	11	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
11	2	11	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
11	3	11	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
11	4	11	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
12	1	12	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
12	2	12	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
12	3	12	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
12	4	12	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
13	1	13	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
13	2	13	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
13	3	13	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
13	4	13	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
14	1	14	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
14	2	14	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
14	3	14	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
14	4	14	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
15	1	15	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
15	2	15	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
15	3	15	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
15	4	15	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
16	1	16	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
16	2	16	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
16	3	16	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage
16	4	16	0	0.0	0.0	0	No	Yes	No	No	No	None	Passage

Ped Detector Options (MM)6-3**Phase Ped Detector (NTCIP)**

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

Local System Detector

Local System Detector	Number
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Wellington County 24-36 - 124 & 23

Detectors

Detectors Page 2

Log - Speed Detector Setup (MM)6-5

NTCIP Log Period: 0 ECPI Log Period: TBAP Length Unit: Inch

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap Length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

Vehicle Detector Diagnostics (MM)6-6

Plan	Detector	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
1	1	0	0	0	1	255	0
1	2	0	0	0	1	255	0
1	3	0	0	0	1	255	0
1	4	0	0	0	1	255	0
1	5	0	0	0	1	255	0
1	6	0	0	0	1	255	0
1	7	0	0	0	1	255	0
1	8	0	0	0	1	255	0
1	9	0	0	0	1	255	0
1	10	0	0	0	1	255	0
1	11	0	0	0	1	255	0
1	12	0	0	0	1	255	0
1	13	0	0	0	1	255	0
1	14	0	0	0	1	255	0
1	15	0	0	0	1	255	0
1	16	0	0	0	1	255	0
1	17	0	0	0	1	255	0
1	18	0	0	0	1	255	0
1	19	0	0	0	1	255	0
1	20	0	0	0	1	255	0
1	21	0	0	0	1	255	0
1	22	0	0	0	1	255	0
1	23	0	0	0	1	255	0
1	24	0	0	0	1	255	0
1	25	0	0	0	1	255	0
1	26	0	0	0	1	255	0
1	27	0	0	0	1	255	0
1	28	0	0	0	1	255	0
1	29	0	0	0	1	255	0
1	30	0	0	0	1	255	0
1	31	0	0	0	1	255	0
1	32	0	0	0	1	255	0
1	33	0	0	0	1	255	0
1	34	0	0	0	1	255	0
1	35	0	0	0	1	255	0
1	36	0	0	0	1	255	0
1	37	0	0	0	1	255	0
1	38	0	0	0	1	255	0
1	39	0	0	0	1	255	0
1	40	0	0	0	1	255	0
1	41	0	0	0	1	255	0
1	42	0	0	0	1	255	0
1	43	0	0	0	1	255	0
1	44	0	0	0	1	255	0
1	45	0	0	0	1	255	0
1	46	0	0	0	1	255	0
1	47	0	0	0	1	255	0
1	48	0	0	0	1	255	0
1	49	0	0	0	1	255	0
1	50	0	0	0	1	255	0
1	51	0	0	0	1	255	0
1	52	0	0	0	1	255	0
1	53	0	0	0	1	255	0
1	54	0	0	0	1	255	0
1	55	0	0	0	1	255	0
1	56	0	0	0	1	255	0
1	57	0	0	0	1	255	0
1	58	0	0	0	1	255	0
1	59	0	0	0	1	255	0
1	60	0	0	0	1	255	0

1	61	0	0	0	1	255	0
1	62	0	0	0	1	255	0
1	63	0	0	0	1	255	0
1	64	0	0	0	1	255	0
2	1	0	0	0	1	255	0
2	2	0	0	0	1	255	0
2	3	0	0	0	1	255	0
2	4	0	0	0	1	255	0
2	5	0	0	0	1	255	0
2	6	0	0	0	1	255	0
2	7	0	0	0	1	255	0
2	8	0	0	0	1	255	0
2	9	0	0	0	1	255	0
2	10	0	0	0	1	255	0
2	11	0	0	0	1	255	0
2	12	0	0	0	1	255	0
2	13	0	0	0	1	255	0
2	14	0	0	0	1	255	0
2	15	0	0	0	1	255	0
2	16	0	0	0	1	255	0
2	17	0	0	0	1	255	0
2	18	0	0	0	1	255	0
2	19	0	0	0	1	255	0
2	20	0	0	0	1	255	0
2	21	0	0	0	1	255	0
2	22	0	0	0	1	255	0
2	23	0	0	0	1	255	0
2	24	0	0	0	1	255	0
2	25	0	0	0	1	255	0
2	26	0	0	0	1	255	0
2	27	0	0	0	1	255	0
2	28	0	0	0	1	255	0
2	29	0	0	0	1	255	0
2	30	0	0	0	1	255	0
2	31	0	0	0	1	255	0
2	32	0	0	0	1	255	0
2	33	0	0	0	1	255	0
2	34	0	0	0	1	255	0
2	35	0	0	0	1	255	0
2	36	0	0	0	1	255	0
2	37	0	0	0	1	255	0
2	38	0	0	0	1	255	0
2	39	0	0	0	1	255	0
2	40	0	0	0	1	255	0
2	41	0	0	0	1	255	0
2	42	0	0	0	1	255	0
2	43	0	0	0	1	255	0
2	44	0	0	0	1	255	0
2	45	0	0	0	1	255	0
2	46	0	0	0	1	255	0
2	47	0	0	0	1	255	0
2	48	0	0	0	1	255	0
2	49	0	0	0	1	255	0
2	50	0	0	0	1	255	0
2	51	0	0	0	1	255	0
2	52	0	0	0	1	255	0
2	53	0	0	0	1	255	0
2	54	0	0	0	1	255	0
2	55	0	0	0	1	255	0
2	56	0	0	0	1	255	0
2	57	0	0	0	1	255	0
2	58	0	0	0	1	255	0
2	59	0	0	0	1	255	0
2	60	0	0	0	1	255	0
2	61	0	0	0	1	255	0
2	62	0	0	0	1	255	0
2	63	0	0	0	1	255	0
2	64	0	0	0	1	255	0
3	1	0	0	0	1	255	0
3	2	0	0	0	1	255	0
3	3	0	0	0	1	255	0
3	4	0	0	0	1	255	0
3	5	0	0	0	1	255	0
3	6	0	0	0	1	255	0
3	7	0	0	0	1	255	0
3	8	0	0	0	1	255	0
3	9	0	0	0	1	255	0
3	10	0	0	0	1	255	0
3	11	0	0	0	1	255	0
3	12	0	0	0	1	255	0
3	13	0	0	0	1	255	0
3	14	0	0	0	1	255	0
3	15	0	0	0	1	255	0
3	16	0	0	0	1	255	0
3	17	0	0	0	1	255	0
3	18	0	0	0	1	255	0
3	19	0	0	0	1	255	0
3	20	0	0	0	1	255	0
3	21	0	0	0	1	255	0
3	22	0	0	0	1	255	0
3	23	0	0	0	1	255	0
3	24	0	0	0	1	255	0
3	25	0	0	0	1	255	0
3	26	0	0	0	1	255	0

	27	0	0	0	1	255	0
3	28	0	0	0	1	255	0
3	29	0	0	0	1	255	0
3	30	0	0	0	1	255	0
3	31	0	0	0	1	255	0
3	32	0	0	0	1	255	0
3	33	0	0	0	1	255	0
3	34	0	0	0	1	255	0
3	35	0	0	0	1	255	0
3	36	0	0	0	1	255	0
3	37	0	0	0	1	255	0
3	38	0	0	0	1	255	0
3	39	0	0	0	1	255	0
3	40	0	0	0	1	255	0
3	41	0	0	0	1	255	0
3	42	0	0	0	1	255	0
3	43	0	0	0	1	255	0
3	44	0	0	0	1	255	0
3	45	0	0	0	1	255	0
3	46	0	0	0	1	255	0
3	47	0	0	0	1	255	0
3	48	0	0	0	1	255	0
3	49	0	0	0	1	255	0
3	50	0	0	0	1	255	0
3	51	0	0	0	1	255	0
3	52	0	0	0	1	255	0
3	53	0	0	0	1	255	0
3	54	0	0	0	1	255	0
3	55	0	0	0	1	255	0
3	56	0	0	0	1	255	0
3	57	0	0	0	1	255	0
3	58	0	0	0	1	255	0
3	59	0	0	0	1	255	0
3	60	0	0	0	1	255	0
3	61	0	0	0	1	255	0
3	62	0	0	0	1	255	0
3	63	0	0	0	1	255	0
3	64	0	0	0	1	255	0
4	1	0	0	0	1	255	0
4	2	0	0	0	1	255	0
4	3	0	0	0	1	255	0
4	4	0	0	0	1	255	0
4	5	0	0	0	1	255	0
4	6	0	0	0	1	255	0
4	7	0	0	0	1	255	0
4	8	0	0	0	1	255	0
4	9	0	0	0	1	255	0
4	10	0	0	0	1	255	0
4	11	0	0	0	1	255	0
4	12	0	0	0	1	255	0
4	13	0	0	0	1	255	0
4	14	0	0	0	1	255	0
4	15	0	0	0	1	255	0
4	16	0	0	0	1	255	0
4	17	0	0	0	1	255	0
4	18	0	0	0	1	255	0
4	19	0	0	0	1	255	0
4	20	0	0	0	1	255	0
4	21	0	0	0	1	255	0
4	22	0	0	0	1	255	0
4	23	0	0	0	1	255	0
4	24	0	0	0	1	255	0
4	25	0	0	0	1	255	0
4	26	0	0	0	1	255	0
4	27	0	0	0	1	255	0
4	28	0	0	0	1	255	0
4	29	0	0	0	1	255	0
4	30	0	0	0	1	255	0
4	31	0	0	0	1	255	0
4	32	0	0	0	1	255	0
4	33	0	0	0	1	255	0
4	34	0	0	0	1	255	0
4	35	0	0	0	1	255	0
4	36	0	0	0	1	255	0
4	37	0	0	0	1	255	0
4	38	0	0	0	1	255	0
4	39	0	0	0	1	255	0
4	40	0	0	0	1	255	0
4	41	0	0	0	1	255	0
4	42	0	0	0	1	255	0
4	43	0	0	0	1	255	0
4	44	0	0	0	1	255	0
4	45	0	0	0	1	255	0
4	46	0	0	0	1	255	0
4	47	0	0	0	1	255	0
4	48	0	0	0	1	255	0
4	49	0	0	0	1	255	0
4	50	0	0	0	1	255	0
4	51	0	0	0	1	255	0
4	52	0	0	0	1	255	0
4	53	0	0	0	1	255	0
4	54	0	0	0	1	255	0
4	55	0	0	0	1	255	0
4	56	0	0	0	1	255	0

	57	0	0	0	1	255	0
4	58	0	0	0	1	255	0
4	59	0	0	0	1	255	0
4	60	0	0	0	1	255	0
4	61	0	0	0	1	255	0
4	62	0	0	0	1	255	0
4	63	0	0	0	1	255	0
4	64	0	0	0	1	255	0

Pedestrian Detector Diagnostics (MM)6-7

Plan	Detector	Counts	Act	Pres	Multiplier
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Configuration

	Controller Sequence Priority											
	1	2	3	4	5	6	7	8	9	10	11	12
Ring 1 Phases . .	1	2	3	4	9	10	0	0	0	0	0	0
Ring 2 Phases . .	5	6	7	8	11	12	0	0	0	0	0	0

	Phase											
	1	2	3	4	5	6	7	8	9	10	11	12
In Use.	.	X	.	X	.	X	.	X	.	.	.	.
Exclusive Ped . .	.	.	.	.	.	.	.	.	.	.	.	.
Direction												

	Overlap			
	A	B	C	D
Direction . . .				

Load Switch Channel/Driver Group Assign (Info Only):

Load Switch (MMU) Channel	Signal Driver Phase/ Ovlap	Group Ped
1	1	.
2	2	.
3	3	.
4	4	.
5	5	.
6	6	.
7	7	.
8	8	.
9	2	X
10	4	X
11	6	X
12	8	X
13	A	.
14	B	.
15	C	.
16	D	.

Configuration Continued

Event Enabling	Alarm Enabling
Critical RFE'S (MMU/TF) X	ALARM 1 X
Non-Critical RFE'S (DET/TEST) . . X	ALARM 2
Detector Errors X	ALARM 3
Coordination Errors X	ALARM 4
MMU Flash Faults. X	ALARM 5
Local Flash Faults. X	ALARM 6
Preempt X	ALARM 7
Power On/Off. X	ALARM 8
Low Battery X	ALARM 9
	ALARM 10.
	ALARM 11.
	ALARM 12.
	ALARM 13.
	ALARM 14.
	ALARM 15.
	ALARM 16.

Supervisor Access Code. . . ****
 Data Change Access Code . . ****

MMU Compatibility Program (Info Only)

Channel	Is Allowed to Time With Channel														
	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
10. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
11. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
12. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
13. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
14. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
15. . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Version Info:

Software Assy.	Part No.	Version
Boot	27831	2.83
Program	45561	7.9
Application		. 3
Help	27891	6.33
Configuration	27918	C000r

Ped Carryover

Ped Start Phase

Carry Over Phase

1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0

Power Start, Remote Flash

	Phase															
	1	2	3	4	5	6	7	8	9	10	11	12				
Power Start.	.	X	.	.	.	X	.	.	.	.	.	.				
External Start . . .	.	X	.	.	.	X	.	.	.	.	.	.				
Into Remote Flash. .	.	X	.	.	.	X	.	.	.	.	.	.				
Exit Remote Flash. .	.	X	.	.	.	X	.	.	.	.	.	.	Overlap			
Remote Flash Yellow.	.	.	.	.	.	.	.	.	.	.	.	.	A	B	C	D
Flash Together . . .	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Initialization Interval:

Power Start Yellow
 External Start. Yellow

Power Start All Red Time. . 0
 Power Start Flash Time. . . 0

Remote Flash Options:

Out of Flash Yellow NO
 Out of Flash All Red. . . . NO
 Minimum Recall. NO
 Alternate Flash NO
 Flash Thru Load Switches. . NO
 Cycle Through Phases. . . . NO

Option Data

	Phase											
	1	2	3	4	5	6	7	8	9	10	11	12
Guaranteed Passage	.	.	.	.	.	.	.	.	.	.	.	.
Call To NonActuated 1	.	X	.	.	.	X	.	.	.	.	.	.
Call To NonActuated 2	.	.	.	X	.	.	.	X	.	.	.	.
Dual Entry.	.	X	.	X	.	X	.	X	.	X	.	X
Conditional Service	X	.	X	.	X	.	X	.	X	.	X	.
Conditional Reservice	.	.	.	.	.	.	.	.	.	.	.	.
Actuated Rest in Walk	.	X	.	.	.	X	.	.	.	.	.	.
Flashing Walk	.	.	.	.	.	.	.	.	.	.	.	.

Enable Programmable Options

Dual Entry.	ON	Backup Protection Group 1	OFF
Conditional Service	OFF	Backup Protection Group 2	OFF
Ped Clearance Protection.	OFF	Backup Protection Group 3	OFF
Special Preempt Overlap Flash	OFF	Simultaneous Gap Group 1.	OFF
Cond Service Det Cross Switch	OFF	Simultaneous Gap Group 2.	OFF
Lock Detectors in Red Only.	OFF	Simultaneous Gap Group 3.	OFF

Five Section Left Turn Control

Phases: 5-2	7-4	1-6	3-8	11-10	9-12
Left Turn Head.	.	.	.	.	.

Dimming:

[illegible]

Detector Type/Timers

Det.	Locking Memory	Log Enable	Timers		Don't Reset Extend	Type
			Extend	Delay		
1	NO	NO	0.0	0	.	0 - Normal
2	NO	NO	0.0	0	.	0 - Normal
3	NO	NO	0.0	0	.	0 - Normal
4	NO	NO	0.0	0	.	0 - Normal
5	NO	NO	0.0	0	.	0 - Normal
6	NO	NO	0.0	0	.	0 - Normal
7	NO	NO	0.0	0	.	0 - Normal
8	NO	NO	0.0	0	.	0 - Normal
9	NO	NO	0.0	0	.	0 - Normal
10	NO	NO	0.0	0	.	0 - Normal
11	NO	NO	0.0	0	.	0 - Normal
12	NO	NO	0.0	0	.	0 - Normal
13	NO	NO	0.0	0	.	0 - Normal
14	NO	NO	0.0	0	.	0 - Normal
15	NO	NO	0.0	0	.	0 - Normal
16	NO	NO	0.0	0	.	0 - Normal
17	NO	NO	0.0	0	.	0 - Normal
18	NO	NO	0.0	0	.	0 - Normal
19	NO	NO	0.0	0	.	0 - Normal
20	NO	NO	0.0	0	.	0 - Normal
21	NO	NO	0.0	0	.	0 - Normal
22	NO	NO	0.0	0	.	0 - Normal
23	NO	NO	0.0	0	.	0 - Normal
24	NO	NO	0.0	0	.	0 - Normal
25	NO	NO	0.0	0	.	0 - Normal
26	NO	NO	0.0	0	.	0 - Normal
27	NO	NO	0.0	0	.	0 - Normal
28	NO	NO	0.0	0	.	0 - Normal
29	NO	NO	0.0	0	.	0 - Normal
30	NO	NO	0.0	0	.	0 - Normal
31	NO	NO	0.0	0	.	0 - Normal
32	NO	NO	0.0	0	.	0 - Normal

Detector Names

Det 1: Detector 1	Det 17: Detector 17
Det 2: Detector 2	Det 18: Detector 18
Det 3: Detector 3	Det 19: Detector 19
Det 4: Detector 4	Det 20: Detector 20
Det 5: Detector 5	Det 21: Detector 21
Det 6: Detector 6	Det 22: Detector 22
Det 7: Detector 7	Det 23: Detector 23
Det 8: Detector 8	Det 24: Detector 24
Det 9: Detector 9	Det 25: Detector 25
Det 10: Detector 10	Det 26: Detector 26
Det 11: Detector 11	Det 27: Detector 27
Det 12: Detector 12	Det 28: Detector 28
Det 13: Detector 13	Det 29: Detector 29
Det 14: Detector 14	Det 30: Detector 30
Det 15: Detector 15	Det 31: Detector 31
Det 16: Detector 16	Det 32: Detector 32

Detector Type/Timers

33	NO	NO	0.0	0	.	0 - Normal
34	NO	NO	0.0	0	.	0 - Normal
35	NO	NO	0.0	0	.	0 - Normal
36	NO	NO	0.0	0	.	0 - Normal
37	NO	NO	0.0	0	.	0 - Normal
38	NO	NO	0.0	0	.	0 - Normal
39	NO	NO	0.0	0	.	0 - Normal
40	NO	NO	0.0	0	.	0 - Normal
41	NO	NO	0.0	0	.	0 - Normal
42	NO	NO	0.0	0	.	0 - Normal
43	NO	NO	0.0	0	.	0 - Normal
44	NO	NO	0.0	0	.	0 - Normal
45	NO	NO	0.0	0	.	0 - Normal
46	NO	NO	0.0	0	.	0 - Normal
47	NO	NO	0.0	0	.	0 - Normal
48	NO	NO	0.0	0	.	0 - Normal
49	NO	NO	0.0	0	.	0 - Normal
50	NO	NO	0.0	0	.	0 - Normal
51	NO	NO	0.0	0	.	0 - Normal
52	NO	NO	0.0	0	.	0 - Normal
53	NO	NO	0.0	0	.	0 - Normal
54	NO	NO	0.0	0	.	0 - Normal
55	NO	NO	0.0	0	.	0 - Normal
56	NO	NO	0.0	0	.	0 - Normal
57	NO	NO	0.0	0	.	0 - Normal
58	NO	NO	0.0	0	.	0 - Normal
59	NO	NO	0.0	0	.	0 - Normal
60	NO	NO	0.0	0	.	0 - Normal
61	NO	NO	0.0	0	.	0 - Normal
62	NO	NO	0.0	0	.	0 - Normal
63	NO	NO	0.0	0	.	0 - Normal
64	NO	NO	0.0	0	.	0 - Normal

Detector Names

Det 33: Detector 33	Det 49: Detector 49
Det 34: Detector 34	Det 50: Detector 50
Det 35: Detector 35	Det 51: Detector 51
Det 36: Detector 36	Det 52: Detector 52
Det 37: Detector 37	Det 53: Detector 53
Det 38: Detector 38	Det 54: Detector 54
Det 39: Detector 39	Det 55: Detector 55
Det 40: Detector 40	Det 56: Detector 56
Det 41: Detector 41	Det 57: Detector 57
Det 42: Detector 42	Det 58: Detector 58
Det 43: Detector 43	Det 59: Detector 59
Det 44: Detector 44	Det 60: Detector 60
Det 45: Detector 45	Det 61: Detector 61
Det 46: Detector 46	Det 62: Detector 62
Det 47: Detector 47	Det 63: Detector 63
Det 48: Detector 48	Det 64: Detector 64

Ped/SD Local Assign,Log Interval

	Phase Ped Detector											
	1	2	3	4	5	6	7	8	9	10	11	12
Is Ped Detector No. . . .	1	2	3	4	5	6	7	8	9	10	11	12

	*Local System Detector No.															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Is Local Detector No. . .	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Detector Log Interval . . 5

*NOTE: System master designations cross referenced to local
system detector numbers are:

SDA1 = 1 & 9
 SDA2 = 2 & 10
 SDB1 = 3 & 11
 SDB2 = 4 & 12
 SDC1 = 5 & 13
 SDC2 = 6 & 14
 SDD1 = 7 & 15
 SDD2 = 8 & 16

Diagnostic Plans/Fail Action

		Detector															
Plan		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
*Fail Action		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

		Detector															
Plan		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
*Fail Action		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*NOTE: 0 = No Action, 1 = Min Recall, 2 = Max Recall in Effect
 3 = Detector Fail Max Time from By-Phase Timing Data

Diagnostic Plans/Fail Action

		Detector															
Plan		33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
1	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
*Fail Action		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

		Detector															
Plan		49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
1	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Diagnostic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Scaling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
*Fail Action		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*NOTE: 0 = No Action, 1 = Min Recall, 2 = Max Recall in Effect
 3 = Detector Fail Max Time from By-Phase Timing Data

Detector Diagnostic Intervals

Diagnostic Number	*No-Activity Diagnostic Interval	*Max Presence Diagnostic Interval	Erratic Counts
1	1	1	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
20	0	0	0
21	0	0	0
22	0	0	0
23	0	0	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0
31	0	0	0
32	0	0	0

*NOTE: Scaling is specified in each detector diagnostic plan.

Speed Detectors

```

-----
                                Local Speed Detector
One Detector Speed:           1    2    3    4    5    6    7    8
  Local Detector Number. . . . 0    0    0    0    0    0    0    0
  Vehicle Length . . . . . 0    0    0    0    0    0    0    0
  Loop Length. . . . . 0    0    0    0    0    0    0    0
Two Detector Speed:
  Local Detector Number. . . . 0    0    0    0    0    0    0    0
  Speed Trap Length. . . . . 0    0    0    0    0    0    0    0

```

```

                                Local Speed Detector
One Detector Speed:           9   10   11   12   13   14   15   16
  Local Detector Number. . . . 0    0    0    0    0    0    0    0
  Vehicle Length . . . . . 0    0    0    0    0    0    0    0
  Loop Length. . . . . 0    0    0    0    0    0    0    0
Two Detector Speed:
  Local Detector Number. . . . 0    0    0    0    0    0    0    0
  Speed Trap Length. . . . . 0    0    0    0    0    0    0    0

```

Units. Inches

NOTE: Speed Detector 1 = STA, Speed Detector 2 = STB

Coordinator Manual Command and Options

Manual Enable Pattern 0

Split Units Percent OffsetUnits Percent
 Interconnect Format . PLAN Interconnect Source . TLM
 Transition. SMOOTH Dwell Period. 0
 Resync Count. 0

Actuated Coord Phase Actuated Walk Rest
 Inhibit Max Timing Max 2 Select
 Floating Force Off Multisync.

				Phase											
Split Demand: Call	Time	Cyc	Count	1	2	3	4	5	6	7	8	9	10	11	12
Demand 1 . .	0		0	.	.	.	.	.	.	.	.	.	.	.	.
Demand 2 . .	0		0	.	.	.	.	.	.	.	.	.	.	.	.

	Phase											
	1	2	3	4	5	6	7	8	9	10	11	12
Auto Permissive Min Green .	0	0	0	0	0	0	0	0	0	0	0	0

	A	B	C	D	E	F
Free Alternate Sequence . .	.	.	.	.	.	.

