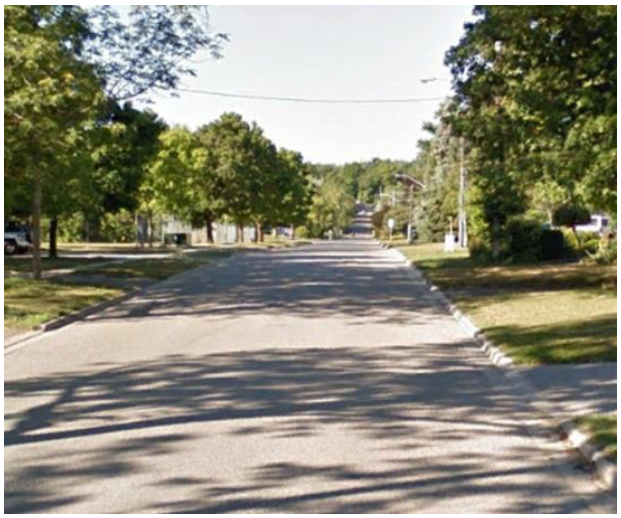

Empire Erin Eighth Line Residential Subdivision Development

Traffic Impact Study

Revised Final

October 5, 2023

Prepared for:

EC (Erin) GP Inc.

Empire Erin Eighth Line Residential Subdivision Development

Traffic Impact Study

Revised Final

EC (Erin) GP Inc.

RVA 216024

October 5, 2023

EMPIRE ERIN EIGHTH LINE RESIDENTIAL SUBDIVISION DEVELOPMENT TRAFFIC IMPACT STUDY

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EXECUTIVE SUMMARY

R.V. Anderson Associates Limited (RVA) was retained by EC (Erin) GP Inc. to complete a Traffic Impact Study (TIS) for the proposed residential subdivision development located at the existing Erin Heights Golf Course lands in the Town of Erin. The development is planned to include 93 single family detached units and 213 single family attached units, with vehicular access to the development via two new local road intersections along Eighth Line. It has been assumed that the proposed development will be constructed in a single phase, with an anticipated build-out year of 2024.

The proposed development is projected to generate approximately 175 total two-way trips during the weekday a.m. peak hour (49 inbound and 131 outbound), and 217 total two-way trips during the weekday p.m. peak hour (132 inbound and 85 outbound).

As per the results of the intersection operational analysis, study area intersections are projected to continue operating similar to existing conditions with an overall LOS 'B' or better during weekday morning and afternoon peak hours, with the exception of the Trafalgar Road and Sideroad 17 intersection which is projected to operate near capacity under the 2029 future background scenario with an overall LOS 'E' in the afternoon peak hour. In terms of critical movements, the westbound movement at the Trafalgar/Sideroad 17 intersection is projected to operate over capacity under the 2024 future background scenario with an LOS 'F' and a v/c of 1.36 in the afternoon peak hour. Assuming no mitigation measures are implemented by the 2029 future total horizon year, the westbound movement is projected to operate well over capacity with a LOS 'F' a v/c of 3.34 and infinitely long 95th percentile queues due to vehicles being unable to find a sufficient gap in traffic to turn onto Trafalgar Road.

Additional auxiliary left-turn lanes are warranted at the intersection of Trafalgar Road and Sideroad 17 and Eighth Line/Sideroad 17 under the 2024 future background scenario as a result of background traffic growth and other area developments. Traffic signal control is also warranted at the Trafalgar Road and Sideroad 17 under the 2024 future background scenario.

The necessary road modifications needed at the existing study area intersections are not a direct result of the subject development site-generated traffic but rather background traffic growth and other area developments.

1.0 Introduction

1.1 Study Objective

R.V. Anderson Associates Limited (RVA) was retained by EC (Erin) GP Inc. to complete a Traffic Impact Study (TIS) for the proposed residential subdivision development, located at the existing Erin Heights Golf Course lands 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 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 the existing Erin Heights Golf Course on the east side of Eighth Line Road between Sideroad 17 and Dundas Street West. Vehicular access to the property will be provided by two new local road intersections along Eighth Line (referred to as Street “A” and Street “B”).

The development is located west of “downtown” Erin. Immediately south of the development is an existing subdivision with frontage on both Eighth Line and Dundas Street West, with access from both fronting roads via Erin Heights Drive. West of the development is currently a mix of rural residential properties and farmland. The lands fronting the west 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 east and north 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 (N) (Street B)
- Eighth Line & Access Road (S) (Street A)
- 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 and Dundas Street West intersection. South of Dundas Street West, Eighth Line transitions into a gravel road with notable curves in its horizonal 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 m 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 or 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/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.

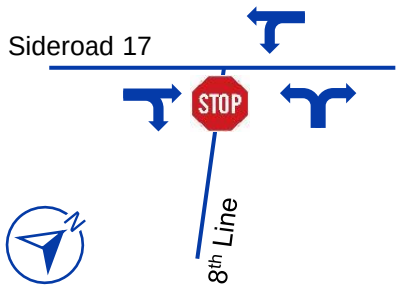
Shamrock Road (WR 23) is a two-lane north-south arterial roadway under the jurisdiction of the County of Wellington, with an assumed speed limit of 50 km/h. Shamrock Road is approximately 200 m long and extends between Wellington Road 23 in the north and Main Street in the south. Shamrock road is flat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

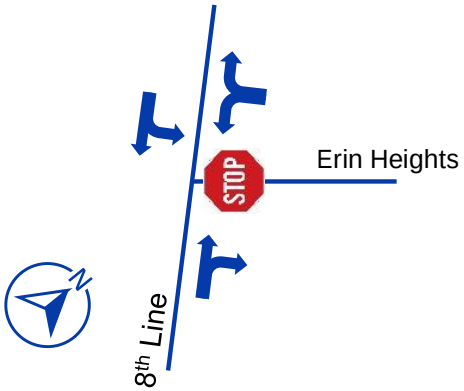
All movements are permitted at this location.



Eighth Line & Erin Heights

The Eighth Line and 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.

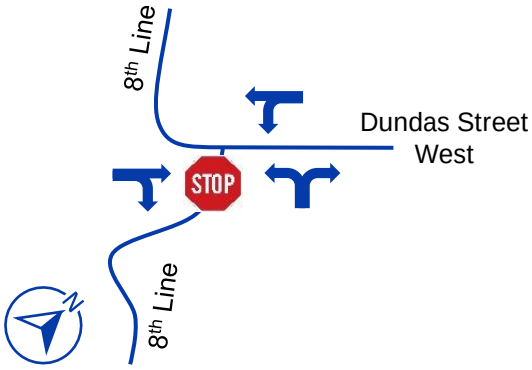
All movements are permitted at this location.



Eighth Line & Dundas Street West

The Eighth Line and 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.

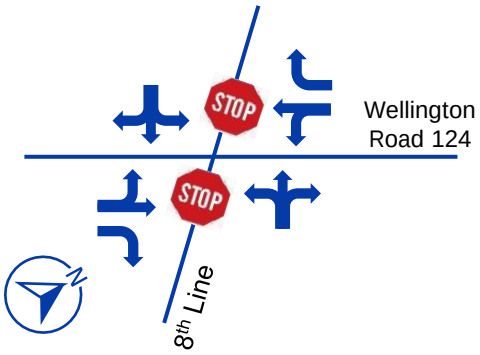
All movements are permitted at this location.



Eighth Line and Wellington Road 124

The Eighth Line and 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.

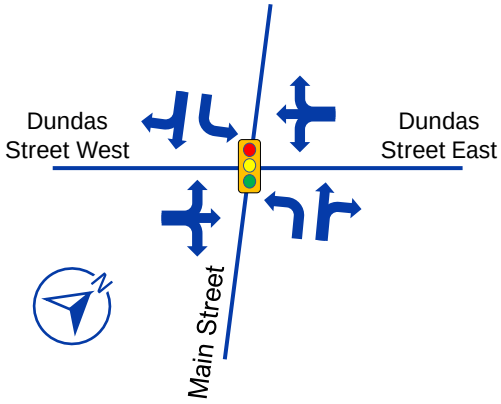
All movements are permitted at this location.



Dundas Street West and Main Street

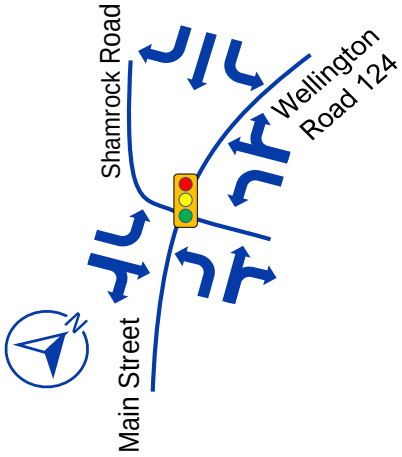
The Dundas Street West and Main Street intersection is a signalized four-legged intersection. The northeast and southwest approaches (Dundas Street East/West) each consist of a single shared lane that accommodates all possible movements. The northwest and southeast approaches (Main Street) each consist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

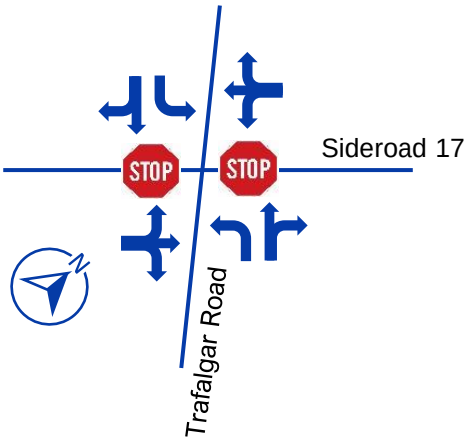
The Shamrock and Main Street intersection is a signalized four-legged intersection. The north approach (Main Street) consists of one left-turn lane and one shared through/right-turn lane. The south approach (Wellington Road 124) consists of one left-turn lane, one through lane and one right-turn lane.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

The Sideroad 17 and Trafalgar intersection in 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 ™ pilot program. Ride Well ™ 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 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 t0 5:00 PM, respectively. The following **Figure 2-1** depicts the assumed weekday morning and afternoon peak hour vehicular volumes.

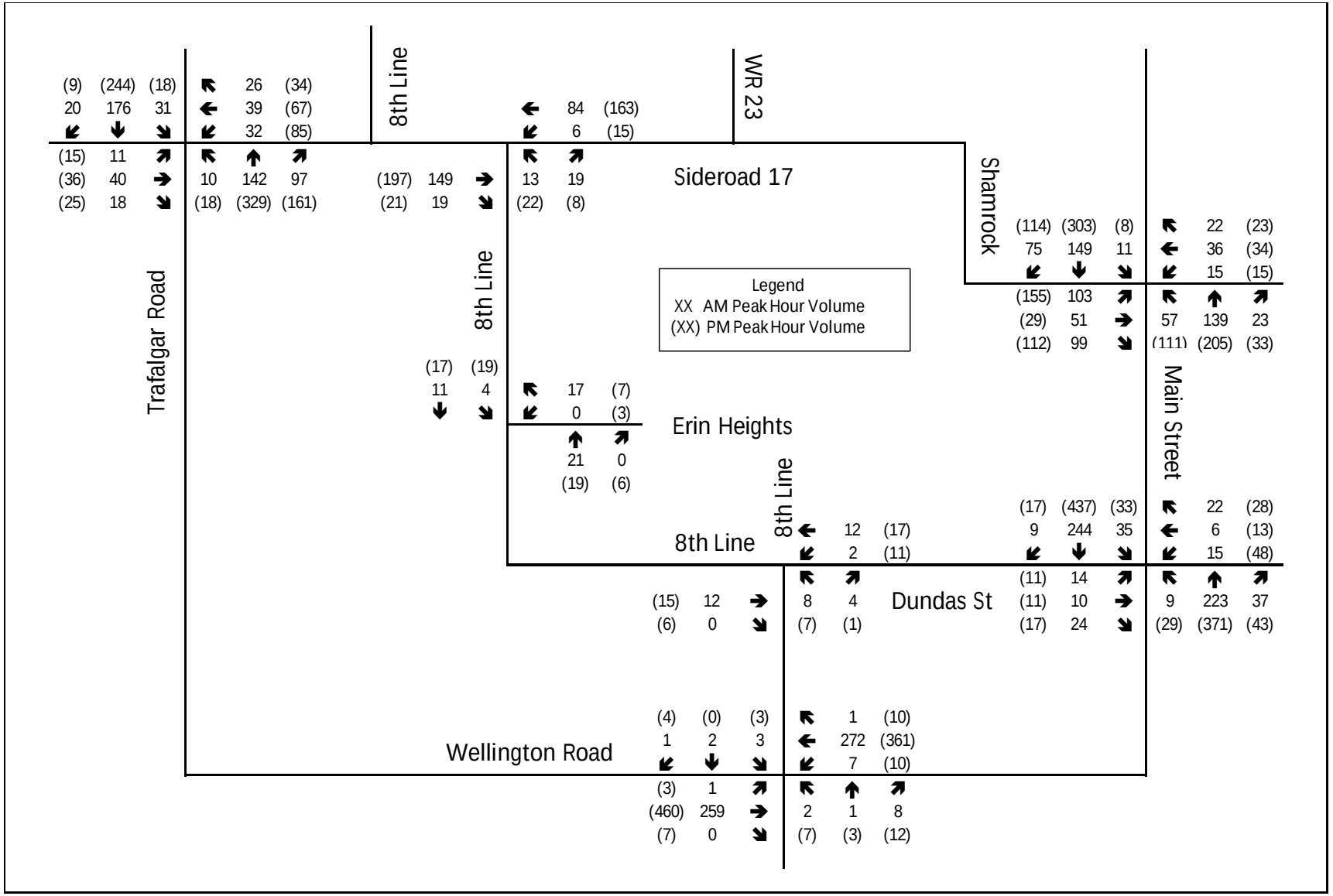


Figure 2-1 – 2022 Existing Traffic Volumes

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

3.2 Future Background Developments

3.2.1 5552 and 5520 Eighth Line

The proposed residential subdivision is located on the west side of Eighth Line directly across from the subject development site. The development is planned to consist of approximately 409 single family detached homes and 121 townhomes, with two proposed local road connections. One connection will be to Sideroad 17 approximately 300 metres west of Eighth Line and the second connection will form the fourth leg of the existing Erin Heights/Eighth Line intersection. 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** 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)	409	AM	286	25%	75%	72	214
		PM	373	63%	37%	235	138
215 (Attached Single Family)	121	AM	57	25%	75%	14	43
		PM	69	59%	41%	41	28

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** 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 – Trip Distribution

Direction	Distribution Percentages
Highway 52 (South)	38%
Wellington Road 124 (N/E)	20%
Trafalgar Road (North)	6%
Trafalgar Road (South)	30%
Highway 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. At 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 m^2 of commercial space and 65,204 m^2 of industrial space. RVA was provided with a 2022 TIS Adduendum for the revised phasing analysis which included future projected site trips and their distribution throughout study area intersections. Based on 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.

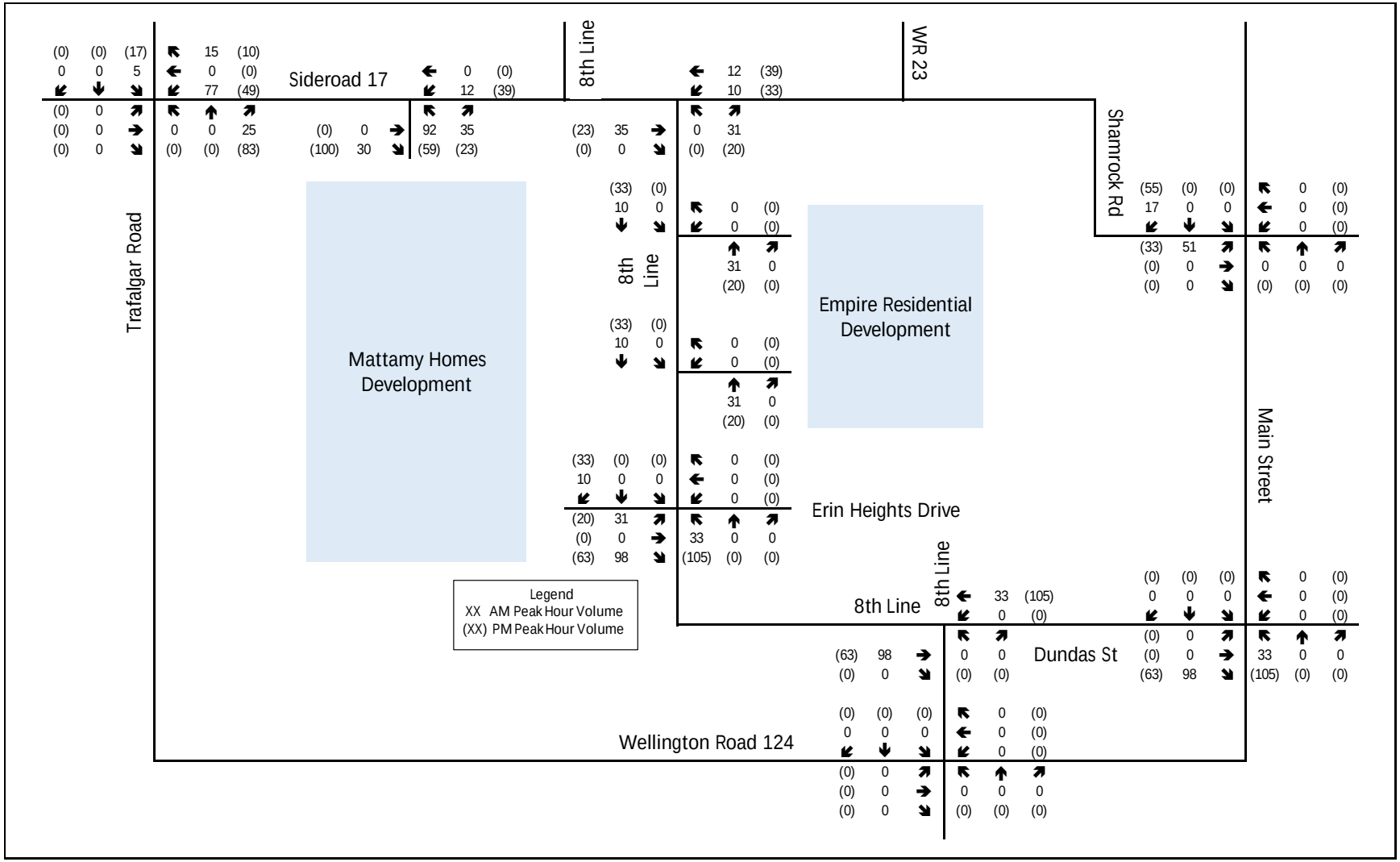


Figure 3-1 – 5552 and 5520 8th Site Generated Trips

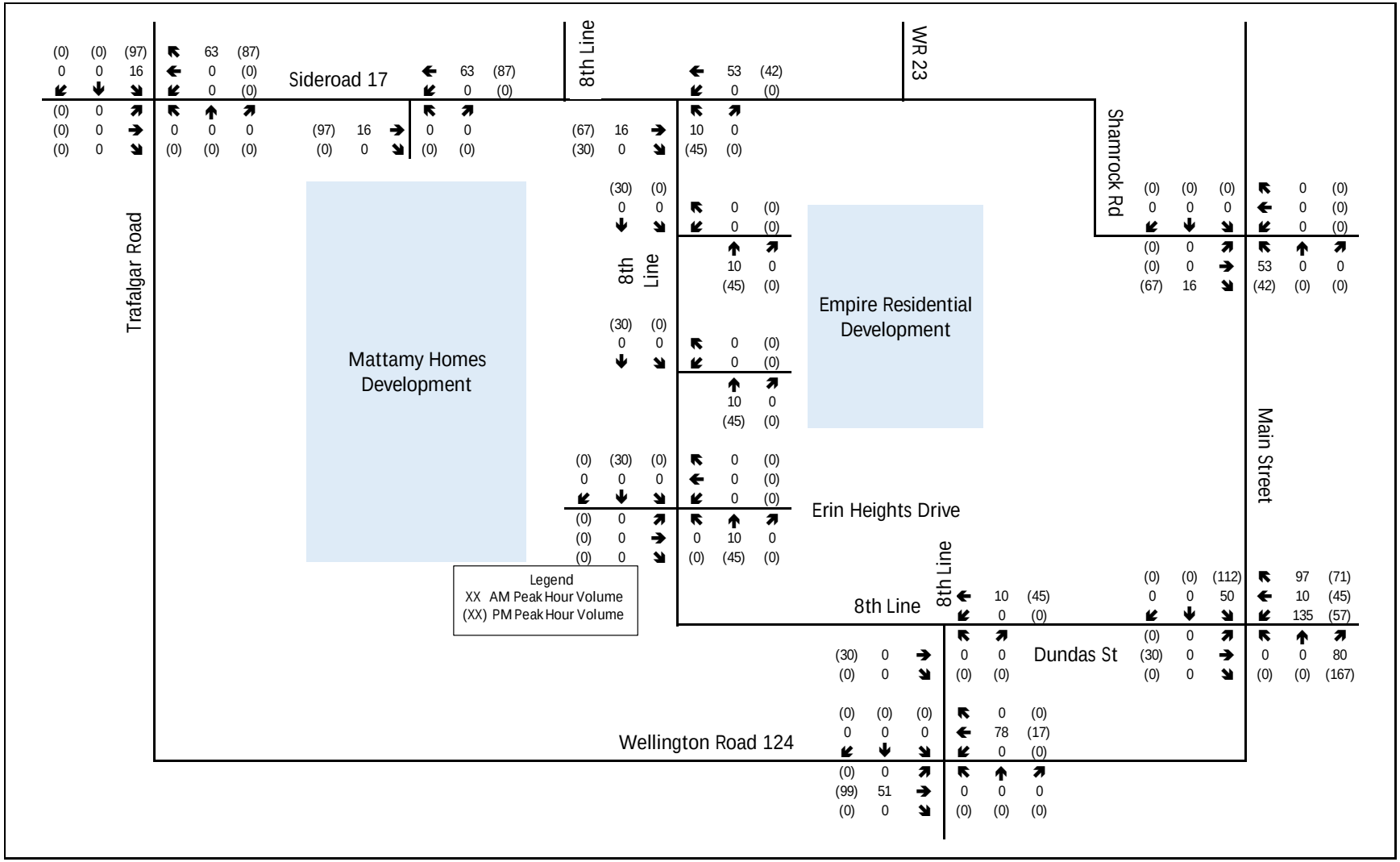


Figure 3-2 – Solmar Development Total Site Generated Trips 2024

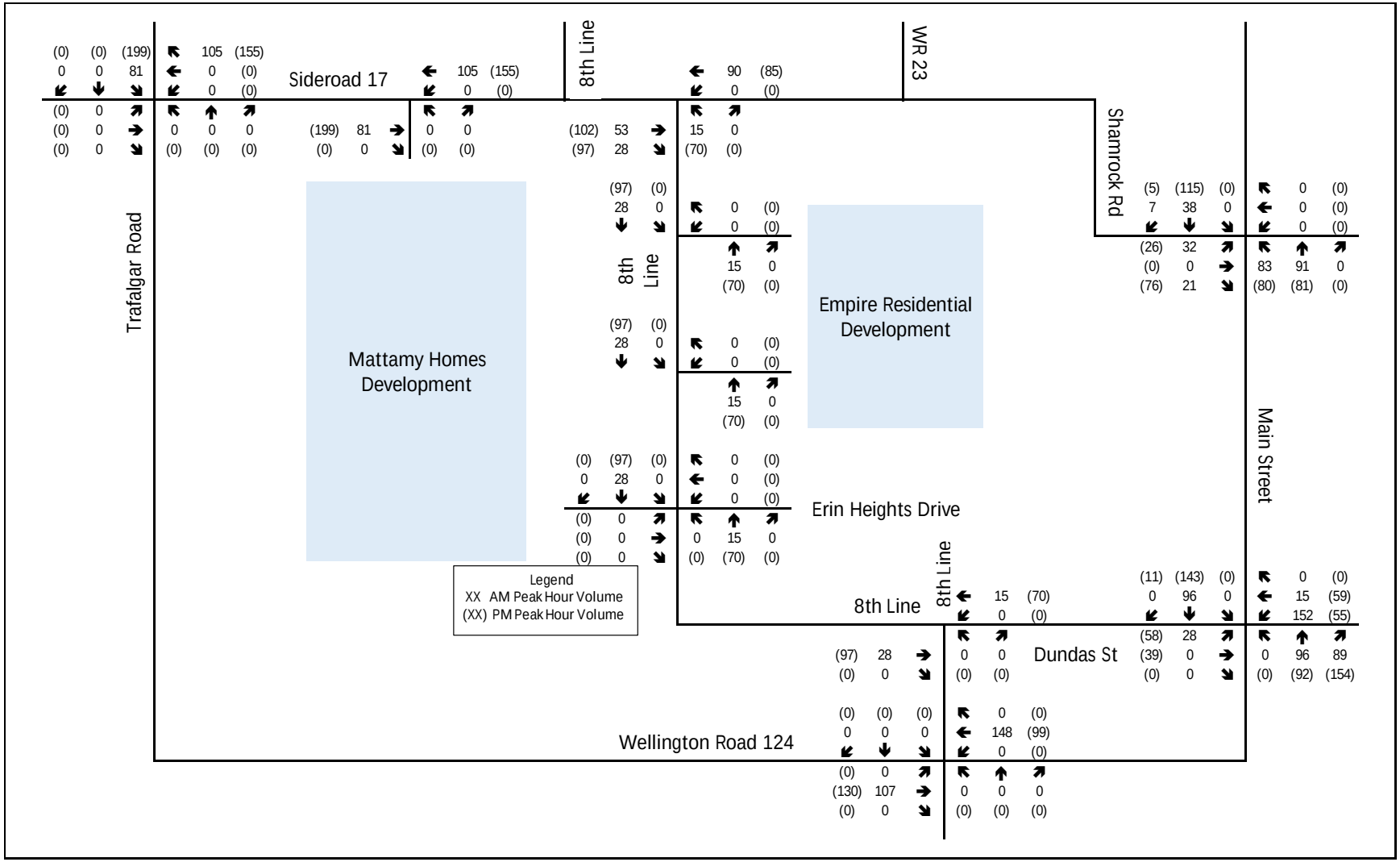


Figure 3-3 – Solmar Development Total Site Generated Trips 2026

3.3 Future Background Growth

As per consultation with the Town and county staff, a 1% per annum traffic growth rate has been applied to all movements for the future background 2024 and 2029 horizon years. The estimated 2024 and 2029 corridor growth volumes are shown in **Figure 3-4** and **Figure 3-5**, respectively.

3.4 Future Background Traffic Volumes

The following **Figure 3-6** and **Figure 3-7** depict future background traffic volumes for the horizon years 2024 and 2029, 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** – *5552 and 5520 8th Site Generated Trips* and **Figure 3-2** – *Salmor Development Site Generated Trips 2024* and **Figure 3-4** – *2024 Future Background Growth*, resulting in **Figure 3-6** – *2024 Future Background Traffic Volumes).*