Coordination Patterns

Preemptors

Preemptor 1

```

Active . . . . . Det Lock. . . . . Ped Dark . . . . .
Priority Preemption. . . . . Yel-Red To Grn. . . . . Ped Active . . . . .
Outputs Only During Hold . . . . Flash All Outputs . . . . Zero Ped Clr Time. .
Terminate Overlap ASAP . . . . . Terminate Phases. . . . Ped Clr Thru Yel . .
Don't Override Flash . . . . . Duration Time. . . . 0
Flash During Hold. . . . . Delay Time . . . . 0
No CVM in Flash. . . . . Inhibit Time . . . . 0
Fast Flash Grn on Hold Phase. . . Min Ped Clear. . . . 0
Enable Max Time. . . . . Max Time . . . . . 0
                               Exit Max . . . . . 0
                               Min Hold Time. . . . 0
                               Hold Delay Time. . . 0

```

	Green	Yellow	Red
Minimum	0	0.0	0.0
Track Clear	0	0.0	0.0
Hold.		0.0	0.0

Phase/Overlap	1	2	3	4	5	6	7	8	9	10	11	12/	A	B	C	D
Terminate Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Track Clearance Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hold Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Calls on Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Out of Flash Color for Exit Phases Green

Preemptor 2

```

Active . . . . . Det Lock. . . . . Ped Dark . . . . .
Priority Preemption. . . . . Yel-Red To Grn. . . . . Ped Active . . . . .
Outputs Only During Hold . . . . Flash All Outputs . . . . Zero Ped Clr Time. .
Terminate Overlap ASAP . . . . . Terminate Phases. . . . Ped Clr Thru Yel . .
Don't Override Flash . . . . . Duration Time. . . . 0
Flash During Hold. . . . . Delay Time . . . . 0
No CVM in Flash. . . . . Inhibit Time . . . . 0
Fast Flash Grn on Hold Phase. . . Min Ped Clear. . . . 0
Enable Max Time. . . . . Max Time . . . . . 0
                               Exit Max . . . . . 0
                               Min Hold Time. . . . 0
                               Hold Delay Time. . . 0

```

	Green	Yellow	Red
Minimum	0	0.0	0.0
Track Clear	0	0.0	0.0
Hold.		0.0	0.0

Phase/Overlap	1	2	3	4	5	6	7	8	9	10	11	12/	A	B	C	D
Terminate Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Track Clearance Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hold Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Calls on Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Out of Flash Color for Exit Phases Green

Linked Preemptor 0

Preemptors

Preemptor 3

```

Active . . . . . Det Lock. . . . . Ped Dark . . . . .
Priority Preemption. . . . . Yel-Red To Grn. . . . . Ped Active . . . . .
Outputs Only During Hold . . . . Flash All Outputs . . . . Zero Ped Clr Time. .
Terminate Overlap ASAP . . . . Terminate Phases. . . . Ped Clr Thru Yel . .
Don't Override Flash . . . . . Duration Time. . . . 0
Flash During Hold. . . . . Delay Time . . . . 0
No CVM in Flash. . . . . Inhibit Time . . . . 0
Fast Flash Grn on Hold Phase. . . Min Ped Clear. . . . 0
Enable Max Time. . . . . Max Time . . . . . 0
                               Exit Max . . . . . 0
                               Min Hold Time. . . . 0
                               Hold Delay Time. . . 0

```

	Green	Yellow	Red
Minimum	0	0.0	0.0
Track Clear	0	0.0	0.0
Hold.		0.0	0.0

Phase/Overlap	1	2	3	4	5	6	7	8	9	10	11	12/	A	B	C	D
Terminate Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Track Clearance Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hold Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Calls on Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Out of Flash Color for Exit Phases Green

Linked Preemptor 0

Preemptor 4

```

Active . . . . . Det Lock. . . . . Ped Dark . . . . .
Priority Preemption. . . . . Yel-Red To Grn. . . . . Ped Active . . . . .
Outputs Only During Hold . . . . Flash All Outputs . . . . Zero Ped Clr Time. .
Terminate Overlap ASAP . . . . Terminate Phases. . . . Ped Clr Thru Yel . .
Don't Override Flash . . . . . Duration Time. . . . 0
Flash During Hold. . . . . Delay Time . . . . 0
No CVM in Flash. . . . . Inhibit Time . . . . 0
Fast Flash Grn on Hold Phase. . . Min Ped Clear. . . . 0
Enable Max Time. . . . . Max Time . . . . . 0
                               Exit Max . . . . . 0
                               Min Hold Time. . . . 0
                               Hold Delay Time. . . 0

```

	Green	Yellow	Red
Minimum	0	0.0	0.0
Track Clear	0	0.0	0.0
Hold.		0.0	0.0

Phase/Overlap	1	2	3	4	5	6	7	8	9	10	11	12/	A	B	C	D
Terminate Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Track Clearance Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hold Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Calls on Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Out of Flash Color for Exit Phases Green

Linked Preemptor 0

Preemptors

Preemptor 5

```

Active . . . . . Det Lock. . . . . Ped Dark . . . . .
Priority Preemption. . . . . Yel-Red To Grn. . . Ped Active . . . . .
Outputs Only During Hold . . . Flash All Outputs . Zero Ped Clr Time. .
Terminate Overlap ASAP . . . Terminate Phases. . Ped Clr Thru Yel . .
Don't Override Flash . . . . . Duration Time. . . 0
Flash During Hold. . . . . Delay Time . . . . 0
No CVM in Flash. . . . . Inhibit Time . . . 0
Fast Flash Grn on Hold Phase. . Min Ped Clear. . . 0
Enable Max Time. . . . . Max Time . . . . . 0
                               Exit Max . . . . . 0
                               Min Hold Time. . . 0
                               Hold Delay Time. . 0

```

	Green	Yellow	Red
Minimum	0	0.0	0.0
Track Clear	0	0.0	0.0
Hold.		0.0	0.0

Phase/Overlap	1	2	3	4	5	6	7	8	9	10	11	12/	A	B	C	D
Terminate Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Track Clearance Phase . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hold Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Calls on Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Out of Flash Color for Exit Phases Green

Linked Preemptor 0

Preemptor 6

```

Active . . . . . Det Lock. . . . . Ped Dark . . . . .
Priority Preemption. . . . . Yel-Red To Grn. . . Ped Active . . . . .
Outputs Only During Hold . . . Flash All Outputs . Zero Ped Clr Time. .
Terminate Overlap ASAP . . . Terminate Phases. . Ped Clr Thru Yel . .
Don't Override Flash . . . . . Duration Time. . . 0
Flash During Hold. . . . . Delay Time . . . . 0
No CVM in Flash. . . . . Inhibit Time . . . 0
Fast Flash Grn on Hold Phase. . Min Ped Clear. . . 0
Enable Max Time. . . . . Max Time . . . . . 0
                               Exit Max . . . . . 0
                               Min Hold Time. . . 0
                               Hold Delay Time. . 0

```

	Green	Yellow	Red
Minimum	0	0.0	0.0
Track Clear	0	0.0	0.0
Hold.		0.0	0.0

Phase/Overlap	1	2	3	4	5	6	7	8	9	10	11	12/	A	B	C	D
Terminate Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Track Clearance Phase . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hold Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Calls on Phase	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Out of Flash Color for Exit Phases Green

Linked Preemptor 0

NIC/TOD Clock/Calendar

Manual NIC Program Step 0

Manual TOD Program Step 0

NIC Resync Time 0000

Sync Reference is Reference Time

Week 1 Begins on 1st Sunday NO If NO, then week containing Jan. 1

Disable Daylight Savings Time NO

Daylight Savings
Begins Last Sunday in March NO If NO, then Second Sunday as per 2007 DST Law

TOD Weekly/Yearly

Holiday Programs

Holiday	Type	Month	Day of Week/ Day of Month	Week of Year/ Year	Program
1	Fixed	0	0	0	0
2	Fixed	0	0	0	0
3	Fixed	0	0	0	0
4	Fixed	0	0	0	0
5	Fixed	0	0	0	0
6	Fixed	0	0	0	0
7	Fixed	0	0	0	0
8	Fixed	0	0	0	0
9	Fixed	0	0	0	0
10	Fixed	0	0	0	0
11	Fixed	0	0	0	0
12	Fixed	0	0	0	0
13	Fixed	0	0	0	0
14	Fixed	0	0	0	0
15	Fixed	0	0	0	0
16	Fixed	0	0	0	0
17	Fixed	0	0	0	0
18	Fixed	0	0	0	0
19	Fixed	0	0	0	0
20	Fixed	0	0	0	0
21	Fixed	0	0	0	0
22	Fixed	0	0	0	0
23	Fixed	0	0	0	0
24	Fixed	0	0	0	0
25	Fixed	0	0	0	0
26	Fixed	0	0	0	0
27	Fixed	0	0	0	0
28	Fixed	0	0	0	0
29	Fixed	0	0	0	0
30	Fixed	0	0	0	0
31	Fixed	0	0	0	0
32	Fixed	0	0	0	0
33	Fixed	0	0	0	0
34	Fixed	0	0	0	0
35	Fixed	0	0	0	0
36	Fixed	0	0	0	0

NIC Program Steps

Step	Program	Step Begins	Pattern	Override

TOD Program Steps

APPENDIX F

Synchro Software Output Reports



Erin Residential Development TIS
1: 8th Line & Sideroad 17

2022 Existing AM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	149	19	6	84	13	19
Future Volume (Veh/h)	149	19	6	84	13	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	162	21	7	91	14	21
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			183		278	172
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			183		278	172
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	98
cM capacity (veh/h)			1404		713	876
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	183	98	35			
Volume Left	0	7	14			
Volume Right	21	0	21			
cSH	1700	1404	803			
Volume to Capacity	0.11	0.00	0.04			
Queue Length 95th (m)	0.0	0.1	1.0			
Control Delay (s)	0.0	0.6	9.7			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.6	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			19.4%	ICU Level of Service		A
Analysis Period (min)			15			

Erin Residential Development TIS
 3: Main Street (WR 124) & Dundas St W/Dundas St E

2022 Existing AM Traffic
 Timing Plan: Existing



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	49	10	293	39	284
v/c Ratio	0.17	0.15	0.01	0.21	0.04	0.21
Control Delay	11.3	11.3	4.7	4.1	4.4	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	11.3	4.7	4.1	4.4	4.3
Queue Length 50th (m)	1.0	0.9	0.0	0.0	0.0	0.0
Queue Length 95th (m)	8.4	7.8	1.7	20.9	4.2	21.3
Internal Link Dist (m)	1308.1	285.1		328.5		907.9
Turn Bay Length (m)			35.0		40.0	
Base Capacity (vph)	986	984	1022	1597	1013	1536
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05	0.01	0.18	0.04	0.18
Intersection Summary						

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2022 Existing AM Traffic
Timing Plan: Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	14	10	24	15	6	22	9	223	37	35	244	9
Future Volume (vph)	14	10	24	15	6	22	9	223	37	35	244	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0		7.5	7.5		7.5	7.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.93			0.93		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1765			1728		1825	1759		1825	1691	
Flt Permitted		0.88			0.90		0.59	1.00		0.58	1.00	
Satd. Flow (perm)		1581			1579		1125	1759		1116	1691	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	11	27	17	7	25	10	251	42	39	274	10
RTOR Reduction (vph)	0	25	0	0	23	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	29	0	0	26	0	10	288	0	39	283	0
Heavy Vehicles (%)	0%	0%	0%	5%	0%	0%	0%	7%	6%	0%	13%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		3.0			3.0		30.1	30.1		30.1	30.1	
Effective Green, g (s)		3.0			3.0		30.1	30.1		30.1	30.1	
Actuated g/C Ratio		0.06			0.06		0.65	0.65		0.65	0.65	
Clearance Time (s)		6.0			6.0		7.5	7.5		7.5	7.5	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		101			101		726	1136		720	1092	
v/s Ratio Prot								0.16			c0.17	
v/s Ratio Perm		c0.02			0.02		0.01			0.03		
v/c Ratio		0.28			0.25		0.01	0.25		0.05	0.26	
Uniform Delay, d1		20.8			20.7		2.9	3.5		3.0	3.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6			1.3		0.0	0.2		0.1	0.3	
Delay (s)		22.3			22.1		3.0	3.7		3.1	3.8	
Level of Service		C			C		A	A		A	A	
Approach Delay (s)		22.3			22.1			3.7			3.7	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.3									
HCM 2000 Volume to Capacity ratio			0.26									
Actuated Cycle Length (s)			46.6									
Intersection Capacity Utilization			47.0%									
Analysis Period (min)			15									
c Critical Lane Group												

Erin Residential Development TIS
4: 8th Line & Dundas St W

2022 Existing AM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	12	0	2	12	8	4
Future Volume (Veh/h)	12	0	2	12	8	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	15	0	2	15	10	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			15		34	15
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			15		34	15
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1616		983	1070
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	15	17	15			
Volume Left	0	2	10			
Volume Right	0	0	5			
cSH	1700	1616	1011			
Volume to Capacity	0.01	0.00	0.01			
Queue Length 95th (m)	0.0	0.0	0.3			
Control Delay (s)	0.0	0.9	8.6			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.9	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2022 Existing AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	40	18	32	39	26	10	142	97	31	176	20
Future Volume (Veh/h)	11	40	18	32	39	26	10	142	97	31	176	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	11	42	19	33	41	27	10	148	101	32	183	21
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	462	516	183	455	436	148	204	249				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	462	516	183	455	436	148	204	249				
tC, single (s)	7.1	6.5	6.2	7.1	6.6	6.4	4.2	4.2				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.1	3.5	2.3	2.3				
p0 queue free %	98	91	98	93	92	97	99	97				
cM capacity (veh/h)	454	450	865	455	491	861	1316	1250				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	72	101	158	101	215	21						
Volume Left	11	33	10	0	32	0						
Volume Right	19	27	0	101	0	21						
cSH	516	539	1316	1700	1250	1700						
Volume to Capacity	0.14	0.19	0.01	0.06	0.03	0.01						
Queue Length 95th (m)	3.7	5.2	0.2	0.0	0.6	0.0						
Control Delay (s)	13.1	13.2	0.6	0.0	1.4	0.0						
Lane LOS	B	B	A	A								
Approach Delay (s)	13.1	13.2	0.3	1.3								
Approach LOS	B	B										
Intersection Summary												
Average Delay	4.0											
Intersection Capacity Utilization	39.0%			ICU Level of Service					A			
Analysis Period (min)	15											

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2022 Existing AM Traffic
Timing Plan: Existing

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	120	174	17	68	66	189	13	173	87
v/c Ratio	0.49	0.41	0.07	0.18	0.10	0.19	0.02	0.18	0.09
Control Delay	28.5	11.4	19.7	14.8	6.8	6.5	6.5	7.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	11.4	19.7	14.8	6.8	6.5	6.5	7.1	2.2
Queue Length 50th (m)	11.9	5.5	1.5	3.8	2.7	7.3	0.5	7.5	0.0
Queue Length 95th (m)	23.6	17.4	5.4	11.4	8.2	17.5	2.6	17.5	4.6
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	413	635	412	618	669	997	713	936	922
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.27	0.04	0.11	0.10	0.19	0.02	0.18	0.09
Intersection Summary									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2022 Existing AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	51	99	15	36	22	57	139	23	11	149	75
Future Volume (vph)	103	51	99	15	36	22	57	139	23	11	149	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.9	6.9		6.9	6.9	6.9
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.90		1.00	0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1659	1686		1825	1811		1690	1705		1825	1614	1526
Flt Permitted	0.71	1.00		0.65	1.00		0.65	1.00		0.64	1.00	1.00
Satd. Flow (perm)	1245	1686		1244	1811		1153	1705		1227	1614	1526
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	120	59	115	17	42	26	66	162	27	13	173	87
RTOR Reduction (vph)	0	92	0	0	21	0	0	8	0	0	0	36
Lane Group Flow (vph)	120	82	0	17	47	0	66	181	0	13	173	51
Heavy Vehicles (%)	10%	0%	4%	0%	0%	0%	8%	12%	0%	0%	19%	7%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	12.0	12.0		12.0	12.0		35.1	35.1		35.1	35.1	35.1
Effective Green, g (s)	12.0	12.0		12.0	12.0		35.1	35.1		35.1	35.1	35.1
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.58	0.58		0.58	0.58	0.58
Clearance Time (s)	6.4	6.4		6.4	6.4		6.9	6.9		6.9	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	247	334		247	359		670	990		713	937	886
v/s Ratio Prot		0.05			0.03			0.11			c0.11	
v/s Ratio Perm	c0.10			0.01			0.06			0.01		0.03
v/c Ratio	0.49	0.25		0.07	0.13		0.10	0.18		0.02	0.18	0.06
Uniform Delay, d1	21.5	20.4		19.7	19.9		5.6	5.9		5.4	5.9	5.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.5	0.4		0.1	0.2		0.1	0.1		0.0	0.1	0.0
Delay (s)	23.0	20.8		19.8	20.1		5.7	6.0		5.4	6.0	5.5
Level of Service	C	C		B	C		A	A		A	A	A
Approach Delay (s)		21.7			20.0			5.9			5.8	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			12.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.26									
Actuated Cycle Length (s)			60.4				Sum of lost time (s)			13.3		
Intersection Capacity Utilization			83.5%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2022 Existing AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	259	0	7	272	1	2	1	8	3	2	1
Future Volume (Veh/h)	1	259	0	7	272	1	2	1	8	3	2	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	276	0	7	289	1	2	1	9	3	2	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	290			276			583	582	276	590	581	289
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	290			276			583	582	276	590	581	289
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	99	100	100
cM capacity (veh/h)	1283			1299			423	425	768	414	425	755
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	277	0	296	1	12	6						
Volume Left	1	0	7	0	2	3						
Volume Right	0	0	0	1	9	1						
cSH	1283	1700	1299	1700	638	452						
Volume to Capacity	0.00	0.00	0.01	0.00	0.02	0.01						
Queue Length 95th (m)	0.0	0.0	0.1	0.0	0.4	0.3						
Control Delay (s)	0.0	0.0	0.2	0.0	10.8	13.1						
Lane LOS	A		A		B	B						
Approach Delay (s)	0.0		0.2		10.8	13.1						
Approach LOS					B	B						
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			30.4%		ICU Level of Service		A					
Analysis Period (min)			15									

Erin Residential Development TIS
20: 8th Line & Erin Heights Drive

2022 Existing AM Traffic
Timing Plan: Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	17	21	0	4	11
Future Volume (Veh/h)	0	17	21	0	4	11
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)	0	18	23	0	4	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43	23			23	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43	23			23	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	971	1060			1605	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	18	23	16			
Volume Left	0	0	4			
Volume Right	18	0	0			
cSH	1060	1700	1605			
Volume to Capacity	0.02	0.01	0.00			
Queue Length 95th (m)	0.4	0.0	0.1			
Control Delay (s)	8.5	0.0	1.8			
Lane LOS	A		A			
Approach Delay (s)	8.5	0.0	1.8			
Approach LOS	A					
Intersection Summary						
Average Delay		3.2				
Intersection Capacity Utilization		14.1%		ICU Level of Service		A
Analysis Period (min)		15				

Erin Residential Development TIS
1: 8th Line & Sideroad 17

2022 Existing PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	197	21	15	163	22	8
Future Volume (Veh/h)	197	21	15	163	22	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	210	22	16	173	23	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			232		426	221
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			232		426	221
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		96	99
cM capacity (veh/h)			1348		582	824
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	232	189	32			
Volume Left	0	16	23			
Volume Right	22	0	9			
cSH	1700	1348	634			
Volume to Capacity	0.14	0.01	0.05			
Queue Length 95th (m)	0.0	0.3	1.2			
Control Delay (s)	0.0	0.7	11.0			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.7	11.0			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			31.0%	ICU Level of Service		A
Analysis Period (min)			15			

Erin Residential Development TIS
 3: Main Street (WR 124) & Dundas St W/Dundas St E

2022 Existing PM Traffic
 Timing Plan: Existing



Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	93	30	431	34	473
v/c Ratio	0.13	0.31	0.04	0.34	0.05	0.37
Control Delay	12.5	15.2	6.0	6.7	6.0	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	15.2	6.0	6.7	6.0	7.0
Queue Length 50th (m)	1.5	4.5	1.0	18.0	1.2	20.8
Queue Length 95th (m)	7.4	14.1	4.1	39.2	4.6	44.3
Internal Link Dist (m)	1308.1	285.1		328.5		907.9
Turn Bay Length (m)			35.0		40.0	
Base Capacity (vph)	910	856	774	1447	806	1480
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.11	0.04	0.30	0.04	0.32
Intersection Summary						

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2022 Existing PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	11	17	48	13	28	29	371	43	33	437	17
Future Volume (vph)	11	11	17	48	13	28	29	371	43	33	437	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0		7.5	7.5		7.5	7.5	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.96		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1780			1773		1825	1765		1825	1806	
Flt Permitted		0.88			0.81		0.49	1.00		0.51	1.00	
Satd. Flow (perm)		1579			1475		946	1765		983	1806	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	11	11	18	50	14	29	30	386	45	34	455	18
RTOR Reduction (vph)	0	16	0	0	26	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	24	0	0	67	0	30	427	0	34	471	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	8%	0%	0%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		5.3			5.3		29.4	29.4		29.4	29.4	
Effective Green, g (s)		5.3			5.3		29.4	29.4		29.4	29.4	
Actuated g/C Ratio		0.11			0.11		0.61	0.61		0.61	0.61	
Clearance Time (s)		6.0			6.0		7.5	7.5		7.5	7.5	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		173			162		577	1076		599	1101	
v/s Ratio Prot								0.24				c0.26
v/s Ratio Perm		0.02			c0.05		0.03			0.03		
v/c Ratio		0.14			0.41		0.05	0.40		0.06	0.43	
Uniform Delay, d1		19.4			20.0		3.8	4.8		3.8	5.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			1.7		0.1	0.5		0.1	0.6	
Delay (s)		19.8			21.7		3.9	5.3		3.9	5.5	
Level of Service		B			C		A	A		A	A	
Approach Delay (s)		19.8			21.7			5.2			5.4	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.2									A
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			48.2								13.5	
Intersection Capacity Utilization			47.9%									A
Analysis Period (min)			15									
c Critical Lane Group												

Erin Residential Development TIS
4: 8th Line & Dundas St W

2022 Existing PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	6	11	17	7	1
Future Volume (Veh/h)	15	6	11	17	7	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	18	7	13	20	8	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			25		68	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		68	22
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1603		935	1062
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	25	33	9			
Volume Left	0	13	8			
Volume Right	7	0	1			
cSH	1700	1603	947			
Volume to Capacity	0.01	0.01	0.01			
Queue Length 95th (m)	0.0	0.2	0.2			
Control Delay (s)	0.0	2.9	8.8			
Lane LOS		A	A			
Approach Delay (s)	0.0	2.9	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			18.2%	ICU Level of Service		A
Analysis Period (min)			15			

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2022 Existing PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	36	25	85	67	34	18	329	161	18	244	9
Future Volume (Veh/h)	15	36	25	85	67	34	18	329	161	18	244	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	38	26	89	71	36	19	346	169	19	257	9
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	750	848	257	724	688	346	266			515		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	750	848	257	724	688	346	266			515		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.4	2.2			2.3		
p0 queue free %	94	87	97	69	80	95	99			98		
cM capacity (veh/h)	251	291	787	291	357	673	1310			1030		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	80	196	365	169	276	9						
Volume Left	16	89	19	0	19	0						
Volume Right	26	36	0	169	0	9						
cSH	352	351	1310	1700	1030	1700						
Volume to Capacity	0.23	0.56	0.01	0.10	0.02	0.01						
Queue Length 95th (m)	6.5	24.7	0.3	0.0	0.4	0.0						
Control Delay (s)	18.2	27.5	0.5	0.0	0.8	0.0						
Lane LOS	C	D	A		A							
Approach Delay (s)	18.2	27.5	0.4		0.7							
Approach LOS	C	D										
Intersection Summary												
Average Delay			6.6									
Intersection Capacity Utilization			55.6%	ICU Level of Service					B			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2022 Existing PM Traffic
Timing Plan: Existing

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	165	150	16	60	118	253	9	322	121
v/c Ratio	0.58	0.33	0.06	0.15	0.20	0.27	0.01	0.32	0.13
Control Delay	30.0	8.5	18.9	13.7	8.5	7.9	7.4	8.9	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	8.5	18.9	13.7	8.5	7.9	7.4	8.9	2.2
Queue Length 50th (m)	16.8	2.8	1.5	3.3	5.6	11.6	0.4	16.6	0.0
Queue Length 95th (m)	32.8	14.5	5.4	10.9	15.9	28.1	2.4	37.4	6.5
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	430	629	412	602	605	953	657	1010	952
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.24	0.04	0.10	0.20	0.27	0.01	0.32	0.13
Intersection Summary									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2022 Existing PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	29	112	15	34	23	111	205	33	8	303	114
Future Volume (vph)	155	29	112	15	34	23	111	205	33	8	303	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.9	6.9		6.9	6.9	6.9
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.88		1.00	0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1755	1692		1825	1806		1789	1666		1825	1779	1585
Flt Permitted	0.72	1.00		0.66	1.00		0.57	1.00		0.60	1.00	1.00
Satd. Flow (perm)	1326	1692		1271	1806		1065	1666		1157	1779	1585
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	165	31	119	16	36	24	118	218	35	9	322	121
RTOR Reduction (vph)	0	93	0	0	19	0	0	7	0	0	0	52
Lane Group Flow (vph)	165	57	0	16	41	0	118	246	0	9	322	69
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	2%	15%	0%	0%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	13.4	13.4		13.4	13.4		35.1	35.1		35.1	35.1	35.1
Effective Green, g (s)	13.4	13.4		13.4	13.4		35.1	35.1		35.1	35.1	35.1
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.57	0.57		0.57	0.57	0.57
Clearance Time (s)	6.4	6.4		6.4	6.4		6.9	6.9		6.9	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	287	366		275	391		604	946		657	1010	900
v/s Ratio Prot		0.03			0.02			0.15			c0.18	
v/s Ratio Perm	c0.12			0.01			0.11			0.01		0.04
v/c Ratio	0.57	0.16		0.06	0.11		0.20	0.26		0.01	0.32	0.08
Uniform Delay, d1	21.7	19.6		19.2	19.4		6.5	6.8		5.8	7.0	6.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.8	0.2		0.1	0.1		0.2	0.1		0.0	0.2	0.0
Delay (s)	24.4	19.8		19.3	19.5		6.6	6.9		5.8	7.2	6.1
Level of Service	C	B		B	B		A	A		A	A	A
Approach Delay (s)		22.2			19.5			6.8			6.9	
Approach LOS		C			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.6				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			61.8				Sum of lost time (s)			13.3		
Intersection Capacity Utilization			90.4%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2022 Existing PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	460	7	10	361	10	7	3	12	3	0	4
Future Volume (Veh/h)	3	460	7	10	361	10	7	3	12	3	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	3	529	8	11	415	11	8	3	14	3	0	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	426			537			977	983	529	988	980	415
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	426			537			977	983	529	988	980	415
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	99	97	99	100	99
cM capacity (veh/h)	1144			1041			228	247	554	218	248	642
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	532	8	426	11	25	8						
Volume Left	3	0	11	0	8	3						
Volume Right	0	8	0	11	14	5						
cSH	1144	1700	1041	1700	345	371						
Volume to Capacity	0.00	0.00	0.01	0.01	0.07	0.02						
Queue Length 95th (m)	0.1	0.0	0.2	0.0	1.8	0.5						
Control Delay (s)	0.1	0.0	0.3	0.0	16.3	14.9						
Lane LOS	A		A		C	B						
Approach Delay (s)	0.1		0.3		16.3	14.9						
Approach LOS					C	B						
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			41.0%	ICU Level of Service				A				
Analysis Period (min)			15									

Erin Residential Development TIS
20: 8th Line & Erin Heights Drive

2022 Existing PM Traffic
Timing Plan: Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	7	19	6	19	17
Future Volume (Veh/h)	3	7	19	6	19	17
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	4	10	26	8	26	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	106	30			34	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	106	30			34	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			98	
cM capacity (veh/h)	882	1050			1591	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	14	34	50			
Volume Left	4	0	26			
Volume Right	10	8	0			
cSH	996	1700	1591			
Volume to Capacity	0.01	0.02	0.02			
Queue Length 95th (m)	0.3	0.0	0.4			
Control Delay (s)	8.7	0.0	3.9			
Lane LOS	A		A			
Approach Delay (s)	8.7	0.0	3.9			
Approach LOS	A					
Intersection Summary						
Average Delay		3.2				
Intersection Capacity Utilization		18.6%		ICU Level of Service	A	
Analysis Period (min)		15				

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	167	138	64
Future Volume (vph)	167	138	64
Lane Group Flow (vph)	218	168	128
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 35.0%		ICU Level of Service A	
Analysis Period (min) 15			

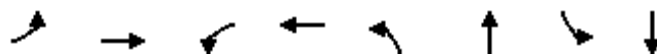
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2024 Future Background AM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	167	33	17	138	64	53
Future Volume (Veh/h)	167	33	17	138	64	53
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	182	36	18	150	70	58
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			218		386	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			218		386	200
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		89	93
cM capacity (veh/h)			1364		613	846
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	218	168	128			
Volume Left	0	18	70			
Volume Right	36	0	58			
cSH	1700	1364	700			
Volume to Capacity	0.13	0.01	0.18			
Queue Length 95th (m)	0.0	0.3	5.1			
Control Delay (s)	0.0	0.9	11.3			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.9	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			35.0%	ICU Level of Service		A
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2024 Future Background AM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↘	↙	↘
Traffic Volume (vph)	15	10	16	16	27	228	86	249
Future Volume (vph)	15	10	16	16	27	228	86	249
Lane Group Flow (vph)	0	119	0	170	30	389	97	290
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effect Green (s)		8.5		8.5	27.6	27.6	27.6	27.6
Actuated g/C Ratio		0.19		0.19	0.62	0.62	0.62	0.62
v/c Ratio		0.31		0.41	0.04	0.36	0.15	0.28
Control Delay		9.1		9.2	6.0	7.0	6.9	7.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		9.1		9.2	6.0	7.0	6.9	7.1
LOS		A		A	A	A	A	A
Approach Delay		9.1		9.2		7.0		7.1
Approach LOS		A		A		A		A
Queue Length 50th (m)		1.9		2.5	1.0	14.0	3.5	11.4
Queue Length 95th (m)		11.3		13.7	4.0	31.0	10.1	24.7
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		985		997	878	1353	803	1330
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.12		0.17	0.03	0.29	0.12	0.22

Intersection Summary

Cycle Length: 74.5

Actuated Cycle Length: 44.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 7.6

Intersection LOS: A

Intersection Capacity Utilization 68.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



→

←

↖

Lane Group	EBT	WBT	NBL
Lane Configurations	↷	↶	↷↶
Traffic Volume (vph)	68	40	8
Future Volume (vph)	68	40	8
Lane Group Flow (vph)	85	53	15
Sign Control	Free	Free	Stop

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 13.7%

ICU Level of Service A

Analysis Period (min) 15

Erin Residential Development TIS
4: 8th Line & Dundas St W

2024 Future Background AM Traffic
Timing Plan: Existing

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	↘↙	
Traffic Volume (veh/h)	68	0	2	40	8	4
Future Volume (Veh/h)	68	0	2	40	8	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	85	0	2	50	10	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			85		139	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			85		139	85
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1524		858	980
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	85	52	15			
Volume Left	0	2	10			
Volume Right	0	0	5			
cSH	1700	1524	895			
Volume to Capacity	0.05	0.00	0.02			
Queue Length 95th (m)	0.0	0.0	0.4			
Control Delay (s)	0.0	0.3	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.3	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			13.7%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	39	145	110	180	20
Future Volume (vph)	40	39	145	110	180	20
Lane Group Flow (vph)	72	212	161	115	240	21
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 48.8% ICU Level of Service A						
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2024 Future Background AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	40	18	66	39	98	10	145	110	50	180	20
Future Volume (Veh/h)	11	40	18	66	39	98	10	145	110	50	180	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	11	42	19	69	41	102	10	151	115	52	188	21
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	586	578	188	503	484	151	209			266		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	586	578	188	503	484	151	209			266		
tC, single (s)	7.1	6.5	6.2	7.1	6.6	6.4	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.1	3.5	2.3			2.3		
p0 queue free %	97	90	98	83	91	88	99			96		
cM capacity (veh/h)	336	408	859	414	453	857	1310			1231		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	72	212	161	115	240	21						
Volume Left	11	69	10	0	52	0						
Volume Right	19	102	0	115	0	21						
cSH	456	564	1310	1700	1231	1700						
Volume to Capacity	0.16	0.38	0.01	0.07	0.04	0.01						
Queue Length 95th (m)	4.2	13.2	0.2	0.0	1.0	0.0						
Control Delay (s)	14.4	15.2	0.5	0.0	2.0	0.0						
Lane LOS	B	C	A		A							
Approach Delay (s)	14.4	15.2	0.3		1.9							
Approach LOS	B	C										
Intersection Summary												
Average Delay			5.9									
Intersection Capacity Utilization			48.8%	ICU Level of Service					A			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2024 Future Background AM Traffic

Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	131	52	16	37	111	141	11	151	85
Future Volume (vph)	131	52	16	37	111	141	11	151	85
Lane Group Flow (vph)	152	196	19	69	129	192	13	176	99
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	13.2	13.2	13.2	13.2	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.57	0.57	0.57	0.57	0.57
v/c Ratio	0.57	0.42	0.07	0.17	0.20	0.20	0.02	0.19	0.11
Control Delay	30.4	10.3	19.2	14.3	8.4	7.2	7.3	7.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	10.3	19.2	14.3	8.4	7.2	7.3	7.9	2.4
LOS	C	B	B	B	A	A	A	A	A
Approach Delay		19.1		15.3		7.7		6.0	
Approach LOS		B		B		A		A	
Queue Length 50th (m)	15.5	5.6	1.7	3.9	6.1	8.1	0.6	8.3	0.0
Queue Length 95th (m)	29.1	17.7	5.7	11.4	16.0	19.6	2.8	19.7	5.3
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	424	661	415	635	653	977	696	918	910
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.30	0.05	0.11	0.20	0.20	0.02	0.19	0.11

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 61.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 11.7

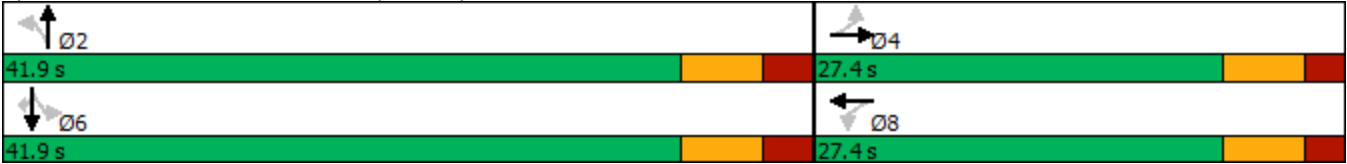
Intersection LOS: B

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



					
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	329	355	1	1	2
Future Volume (vph)	329	355	1	1	2
Lane Group Flow (vph)	351	385	1	12	6
Sign Control	Free	Free		Stop	Stop
Intersection Summary					
Control Type: Unsignalized					
Intersection Capacity Utilization 34.3%			ICU Level of Service A		
Analysis Period (min) 15					

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2024 Future Background AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	329	0	7	355	1	2	1	8	3	2	1
Future Volume (Veh/h)	1	329	0	7	355	1	2	1	8	3	2	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	350	0	7	378	1	2	1	9	3	2	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	379			350			746	745	350	754	744	378
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	379			350			746	745	350	754	744	378
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	99	99	100
cM capacity (veh/h)	1191			1220			328	342	698	322	343	673
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	351	0	385	1	12	6						
Volume Left	1	0	7	0	2	3						
Volume Right	0	0	0	1	9	1						
cSH	1191	1700	1220	1700	548	361						
Volume to Capacity	0.00	0.00	0.01	0.00	0.02	0.02						
Queue Length 95th (m)	0.0	0.0	0.1	0.0	0.5	0.4						
Control Delay (s)	0.0	0.0	0.2	0.0	11.7	15.2						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.0		0.2		11.7	15.2						
Approach LOS					B	C						
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	34.3%			ICU Level of Service			A					
Analysis Period (min)	15											

			
Lane Group	WBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	0	49	67
Future Volume (vph)	0	49	67
Lane Group Flow (vph)	18	53	77
Sign Control	Stop	Free	Free
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 16.8%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
20: 8th Line & Erin Heights Drive

2024 Future Background AM Traffic
Timing Plan: Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	17	49	0	4	67
Future Volume (Veh/h)	0	17	49	0	4	67
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)	0	18	53	0	4	73
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	134	53			53	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	134	53			53	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	862	1020			1566	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	18	53	77			
Volume Left	0	0	4			
Volume Right	18	0	0			
cSH	1020	1700	1566			
Volume to Capacity	0.02	0.03	0.00			
Queue Length 95th (m)	0.4	0.0	0.1			
Control Delay (s)	8.6	0.0	0.4			
Lane LOS	A		A			
Approach Delay (s)	8.6	0.0	0.4			
Approach LOS	A					
Intersection Summary						
Average Delay		1.3				
Intersection Capacity Utilization		16.8%		ICU Level of Service		A
Analysis Period (min)		15				

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	268	208	94
Future Volume (vph)	268	208	94
Lane Group Flow (vph)	383	274	131
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 50.4%		ICU Level of Service A	
Analysis Period (min) 15			

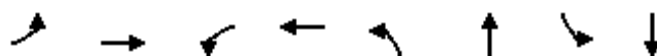
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2024 Future Background PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	268	92	50	208	94	29
Future Volume (Veh/h)	268	92	50	208	94	29
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	285	98	53	221	100	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			383		661	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			383		661	334
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		76	96
cM capacity (veh/h)			1187		411	712
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	383	274	131			
Volume Left	0	53	100			
Volume Right	98	0	31			
cSH	1700	1187	457			
Volume to Capacity	0.23	0.04	0.29			
Queue Length 95th (m)	0.0	1.1	8.9			
Control Delay (s)	0.0	1.9	16.0			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.9	16.0			
Approach LOS			C			
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			50.4%	ICU Level of Service		A
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2024 Future Background PM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↘	↙	↘
Traffic Volume (vph)	11	41	49	58	86	378	146	445
Future Volume (vph)	11	41	49	58	86	378	146	445
Lane Group Flow (vph)	0	110	0	214	90	614	152	482
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		10.9		10.9	27.3	27.3	27.3	27.3
Actuated g/C Ratio		0.21		0.21	0.52	0.52	0.52	0.52
v/c Ratio		0.27		0.55	0.19	0.66	0.43	0.51
Control Delay		12.3		19.1	8.4	12.7	13.0	10.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		12.3		19.1	8.4	12.7	13.0	10.6
LOS		B		B	A	B	B	B
Approach Delay		12.3		19.1		12.1		11.2
Approach LOS		B		B		B		B
Queue Length 50th (m)		3.7		10.6	3.8	32.0	7.4	24.6
Queue Length 95th (m)		15.6		31.8	11.8	73.8	23.3	54.2
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		897		839	608	1201	460	1238
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.12		0.26	0.15	0.51	0.33	0.39
Intersection Summary								
Cycle Length: 74.5								
Actuated Cycle Length: 52								
Natural Cycle: 60								
Control Type: Semi Act-Uncoord								
Maximum v/c Ratio: 0.66								
Intersection Signal Delay: 12.7				Intersection LOS: B				
Intersection Capacity Utilization 88.8%				ICU Level of Service E				
Analysis Period (min) 15								

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



→

←

↶

Lane Group	EBT	WBT	NBL
Lane Configurations	↷	↶	↷↶
Traffic Volume (vph)	83	119	7
Future Volume (vph)	83	119	7
Lane Group Flow (vph)	105	153	9
Sign Control	Free	Free	Stop

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 23.5%ICU Level of Service A

Analysis Period (min) 15

Erin Residential Development TIS
4: 8th Line & Dundas St W

2024 Future Background PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	83	6	11	119	7	1
Future Volume (Veh/h)	83	6	11	119	7	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	98	7	13	140	8	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			105		268	102
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			105		268	102
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1499		720	959
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	105	153	9			
Volume Left	0	13	8			
Volume Right	7	0	1			
cSH	1700	1499	740			
Volume to Capacity	0.06	0.01	0.01			
Queue Length 95th (m)	0.0	0.2	0.3			
Control Delay (s)	0.0	0.7	9.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.7	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		23.5%	ICU Level of Service	A		
Analysis Period (min)		15				

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	68	335	197	249	9
Future Volume (vph)	37	68	335	197	249	9
Lane Group Flow (vph)	83	320	372	207	391	9
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 72.5%				ICU Level of Service C		
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2024 Future Background PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	37	26	107	68	128	18	335	197	123	249	9
Future Volume (Veh/h)	16	37	26	107	68	128	18	335	197	123	249	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	17	39	27	113	72	135	19	353	207	129	262	9
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1082	1118	262	958	920	353	271			560		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1082	1118	262	958	920	353	271			560		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.4	2.2			2.3		
p0 queue free %	84	78	97	34	69	80	99			87		
cM capacity (veh/h)	104	179	782	171	232	667	1304			991		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	83	320	372	207	391	9						
Volume Left	17	113	19	0	129	0						
Volume Right	27	135	0	207	0	9						
cSH	199	273	1304	1700	991	1700						
Volume to Capacity	0.42	1.17	0.01	0.12	0.13	0.01						
Queue Length 95th (m)	14.4	108.6	0.3	0.0	3.4	0.0						
Control Delay (s)	35.4	149.2	0.5	0.0	4.0	0.0						
Lane LOS	E	F	A		A							
Approach Delay (s)	35.4	149.2	0.3		3.9							
Approach LOS	E	F										
Intersection Summary												
Average Delay			37.9									
Intersection Capacity Utilization			72.5%	ICU Level of Service					C			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2024 Future Background PM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	175	29	16	35	155	209	8	309	143
Future Volume (vph)	175	29	16	35	155	209	8	309	143
Lane Group Flow (vph)	186	224	17	63	165	258	9	329	152
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effect Green (s)	14.3	14.3	14.3	14.3	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.56	0.56	0.56	0.56	0.56
v/c Ratio	0.62	0.42	0.06	0.15	0.28	0.27	0.01	0.33	0.16
Control Delay	31.0	7.5	18.6	13.2	9.9	8.5	7.9	9.5	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	7.5	18.6	13.2	9.9	8.5	7.9	9.5	2.2
LOS	C	A	B	B	A	A	A	A	A
Approach Delay		18.1		14.4		9.1		7.2	
Approach LOS		B		B		A		A	
Queue Length 50th (m)	19.3	2.8	1.5	3.4	8.7	12.6	0.4	18.0	0.0
Queue Length 95th (m)	36.6	16.7	5.6	11.0	23.3	30.1	2.5	40.5	7.5
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	443	689	385	621	591	939	644	995	953
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.33	0.04	0.10	0.28	0.27	0.01	0.33	0.16

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 62.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 11.4

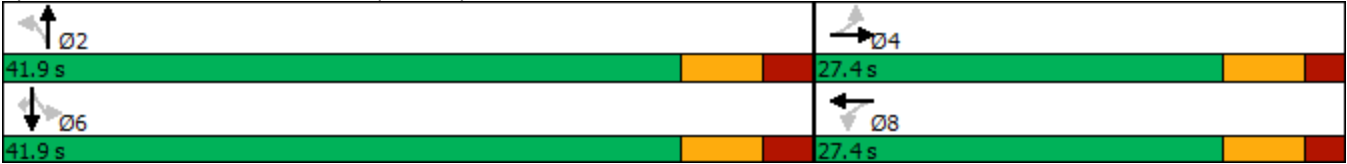
Intersection LOS: B

Intersection Capacity Utilization 91.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



						
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	618	7	413	10	3	0
Future Volume (vph)	618	7	413	10	3	0
Lane Group Flow (vph)	713	8	486	11	25	8
Sign Control	Free		Free		Stop	Stop
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 49.4%				ICU Level of Service A		
Analysis Period (min) 15						

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2024 Future Background PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	618	7	10	413	10	7	3	12	3	0	4
Future Volume (Veh/h)	3	618	7	10	413	10	7	3	12	3	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	3	710	8	11	475	11	8	3	14	3	0	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	486			718			1218	1224	710	1228	1221	475
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	486			718			1218	1224	710	1228	1221	475
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			95	98	97	98	100	99
cM capacity (veh/h)	1087			892			156	178	437	148	179	594
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	713	8	486	11	25	8						
Volume Left	3	0	11	0	8	3						
Volume Right	0	8	0	11	14	5						
cSH	1087	1700	892	1700	249	278						
Volume to Capacity	0.00	0.00	0.01	0.01	0.10	0.03						
Queue Length 95th (m)	0.1	0.0	0.3	0.0	2.5	0.7						
Control Delay (s)	0.1	0.0	0.4	0.0	21.0	18.3						
Lane LOS	A		A		C	C						
Approach Delay (s)	0.1		0.3		21.0	18.3						
Approach LOS					C	C						
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			49.4%		ICU Level of Service				A			
Analysis Period (min)			15									

			
Lane Group	WBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	3	121	84
Future Volume (vph)	3	121	84
Lane Group Flow (vph)	14	176	143
Sign Control	Stop	Free	Free
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 25.5%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
20: 8th Line & Erin Heights Drive

2024 Future Background PM Traffic
Timing Plan: Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	7	121	6	19	84
Future Volume (Veh/h)	3	7	121	6	19	84
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	4	10	168	8	26	117
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	341	172			176	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	341	172			176	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			98	
cM capacity (veh/h)	647	877			1412	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	14	176	143			
Volume Left	4	0	26			
Volume Right	10	8	0			
cSH	796	1700	1412			
Volume to Capacity	0.02	0.10	0.02			
Queue Length 95th (m)	0.4	0.0	0.4			
Control Delay (s)	9.6	0.0	1.5			
Lane LOS	A		A			
Approach Delay (s)	9.6	0.0	1.5			
Approach LOS	A					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			25.5%	ICU Level of Service		A
Analysis Period (min)			15			

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Lane Group	EBT	WBT	NBL
Lane Configurations	↶	↶	↶
Traffic Volume (vph)	207	151	64
Future Volume (vph)	207	151	64
Lane Group Flow (vph)	261	196	166
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

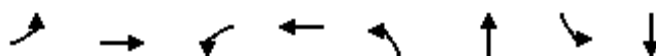
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2024 Future Total AM Traffic
Timing Plan: Existing

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↘↗	
Traffic Volume (veh/h)	207	33	29	151	64	88
Future Volume (Veh/h)	207	33	29	151	64	88
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	225	36	32	164	70	96
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			261		471	243
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			261		471	243
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		87	88
cM capacity (veh/h)			1315		541	801
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	261	196	166			
Volume Left	0	32	70			
Volume Right	36	0	96			
cSH	1700	1315	666			
Volume to Capacity	0.15	0.02	0.25			
Queue Length 95th (m)	0.0	0.6	7.4			
Control Delay (s)	0.0	1.5	12.2			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.5	12.2			
Approach LOS			B			
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			41.4%	ICU Level of Service		A
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2024 Future Total AM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↙	↘	↙	↘
Traffic Volume (vph)	15	10	151	16	68	228	86	249
Future Volume (vph)	15	10	151	16	68	228	86	249
Lane Group Flow (vph)	0	259	0	322	76	389	97	290
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		18.1		18.1	25.3	25.3	25.3	25.3
Actuated g/C Ratio		0.32		0.32	0.44	0.44	0.44	0.44
v/c Ratio		0.38		0.75	0.15	0.50	0.23	0.39
Control Delay		5.0		26.1	12.4	13.8	13.4	13.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		5.0		26.1	12.4	13.8	13.4	13.8
LOS		A		C	B	B	B	B
Approach Delay		5.0		26.1		13.5		13.7
Approach LOS		A		C		B		B
Queue Length 50th (m)		1.9		23.2	4.5	23.6	6.0	19.1
Queue Length 95th (m)		14.9		52.5	13.2	52.3	16.7	41.5
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		876		603	695	1081	604	1053
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.30		0.53	0.11	0.36	0.16	0.28
Intersection Summary								
Cycle Length: 74.5								
Actuated Cycle Length: 57.1								
Natural Cycle: 60								
Control Type: Semi Act-Uncoord								
Maximum v/c Ratio: 0.75								
Intersection Signal Delay: 14.9				Intersection LOS: B				
Intersection Capacity Utilization 93.1%				ICU Level of Service F				
Analysis Period (min) 15								

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



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Lane Group	EBT	WBT	NBL
Lane Configurations	↶	↶	↶↶
Traffic Volume (vph)	193	81	8
Future Volume (vph)	193	81	8
Lane Group Flow (vph)	241	104	15
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 20.2%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
4: 8th Line & Dundas St W

2024 Future Total AM Traffic
Timing Plan: Existing

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↘↙	
Traffic Volume (veh/h)	193	0	2	81	8	4
Future Volume (Veh/h)	193	0	2	81	8	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	241	0	2	101	10	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			241		346	241
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			241		346	241
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	99
cM capacity (veh/h)			1337		654	803
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	241	103	15			
Volume Left	0	2	10			
Volume Right	0	0	5			
cSH	1700	1337	697			
Volume to Capacity	0.14	0.00	0.02			
Queue Length 95th (m)	0.0	0.0	0.5			
Control Delay (s)	0.0	0.2	10.3			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.2	10.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			20.2%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	39	145	134	180	20
Future Volume (vph)	40	39	145	134	180	20
Lane Group Flow (vph)	72	305	161	140	246	21
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 54.1%			ICU Level of Service A			
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2024 Future Total AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	40	18	138	39	115	10	145	134	56	180	20
Future Volume (Veh/h)	11	40	18	138	39	115	10	145	134	56	180	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	11	42	19	144	41	120	10	151	140	58	188	21
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	616	615	188	515	496	151	209	291				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	616	615	188	515	496	151	209	291				
tC, single (s)	7.1	6.5	6.2	7.1	6.6	6.4	4.2	4.2				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.1	3.5	2.3	2.3				
p0 queue free %	96	89	98	64	91	86	99	95				
cM capacity (veh/h)	311	387	859	403	443	857	1310	1205				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	72	305	161	140	246	21						
Volume Left	11	144	10	0	58	0						
Volume Right	19	120	0	140	0	21						
cSH	433	517	1310	1700	1205	1700						
Volume to Capacity	0.17	0.59	0.01	0.08	0.05	0.01						
Queue Length 95th (m)	4.5	28.7	0.2	0.0	1.2	0.0						
Control Delay (s)	15.0	21.5	0.5	0.0	2.3	0.0						
Lane LOS	B	C	A	A								
Approach Delay (s)	15.0	21.5	0.3	2.1								
Approach LOS	B	C										
Intersection Summary												
Average Delay	8.8											
Intersection Capacity Utilization	54.1%			ICU Level of Service					A			
Analysis Period (min)	15											

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2024 Future Total AM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	189	52	16	37	58	141	11	151	104
Future Volume (vph)	189	52	16	37	58	141	11	151	104
Lane Group Flow (vph)	220	196	19	69	67	192	13	176	121
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	15.9	15.9	15.9	15.9	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.55	0.55	0.55	0.55	0.55
v/c Ratio	0.72	0.38	0.06	0.15	0.11	0.20	0.02	0.20	0.14
Control Delay	35.9	9.3	18.2	13.4	8.9	8.4	8.4	9.2	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	9.3	18.2	13.4	8.9	8.4	8.4	9.2	2.5
LOS	D	A	B	B	A	A	A	A	A
Approach Delay		23.4		14.4		8.5		6.5	
Approach LOS		C		B		A		A	
Queue Length 50th (m)	23.9	5.6	1.7	3.9	3.6	9.7	0.7	9.9	0.0
Queue Length 95th (m)	42.0	17.5	5.7	11.3	9.6	20.7	3.0	20.7	6.1
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	406	639	398	610	626	938	668	880	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.31	0.05	0.11	0.11	0.20	0.02	0.20	0.14

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 64.4

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 14.2

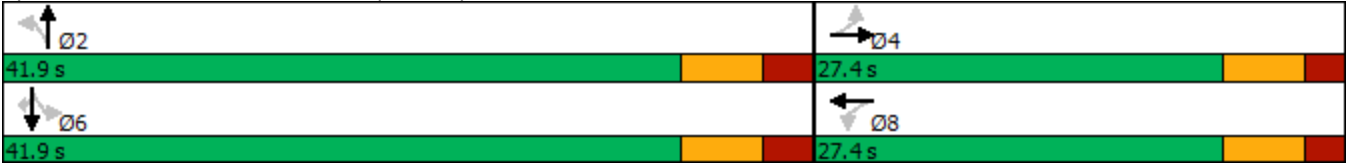
Intersection LOS: B

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



					
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	361	450	1	1	2
Future Volume (vph)	361	450	1	1	2
Lane Group Flow (vph)	385	486	1	12	6
Sign Control	Free	Free		Stop	Stop
Intersection Summary					
Control Type: Unsignalized					
Intersection Capacity Utilization 39.3%			ICU Level of Service A		
Analysis Period (min) 15					

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2024 Future Total AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	361	0	7	450	1	2	1	8	3	2	1
Future Volume (Veh/h)	1	361	0	7	450	1	2	1	8	3	2	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	384	0	7	479	1	2	1	9	3	2	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	480			384			881	880	384	888	879	479
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	480			384			881	880	384	888	879	479
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	99	99	100
cM capacity (veh/h)	1093			1186			266	286	668	261	286	591
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	385	0	486	1	12	6						
Volume Left	1	0	7	0	2	3						
Volume Right	0	0	0	1	9	1						
cSH	1093	1700	1186	1700	490	297						
Volume to Capacity	0.00	0.00	0.01	0.00	0.02	0.02						
Queue Length 95th (m)	0.0	0.0	0.1	0.0	0.6	0.5						
Control Delay (s)	0.0	0.0	0.2	0.0	12.5	17.4						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.0		0.2		12.5	17.4						
Approach LOS					B	C						
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			39.3%		ICU Level of Service		A					
Analysis Period (min)			15									

				
Lane Group	EBT	WBT	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	0	0	49	67
Future Volume (vph)	0	0	49	67
Lane Group Flow (vph)	174	18	98	90
Sign Control	Stop	Stop	Free	Free
Intersection Summary				
Control Type: Unsignalized				
Intersection Capacity Utilization 34.5%			ICU Level of Service A	
Analysis Period (min) 15				

Erin Residential Development TIS

2024 Future Total AM Traffic

20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	0	125	0	0	17	41	49	0	4	67	12
Future Volume (Veh/h)	35	0	125	0	0	17	41	49	0	4	67	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	0	136	0	0	18	45	53	0	4	73	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	248	230	80	366	237	53	86			53		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	248	230	80	366	237	53	86			53		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	86	100	100	98	97			100		
cM capacity (veh/h)	680	651	986	499	646	1020	1523			1566		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	174	18	98	90								
Volume Left	38	0	45	4								
Volume Right	136	18	0	13								
cSH	898	1020	1523	1566								
Volume to Capacity	0.19	0.02	0.03	0.00								
Queue Length 95th (m)	5.4	0.4	0.7	0.1								
Control Delay (s)	10.0	8.6	3.5	0.3								
Lane LOS	A	A	A	A								
Approach Delay (s)	10.0	8.6	3.5	0.3								
Approach LOS	A	A										
Intersection Summary												
Average Delay			6.0									
Intersection Capacity Utilization			34.5%		ICU Level of Service					A		
Analysis Period (min)			15									

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Lane Group	EBT	WBT	NBL
Lane Configurations	↶	↶	↶
Traffic Volume (vph)	201	203	89
Future Volume (vph)	201	203	89
Lane Group Flow (vph)	251	235	140
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 35.4%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
27: Mattamy SR 17 Access & Sideroad 17

2024 Future Total AM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	201	30	13	203	89	40
Future Volume (Veh/h)	201	30	13	203	89	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	218	33	14	221	97	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			251		484	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			251		484	234
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		82	95
cM capacity (veh/h)			1326		540	810
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	251	235	140			
Volume Left	0	14	97			
Volume Right	33	0	43			
cSH	1700	1326	602			
Volume to Capacity	0.15	0.01	0.23			
Queue Length 95th (m)	0.0	0.2	6.8			
Control Delay (s)	0.0	0.5	12.8			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	12.8			
Approach LOS			B			
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			35.4%	ICU Level of Service	A	
Analysis Period (min)			15			

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Lane Group	EBT	WBT	NBL
Lane Configurations	↱	↱	↘↘
Traffic Volume (vph)	294	251	94
Future Volume (vph)	294	251	94
Lane Group Flow (vph)	411	360	154
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 57.4%		ICU Level of Service B	
Analysis Period (min) 15			

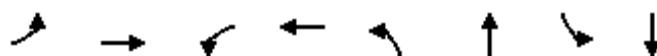
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2024 Future Total PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	294	92	87	251	94	51
Future Volume (Veh/h)	294	92	87	251	94	51
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	313	98	93	267	100	54
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			411		815	362
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			411		815	362
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		69	92
cM capacity (veh/h)			1159		322	687
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	411	360	154			
Volume Left	0	93	100			
Volume Right	98	0	54			
cSH	1700	1159	395			
Volume to Capacity	0.24	0.08	0.39			
Queue Length 95th (m)	0.0	2.0	13.7			
Control Delay (s)	0.0	2.8	19.8			
Lane LOS		A	C			
Approach Delay (s)	0.0	2.8	19.8			
Approach LOS			C			
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			57.4%	ICU Level of Service	B	
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2024 Future Total PM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Traffic Volume (vph)	11	41	106	58	219	378	146	445
Future Volume (vph)	11	41	106	58	219	378	146	445
Lane Group Flow (vph)	0	196	0	273	228	614	152	482
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effect Green (s)		15.0		15.0	29.1	29.1	29.1	29.1
Actuated g/C Ratio		0.26		0.26	0.50	0.50	0.50	0.50
v/c Ratio		0.36		0.67	0.54	0.69	0.49	0.53
Control Delay		8.4		25.1	17.3	15.9	17.9	13.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		8.4		25.1	17.3	15.9	17.9	13.4
LOS		A		C	B	B	B	B
Approach Delay		8.4		25.1		16.3		14.5
Approach LOS		A		C		B		B
Queue Length 50th (m)		4.1		20.0	15.0	40.7	9.6	31.1
Queue Length 95th (m)		18.1		46.3	43.0	95.2	31.4	70.1
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		855		695	524	1096	387	1125
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.23		0.39	0.44	0.56	0.39	0.43

Intersection Summary

Cycle Length: 74.5

Actuated Cycle Length: 58

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 16.1

Intersection LOS: B

Intersection Capacity Utilization 101.4%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