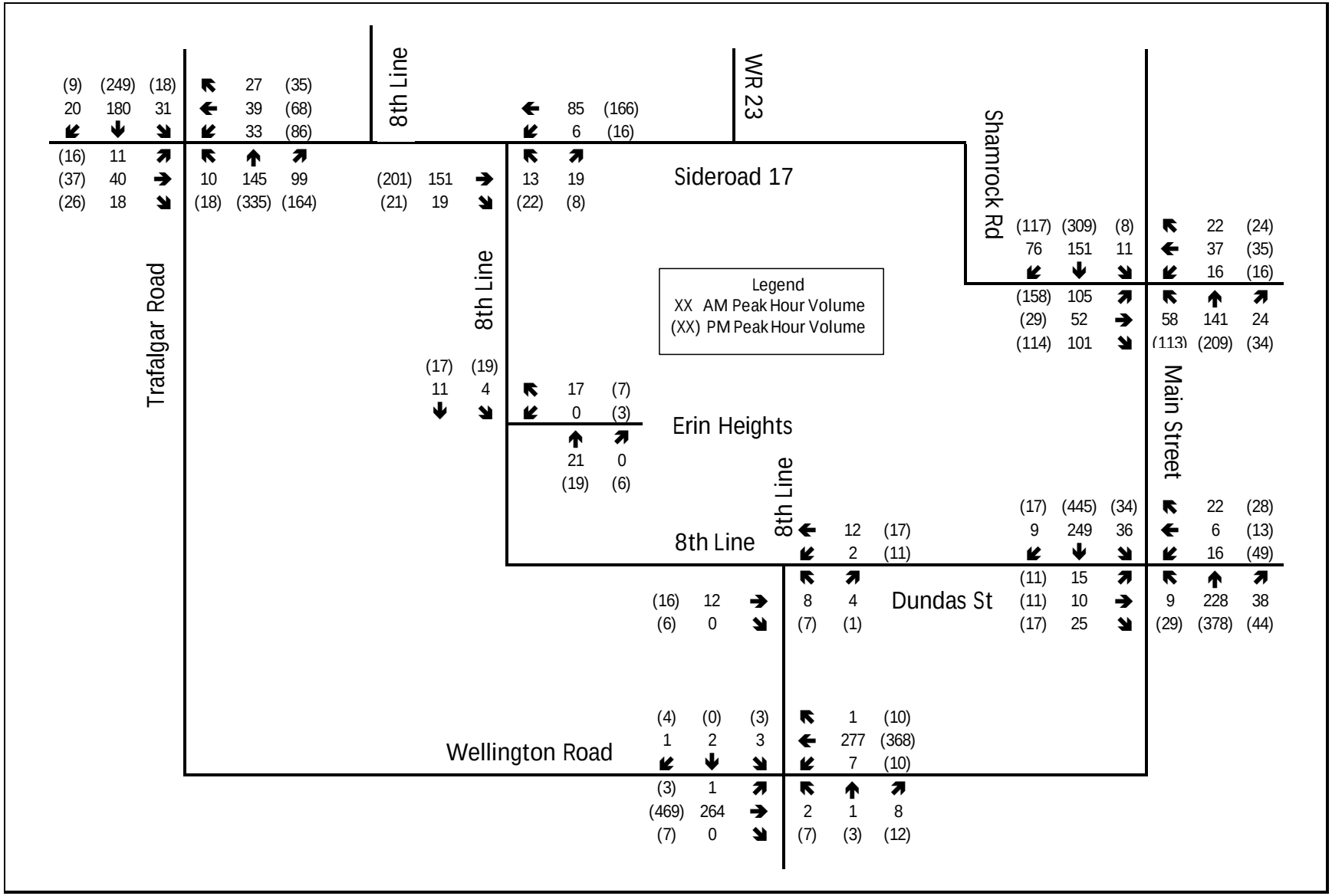


Figure 3-4 – 2024 Future Background Growth

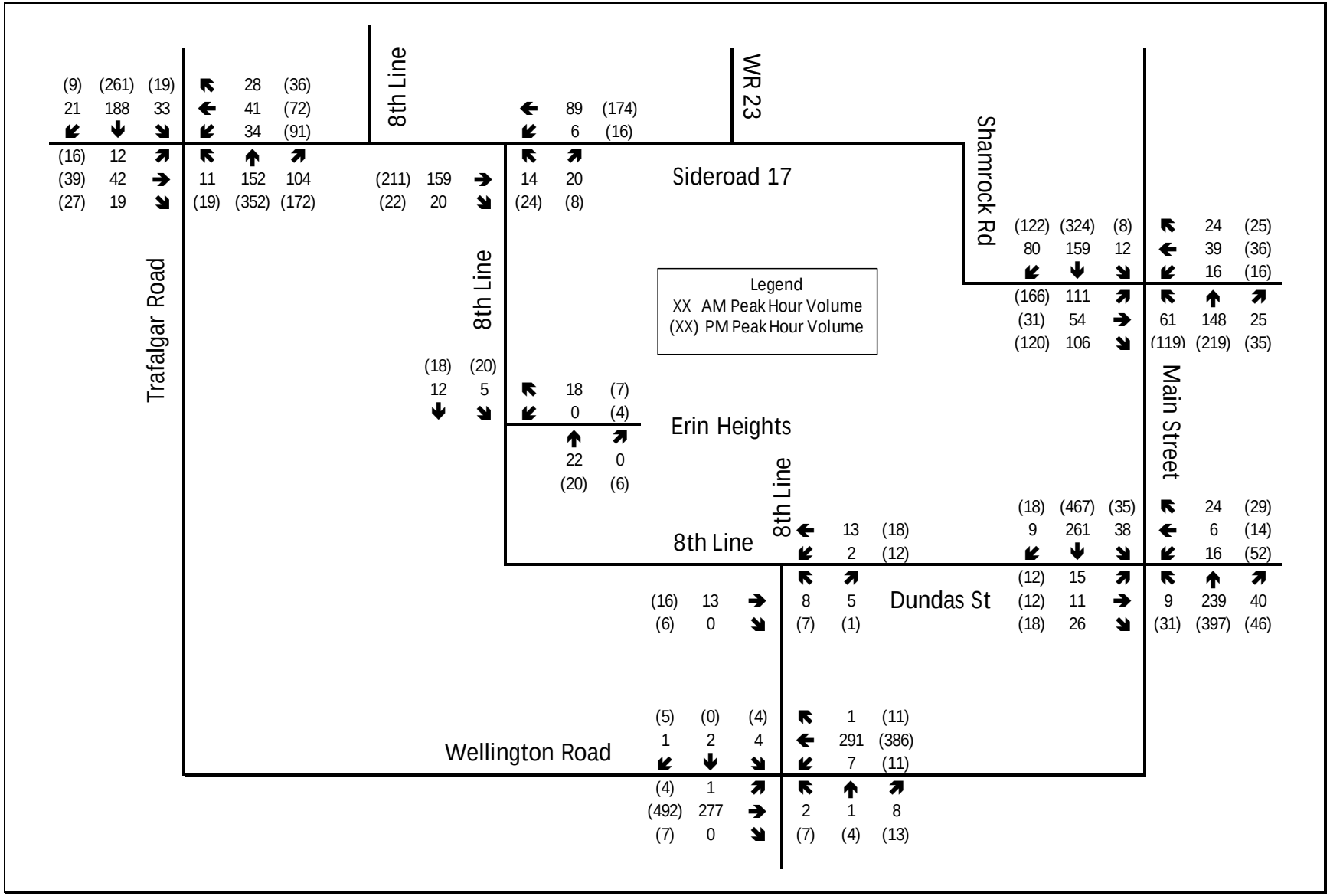


Figure 3-5 – 2029 Future Background Growth

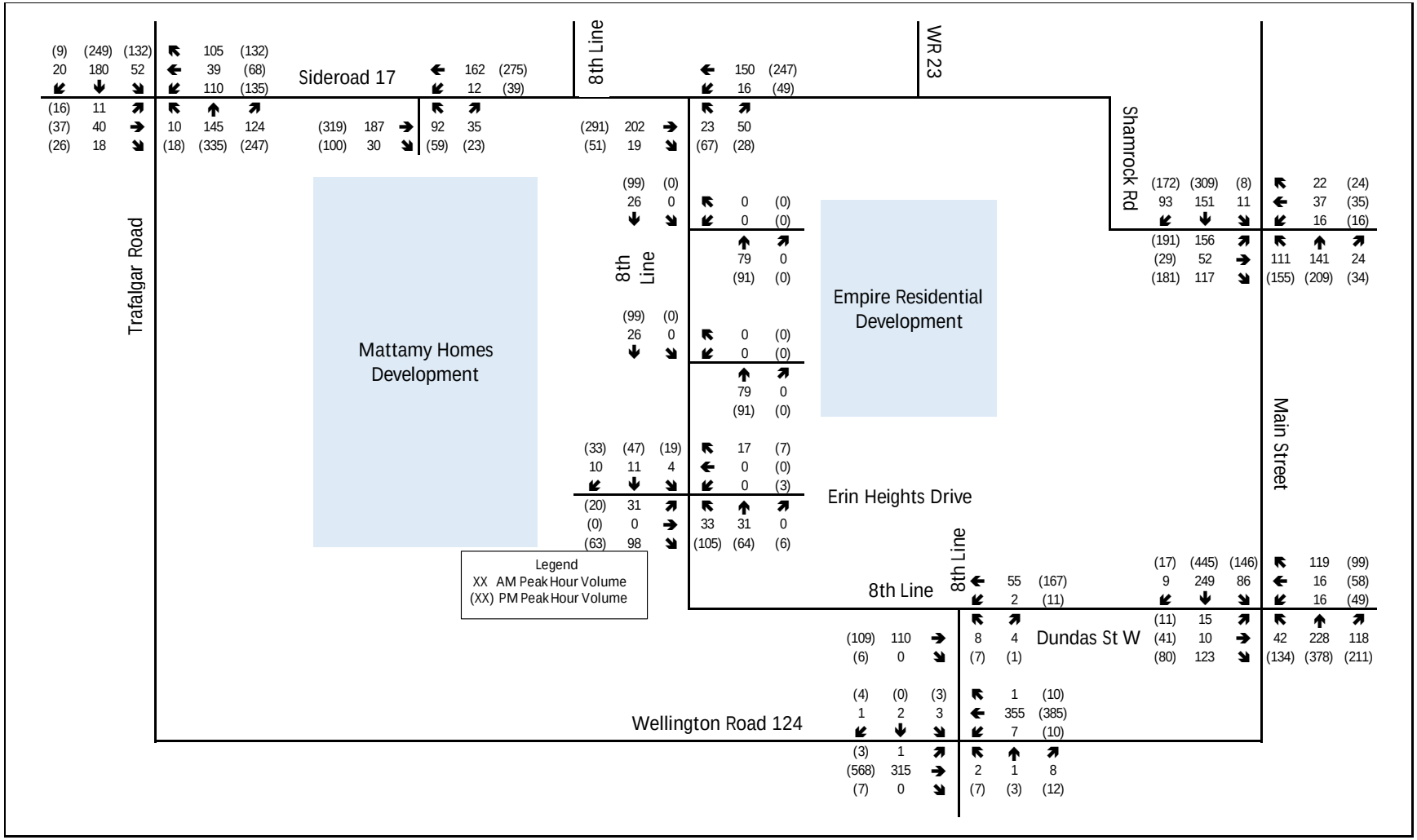


Figure 3-6 – 2024 Future Background Traffic Volumes

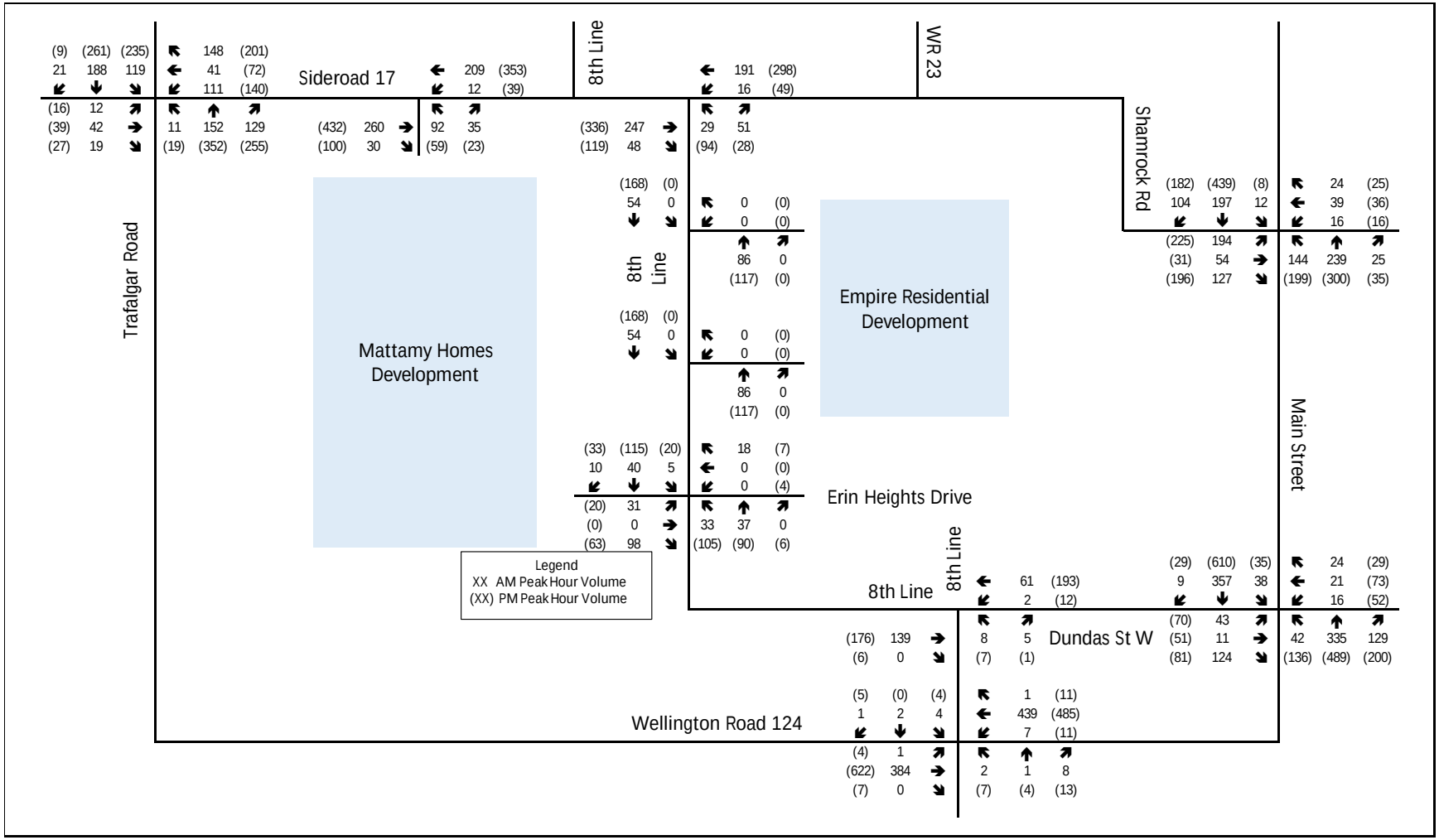


Figure 3-7 – 2029 Future Background Traffic Volumes

4.0 Proposed Development

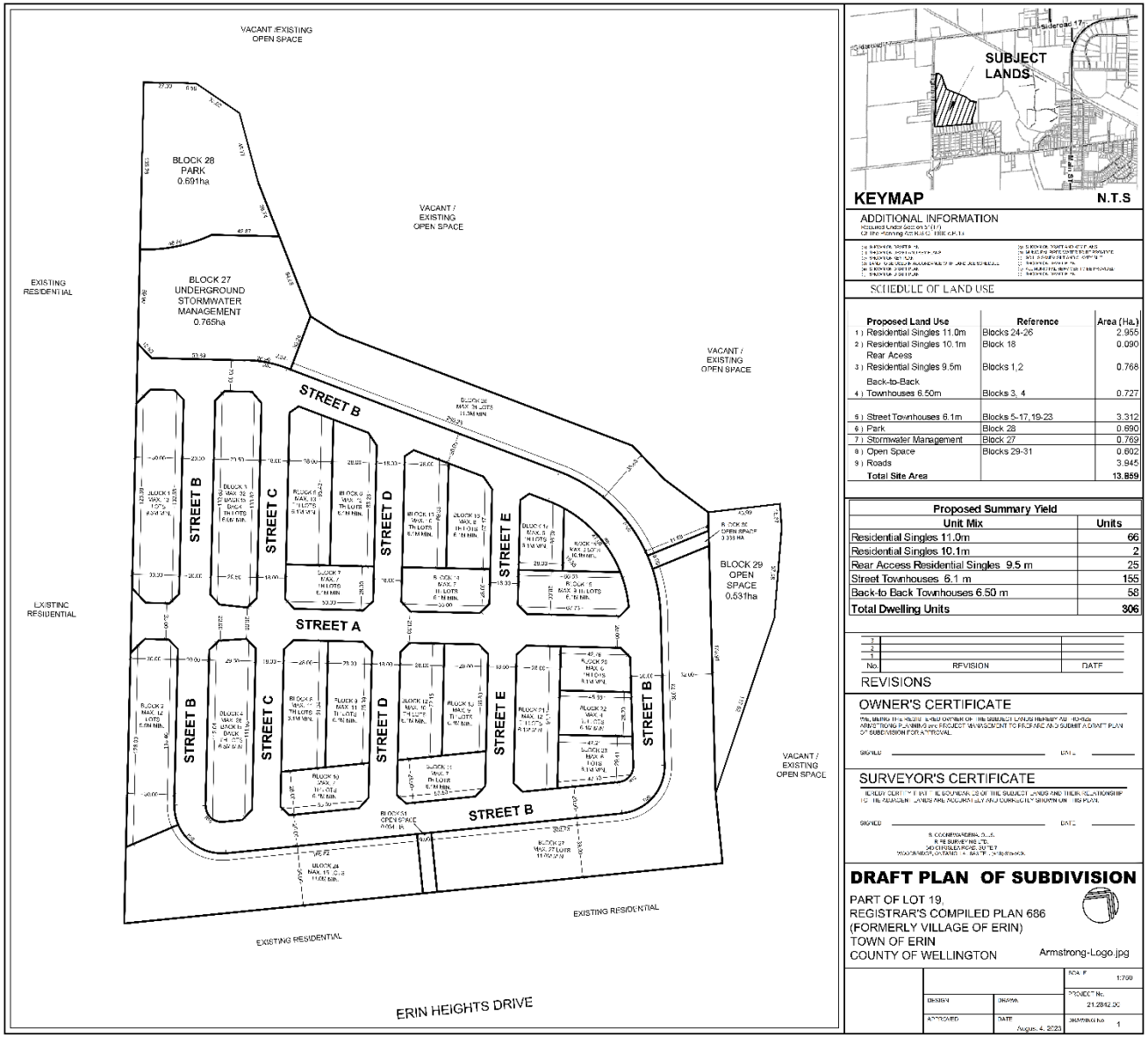
4.1 Draft Plan of Subdivision

The latest Draft Plan of Subdivision indicates that the proposed development will include approximately 93 single family detached dwelling units and 213 single family attached dwelling units. The subject development can be accessed via the new proposed local roadways, which will both connect to Eighth Line. Both intersections are currently planned as unsignalized T-intersections with STOP control on the minor approach only (Street “A” and Street “B”). The plan also indicates a proposed park at the northern extent of the site. The following **Figure 4-1** Depicts the developments Draft Plan of Subdivision.

Street “A” and Street “B” are 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). Sidewalks will be provided along both sides of the roadway on all roads that have a 20-metre cross section and roadways with an 18-metre cross section will have sidewalks on one side of the roadway only. Pedestrian connections are provided to all on-site/off-site public amenities.

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. The spacing between the existing and proposed intersections along Eighth Line also comply with the TAC minimum requirements for intersection spacing along a collector roadway with a minimum separation of 60 metres. Sideroad 17 and Street “A” are approximately 556 metres and Steet “B” and Erin Heights Drive are approximately 263 metres apart. The separation between Street “A” and Street “B” is 157 metres.

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. The intersection control and lane configurations are appropriate from an operational perspective, as confirmed in the capacity analysis results presented in Section 6.



Proposed Land Use	Reference	Area (Ha.)
1) Residential Singles 11.0m	Blocks 24-26	2.955
2) Residential Singles 10.1m Rear Access	Block 18	0.090
3) Residential Singles 9.5m Back-to-Back	Blocks 1,2	0.768
4) Townhouses 6.50m	Blocks 3, 4	0.727
5) Street Townhouses 6.1m	Blocks 5-17,19-23	3.312
6) Park	Block 28	0.690
7) Stormwater Management	Block 27	0.769
8) Open Space	Blocks 29-31	0.602
9) Roads		3.945
Total Site Area		**13.859**

Proposed Summary Yield	
Unit Mix	**Units**
Residential Singles 11.0m	66
Residential Singles 10.1m	2
Rear Access Residential Singles 9.5 m	25
Street Townhouses 6.1 m	155
Back-to Back Townhouses 6.50 m	58
Total Dwelling Units	**306**

No.	REVISION	DATE
3		
2		
1		

REVISIONS

OWNER'S CERTIFICATE

SIGNED _____ DATE _____

SURVEYOR'S CERTIFICATE

SIGNED _____ DATE _____

DRAFT PLAN OF SUBDIVISION

PART OF LOT 19,
REGISTRAR'S COMPILED PLAN 686
(FORMERLY VILLAGE OF ERIN)
TOWN OF ERIN
COUNTY OF WELLINGTON

Armstrong-Logo.jpg

		SCALE 1:700
DESIGN	DRAWN	PROJECT No. 21.2842.00
APPROVED	DATE August, 4, 2023	DRAWING No. 1

Figure 4-1 – Draft Plan of Subdivision

4.2 Trip Generation

As previously described, the latest site plan depicts that the proposed development will consist of approximately 93 single family detached dwellings and 213 single family attached dwellings. 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	$Ln(T) = 0.91Ln(X) + 0.12$	$T_A = 0.94(X)$
Single-Family Attached Housing	ITE 215 General Urban/Suburban Vehicle Trips	$T_F = 0.52(X) – 5.70$	$T_F = 0.60(X) – 3.93$

Notes: T_A *= Average Vehicle Trips*
T_F *= Vehicle Trips by Fitted Curve*
X = Per 1000 ft²

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)	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
				Total	AM	44	131
					PM	132	85

As presented in **Table 4-2**, the proposed residential development is projected to generate an approximate two-way total of 175 veh/h and 217 veh/h during weekday morning and afternoon peak hours, respectively.

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 – Trip Distribution

Direction	Distribution Percentages
Wellington Road 124 (S/W)	38%
Wellington Road 124 (N/E)	20%
Trafalgar Road (North)	6%
Trafalgar Road (South)	30%
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**.

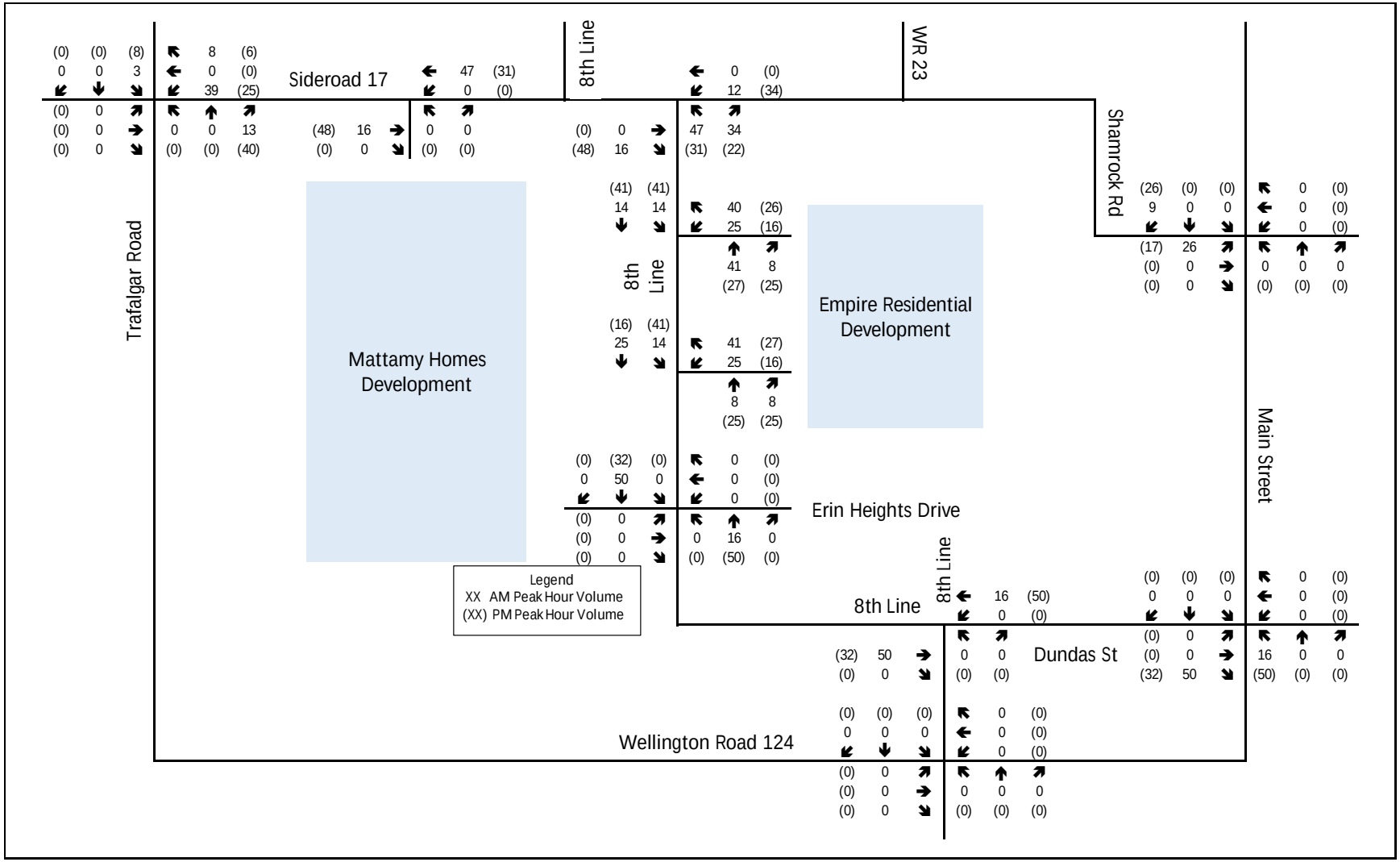


Figure 4-2 – Future Site Generated Traffic Volumes

5.0 Future Total Traffic

5.1 Future Total Traffic Volumes

The following **Figure 5-1** and **Figure 5-2** depict future total traffic volumes for the horizon years 2024 and 2029, 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 3-6** – *2024 Future Background Traffic Volumes and* **Figure 4-2** – *Future Site Generated Traffic Volumes,* resulting in **Figure 5-1** – *2024 Future Total Traffic Volumes).*

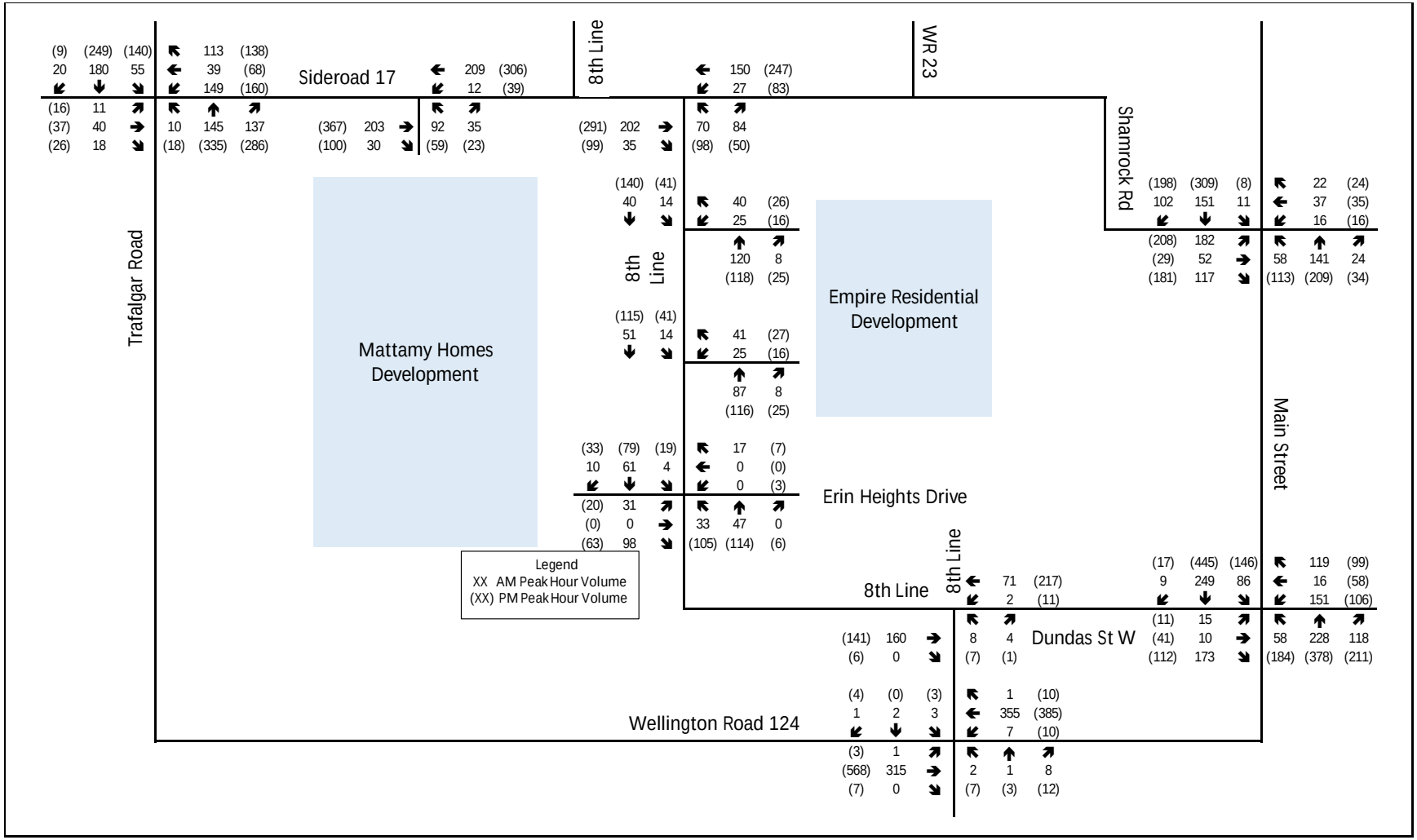


Figure 5-1 – 2024 Future Total Traffic Volumes

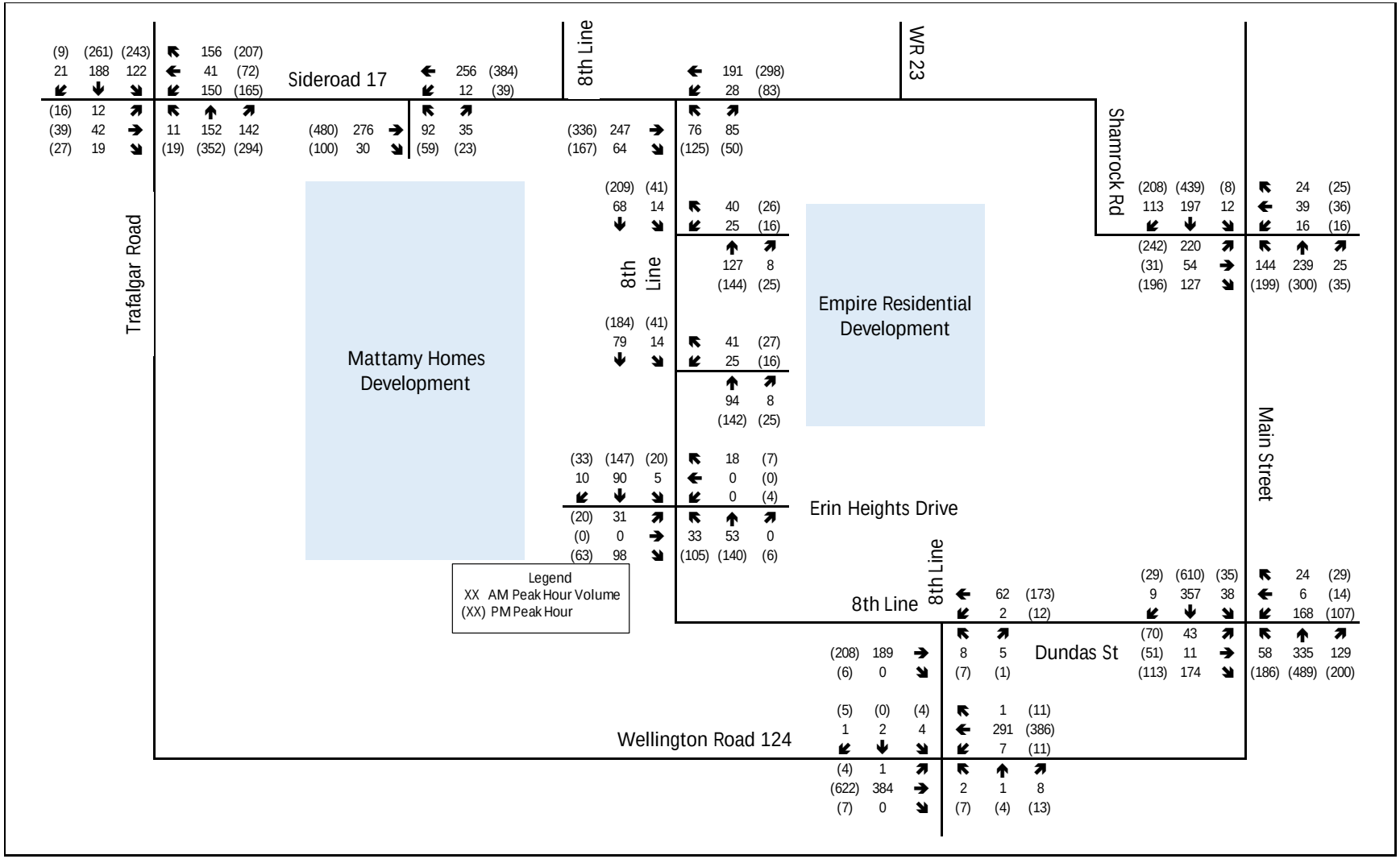


Figure 5-2 – 2029 Future Total Traffic Volumes

6.0 Intersection Operational Analysis

6.1 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 D**.

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) output reports from the Synchro software are provided in **Appendix E**.

Table 6-2 – Operational Analysis Results – Empire S Access (Street 'A') & Eighth Line

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	WBLR	0.08	A	<1 veh	0.06	A	<1 veh
	SBLT	0.02	A	<1 veh	0.03	A	<1 veh
	Overall	-	A	-	-	A	-
2029 Future Total	WBLR	0.08	A	<1 veh	0.06	B	<1 veh
	SBLT	0.01	A	<1 veh	0.03	A	<1 veh
	Overall	-	A	-	-	A	-

As shown in **Table 6-2**, the proposed study area intersection is projected to operate with an overall LOS 'A' during weekday morning and afternoon peak hours. With regard to all other movements, they are projected to operate with a LOS 'B' or better during both peak hours. In terms of 95th percentile queues they are estimated to be no longer then 1 vehicle in length.

Table 6-3 – Operational Analysis Results – Empire N Access (Street 'B') & Eighth Line

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	WBLR	0.08	A	<1 veh	0.06	B	<1 veh
	SBLT	0.01	A	<1 veh	0.03	A	<1 veh
	Overall	-	A	-	-	A	-
2029 Future Total	WBLR	0.08	A	<1 veh	0.06	B	<1 veh
	SBLT	0.01	A	<1 veh	0.03	A	<1 veh
	Overall	-	A	-	-	A	-

As shown in **Table 6-3**, the proposed study area intersection is projected to operate with an overall LOS 'A' during weekday morning and afternoon peak hours. With regard to all other movements, they are projected to operate with a LOS 'B' or better during both peak hours. In terms of 95th percentile queues they are estimated to be no longer then 1 vehicle in length.

Table 6-4 – 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	<1 veh	0.01	A	<1 veh
	NBLR	0.04	A	<1 veh	0.05	B	<1 veh
	Overall	-	A	-	-	A	-
2024 Future Background	WBLT	0.01	A	<1 veh	0.04	A	<1 veh
	NBLR	0.11	B	<1 veh	0.22	C	1 veh
	Overall	-	A	-	-	A	-
2029 Future Background	WBLT	0.01	A	<1 veh	0.05	A	<1 veh
	NBLR	0.14	B	<1 veh	0.36	C	12
	Overall	-	A	-	-	B	-
2024 Future Total	WBLT	0.02	A	<1 veh	0.08	A	<1 veh
	NBLR	0.25	B	8	0.39	C	14
	Overall	-	A	-	-	B	-
2029 Future Total	WBLT	0.02	A	<1 veh	0.08	A	<1 veh
	NBLR	0.30	B	10	0.58	D	26
	Overall	-	A	-	-	C	-

As shown in **Table 6-4**, the study area intersection is projected to continue operating with an overall LOS 'C' or better during weekday morning and afternoon peak hours. With regard to all other movements, they are projected to operate with a LOS 'D' or better during both peak hours. In terms of 95th percentile queues they are estimated to be no longer than 26 metres.