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Lane Group	EBT	WBT	NBL
Lane Configurations	↷	↷	↷
Traffic Volume (vph)	165	252	7
Future Volume (vph)	165	252	7
Lane Group Flow (vph)	201	309	9
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
4: 8th Line & Dundas St W

2024 Future Total PM Traffic
Timing Plan: Existing

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↘↗	
Traffic Volume (veh/h)	165	6	11	252	7	1
Future Volume (Veh/h)	165	6	11	252	7	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	194	7	13	296	8	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			201		520	198
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			201		520	198
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	100
cM capacity (veh/h)			1383		515	849
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	201	309	9			
Volume Left	0	13	8			
Volume Right	7	0	1			
cSH	1700	1383	539			
Volume to Capacity	0.12	0.01	0.02			
Queue Length 95th (m)	0.0	0.2	0.4			
Control Delay (s)	0.0	0.4	11.8			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.4	11.8			
Approach LOS			B			
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		32.2%	ICU Level of Service	A		
Analysis Period (min)		15				

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	68	335	274	249	9
Future Volume (vph)	37	68	335	274	249	9
Lane Group Flow (vph)	83	379	372	288	411	9
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 76.8%				ICU Level of Service D		
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2024 Future Total PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	37	26	153	68	139	18	335	274	142	249	9
Future Volume (Veh/h)	16	37	26	153	68	139	18	335	274	142	249	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	17	39	27	161	72	146	19	353	288	149	262	9
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1133	1239	262	998	960	353	271			641		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1133	1239	262	998	960	353	271			641		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.4	2.2			2.3		
p0 queue free %	81	73	97	0	66	78	99			84		
cM capacity (veh/h)	89	146	782	150	212	667	1304			924		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	83	379	372	288	411	9						
Volume Left	17	161	19	0	149	0						
Volume Right	27	146	0	288	0	9						
cSH	168	232	1304	1700	924	1700						
Volume to Capacity	0.49	1.63	0.01	0.17	0.16	0.01						
Queue Length 95th (m)	18.1	184.3	0.3	0.0	4.4	0.0						
Control Delay (s)	45.6	341.4	0.5	0.0	4.7	0.0						
Lane LOS	E	F	A		A							
Approach Delay (s)	45.6	341.4	0.3		4.6							
Approach LOS	E	F										
Intersection Summary												
Average Delay			87.7									
Intersection Capacity Utilization			76.8%	ICU Level of Service					D			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2024 Future Total PM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	212	29	16	35	113	209	8	309	205
Future Volume (vph)	212	29	16	35	113	209	8	309	205
Lane Group Flow (vph)	226	224	17	63	120	258	9	329	218
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effect Green (s)	15.6	15.6	15.6	15.6	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.55	0.55	0.55	0.55	0.55
v/c Ratio	0.70	0.41	0.06	0.14	0.21	0.28	0.01	0.34	0.23
Control Delay	34.4	7.1	18.2	12.8	9.8	9.1	8.2	10.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	7.1	18.2	12.8	9.8	9.1	8.2	10.1	2.2
LOS	C	A	B	B	A	A	A	B	A
Approach Delay		20.8		14.0		9.3		7.0	
Approach LOS		C		B		A		A	
Queue Length 50th (m)	24.4	2.8	1.5	3.4	6.7	13.8	0.4	19.8	0.0
Queue Length 95th (m)	44.8	16.7	5.6	11.0	17.1	30.1	2.5	40.5	8.9
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	434	679	379	609	579	920	631	975	967
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.33	0.04	0.10	0.21	0.28	0.01	0.34	0.23

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 64.1

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 12.2

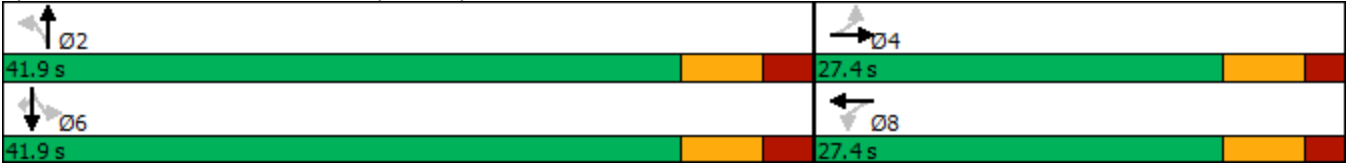
Intersection LOS: B

Intersection Capacity Utilization 93.6%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



						
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	720	7	475	10	3	0
Future Volume (vph)	720	7	475	10	3	0
Lane Group Flow (vph)	831	8	557	11	25	8
Sign Control	Free		Free		Stop	Stop
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 54.7%				ICU Level of Service A		
Analysis Period (min) 15						

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2024 Future Total PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	720	7	10	475	10	7	3	12	3	0	4
Future Volume (Veh/h)	3	720	7	10	475	10	7	3	12	3	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	3	828	8	11	546	11	8	3	14	3	0	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	557			836			1407	1413	828	1418	1410	546
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	557			836			1407	1413	828	1418	1410	546
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			93	98	96	97	100	99
cM capacity (veh/h)	1024			807			115	137	374	108	137	541
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	831	8	557	11	25	8						
Volume Left	3	0	11	0	8	3						
Volume Right	0	8	0	11	14	5						
cSH	1024	1700	807	1700	194	216						
Volume to Capacity	0.00	0.00	0.01	0.01	0.13	0.04						
Queue Length 95th (m)	0.1	0.0	0.3	0.0	3.3	0.9						
Control Delay (s)	0.1	0.0	0.4	0.0	26.3	22.3						
Lane LOS	A		A		D	C						
Approach Delay (s)	0.1		0.4		26.3	22.3						
Approach LOS					D	C						
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			54.7%		ICU Level of Service				A			
Analysis Period (min)			15									

				
Lane Group	EBT	WBT	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	0	0	121	84
Future Volume (vph)	0	0	121	84
Lane Group Flow (vph)	145	14	361	194
Sign Control	Stop	Stop	Free	Free
Intersection Summary				
Control Type: Unsignalized				
Intersection Capacity Utilization 39.3%			ICU Level of Service A	
Analysis Period (min) 15				

Erin Residential Development TIS

2024 Future Total PM Traffic

20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	82	3	0	7	133	121	6	19	84	37
Future Volume (Veh/h)	22	0	82	3	0	7	133	121	6	19	84	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	31	0	114	4	0	10	185	168	8	26	117	51
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	746	740	142	850	762	172	168			176		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	746	740	142	850	762	172	168			176		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	100	87	98	100	99	87			98		
cM capacity (veh/h)	291	296	910	219	288	877	1422			1412		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	145	14	361	194								
Volume Left	31	4	185	26								
Volume Right	114	10	8	51								
cSH	626	472	1422	1412								
Volume to Capacity	0.23	0.03	0.13	0.02								
Queue Length 95th (m)	6.8	0.7	3.4	0.4								
Control Delay (s)	12.5	12.9	4.6	1.2								
Lane LOS	B	B	A	A								
Approach Delay (s)	12.5	12.9	4.6	1.2								
Approach LOS	B	B										
Intersection Summary												
Average Delay			5.4									
Intersection Capacity Utilization			39.3%		ICU Level of Service				A			
Analysis Period (min)			15									

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Lane Group	EBT	WBT	NBL
Lane Configurations	↶	↷	↶↷
Traffic Volume (vph)	360	302	57
Future Volume (vph)	360	302	57
Lane Group Flow (vph)	495	375	90
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			

Erin Residential Development TIS
27: Mattamy SR 17 Access & Sideroad 17

2024 Future Total PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	360	96	43	302	57	26
Future Volume (Veh/h)	360	96	43	302	57	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	391	104	47	328	62	28
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			495		865	443
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			495		865	443
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		80	95
cM capacity (veh/h)			1079		313	619
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	495	375	90			
Volume Left	0	47	62			
Volume Right	104	0	28			
cSH	1700	1079	369			
Volume to Capacity	0.29	0.04	0.24			
Queue Length 95th (m)	0.0	1.0	7.2			
Control Delay (s)	0.0	1.5	17.9			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.5	17.9			
Approach LOS			C			
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			57.8%	ICU Level of Service		B
Analysis Period (min)			15			

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	212	179	70
Future Volume (vph)	212	179	70
Lane Group Flow (vph)	297	215	135
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 38.2%		ICU Level of Service A	
Analysis Period (min) 15			

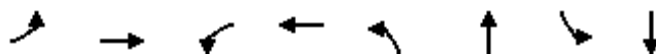
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2029 Future Background AM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	212	62	18	179	70	54
Future Volume (Veh/h)	212	62	18	179	70	54
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	230	67	20	195	76	59
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			297		498	264
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			297		498	264
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	92
cM capacity (veh/h)			1276		527	780
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	297	215	135			
Volume Left	0	20	76			
Volume Right	67	0	59			
cSH	1700	1276	614			
Volume to Capacity	0.17	0.02	0.22			
Queue Length 95th (m)	0.0	0.4	6.3			
Control Delay (s)	0.0	0.9	12.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.9	12.5			
Approach LOS			B			
Intersection Summary						
Average Delay		2.9				
Intersection Capacity Utilization		38.2%		ICU Level of Service		A
Analysis Period (min)		15				

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2029 Future Background AM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Traffic Volume (vph)	43	11	16	21	27	335	38	357
Future Volume (vph)	43	11	16	21	27	335	38	357
Lane Group Flow (vph)	0	152	0	69	30	521	43	411
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effect Green (s)		8.9		8.9	29.7	29.7	29.7	29.7
Actuated g/C Ratio		0.19		0.19	0.62	0.62	0.62	0.62
v/c Ratio		0.42		0.21	0.05	0.48	0.08	0.39
Control Delay		12.4		13.5	6.1	8.6	6.4	8.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		12.4		13.5	6.1	8.6	6.4	8.1
LOS		B		B	A	A	A	A
Approach Delay		12.4		13.5		8.5		8.0
Approach LOS		B		B		A		A
Queue Length 50th (m)		4.2		2.9	1.0	22.1	1.5	17.7
Queue Length 95th (m)		17.0		11.3	4.2	49.3	5.5	38.7
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		878		897	786	1362	686	1329
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.17		0.08	0.04	0.38	0.06	0.31

Intersection Summary

Cycle Length: 74.5

Actuated Cycle Length: 47.8

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 9.1

Intersection LOS: A

Intersection Capacity Utilization 54.3%

ICU Level of Service A

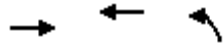
Analysis Period (min) 15

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



Erin Residential Development TIS
4: 8th Line & Dundas St W

2029 Future Background AM Traffic
Timing Plan: Existing



Lane Group	EBT	WBT	NBL
Lane Configurations	→	→	↶
Traffic Volume (vph)	97	46	8
Future Volume (vph)	97	46	8
Lane Group Flow (vph)	121	61	16
Sign Control	Free	Free	Stop

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 15.1% ICU Level of Service A

Analysis Period (min) 15

Erin Residential Development TIS
4: 8th Line & Dundas St W

2029 Future Background AM Traffic
Timing Plan: Existing

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↘↙	
Traffic Volume (veh/h)	97	0	2	46	8	5
Future Volume (Veh/h)	97	0	2	46	8	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	121	0	2	58	10	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			121		183	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			121		183	121
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1479		810	936
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	121	60	16			
Volume Left	0	2	10			
Volume Right	0	0	6			
cSH	1700	1479	853			
Volume to Capacity	0.07	0.00	0.02			
Queue Length 95th (m)	0.0	0.0	0.4			
Control Delay (s)	0.0	0.3	9.3			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.3	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			15.1%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	41	152	115	188	21
Future Volume (vph)	42	41	152	115	188	21
Lane Group Flow (vph)	77	260	169	120	318	22
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 56.2%			ICU Level of Service B			
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2029 Future Background AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	42	19	67	41	141	11	152	115	117	188	21
Future Volume (Veh/h)	12	42	19	67	41	141	11	152	115	117	188	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	12	44	20	70	43	147	11	158	120	122	196	22
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	788	740	196	662	642	158	218	278				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	788	740	196	662	642	158	218	278				
tC, single (s)	7.1	6.5	6.2	7.1	6.6	6.4	4.2	4.2				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.1	3.5	2.3	2.3				
p0 queue free %	94	86	98	77	88	83	99	90				
cM capacity (veh/h)	214	310	850	299	345	850	1300	1219				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	76	260	169	120	318	22						
Volume Left	12	70	11	0	122	0						
Volume Right	20	147	0	120	0	22						
cSH	343	489	1300	1700	1219	1700						
Volume to Capacity	0.22	0.53	0.01	0.07	0.10	0.01						
Queue Length 95th (m)	6.3	23.4	0.2	0.0	2.5	0.0						
Control Delay (s)	18.5	20.4	0.6	0.0	3.8	0.0						
Lane LOS	C	C	A		A							
Approach Delay (s)	18.5	20.4	0.3		3.5							
Approach LOS	C	C										
Intersection Summary												
Average Delay	8.3											
Intersection Capacity Utilization	56.2%			ICU Level of Service					B			
Analysis Period (min)	15											

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2029 Future Background AM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	169	54	16	39	144	239	12	197	96
Future Volume (vph)	169	54	16	39	144	239	12	197	96
Lane Group Flow (vph)	197	211	19	73	167	307	14	229	112
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	15.1	15.1	15.1	15.1	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.55	0.55	0.55	0.55	0.55
v/c Ratio	0.67	0.41	0.07	0.16	0.28	0.32	0.02	0.26	0.13
Control Delay	33.7	9.5	18.4	13.5	10.2	9.5	8.2	9.3	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	9.5	18.4	13.5	10.2	9.5	8.2	9.3	2.5
LOS	C	A	B	B	B	A	A	A	A
Approach Delay		21.2		14.6		9.7		7.1	
Approach LOS		C		B		A		A	
Queue Length 50th (m)	21.0	5.9	1.7	4.1	9.3	16.9	0.7	12.6	0.0
Queue Length 95th (m)	37.2	18.1	5.7	11.7	21.9	34.7	3.1	26.9	5.9
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	410	652	397	618	605	949	608	891	893
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.32	0.05	0.12	0.28	0.32	0.02	0.26	0.13

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 63.6

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 12.9

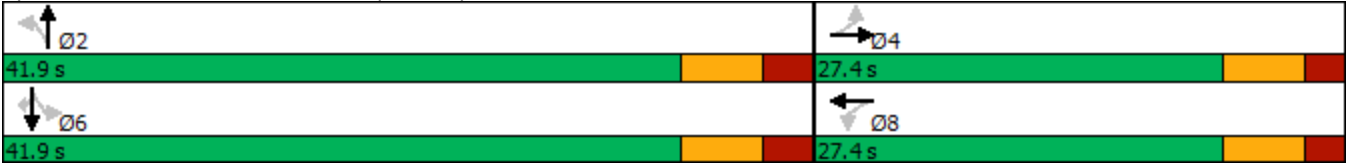
Intersection LOS: B

Intersection Capacity Utilization 91.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



					
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	398	439	1	1	2
Future Volume (vph)	398	439	1	1	2
Lane Group Flow (vph)	424	474	1	12	7
Sign Control	Free	Free		Stop	Stop
Intersection Summary					
Control Type: Unsignalized					
Intersection Capacity Utilization 38.7%			ICU Level of Service A		
Analysis Period (min) 15					

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2029 Future Background AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	398	0	7	439	1	2	1	8	4	2	1
Future Volume (Veh/h)	1	398	0	7	439	1	2	1	8	4	2	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	423	0	7	467	1	2	1	9	4	2	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	468			423			908	907	423	916	906	467
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	468			423			908	907	423	916	906	467
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	98	99	100
cM capacity (veh/h)	1104			1147			255	276	635	250	276	600
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	424	0	474	1	12	7						
Volume Left	1	0	7	0	2	4						
Volume Right	0	0	0	1	9	1						
cSH	1104	1700	1147	1700	468	281						
Volume to Capacity	0.00	0.00	0.01	0.00	0.03	0.02						
Queue Length 95th (m)	0.0	0.0	0.1	0.0	0.6	0.6						
Control Delay (s)	0.0	0.0	0.2	0.0	12.9	18.1						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.0		0.2		12.9	18.1						
Approach LOS					B	C						
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			38.7%	ICU Level of Service				A				
Analysis Period (min)			15									

			
Lane Group	WBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	0	55	96
Future Volume (vph)	0	55	96
Lane Group Flow (vph)	20	60	109
Sign Control	Stop	Free	Free
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
20: 8th Line & Erin Heights Drive

2029 Future Background AM Traffic
Timing Plan: Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	18	55	0	5	96
Future Volume (Veh/h)	0	18	55	0	5	96
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)	0	20	60	0	5	104
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	174	60			60	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	174	60			60	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	818	1011			1556	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	20	60	109			
Volume Left	0	0	5			
Volume Right	20	0	0			
cSH	1011	1700	1556			
Volume to Capacity	0.02	0.04	0.00			
Queue Length 95th (m)	0.5	0.0	0.1			
Control Delay (s)	8.6	0.0	0.4			
Lane LOS	A		A			
Approach Delay (s)	8.6	0.0	0.4			
Approach LOS	A					
Intersection Summary						
Average Delay		1.1				
Intersection Capacity Utilization		19.1%		ICU Level of Service		A
Analysis Period (min)		15				

→

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Lane Group	EBT	WBT	NBL
Lane Configurations	↶	↶	↶↶
Traffic Volume (vph)	313	259	121
Future Volume (vph)	313	259	121
Lane Group Flow (vph)	503	329	160
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			

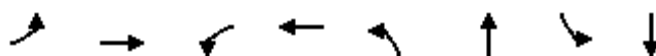
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2029 Future Background PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	313	160	50	259	121	29
Future Volume (Veh/h)	313	160	50	259	121	29
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	333	170	53	276	129	31
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			503		800	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			503		800	418
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		62	95
cM capacity (veh/h)			1072		339	639
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	503	329	160			
Volume Left	0	53	129			
Volume Right	170	0	31			
cSH	1700	1072	373			
Volume to Capacity	0.30	0.05	0.43			
Queue Length 95th (m)	0.0	1.2	15.9			
Control Delay (s)	0.0	1.8	21.7			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.8	21.7			
Approach LOS			C			
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			61.1%	ICU Level of Service	B	
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2029 Future Background PM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Traffic Volume (vph)	70	51	52	73	88	489	35	610
Future Volume (vph)	70	51	52	73	88	489	35	610
Lane Group Flow (vph)	0	183	0	160	92	717	36	665
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effect Green (s)		11.8		11.8	33.3	33.3	33.3	33.3
Actuated g/C Ratio		0.23		0.23	0.64	0.64	0.64	0.64
v/c Ratio		0.49		0.44	0.22	0.64	0.10	0.58
Control Delay		21.6		22.3	9.3	12.7	7.8	11.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		21.6		22.3	9.3	12.7	7.8	11.6
LOS		C		C	A	B	A	B
Approach Delay		21.6		22.3		12.3		11.4
Approach LOS		C		C		B		B
Queue Length 50th (m)		13.4		12.8	4.3	44.9	1.5	41.3
Queue Length 95th (m)		30.8		28.8	13.7	100.3	6.1	88.7
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		842		846	446	1216	396	1252
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.22		0.19	0.21	0.59	0.09	0.53

Intersection Summary

Cycle Length: 74.5

Actuated Cycle Length: 52.4

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 89.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	150	145	7
Future Volume (vph)	150	145	7
Lane Group Flow (vph)	183	185	9
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
4: 8th Line & Dundas St W

2029 Future Background PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	150	6	12	145	7	1
Future Volume (Veh/h)	150	6	12	145	7	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	176	7	14	171	8	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			183		378	180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			183		378	180
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1404		621	869
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	183	185	9			
Volume Left	0	14	8			
Volume Right	7	0	1			
cSH	1700	1404	641			
Volume to Capacity	0.11	0.01	0.01			
Queue Length 95th (m)	0.0	0.2	0.3			
Control Delay (s)	0.0	0.7	10.7			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.7	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			27.5%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	72	352	205	261	9
Future Volume (vph)	39	72	352	205	261	9
Lane Group Flow (vph)	86	401	391	216	513	9
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 84.5%				ICU Level of Service E		
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2029 Future Background PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	39	27	112	72	197	19	352	205	226	261	9
Future Volume (Veh/h)	16	39	27	112	72	197	19	352	205	226	261	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	17	41	28	118	76	207	20	371	216	238	275	9
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1407	1378	275	1210	1171	371	284			587		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1407	1378	275	1210	1171	371	284			587		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.4	2.2			2.3		
p0 queue free %	54	62	96	0	47	68	98			75		
cM capacity (veh/h)	37	108	769	89	143	651	1290			969		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	86	401	391	216	513	9						
Volume Left	17	118	20	0	238	0						
Volume Right	28	207	0	216	0	9						
cSH	98	184	1290	1700	969	1700						
Volume to Capacity	0.88	2.18	0.02	0.13	0.25	0.01						
Queue Length 95th (m)	37.7	242.2	0.4	0.0	7.3	0.0						
Control Delay (s)	137.0	590.2	0.5	0.0	6.2	0.0						
Lane LOS	F	F	A		A							
Approach Delay (s)	137.0	590.2	0.4		6.1							
Approach LOS	F	F										
Intersection Summary												
Average Delay			155.8									
Intersection Capacity Utilization			84.5%		ICU Level of Service				E			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2029 Future Background PM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	209	31	16	36	199	300	8	439	153
Future Volume (vph)	209	31	16	36	199	300	8	439	153
Lane Group Flow (vph)	222	242	17	65	212	356	9	467	163
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	15.5	15.5	15.5	15.5	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.55	0.55	0.55	0.55	0.55
v/c Ratio	0.69	0.43	0.06	0.14	0.46	0.39	0.02	0.48	0.17
Control Delay	34.0	7.2	18.4	12.9	13.9	10.4	8.2	11.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	7.2	18.4	12.9	13.9	10.4	8.2	11.8	2.2
LOS	C	A	B	B	B	B	A	B	A
Approach Delay		20.0		14.0		11.7		9.3	
Approach LOS		C		B		B		A	
Queue Length 50th (m)	23.8	3.0	1.5	3.5	13.7	21.1	0.4	30.8	0.0
Queue Length 95th (m)	44.1	17.4	5.6	11.3	35.1	44.2	2.6	61.4	7.8
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	435	690	357	611	465	920	574	976	943
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.35	0.05	0.11	0.46	0.39	0.02	0.48	0.17

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 64

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 13.1

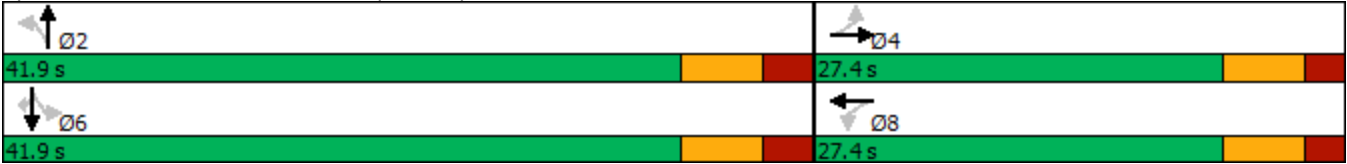
Intersection LOS: B

Intersection Capacity Utilization 93.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



						
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	672	7	513	11	4	0
Future Volume (vph)	672	7	513	11	4	0
Lane Group Flow (vph)	777	8	603	13	28	11
Sign Control	Free		Free		Stop	Stop
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 52.3%			ICU Level of Service A			
Analysis Period (min) 15						

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2029 Future Background PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	672	7	11	513	11	7	4	13	4	0	5
Future Volume (Veh/h)	4	672	7	11	513	11	7	4	13	4	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	772	8	13	590	13	8	5	15	5	0	6
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	603			780			1404	1411	772	1416	1406	590
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	603			780			1404	1411	772	1416	1406	590
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			93	96	96	95	100	99
cM capacity (veh/h)	984			846			115	137	403	107	138	511
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	777	8	603	13	28	11						
Volume Left	5	0	13	0	8	5						
Volume Right	0	8	0	13	15	6						
cSH	984	1700	846	1700	195	188						
Volume to Capacity	0.01	0.00	0.02	0.01	0.14	0.06						
Queue Length 95th (m)	0.1	0.0	0.4	0.0	3.7	1.4						
Control Delay (s)	0.1	0.0	0.4	0.0	26.5	25.3						
Lane LOS	A		A		D	D						
Approach Delay (s)	0.1		0.4		26.5	25.3						
Approach LOS					D	D						
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			52.3%		ICU Level of Service		A					
Analysis Period (min)			15									

			
Lane Group	WBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	4	147	152
Future Volume (vph)	4	147	152
Lane Group Flow (vph)	16	212	239
Sign Control	Stop	Free	Free
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 30.5%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
20: 8th Line & Erin Heights Drive

2029 Future Background PM Traffic
Timing Plan: Existing

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	7	147	6	20	152
Future Volume (Veh/h)	4	7	147	6	20	152
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	6	10	204	8	28	211
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	475	208			212	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	475	208			212	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			98	
cM capacity (veh/h)	541	837			1370	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	212	239			
Volume Left	6	0	28			
Volume Right	10	8	0			
cSH	695	1700	1370			
Volume to Capacity	0.02	0.12	0.02			
Queue Length 95th (m)	0.5	0.0	0.5			
Control Delay (s)	10.3	0.0	1.1			
Lane LOS	B		A			
Approach Delay (s)	10.3	0.0	1.1			
Approach LOS	B					
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		30.5%		ICU Level of Service		A
Analysis Period (min)		15				

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	252	192	70
Future Volume (vph)	252	192	70
Lane Group Flow (vph)	341	242	173
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 48.1%		ICU Level of Service A	
Analysis Period (min) 15			

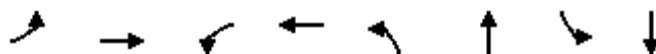
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2029 Future Total AM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	252	62	30	192	70	89
Future Volume (Veh/h)	252	62	30	192	70	89
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	274	67	33	209	76	97
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			341		582	308
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			341		582	308
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		84	87
cM capacity (veh/h)			1229		465	737
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	341	242	173			
Volume Left	0	33	76			
Volume Right	67	0	97			
cSH	1700	1229	587			
Volume to Capacity	0.20	0.03	0.29			
Queue Length 95th (m)	0.0	0.6	9.3			
Control Delay (s)	0.0	1.3	13.7			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.3	13.7			
Approach LOS			B			
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			48.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2029 Future Total AM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Traffic Volume (vph)	43	11	168	6	68	335	38	357
Future Volume (vph)	43	11	168	6	68	335	38	357
Lane Group Flow (vph)	0	293	0	223	76	521	43	411
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effect Green (s)		17.6		17.6	27.8	27.8	27.8	27.8
Actuated g/C Ratio		0.30		0.30	0.47	0.47	0.47	0.47
v/c Ratio		0.47		0.74	0.17	0.63	0.12	0.52
Control Delay		7.3		34.2	12.0	16.3	11.8	15.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		7.3		34.2	12.0	16.3	11.8	15.0
LOS		A		C	B	B	B	B
Approach Delay		7.3		34.2		15.7		14.7
Approach LOS		A		C		B		B
Queue Length 50th (m)		4.2		18.2	4.4	36.4	2.4	28.7
Queue Length 95th (m)		21.0		47.2	13.3	77.7	8.7	60.9
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		836		454	571	1063	447	1031
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.35		0.49	0.13	0.49	0.10	0.40

Intersection Summary

Cycle Length: 74.5

Actuated Cycle Length: 59.3

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 16.5

Intersection LOS: B

Intersection Capacity Utilization 94.8%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	222	72	8
Future Volume (vph)	222	72	8
Lane Group Flow (vph)	278	93	16
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 21.7%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
4: 8th Line & Dundas St W

2029 Future Total AM Traffic
Timing Plan: Existing

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↘↙	
Traffic Volume (veh/h)	222	0	2	72	8	5
Future Volume (Veh/h)	222	0	2	72	8	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	278	0	2	90	10	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			278		372	278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			278		372	278
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	99
cM capacity (veh/h)			1296		632	766
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	278	92	16			
Volume Left	0	2	10			
Volume Right	0	0	6			
cSH	1700	1296	676			
Volume to Capacity	0.16	0.00	0.02			
Queue Length 95th (m)	0.0	0.0	0.6			
Control Delay (s)	0.0	0.2	10.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.2	10.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			21.7%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	41	152	139	188	21
Future Volume (vph)	42	41	152	139	188	21
Lane Group Flow (vph)	77	353	169	145	324	22
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 61.5%			ICU Level of Service B			
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2029 Future Total AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	42	19	139	41	158	11	152	139	123	188	21
Future Volume (Veh/h)	12	42	19	139	41	158	11	152	139	123	188	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	12	44	20	145	43	165	11	158	145	128	196	22
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	818	777	196	674	654	158	218			303		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	818	777	196	674	654	158	218			303		
tC, single (s)	7.1	6.5	6.2	7.1	6.6	6.4	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.1	3.5	2.3			2.3		
p0 queue free %	94	85	98	50	87	81	99			89		
cM capacity (veh/h)	197	292	850	290	337	850	1300			1193		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	76	353	169	145	324	22						
Volume Left	12	145	11	0	128	0						
Volume Right	20	165	0	145	0	22						
cSH	324	429	1300	1700	1193	1700						
Volume to Capacity	0.23	0.82	0.01	0.09	0.11	0.01						
Queue Length 95th (m)	6.8	58.4	0.2	0.0	2.7	0.0						
Control Delay (s)	19.5	41.9	0.6	0.0	3.9	0.0						
Lane LOS	C	E	A		A							
Approach Delay (s)	19.5	41.9	0.3		3.7							
Approach LOS	C	E										
Intersection Summary												
Average Delay			16.2									
Intersection Capacity Utilization			61.5%		ICU Level of Service				B			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2029 Future Total AM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	227	54	16	39	144	239	12	197	115
Future Volume (vph)	227	54	16	39	144	239	12	197	115
Lane Group Flow (vph)	264	211	19	73	167	307	14	229	134
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	17.7	17.7	17.7	17.7	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.53	0.53	0.53	0.53	0.53
v/c Ratio	0.80	0.38	0.06	0.14	0.29	0.34	0.02	0.27	0.15
Control Delay	41.8	8.9	17.9	13.0	11.2	10.6	8.8	10.3	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	8.9	17.9	13.0	11.2	10.6	8.8	10.3	2.4
LOS	D	A	B	B	B	B	A	B	A
Approach Delay		27.2		14.0		10.8		7.5	
Approach LOS		C		B		B		A	
Queue Length 50th (m)	30.0	5.9	1.7	4.1	11.3	20.6	0.8	15.3	0.0
Queue Length 95th (m)	#56.7	18.1	5.7	11.7	21.9	34.7	3.1	26.9	6.4
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	394	633	382	595	581	912	584	857	873
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.33	0.05	0.12	0.29	0.34	0.02	0.27	0.15

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 66.1

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 15.6

Intersection LOS: B

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



					
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	430	386	1	1	2
Future Volume (vph)	430	386	1	1	2
Lane Group Flow (vph)	458	418	1	12	7
Sign Control	Free	Free		Stop	Stop
Intersection Summary					
Control Type: Unsignalized					
Intersection Capacity Utilization 39.4%			ICU Level of Service A		
Analysis Period (min) 15					

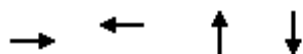
Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2029 Future Total AM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	430	0	7	386	1	2	1	8	4	2	1
Future Volume (Veh/h)	1	430	0	7	386	1	2	1	8	4	2	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	457	0	7	411	1	2	1	9	4	2	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	412			457			886	885	457	894	884	411
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	412			457			886	885	457	894	884	411
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	98	99	100
cM capacity (veh/h)	1158			1114			264	284	608	258	284	645
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	458	0	418	1	12	7						
Volume Left	1	0	7	0	2	4						
Volume Right	0	0	0	1	9	1						
cSH	1158	1700	1114	1700	463	291						
Volume to Capacity	0.00	0.00	0.01	0.00	0.03	0.02						
Queue Length 95th (m)	0.0	0.0	0.1	0.0	0.6	0.6						
Control Delay (s)	0.0	0.0	0.2	0.0	13.0	17.7						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.0		0.2		13.0	17.7						
Approach LOS					B	C						
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			39.4%		ICU Level of Service		A					
Analysis Period (min)			15									

Erin Residential Development TIS
 20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

2029 Future Total AM Traffic
 Timing Plan: Existing



Lane Group	EBT	WBT	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	0	0	55	96
Future Volume (vph)	0	0	55	96
Lane Group Flow (vph)	174	20	105	122
Sign Control	Stop	Stop	Free	Free

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 34.8% ICU Level of Service A

Analysis Period (min) 15

Erin Residential Development TIS

2029 Future Total AM Traffic

20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	0	125	0	0	18	41	55	0	5	96	12
Future Volume (Veh/h)	35	0	125	0	0	18	41	55	0	5	96	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	0	136	0	0	20	45	60	0	5	104	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	290	270	110	406	277	60	117			60		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	290	270	110	406	277	60	117			60		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	86	100	100	98	97			100		
cM capacity (veh/h)	636	618	948	466	613	1011	1484			1556		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	174	20	105	122								
Volume Left	38	0	45	5								
Volume Right	136	20	0	13								
cSH	856	1011	1484	1556								
Volume to Capacity	0.20	0.02	0.03	0.00								
Queue Length 95th (m)	5.8	0.5	0.7	0.1								
Control Delay (s)	10.3	8.6	3.3	0.3								
Lane LOS	B	A	A	A								
Approach Delay (s)	10.3	8.6	3.3	0.3								
Approach LOS	B	A										
Intersection Summary												
Average Delay			5.6									
Intersection Capacity Utilization			34.8%		ICU Level of Service				A			
Analysis Period (min)			15									

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Lane Group	EBT	WBT	NBL
Lane Configurations	↶	↷	↶↷
Traffic Volume (vph)	274	250	89
Future Volume (vph)	274	250	89
Lane Group Flow (vph)	331	286	140
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 37.8%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
27: Mattamy SR 17 Access & Sideroad 17

2029 Future Total AM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	274	30	13	250	89	40
Future Volume (Veh/h)	274	30	13	250	89	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	298	33	14	272	97	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			331		614	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			331		614	314
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		79	94
cM capacity (veh/h)			1240		453	731
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	331	286	140			
Volume Left	0	14	97			
Volume Right	33	0	43			
cSH	1700	1240	513			
Volume to Capacity	0.19	0.01	0.27			
Queue Length 95th (m)	0.0	0.3	8.4			
Control Delay (s)	0.0	0.5	14.6			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	14.6			
Approach LOS			B			
Intersection Summary						
Average Delay		2.9				
Intersection Capacity Utilization		37.8%		ICU Level of Service		A
Analysis Period (min)		15				

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	339	302	121
Future Volume (vph)	339	302	121
Lane Group Flow (vph)	531	414	183
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

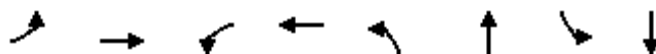
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2029 Future Total PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	339	160	87	302	121	51
Future Volume (Veh/h)	339	160	87	302	121	51
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	361	170	93	321	129	54
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			531		953	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			531		953	446
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		51	91
cM capacity (veh/h)			1047		264	617
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	531	414	183			
Volume Left	0	93	129			
Volume Right	170	0	54			
cSH	1700	1047	318			
Volume to Capacity	0.31	0.09	0.58			
Queue Length 95th (m)	0.0	2.2	25.8			
Control Delay (s)	0.0	2.7	30.7			
Lane LOS		A	D			
Approach Delay (s)	0.0	2.7	30.7			
Approach LOS			D			
Intersection Summary						
Average Delay			6.0			
Intersection Capacity Utilization			68.1%	ICU Level of Service		C
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2029 Future Total PM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	70	51	107	14	221	489	35	610
Future Volume (vph)	70	51	107	14	221	489	35	610
Lane Group Flow (vph)	0	269	0	156	230	717	36	665
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		13.2		13.2	35.2	35.2	35.2	35.2
Actuated g/C Ratio		0.21		0.21	0.57	0.57	0.57	0.57
v/c Ratio		0.68		0.65	0.66	0.71	0.12	0.65
Control Delay		23.9		32.7	24.0	15.8	9.0	13.9
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		23.9		32.7	24.0	15.8	9.0	13.9
LOS		C		C	C	B	A	B
Approach Delay		23.9		32.7		17.8		13.7
Approach LOS		C		C		B		B
Queue Length 50th (m)		18.8		14.3	15.9	48.9	1.7	44.8
Queue Length 95th (m)		39.5		30.8	#58.6	#129.3	6.9	99.2
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		708		458	346	1003	304	1026
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.38		0.34	0.66	0.71	0.12	0.65
Intersection Summary								
Cycle Length: 74.5								
Actuated Cycle Length: 61.9								
Natural Cycle: 75								
Control Type: Semi Act-Uncoord								
Maximum v/c Ratio: 0.71								
Intersection Signal Delay: 18.3				Intersection LOS: B				
Intersection Capacity Utilization 94.6%				ICU Level of Service F				
Analysis Period (min) 15								
# 95th percentile volume exceeds capacity, queue may be longer.								

Queue shown is maximum after two cycles.

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	232	208	7
Future Volume (vph)	232	208	7
Lane Group Flow (vph)	280	259	9
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
4: 8th Line & Dundas St W

2029 Future Total PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	232	6	12	208	7	1
Future Volume (Veh/h)	232	6	12	208	7	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	273	7	14	245	8	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			280		550	276
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			280		550	276
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	100
cM capacity (veh/h)			1294		494	767
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	280	259	9			
Volume Left	0	14	8			
Volume Right	7	0	1			
cSH	1700	1294	515			
Volume to Capacity	0.16	0.01	0.02			
Queue Length 95th (m)	0.0	0.2	0.4			
Control Delay (s)	0.0	0.5	12.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	12.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			30.8%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	72	352	282	261	9
Future Volume (vph)	39	72	352	282	261	9
Lane Group Flow (vph)	86	461	391	297	533	9
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 88.8%			ICU Level of Service E			
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2029 Future Total PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	39	27	158	72	208	19	352	282	245	261	9
Future Volume (Veh/h)	16	39	27	158	72	208	19	352	282	245	261	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	17	41	28	166	76	219	20	371	297	258	275	9
Pedestrians								3				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1459	1499	278	1254	1211	371	284			668		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1459	1499	278	1254	1211	371	284			668		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.4	2.2			2.3		
p0 queue free %	42	53	96	0	41	66	98			71		
cM capacity (veh/h)	29	87	763	71	128	651	1290			903		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	86	461	391	297	533	9						
Volume Left	17	166	20	0	258	0						
Volume Right	28	219	0	297	0	9						
cSH	79	142	1290	1700	903	1700						
Volume to Capacity	1.09	3.26	0.02	0.17	0.29	0.01						
Queue Length 95th (m)	46.8	Err	0.4	0.0	9.0	0.0						
Control Delay (s)	223.1	Err	0.5	0.0	7.0	0.0						
Lane LOS	F	F	A		A							
Approach Delay (s)	223.1	Err	0.3		6.9							
Approach LOS	F	F										
Intersection Summary												
Average Delay			2607.0									
Intersection Capacity Utilization			88.8%		ICU Level of Service				E			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2029 Future Total PM Traffic
Timing Plan: Existing



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	246	31	16	36	199	300	8	439	215
Future Volume (vph)	246	31	16	36	199	300	8	439	215
Lane Group Flow (vph)	262	242	17	65	212	356	9	467	229
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effect Green (s)	16.9	16.9	16.9	16.9	35.2	35.2	35.2	35.2	35.2
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.54	0.54	0.54	0.54	0.54
v/c Ratio	0.77	0.41	0.06	0.13	0.47	0.40	0.02	0.49	0.24
Control Delay	38.4	6.9	18.1	12.6	15.0	11.0	8.6	12.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	6.9	18.1	12.6	15.0	11.0	8.6	12.6	2.2
LOS	D	A	B	B	B	B	A	B	A
Approach Delay		23.2		13.7		12.5		9.1	
Approach LOS		C		B		B		A	
Queue Length 50th (m)	29.2	3.0	1.5	3.5	15.3	23.4	0.5	34.2	0.0
Queue Length 95th (m)	#54.6	17.4	5.6	11.3	35.5	44.2	2.6	61.4	9.1
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	426	680	351	599	448	901	557	956	957
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.36	0.05	0.11	0.47	0.40	0.02	0.49	0.24

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 65.4

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 14.2

Intersection LOS: B

Intersection Capacity Utilization 95.5%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2029 Future Total PM Traffic
Timing Plan: Existing

						
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	774	7	476	11	4	0
Future Volume (vph)	774	7	476	11	4	0
Lane Group Flow (vph)	895	8	560	13	28	11
Sign Control	Free		Free		Stop	Stop
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 57.6%				ICU Level of Service B		
Analysis Period (min) 15						

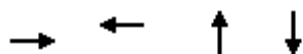
Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2029 Future Total PM Traffic
Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	774	7	11	476	11	7	4	13	4	0	5
Future Volume (Veh/h)	4	774	7	11	476	11	7	4	13	4	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	890	8	13	547	13	8	5	15	5	0	6
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	560			898			1479	1486	890	1490	1481	547
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	560			898			1479	1486	890	1490	1481	547
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			92	96	96	95	100	99
cM capacity (veh/h)	1021			765			102	123	345	94	124	541
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	895	8	560	13	28	11						
Volume Left	5	0	13	0	8	5						
Volume Right	0	8	0	13	15	6						
cSH	1021	1700	765	1700	172	171						
Volume to Capacity	0.00	0.00	0.02	0.01	0.16	0.06						
Queue Length 95th (m)	0.1	0.0	0.4	0.0	4.3	1.6						
Control Delay (s)	0.1	0.0	0.5	0.0	29.9	27.5						
Lane LOS	A		A		D	D						
Approach Delay (s)	0.1		0.5		29.9	27.5						
Approach LOS					D	D						
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			57.6%		ICU Level of Service			B				
Analysis Period (min)			15									

Erin Residential Development TIS
 20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

2029 Future Total PM Traffic
 Timing Plan: Existing



Lane Group	EBT	WBT	NBT	SBT
Lane Configurations	↔	↔	↔	↔
Traffic Volume (vph)	0	0	147	152
Future Volume (vph)	0	0	147	152
Lane Group Flow (vph)	145	16	397	290
Sign Control	Stop	Stop	Free	Free

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 43.9% ICU Level of Service A

Analysis Period (min) 15

Erin Residential Development TIS

2029 Future Total PM Traffic

20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

Timing Plan: Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	82	4	0	7	133	147	6	20	152	37
Future Volume (Veh/h)	22	0	82	4	0	7	133	147	6	20	152	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	31	0	114	6	0	10	185	204	8	28	211	51
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	880	874	236	984	896	208	262	212				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	880	874	236	984	896	208	262	212				
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	87	100	86	97	100	99	86	98				
cM capacity (veh/h)	234	244	807	173	237	837	1314	1370				
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	145	16	397	290								
Volume Left	31	6	185	28								
Volume Right	114	10	8	51								
cSH	530	343	1314	1370								
Volume to Capacity	0.27	0.05	0.14	0.02								
Queue Length 95th (m)	8.4	1.1	3.7	0.5								
Control Delay (s)	14.3	16.0	4.5	0.9								
Lane LOS	B	C	A	A								
Approach Delay (s)	14.3	16.0	4.5	0.9								
Approach LOS	B	C										
Intersection Summary												
Average Delay	5.2											
Intersection Capacity Utilization	43.9%			ICU Level of Service					A			
Analysis Period (min)	15											

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	473	380	57
Future Volume (vph)	473	380	57
Lane Group Flow (vph)	618	460	90
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Erin Residential Development TIS
27: Mattamy SR 17 Access & Sideroad 17

2029 Future Total PM Traffic
Timing Plan: Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	473	96	43	380	57	26
Future Volume (Veh/h)	473	96	43	380	57	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	514	104	47	413	62	28
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			618		1073	566
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			618		1073	566
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		74	95
cM capacity (veh/h)			972		234	528
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	618	460	90			
Volume Left	0	47	62			
Volume Right	104	0	28			
cSH	1700	972	283			
Volume to Capacity	0.36	0.05	0.32			
Queue Length 95th (m)	0.0	1.2	10.1			
Control Delay (s)	0.0	1.4	23.5			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.4	23.5			
Approach LOS			C			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			67.3%	ICU Level of Service	C	
Analysis Period (min)			15			

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Lane Group	EBT	WBT	NBL
Lane Configurations	↷	↷	↷
Traffic Volume (vph)	221	184	71
Future Volume (vph)	221	184	71
Lane Group Flow (vph)	308	220	137
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 38.6%		ICU Level of Service A	
Analysis Period (min) 15			

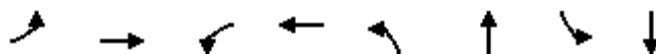
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2034 Future Background AM Traffic
Timing Plan: AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	221	63	18	184	71	55
Future Volume (Veh/h)	221	63	18	184	71	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	240	68	20	200	77	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			308		514	274
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			308		514	274
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		85	92
cM capacity (veh/h)			1264		516	770
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	308	220	137			
Volume Left	0	20	77			
Volume Right	68	0	60			
cSH	1700	1264	603			
Volume to Capacity	0.18	0.02	0.23			
Queue Length 95th (m)	0.0	0.4	6.6			
Control Delay (s)	0.0	0.8	12.7			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.8	12.7			
Approach LOS			B			
Intersection Summary						
Average Delay		2.9				
Intersection Capacity Utilization		38.6%		ICU Level of Service	A	
Analysis Period (min)		15				

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2034 Future Background AM Traffic
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	44	11	17	21	28	348	40	372
Future Volume (vph)	44	11	17	21	28	348	40	372
Lane Group Flow (vph)	0	154	0	71	31	538	45	429
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effect Green (s)		9.0		9.0	30.2	30.2	30.2	30.2
Actuated g/C Ratio		0.19		0.19	0.63	0.63	0.63	0.63
v/c Ratio		0.43		0.22	0.05	0.49	0.09	0.41
Control Delay		12.7		13.9	6.1	8.7	6.4	8.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		12.7		13.9	6.1	8.7	6.4	8.2
LOS		B		B	A	A	A	A
Approach Delay		12.7		13.9		8.6		8.1
Approach LOS		B		B		A		A
Queue Length 50th (m)		4.2		2.9	1.0	23.4	1.6	18.7
Queue Length 95th (m)		17.7		12.1	4.2	51.8	5.6	40.7
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		871		887	768	1352	660	1320
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.18		0.08	0.04	0.40	0.07	0.33

Intersection Summary

Cycle Length: 74.5

Actuated Cycle Length: 48.3

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 56.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



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Lane Group	EBT	WBT	NBL
Lane Configurations	↷	↶	↷↶
Traffic Volume (vph)	98	47	9
Future Volume (vph)	98	47	9
Lane Group Flow (vph)	123	62	17
Sign Control	Free	Free	Stop

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 15.2%

ICU Level of Service A

Analysis Period (min) 15

Erin Residential Development TIS
4: 8th Line & Dundas St W

2034 Future Background AM Traffic
Timing Plan: AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	↘↙	
Traffic Volume (veh/h)	98	0	2	47	9	5
Future Volume (Veh/h)	98	0	2	47	9	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	122	0	2	59	11	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			122		185	122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			122		185	122
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1478		808	935
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	122	61	17			
Volume Left	0	2	11			
Volume Right	0	0	6			
cSH	1700	1478	848			
Volume to Capacity	0.07	0.00	0.02			
Queue Length 95th (m)	0.0	0.0	0.5			
Control Delay (s)	0.0	0.3	9.3			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.3	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			15.2%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	45	44	160	120	199	22
Future Volume (vph)	45	44	160	120	199	22
Lane Group Flow (vph)	81	267	178	125	331	23
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 57.7%			ICU Level of Service B			
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Background AM Traffic
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	45	20	69	44	143	11	160	120	119	199	22
Future Volume (Veh/h)	12	45	20	69	44	143	11	160	120	119	199	22
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	12	47	21	72	46	149	11	167	125	124	207	23
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	816	769	207	688	667	167	230			292		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	816	769	207	688	667	167	230			292		
tC, single (s)	7.1	6.5	6.2	7.1	6.6	6.4	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.1	3.5	2.3			2.3		
p0 queue free %	94	84	97	74	86	82	99			90		
cM capacity (veh/h)	201	297	839	282	333	840	1287			1204		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	80	267	178	125	331	23						
Volume Left	12	72	11	0	124	0						
Volume Right	21	149	0	125	0	23						
cSH	329	468	1287	1700	1204	1700						
Volume to Capacity	0.24	0.57	0.01	0.07	0.10	0.01						
Queue Length 95th (m)	7.1	26.6	0.2	0.0	2.6	0.0						
Control Delay (s)	19.4	22.4	0.6	0.0	3.7	0.0						
Lane LOS	C	C	A		A							
Approach Delay (s)	19.4	22.4	0.3		3.5							
Approach LOS	C	C										
Intersection Summary												
Average Delay			8.8									
Intersection Capacity Utilization			57.7%	ICU Level of Service					B			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2034 Future Background AM Traffic
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	175	57	17	41	148	248	12	206	101
Future Volume (vph)	175	57	17	41	148	248	12	206	101
Lane Group Flow (vph)	203	221	20	77	172	318	14	240	117
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effect Green (s)	15.3	15.3	15.3	15.3	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.55	0.55	0.55	0.55	0.55
v/c Ratio	0.69	0.43	0.07	0.17	0.29	0.34	0.02	0.27	0.13
Control Delay	34.4	9.6	18.5	13.6	10.4	9.7	8.2	9.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	9.6	18.5	13.6	10.4	9.7	8.2	9.5	2.5
LOS	C	A	B	B	B	A	A	A	A
Approach Delay		21.5		14.6		10.0		7.3	
Approach LOS		C		B		A		A	
Queue Length 50th (m)	21.7	6.1	1.8	4.4	9.8	18.0	0.7	13.6	0.0
Queue Length 95th (m)	38.6	18.7	6.0	12.2	22.6	36.0	3.1	28.2	6.0
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	408	656	384	618	597	945	600	888	892
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.34	0.05	0.12	0.29	0.34	0.02	0.27	0.13

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 63.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 13.1

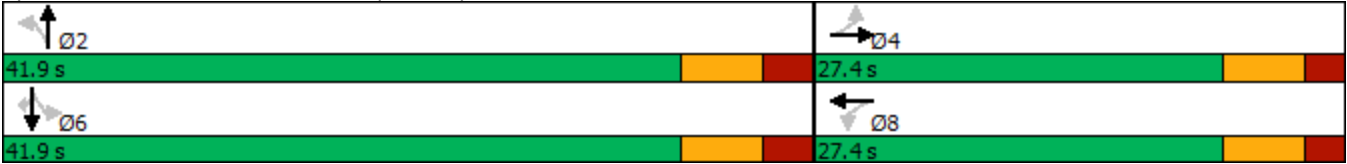
Intersection LOS: B

Intersection Capacity Utilization 91.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



					
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	413	455	1	1	2
Future Volume (vph)	413	455	1	1	2
Lane Group Flow (vph)	440	491	1	13	7
Sign Control	Free	Free		Stop	Stop
Intersection Summary					
Control Type: Unsignalized					
Intersection Capacity Utilization 39.5%			ICU Level of Service A		
Analysis Period (min) 15					

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2034 Future Background AM Traffic
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	413	0	7	455	1	2	1	9	4	2	1
Future Volume (Veh/h)	1	413	0	7	455	1	2	1	9	4	2	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	439	0	7	484	1	2	1	10	4	2	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	485			439			941	940	439	950	939	484
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	485			439			941	940	439	950	939	484
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	98	98	99	100
cM capacity (veh/h)	1088			1132			242	264	622	236	264	587
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	440	0	491	1	13	7						
Volume Left	1	0	7	0	2	4						
Volume Right	0	0	0	1	10	1						
cSH	1088	1700	1132	1700	462	267						
Volume to Capacity	0.00	0.00	0.01	0.00	0.03	0.03						
Queue Length 95th (m)	0.0	0.0	0.1	0.0	0.7	0.6						
Control Delay (s)	0.0	0.0	0.2	0.0	13.0	18.8						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.0		0.2		13.0	18.8						
Approach LOS					B	C						
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			39.5%		ICU Level of Service		A					
Analysis Period (min)			15									

Lane Group	WBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	0	57	96
Future Volume (vph)	0	57	96
Lane Group Flow (vph)	21	62	109
Sign Control	Stop	Free	Free

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 19.1%

ICU Level of Service A

Analysis Period (min) 15

Erin Residential Development TIS
20: 8th Line & Erin Heights Drive

2034 Future Background AM Traffic
Timing Plan: AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	19	57	0	5	96
Future Volume (Veh/h)	0	19	57	0	5	96
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)	0	21	62	0	5	104
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	176	62			62	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	176	62			62	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	816	1009			1554	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	21	62	109			
Volume Left	0	0	5			
Volume Right	21	0	0			
cSH	1009	1700	1554			
Volume to Capacity	0.02	0.04	0.00			
Queue Length 95th (m)	0.5	0.0	0.1			
Control Delay (s)	8.6	0.0	0.4			
Lane LOS	A		A			
Approach Delay (s)	8.6	0.0	0.4			
Approach LOS	A					
Intersection Summary						
Average Delay		1.1				
Intersection Capacity Utilization		19.1%		ICU Level of Service		A
Analysis Period (min)		15				

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	324	269	122
Future Volume (vph)	324	269	122
Lane Group Flow (vph)	517	340	162
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 62.5%		ICU Level of Service B	
Analysis Period (min) 15			

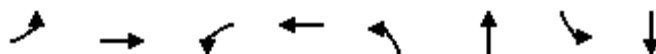
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2034 Future Background PM Traffic
Timing Plan: PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	324	162	51	269	122	30
Future Volume (Veh/h)	324	162	51	269	122	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	345	172	54	286	130	32
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			517		825	431
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			517		825	431
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		60	95
cM capacity (veh/h)			1059		327	629
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	517	340	162			
Volume Left	0	54	130			
Volume Right	172	0	32			
cSH	1700	1059	362			
Volume to Capacity	0.30	0.05	0.45			
Queue Length 95th (m)	0.0	1.2	17.0			
Control Delay (s)	0.0	1.8	22.8			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.8	22.8			
Approach LOS			C			
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			62.5%	ICU Level of Service		B
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2034 Future Background PM Traffic
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	70	51	55	74	89	511	37	636
Future Volume (vph)	70	51	55	74	89	511	37	636
Lane Group Flow (vph)	0	184	0	166	93	742	39	694
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		11.6		11.6	31.0	31.0	31.0	31.0
Actuated g/C Ratio		0.21		0.21	0.55	0.55	0.55	0.55
v/c Ratio		0.54		0.50	0.30	0.76	0.14	0.70
Control Delay		23.4		23.9	10.8	16.5	8.5	14.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		23.4		23.9	10.8	16.5	8.5	14.4
LOS		C		C	B	B	A	B
Approach Delay		23.4		23.9		15.9		14.0
Approach LOS		C		C		B		B
Queue Length 50th (m)		14.7		14.5	4.4	48.2	1.7	44.6
Queue Length 95th (m)		31.1		29.9	14.8	#113.8	6.8	95.4
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		738		742	357	1115	315	1143
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.25		0.22	0.26	0.67	0.12	0.61
Intersection Summary								
Cycle Length: 74.5								
Actuated Cycle Length: 56.4								
Natural Cycle: 65								
Control Type: Semi Act-Uncoord								
Maximum v/c Ratio: 0.76								
Intersection Signal Delay: 16.6				Intersection LOS: B				
Intersection Capacity Utilization 90.5%				ICU Level of Service E				
Analysis Period (min) 15								
# 95th percentile volume exceeds capacity, queue may be longer.								