Table 6-5 – Operational Analysis Results – Eighth Line & 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	<1 veh	0.01	A	<1 veh
	SBLT	0.00	A	<1 veh	0.02	A	<1 veh
	Overall	-	A	-	-	A	-
2024 Future Background	EBLTR	0.14	A	<1 veh	0.16	B	1 veh
	WBLTR	0.02	A	<1 veh	0.02	B	<1 veh
	NBLTR	0.02	A	<1 veh	0.10	A	<1 veh
	SBLTR	0.00	A	<1 veh	0.02	A	<1 veh
	Overall	-	A	-	-	A	-
2029 Future Background	EBLTR	0.15	A	1 veh	0.19	B	1 veh
	WBLTR	0.02	A	1 veh	0.03	B	<1 veh

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
	NBLTR	0.02	A	<1 veh	0.11	A	<1 veh
	SBLTR	0.00	A	<1 veh	0.02	A	<1 veh
	Overall	-	A	-	-	A	-
2024 Future Total	EBLTR	0.16	A	<1 veh	0.18	B	<1 veh
	WBLTR	0.02	A	<1 veh	0.03	B	<1 veh
	NBLTR	0.02	A	<1 veh	0.10	A	<1 veh
	SBLTR	0.00	A	<1 veh	0.02	A	<1 veh
	Overall	-	A	-	-	A	-
2029 Future Total	EBLTR	0.16	A	<1 veh	0.21	B	1 veh
	WBLTR	0.02	A	<1 veh	0.04	B	<1 veh
	NBLTR	0.02	A	<1 veh	0.11	A	<1 veh
	SBLTR	0.00	A	<1 veh	0.02	A	<1 veh
	Overall	-	A	-	-	A	-

As shown in **Table 6-5**, the study area intersection is projected to continue operating similar to existing conditions with an overall LOS 'A' during weekday morning and afternoon peak hours. With regard to all other movements, they are projected to operate with a LOS 'B' or better during both peak hours. In terms of 95th percentile queues they are estimated to be no longer then 1 vehicle in length.

Table 6-6 – 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	<1 veh	0.01	A	<1 veh
	NBLR	0.01	A	<1 veh	0.01	A	<1 veh
	Overall	-	A	-	-	A	-
2024 Future Background	WBLT	0.00	A	<1 veh	0.01	A	<1 veh
	NBLR	0.02	A	<1 veh	0.01	B	<1 veh
	Overall	-	A	-	-	A	-
2029 Future Background	WBLT	0.00	A	<1 veh	0.01	A	<1 veh
	NBLR	0.02	A	<1 veh	0.02	B	<1 veh
	Overall	-	A	-	-	A	-
2024 Future Total	WBLT	0.00	A	<1 veh	0.01	A	<1 veh
	NBLR	0.02	A	<1 veh	0.02	B	<1 veh
	Overall	-	A	-	-	A	-
2029 Future Total	WBLT	0.00	A	<1 veh	0.01	A	<1 veh
	NBLR	0.02	B	<1 veh	0.02	B	<1 veh
	Overall	-	A	-	-	A	-

As shown in **Table 6-6**, the study area intersection is projected to continue operating similar to existing conditions with an overall LOS 'A' during weekday morning and afternoon peak hours. With regard to all other movements, they are projected to operate with a LOS 'B' or better during both peak hours. In terms of 95th percentile queues they are estimated to be no longer then 1 vehicle in length.

Table 6-7 – 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	<1 veh	0.00	A	<1 veh
	WBLT	0.00	A	<1 veh	0.01	A	<1 veh
	NBLTR	0.02	B	<1 veh	0.07	C	<1 veh
	SBLTR	0.01	B	<1 veh	0.02	B	<1 veh
	Overall	-	A	-	-	A	-
2024 Future Background	EBLT	0.00	A	<1 veh	0.00	A	<1 veh
	WBLT	0.01	A	<1 veh	0.01	A	<1 veh
	NBLTR	0.02	B	<1 veh	0.09	C	<1 veh
	SBLTR	0.02	B	<1 veh	0.03	C	<1 veh
	Overall	-	A	-	-	A	-
2029 Future Background	EBLT	0.00	A	<1 veh	0.00	A	<1 veh
	WBLT	0.01	A	<1 veh	0.01	A	<1 veh
	NBLTR	0.03	B	<1 veh	0.13	C	<1 veh
	SBLTR	0.02	C	<1 veh	0.05	C	<1 veh

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
	Overall	-	A	-	-	A	-
2024 Future Total	EBLT	0.00	A	<1 veh	0.00	A	<1 veh
	WBLT	0.01	A	<1 veh	0.01	A	<1 veh
	NBLTR	0.02	B	<1 veh	0.09	C	<1 veh
	SBLTR	0.02	B	<1 veh	0.03	C	<1 veh
	Overall	-	A	-	-	A	-
2029 Future Total	EBLT	0.00	A	<1 veh	0.00	A	<1 veh
	WBLT	0.01	A	<1 veh	0.01	A	<1 veh
	NBLTR	0.02	B	<1 veh	0.11	C	<1 veh
	SBLTR	0.02	C	<1 veh	0.04	C	<1 veh
	Overall	-	A	-	-	A	-

As shown in **Table 6-7**, the study area intersection is projected to continue operating similar to existing conditions with an overall LOS 'A' during weekday morning and afternoon peak hours. With regard to all other movements, they are projected to operate with a LOS 'C' or better during both peak hours. In terms of 95th percentile queues they are estimated to be no longer then 1 vehicle in length.

Table 6-8 – 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	<1 veh	0.23	C	<1 veh
	WBLTR	0.19	B	<1 veh	0.56	D	25
	NBLT	0.01	A	<1 veh	0.01	A	<1 veh
	SBLT	0.03	A	<1 veh	0.02	A	<1 veh
	Overall	-	A	-	-	B	-
2024 Future Background	EBLTR	0.16	B	<1 veh	0.46	E	16
	WBLTR	0.50	C	21	1.42	F	151
	NBLT	0.01	A	<1 veh	0.01	A	<1 veh
	SBLT	0.04	A	<1 veh	0.15	A	1 veh
	Overall	-	A	-	-	D	-
2029 Future Background	EBLTR	0.23	C	1 veh	0.98	F	42
	WBLTR	0.70	D	40	2.73	F	294
	NBLT	0.01	A	<1 veh	0.02	A	<1 veh
	SBLT	0.10	A	<1 veh	0.27	A	8
	Overall	-	B	-	-	E	-
2024 Future Total	EBLTR	0.17	B	<1 veh	0.49	E	18
	WBLTR	0.61	C	32	1.67	F	191
	NBLT	0.01	A	<1 veh	0.01	A	<1 veh
	SBLT	0.05	A	<1 veh	0.16	A	<1 veh
	Overall	-	B	-	-	D	-
2029 Future Total	EBLTR	0.23	C	7	1.09	F	47
	WBLTR	0.85	E	364	3.37	F	ERR
	NBLT	0.01	A	<1 veh	0.02	A	<1 veh
	SBLT	0.11	A	<1 veh	0.29	A	<1 veh
	Overall	-	B	-	-	E	-

As shown in **Table 6-8**, the study area intersection is projected to operate well in the morning peak hour with an overall LOS ‘B” into the 2029 horizon year.

The p.m. peak hour results indicate that the intersection is projected to operate with an overall LOS “E” during the 2029 horizon year as a result of the background growth and nearby developments. Certain movements are operating over capacity and delays of LOS “F”. With the subject site’s generated traffic, the intersection is projected to continue operating at an overall LOS ‘E’ during the 2029 horizon year, indicating that these site trips do not have a substantial effect on the operations at this intersection.

As a result of these critical movements, a signal warrant has been completed in Section 8.0.

Table 6-9 – Operational Analysis Results – Main Street (WR 124) & Dundas Street W

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			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	
	WBLTR	0.25	C	8	0.42	C	14	
	NBL	0.01	A	<1 veh	0.05	A	<1 veh	35m
	NBTR	0.25	A	21	0.40	A	39	
	SBL	0.05	A	<1 veh	0.06	A	<1 veh	40m
	SBTR	0.26	A	21	0.43	A	44	
	Overall	0.26	A	-	0.43	A	-	-
2024 Future Background	EBLTR	0.20	B	13	0.20	B	17	
	WBLTR	0.24	B	14	0.47	B	32	
	NBL	0.08	A	<1 veh	0.30	A	18	35m
	NBTR	0.39	A	31	0.65	B	74	
	SBL	0.17	A	10	0.43	A	23	40m
	SBTR	0.31	A	25	0.50	A	55	
	Overall	0.36	A	-	0.60	B	-	-
2029 Future Background	EBLTR	0.29	B	19	0.52	C	34	
	WBLTR	0.16	B	12	0.45	C	29	
	NBL	0.09	A	1 veh	0.44	A	24	35m
	NBTR	0.55	A	51	0.74	B	#105	
	SBL	0.10	A	6	0.13	A	7	40m
	SBTR	0.45	A	40	0.68	B	92	
	Overall	0.48	A	-	0.68	B	-	-
2024 Future Total	EBLTR	0.18	B	14	0.19	B	17	
	WBLTR	0.71	C	50	0.62	C	46	
	NBL	0.13	A	12	0.45	B	34	35m
	NBTR	0.47	B	53	0.67	B	94	
	SBL	0.22	A	17	0.48	B	31	40m
	SBTR	0.38	B	42	0.53	B	69	
	Overall	0.57	B	-	0.66	B	-	-
2029 Future Total	EBLTR	0.26	B	20	0.58	C	37	
	WBLTR	0.70	C	45	0.59	C	30	
	NBL	0.14	A	12	0.57	B	45	35m
	NBTR	0.61	B	78	0.71	B	115	
	SBL	0.12	A	9	0.12	A	7	40m
	SBTR	0.51	B	61	0.65	B	96	
	Overall	0.64	B	-	0.68	B	-	-

As shown in **Table 6-9**, the study area intersection is projected to continue operating similar to existing conditions with an overall LOS 'B' during weekday morning and afternoon peak hours. With regard to all other movements, they 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 some individual movements are projected to start operating with long queues under the 2029 future background condition.

Table 6-10 – Operational Analysis Results – Main Street & Shamrock Road

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			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	
	WBL	0.07	B	<1 veh	0.06	B	<1 veh	10m
	WBTR	0.13	C	11	0.11	B	11	
	NBL	0.10	A	1 veh	0.20	A	1	38m
	NBTR	0.18	A	17	0.26	A	28	
	SBL	0.02	A	<1 veh	0.01	A	<1 veh	50m
	SBT	0.18	A	17	0.32	A	37	
	SBR	0.06	A	<1 veh	0.08	A	<1 veh	50m
	Overall	0.26	B	-	0.39	B	-	-
2024 Future Background	EBL	0.63	C	34	0.65	C	40	15m
	EBTR	0.24	C	18	0.19	B	17	
	WBL	0.07	B	1 veh	0.06	B	1 veh	10m
	WBTR	0.12	B	11	0.10	B	11	
	NBL	0.20	A	17	0.28	A	23	38m
	NBTR	0.19	A	21	0.27	A	30	
	SBL	0.02	A	<1 veh	0.01	A	<1 veh	50m
	SBT	0.20	A	21	0.33	A	41	
	SBR	0.07	A	1 veh	0.12	A	8	50m
	Overall	0.33	B	-	0.43	B	-	-
2029 Future Background	EBL	0.73	C	43	0.73	C	48	15m
	EBTR	0.24	B	18	0.20	B	17	
	WBL	0.06	B	1 veh	0.06	B	1 veh	10m
	WBTR	0.11	B	12	0.10	B	11	
	NBL	0.28	A	22	0.46	A	35	38m
	NBTR	0.33	A	35	0.39	A	44	
	SBL	0.02	A	<1 veh	0.02	A	<1 veh	50m
	SBT	0.26	A	27	0.48	A	61	
	SBR	0.08	A	1 veh	0.12	A	8	50m
	Overall	0.45	B	-	0.56	B	-	-
2024 Future Total	EBL	0.70	C	40	0.69	C	44	15m
	EBTR	0.23	B	18	0.19	B	17	
	WBL	0.06	B	<1 veh	0.06	B	< 1 veh	10m
	WBTR	0.11	B	11	0.10	B	11	
	NBL	0.11	A	10	0.21	A	17	38m
	NBTR	0.20	A	21	0.27	A	30	
	SBL	0.02	A	<1 veh	0.01	A	<1 veh	50m
	SBT	0.20	A	21	0.34	A	41	
	SBR	0.08	A	< 1 veh	0.13	A	9	50m
	Overall	0.35	B	-	0.44	B	-	-
	EBL	0.79	C	52	0.76	C	52	15m

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
2029 Future Total	EBTR	0.23	B	18	0.20	B	17	
	WBL	0.06	B	<1 veh	0.06	B	< 1 veh	10m
	WBTR	0.11	B	12	0.10	B	11	
	NBL	0.29	A	22	0.47	B	36	38m
	NBTR	0.33	A	35	0.39	A	44	
	SBL	0.02	A	<1 veh	0.02	A	<1 veh	50m
	SBT	0.27	A	27	0.49	A	61	
	SBR	0.09	A	< 1 veh	0.14	A	9	50m
	Overall	0.48	B	-	0.57	B	-	-

As shown in **Table 6-10**, the study area intersection is projected to continue operating similar to existing conditions with an overall LOS 'B' or better during weekday morning and afternoon peak hours. With regard to all other movements, they 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 eastbound left-turn lane is currently exceeding the provided storage length and will continue operating as such under the future horizon years.

7.0 Left-Turn Lane Warrants

Ontario Ministry of Transportation (MTO) left-turn lane warrants were completed for the site driveways and the Trafalgar Road and Sideroad 17 intersection using volume projections previously illustrated in **Figure 3-6**. MTO left-turn lane warrants are provided in **Appendix F**.

Trafalgar Road & Sideroad 17

Based on this analysis, additional left-turn lanes are warranted and should be implemented to support the traffic generated from the background developments within the 2024 horizon year. The following is the recommended additional auxiliary lanes needed at the intersection:

- Northbound left-turn lane with at least 15 metres of storage
- Southbound left-turn lane with at least 30 metres of storage

With the addition of site-generated traffic, in the 2029 future total horizon year left-turn lanes are still warranted however, are required to be longer. If the town plans to construct a left-turn lane as a result of the background traffic, it is recommended to construct them with the following lengths:

- Northbound left-turn lane with at least 25 metres of storage
- Southbound left-turn lane with at least 55 metres of storage

Eighth Line and Sideroad 17

Based on this analysis, additional left-turn lanes are warranted and should be implemented to support the traffic generated from the background developments within the 2024 horizon year. The following is the recommended additional auxiliary lane needed at the intersection:

- Westbound left-turn lane with at least 15 metres of storage

With the addition of site-generated traffic, in the 2029 future total horizon year left-turn lanes are still warranted however, are required to be longer. If the town plans to construct a left-turn lane as a result of the background traffic, it is recommended to construct it with the following length:

- Westbound left-turn lane with at least 25 metres of storage

Eighth Line and Site Accesses

Left-turn Lane warrants were also completed at the Eighth Line and Street 'A' and Eighth Line and Street 'B' intersections and were not warranted for the 2029 future total horizon year.

8.0 Signal Warrants

An MTO signal warrant analysis was completed for all unsignalized study area intersections, using the projected future total 2029 traffic volumes. 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 future background developments. MTO Signal Warrant Sheets are provided in **Appendix G**.

The following **Table 8-1** presents the operational analysis results for the Trafalgar Road and Sideroad 17 intersections under the 2029 future total traffic scenario, assuming traffic signal control and left-turn lanes have been implemented.

Detailed Synchro output data for 2029 future total traffic conditions with mitigative measures is provided in **Appendix H**.

Table 8-1 - Trafalgar Road (WR 24) & Sideroad 17 (FT 2029) with Mitigative Measures

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			STORAGE LENGTH
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	
2029 Future Total with Mitigative Measures	EBL	0.03	B	4	0.05	B	6	25m
	EBTR	0.07	B	10	0.08	B	12	
	WBL	0.31	B	25	0.36	B	35	25m
	WBTR	0.19	B	15	0.29	B	27	
	NBL	0.03	B	3	0.04	A	5	25m
	NBT	0.24	B	24	0.49	B	53	
	NBR	0.10	B	9	0.20	B	12	
	SBL	0.30	B	21	0.69	C	50	55m
	SBT	0.29	B	29	0.37	B	38	
	SBR	0.01	B	<1 veh	0.01	B	<1 veh	35m
	Overall	0.30	B	-	0.54	B	-	-

As shown in **Table 8-1**, with the implementation of a traffic signal the Trafalgar/Sideroad 17 intersection is projected to with an overall LOS 'B' or better during weekday morning and afternoon peak hours. With regard to all other movements, they are also projected to operate with a LOS 'C' or better during both peak hours.

9.0 Conclusions and Recommendations

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

- The proposed residential development is projected to generate approximately 175 total two-way trips during the weekday a.m. peak hour (44 inbound and 131 outbound), and 217 total two-way trips during the weekday p.m. peak hour (132 inbound and 85 outbound).
- As per the results of the intersection operational 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.
- In terms of critical movements at study area intersections, they are projected to operate with an LOS 'C' or better under all scenarios (Future Background 2024 and 2029 and Future Total 2024 and 2029) except for the eastbound and westbound movements at the Trafalgar/Sideroad 17 intersection.
- Auxiliary left-turn lanes are warranted at the Trafalgar Road and Sideroad 17 intersection for both the northbound and southbound left-turn movements under the 2024 future background horizon year. Although a westbound left-turn lane was not

warranted under the MTO left-turn lane analysis, it is recommended from an operational perspective.

- An auxiliary westbound left-turn lane is also warranted at the Eighth Line and Sideroad 17 under the 2024 future background horizon year.
- Traffic signals are warranted at the Trafalgar Road Sideroad 17 intersection under the 2024 future background horizon year.
- The proposed internal road network layout of the subject development is considered acceptable per TAC geometric design guidelines; and
- The existing roadway system has sufficient capacity to accommodate the anticipated traffic generation from the subject development, except for the Trafalgar Road and Sideroad 17 intersection.

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

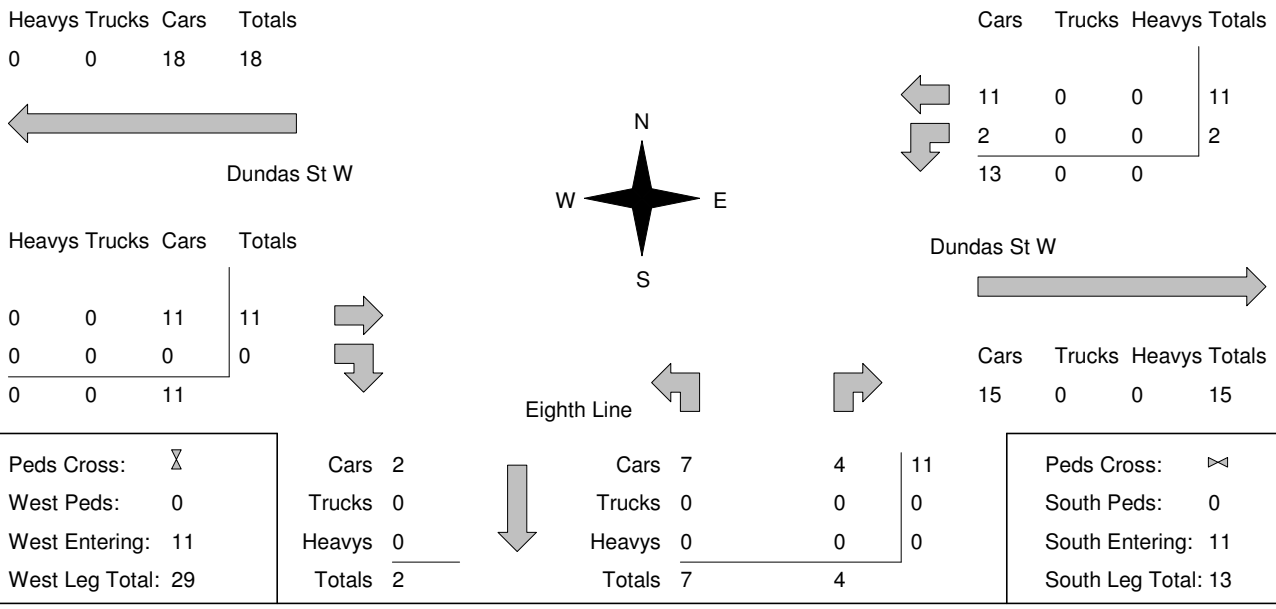
Weather conditions:
Clear/Dry

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:



Peds Cross:
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:
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

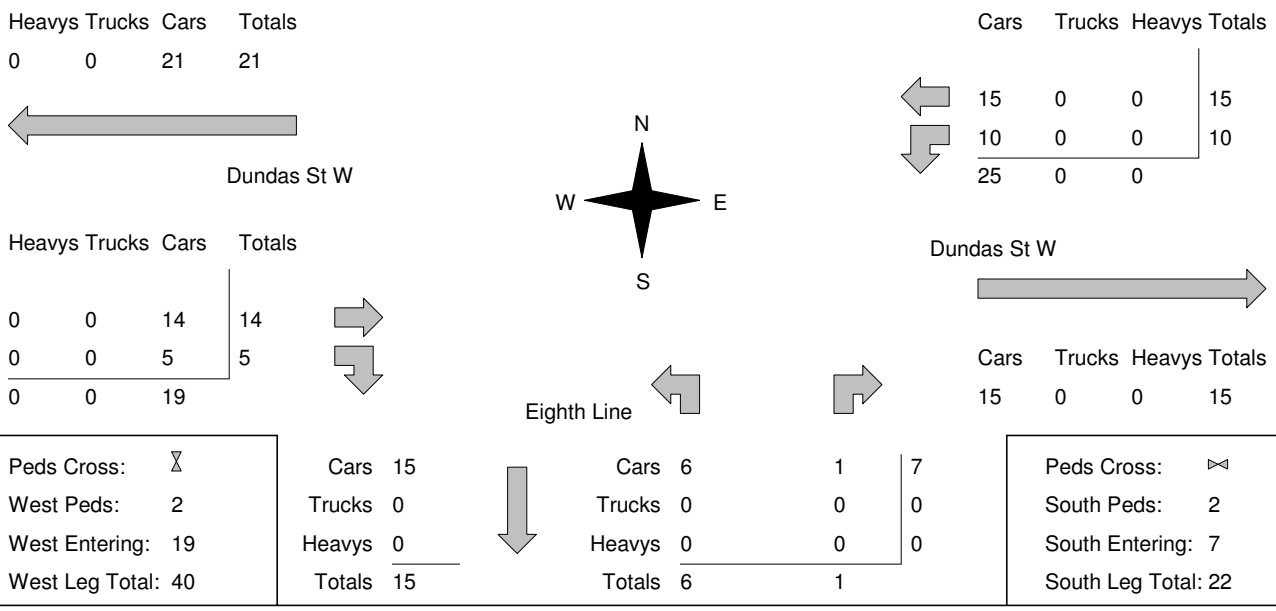
Weather conditions:
Clear/Dry

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:



Peds Cross:
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:
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

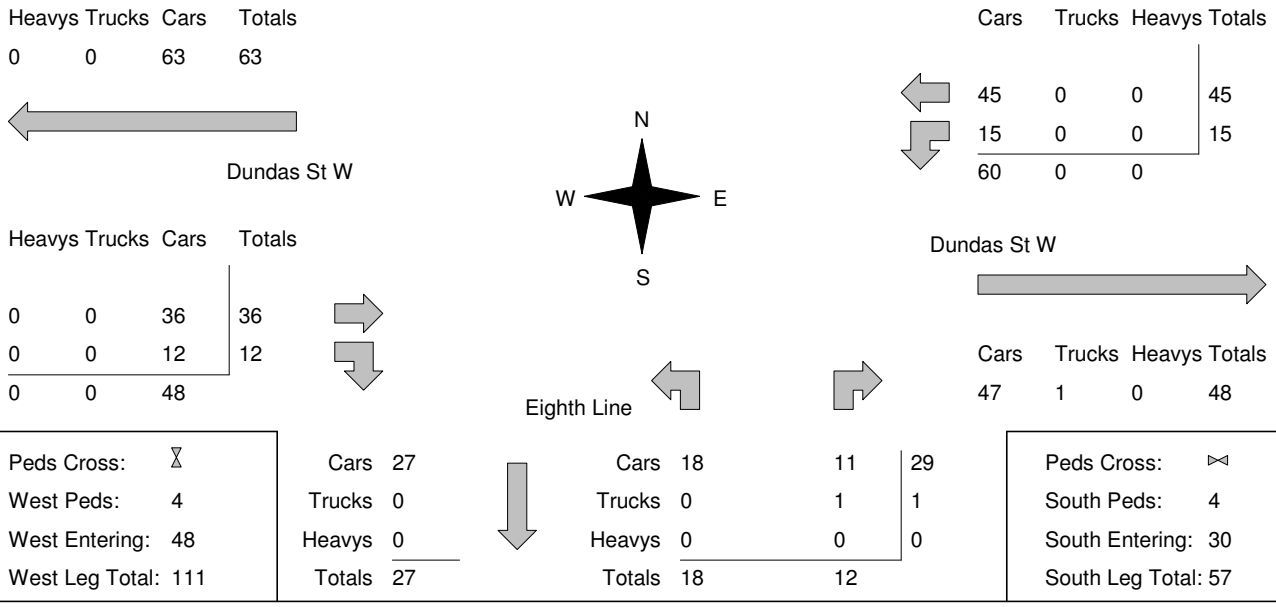
Weather conditions:
Clear/Dry

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: ⧖



Peds Cross: ⧖
West Peds: 4
West Entering: 48
West Leg Total: 111

Cars 27
Trucks 0
Heavys 0
Totals 27

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

Peds Cross: ⋈
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

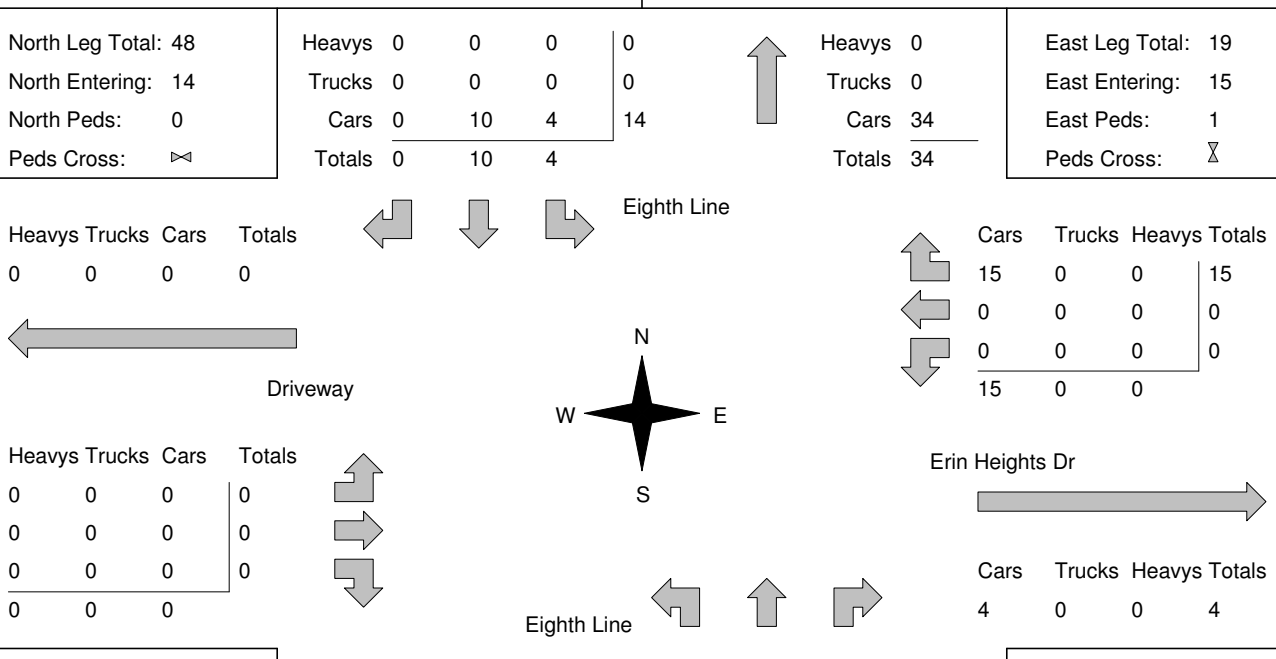
Municipality: Wellington
Site #: 0000000002
Intersection: Eighth Line & Erin Heights Dr
TFR File #: 2
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

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

Major Road: Eighth Line runs N/S



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:	⋈			
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:	⧖			

Eighth Line

Heavys	Trucks	Cars	Totals
0	0	0	0

Driveway

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

N
W E
S

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

Erin Heights Dr

Cars	Trucks	Heavys	Totals
22	0	0	22

Eighth Line

Peds Cross:	⧖			
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:	⋈			
South Peds:	0			
South Entering:	22			
South Leg Total:	40			

Comments

Eighth Line @ Erin Heights Dr

Total Count Diagram

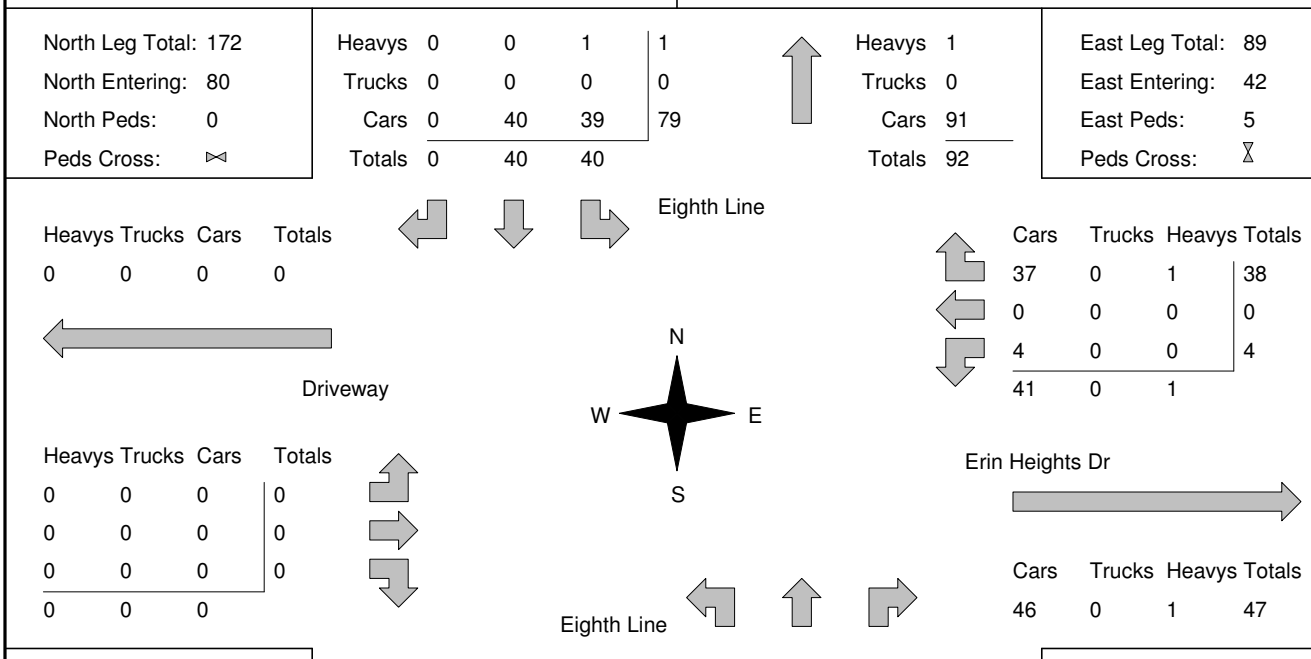
Municipality: Wellington
Site #: 0000000002
Intersection: Eighth Line & Erin Heights Dr
TFR File #: 2
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

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

Major Road: Eighth Line runs N/S



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

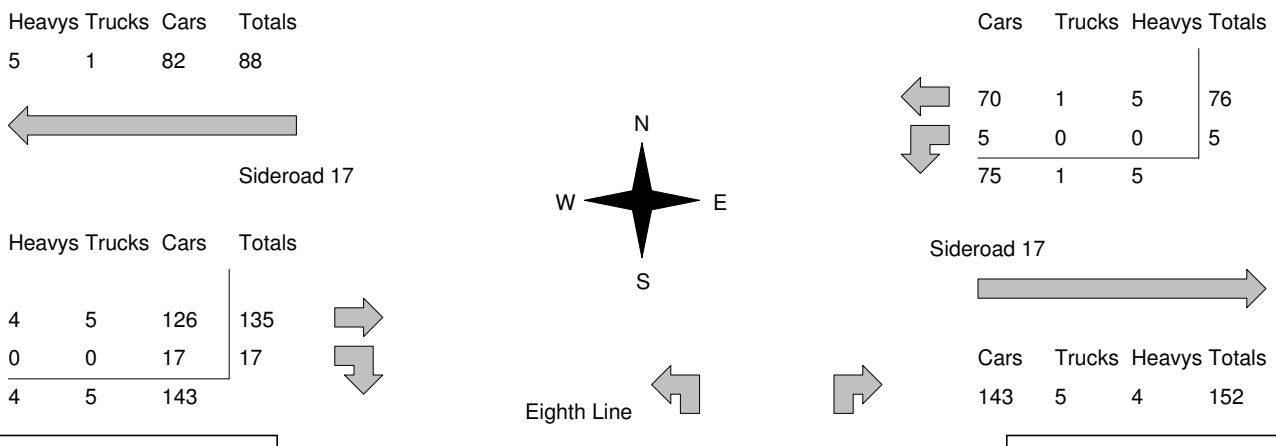
Weather conditions:
Clear/Dry

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:



Peds Cross:
West Peds: 0
West Entering: 152
West Leg Total: 240

Cars 22
Trucks 0
Heavys 0
Totals 22

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

Peds Cross:
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

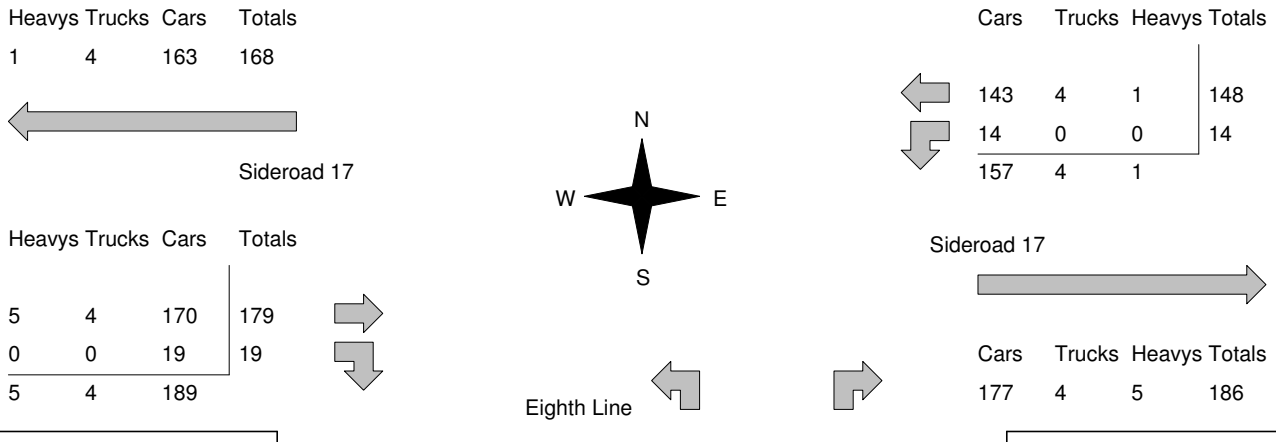
Weather conditions:
Clear/Dry

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: ⧖



Peds Cross: ⧖
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: ⋈
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

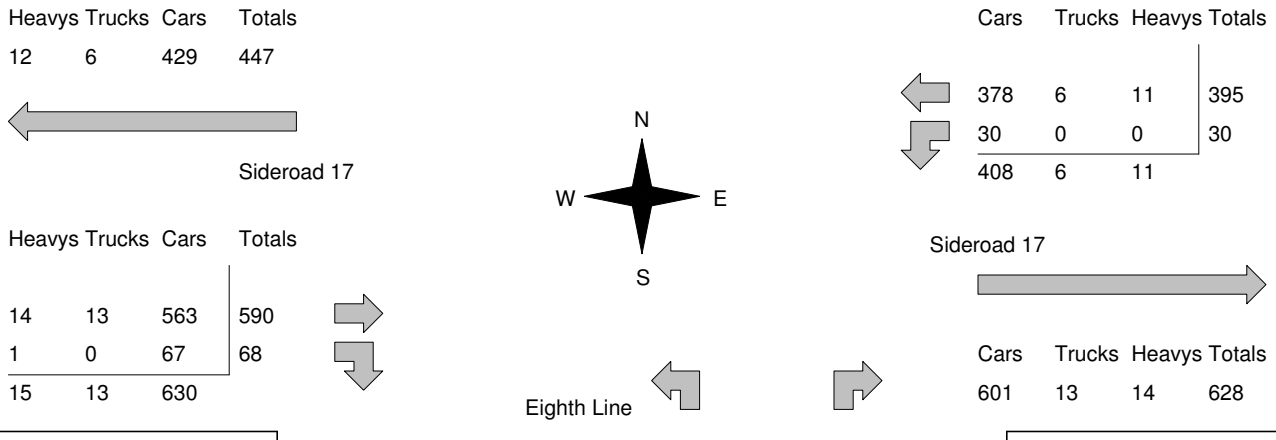
Weather conditions:
Clear/Dry

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: ⧖



Peds Cross: ⧖
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: ⋈
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: ⋈

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: ⧖

Eighth Line

Heavys	Trucks	Cars	Totals
16	3	231	250

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

Wellington Rd 124

N
W E
S

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

Wellington Rd 124

Cars	Trucks	Heavys	Totals
218	3	24	245

Eighth Line

Peds Cross: ⧖
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: ⋈
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:	⋈			

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:	⧖

Eighth Line

Heavys	Trucks	Cars	Totals
26	3	309	338

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

Wellington Rd 124

N
W E
S

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

Wellington Rd 124

Cars	Trucks	Heavys	Totals
400	6	26	432

Eighth Line

Peds Cross:	⧖			
West Peds:	0			
West Entering:	427			
West Leg Total:	765			

Cars	15			
Trucks	0			
Heavys	0			
Totals	15			

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

Peds Cross:	⋈
South Peds:	0
South Entering:	20
South Leg Total:	35

Comments

Eighth Line @ Wellington Rd 124

Total Count Diagram

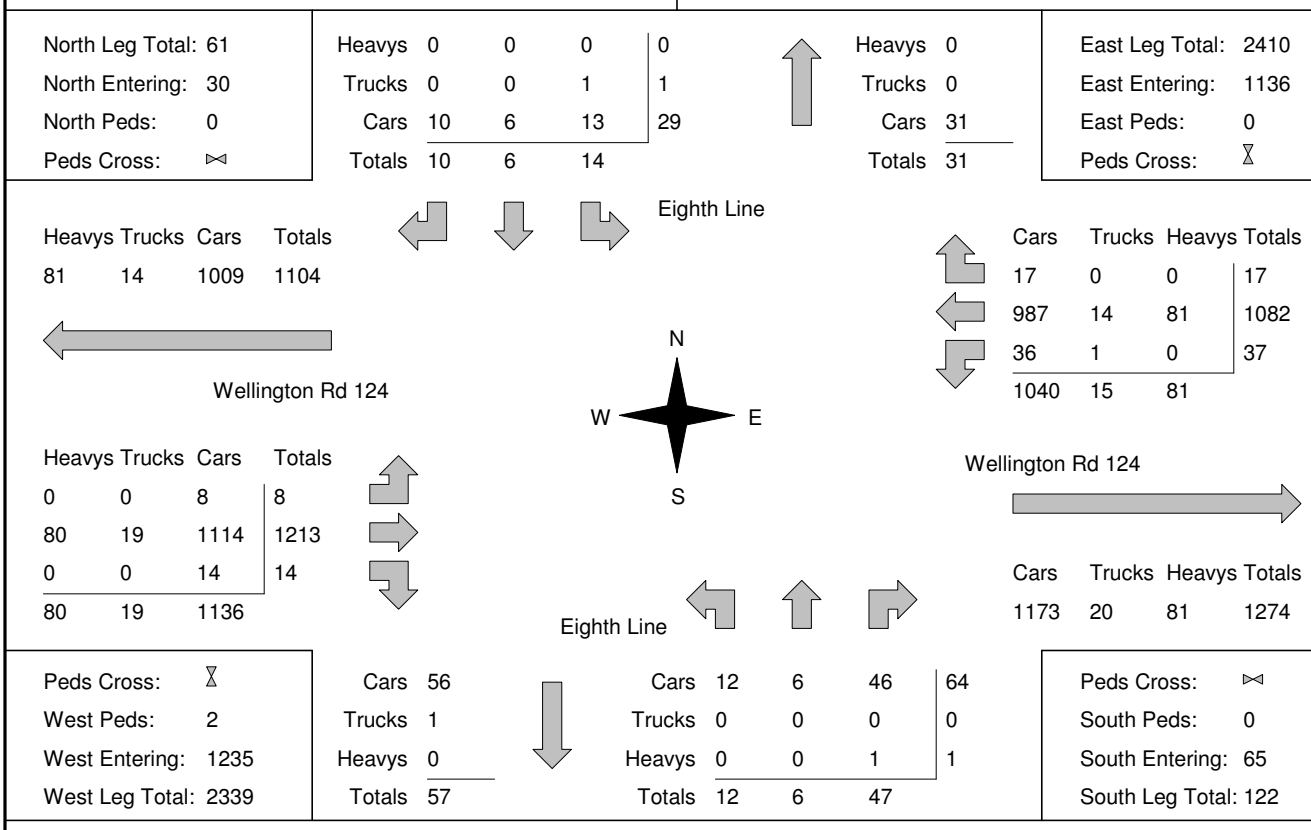
Municipality: Wellington
Site #: 0000000007
Intersection: Wellington Rd 124 & Eighth Line
TFR File #: 7
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

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

Major Road: Wellington Rd 124 runs W/E



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:	⋈			
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:	⧖			

Main St

Heavys	Trucks	Cars	Totals
1	0	20	21

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

Dundas St W

N
W E
S

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

Dundas St E

Cars	Trucks	Heavys	Totals
73	1	1	75

Main St

Peds Cross:	⧖			
West Peds:	1			
West Entering:	44			
West Leg Total:	65			
Cars	230			
Trucks	5			
Heavys	23			
Totals	258			
Cars	8	189	32	229
Trucks	0	2	1	3
Heavys	0	12	1	13
Totals	8	203	34	
Peds Cross:	⋈			
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: ⋈

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: ⧖

Main St

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	

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

N
W E
S

Dundas St E

Cars	Trucks	Heavys	Totals
79	0	0	79

Main St

Peds Cross: ⧖
West Peds: 7
West Entering: 35
West Leg Total: 88

Cars	433			
Trucks	4			
Heavys	19			
Totals	456			

Cars	26	309	39	374
Trucks	0	5	0	5
Heavys	0	23	0	23
Totals	26	337	39	

Peds Cross: ⋈
South Peds: 7
South Entering: 402
South Leg Total: 858

Comments

Main St @ Dundas St

Total Count Diagram

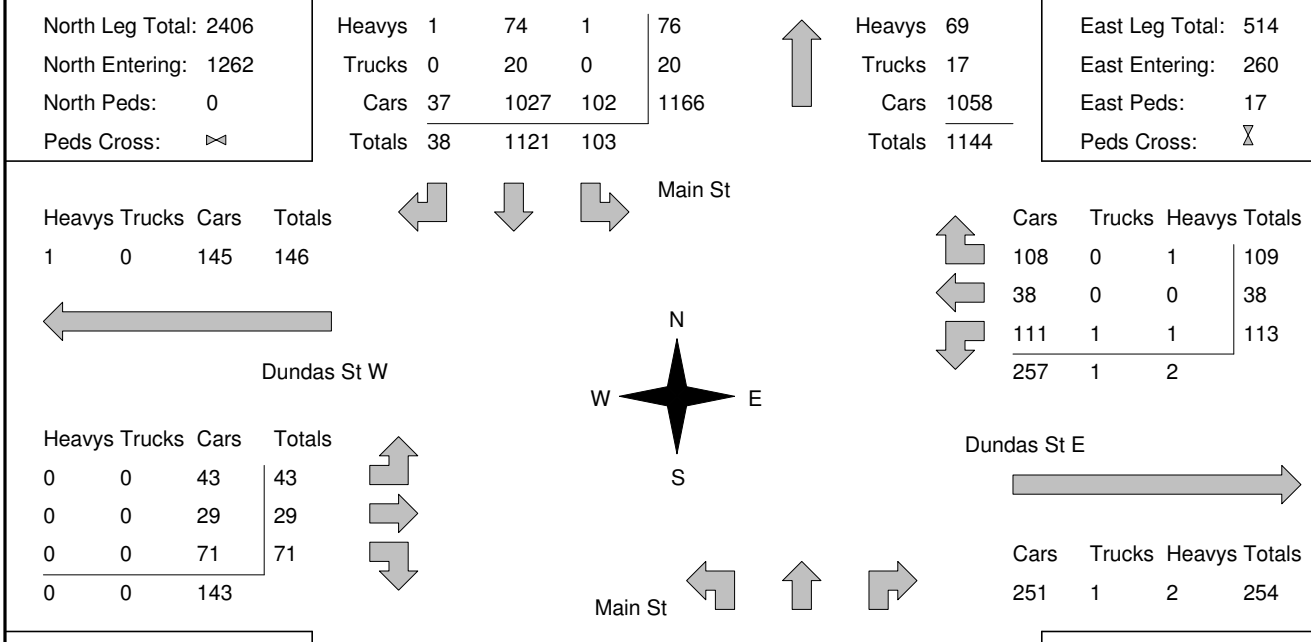
Municipality: Wellington
Site #: 0000000004
Intersection: Main St & Dundas St
TFR File #: 4
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Main St runs N/S



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

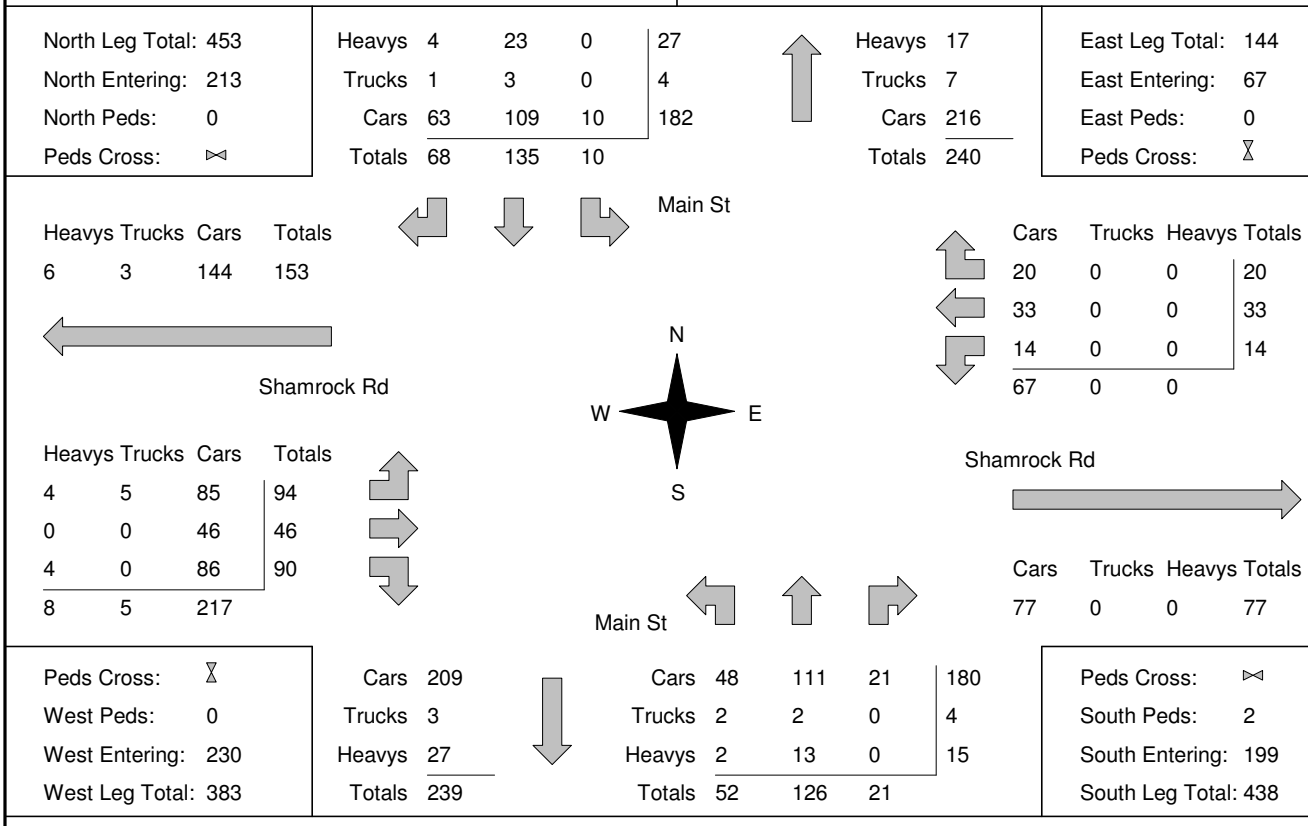
Municipality: Wellington
Site #: 0000000005
Intersection: Main St & Shamrock Rd
TFR File #: 5
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Main St runs N/S



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

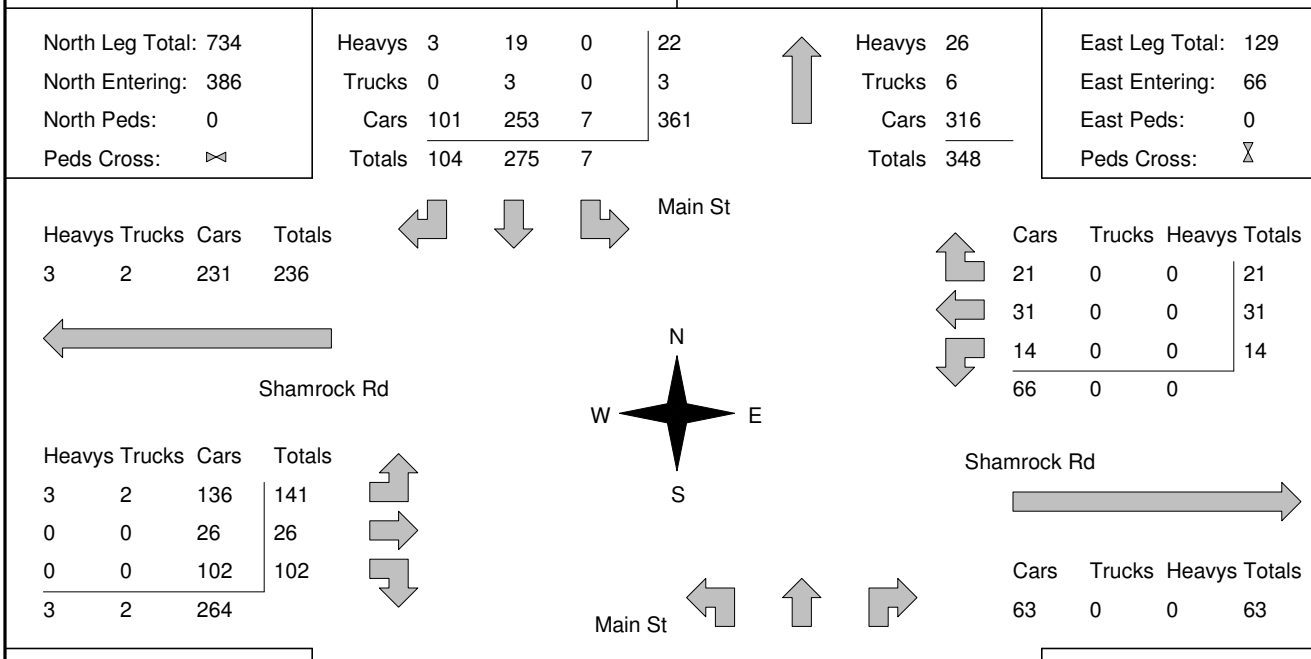
Municipality: Wellington
Site #: 0000000005
Intersection: Main St & Shamrock Rd
TFR File #: 5
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Signalized Intersection ****

Major Road: Main St runs N/S



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:	⋈			
Heavys	12	71	0	83
Trucks	5	14	0	19
Cars	298	614	35	947
Totals	315	699	35	
Heavys	76			
Trucks	24			
Cars	1009			
Totals	1109			
East Leg Total:	508			
East Entering:	258			
East Peds:	0			
Peds Cross:	⧖			

Main St

Heavys	Trucks	Cars	Totals
15	12	689	716

Shamrock Rd

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

N
W E
S

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

Shamrock Rd

Cars	Trucks	Heavys	Totals
249	1	0	250

Main St

Peds Cross:	⧖			
West Peds:	0			
West Entering:	911			
West Leg Total:	1627			
Cars	994			
Trucks	18			
Heavys	76			
Totals	1088			
Cars	275	499	84	858
Trucks	7	10	1	18
Heavys	3	66	0	69
Totals	285	575	85	
Peds Cross:	⋈			
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

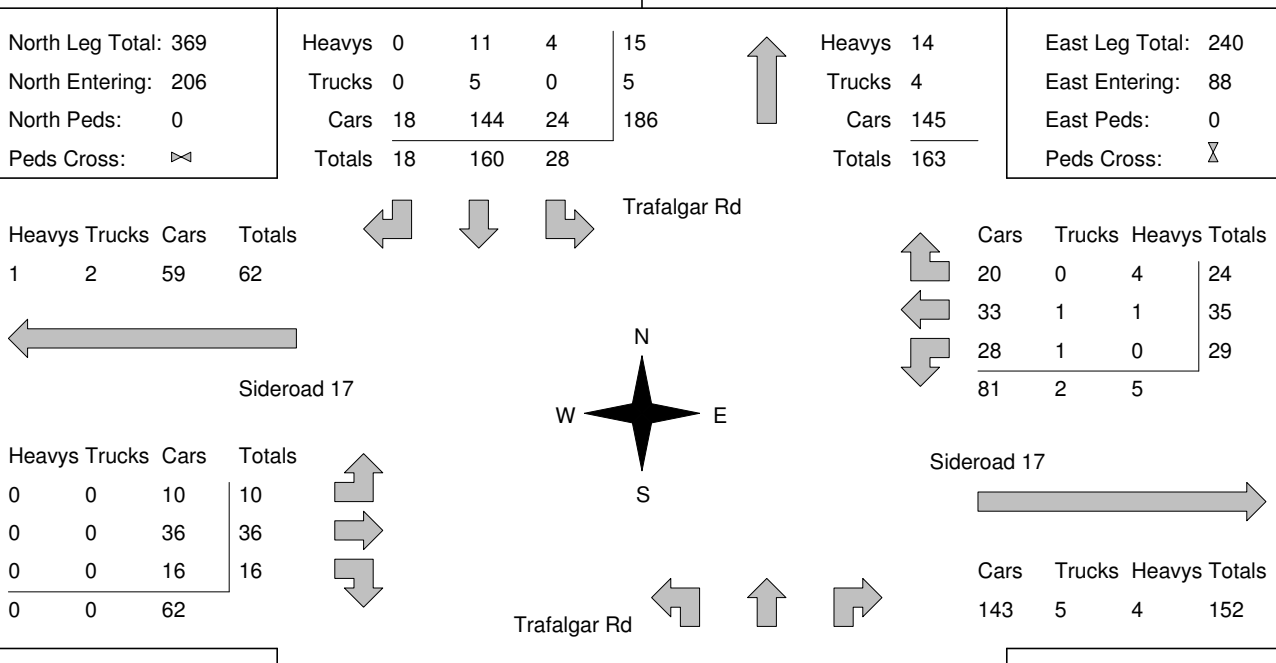
Municipality: Wellington
Site #: 0000000006
Intersection: Trafalgar Rd & Sideroad 17
TFR File #: 6
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

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

Major Road: Trafalgar Rd runs N/S



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

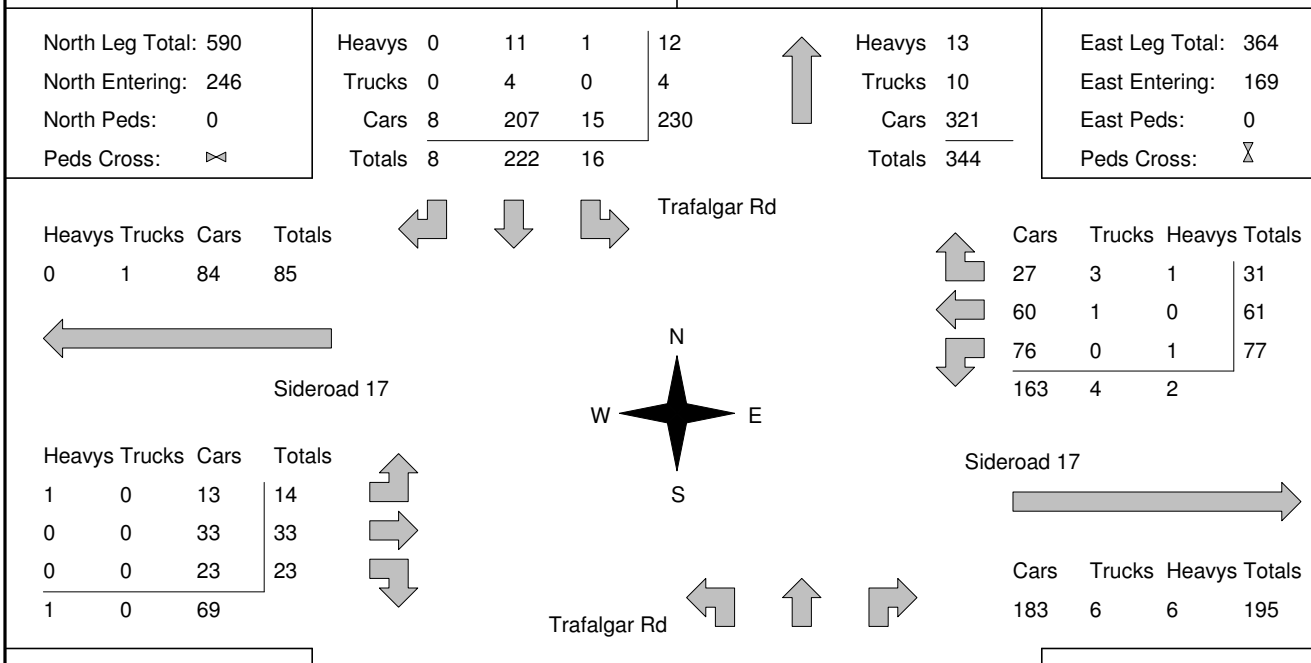
Municipality: Wellington
Site #: 0000000006
Intersection: Trafalgar Rd & Sideroad 17
TFR File #: 6
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

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

Major Road: Trafalgar Rd runs N/S



Comments

Trafalgar Rd @ Sideroad 17

Total Count Diagram

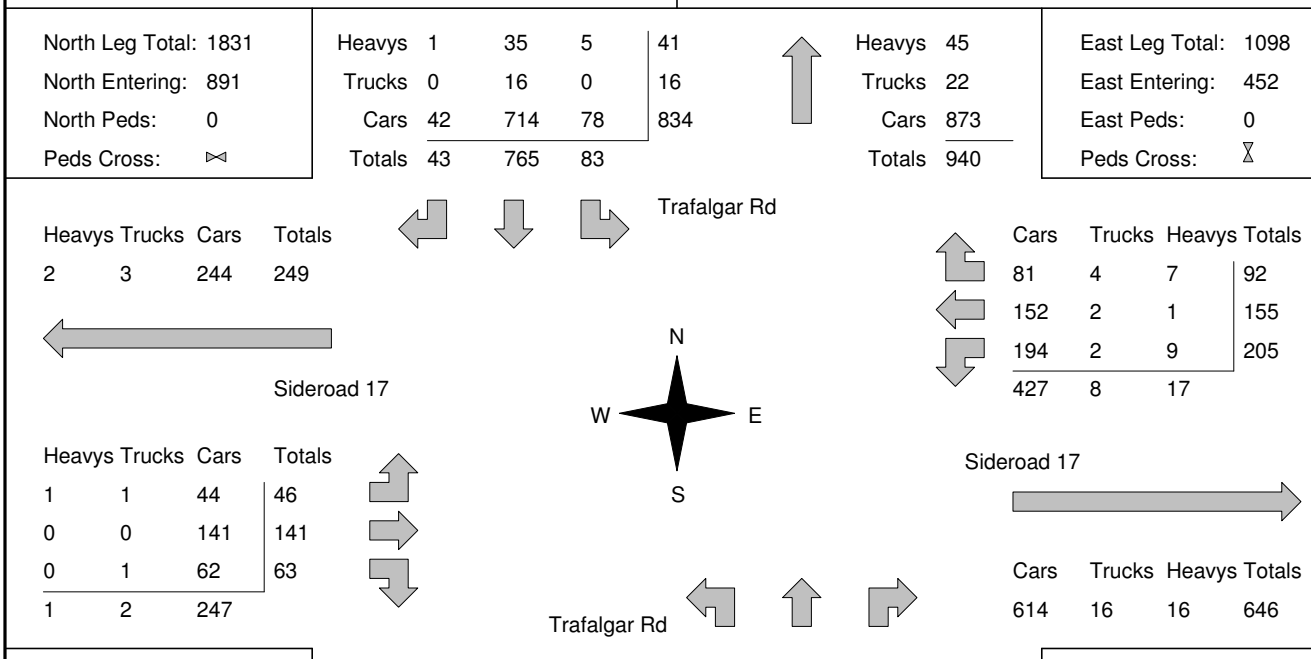
Municipality: Wellington
Site #: 0000000006
Intersection: Trafalgar Rd & Sideroad 17
TFR File #: 6
Count date: 1-Sep-2021