Queue shown is maximum after two cycles.

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	151	146	7
Future Volume (vph)	151	146	7
Lane Group Flow (vph)	185	186	9
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 27.6%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
4: 8th Line & Dundas St W

2034 Future Background PM Traffic
Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Volume (veh/h)	151	6	12	146	7	1
Future Volume (Veh/h)	151	6	12	146	7	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	178	7	14	172	8	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			185		382	182
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			185		382	182
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1402		619	866
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	185	186	9			
Volume Left	0	14	8			
Volume Right	7	0	1			
cSH	1700	1402	639			
Volume to Capacity	0.11	0.01	0.01			
Queue Length 95th (m)	0.0	0.2	0.3			
Control Delay (s)	0.0	0.6	10.7			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.6	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay		0.6				
Intersection Capacity Utilization		27.6%	ICU Level of Service	A		
Analysis Period (min)		15				

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	41	76	372	214	276	10
Future Volume (vph)	41	76	372	214	276	10
Lane Group Flow (vph)	92	414	413	225	530	11
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 87.2%				ICU Level of Service E		
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Background PM Traffic
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	41	29	117	76	200	20	372	214	227	276	10
Future Volume (Veh/h)	17	41	29	117	76	200	20	372	214	227	276	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	43	31	123	80	211	21	392	225	239	291	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1454	1428	291	1256	1214	392	302	617				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1454	1428	291	1256	1214	392	302	617				
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1	4.2				
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.4	2.2	2.3				
p0 queue free %	40	57	96	0	40	67	98	75				
cM capacity (veh/h)	30	100	753	77	133	633	1270	944				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	92	414	413	225	530	11						
Volume Left	18	123	21	0	239	0						
Volume Right	31	211	0	225	0	11						
cSH	86	163	1270	1700	944	1700						
Volume to Capacity	1.07	2.53	0.02	0.13	0.25	0.01						
Queue Length 95th (m)	47.6	271.1	0.4	0.0	7.6	0.0						
Control Delay (s)	206.0	751.7	0.6	0.0	6.3	0.0						
Lane LOS	F	F	A	A								
Approach Delay (s)	206.0	751.7	0.4	6.1								
Approach LOS	F	F										
Intersection Summary												
Average Delay			198.0									
Intersection Capacity Utilization			87.2%	ICU Level of Service				E				
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2034 Future Background PM Traffic
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	218	32	17	39	206	312	9	457	160
Future Volume (vph)	218	32	17	39	206	312	9	457	160
Lane Group Flow (vph)	232	250	18	69	219	371	10	486	170
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	15.9	15.9	15.9	15.9	35.2	35.2	35.2	35.2	35.2
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.55	0.55	0.55	0.55	0.55
v/c Ratio	0.72	0.44	0.07	0.15	0.49	0.41	0.02	0.50	0.18
Control Delay	35.2	7.1	18.4	13.0	15.2	10.8	8.4	12.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	7.1	18.4	13.0	15.2	10.8	8.4	12.3	2.2
LOS	D	A	B	B	B	B	A	B	A
Approach Delay		20.6		14.1		12.4		9.7	
Approach LOS		C		B		B		A	
Queue Length 50th (m)	25.2	3.1	1.7	3.8	14.9	22.8	0.5	33.4	0.0
Queue Length 95th (m)	46.3	17.7	5.8	11.7	37.7	46.4	2.6	64.6	8.0
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	430	692	346	609	444	915	556	971	942
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.36	0.05	0.11	0.49	0.41	0.02	0.50	0.18

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 64.4

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 13.7

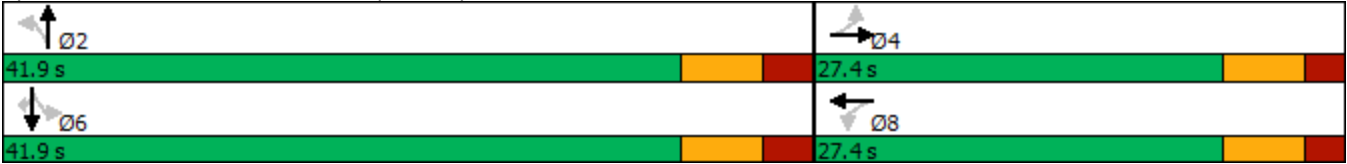
Intersection LOS: B

Intersection Capacity Utilization 93.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



						
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	700	7	535	11	4	0
Future Volume (vph)	700	7	535	11	4	0
Lane Group Flow (vph)	810	8	628	13	29	11
Sign Control	Free		Free		Stop	Stop
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 53.7%			ICU Level of Service A			
Analysis Period (min) 15						

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2034 Future Background PM Traffic
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	700	7	11	535	11	7	4	14	4	0	5
Future Volume (Veh/h)	4	700	7	11	535	11	7	4	14	4	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	805	8	13	615	13	8	5	16	5	0	6
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	628			813			1462	1469	805	1474	1464	615
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	628			813			1462	1469	805	1474	1464	615
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			92	96	96	95	100	99
cM capacity (veh/h)	964			823			105	126	386	97	127	495
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	810	8	628	13	29	11						
Volume Left	5	0	13	0	8	5						
Volume Right	0	8	0	13	16	6						
cSH	964	1700	823	1700	184	172						
Volume to Capacity	0.01	0.00	0.02	0.01	0.16	0.06						
Queue Length 95th (m)	0.1	0.0	0.4	0.0	4.1	1.5						
Control Delay (s)	0.1	0.0	0.4	0.0	28.2	27.3						
Lane LOS	A		A		D	D						
Approach Delay (s)	0.1		0.4		28.2	27.3						
Approach LOS					D	D						
Intersection Summary												
Average Delay	1.0											
Intersection Capacity Utilization	53.7%			ICU Level of Service			A					
Analysis Period (min)	15											

Lane Group	WBL	NBT	SBT
Lane Configurations			
Traffic Volume (vph)	4	148	153
Future Volume (vph)	4	148	153
Lane Group Flow (vph)	16	214	242
Sign Control	Stop	Free	Free

Intersection Summary

Control Type: Unsignalized

Intersection Capacity Utilization 30.7%

ICU Level of Service A

Analysis Period (min) 15

Erin Residential Development TIS
20: 8th Line & Erin Heights Drive

2034 Future Background PM Traffic
Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	7	148	6	21	153
Future Volume (Veh/h)	4	7	148	6	21	153
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	6	10	206	8	29	212
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	480	210			214	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	480	210			214	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			98	
cM capacity (veh/h)	537	835			1368	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	214	241			
Volume Left	6	0	29			
Volume Right	10	8	0			
cSH	691	1700	1368			
Volume to Capacity	0.02	0.13	0.02			
Queue Length 95th (m)	0.5	0.0	0.5			
Control Delay (s)	10.3	0.0	1.1			
Lane LOS	B		A			
Approach Delay (s)	10.3	0.0	1.1			
Approach LOS	B					
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		30.7%		ICU Level of Service		A
Analysis Period (min)		15				

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	261	197	71
Future Volume (vph)	261	197	71
Lane Group Flow (vph)	352	247	175
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 49.0%		ICU Level of Service A	
Analysis Period (min) 15			

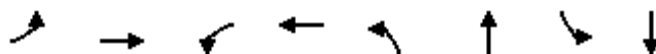
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2034 Future Total AM Traffic
Timing Plan: AM Peak hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Traffic Volume (veh/h)	261	63	30	197	71	90
Future Volume (Veh/h)	261	63	30	197	71	90
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	284	68	33	214	77	98
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			352		598	318
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			352		598	318
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		83	87
cM capacity (veh/h)			1218		456	727
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	352	247	175			
Volume Left	0	33	77			
Volume Right	68	0	98			
cSH	1700	1218	576			
Volume to Capacity	0.21	0.03	0.30			
Queue Length 95th (m)	0.0	0.6	9.7			
Control Delay (s)	0.0	1.3	13.9			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.3	13.9			
Approach LOS			B			
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			49.0%	ICU Level of Service		A
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2034 Future Total AM Traffic
Timing Plan: AM Peak hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Traffic Volume (vph)	44	11	169	6	69	348	40	372
Future Volume (vph)	44	11	169	6	69	348	40	372
Lane Group Flow (vph)	0	295	0	225	78	538	45	429
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		17.9		17.9	28.2	28.2	28.2	28.2
Actuated g/C Ratio		0.30		0.30	0.47	0.47	0.47	0.47
v/c Ratio		0.47		0.75	0.18	0.65	0.14	0.54
Control Delay		7.4		34.8	12.2	16.9	12.1	15.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		7.4		34.8	12.2	16.9	12.1	15.5
LOS		A		C	B	B	B	B
Approach Delay		7.4		34.8		16.3		15.1
Approach LOS		A		C		B		B
Queue Length 50th (m)		4.4		18.8	4.6	39.1	2.6	31.1
Queue Length 95th (m)		21.2		#47.8	13.6	81.6	9.1	64.4
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		829		448	543	1052	424	1020
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.36		0.50	0.14	0.51	0.11	0.42
Intersection Summary								
Cycle Length: 74.5								
Actuated Cycle Length: 60								
Natural Cycle: 60								
Control Type: Semi Act-Uncoord								
Maximum v/c Ratio: 0.75								
Intersection Signal Delay: 16.9				Intersection LOS: B				
Intersection Capacity Utilization 95.8%				ICU Level of Service F				
Analysis Period (min) 15								
# 95th percentile volume exceeds capacity, queue may be longer.								

Queue shown is maximum after two cycles.

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	223	73	9
Future Volume (vph)	223	73	9
Lane Group Flow (vph)	279	94	17
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 21.7%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
4: 8th Line & Dundas St W

2034 Future Total AM Traffic
Timing Plan: AM Peak hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↘↙	
Traffic Volume (veh/h)	223	0	2	73	9	5
Future Volume (Veh/h)	223	0	2	73	9	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	279	0	2	91	11	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			279		374	279
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			279		374	279
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	99
cM capacity (veh/h)			1295		630	765
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	279	93	17			
Volume Left	0	2	11			
Volume Right	0	0	6			
cSH	1700	1295	672			
Volume to Capacity	0.16	0.00	0.03			
Queue Length 95th (m)	0.0	0.0	0.6			
Control Delay (s)	0.0	0.2	10.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.2	10.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			21.7%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	45	44	160	144	199	22
Future Volume (vph)	45	44	160	144	199	22
Lane Group Flow (vph)	81	360	178	150	337	23
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 63.0%			ICU Level of Service B			
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Total AM Traffic
Timing Plan: AM Peak hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	45	20	141	44	160	11	160	144	125	199	22
Future Volume (Veh/h)	12	45	20	141	44	160	11	160	144	125	199	22
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	12	47	21	147	46	167	11	167	150	130	207	23
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	846	806	207	700	679	167	230	317				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	846	806	207	700	679	167	230	317				
tC, single (s)	7.1	6.5	6.2	7.1	6.6	6.4	4.2	4.2				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.1	3.5	2.3	2.3				
p0 queue free %	94	83	97	46	86	80	99	89				
cM capacity (veh/h)	185	280	839	273	325	840	1287	1178				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	80	360	178	150	337	23						
Volume Left	12	147	11	0	130	0						
Volume Right	21	167	0	150	0	23						
cSH	311	410	1287	1700	1178	1700						
Volume to Capacity	0.26	0.88	0.01	0.09	0.11	0.01						
Queue Length 95th (m)	7.6	67.8	0.2	0.0	2.8	0.0						
Control Delay (s)	20.6	51.5	0.6	0.0	3.9	0.0						
Lane LOS	C	F	A		A							
Approach Delay (s)	20.6	51.5	0.3		3.7							
Approach LOS	C	F										
Intersection Summary												
Average Delay	19.1											
Intersection Capacity Utilization	63.0%			ICU Level of Service					B			
Analysis Period (min)	15											

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2034 Future Total AM Traffic
Timing Plan: AM Peak hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	233	57	17	41	148	248	12	206	120
Future Volume (vph)	233	57	17	41	148	248	12	206	120
Lane Group Flow (vph)	271	221	20	77	172	318	14	240	140
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effect Green (s)	18.0	18.0	18.0	18.0	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.53	0.53	0.53	0.53	0.53
v/c Ratio	0.81	0.39	0.06	0.15	0.30	0.35	0.02	0.28	0.16
Control Delay	42.9	8.9	17.9	13.1	11.5	10.8	8.8	10.6	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	8.9	17.9	13.1	11.5	10.8	8.8	10.6	2.4
LOS	D	A	B	B	B	B	A	B	A
Approach Delay		27.6		14.1		11.1		7.6	
Approach LOS		C		B		B		A	
Queue Length 50th (m)	31.0	6.1	1.8	4.4	12.0	22.1	0.8	16.7	0.0
Queue Length 95th (m)	#59.0	18.7	6.0	12.2	22.6	36.0	3.1	28.2	6.5
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	391	635	369	594	573	908	576	852	872
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.35	0.05	0.13	0.30	0.35	0.02	0.28	0.16

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 66.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.9

Intersection LOS: B

Intersection Capacity Utilization 94.7%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



					
Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	445	402	1	1	2
Future Volume (vph)	445	402	1	1	2
Lane Group Flow (vph)	474	435	1	13	7
Sign Control	Free	Free		Stop	Stop
Intersection Summary					
Control Type: Unsignalized					
Intersection Capacity Utilization 40.1%			ICU Level of Service A		
Analysis Period (min) 15					

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2034 Future Total AM Traffic
Timing Plan: AM Peak hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	445	0	7	402	1	2	1	9	4	2	1
Future Volume (Veh/h)	1	445	0	7	402	1	2	1	9	4	2	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1	473	0	7	428	1	2	1	10	4	2	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	429			473			919	918	473	928	917	428
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	429			473			919	918	473	928	917	428
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	98	98	99	100
cM capacity (veh/h)	1141			1099			251	272	595	244	272	631
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	474	0	435	1	13	7						
Volume Left	1	0	7	0	2	4						
Volume Right	0	0	0	1	10	1						
cSH	1141	1700	1099	1700	457	277						
Volume to Capacity	0.00	0.00	0.01	0.00	0.03	0.03						
Queue Length 95th (m)	0.0	0.0	0.1	0.0	0.7	0.6						
Control Delay (s)	0.0	0.0	0.2	0.0	13.1	18.4						
Lane LOS	A		A		B	C						
Approach Delay (s)	0.0		0.2		13.1	18.4						
Approach LOS					B	C						
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			40.1%		ICU Level of Service				A			
Analysis Period (min)			15									

Erin Residential Development TIS
20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

2034 Future Total AM Traffic
Timing Plan: AM Peak hour

				
Lane Group	EBT	WBT	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	0	0	57	96
Future Volume (vph)	0	0	57	96
Lane Group Flow (vph)	174	21	107	122
Sign Control	Stop	Stop	Free	Free
Intersection Summary				
Control Type: Unsignalized				
Intersection Capacity Utilization 34.9%			ICU Level of Service A	
Analysis Period (min) 15				

Erin Residential Development TIS

2034 Future Total AM Traffic

20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

Timing Plan: AM Peak hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	0	125	0	0	19	41	57	0	5	96	12
Future Volume (Veh/h)	35	0	125	0	0	19	41	57	0	5	96	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	0	136	0	0	21	45	62	0	5	104	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	294	272	110	408	279	62	117			62		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	294	272	110	408	279	62	117			62		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	86	100	100	98	97			100		
cM capacity (veh/h)	632	616	948	465	611	1009	1484			1554		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	174	21	107	122								
Volume Left	38	0	45	5								
Volume Right	136	21	0	13								
cSH	855	1009	1484	1554								
Volume to Capacity	0.20	0.02	0.03	0.00								
Queue Length 95th (m)	5.8	0.5	0.7	0.1								
Control Delay (s)	10.3	8.6	3.3	0.3								
Lane LOS	B	A	A	A								
Approach Delay (s)	10.3	8.6	3.3	0.3								
Approach LOS	B	A										
Intersection Summary												
Average Delay			5.6									
Intersection Capacity Utilization			34.9%	ICU Level of Service						A		
Analysis Period (min)			15									

			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	284	255	89
Future Volume (vph)	284	255	89
Lane Group Flow (vph)	342	291	140
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 38.1%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
27: Mattamy SR 17 Access & Sideroad 17

2034 Future Total AM Traffic
Timing Plan: AM Peak hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↘	↗
Traffic Volume (veh/h)	284	30	13	255	89	40
Future Volume (Veh/h)	284	30	13	255	89	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	309	33	14	277	97	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			342		630	326
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			342		630	326
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		78	94
cM capacity (veh/h)			1228		443	720
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	342	291	140			
Volume Left	0	14	97			
Volume Right	33	0	43			
cSH	1700	1228	503			
Volume to Capacity	0.20	0.01	0.28			
Queue Length 95th (m)	0.0	0.3	8.6			
Control Delay (s)	0.0	0.5	14.9			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	14.9			
Approach LOS			B			
Intersection Summary						
Average Delay			2.9			
Intersection Capacity Utilization			38.1%	ICU Level of Service		A
Analysis Period (min)			15			

→

←

↶

Lane Group	EBT	WBT	NBL
Lane Configurations	↶	↶	↶
Traffic Volume (vph)	350	312	122
Future Volume (vph)	350	312	122
Lane Group Flow (vph)	544	426	185
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 69.5%		ICU Level of Service C	
Analysis Period (min) 15			

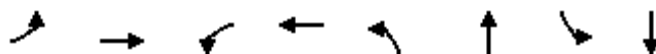
Erin Residential Development TIS
1: 8th Line & Sideroad 17

2034 Future Total PM Traffic
Timing Plan: PM Peak hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	350	162	88	312	122	52
Future Volume (Veh/h)	350	162	88	312	122	52
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	372	172	94	332	130	55
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			544		978	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			544		978	458
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		49	91
cM capacity (veh/h)			1035		255	607
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	544	426	185			
Volume Left	0	94	130			
Volume Right	172	0	55			
cSH	1700	1035	308			
Volume to Capacity	0.32	0.09	0.60			
Queue Length 95th (m)	0.0	2.3	27.7			
Control Delay (s)	0.0	2.7	32.9			
Lane LOS		A	D			
Approach Delay (s)	0.0	2.7	32.9			
Approach LOS			D			
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			69.5%	ICU Level of Service		C
Analysis Period (min)			15			

Erin Residential Development TIS
3: Main Street (WR 124) & Dundas St W/Dundas St E

2034 Future Total PM Traffic
Timing Plan: PM Peak hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕	↗	↖	↗	↖
Traffic Volume (vph)	70	51	110	74	222	511	37	636
Future Volume (vph)	70	51	110	74	222	511	37	636
Lane Group Flow (vph)	0	270	0	224	231	742	39	694
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	24.0	24.0	24.0	24.0
Minimum Split (s)	27.0	27.0	27.0	27.0	31.5	31.5	31.5	31.5
Total Split (s)	32.0	32.0	32.0	32.0	42.5	42.5	42.5	42.5
Total Split (%)	43.0%	43.0%	43.0%	43.0%	57.0%	57.0%	57.0%	57.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0		6.0	7.5	7.5	7.5	7.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Efect Green (s)		15.8		15.8	35.3	35.3	35.3	35.3
Actuated g/C Ratio		0.24		0.24	0.55	0.55	0.55	0.55
v/c Ratio		0.62		0.72	0.80	0.77	0.15	0.71
Control Delay		21.0		34.5	39.1	19.9	11.4	17.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		21.0		34.5	39.1	19.9	11.4	17.7
LOS		C		C	D	B	B	B
Approach Delay		21.0		34.5		24.4		17.3
Approach LOS		C		C		C		B
Queue Length 50th (m)		18.9		23.1	20.1	59.6	2.1	54.9
Queue Length 95th (m)		39.2		43.4	#69.4	#150.9	8.7	#135.7
Internal Link Dist (m)		1308.1		285.1		328.5		907.9
Turn Bay Length (m)					35.0		40.0	
Base Capacity (vph)		659		506	289	965	252	984
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.41		0.44	0.80	0.77	0.15	0.71
Intersection Summary								
Cycle Length: 74.5								
Actuated Cycle Length: 64.7								
Natural Cycle: 75								
Control Type: Semi Act-Uncoord								
Maximum v/c Ratio: 0.80								
Intersection Signal Delay: 22.7				Intersection LOS: C				
Intersection Capacity Utilization 98.2%				ICU Level of Service F				
Analysis Period (min) 15								
# 95th percentile volume exceeds capacity, queue may be longer.								

Queue shown is maximum after two cycles.

Splits and Phases: 3: Main Street (WR 124) & Dundas St W/Dundas St E



			
Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	233	209	7
Future Volume (vph)	233	209	7
Lane Group Flow (vph)	281	260	9
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			

Erin Residential Development TIS
4: 8th Line & Dundas St W

2034 Future Total PM Traffic
Timing Plan: PM Peak hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (veh/h)	233	6	12	209	7	1
Future Volume (Veh/h)	233	6	12	209	7	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	274	7	14	246	8	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			281		552	278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			281		552	278
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	100
cM capacity (veh/h)			1293		493	766
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	281	260	9			
Volume Left	0	14	8			
Volume Right	7	0	1			
cSH	1700	1293	513			
Volume to Capacity	0.17	0.01	0.02			
Queue Length 95th (m)	0.0	0.2	0.4			
Control Delay (s)	0.0	0.5	12.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	12.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			30.8%	ICU Level of Service		A
Analysis Period (min)			15			

						
Lane Group	EBT	WBT	NBT	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	41	76	372	291	276	10
Future Volume (vph)	41	76	372	291	276	10
Lane Group Flow (vph)	92	474	413	306	550	11
Sign Control	Stop	Stop	Free		Free	
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 91.4%			ICU Level of Service F			
Analysis Period (min) 15						

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Total PM Traffic
Timing Plan: PM Peak hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	41	29	163	76	211	20	372	291	246	276	10
Future Volume (Veh/h)	17	41	29	163	76	211	20	372	291	246	276	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	43	31	172	80	222	21	392	306	259	291	11
Pedestrians								3				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1505	1549	294	1298	1254	392	302			698		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1505	1549	294	1298	1254	392	302			698		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.4	2.2			2.3		
p0 queue free %	22	46	96	0	33	65	98			71		
cM capacity (veh/h)	23	80	748	60	119	633	1270			880		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	92	474	413	306	550	11						
Volume Left	18	172	21	0	259	0						
Volume Right	31	222	0	306	0	11						
cSH	67	122	1270	1700	880	1700						
Volume to Capacity	1.36	3.89	0.02	0.18	0.29	0.01						
Queue Length 95th (m)	57.8	Err	0.4	0.0	9.4	0.0						
Control Delay (s)	339.0	Err	0.6	0.0	7.1	0.0						
Lane LOS	F	F	A		A							
Approach Delay (s)	339.0	Err	0.3		7.0							
Approach LOS	F	F										
Intersection Summary												
Average Delay			2586.6									
Intersection Capacity Utilization			91.4%		ICU Level of Service				F			
Analysis Period (min)			15									

Erin Residential Development TIS
12: Main Street (WR 124) & Shamrock Road

2034 Future Total PM Traffic
Timing Plan: PM Peak hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	255	32	17	39	206	312	9	457	222
Future Volume (vph)	255	32	17	39	206	312	9	457	222
Lane Group Flow (vph)	271	250	18	69	219	371	10	486	236
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0
Minimum Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (s)	27.4	27.4	27.4	27.4	41.9	41.9	41.9	41.9	41.9
Total Split (%)	39.5%	39.5%	39.5%	39.5%	60.5%	60.5%	60.5%	60.5%	60.5%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.2	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.9	6.9	6.9	6.9	6.9
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effct Green (s)	17.3	17.3	17.3	17.3	35.1	35.1	35.1	35.1	35.1
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.53	0.53	0.53	0.53	0.53
v/c Ratio	0.79	0.42	0.06	0.14	0.51	0.41	0.02	0.51	0.25
Control Delay	39.6	6.8	18.1	12.7	16.4	11.4	8.7	13.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	6.8	18.1	12.7	16.4	11.4	8.7	13.1	2.2
LOS	D	A	B	B	B	B	A	B	A
Approach Delay		23.9		13.8		13.3		9.5	
Approach LOS		C		B		B		A	
Queue Length 50th (m)	30.5	3.1	1.7	3.8	16.9	25.5	0.6	37.3	0.0
Queue Length 95th (m)	#60.6	17.7	5.8	11.7	38.2	46.4	2.6	64.6	9.2
Internal Link Dist (m)		8.8		90.4		95.4		205.2	
Turn Bay Length (m)	15.0		7.0		35.0		50.0		50.0
Base Capacity (vph)	421	682	341	597	427	895	538	949	956
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.37	0.05	0.12	0.51	0.41	0.02	0.51	0.25

Intersection Summary

Cycle Length: 69.3

Actuated Cycle Length: 65.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 14.7

Intersection LOS: B

Intersection Capacity Utilization 96.0%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Main Street (WR 124) & Shamrock Road



						
Lane Group	EBT	EBR	WBT	WBR	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	802	7	597	11	4	0
Future Volume (vph)	802	7	597	11	4	0
Lane Group Flow (vph)	927	8	699	13	29	11
Sign Control	Free		Free		Stop	Stop
Intersection Summary						
Control Type: Unsignalized						
Intersection Capacity Utilization 59.1%			ICU Level of Service B			
Analysis Period (min) 15						

Erin Residential Development TIS
15: 8th Line & Wellington Rd 124

2034 Future Total PM Traffic
Timing Plan: PM Peak hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	802	7	11	597	11	7	4	14	4	0	5
Future Volume (Veh/h)	4	802	7	11	597	11	7	4	14	4	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	5	922	8	13	686	13	8	5	16	5	0	6
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	699			930			1650	1657	922	1662	1652	686
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	699			930			1650	1657	922	1662	1652	686
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			90	95	95	93	100	99
cM capacity (veh/h)	907			744			77	97	330	70	97	451
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	927	8	699	13	29	11						
Volume Left	5	0	13	0	8	5						
Volume Right	0	8	0	13	16	6						
cSH	907	1700	744	1700	142	130						
Volume to Capacity	0.01	0.00	0.02	0.01	0.20	0.08						
Queue Length 95th (m)	0.1	0.0	0.4	0.0	5.5	2.1						
Control Delay (s)	0.2	0.0	0.5	0.0	36.6	35.2						
Lane LOS	A		A		E	E						
Approach Delay (s)	0.2		0.5		36.6	35.2						
Approach LOS					E	E						
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			59.1%		ICU Level of Service				B			
Analysis Period (min)			15									

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Configurations	↕	↕	↕	↕
Traffic Volume (vph)	0	0	148	153
Future Volume (vph)	0	0	148	153
Lane Group Flow (vph)	145	16	399	293
Sign Control	Stop	Stop	Free	Free
Intersection Summary				
Control Type: Unsignalized				
Intersection Capacity Utilization 44.1%			ICU Level of Service A	
Analysis Period (min) 15				

Erin Residential Development TIS

2034 Future Total PM Traffic

20: 8th Line & Mattamy 8th Line Access/Erin Heights Drive

Timing Plan: PM Peak hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	82	4	0	7	133	148	6	21	153	37
Future Volume (Veh/h)	22	0	82	4	0	7	133	148	6	21	153	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	31	0	114	6	0	10	185	206	8	29	212	51
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	886	880	238	990	901	210	263	214				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	886	880	238	990	901	210	263	214				
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	87	100	86	97	100	99	86	98				
cM capacity (veh/h)	232	242	806	171	235	835	1313	1368				
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	145	16	399	292								
Volume Left	31	6	185	29								
Volume Right	114	10	8	51								
cSH	527	341	1313	1368								
Volume to Capacity	0.27	0.05	0.14	0.02								
Queue Length 95th (m)	8.4	1.1	3.7	0.5								
Control Delay (s)	14.4	16.1	4.5	0.9								
Lane LOS	B	C	A	A								
Approach Delay (s)	14.4	16.1	4.5	0.9								
Approach LOS	B	C										
Intersection Summary												
Average Delay	5.2											
Intersection Capacity Utilization	44.1%			ICU Level of Service					A			
Analysis Period (min)	15											

→

←

↶

Lane Group	EBT	WBT	NBL
Lane Configurations	↶	↶	↶↶
Traffic Volume (vph)	486	391	57
Future Volume (vph)	486	391	57
Lane Group Flow (vph)	632	472	90
Sign Control	Free	Free	Stop
Intersection Summary			
Control Type: Unsignalized			
Intersection Capacity Utilization 67.9%		ICU Level of Service C	
Analysis Period (min) 15			

Erin Residential Development TIS
27: Mattamy SR 17 Access & Sideroad 17

2034 Future Total PM Traffic
Timing Plan: PM Peak hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	486	96	43	391	57	26
Future Volume (Veh/h)	486	96	43	391	57	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	528	104	47	425	62	28
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			632		1099	580
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			632		1099	580
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		73	95
cM capacity (veh/h)			960		226	518
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	632	472	90			
Volume Left	0	47	62			
Volume Right	104	0	28			
cSH	1700	960	274			
Volume to Capacity	0.37	0.05	0.33			
Queue Length 95th (m)	0.0	1.2	10.5			
Control Delay (s)	0.0	1.4	24.5			
Lane LOS		A	C			
Approach Delay (s)	0.0	1.4	24.5			
Approach LOS			C			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			67.9%	ICU Level of Service		C
Analysis Period (min)			15			

APPENDIX G

Auxiliary Left-Turn Lane Warrants



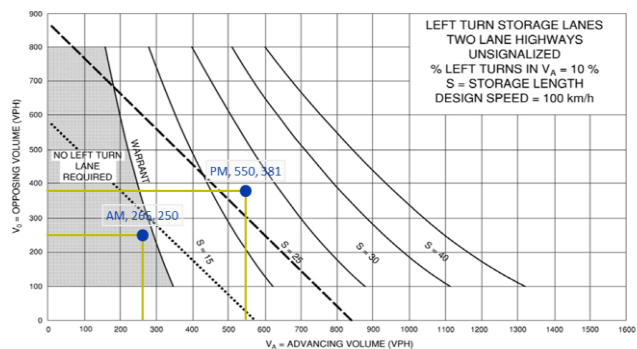
Intersection	Left-Turn Warrant	Advancing Traffic		Opposing Traffic		Left Turn Traffic		% of Left Turning		Warrant	LENGTH (m)
		AM	PM	AM	PM	AM	PM	AM	PM		
Trafalgar Road/Sideroad 17 (FB 2024)	NBL	265	550	250	381	10	18	4%	3%	Yes	25
Trafalgar Road/Sideroad 17 (FB 2034)	NBL	292	606	340	513	11	20	4%	3%	Yes	25
Trafalgar Road/Sideroad 17 (FT 2024)	NBL	289	627	256	400	10	18	3%	3%	Yes	25
Trafalgar Road/Sideroad 17 (FT 2034)	NBL	316	683	346	532	11	20	4%	3%	Yes	25

Trafalgar Road/Sideroad 17 (FB 2024)	SBL	250	381	265	550	50	123	20%	32%	Yes	30
Trafalgar Road/Sideroad 17 (FB 2034)	SBL	340	513	292	606	119	227	35%	44%	Yes	50
Trafalgar Road/Sideroad 17 (FT 2024)	SBL	256	400	289	627	56	142	22%	35%	Yes	40
Trafalgar Road/Sideroad 17 (FT 2034)	SBL	346	532	316	683	125	246	36%	46%	Yes	65

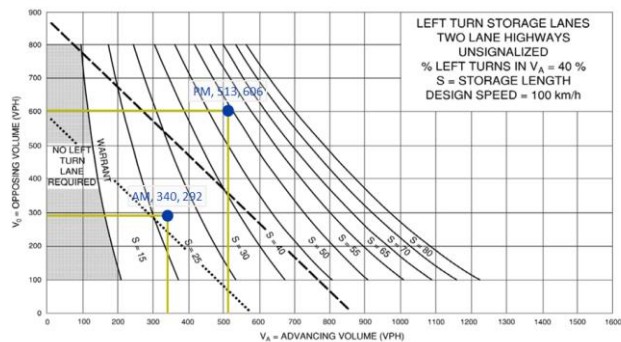
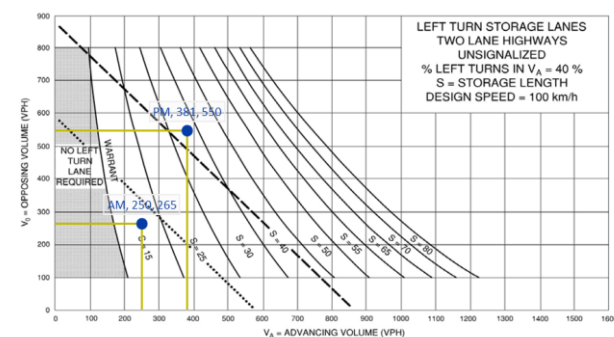
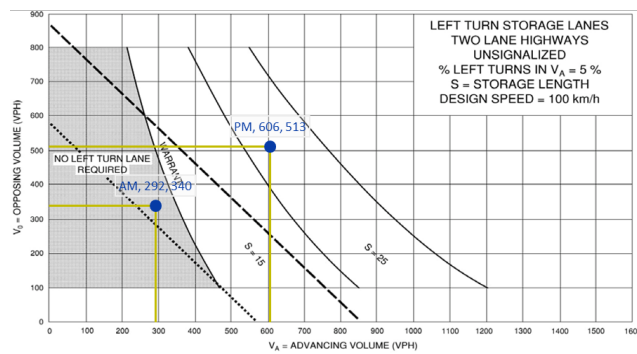
NBL

SBL

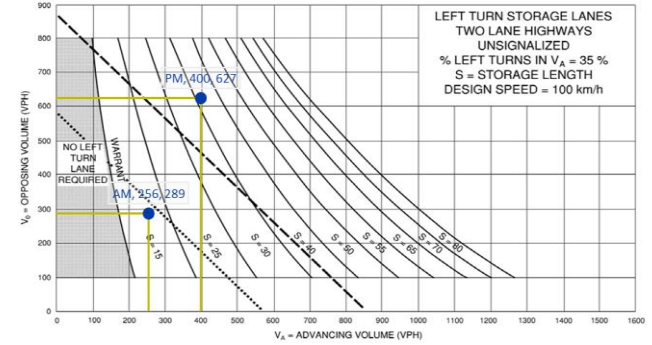
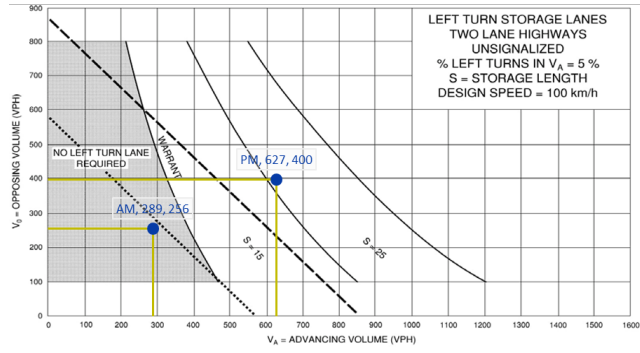
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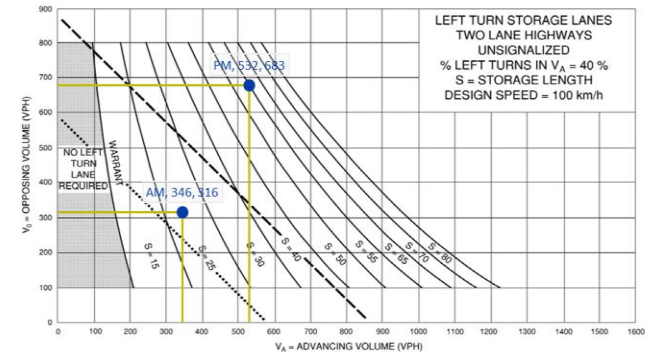
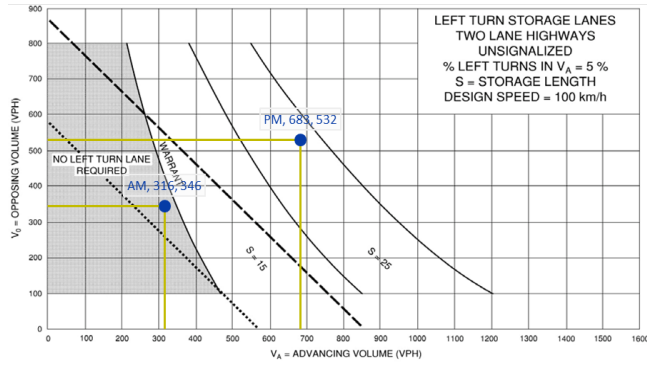
2034 FB



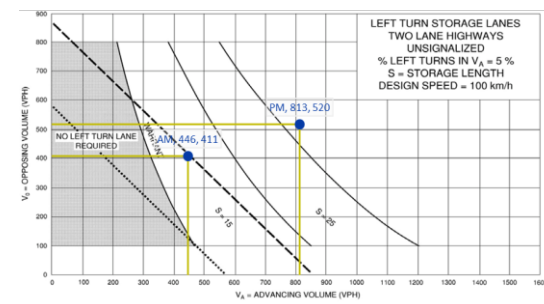
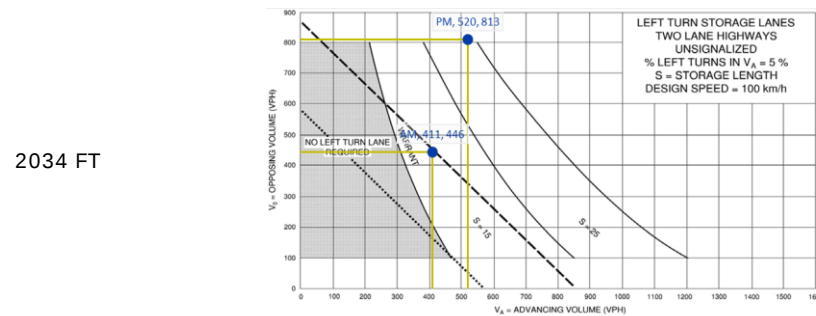
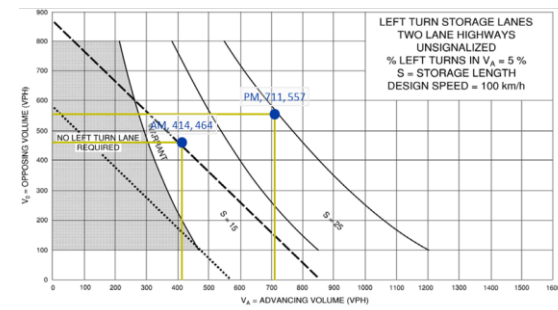
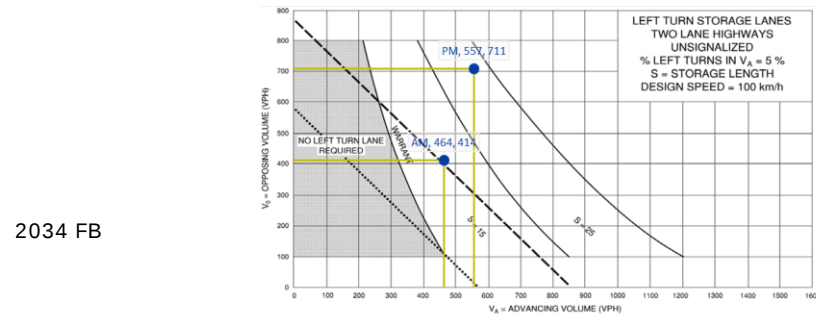
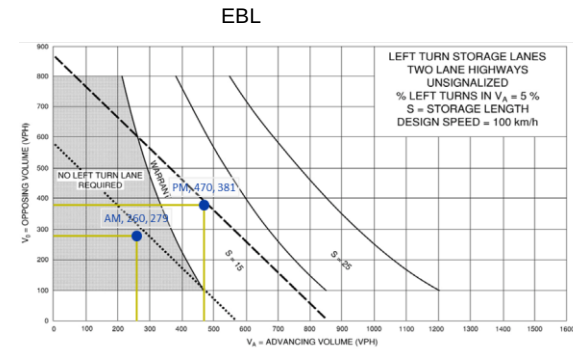
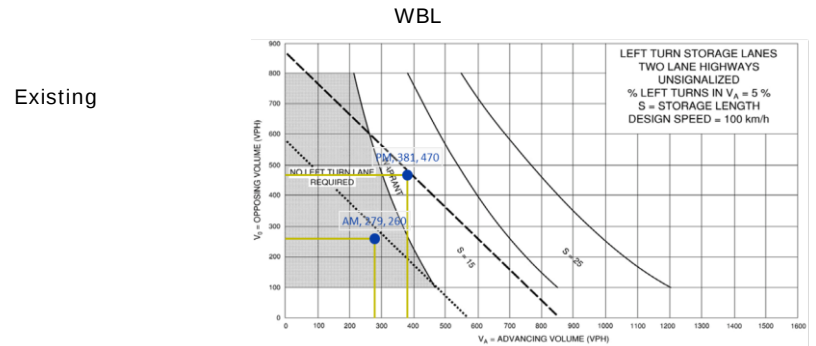
2024 FT



2034 FT

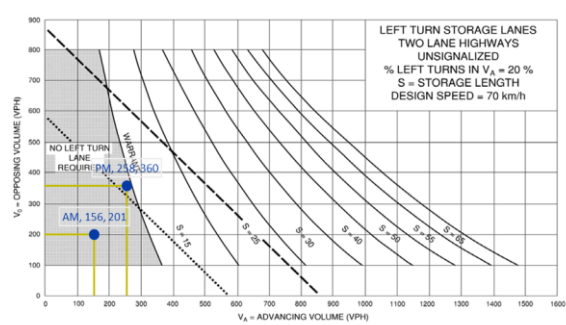


Intersection	Left-Turn Warrant	Advancing Traffic		Opposing Traffic		Left Turn Traffic		% of Left Turning		Warrant	LENGTH (m)
		AM	PM	AM	PM	AM	PM	AM	PM		
WR 124 & 8th Line (Existing)	WBL	279	381	260	470	7	10	2%	3%	Yes	15
WR 124 & 8th Line (2034 FB)	WBL	464	557	414	711	7	11	2%	2%	Yes	25
WR 124 & 8th Line (2034 FT)	WBL	411	520	446	813	7	11	2%	2%	Yes	25
WR 124 & 8th Line (Existing)	EBL	260	470	279	381	1	3	0%	1%	Yes	15
WR 124 & 8th Line (2034 FB)	EBL	414	711	464	557	1	4	0%	1%	Yes	25
WR 124 & 8th Line (2034 FT)	EBL	446	813	411	520	1	4	0%	0%	Yes	25

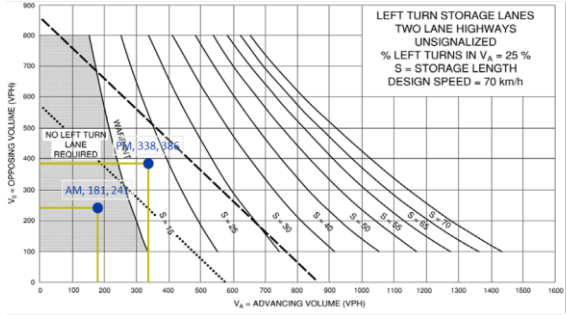


Intersection	Left-Turn Warrant	Advancing Traffic		Opposing Traffic		Left Turn Traffic		% of Left Turning		Warrant	LENGTH (m)
		AM	PM	AM	PM	AM	PM	AM	PM		
Sideroad 17 & 8th Line (FB 2024)	WBL	156	258	201	360	17	50	11%	19%	No	-
Sideroad 17 & 8th Line (FB 2034)	WBL	202	320	284	486	18	51	9%	16%	Yes	15
Sideroad 17 & 8th Line (FT 2024)	WBL	181	338	241	386	29	87	16%	26%	Yes	15
Sideroad 17 & 8th Line (FT 2034)	WBL	227	400	324	512	30	88	13%	22%	Yes	25

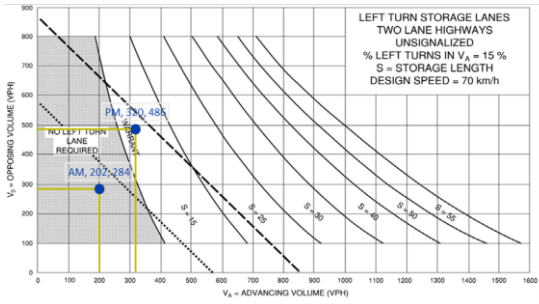
2024 FB



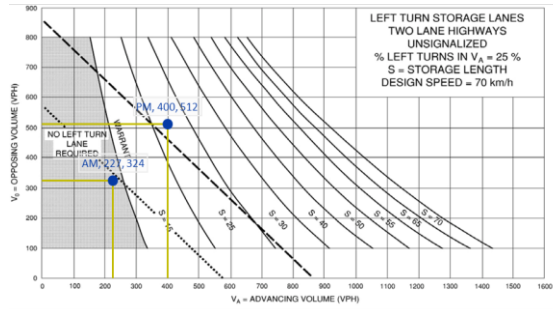
2024 FT



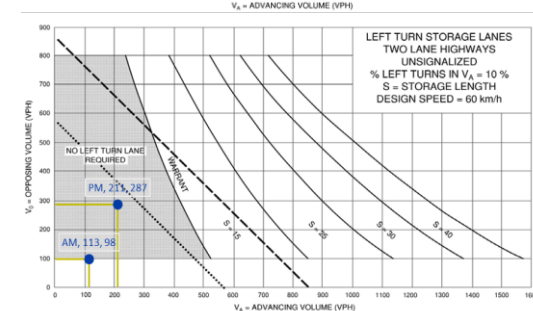
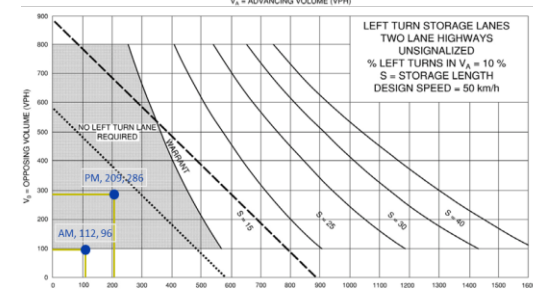
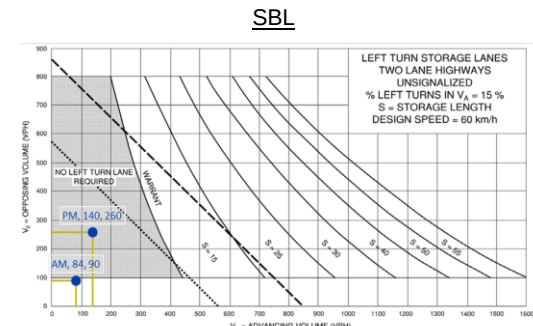
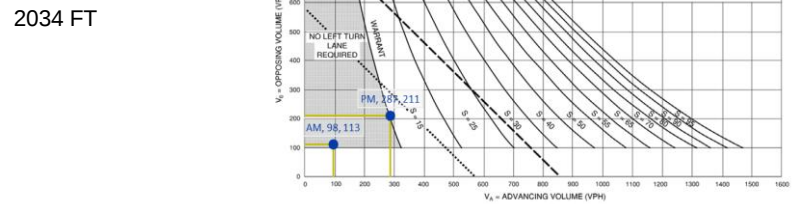
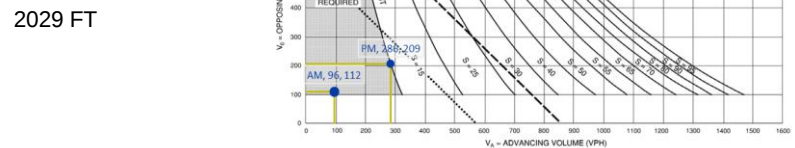
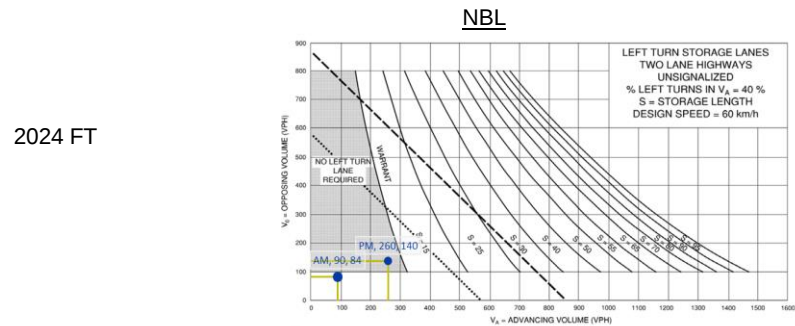
2034 FB



2034 FT

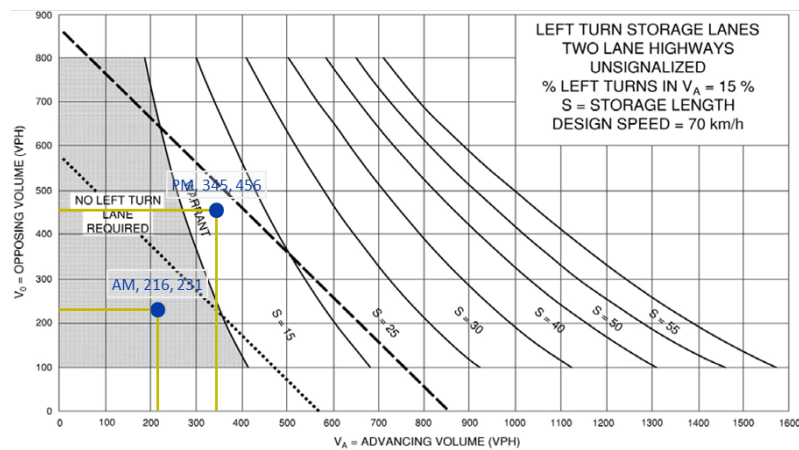


Intersection	Left-Turn Warrant	Advancing Traffic Volume (VA)		Opposing Traffic Volume (VO)		Left Turn Traffic Volume (VL)		% of Left Turning Traffic		Warrant
		AM	PM	AM	PM	AM	PM	AM	PM	
8th Line & Site Access/ Erin Heights Drive (2024 FT)	NBL	90	260	84	140	41	133	45%	51%	No
8th Line & Site Access/ Erin Heights Drive (2029 FT)	NBL	96	286	112	209	41	133	43%	47%	No
8th Line & Site Access/ Erin Heights Drive (2034 FT)	NBL	98	287	113	211	41	133	42%	46%	No
8th Line & Site Access/ Erin Heights Drive (2024 FT)	SBL	84	140	90	260	4	19	5%	14%	No
8th Line & Site Access/ Erin Heights Drive (2029 FT)	SBL	112	209	96	286	5	20	4%	10%	No
8th Line & Site Access/ Erin Heights Drive (2034 FT)	SBL	113	211	98	287	5	21	4%	10%	No

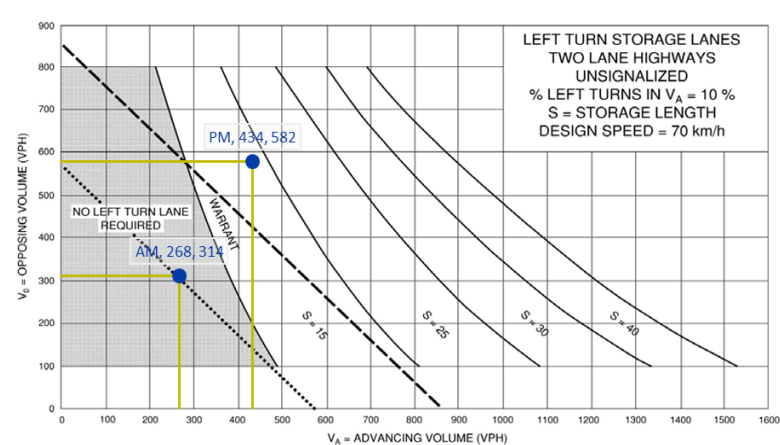


Intersection	Left-Turn Warrant	Advancing Traffic Volume (VA)		Opposing Traffic Volume (VO)		Left Turn Traffic Volume (VL)		% of Left Turning Traffic		Warrant	Length (M)
		AM	PM	AM	PM	AM	PM	AM	PM		
Sideroad 17 Site Access (FT 2024)	WBL	216	345	231	456	13	43	6%	12%	Yes	15
Sideroad 17 Site Access (FT 2034)	WBL	268	434	314	582	13	43	5%	10%	Yes	15

2024



2034



APPENDIX H

Signal Warrants



Trafalgar Road/Sideroad 17 - (peak hour signal warrant) - FB 2024

Signal Warrant		Description		Minimum Requirement for Two Lane Roadways	Compliance		
				Free Flow - Operating Speed Greater Than or Equal to 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	480	109%	109%	100 % Yes
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	136%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	480	75%	75%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	50	154%		

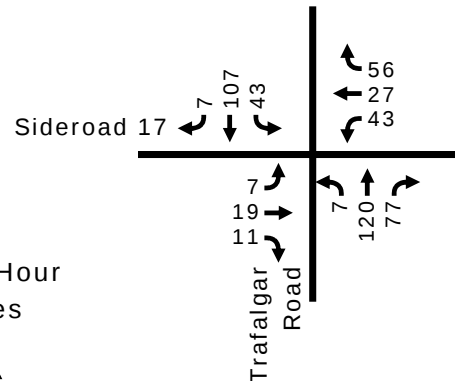
Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

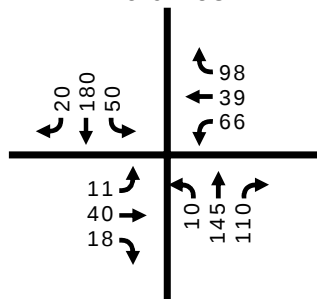
No

No

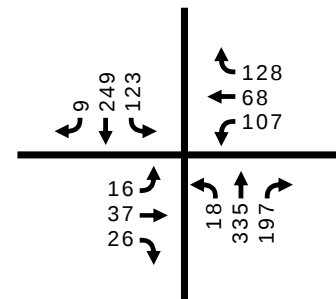
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



Trafalgar Road/Sideroad 17 - (peak hour signal warrant) - FB 2029

Signal Warrant		Description		Minimum Requirement for Two Lane Roadways	Compliance		
				Free Flow - Operating Speed Greater Than or Equal to 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	480	128%	128%	100 % Yes
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	163%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	480	87%	87%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	50	160%		

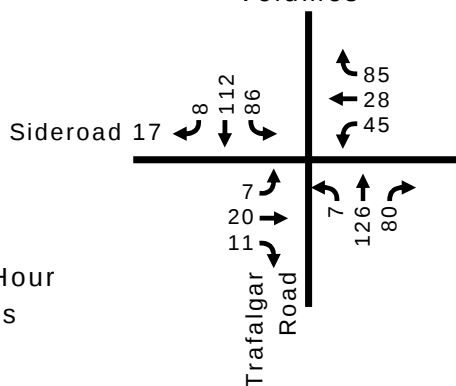
Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