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

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

Major Road: Trafalgar Rd runs N/S



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

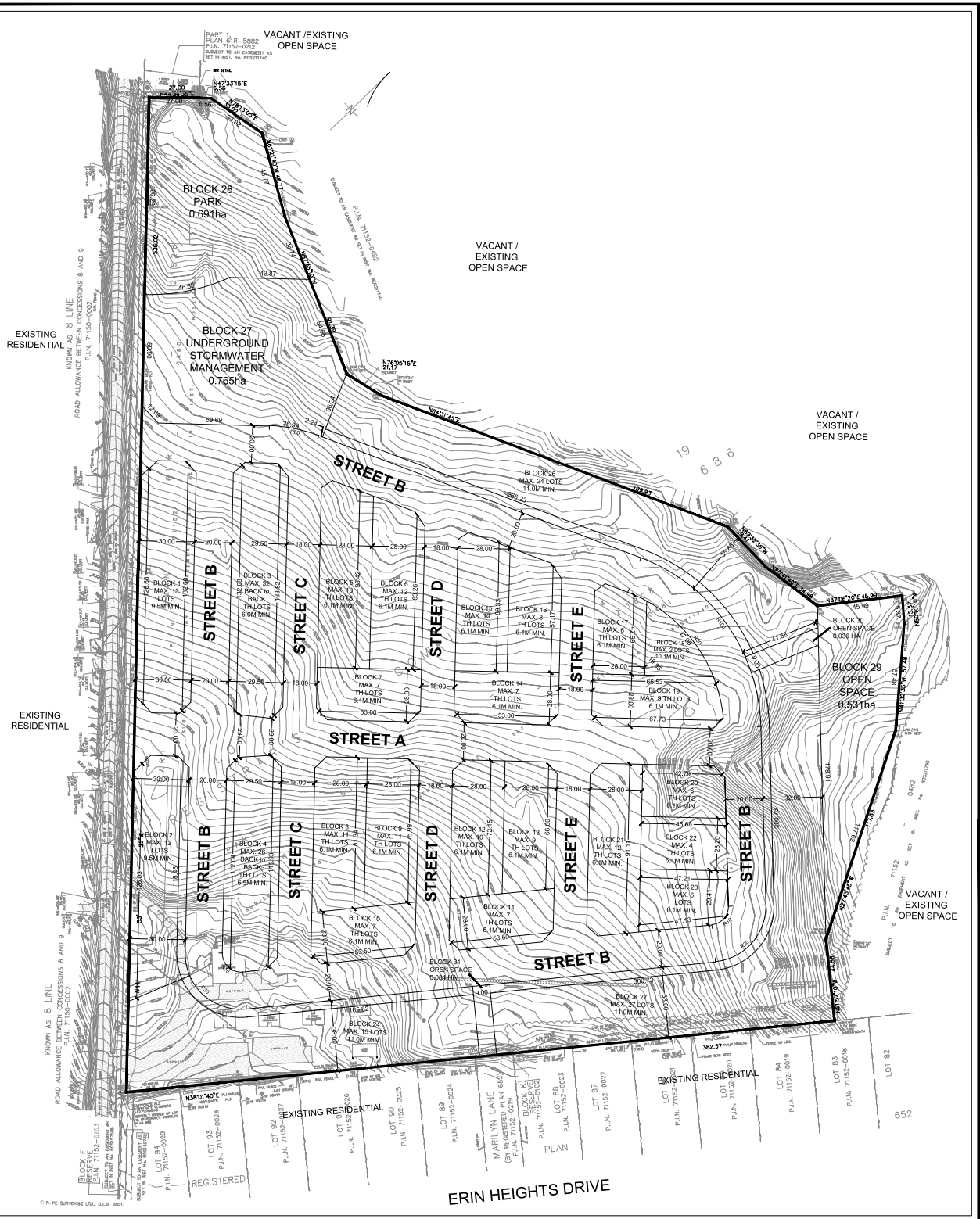
Persons 2016
Table:

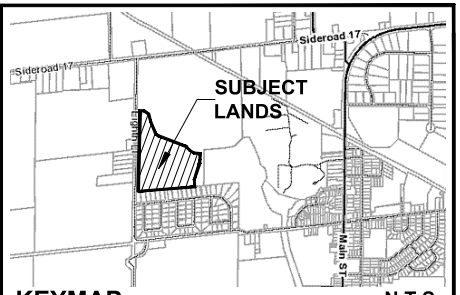
	Toronto	York	Peel	Halton	Hamilton	Waterloo	Guelph	Wellington	Orangeville	Simcoe	Dufferin	
1	614	21	1844	721	34	202	152	1708	96	113	71	5576
	11%	0%	33%	13%	1%	4%	3%	31%	2%	2%	1%	100%

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





KEYMAP N.T.S

ADDITIONAL INFORMATION

Required Under Section 51(17)
Of The Planning Act R.S.O. 1990 c.P.13

(a) SHOWN ON DRAFT PLAN
(b) SHOWN ON DRAFT AND KEY PLANS
(c) SHOWN ON KEY PLAN
(d) LAND TO BE USED IN ACCORDANCE WITH LAND USE SCHEDULE
(e) SHOWN ON DRAFT PLAN
(f) SHOWN ON DRAFT PLAN
(g) SHOWN ON DRAFT AND KEY PLANS
(h) MUNICIPAL PIPED WATER TO BE PROVIDED
(i) SOIL IS SANDY SILT AND CLAYEY SILT
(j) SHOWN ON DRAFT PLAN
(k) ALL MUNICIPAL SERVICES TO BE PROVIDED
(l) SHOWN ON DRAFT PLAN

SCHEDULE OF LAND USE

	Proposed Land Use	Reference	Area (Ha.)
1)	Residential Singles 11.0m	Blocks 24-26	2.955
2)	Residential Singles 10.1m	Block 18	0.090
3)	Rear Acess Residential Singles 9.5m	Blocks 1,2	0.768
4)	Back-to-Back Townhouses 6.50m	Blocks 3, 4	0.727
5)	Street Townhouses 6.1m	Blocks 5-17,19-23	3.312
6)	Park	Block 28	0.690
7)	Stormwater Management	Block 27	0.769
8)	Open Space	Blocks 29-31	0.602
9)	Roads		3.945
	Total Site Area		**13.859**

Proposed Summary Yield	
Unit Mix	**Units**
Residential Singles 11.0m	66
Residential Singles 10.1m	2
Rear Access Residential Singles 9.5 m	25
Street Townhouses 6.1 m	155
Back-to Back Townhouses 6.50 m	58
Total Dwelling Units	**306**

No.	REVISION	DATE
3		
2		
1		

REVISIONS

OWNER'S CERTIFICATE

WE, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS HEREBY AUTHORIZE ARMSTRONG PLANNING AND PROJECT MANAGEMENT TO PREPARE AND SUBMIT A DRAFT PLAN OF SUBDIVISION FOR APPROVAL.

SIGNED _____ DATE _____

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE SUBJECT LANDS AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN ON THIS PLAN.

SIGNED _____ DATE _____

S. GOONEWARDENA, O.L.S.
R-PE SURVEYING LTD.
643 CHRISLEA ROAD, SUITE 7
WOODBRIDGE, ONTARIO L4L 8A3 TEL: (416)-635-5000

DRAFT PLAN OF SUBDIVISION

PART OF LOT 19,
REGISTRAR'S COMPILED PLAN 686
(FORMERLY VILLAGE OF ERIN)
TOWN OF ERIN
COUNTY OF WELLINGTON

armstrong
planning | project management

		SCALE 1:750
DESIGN	DRAWN	PROJECT No. 21.2842.00
APPROVED	DATE August 4, 2023	DRAWING No. 1

APPENDIX D

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

Phases In Use
2
4
6
8

Exclusive Ped(MM)1-2

Phase

Backup Prevent(MM)1-1-3

Phase	Timing Phase	Backup

Simultaneous Gap(MM)1-1-4

Phase	Must Gap with Phase

Disable(MM)1-1-4

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
Diagonstics (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 Diagonstics: 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 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	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

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Controller Overlaps
Vehicle Overlaps (MM)2-2

Overlap	Type	Lag Green	Yellow	Red	Advance Green

Phases

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

PPLT FYA

Overlap	Protected Phase	Permissive Phase	Flash Arrow Output	Flash Arrow Channel	FYA Delay	FYA Clearance	Special Function Disable

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

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
Minimumin Recall: No
Cycle Through Phase: No

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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

Demand	Detector	Call Time	Cycle Count

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

Pattern	Timing Plan	Actuated Walk Rest	Sequence	Phase Reservice	Action Plan	XArt Pattern	Vehicle Perm 1	Vehicle Perm 2	Vehicle Perm 3

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

Split Preference Phases

Pattern	Phase	Preference 1	Preference 2

Special Functions

Pattern	Function	Output

Split Pattern Data (MM)3-3

Coord Phases

Split Pattern	Phase	Split

Split/Modes

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

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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

Preempt Overlaps

Preempt	Overlap	Track Clear	Enable Trailing	Dwell Overlap	Cycling Overlap

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

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

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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

Action Plan Phases

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

Acion Plan Special Functions

Plan	Function

Action Plan Auxiliary Functions

Plan	Function

Logic Statement Control

Plan	LP	Statement Control

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

Plan	Event	Action Plan	Start Time

Schedule (MM)5-4

Schedule Number	Day Plan Number	Months	Days of Week	Days of Month

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

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Detectors

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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

Wellington County 24-36 - 124 & 23

Detectors

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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 Diagnotics (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

```
                Enable BIU: 1  2  3  4  5  6  7  8
Terminal/Facilities. . . . . .  .  .  .  .  .  .  .
Detector Rack. . . . . .  .  .  .  .  .  .  .  .

Type 2 Runs as Type 1. . .  .
MMU Disable. . . . . .  X
Diagnostic Enable. . . . .  .
Peer-Peer Comm Enable. . .  .

                              1    2    3    4    5    6    7    8    9   10
Peer To Peer Addresses . . 255  255  255  255  255  255  255  255  255  255
```

Port 2:

```
Port 2 Protocol . . . . . Terminal
Port 2 Enable . . . . . YES
AB3418 Address. . . . . 0
AB3418 Group Address. . . . . 0
AB3418 Response Delay . . . . . 0
AB3418 Single Flag Enable . . . NO
AB3418 Drop-Out Time. . . . . 0
AB3418 TOD SF Select. . . . . 0
Data Rate . . . . . 1200 bps
Data, Parity, Stop. . . . . 8, 0, 1
```

Port 3:

```
Port 3 Protocol . . . . . Telemetry
Port 3 Enable . . . . . YES
Telemetry Address . . . . . 1
System Detector 9-16 Address. . 0
Telemetry Response Delay. . . . 8700
AB3418 Address. . . . . 0
AB3418 Group Address. . . . . 0
AB3418 Response Delay . . . . . 0
AB3418 Single Flag Enable . . . NO
AB3418 Drop-Out Time. . . . . 0
AB3418 TOD SF Select. . . . . 0
Duplex. . . . . Full
Data Rate . . . . . 1200 bps
Data, Parity, Stop. . . . . 8, 0, 1
```

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	C000

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By-Phase Timing Data

	Phase											
Direction	1	2	3	4	5	6	7	8	9	10	11	12
Minimum Green	1	24	5	8	5	24	5	8	5	5	5	5
Bike Min Green	0	0	0	0	0	0	0	0	0	0	0	0
Cond Serv Min Grn	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
Ped Clearance	0	8	0	8	0	8	0	8	0	16	0	16
Veh Extension	5.0	5.0	5.0	3.0	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0
Alt Veh Exten	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 Extension	0	0	0	0	0	0	0	0	0	0	0	0
Max 1	35	35	35	26	35	35	35	26	35	35	35	35
Max 2	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
Det. Fail Max	0	0	0	0	0	0	0	0	0	0	0	0
Yellow Change	3.0	5.5	3.0	4.0	3.0	5.5	3.0	4.0	3.0	3.0	3.0	3.0
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
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
Act. B4 Init	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Actuation	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 Initial	30	30	30	30	30	30	30	30	30	30	30	30
Time B4 Reduction	0	0	0	0	0	0	0	0	0	0	0	0
Cars Waiting	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
Minimum 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

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No-Serve Phases

	Phase Cannot Serve With Phase										
Phase	12	11	10	9	8	7	6	5	4	3	2
1	.	.	.	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	
3	.	.	.	.	.	.	.	.	.		
4	.	.	.	.	.	.	.	.			
5	.	.	.	.	.	.	.				
6	.	.	.	.	.	.					
7	.	.	.	.	.						
8	.	.	.	.							
9	.	.	.								
10	.	.									
11	.										

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

Vehicle/Ped Phase as Overlap

Ped Ovlap Phase	Ped Phase As Overlap Consists of Ped Phases											
	1	2	3	4	5	6	7	8	9	10	11	12
1	.	.	.	.	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.	.	.	.	.	.
7	.	.	.	.	.	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.	.	.	.	.	.
10	.	.	.	.	.	.	.	.	.	.	.	.
11	.	.	.	.	.	.	.	.	.	.	.	.
12	.	.	.	.	.	.	.	.	.	.	.	.

Veh Ovlap Phase	Veh Phase As Overlap Consists of Veh Phases											
	1	2	3	4	5	6	7	8	9	10	11	12
1	X	.	.	.	.	.	.	.	.	.	.	.
2	.	X	.	.	.	.	.	.	.	.	.	.
3	.	.	X	.	.	.	.	.	.	.	.	.
4	.	.	.	X	.	.	.	.	.	.	.	.
5	.	.	.	.	X	.	.	.	.	.	.	.
6	.	.	.	.	.	X	.	.	.	.	.	.
7	.	.	.	.	.	.	X	.	.	.	.	.
8	.	.	.	.	.	.	.	X	.	.	.	.
9	.	.	.	.	.	.	.	.	X	.	.	.
10	.	.	.	.	.	.	.	.	.	X	.	.
11	.	.	.	.	.	.	.	.	.	.	X	.
12	.	.	.	.	.	.	.	.	.	.	.	X

Overlap Data

Overlap A	Phase: 1	2	3	4	5	6	7	8	9	10	11	12
Standard.												
Protected												
Permitted												
Enable Lag.												
Enable Lead												
Spare												
Advance Green Timer				0.0								

	Green	Yellow	Red
Lag/Lead Timers	0.0	0.0	0.0

Overlap B	Phase: 1	2	3	4	5	6	7	8	9	10	11	12
Standard.												
Protected												
Permitted												
Enable Lag.												
Enable Lead												
Spare												
Advance Green Timer				0.0								

	Green	Yellow	Red
Lag/Lead Timers	0.0	0.0	0.0

Overlap C	Phase: 1	2	3	4	5	6	7	8	9	10	11	12
Standard.												
Protected												
Permitted												
Enable Lag.												
Enable Lead												
Spare												
Advance Green Timer				0.0								

	Green	Yellow	Red
Lag/Lead Timers	0.0	0.0	0.0

Overlap D	Phase: 1	2	3	4	5	6	7	8	9	10	11	12
Standard.												
Protected												
Permitted												
Enable Lag.												
Enable Lead												
Spare												
Advance Green Timer				0.0								

	Green	Yellow	Red
Lag/Lead Timers	0.0	0.0	0.0

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	X	C	.	D	X
Flash Together	.	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						

Recall Data, Dimming

	Phase											
	1	2	3	4	5	6	7	8	9	10	11	12
Locking Detector. . . .	.	.	.	.	.	.	.	.	.	.	.	.
Vehicle Recall.	.	X	.	.	.	X	.	.	.	.	.	.
Pedestrian Recall . . .	.	X	.	.	.	X	.	.	.	.	.	.
Recall To Max	.	.	.	.	.	.	.	.	.	.	.	.
Soft Recall	.	.	.	.	.	.	.	.	.	.	.	.
Don't Rest Here	.	.	.	.	.	.	.	.	.	.	.	.
Ped Dark if No Call . .	.	.	.	.	.	.	.	.	.	.	.	.

Dimming:

	Load Switch															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green/Walk. . . .	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Yellow/Ped Clear.	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Red/Don't Walk. .	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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Detector Type/Timers

Det.	Locking Memory	Log Enable	Timers Extend	Delay	Don't Reset Extend	Type
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

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Detector Phase Assignment

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

Detector Cross Switching

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

Detector Cross Switching

	Phase											
Det.	1	2	3	4	5	6	7	8	9	10	11	12
33	.	.	.	.	.	.	.	.	.	.	.	.
34	.	.	.	.	.	.	.	.	.	.	.	.
35	.	.	.	.	.	.	.	.	.	.	.	.
36	.	.	.	.	.	.	.	.	.	.	.	.
37	.	.	.	.	.	.	.	.	.	.	.	.
38	.	.	.	.	.	.	.	.	.	.	.	.
39	.	.	.	.	.	.	.	.	.	.	.	.
40	.	.	.	.	.	.	.	.	.	.	.	.
41	.	.	.	.	.	.	.	.	.	.	.	.
42	.	.	.	.	.	.	.	.	.	.	.	.
43	.	.	.	.	.	.	.	.	.	.	.	.
44	.	.	.	.	.	.	.	.	.	.	.	.
45	.	.	.	.	.	.	.	.	.	.	.	.
46	.	.	.	.	.	.	.	.	.	.	.	.
47	.	.	.	.	.	.	.	.	.	.	.	.
48	.	.	.	.	.	.	.	.	.	.	.	.
49	.	.	.	.	.	.	.	.	.	.	.	.
50	.	.	.	.	.	.	.	.	.	.	.	.
51	.	.	.	.	.	.	.	.	.	.	.	.
52	.	.	.	.	.	.	.	.	.	.	.	.
53	.	.	.	.	.	.	.	.	.	.	.	.
54	.	.	.	.	.	.	.	.	.	.	.	.
55	.	.	.	.	.	.	.	.	.	.	.	.
56	.	.	.	.	.	.	.	.	.	.	.	.
57	.	.	.	.	.	.	.	.	.	.	.	.
58	.	.	.	.	.	.	.	.	.	.	.	.
59	.	.	.	.	.	.	.	.	.	.	.	.
60	.	.	.	.	.	.	.	.	.	.	.	.
61	.	.	.	.	.	.	.	.	.	.	.	.
62	.	.	.	.	.	.	.	.	.	.	.	.
63	.	.	.	.	.	.	.	.	.	.	.	.
64	.	.	.	.	.	.	.	.	.	.	.	.

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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

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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 Tiime 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 Tiime from By-Phase Timing Data

Ped Diagnostic Plans

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

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.

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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

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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. . . . . .

Split Demand:	Call	Time	Cyc Count	Phase 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

Bus Preemptors

	Bus Preemptor 1	2	3	4
Preemptor Active	.	.	.	.
Detector Lock	.	.	.	.
Maximum Time	0	0	0	0
Reservice Time	0	0	0	0
Delay Time	0	0	0	0
Inhibit Time	0	0	0	0
Entrance Green	0	0	0	0
Entrance Ped Clearance	0	0	0	0
Entrance Yellow	0.0	0.0	0.0	0.0
Entrance Red	0.0	0.0	0.0	0.0
Minimum Hold Time	0	0	0	0

	Hold Phases 1	2	3	4	5	6	7	8	9	10	11	12
Preemptor 1	.	.	.	.	.	.	.	.	.	.	.	.
Preemptor 2	.	.	.	.	.	.	.	.	.	.	.	.
Preemptor 3	.	.	.	.	.	.	.	.	.	.	.	.
Preemptor 4	.	.	.	.	.	.	.	.	.	.	.	.

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

Wellington county 12 -24 124 & Dundas Erin 7/4/2013 6:24

TOD Weekly/Yearly

Weekly Program Numbers

	1	2	3	4	5	6	7	8	9	10	
Sunday . . .	1	1	1	1	1	1	1	1	1	1	Program No.
Monday . . .	1	1	1	1	1	1	1	1	1	1	Program No.
Tuesday. . .	1	1	1	1	1	1	1	1	1	1	Program No.
Wednesday. .	1	1	1	1	1	1	1	1	1	1	Program No.
Thursday . .	1	1	1	1	1	1	1	1	1	1	Program No.
Friday . . .	1	1	1	1	1	1	1	1	1	1	Program No.
Saturday . .	1	1	1	1	1	1	1	1	1	1	Program No.

Week of Year

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Prog	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Prog	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
Prog	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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 E

Synchro Software Output Reports

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		

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

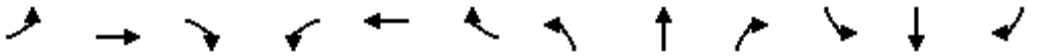
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	10	24	15	6	22	9	223	37	35	244	9
Future Volume (vph)	14	10	24	15	6	22	9	223	37	35	244	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			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 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

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		



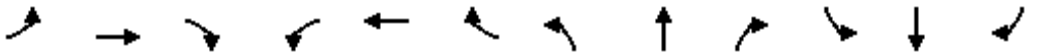
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	40	18	32	39	26	10	142	97	31	176	20
Future Volume (Veh/h)	11	40	18	32	39	26	10	142	97	31	176	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	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			

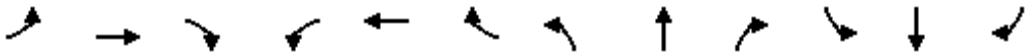
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	120	174	17	68	66	189	13	173	87
v/c Ratio	0.49	0.41	0.07	0.18	0.10	0.19	0.02	0.18	0.09
Control Delay	28.5	11.4	19.7	14.8	6.8	6.5	6.5	7.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	11.4	19.7	14.8	6.8	6.5	6.5	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



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			



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			

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		

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		

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

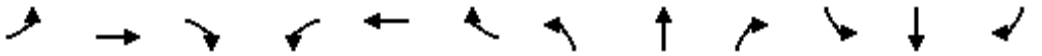
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	11	17	48	13	28	29	371	43	33	437	17
Future Volume (vph)	11	11	17	48	13	28	29	371	43	33	437	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

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		



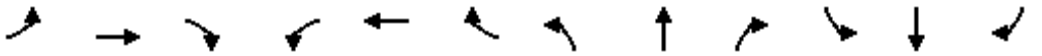
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	36	25	85	67	34	18	329	161	18	244	9
Future Volume (Veh/h)	15	36	25	85	67	34	18	329	161	18	244	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	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			

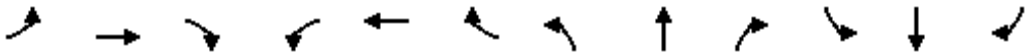
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	165	150	16	60	118	253	9	322	121
v/c Ratio	0.58	0.33	0.06	0.15	0.20	0.27	0.01	0.32	0.13
Control Delay	30.0	8.5	18.9	13.7	8.5	7.9	7.4	8.9	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	8.5	18.9	13.7	8.5	7.9	7.4	8.9	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



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	

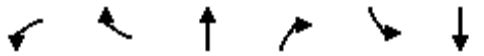
Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	61.8	Sum of lost time (s)	13.3
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



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		



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		

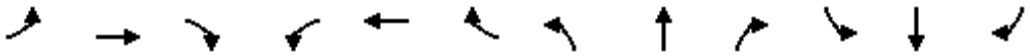
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	202	19	16	150	23	50
Future Volume (Veh/h)	202	19	16	150	23	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	220	21	17	163	25	54
Pedestrians						
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			241		428	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			241		428	230
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	93
cM capacity (veh/h)			1337		580	814

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	241	180	79
Volume Left	0	17	25
Volume Right	21	0	54
cSH	1700	1337	722
Volume to Capacity	0.14	0.01	0.11
Queue Length 95th (m)	0.0	0.3	2.8
Control Delay (s)	0.0	0.8	10.6
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	10.6
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	166	170	47	389	97	290
v/c Ratio	0.38	0.39	0.07	0.36	0.15	0.28
Control Delay	8.3	8.9	6.2	7.0	6.9	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.3	8.9	6.2	7.0	6.9	7.1
Queue Length 50th (m)	1.9	2.5	1.6	14.0	3.5	11.4
Queue Length 95th (m)	13.0	13.7	5.5	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)	1060	1059	903	1389	825	1367
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	0.16	0.16	0.05	0.28	0.12	0.21

Intersection Summary



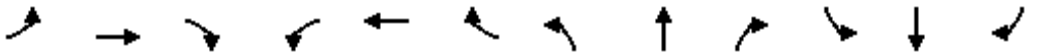
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	10	123	16	16	119	42	228	118	86	249	9
Future Volume (vph)	15	10	123	16	16	119	42	228	118	86	249	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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		0.89			0.89		1.00	0.95		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1697			1699		1825	1709		1825	1691	
Flt Permitted		0.96			0.96		0.58	1.00		0.53	1.00	
Satd. Flow (perm)		1634			1634		1119	1709		1022	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)	17	11	138	18	18	134	47	256	133	97	280	10
RTOR Reduction (vph)	0	118	0	0	115	0	0	21	0	0	1	0
Lane Group Flow (vph)	0	48	0	0	55	0	47	368	0	97	289	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)		6.4			6.4		24.6	24.6		24.6	24.6	
Effective Green, g (s)		6.4			6.4		24.6	24.6		24.6	24.6	
Actuated g/C Ratio		0.14			0.14		0.55	0.55		0.55	0.55	
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)		235			235		618	944		564	934	
v/s Ratio Prot								c0.22			0.17	
v/s Ratio Perm		0.03			c0.03		0.04			0.09		
v/c Ratio		0.20			0.24		0.08	0.39		0.17	0.31	
Uniform Delay, d1		16.8			16.9		4.6	5.7		4.9	5.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			0.5		0.1	0.6		0.3	0.4	
Delay (s)		17.2			17.4		4.8	6.2		5.2	5.8	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		17.2			17.4			6.1			5.6	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	44.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	110	0	2	55	8	4
Future Volume (Veh/h)	110	0	2	55	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)	138	0	2	69	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			138		211	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			138		211	138
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)			1458		781	916

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	138	71	15
Volume Left	0	2	10
Volume Right	0	0	5
cSH	1700	1458	821
Volume to Capacity	0.08	0.00	0.02
Queue Length 95th (m)	0.0	0.0	0.4
Control Delay (s)	0.0	0.2	9.5
Lane LOS		A	A
Approach Delay (s)	0.0	0.2	9.5
Approach LOS			A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	15.8%	ICU Level of Service	A
Analysis Period (min)	15		



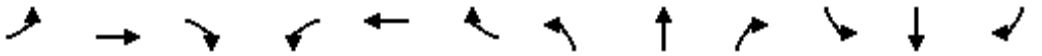
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	40	18	110	39	105	10	145	124	52	180	20
Future Volume (Veh/h)	11	40	18	110	39	105	10	145	124	52	180	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	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	115	41	109	10	151	129	54	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	596	596	188	507	488	151	209			280		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	596	596	188	507	488	151	209			280		
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	89	98	72	91	87	99			96		
cM capacity (veh/h)	326	398	859	410	450	857	1310			1217		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	72	265	161	129	242	21
Volume Left	11	115	10	0	54	0
Volume Right	19	109	0	129	0	21
cSH	446	531	1310	1700	1217	1700
Volume to Capacity	0.16	0.50	0.01	0.08	0.04	0.01
Queue Length 95th (m)	4.3	21.0	0.2	0.0	1.1	0.0
Control Delay (s)	14.6	18.3	0.5	0.0	2.1	0.0
Lane LOS	B	C	A		A	
Approach Delay (s)	14.6	18.3	0.3		2.0	
Approach LOS	B	C				

Intersection Summary				
Average Delay	7.3			
Intersection Capacity Utilization	51.8%	ICU Level of Service		A
Analysis Period (min)	15			

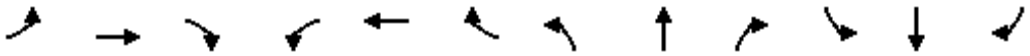
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	181	196	19	69	129	192	13	176	108
v/c Ratio	0.63	0.40	0.07	0.16	0.20	0.20	0.02	0.20	0.12
Control Delay	32.1	9.7	18.6	13.7	9.1	7.8	7.9	8.6	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	9.7	18.6	13.7	9.1	7.8	7.9	8.6	2.5
Queue Length 50th (m)	18.9	5.6	1.7	3.9	6.6	8.8	0.6	8.9	0.0
Queue Length 95th (m)	34.2	17.5	5.7	11.3	17.0	20.7	3.0	20.7	5.8
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)	415	650	407	623	640	958	682	899	898
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	0.44	0.30	0.05	0.11	0.20	0.20	0.02	0.20	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	52	117	16	37	22	111	141	24	11	151	93
Future Volume (vph)	156	52	117	16	37	22	111	141	24	11	151	93
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	1675		1825	1813		1690	1704		1825	1614	1526
Flt Permitted	0.71	1.00		0.63	1.00		0.65	1.00		0.64	1.00	1.00
Satd. Flow (perm)	1244	1675		1219	1813		1149	1704		1223	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)	181	60	136	19	43	26	129	164	28	13	176	108
RTOR Reduction (vph)	0	105	0	0	20	0	0	8	0	0	0	48
Lane Group Flow (vph)	181	91	0	19	49	0	129	184	0	13	176	60
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)	14.5	14.5		14.5	14.5		35.1	35.1		35.1	35.1	35.1
Effective Green, g (s)	14.5	14.5		14.5	14.5		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
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)	286	386		281	417		641	950		682	900	851
v/s Ratio Prot		0.05			0.03			0.11			0.11	
v/s Ratio Perm	c0.15			0.02			c0.11			0.01		0.04
v/c Ratio	0.63	0.24		0.07	0.12		0.20	0.19		0.02	0.20	0.07
Uniform Delay, d1	21.8	19.7		18.9	19.1		6.9	6.9		6.2	6.9	6.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.5	0.3		0.1	0.1		0.2	0.1		0.0	0.1	0.0
Delay (s)	26.3	20.0		19.0	19.3		7.1	7.0		6.2	7.0	6.4
Level of Service	C	C		B	B		A	A		A	A	A
Approach Delay (s)		23.0			19.2			7.0			6.8	
Approach LOS		C			B			A			A	

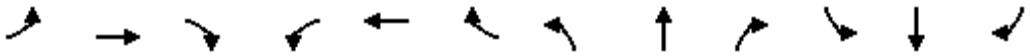
Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	62.9	Sum of lost time (s)	13.3
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	315	0	7	355	1	2	1	8	3	2	1
Future Volume (Veh/h)	1	315	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	335	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			335			731	730	335	738	729	378
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	379			335			731	730	335	738	729	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			1236			336	349	712	329	350	673

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	336	0	385	1	12	6
Volume Left	1	0	7	0	2	3
Volume Right	0	0	0	1	9	1
cSH	1191	1700	1236	1700	559	368
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	11.6	14.9
Lane LOS	A		A		B	B
Approach Delay (s)	0.0		0.2		11.6	14.9
Approach LOS					B	B

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	34.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	98	0	0	17	33	31	0	4	11	10
Future Volume (Veh/h)	31	0	98	0	0	17	33	31	0	4	11	10
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)	34	0	107	0	0	18	36	34	0	4	12	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	150	132	18	238	137	34	23			34		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	150	132	18	238	137	34	23			34		
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 %	96	100	90	100	100	98	98			100		
cM capacity (veh/h)	793	744	1067	635	739	1045	1605			1591		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	141	18	70	27
Volume Left	34	0	36	4
Volume Right	107	18	0	11
cSH	985	1045	1605	1591
Volume to Capacity	0.14	0.02	0.02	0.00
Queue Length 95th (m)	3.8	0.4	0.5	0.1
Control Delay (s)	9.3	8.5	3.8	1.1
Lane LOS	A	A	A	A
Approach Delay (s)	9.3	8.5	3.8	1.1
Approach LOS	A	A		

Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	29.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	291	51	49	247	67	28
Future Volume (Veh/h)	291	51	49	247	67	28
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)	310	54	52	263	71	30
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			364		704	337
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			364		704	337
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		82	96
cM capacity (veh/h)			1206		389	710

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	364	315	101
Volume Left	0	52	71
Volume Right	54	0	30
cSH	1700	1206	449
Volume to Capacity	0.21	0.04	0.22
Queue Length 95th (m)	0.0	1.0	6.5
Control Delay (s)	0.0	1.7	15.3
Lane LOS		A	C
Approach Delay (s)	0.0	1.7	15.3
Approach LOS			C

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	137	214	140	614	152	482
v/c Ratio	0.32	0.55	0.30	0.66	0.43	0.51
Control Delay	11.1	18.9	9.8	12.7	13.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	18.9	9.8	12.7	13.1	10.6
Queue Length 50th (m)	3.7	10.6	6.3	32.0	7.4	24.6
Queue Length 95th (m)	16.8	31.8	18.4	74.2	23.4	54.8
Internal Link Dist (m)	1308.1	285.1		328.5		907.9
Turn Bay Length (m)			35.0		40.0	
Base Capacity (vph)	905	843	608	1200	460	1237
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	0.15	0.25	0.23	0.51	0.33	0.39

Intersection Summary

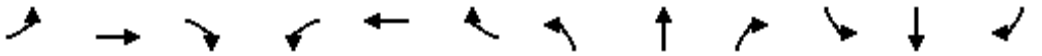
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	41	80	49	58	99	134	378	211	146	445	17
Future Volume (vph)	11	41	80	49	58	99	134	378	211	146	445	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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		0.92			0.94		1.00	0.95		1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1757			1767		1825	1729		1825	1806	
Flt Permitted		0.96			0.89		0.46	1.00		0.35	1.00	
Satd. Flow (perm)		1700			1592		888	1729		672	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	43	83	51	60	103	140	394	220	152	464	18
RTOR Reduction (vph)	0	65	0	0	54	0	0	24	0	0	2	0
Lane Group Flow (vph)	0	72	0	0	160	0	140	590	0	152	480	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)		11.0			11.0		27.3	27.3		27.3	27.3	
Effective Green, g (s)		11.0			11.0		27.3	27.3		27.3	27.3	
Actuated g/C Ratio		0.21			0.21		0.53	0.53		0.53	0.53	
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)		361			338		468	911		354	951	
v/s Ratio Prot								c0.34			0.27	
v/s Ratio Perm		0.04			c0.10		0.16			0.23		
v/c Ratio		0.20			0.47		0.30	0.65		0.43	0.50	
Uniform Delay, d1		16.8			17.9		6.9	8.8		7.5	7.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			1.0		0.8	2.2		1.7	0.9	
Delay (s)		17.0			18.9		7.6	11.0		9.2	8.8	
Level of Service		B			B		A	B		A	A	
Approach Delay (s)		17.0			18.9			10.4			8.9	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	51.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	109	6	11	167	7	1
Future Volume (Veh/h)	109	6	11	167	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)	128	7	13	196	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			135		354	132
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			135		354	132
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)			1462		643	923