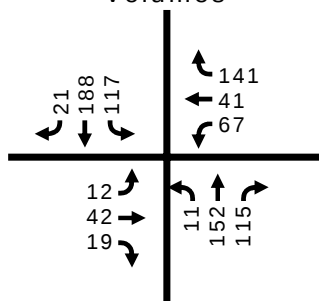
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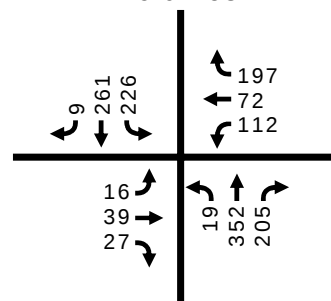
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



Trafalgar Road/Sideroad 17 - (peak hour signal warrant) - FB 2034

Signal Warrant		Description		Minimum Requirement for Two-Lane Roadways	Compliance		
				Free Flow - Operating Speed Greater Than or Equal to 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	480	133%	133%	100 % Yes
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	168%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	480	91%	91%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	50	166%		

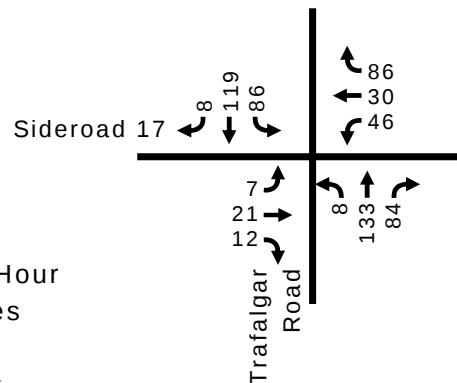
Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

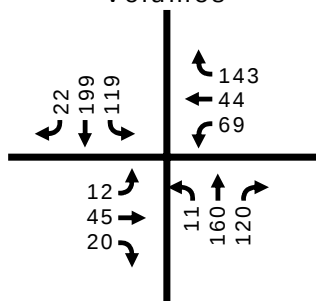
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No

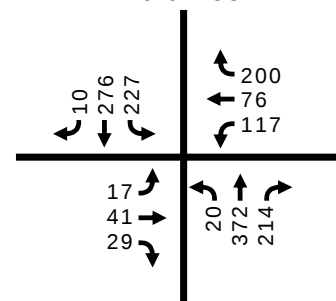
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



Trafalgar Road/Sideroad 17 - (peak hour signal warrant) - FT 2024

Signal Warrant		Description		Minimum Requirement for Two-Lane Roadways	Compliance		
				Free Flow - Operating Speed Greater Than or Equal to 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	480	124%	124%	100 % Yes
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	167%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	480	82%	82%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	50	214%		

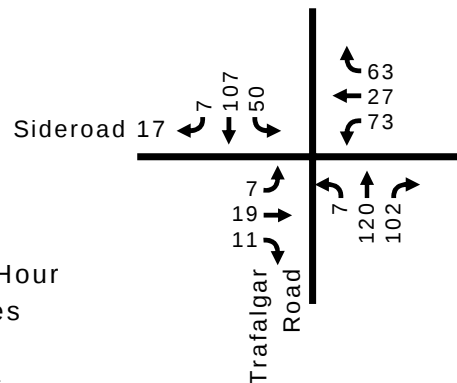
Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

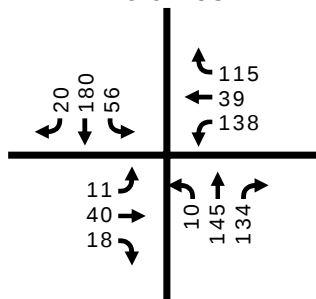
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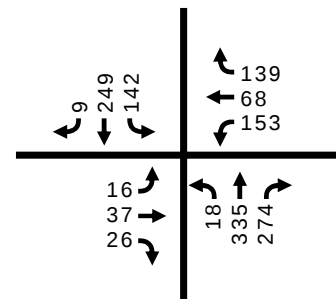
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



Trafalgar Road/Sideroad 17 - (peak hour signal warrant) - FT 2029

Signal Warrant		Description		Minimum Requirement for Two-Lane Roadways	Compliance		
				Free Flow - Operating Speed Greater Than or Equal to 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	480	142%	142%	100 % Yes
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	193%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	480	94%	94%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	50	218%		

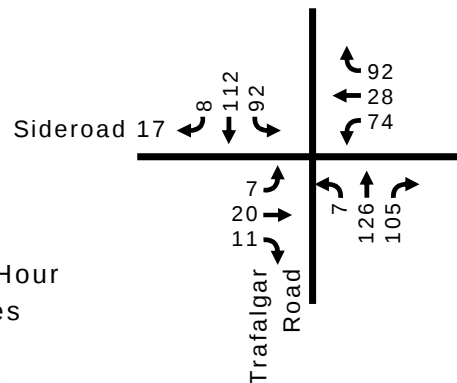
Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

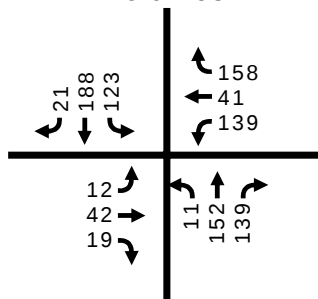
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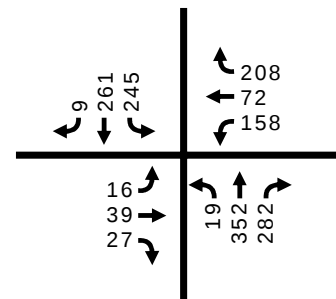
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



Trafalgar Road/Sideroad 17 - (peak hour signal warrant) - FT 2034

Signal Warrant		Description		Minimum Requirement for Two Lane Roadways	Compliance		
				Free Flow - Operating Speed Greater Than or Equal to 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	480	148%	148%	100 % Yes
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	199%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	480	98%	98%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	50	226%		

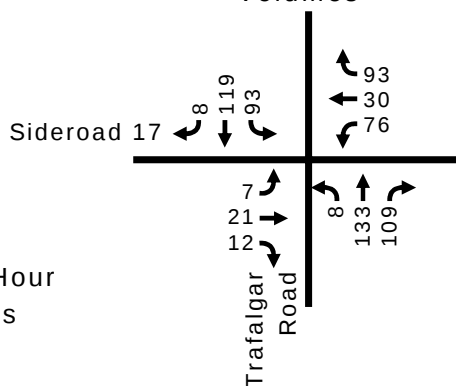
Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

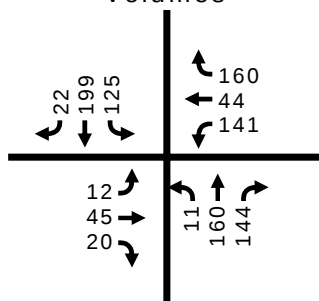
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No

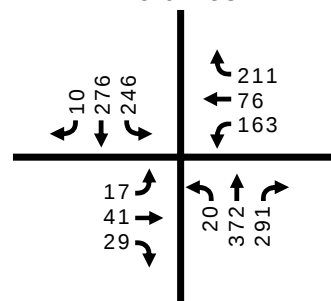
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



Sideroad 17/Mattamy Site Access - (peak hour signal warrant) - FT 2034

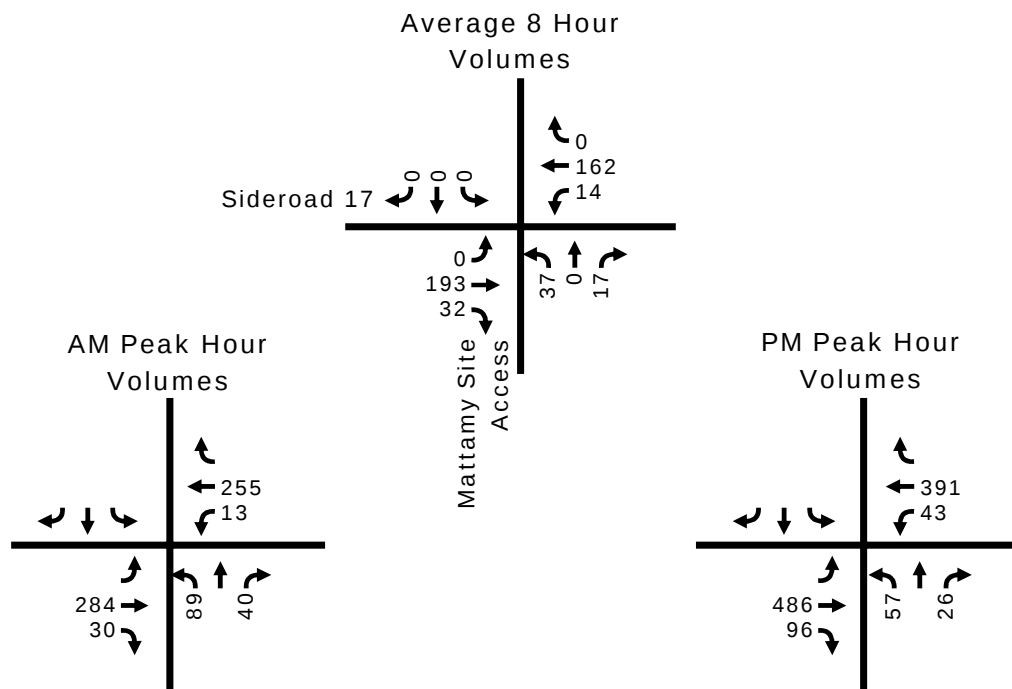
Signal Warrant		Description		Minimum Requirement for Two Lane Roadways	Compliance		
				Restricted Flow - Operating Speed Less Than 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	720	63%	21%	49 % No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	255	21%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	720	56%	49%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	75	49%		

Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

No

Yes



Sideroad 17/8th Line - (peak hour signal warrant) - FT 2034

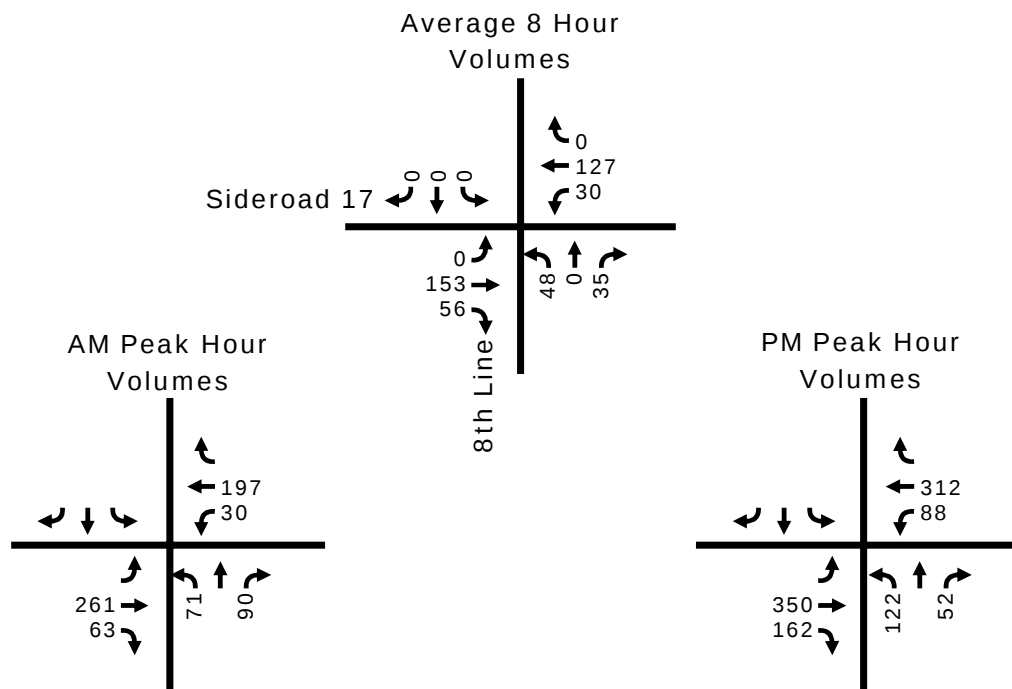
Signal Warrant		Description		Minimum Requirement for Two Lane Roadways	Compliance		
				Restricted Flow - Operating Speed Less Than 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	720	62%	33%	51 % No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	255	33%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	720	51%	51%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	75	64%		

Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

No

Yes



8th Line/Street E - (peak hour signal warrant) - FT 2034

Signal Warrant		Description		Minimum Requirement for Two-Lane Roadways	Compliance		
				Restricted Flow - Operating Speed Less Than 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	720	35%	35%	35 % No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	170	44%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	720	25%	20%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	75	20%		

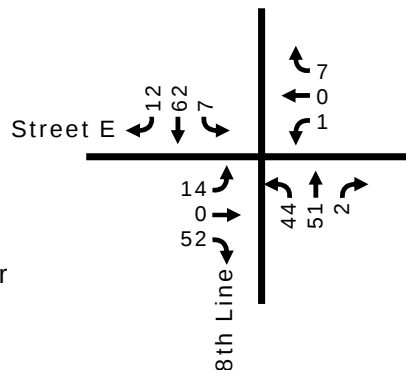
Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

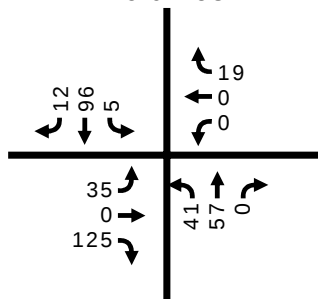
No

No

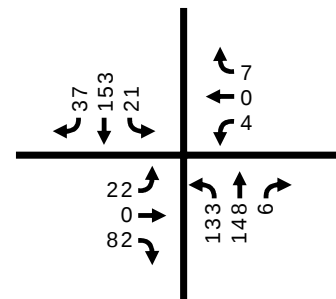
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



8th Line/Dundas Street W - (peak hour signal warrant) - FT 2029

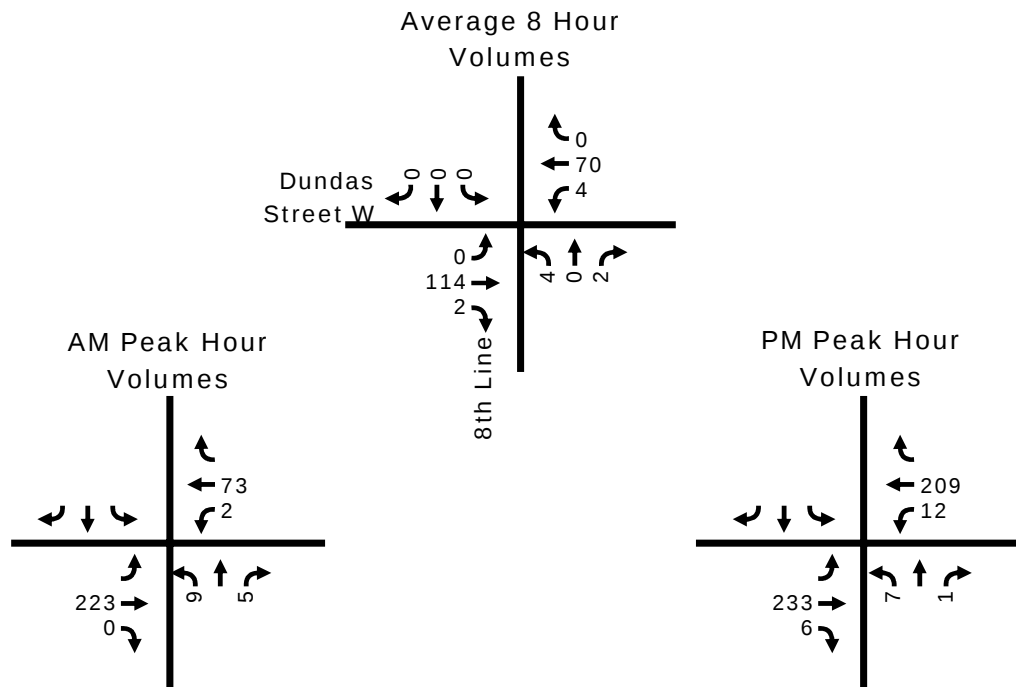
Signal Warrant		Description		Minimum Requirement for Two-Lane Roadways	Compliance		
				Restricted Flow - Operating Speed Less Than 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	720	27%	2%	5 % No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	255	2%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	720	26%	5%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	75	5%		

Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

No

Yes



8th Line / Wellington Road 124 - (peak hour signal warrant) - FT 2034

Signal Warrant		Description		Minimum Requirement for Two-Lane Roadways	Compliance		
				Free Flow - Operating Speed Greater Than or Equal to 70 km/h	Sectional %	Entire %	Warrant
Intersection	1. Minimum Vehicular Volume	(1) A	Vehicle Volume, All Approaches for Each of the Heaviest 8 Hours of on Average Day, and	480	117%	12%	12 % No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	12%		
	2. Delay to Cross Traffic	(1) A	Vehicle Volume, Along Major Street for Each of the Heaviest 8 Hours of an Average Day, and	480	114%	10%	
		(2) B	Combined Vehicle and Pedestrian Volume <u>Crossing</u> the Major Street for Each of the Same 8 Hours	50	10%		

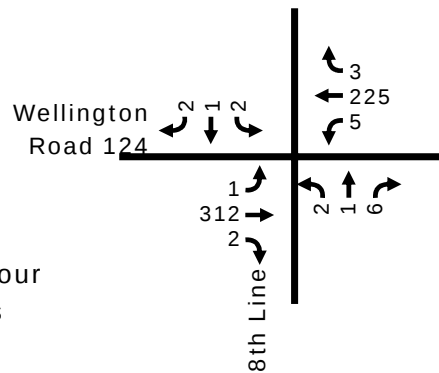
Notes

- 1 Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above
- 2 For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08
- 3 The Lowest Sectional Percentage Governs the Entire Warrant
- 4 For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)

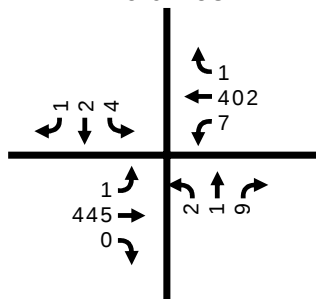
No

No

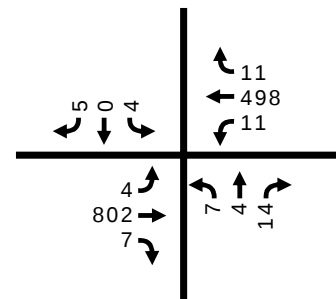
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



APPENDIX I

Synchro Software Output Reports with Mitigative Measures



Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Total AM Traffic
Timing Plan: Modified

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	12	45	141	44	11	160	144	125	199	22
Future Volume (vph)	12	45	141	44	11	160	144	125	199	22
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
Total Split (s)	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	Min
Act Effect Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	0.03	0.10	0.29	0.32	0.03	0.25	0.22	0.31	0.31	0.03
Control Delay	12.6	10.0	15.6	5.6	12.5	14.7	3.7	16.3	15.3	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	10.0	15.6	5.6	12.5	14.7	3.7	16.3	15.3	1.0
LOS	B	A	B	A	B	B	A	B	B	A
Approach Delay		10.4		9.6		9.6			14.8	
Approach LOS		B		A		A			B	
Intersection Summary										
Cycle Length: 85										
Actuated Cycle Length: 63										
Natural Cycle: 65										
Control Type: Actuated-Uncoordinated										
Maximum v/c Ratio: 0.32										
Intersection Signal Delay: 11.3										
Intersection LOS: B										
Intersection Capacity Utilization 78.8%										
ICU Level of Service D										
Analysis Period (min) 15										

Splits and Phases: 6: Trafalgar Rd (24) & Sideroad 17

			
42.5 s	42.5 s	42.5 s	42.5 s
			
42.5 s	42.5 s	42.5 s	42.5 s

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

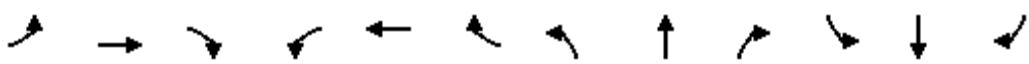
2034 Future Total AM Traffic
Timing Plan: Modified

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	13	68	147	213	11	167	150	130	207	23
v/c Ratio	0.03	0.10	0.29	0.32	0.03	0.25	0.22	0.31	0.31	0.03
Control Delay	12.6	10.0	15.6	5.6	12.5	14.7	3.7	16.3	15.3	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	10.0	15.6	5.6	12.5	14.7	3.7	16.3	15.3	1.0
Queue Length 50th (m)	0.9	3.4	11.5	3.3	0.8	12.9	0.0	10.3	16.4	0.0
Queue Length 95th (m)	3.8	10.0	23.4	15.0	3.4	24.8	9.2	22.0	30.2	1.2
Internal Link Dist (m)	194.8		1266.2			613.3		593.1		
Turn Bay Length (m)	25.0		25.0		25.0		45.0	55.0		35.0
Base Capacity (vph)	667	1027	738	895	603	961	922	609	970	933
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	0.02	0.07	0.20	0.24	0.02	0.17	0.16	0.21	0.21	0.02
Intersection Summary										

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Total AM Traffic

Timing Plan: Modified

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	45	20	141	44	160	11	160	144	125	199	22
Future Volume (vph)	12	45	20	141	44	160	11	160	144	125	199	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		7.5	7.5		7.5	7.5	7.5	7.5	7.5	7.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	1832		1772	1479		1644	1731	1541	1601	1746	1633
Flt Permitted	0.62	1.00		0.71	1.00		0.63	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	1200	1832		1329	1479		1087	1731	1541	1098	1746	1633
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	12	47	21	147	46	167	11	167	150	130	207	23
RTOR Reduction (vph)	0	13	0	0	103	0	0	0	93	0	0	14
Lane Group Flow (vph)	13	55	0	147	110	0	11	167	57	130	207	9
Heavy Vehicles (%)	0%	0%	0%	3%	6%	17%	11%	11%	6%	14%	10%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	24.0	24.0		24.0	24.0		24.0	24.0	24.0	24.0	24.0	24.0
Effective Green, g (s)	24.0	24.0		24.0	24.0		24.0	24.0	24.0	24.0	24.0	24.0
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	7.5	7.5		7.5	7.5		7.5	7.5	7.5	7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	457	697		506	563		414	659	587	418	665	622
v/s Ratio Prot		0.03			0.07			0.10			c0.12	
v/s Ratio Perm	0.01			c0.11			0.01		0.04	0.12		0.01
v/c Ratio	0.03	0.08		0.29	0.19		0.03	0.25	0.10	0.31	0.31	0.01
Uniform Delay, d1	12.2	12.4		13.6	13.0		12.2	13.4	12.5	13.7	13.7	12.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0		0.3	0.2		0.0	0.2	0.1	0.4	0.3	0.0
Delay (s)	12.2	12.5		13.9	13.2		12.2	13.6	12.6	14.1	14.0	12.1
Level of Service	B	B		B	B		B	B	B	B	B	B
Approach Delay (s)		12.5			13.5			13.1			13.9	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.4			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			63.0			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			78.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Total PM Traffic
Timing Plan: Modified

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	17	41	163	76	20	372	291	246	276	10
Future Volume (vph)	17	41	163	76	20	372	291	246	276	10
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Minimum Split (s)	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
Total Split (s)	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	24.1	24.1	24.1	24.1	29.2	29.2	29.2	29.2	29.2	29.2
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.43	0.43	0.43	0.43	0.43	0.43
v/c Ratio	0.05	0.11	0.36	0.45	0.04	0.51	0.37	0.71	0.38	0.02
Control Delay	17.5	11.7	20.7	9.2	11.1	16.7	3.0	28.4	14.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	11.7	20.7	9.2	11.1	16.7	3.0	28.4	14.8	0.0
LOS	B	B	C	A	B	B	A	C	B	A
Approach Delay		12.9		13.4		10.7			20.8	
Approach LOS		B		B		B			C	

Intersection Summary

Cycle Length: 85

Actuated Cycle Length: 68.4

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 14.5

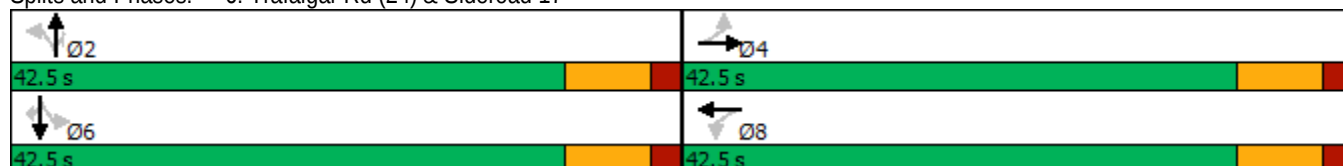
Intersection LOS: B

Intersection Capacity Utilization 78.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd (24) & Sideroad 17



Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Total PM Traffic
Timing Plan: Modified

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	18	74	172	302	21	392	306	259	291	11
v/c Ratio	0.05	0.11	0.36	0.45	0.04	0.51	0.37	0.71	0.38	0.02
Control Delay	17.5	11.7	20.7	9.2	11.1	16.7	3.0	28.4	14.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	11.7	20.7	9.2	11.1	16.7	3.0	28.4	14.8	0.0
Queue Length 50th (m)	1.5	3.6	15.9	8.8	1.5	34.9	0.0	26.0	24.2	0.0
Queue Length 95th (m)	5.9	12.5	34.5	29.3	5.0	56.2	11.6	52.7	40.4	0.0
Internal Link Dist (m)	194.8		1266.2			613.3			593.1	
Turn Bay Length (m)	25.0		25.0		25.0		45.0	55.0		35.0
Base Capacity (vph)	500	940	688	895	573	931	926	437	922	867
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	0.04	0.08	0.25	0.34	0.04	0.42	0.33	0.59	0.32	0.01
Intersection Summary										

Erin Residential Development TIS
6: Trafalgar Rd (24) & Sideroad 17

2034 Future Total PM Traffic

Timing Plan: Modified

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	41	29	163	76	211	20	372	291	246	276	10
Future Volume (vph)	17	41	29	163	76	211	20	372	291	246	276	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	7.5		7.5	7.5		7.5	7.5	7.5	7.5	7.5	7.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1706	1800		1798	1553		1825	1812	1512	1722	1795	1633
Flt Permitted	0.54	1.00		0.71	1.00		0.58	1.00	1.00	0.47	1.00	1.00
Satd. Flow (perm)	974	1800		1341	1553		1116	1812	1512	850	1795	1633
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	18	43	31	172	80	222	21	392	306	259	291	11
RTOR Reduction (vph)	0	20	0	0	129	0	0	0	175	0	0	6
Lane Group Flow (vph)	18	54	0	172	173	0	21	392	131	259	291	5
Confl. Peds. (#/hr)	3											
Heavy Vehicles (%)	7%	0%	0%	1%	2%	13%	0%	6%	8%	6%	7%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	24.1	24.1		24.1	24.1		29.2	29.2	29.2	29.2	29.2	29.2
Effective Green, g (s)	24.1	24.1		24.1	24.1		29.2	29.2	29.2	29.2	29.2	29.2
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	7.5	7.5		7.5	7.5		7.5	7.5	7.5	7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	343	635		473	547		477	774	646	363	767	698
v/s Ratio Prot		0.03			0.11			0.22			0.16	
v/s Ratio Perm	0.02			c0.13			0.02		0.09	c0.30		0.00
v/c Ratio	0.05	0.08		0.36	0.32		0.04	0.51	0.20	0.71	0.38	0.01
Uniform Delay, d1	14.6	14.7		16.4	16.1		11.4	14.3	12.3	16.1	13.4	11.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1		0.5	0.3		0.0	0.5	0.2	6.5	0.3	0.0
Delay (s)	14.6	14.8		16.9	16.4		11.4	14.8	12.4	22.6	13.7	11.2
Level of Service	B	B		B	B		B	B	B	C	B	B
Approach Delay (s)		14.8			16.6			13.7			17.8	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay	15.7			HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio	0.55											
Actuated Cycle Length (s)	68.3			Sum of lost time (s)						15.0		
Intersection Capacity Utilization	78.8%			ICU Level of Service						D		
Analysis Period (min)	15											
c Critical Lane Group												