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	135	209	9
Volume Left	0	13	8
Volume Right	7	0	1
cSH	1700	1462	665
Volume to Capacity	0.08	0.01	0.01
Queue Length 95th (m)	0.0	0.2	0.3
Control Delay (s)	0.0	0.5	10.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	10.5
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		



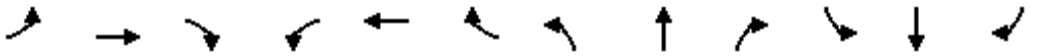
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	37	26	135	68	132	18	335	247	132	249	9
Future Volume (Veh/h)	16	37	26	135	68	132	18	335	247	132	249	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	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	142	72	139	19	353	260	139	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	1106	1191	262	978	940	353	271			613		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1106	1191	262	978	940	353	271			613		
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 %	82	75	97	11	68	79	99			85		
cM capacity (veh/h)	96	159	782	160	222	667	1304			947		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	83	353	372	260	401	9
Volume Left	17	142	19	0	139	0
Volume Right	27	139	0	260	0	9
cSH	182	248	1304	1700	947	1700
Volume to Capacity	0.46	1.42	0.01	0.15	0.15	0.01
Queue Length 95th (m)	16.3	150.6	0.3	0.0	3.9	0.0
Control Delay (s)	40.4	250.4	0.5	0.0	4.3	0.0
Lane LOS	E	F	A		A	
Approach Delay (s)	40.4	250.4	0.3		4.3	
Approach LOS	E	F				

Intersection Summary				
Average Delay	63.4			
Intersection Capacity Utilization	74.8%	ICU Level of Service	D	
Analysis Period (min)	15			

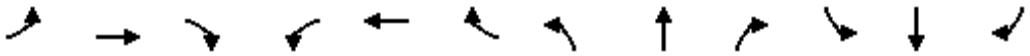
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	203	224	17	63	165	258	9	329	183
v/c Ratio	0.65	0.41	0.06	0.14	0.28	0.28	0.01	0.33	0.19
Control Delay	32.4	7.3	18.4	13.1	10.2	8.7	8.0	9.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	7.3	18.4	13.1	10.2	8.7	8.0	9.8	2.2
Queue Length 50th (m)	21.4	2.8	1.5	3.4	9.1	13.1	0.4	18.8	0.0
Queue Length 95th (m)	40.1	16.7	5.6	11.0	23.3	30.1	2.5	40.5	8.2
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)	440	685	382	617	586	931	639	986	960
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	0.46	0.33	0.04	0.10	0.28	0.28	0.01	0.33	0.19

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	29	181	16	35	24	155	209	34	8	309	172
Future Volume (vph)	191	29	181	16	35	24	155	209	34	8	309	172
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	0.87		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	1673		1825	1802		1789	1666		1825	1779	1585
Flt Permitted	0.72	1.00		0.60	1.00		0.56	1.00		0.60	1.00	1.00
Satd. Flow (perm)	1322	1673		1150	1802		1058	1666		1152	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)	203	31	193	17	37	26	165	222	36	9	329	183
RTOR Reduction (vph)	0	148	0	0	20	0	0	8	0	0	0	82
Lane Group Flow (vph)	203	76	0	17	43	0	165	250	0	9	329	101
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)	14.9	14.9		14.9	14.9		35.1	35.1		35.1	35.1	35.1
Effective Green, g (s)	14.9	14.9		14.9	14.9		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
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)	311	393		270	424		586	923		638	986	878
v/s Ratio Prot		0.05			0.02			0.15			c0.18	
v/s Ratio Perm	c0.15			0.01			0.16			0.01		0.06
v/c Ratio	0.65	0.19		0.06	0.10		0.28	0.27		0.01	0.33	0.12
Uniform Delay, d1	21.9	19.4		18.8	19.0		7.4	7.4		6.3	7.7	6.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.9	0.2		0.1	0.1		0.3	0.2		0.0	0.2	0.1
Delay (s)	26.7	19.6		18.9	19.1		7.7	7.6		6.3	7.9	6.8
Level of Service	C	B		B	B		A	A		A	A	A
Approach Delay (s)		23.0			19.0			7.6			7.5	
Approach LOS		C			B			A			A	

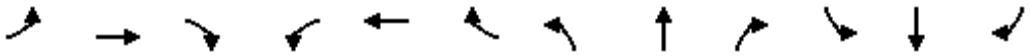
Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	13.3
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	568	7	10	385	10	7	3	12	3	0	4
Future Volume (Veh/h)	3	568	7	10	385	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	653	8	11	443	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	454			661			1129	1135	653	1140	1132	443
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	454			661			1129	1135	653	1140	1132	443
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	98	100	99
cM capacity (veh/h)	1117			937			179	201	471	171	202	619

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	656	8	454	11	25	8
Volume Left	3	0	11	0	8	3
Volume Right	0	8	0	11	14	5
cSH	1117	1700	937	1700	280	312
Volume to Capacity	0.00	0.00	0.01	0.01	0.09	0.03
Queue Length 95th (m)	0.1	0.0	0.3	0.0	2.2	0.6
Control Delay (s)	0.1	0.0	0.4	0.0	19.1	16.9
Lane LOS	A		A		C	C
Approach Delay (s)	0.1		0.3		19.1	16.9
Approach LOS					C	C

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	63	3	0	7	105	64	6	19	47	33
Future Volume (Veh/h)	20	0	63	3	0	7	105	64	6	19	47	33
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)	28	0	88	4	0	10	146	89	8	26	65	46
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	535	529	88	613	548	93	111			97		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	535	529	88	613	548	93	111			97		
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 %	93	100	91	99	100	99	90			98		
cM capacity (veh/h)	415	406	976	339	396	970	1492			1509		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	116	14	243	137
Volume Left	28	4	146	26
Volume Right	88	10	8	46
cSH	736	633	1492	1509
Volume to Capacity	0.16	0.02	0.10	0.02
Queue Length 95th (m)	4.2	0.5	2.5	0.4
Control Delay (s)	10.8	10.8	4.9	1.5
Lane LOS	B	B	A	A
Approach Delay (s)	10.8	10.8	4.9	1.5
Approach LOS	B	B		

Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	29.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	247	48	16	191	29	51
Future Volume (Veh/h)	247	48	16	191	29	51
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)	268	52	17	208	32	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			320		536	294
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			320		536	294
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		94	93
cM capacity (veh/h)			1251		502	750

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	320	225	87
Volume Left	0	17	32
Volume Right	52	0	55
cSH	1700	1251	635
Volume to Capacity	0.19	0.01	0.14
Queue Length 95th (m)	0.0	0.3	3.6
Control Delay (s)	0.0	0.7	11.6
Lane LOS		A	B
Approach Delay (s)	0.0	0.7	11.6
Approach LOS			B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	199	69	47	521	43	411
v/c Ratio	0.49	0.21	0.09	0.56	0.10	0.45
Control Delay	11.5	13.7	6.5	10.0	6.7	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	13.7	6.5	10.0	6.7	9.2
Queue Length 50th (m)	4.2	2.9	1.6	22.1	1.5	17.7
Queue Length 95th (m)	18.9	11.7	6.0	51.0	5.7	40.0
Internal Link Dist (m)	1308.1	285.1		328.5		907.9
Turn Bay Length (m)			35.0		40.0	
Base Capacity (vph)	901	867	723	1255	608	1223
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	0.08	0.07	0.42	0.07	0.34

Intersection Summary

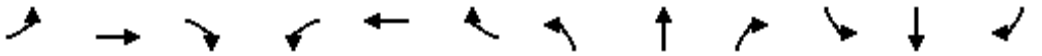
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	11	124	16	21	24	42	335	129	38	357	9
Future Volume (vph)	43	11	124	16	21	24	42	335	129	38	357	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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		0.91			0.95		1.00	0.96		1.00	1.00	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1719			1773		1825	1725		1825	1694	
Flt Permitted		0.90			0.89		0.52	1.00		0.44	1.00	
Satd. Flow (perm)		1559			1594		1001	1725		844	1694	
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)	48	12	139	18	24	27	47	376	145	43	401	10
RTOR Reduction (vph)	0	113	0	0	22	0	0	16	0	0	1	0
Lane Group Flow (vph)	0	86	0	0	47	0	47	505	0	43	410	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)		9.2			9.2		26.1	26.1		26.1	26.1	
Effective Green, g (s)		9.2			9.2		26.1	26.1		26.1	26.1	
Actuated g/C Ratio		0.19			0.19		0.53	0.53		0.53	0.53	
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)		293			300		535	922		451	906	
v/s Ratio Prot								c0.29			0.24	
v/s Ratio Perm		c0.06			0.03		0.05			0.05		
v/c Ratio		0.29			0.16		0.09	0.55		0.10	0.45	
Uniform Delay, d1		17.0			16.6		5.5	7.5		5.6	7.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.2		0.1	1.2		0.2	0.8	
Delay (s)		17.6			16.8		5.7	8.6		5.8	7.7	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		17.6			16.8			8.4			7.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	48.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	139	0	2	61	8	5
Future Volume (Veh/h)	139	0	2	61	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)	174	0	2	76	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			174		254	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			174		254	174
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)			1415		738	875

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	174	78	16
Volume Left	0	2	10
Volume Right	0	0	6
cSH	1700	1415	784
Volume to Capacity	0.10	0.00	0.02
Queue Length 95th (m)	0.0	0.0	0.5
Control Delay (s)	0.0	0.2	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	0.2	9.7
Approach LOS			A

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)	15		



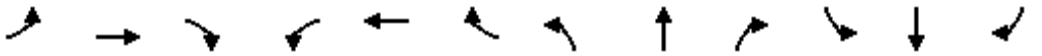
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	42	19	111	41	148	11	152	129	119	188	21
Future Volume (Veh/h)	12	42	19	111	41	148	11	152	129	119	188	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	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	116	43	154	11	158	134	124	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	800	758	196	666	646	158	218			292		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	800	758	196	666	646	158	218			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	85	98	61	87	82	99			90		
cM capacity (veh/h)	207	301	850	296	343	850	1300			1204		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	76	313	169	134	320	22
Volume Left	12	116	11	0	124	0
Volume Right	20	154	0	134	0	22
cSH	334	448	1300	1700	1204	1700
Volume to Capacity	0.23	0.70	0.01	0.08	0.10	0.01
Queue Length 95th (m)	6.5	40.3	0.2	0.0	2.6	0.0
Control Delay (s)	18.9	29.7	0.6	0.0	3.8	0.0
Lane LOS	C	D	A		A	
Approach Delay (s)	18.9	29.7	0.3		3.6	
Approach LOS	C	D				

Intersection Summary				
Average Delay	11.7			
Intersection Capacity Utilization	59.1%	ICU Level of Service	B	
Analysis Period (min)	15			

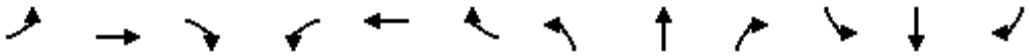
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	226	211	19	73	167	307	14	229	121
v/c Ratio	0.73	0.40	0.06	0.15	0.28	0.33	0.02	0.26	0.14
Control Delay	36.7	9.2	18.1	13.3	10.7	10.0	8.5	9.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.7	9.2	18.1	13.3	10.7	10.0	8.5	9.8	2.5
Queue Length 50th (m)	24.7	5.9	1.7	4.1	10.0	18.2	0.7	13.6	0.0
Queue Length 95th (m)	43.1	18.1	5.7	11.7	21.9	34.7	3.1	26.9	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)	403	644	390	609	595	933	598	877	884
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	0.56	0.33	0.05	0.12	0.28	0.33	0.02	0.26	0.14

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	54	127	16	39	24	144	239	25	12	197	104
Future Volume (vph)	194	54	127	16	39	24	144	239	25	12	197	104
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	0.89		1.00	0.94		1.00	0.99		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	1672		1825	1811		1690	1708		1825	1614	1526
Flt Permitted	0.71	1.00		0.62	1.00		0.62	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1239	1672		1199	1811		1095	1708		1101	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)	226	63	148	19	45	28	167	278	29	14	229	121
RTOR Reduction (vph)	0	111	0	0	21	0	0	5	0	0	0	55
Lane Group Flow (vph)	226	100	0	19	52	0	167	302	0	14	229	66
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)	16.2	16.2		16.2	16.2		35.2	35.2		35.2	35.2	35.2
Effective Green, g (s)	16.2	16.2		16.2	16.2		35.2	35.2		35.2	35.2	35.2
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.54	0.54		0.54	0.54	0.54
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)	310	418		300	453		595	929		598	878	830
v/s Ratio Prot		0.06			0.03			c0.18			0.14	
v/s Ratio Perm	c0.18			0.02			0.15			0.01		0.04
v/c Ratio	0.73	0.24		0.06	0.11		0.28	0.33		0.02	0.26	0.08
Uniform Delay, d1	22.2	19.3		18.5	18.7		7.9	8.2		6.8	7.8	7.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.3	0.3		0.1	0.1		0.3	0.2		0.0	0.2	0.0
Delay (s)	30.5	19.6		18.6	18.8		8.2	8.4		6.8	8.0	7.1
Level of Service	C	B		B	B		A	A		A	A	A
Approach Delay (s)		25.3			18.8			8.3			7.6	
Approach LOS		C			B			A			A	

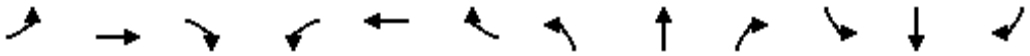
Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	64.7	Sum of lost time (s)	13.3
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	384	0	7	439	1	2	1	8	4	2	1
Future Volume (Veh/h)	1	384	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	409	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			409			894	893	409	902	892	467
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	468			409			894	893	409	902	892	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			1161			261	281	647	255	281	600

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	410	0	474	1	12	7
Volume Left	1	0	7	0	2	4
Volume Right	0	0	0	1	9	1
cSH	1104	1700	1161	1700	477	286
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	12.7	17.9
Lane LOS	A		A		B	C
Approach Delay (s)	0.0		0.2		12.7	17.9
Approach LOS					B	C

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	38.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	98	0	0	18	33	37	0	5	40	10
Future Volume (Veh/h)	31	0	98	0	0	18	33	37	0	5	40	10
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)	34	0	107	0	0	20	36	40	0	5	43	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	190	170	48	278	176	40	54			40		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	190	170	48	278	176	40	54			40		
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 %	95	100	90	100	100	98	98			100		
cM capacity (veh/h)	744	707	1026	596	702	1037	1564			1583		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	141	20	76	59
Volume Left	34	0	36	5
Volume Right	107	20	0	11
cSH	940	1037	1564	1583
Volume to Capacity	0.15	0.02	0.02	0.00
Queue Length 95th (m)	4.0	0.4	0.5	0.1
Control Delay (s)	9.5	8.5	3.6	0.6
Lane LOS	A	A	A	A
Approach Delay (s)	9.5	8.5	3.6	0.6
Approach LOS	A	A		

Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	31.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	336	119	49	298	94	28
Future Volume (Veh/h)	336	119	49	298	94	28
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)	357	127	52	317	100	30
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			484		842	420
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			484		842	420
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		69	95
cM capacity (veh/h)			1089		321	637

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	484	369	130
Volume Left	0	52	100
Volume Right	127	0	30
cSH	1700	1089	363
Volume to Capacity	0.28	0.05	0.36
Queue Length 95th (m)	0.0	1.1	12.1
Control Delay (s)	0.0	1.6	20.4
Lane LOS		A	C
Approach Delay (s)	0.0	1.6	20.4
Approach LOS			C

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	210	160	142	717	36	665
v/c Ratio	0.57	0.47	0.44	0.75	0.13	0.68
Control Delay	22.3	23.0	14.0	16.2	8.6	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	23.0	14.0	16.2	8.6	14.2
Queue Length 50th (m)	15.1	13.2	7.6	46.1	1.6	42.4
Queue Length 95th (m)	33.7	29.0	24.2	#104.9	6.5	91.5
Internal Link Dist (m)	1308.1	285.1		328.5		907.9
Turn Bay Length (m)			35.0		40.0	
Base Capacity (vph)	758	730	379	1119	331	1149
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	0.28	0.22	0.37	0.64	0.11	0.58

Intersection Summary

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

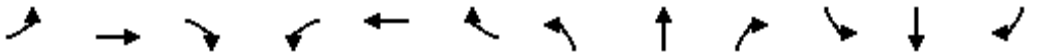
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	51	81	52	73	29	136	489	200	35	610	29
Future Volume (vph)	70	51	81	52	73	29	136	489	200	35	610	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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		0.95			0.97		1.00	0.96		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1786			1829		1825	1739		1825	1805	
Flt Permitted		0.85			0.82		0.31	1.00		0.27	1.00	
Satd. Flow (perm)		1549			1526		598	1739		522	1805	
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)	73	53	84	54	76	30	142	509	208	36	635	30
RTOR Reduction (vph)	0	38	0	0	13	0	0	17	0	0	2	0
Lane Group Flow (vph)	0	172	0	0	147	0	142	700	0	36	663	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)		12.0			12.0		30.4	30.4		30.4	30.4	
Effective Green, g (s)		12.0			12.0		30.4	30.4		30.4	30.4	
Actuated g/C Ratio		0.21			0.21		0.54	0.54		0.54	0.54	
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)		332			327		325	945		283	981	
v/s Ratio Prot								c0.40			0.37	
v/s Ratio Perm		c0.11			0.10		0.24			0.07		
v/c Ratio		0.52			0.45		0.44	0.74		0.13	0.68	
Uniform Delay, d1		19.4			19.1		7.6	9.7		6.2	9.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4			1.0		2.0	3.8		0.4	2.4	
Delay (s)		20.7			20.1		9.6	13.5		6.7	11.6	
Level of Service		C			C		A	B		A	B	
Approach Delay (s)		20.7			20.1			12.9			11.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	55.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	176	6	12	193	7	1
Future Volume (Veh/h)	176	6	12	193	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)	207	7	14	227	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			214		466	210
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			214		466	210
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)			1368		553	835

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	214	241	9
Volume Left	0	14	8
Volume Right	7	0	1
cSH	1700	1368	575
Volume to Capacity	0.13	0.01	0.02
Queue Length 95th (m)	0.0	0.2	0.4
Control Delay (s)	0.0	0.5	11.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	11.4
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	39	27	140	72	201	19	352	255	235	261	9
Future Volume (Veh/h)	16	39	27	140	72	201	19	352	255	235	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	147	76	212	20	371	268	247	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	1430	1448	275	1228	1189	371	284			639		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1430	1448	275	1228	1189	371	284			639		
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 %	49	57	96	0	44	67	98			73		
cM capacity (veh/h)	33	96	769	80	136	651	1290			926		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	86	435	391	268	522	9
Volume Left	17	147	20	0	247	0
Volume Right	28	212	0	268	0	9
cSH	88	159	1290	1700	926	1700
Volume to Capacity	0.98	2.73	0.02	0.16	0.27	0.01
Queue Length 95th (m)	42.3	293.8	0.4	0.0	8.2	0.0
Control Delay (s)	175.5	839.2	0.5	0.0	6.6	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	175.5	839.2	0.3		6.5	
Approach LOS	F	F				

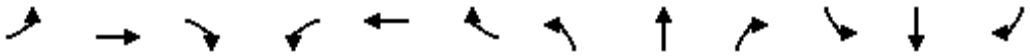
Intersection Summary				
Average Delay	224.3			
Intersection Capacity Utilization	86.8%	ICU Level of Service		E
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	239	242	17	65	212	356	9	467	194
v/c Ratio	0.73	0.42	0.06	0.14	0.46	0.39	0.02	0.48	0.20
Control Delay	35.6	7.0	18.2	12.8	14.4	10.7	8.5	12.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	7.0	18.2	12.8	14.4	10.7	8.5	12.1	2.2
Queue Length 50th (m)	26.1	3.0	1.5	3.5	14.4	22.0	0.5	32.1	0.0
Queue Length 95th (m)	47.7	17.4	5.6	11.3	35.3	44.2	2.6	61.4	8.4
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)	431	686	355	606	458	912	567	968	951
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	0.55	0.35	0.05	0.11	0.46	0.39	0.02	0.48	0.20

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	31	196	16	36	25	199	300	35	8	439	182
Future Volume (vph)	225	31	196	16	36	25	199	300	35	8	439	182
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	0.87		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	1672		1825	1801		1789	1667		1825	1779	1585
Flt Permitted	0.71	1.00		0.57	1.00		0.45	1.00		0.54	1.00	1.00
Satd. Flow (perm)	1320	1672		1088	1801		842	1667		1043	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)	239	33	209	17	38	27	212	319	37	9	467	194
RTOR Reduction (vph)	0	157	0	0	20	0	0	5	0	0	0	88
Lane Group Flow (vph)	239	85	0	17	45	0	212	351	0	9	467	106
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)	16.1	16.1		16.1	16.1		35.1	35.1		35.1	35.1	35.1
Effective Green, g (s)	16.1	16.1		16.1	16.1		35.1	35.1		35.1	35.1	35.1
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.54	0.54		0.54	0.54	0.54
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)	329	417		271	449		458	907		567	968	862
v/s Ratio Prot		0.05			0.02			0.21			c0.26	
v/s Ratio Perm	c0.18			0.02			0.25			0.01		0.07
v/c Ratio	0.73	0.20		0.06	0.10		0.46	0.39		0.02	0.48	0.12
Uniform Delay, d1	22.2	19.1		18.4	18.6		9.0	8.5		6.8	9.1	7.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.8	0.2		0.1	0.1		0.7	0.3		0.0	0.4	0.1
Delay (s)	29.9	19.4		18.5	18.7		9.7	8.8		6.8	9.5	7.2
Level of Service	C	B		B	B		A	A		A	A	A
Approach Delay (s)		24.6			18.7			9.1			8.8	
Approach LOS		C			B			A			A	

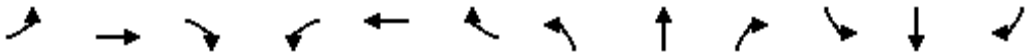
Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	64.5	Sum of lost time (s)	13.3
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	622	7	11	485	11	7	4	13	4	0	5
Future Volume (Veh/h)	4	622	7	11	485	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	715	8	13	557	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	570			723			1314	1321	715	1326	1316	557
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	570			723			1314	1321	715	1326	1316	557
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			94	97	97	96	100	99
cM capacity (veh/h)	1013			889			133	155	434	124	156	534

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	720	8	570	13	28	11
Volume Left	5	0	13	0	8	5
Volume Right	0	8	0	13	15	6
cSH	1013	1700	889	1700	220	214
Volume to Capacity	0.00	0.00	0.01	0.01	0.13	0.05
Queue Length 95th (m)	0.1	0.0	0.3	0.0	3.3	1.2
Control Delay (s)	0.1	0.0	0.4	0.0	23.7	22.8
Lane LOS	A		A		C	C
Approach Delay (s)	0.1		0.4		23.7	22.8
Approach LOS					C	C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	63	4	0	7	105	90	6	20	115	33
Future Volume (Veh/h)	20	0	63	4	0	7	105	90	6	20	115	33
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)	28	0	88	6	0	10	146	125	8	28	160	46
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	670	664	183	748	683	129	206			133		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	670	664	183	748	683	129	206			133		
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 %	92	100	90	98	100	99	89			98		
cM capacity (veh/h)	335	336	865	269	328	926	1377			1464		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	116	16	279	234
Volume Left	28	6	146	28
Volume Right	88	10	8	46
cSH	625	484	1377	1464
Volume to Capacity	0.19	0.03	0.11	0.02
Queue Length 95th (m)	5.1	0.8	2.7	0.4
Control Delay (s)	12.1	12.7	4.6	1.0
Lane LOS	B	B	A	A
Approach Delay (s)	12.1	12.7	4.6	1.0
Approach LOS	B	B		

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	35.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	202	35	27	150	70	84
Future Volume (Veh/h)	202	35	27	150	70	84
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)	220	38	29	163	76	91
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			258		460	239
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			258		460	239
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	89
cM capacity (veh/h)			1318		551	805

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	258	192	167
Volume Left	0	29	76
Volume Right	38	0	91
cSH	1700	1318	665
Volume to Capacity	0.15	0.02	0.25
Queue Length 95th (m)	0.0	0.5	7.5
Control Delay (s)	0.0	1.3	12.2
Lane LOS		A	B
Approach Delay (s)	0.0	1.3	12.2
Approach LOS			B

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	222	322	65	389	97	290
v/c Ratio	0.35	0.74	0.13	0.49	0.22	0.38
Control Delay	5.2	25.1	11.8	13.3	13.0	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	25.1	11.8	13.3	13.0	13.4
Queue Length 50th (m)	1.9	22.8	3.6	22.2	5.6	18.0
Queue Length 95th (m)	13.7	49.8	11.6	52.5	16.8	41.7
Internal Link Dist (m)	1308.1	285.1		328.5		907.9
Turn Bay Length (m)			35.0		40.0	
Base Capacity (vph)	867	648	710	1103	625	1077
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	0.26	0.50	0.09	0.35	0.16	0.27

Intersection Summary

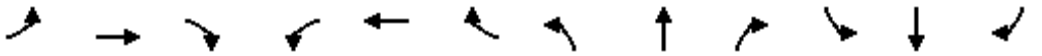
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	10	173	151	16	119	58	228	118	86	249	9
Future Volume (vph)	15	10	173	151	16	119	58	228	118	86	249	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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		0.88			0.94		1.00	0.95		1.00	0.99	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1688			1721		1825	1709		1825	1691	
Flt Permitted		0.96			0.74		0.58	1.00		0.51	1.00	
Satd. Flow (perm)		1620			1313		1119	1709		984	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)	17	11	194	170	18	134	65	256	133	97	280	10
RTOR Reduction (vph)	0	134	0	0	37	0	0	26	0	0	2	0
Lane Group Flow (vph)	0	88	0	0	285	0	65	363	0	97	288	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)		17.1			17.1		25.1	25.1		25.1	25.1	
Effective Green, g (s)		17.1			17.1		25.1	25.1		25.1	25.1	
Actuated g/C Ratio		0.31			0.31		0.45	0.45		0.45	0.45	
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)		497			403		504	770		443	762	
v/s Ratio Prot								c0.21			0.17	
v/s Ratio Perm		0.05			c0.22		0.06			0.10		
v/c Ratio		0.18			0.71		0.13	0.47		0.22	0.38	
Uniform Delay, d1		14.1			17.1		8.9	10.7		9.3	10.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			5.6		0.2	1.0		0.5	0.7	
Delay (s)		14.3			22.7		9.2	11.6		9.8	10.8	
Level of Service		B			C		A	B		A	B	
Approach Delay (s)		14.3			22.7			11.3			10.6	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	55.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	160	0	2	71	8	4
Future Volume (Veh/h)	160	0	2	71	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)	200	0	2	89	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			200		293	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			200		293	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 %			100		99	99
cM capacity (veh/h)			1384		701	846

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	200	91	15
Volume Left	0	2	10
Volume Right	0	0	5
cSH	1700	1384	744
Volume to Capacity	0.12	0.00	0.02
Queue Length 95th (m)	0.0	0.0	0.5
Control Delay (s)	0.0	0.2	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	0.2	9.9
Approach LOS			A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		



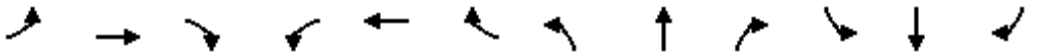
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	40	18	149	39	113	10	145	137	55	180	20
Future Volume (Veh/h)	11	40	18	149	39	113	10	145	137	55	180	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	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	155	41	118	10	151	143	57	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	612	616	188	513	494	151	209			294		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	612	616	188	513	494	151	209			294		
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	62	91	86	99			95		
cM capacity (veh/h)	314	386	859	404	445	857	1310			1202		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	72	314	161	143	245	21
Volume Left	11	155	10	0	57	0
Volume Right	19	118	0	143	0	21
cSH	434	512	1310	1700	1202	1700
Volume to Capacity	0.17	0.61	0.01	0.08	0.05	0.01
Queue Length 95th (m)	4.5	31.0	0.2	0.0	1.1	0.0
Control Delay (s)	14.9	22.5	0.5	0.0	2.2	0.0
Lane LOS	B	C	A		A	
Approach Delay (s)	14.9	22.5	0.3		2.1	
Approach LOS	B	C				

Intersection Summary				
Average Delay	9.2			
Intersection Capacity Utilization	54.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	212	196	19	69	67	192	13	176	119
v/c Ratio	0.70	0.38	0.06	0.15	0.11	0.20	0.02	0.20	0.13
Control Delay	35.1	9.4	18.2	13.5	8.8	8.2	8.3	9.1	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	9.4	18.2	13.5	8.8	8.2	8.3	9.1	2.5
Queue Length 50th (m)	22.9	5.6	1.7	3.9	3.5	9.5	0.7	9.7	0.0
Queue Length 95th (m)	40.4	17.5	5.7	11.3	9.6	20.7	3.0	20.7	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	642	400	613	629	942	671	884	890
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	0.31	0.05	0.11	0.11	0.20	0.02	0.20	0.13

Intersection Summary



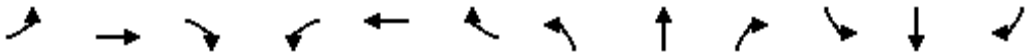
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	52	117	16	37	22	58	141	24	11	151	102
Future Volume (vph)	182	52	117	16	37	22	58	141	24	11	151	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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	1675		1825	1813		1690	1704		1825	1614	1526
Flt Permitted	0.71	1.00		0.63	1.00		0.65	1.00		0.64	1.00	1.00
Satd. Flow (perm)	1244	1675		1219	1813		1149	1704		1223	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)	212	60	136	19	43	26	67	164	28	13	176	119
RTOR Reduction (vph)	0	103	0	0	20	0	0	8	0	0	0	54
Lane Group Flow (vph)	212	93	0	19	49	0	67	184	0	13	176	65
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)	15.6	15.6		15.6	15.6		35.1	35.1		35.1	35.1	35.1
Effective Green, g (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
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)	303	408		297	441		630	934		670	885	836
v/s Ratio Prot		0.06			0.03			0.11			c0.11	
v/s Ratio Perm	c0.17			0.02			0.06			0.01		0.04
v/c Ratio	0.70	0.23		0.06	0.11		0.11	0.20		0.02	0.20	0.08
Uniform Delay, d1	22.1	19.4		18.6	18.8		6.9	7.3		6.6	7.3	6.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.9	0.3		0.1	0.1		0.1	0.1		0.0	0.1	0.0
Delay (s)	29.0	19.7		18.7	18.9		7.0	7.4		6.6	7.4	6.9
Level of Service	C	B		B	B		A	A		A	A	A
Approach Delay (s)		24.5			18.9			7.3			7.2	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	64.0	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			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	315	0	7	355	1	2	1	8	3	2	1
Future Volume (Veh/h)	1	315	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	335	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			335			731	730	335	738	729	378
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	379			335			731	730	335	738	729	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			1236			336	349	712	329	350	673

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	336	0	385	1	12	6
Volume Left	1	0	7	0	2	3
Volume Right	0	0	0	1	9	1
cSH	1191	1700	1236	1700	559	368
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	11.6	14.9
Lane LOS	A		A		B	B
Approach Delay (s)	0.0		0.2		11.6	14.9
Approach LOS					B	B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	98	0	0	17	33	47	0	4	61	10
Future Volume (Veh/h)	31	0	98	0	0	17	33	47	0	4	61	10
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)	34	0	107	0	0	18	36	51	0	4	66	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	220	202	72	310	208	51	77			51		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	220	202	72	310	208	51	77			51		
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 %	95	100	89	100	100	98	98			100		
cM capacity (veh/h)	712	679	996	566	674	1023	1535			1568		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	141	18	87	81
Volume Left	34	0	36	4
Volume Right	107	18	0	11
cSH	909	1023	1535	1568
Volume to Capacity	0.16	0.02	0.02	0.00
Queue Length 95th (m)	4.2	0.4	0.5	0.1
Control Delay (s)	9.7	8.6	3.2	0.4
Lane LOS	A	A	A	A
Approach Delay (s)	9.7	8.6	3.2	0.4
Approach LOS	A	A		

Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	32.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	41	87	8	14	51
Future Volume (Veh/h)	25	41	87	8	14	51
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)	27	45	95	9	15	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	184	100			104	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	184	100			104	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	95			99	
cM capacity (veh/h)	801	962			1500	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	72	104	70
Volume Left	27	0	15
Volume Right	45	9	0
cSH	895	1700	1500
Volume to Capacity	0.08	0.06	0.01
Queue Length 95th (m)	2.0	0.0	0.2
Control Delay (s)	9.4	0.0	1.7
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	1.7
Approach LOS	A		

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	40	120	8	14	40
Future Volume (Veh/h)	25	40	120	8	14	40
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)	27	43	130	9	15	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	208	134			139	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	208	134			139	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	95			99	
cM capacity (veh/h)	777	920			1457	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	70	139	58
Volume Left	27	0	15
Volume Right	43	9	0
cSH	859	1700	1457
Volume to Capacity	0.08	0.08	0.01
Queue Length 95th (m)	2.0	0.0	0.2
Control Delay (s)	9.6	0.0	2.0
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	2.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	24.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	291	51	49	247	67	28
Future Volume (Veh/h)	291	51	49	247	67	28
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)	310	54	52	263	71	30
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			364		704	337
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			364		704	337
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		82	96
cM capacity (veh/h)			1206		389	710

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	364	315	101
Volume Left	0	52	71
Volume Right	54	0	30
cSH	1700	1206	449
Volume to Capacity	0.21	0.04	0.22
Queue Length 95th (m)	0.0	1.0	6.5
Control Delay (s)	0.0	1.7	15.3
Lane LOS		A	C
Approach Delay (s)	0.0	1.7	15.3
Approach LOS			C

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	137	214	140	614	152	482
v/c Ratio	0.32	0.55	0.30	0.66	0.43	0.51
Control Delay	11.1	18.9	9.8	12.7	13.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	18.9	9.8	12.7	13.1	10.6
Queue Length 50th (m)	3.7	10.6	6.3	32.0	7.4	24.6
Queue Length 95th (m)	16.8	31.8	18.4	74.2	23.4	54.8
Internal Link Dist (m)	1308.1	285.1		328.5		907.9
Turn Bay Length (m)			35.0		40.0	
Base Capacity (vph)	905	843	608	1200	460	1237
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	0.15	0.25	0.23	0.51	0.33	0.39

Intersection Summary

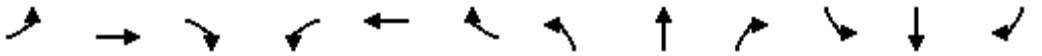
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	41	80	49	58	99	134	378	211	146	445	17
Future Volume (vph)	11	41	80	49	58	99	134	378	211	146	445	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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		0.92			0.94		1.00	0.95		1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1757			1767		1825	1729		1825	1806	
Flt Permitted		0.96			0.89		0.46	1.00		0.35	1.00	
Satd. Flow (perm)		1700			1592		888	1729		672	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	43	83	51	60	103	140	394	220	152	464	18
RTOR Reduction (vph)	0	65	0	0	54	0	0	24	0	0	2	0
Lane Group Flow (vph)	0	72	0	0	160	0	140	590	0	152	480	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)		11.0			11.0		27.3	27.3		27.3	27.3	
Effective Green, g (s)		11.0			11.0		27.3	27.3		27.3	27.3	
Actuated g/C Ratio		0.21			0.21		0.53	0.53		0.53	0.53	
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)		361			338		468	911		354	951	
v/s Ratio Prot								c0.34			0.27	
v/s Ratio Perm		0.04			c0.10		0.16			0.23		
v/c Ratio		0.20			0.47		0.30	0.65		0.43	0.50	
Uniform Delay, d1		16.8			17.9		6.9	8.8		7.5	7.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			1.0		0.8	2.2		1.7	0.9	
Delay (s)		17.0			18.9		7.6	11.0		9.2	8.8	
Level of Service		B			B		A	B		A	A	
Approach Delay (s)		17.0			18.9			10.4			8.9	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	51.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	109	6	11	167	7	1
Future Volume (Veh/h)	109	6	11	167	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)	128	7	13	196	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			135		354	132
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			135		354	132
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)			1462		643	923

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	135	209	9
Volume Left	0	13	8
Volume Right	7	0	1
cSH	1700	1462	665
Volume to Capacity	0.08	0.01	0.01
Queue Length 95th (m)	0.0	0.2	0.3
Control Delay (s)	0.0	0.5	10.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	10.5
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		



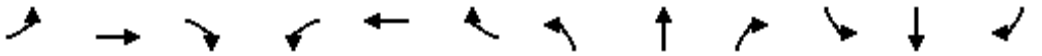
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	37	26	135	68	132	18	335	247	132	249	9
Future Volume (Veh/h)	16	37	26	135	68	132	18	335	247	132	249	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	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	142	72	139	19	353	260	139	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	1106	1191	262	978	940	353	271			613		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1106	1191	262	978	940	353	271			613		
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 %	82	75	97	11	68	79	99			85		
cM capacity (veh/h)	96	159	782	160	222	667	1304			947		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	83	353	372	260	401	9
Volume Left	17	142	19	0	139	0
Volume Right	27	139	0	260	0	9
cSH	182	248	1304	1700	947	1700
Volume to Capacity	0.46	1.42	0.01	0.15	0.15	0.01
Queue Length 95th (m)	16.3	150.6	0.3	0.0	3.9	0.0
Control Delay (s)	40.4	250.4	0.5	0.0	4.3	0.0
Lane LOS	E	F	A		A	
Approach Delay (s)	40.4	250.4	0.3		4.3	
Approach LOS	E	F				

Intersection Summary				
Average Delay	63.4			
Intersection Capacity Utilization	74.8%	ICU Level of Service	D	
Analysis Period (min)	15			

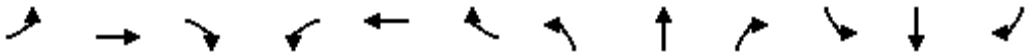
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	203	224	17	63	165	258	9	329	183
v/c Ratio	0.65	0.41	0.06	0.14	0.28	0.28	0.01	0.33	0.19
Control Delay	32.4	7.3	18.4	13.1	10.2	8.7	8.0	9.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	7.3	18.4	13.1	10.2	8.7	8.0	9.8	2.2
Queue Length 50th (m)	21.4	2.8	1.5	3.4	9.1	13.1	0.4	18.8	0.0
Queue Length 95th (m)	40.1	16.7	5.6	11.0	23.3	30.1	2.5	40.5	8.2
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)	440	685	382	617	586	931	639	986	960
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	0.46	0.33	0.04	0.10	0.28	0.28	0.01	0.33	0.19

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	29	181	16	35	24	155	209	34	8	309	172
Future Volume (vph)	191	29	181	16	35	24	155	209	34	8	309	172
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	0.87		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	1673		1825	1802		1789	1666		1825	1779	1585
Flt Permitted	0.72	1.00		0.60	1.00		0.56	1.00		0.60	1.00	1.00
Satd. Flow (perm)	1322	1673		1150	1802		1058	1666		1152	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)	203	31	193	17	37	26	165	222	36	9	329	183
RTOR Reduction (vph)	0	148	0	0	20	0	0	8	0	0	0	82
Lane Group Flow (vph)	203	76	0	17	43	0	165	250	0	9	329	101
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)	14.9	14.9		14.9	14.9		35.1	35.1		35.1	35.1	35.1
Effective Green, g (s)	14.9	14.9		14.9	14.9		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
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)	311	393		270	424		586	923		638	986	878
v/s Ratio Prot		0.05			0.02			0.15			c0.18	
v/s Ratio Perm	c0.15			0.01			0.16			0.01		0.06
v/c Ratio	0.65	0.19		0.06	0.10		0.28	0.27		0.01	0.33	0.12
Uniform Delay, d1	21.9	19.4		18.8	19.0		7.4	7.4		6.3	7.7	6.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.9	0.2		0.1	0.1		0.3	0.2		0.0	0.2	0.1
Delay (s)	26.7	19.6		18.9	19.1		7.7	7.6		6.3	7.9	6.8
Level of Service	C	B		B	B		A	A		A	A	A
Approach Delay (s)		23.0			19.0			7.6			7.5	
Approach LOS		C			B			A			A	

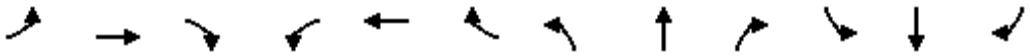
Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	13.3
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	568	7	10	385	10	7	3	12	3	0	4
Future Volume (Veh/h)	3	568	7	10	385	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	653	8	11	443	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	454			661			1129	1135	653	1140	1132	443
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	454			661			1129	1135	653	1140	1132	443
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	98	100	99
cM capacity (veh/h)	1117			937			179	201	471	171	202	619

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	656	8	454	11	25	8
Volume Left	3	0	11	0	8	3
Volume Right	0	8	0	11	14	5
cSH	1117	1700	937	1700	280	312
Volume to Capacity	0.00	0.00	0.01	0.01	0.09	0.03
Queue Length 95th (m)	0.1	0.0	0.3	0.0	2.2	0.6
Control Delay (s)	0.1	0.0	0.4	0.0	19.1	16.9
Lane LOS	A		A		C	C
Approach Delay (s)	0.1		0.3		19.1	16.9
Approach LOS					C	C

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	63	3	0	7	105	64	6	19	47	33
Future Volume (Veh/h)	20	0	63	3	0	7	105	64	6	19	47	33
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)	28	0	88	4	0	10	146	89	8	26	65	46
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	535	529	88	613	548	93	111			97		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	535	529	88	613	548	93	111			97		
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 %	93	100	91	99	100	99	90			98		
cM capacity (veh/h)	415	406	976	339	396	970	1492			1509		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	116	14	243	137
Volume Left	28	4	146	26
Volume Right	88	10	8	46
cSH	736	633	1492	1509
Volume to Capacity	0.16	0.02	0.10	0.02
Queue Length 95th (m)	4.2	0.5	2.5	0.4
Control Delay (s)	10.8	10.8	4.9	1.5
Lane LOS	B	B	A	A
Approach Delay (s)	10.8	10.8	4.9	1.5
Approach LOS	B	B		

Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	29.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	91	0	0	99
Future Volume (Veh/h)	0	0	91	0	0	99
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	0	99	0	0	108
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	207	99			99	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207	99			99	
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	100			100	
cM capacity (veh/h)	786	962			1507	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	99	108
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1507
Volume to Capacity	0.08	0.06	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	8.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	91	0	0	99
Future Volume (Veh/h)	0	0	91	0	0	99
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	0	99	0	0	108
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	207	99			99	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207	99			99	
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	100			100	
cM capacity (veh/h)	786	962			1507	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	99	108
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1507
Volume to Capacity	0.08	0.06	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	8.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	247	64	28	191	76	85
Future Volume (Veh/h)	247	64	28	191	76	85
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)	268	70	30	208	83	92
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			338		571	303
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			338		571	303
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		82	88
cM capacity (veh/h)			1232		474	741

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	338	238	175
Volume Left	0	30	83
Volume Right	70	0	92
cSH	1700	1232	585
Volume to Capacity	0.20	0.02	0.30
Queue Length 95th (m)	0.0	0.6	9.5
Control Delay (s)	0.0	1.2	13.8
Lane LOS		A	B
Approach Delay (s)	0.0	1.2	13.8
Approach LOS			B

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	256	223	65	521	43	411
v/c Ratio	0.44	0.71	0.15	0.62	0.12	0.51
Control Delay	7.6	31.2	11.3	15.7	11.4	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	31.2	11.3	15.7	11.4	14.5
Queue Length 50th (m)	4.1	17.7	3.5	34.5	2.3	27.3
Queue Length 95th (m)	20.1	45.3	11.6	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)	826	502	591	1087	465	1055
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	0.31	0.44	0.11	0.48	0.09	0.39

Intersection Summary

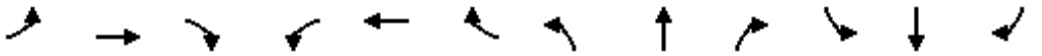
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	11	174	168	6	24	58	335	129	38	357	9
Future Volume (vph)	43	11	174	168	6	24	58	335	129	38	357	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (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		0.90			0.98		1.00	0.96		1.00	1.00	
Flt Protected		0.99			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1707			1739		1825	1725		1825	1694	
Flt Permitted		0.90			0.59		0.49	1.00		0.39	1.00	
Satd. Flow (perm)		1557			1076		950	1725		748	1694	
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)	48	12	196	189	7	27	65	376	145	43	401	10
RTOR Reduction (vph)	0	139	0	0	7	0	0	18	0	0	1	0
Lane Group Flow (vph)	0	117	0	0	216	0	65	503	0	43	410	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)		16.6			16.6		27.4	27.4		27.4	27.4	
Effective Green, g (s)		16.6			16.6		27.4	27.4		27.4	27.4	
Actuated g/C Ratio		0.29			0.29		0.48	0.48		0.48	0.48	
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)		449			310		452	822		356	807	
v/s Ratio Prot								c0.29			0.24	
v/s Ratio Perm		0.07			c0.20		0.07			0.06		
v/c Ratio		0.26			0.70		0.14	0.61		0.12	0.51	
Uniform Delay, d1		15.7			18.2		8.5	11.1		8.4	10.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			6.7		0.3	2.0		0.3	1.1	
Delay (s)		16.0			24.9		8.8	13.1		8.7	11.4	
Level of Service		B			C		A	B		A	B	
Approach Delay (s)		16.0			24.9			12.6			11.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	189	0	2	62	8	5
Future Volume (Veh/h)	189	0	2	62	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)	236	0	2	78	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			236		318	236
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			236		318	236
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)			1343		678	808

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	236	80	16
Volume Left	0	2	10
Volume Right	0	0	6
cSH	1700	1343	722
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	10.1
Lane LOS		A	B
Approach Delay (s)	0.0	0.2	10.1
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	19.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	42	19	150	41	156	11	152	142	122	188	21
Future Volume (Veh/h)	12	42	19	150	41	156	11	152	142	122	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	156	43	162	11	158	148	127	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	814	778	196	672	652	158	218			306		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	814	778	196	672	652	158	218			306		
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	46	87	81	99			89		
cM capacity (veh/h)	200	292	850	291	338	850	1300			1190		

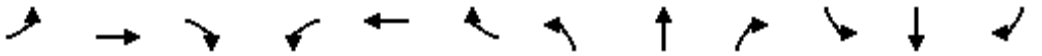
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	76	361	169	148	323	22
Volume Left	12	156	11	0	127	0
Volume Right	20	162	0	148	0	22
cSH	325	423	1300	1700	1190	1700
Volume to Capacity	0.23	0.85	0.01	0.09	0.11	0.01
Queue Length 95th (m)	6.8	63.9	0.2	0.0	2.7	0.0
Control Delay (s)	19.4	46.7	0.6	0.0	3.9	0.0
Lane LOS	C	E	A		A	
Approach Delay (s)	19.4	46.7	0.3		3.7	
Approach LOS	C	E				

Intersection Summary				
Average Delay	17.9			
Intersection Capacity Utilization	61.9%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	256	211	19	73	167	307	14	229	131
v/c Ratio	0.79	0.39	0.06	0.15	0.29	0.33	0.02	0.27	0.15
Control Delay	40.9	9.0	17.9	13.1	11.1	10.4	8.8	10.2	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	9.0	17.9	13.1	11.1	10.4	8.8	10.2	2.5
Queue Length 50th (m)	28.8	5.9	1.7	4.1	11.0	20.0	0.8	14.9	0.0
Queue Length 95th (m)	#51.5	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)	397	636	384	599	585	918	588	862	876
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	0.33	0.05	0.12	0.29	0.33	0.02	0.27	0.15

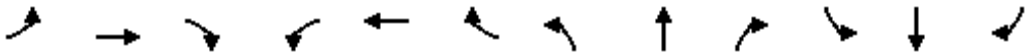
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	54	127	16	39	24	144	239	25	12	197	113
Future Volume (vph)	220	54	127	16	39	24	144	239	25	12	197	113
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	0.89		1.00	0.94		1.00	0.99		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	1672		1825	1811		1690	1708		1825	1614	1526
Flt Permitted	0.71	1.00		0.62	1.00		0.62	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1239	1672		1201	1811		1095	1708		1101	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)	256	63	148	19	45	28	167	278	29	14	229	131
RTOR Reduction (vph)	0	109	0	0	21	0	0	5	0	0	0	61
Lane Group Flow (vph)	256	102	0	19	52	0	167	302	0	14	229	70
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)	17.3	17.3		17.3	17.3		35.1	35.1		35.1	35.1	35.1
Effective Green, g (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
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)	326	440		316	476		585	912		588	862	815
v/s Ratio Prot		0.06			0.03			c0.18			0.14	
v/s Ratio Perm	c0.21			0.02			0.15			0.01		0.05
v/c Ratio	0.79	0.23		0.06	0.11		0.29	0.33		0.02	0.27	0.09
Uniform Delay, d1	22.5	19.0		18.1	18.4		8.4	8.7		7.2	8.3	7.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	11.7	0.3		0.1	0.1		0.3	0.2		0.0	0.2	0.0
Delay (s)	34.2	19.3		18.2	18.5		8.7	8.9		7.2	8.5	7.5
Level of Service	C	B		B	B		A	A		A	A	A
Approach Delay (s)		27.5			18.4			8.8			8.1	
Approach LOS		C			B			A			A	

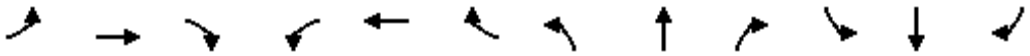
Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	65.7	Sum of lost time (s)	13.3
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	384	0	7	291	1	2	1	8	4	2	1
Future Volume (Veh/h)	1	384	0	7	291	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	409	0	7	310	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	311			409			737	736	409	744	735	310
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	311			409			737	736	409	744	735	310
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)	1261			1161			333	346	647	326	347	735

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	410	0	317	1	12	7
Volume Left	1	0	7	0	2	4
Volume Right	0	0	0	1	9	1
cSH	1261	1700	1161	1700	526	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	0.5
Control Delay (s)	0.0	0.0	0.2	0.0	12.0	15.2
Lane LOS	A		A		B	C
Approach Delay (s)	0.0		0.2		12.0	15.2
Approach LOS					B	C

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	36.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	98	0	0	18	33	53	0	5	90	10
Future Volume (Veh/h)	31	0	98	0	0	18	33	53	0	5	90	10
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)	34	0	107	0	0	20	36	58	0	5	98	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	264	244	104	350	249	58	109			58		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	264	244	104	350	249	58	109			58		
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 %	95	100	89	100	100	98	98			100		
cM capacity (veh/h)	666	644	957	529	639	1014	1494			1559		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	141	20	94	114
Volume Left	34	0	36	5
Volume Right	107	20	0	11
cSH	865	1014	1494	1559
Volume to Capacity	0.16	0.02	0.02	0.00
Queue Length 95th (m)	4.4	0.5	0.6	0.1
Control Delay (s)	10.0	8.6	3.0	0.3
Lane LOS	A	A	A	A
Approach Delay (s)	10.0	8.6	3.0	0.3
Approach LOS	A	A		

Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	32.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	41	94	8	14	79
Future Volume (Veh/h)	25	41	94	8	14	79
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)	27	45	102	9	15	86
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	222	106			111	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	222	106			111	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	95			99	
cM capacity (veh/h)	762	953			1492	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	72	111	101
Volume Left	27	0	15
Volume Right	45	9	0
cSH	871	1700	1492
Volume to Capacity	0.08	0.07	0.01
Queue Length 95th (m)	2.0	0.0	0.2
Control Delay (s)	9.5	0.0	1.2
Lane LOS	A		A
Approach Delay (s)	9.5	0.0	1.2
Approach LOS	A		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	22.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	40	127	8	14	68
Future Volume (Veh/h)	25	40	127	8	14	68
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)	27	43	138	9	15	74
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	246	142			147	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246	142			147	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	95			99	
cM capacity (veh/h)	739	910			1447	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	70	147	89
Volume Left	27	0	15
Volume Right	43	9	0
cSH	835	1700	1447
Volume to Capacity	0.08	0.09	0.01
Queue Length 95th (m)	2.1	0.0	0.2
Control Delay (s)	9.7	0.0	1.3
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	1.3
Approach LOS	A		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	336	167	83	298	125	50
Future Volume (Veh/h)	336	167	83	298	125	50
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)	357	178	88	317	133	53
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			535		939	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			535		939	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 %			92		51	91
cM capacity (veh/h)			1043		271	617

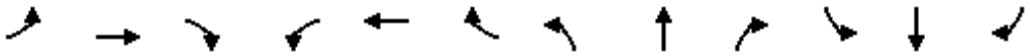
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	535	405	186
Volume Left	0	88	133
Volume Right	178	0	53
cSH	1700	1043	322
Volume to Capacity	0.31	0.08	0.58
Queue Length 95th (m)	0.0	2.1	26.0
Control Delay (s)	0.0	2.6	30.4
Lane LOS		A	D
Approach Delay (s)	0.0	2.6	30.4
Approach LOS			D

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	244	156	194	717	36	665
v/c Ratio	0.64	0.62	0.57	0.72	0.12	0.65
Control Delay	23.4	30.4	18.3	15.6	8.7	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	30.4	18.3	15.6	8.7	13.8
Queue Length 50th (m)	17.6	14.1	12.0	47.6	1.6	43.7
Queue Length 95th (m)	36.9	30.1	#45.3	#114.8	6.7	96.1
Internal Link Dist (m)	1308.1	285.1		328.5		907.9
Turn Bay Length (m)			35.0		40.0	
Base Capacity (vph)	718	505	357	1034	314	1059
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.31	0.54	0.69	0.11	0.63

Intersection Summary

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



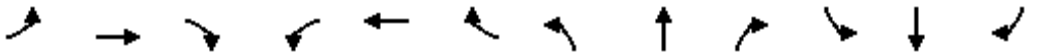
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	51	113	107	14	29	186	489	200	35	610	29
Future Volume (vph)	70	51	113	107	14	29	186	489	200	35	610	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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			0.97		1.00	0.96		1.00	0.99	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1769			1782		1825	1739		1825	1805	
Flt Permitted		0.87			0.62		0.32	1.00		0.28	1.00	
Satd. Flow (perm)		1558			1139		609	1739		536	1805	
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)	73	53	118	111	15	30	194	509	208	36	635	30
RTOR Reduction (vph)	0	55	0	0	14	0	0	16	0	0	2	0
Lane Group Flow (vph)	0	189	0	0	142	0	194	701	0	36	663	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)		12.7			12.7		34.0	34.0		34.0	34.0	
Effective Green, g (s)		12.7			12.7		34.0	34.0		34.0	34.0	
Actuated g/C Ratio		0.21			0.21		0.56	0.56		0.56	0.56	
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)		328			240		343	982		302	1019	
v/s Ratio Prot								c0.40			0.37	
v/s Ratio Perm		0.12			c0.12		0.32			0.07		
v/c Ratio		0.58			0.59		0.57	0.71		0.12	0.65	
Uniform Delay, d1		21.3			21.4		8.4	9.6		6.1	9.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4			3.9		3.5	3.1		0.4	2.0	
Delay (s)		23.8			25.3		11.9	12.6		6.5	11.0	
Level of Service		C			C		B	B		A	B	
Approach Delay (s)		23.8			25.3			12.5			10.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	208	6	12	173	7	1
Future Volume (Veh/h)	208	6	12	173	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)	245	7	14	204	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			252		480	248
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			252		480	248
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)			1325		542	795

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	252	218	9
Volume Left	0	14	8
Volume Right	7	0	1
cSH	1700	1325	562
Volume to Capacity	0.15	0.01	0.02
Queue Length 95th (m)	0.0	0.2	0.4
Control Delay (s)	0.0	0.6	11.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.6	11.5
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	39	27	165	72	207	19	352	294	243	261	9
Future Volume (Veh/h)	16	39	27	165	72	207	19	352	294	243	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	174	76	218	20	371	309	256	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	1454	1507	278	1250	1207	371	284			680		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1454	1507	278	1250	1207	371	284			680		
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	52	96	0	41	67	98			71		
cM capacity (veh/h)	30	86	763	71	129	651	1290			894		

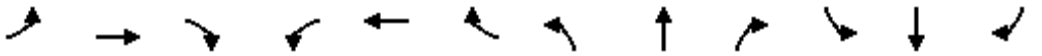
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	86	468	391	309	531	9
Volume Left	17	174	20	0	256	0
Volume Right	28	218	0	309	0	9
cSH	79	139	1290	1700	894	1700
Volume to Capacity	1.09	3.37	0.02	0.18	0.29	0.01
Queue Length 95th (m)	46.7	Err	0.4	0.0	9.0	0.0
Control Delay (s)	222.2	Err	0.5	0.0	7.0	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	222.2	Err	0.3		6.9	
Approach LOS	F	F				

Intersection Summary				
Average Delay	2621.3			
Intersection Capacity Utilization	89.0%	ICU Level of Service	E	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	257	242	17	65	212	356	9	467	221
v/c Ratio	0.76	0.42	0.06	0.14	0.47	0.39	0.02	0.49	0.23
Control Delay	37.8	6.9	18.1	12.6	14.9	11.0	8.6	12.5	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	6.9	18.1	12.6	14.9	11.0	8.6	12.5	2.2
Queue Length 50th (m)	28.5	3.0	1.5	3.5	15.1	23.0	0.5	33.6	0.0
Queue Length 95th (m)	#51.9	17.4	5.6	11.3	35.5	44.2	2.6	61.4	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)	427	682	353	601	451	904	559	959	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	0.60	0.35	0.05	0.11	0.47	0.39	0.02	0.49	0.23

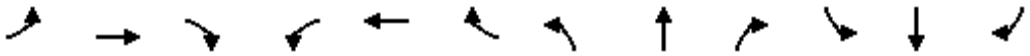
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	31	196	16	36	25	199	300	35	8	439	208
Future Volume (vph)	242	31	196	16	36	25	199	300	35	8	439	208
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	0.87		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	1672		1825	1801		1789	1667		1825	1779	1585
Flt Permitted	0.71	1.00		0.57	1.00		0.44	1.00		0.54	1.00	1.00
Satd. Flow (perm)	1320	1672		1091	1801		836	1667		1038	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)	257	33	209	17	38	27	212	319	37	9	467	221
RTOR Reduction (vph)	0	155	0	0	20	0	0	6	0	0	0	102
Lane Group Flow (vph)	257	87	0	17	45	0	212	350	0	9	467	119
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)	16.7	16.7		16.7	16.7		35.1	35.1		35.1	35.1	35.1
Effective Green, g (s)	16.7	16.7		16.7	16.7		35.1	35.1		35.1	35.1	35.1
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.54	0.54		0.54	0.54	0.54
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)	338	428		279	462		450	898		559	959	854
v/s Ratio Prot		0.05			0.02			0.21			c0.26	
v/s Ratio Perm	c0.19			0.02			0.25			0.01		0.08
v/c Ratio	0.76	0.20		0.06	0.10		0.47	0.39		0.02	0.49	0.14
Uniform Delay, d1	22.4	19.0		18.3	18.5		9.3	8.8		7.0	9.4	7.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.7	0.2		0.1	0.1		0.8	0.3		0.0	0.4	0.1
Delay (s)	32.0	19.2		18.4	18.5		10.0	9.0		7.0	9.8	7.5
Level of Service	C	B		B	B		B	A		A	A	A
Approach Delay (s)		25.8			18.5			9.4			9.0	
Approach LOS		C			B			A			A	

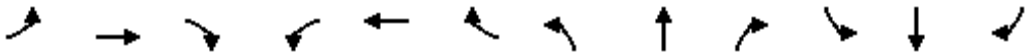
Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	65.1	Sum of lost time (s)	13.3
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	622	7	11	386	11	7	4	13	4	0	5
Future Volume (Veh/h)	4	622	7	11	386	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	715	8	13	444	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	457			723			1201	1208	715	1212	1203	444
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	457			723			1201	1208	715	1212	1203	444
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	97	97	97	100	99
cM capacity (veh/h)	1114			889			159	181	434	149	182	618

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	720	8	457	13	28	11
Volume Left	5	0	13	0	8	5
Volume Right	0	8	0	13	15	6
cSH	1114	1700	889	1700	249	255
Volume to Capacity	0.00	0.00	0.01	0.01	0.11	0.04
Queue Length 95th (m)	0.1	0.0	0.3	0.0	2.8	1.0
Control Delay (s)	0.1	0.0	0.4	0.0	21.3	19.8
Lane LOS	A		A		C	C
Approach Delay (s)	0.1		0.4		21.3	19.8
Approach LOS					C	C

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	49.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	63	4	0	7	105	140	6	20	147	33
Future Volume (Veh/h)	20	0	63	4	0	7	105	140	6	20	147	33
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)	28	0	88	6	0	10	146	194	8	28	204	46
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	783	777	227	861	796	198	250			202		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	783	777	227	861	796	198	250			202		
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 %	90	100	89	97	100	99	89			98		
cM capacity (veh/h)	280	288	817	224	281	848	1327			1382		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	116	16	348	278
Volume Left	28	6	146	28
Volume Right	88	10	8	46
cSH	558	414	1327	1382
Volume to Capacity	0.21	0.04	0.11	0.02
Queue Length 95th (m)	5.9	0.9	2.8	0.5
Control Delay (s)	13.1	14.0	4.0	0.9
Lane LOS	B	B	A	A
Approach Delay (s)	13.1	14.0	4.0	0.9
Approach LOS	B	B		

Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	40.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	16	27	142	25	41	184
Future Volume (Veh/h)	16	27	142	25	41	184
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	29	154	27	45	200
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	458	168			181	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	458	168			181	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	97			97	
cM capacity (veh/h)	547	882			1407	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	46	181	245
Volume Left	17	0	45
Volume Right	29	27	0
cSH	719	1700	1407
Volume to Capacity	0.06	0.11	0.03
Queue Length 95th (m)	1.6	0.0	0.8
Control Delay (s)	10.3	0.0	1.6
Lane LOS	B		A
Approach Delay (s)	10.3	0.0	1.6
Approach LOS	B		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	16	26	144	25	41	209
Future Volume (Veh/h)	16	26	144	25	41	209
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	28	157	27	45	227
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	488	170			184	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	488	170			184	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	97			97	
cM capacity (veh/h)	525	879			1403	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	45	184	272
Volume Left	17	0	45
Volume Right	28	27	0
cSH	701	1700	1403
Volume to Capacity	0.06	0.11	0.03
Queue Length 95th (m)	1.6	0.0	0.8
Control Delay (s)	10.5	0.0	1.5
Lane LOS	B		A
Approach Delay (s)	10.5	0.0	1.5
Approach LOS	B		

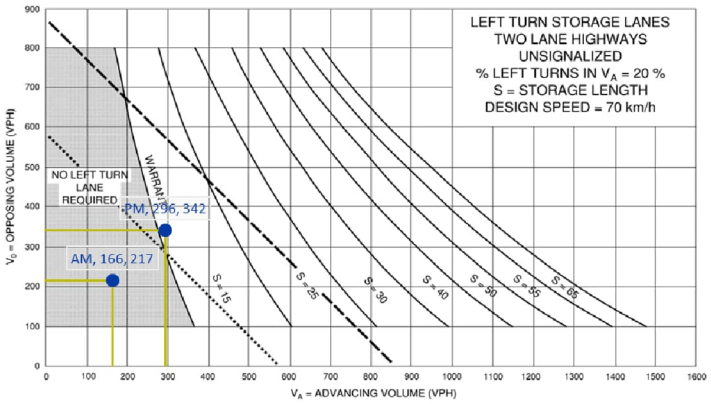
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX F

Auxiliary Left-Turn Lane Warrants

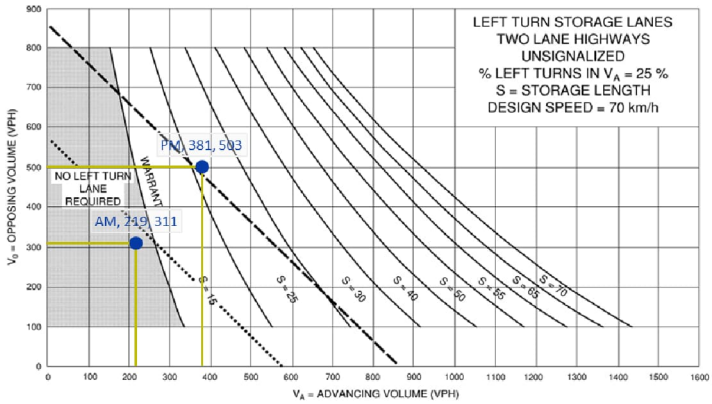
Intersection	Left-Turn Warrant	Advancing Traffic Volume (VA)		Opposing Traffic Volume (VO)		Left Turn Traffic Volume (VL)		% of Left Turning Traffic		Warrant
		AM	PM	AM	PM	AM	PM	AM	PM	
8th Line/Sideroad 17 (FB 2024)	WBL	166	296	217	342	16	49	10%	17%	Yes

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	**WBL**	WBT	WBR
AM	23		50					187	30	16	150	
PM	67		28					291	51	49	247	



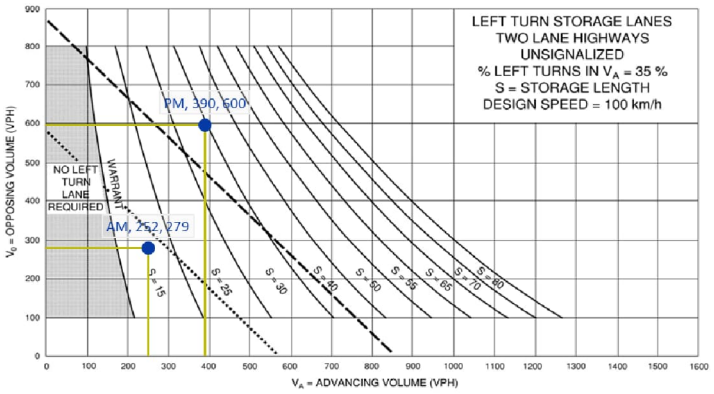
Intersection	Left-Turn Warrant	Advancing Traffic Volume (VA)		Opposing Traffic Volume (VO)		Left Turn Traffic Volume (VL)		% of Left Turning Traffic		Warrant
		AM	PM	AM	PM	AM	PM	AM	PM	
8th Line/Sideroad 17 (FT 2029)	WBL	219	381	311	503	28	83	13%	22%	Yes

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	**WBL**	WBT	WBR
AM	76		85					247	64	28	191	
PM	125		50					336	167	83	298	



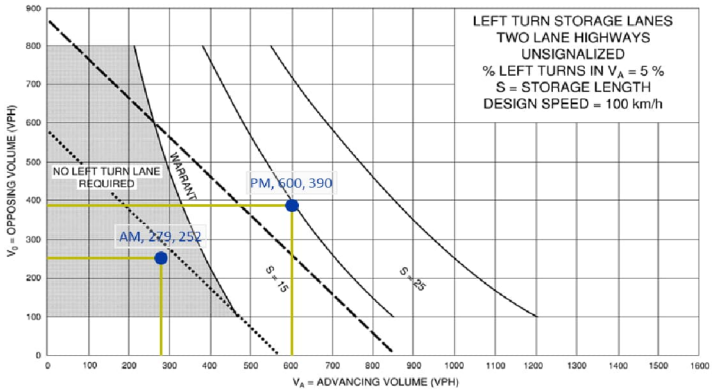
Intersection	Left-Turn Warrant	Advancing Traffic Volume (VA)		Opposing Traffic Volume (VO)		Left Turn Traffic Volume (VL)		% of Left Turning Traffic		Warrant
		AM	PM	AM	PM	AM	PM	AM	PM	
Trafalgar Road/Sideroad 17 (FB 2024)	SBL	252	390	279	600	52	132	21%	34%	Yes

	NBL	NBT	NBR	**SBL**	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM	10	145	124	52	180	20	11	40	18	110	39	105
PM	18	335	247	132	249	9	16	37	26	135	68	132



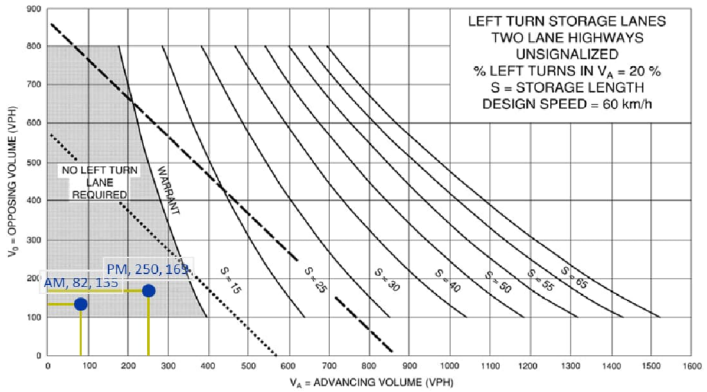
Intersection	Left-Turn Warrant	Advancing Traffic Volume (VA)		Opposing Traffic Volume (VO)		Left Turn Traffic Volume (VL)		% of Left Turning Traffic		Warrant
		AM	PM	AM	PM	AM	PM	AM	PM	
Trafalgar Road/Sideroad 17 (FB 2024)	NBL	279	600	252	390	10	18	4%	3%	Yes

	NBL	NBT	NBR	**SBL**	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM	10	145	124	52	180	20	11	40	18	110	39	105
PM	18	335	247	132	249	9	16	37	26	135	68	132



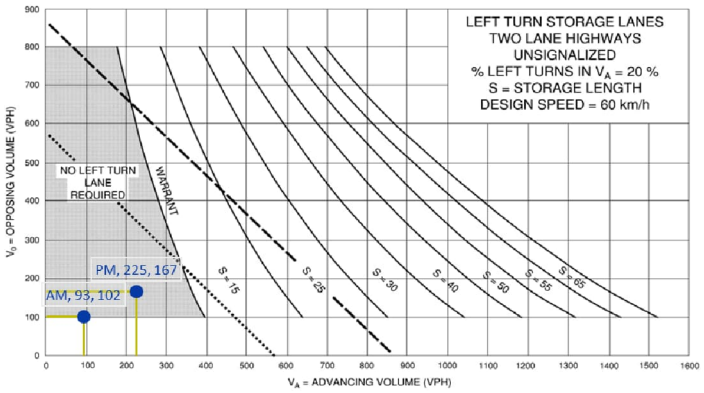
Intersection	Left-Turn Warrant	Advancing Traffic Volume (V_A)		Opposing Traffic Volume (V_O)		Left Turn Traffic Volume (V_L)		% of Left Turning Traffic		Warrant
		AM	PM	AM	PM	AM	PM	AM	PM	
8th Line/North Site Access (Street 'B') (FT 2029)	SBL	82	250	135	169	14	41	17%	16%	No

	NBL	NBT	NBR	**SBL**	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM		127	8	14	68					25		40
PM		144	25	41	209					16		26



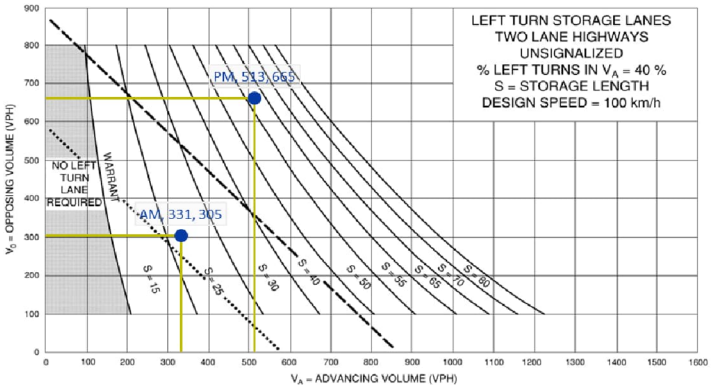
Intersection	Left-Turn Warrant	Advancing Traffic Volume (VA)		Opposing Traffic Volume (VO)		Left Turn Traffic Volume (VL)		% of Left Turning Traffic		Warrant
		AM	PM	AM	PM	AM	PM	AM	PM	
8th Line/South Site Access (Street 'A') (FT 2029)	SBL	93	225	102	167	14	41	15%	18%	No

	NBL	NBT	NBR	**SBL**	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM		94	8	14	79					25		41
PM		142	25	41	184					16		27



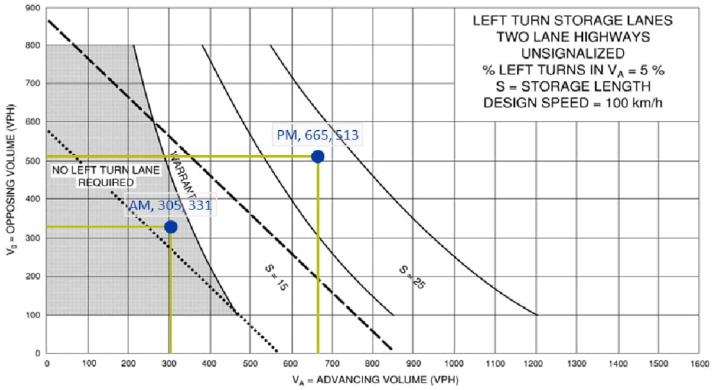
Intersection	Left-Turn Warrant	Advancing Traffic Volume (VA)		Opposing Traffic Volume (VO)		Left Turn Traffic Volume (VL)		% of Left Turning Traffic		Warrant
		AM	PM	AM	PM	AM	PM	AM	PM	
Trafalgar Road/Sideroad 17 (FT 2029)	SBL	331	513	305	665	122	243	37%	47%	Yes

	NBL	NBT	NBR	**SBL**	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM	11	152	142	122	188	21	12	42	19	150	41	156
PM	19	352	294	243	261	9	16	39	27	165	72	207



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	
Trafalgar Road/Sideroad 17 (FT 2029)	NBL	305	665	331	513	11	19	4%	3%	Yes

	NBL	NBT	NBR	**SBL**	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM	11	152	142	122	188	21	12	42	19	150	41	156
PM	19	352	294	243	261	9	16	39	27	165	72	207



APPENDIX G

Signal Warrants

Trafalgar Rd/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	118%	118%	100% Yes
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	153%		
	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	79%	79%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	50	190%		

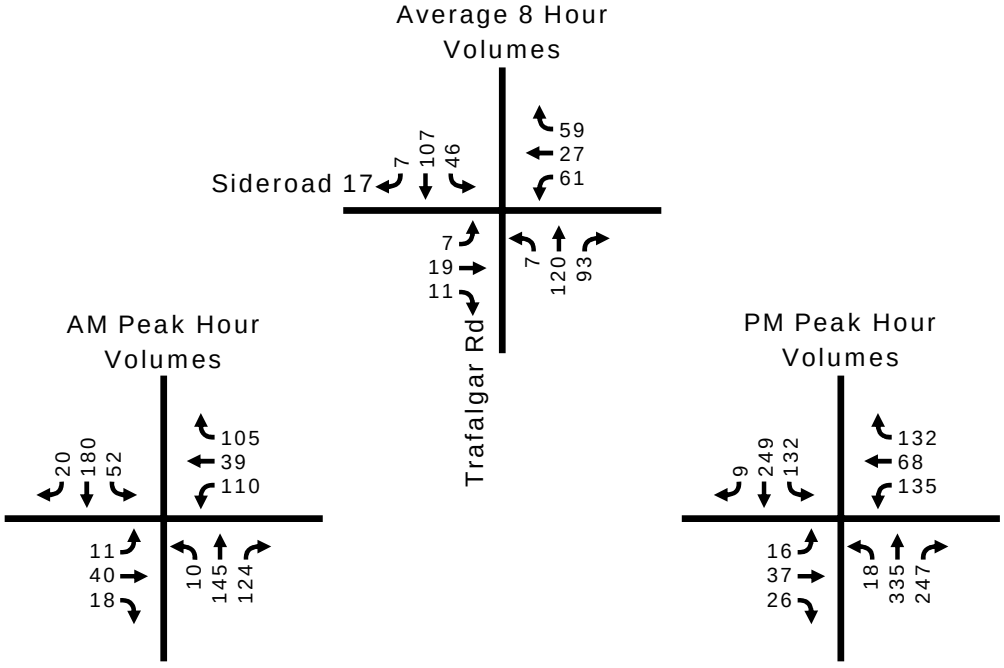
Notes

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* — No

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



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	144%	144%	100% Yes
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	198%		
	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	95%	95%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	50	228%		

Notes

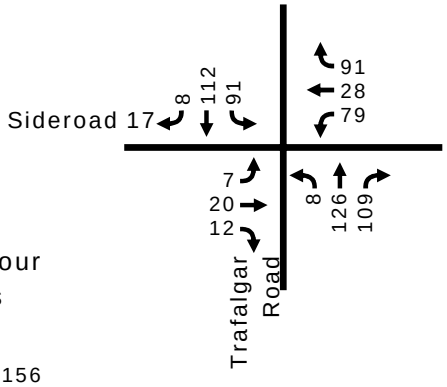
1 *Vehicle Volume Warrants (1A), (2A) and (5B) for Roadways Having Two or More Moving Lanes in one Direction Should Be 25% Higher Than Values Given Above* — No

2 *For Definition of Crossing Volume Refer to Note 4 on the Signal Warrant Analysis Form B2.03.08*

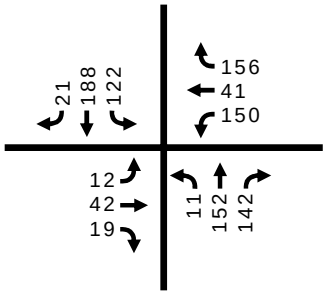
3 *The Lowest Sectional Percentage Governs the Entire Warrant*

4 *For "T" Intersections the Warrant Values for Minor Street Should be Increased by 50% (Warrant 1B only)* — No

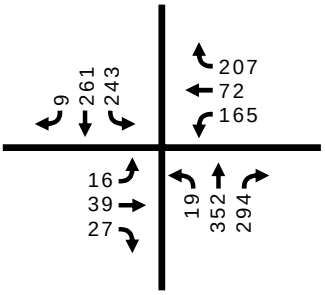
Average 8 Hour Volumes



AM Peak Hour Volumes



PM Peak Hour Volumes



Sideroad 17 / Mattamy Site Access - (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	62%	21%	51% 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	55%	51%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	75	51%		

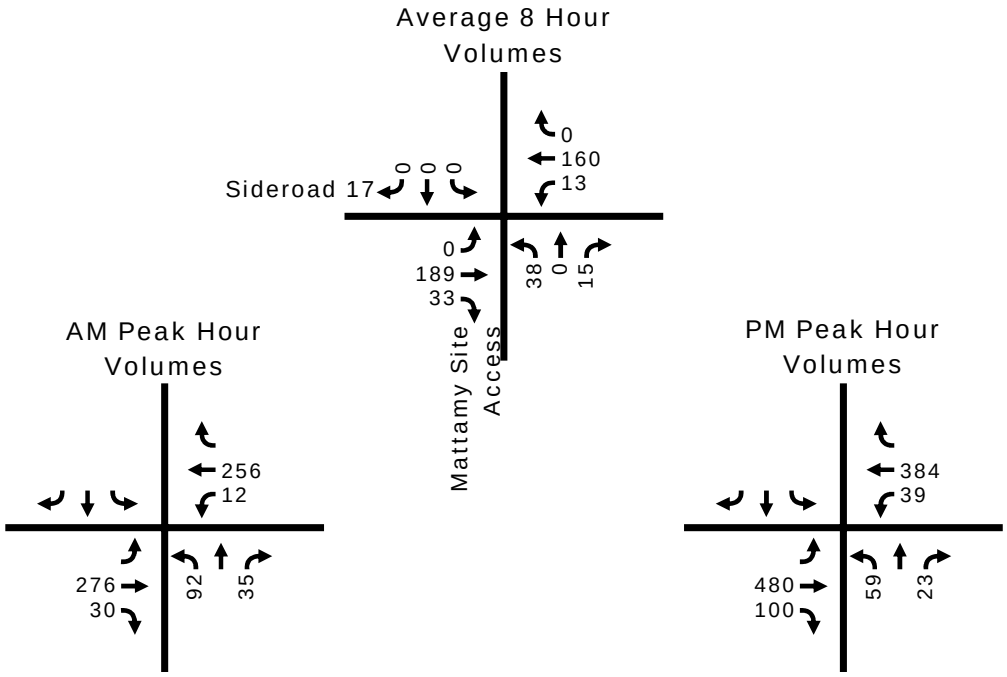
Notes

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* — No

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)* — Yes



Sideroad 17 / 8th Line - (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	61%	33%	49 % 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	49%	49%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	75	67%		

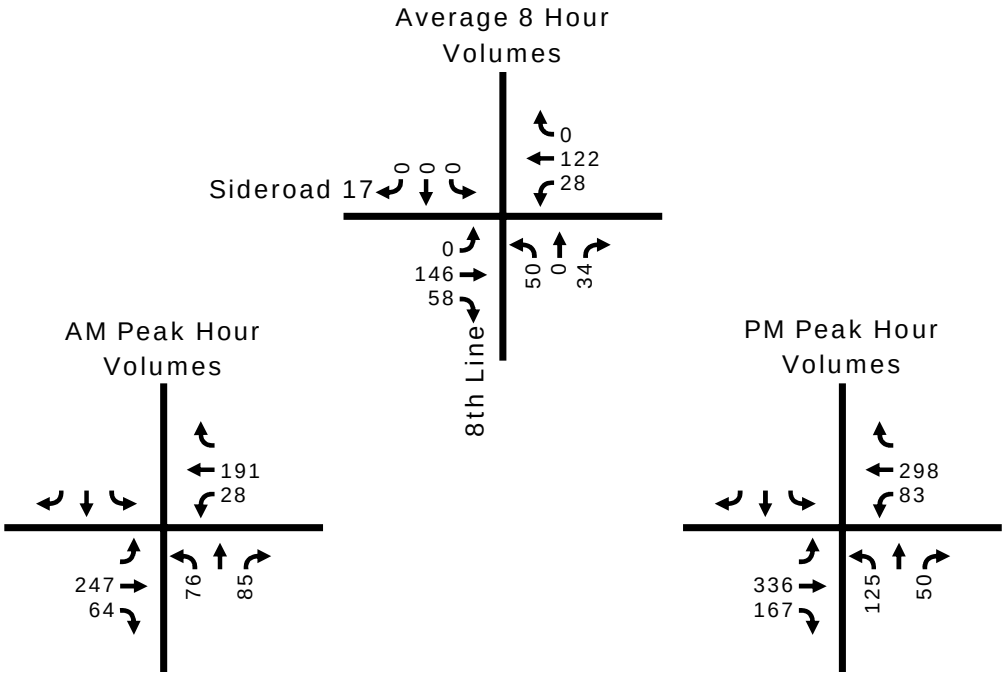
Notes

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* — No

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)* — Yes



8th Line/Street B - (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	26%	11%	13% No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	255	11%		
	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	22%	13%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	75	13%		

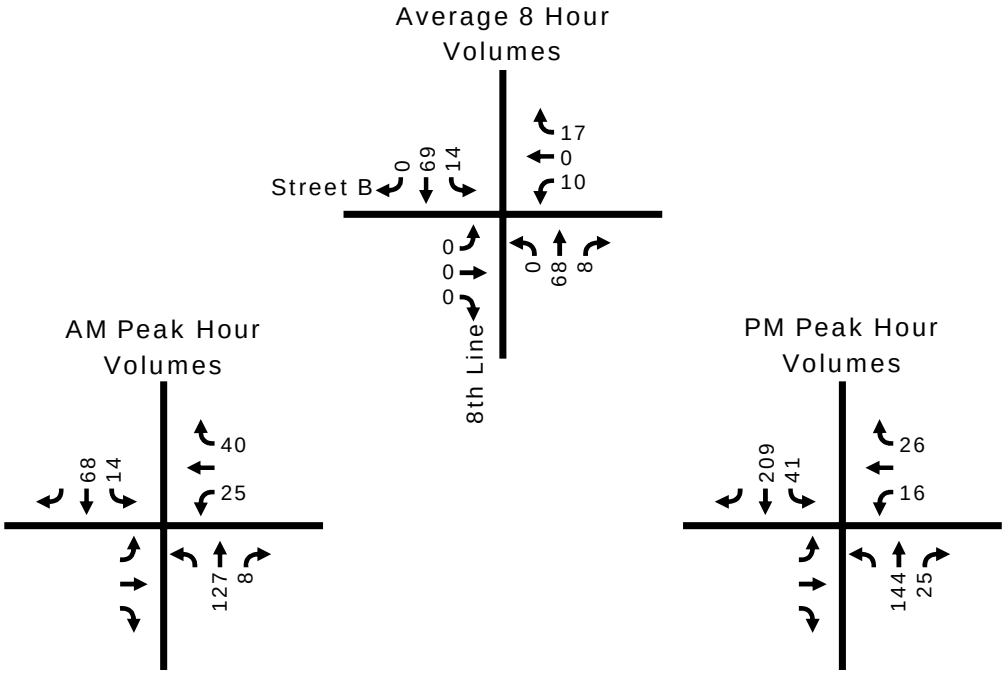
Notes

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* — No

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)* — Yes



8th Line/Street A - (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	24%	11%	13% No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	255	11%		
	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	20%	13%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	75	13%		

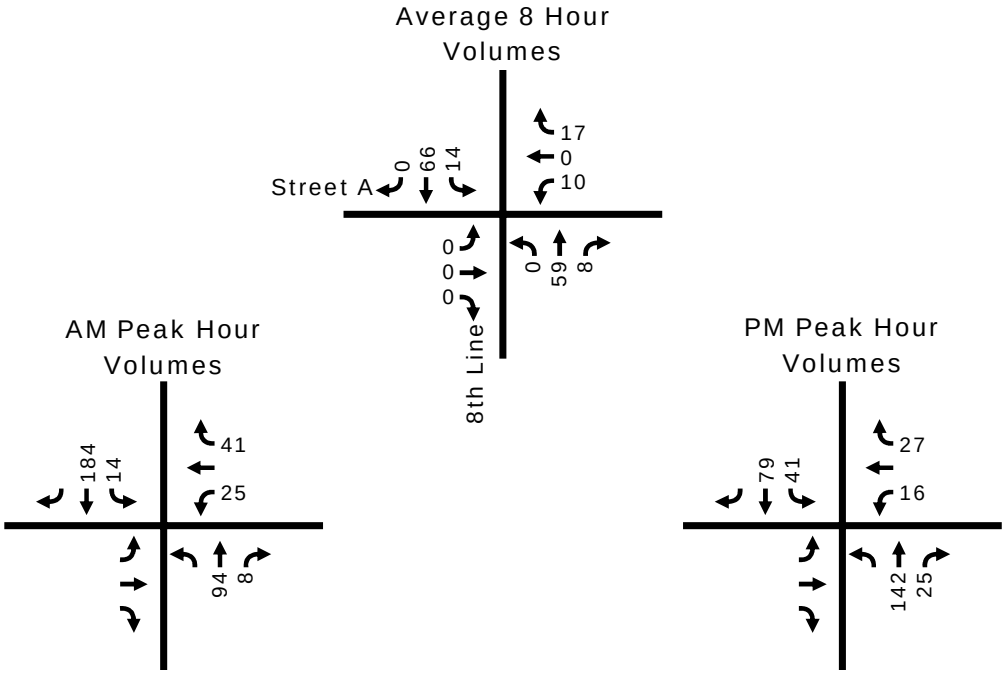
Notes

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* — No

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)* — Yes



8th Line/Erin Heights Drive - (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	31%	31%	31% No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	170	35%		
	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	22%	19%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	75	19%		

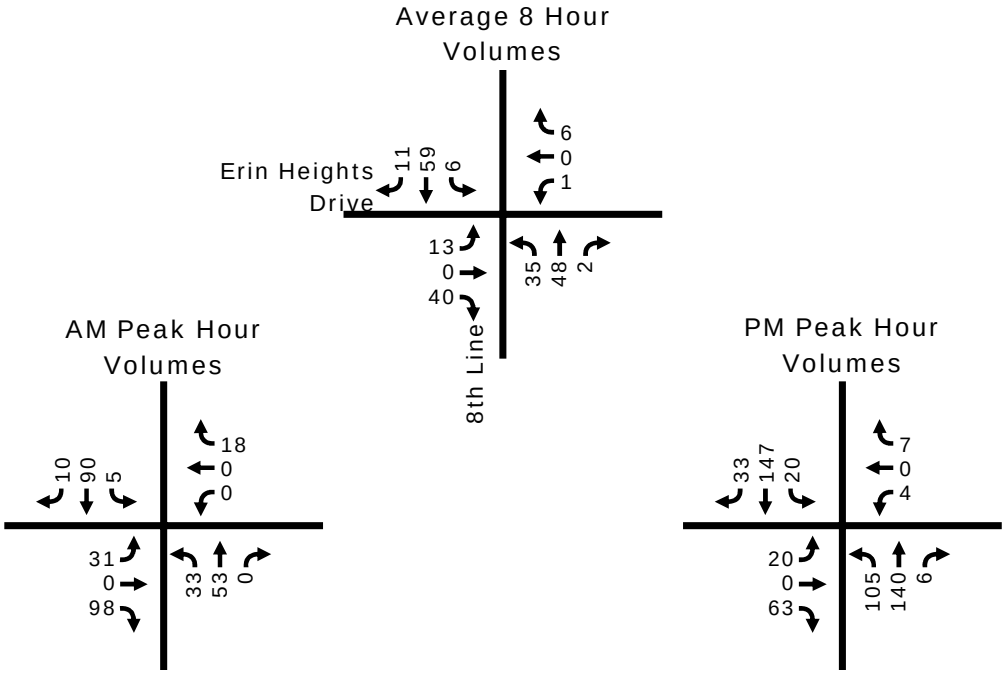
Notes

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* — No

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



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	24%	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	23%	5%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	75	5%		

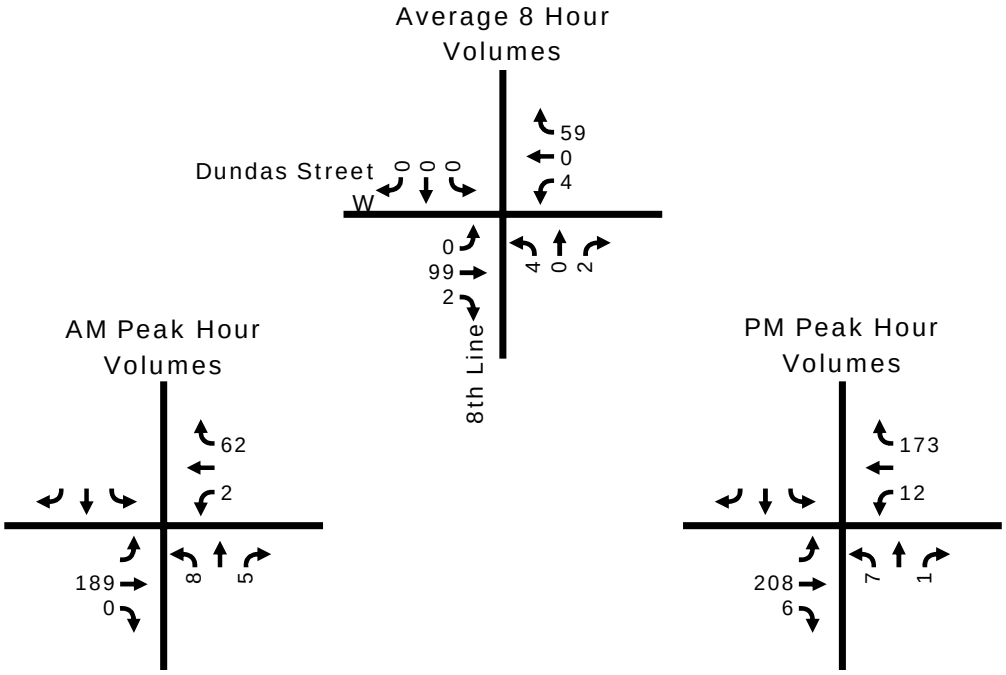
Notes

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* — No

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)* — Yes



8th Line/Wellington Road 124 - (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	92%	11%	11% No
		(4) B	Vehicle Volume, Along Minor Streets for Each of the Same 8 Hours	120	11%		
	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	90%	10%	
		(2) B	Combined Vehicle and Pedestrian Volume Crossing the Major Street for Each of the Same 8 Hours	50	10%		

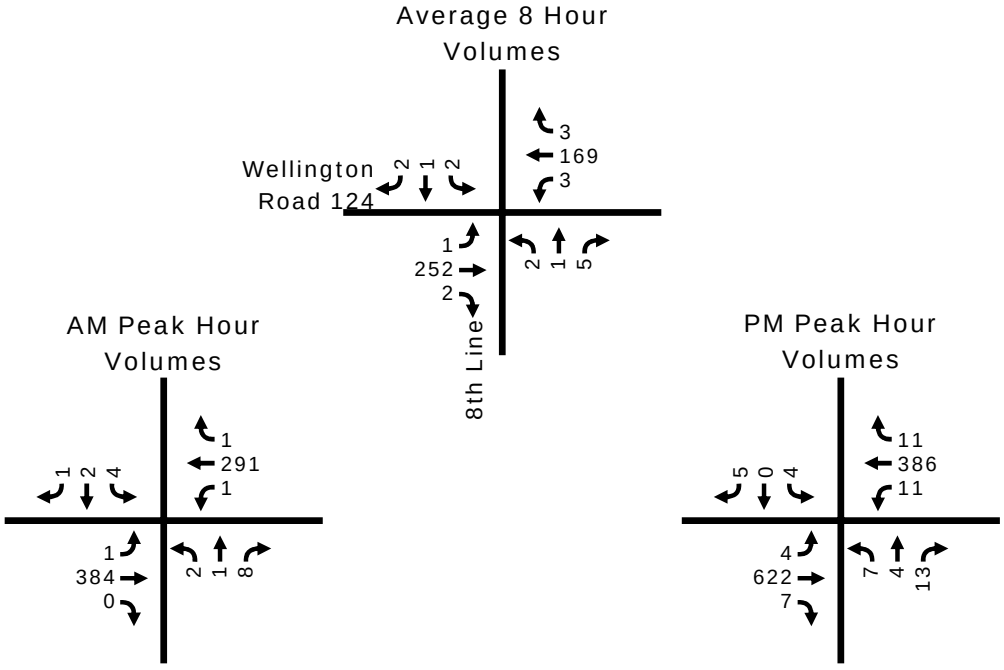
Notes

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* — No

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



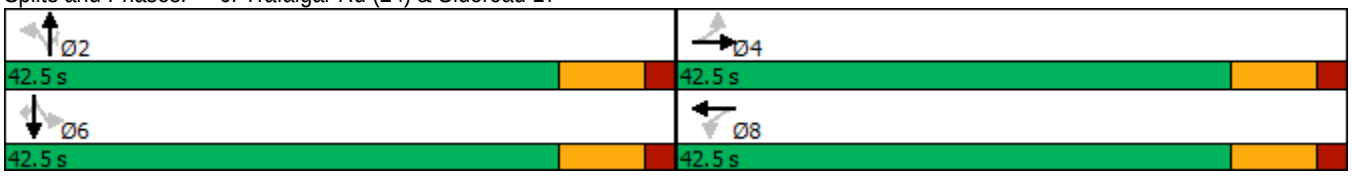
APPENDIX H

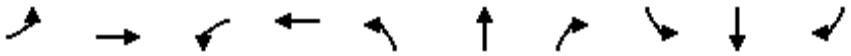
Synchro Software Output Reports with Mitigative Measures

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	12	42	150	41	11	152	142	122	188	21
Future Volume (vph)	12	42	150	41	11	152	142	122	188	21
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 Effct 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	0.09	0.31	0.31	0.03	0.24	0.22	0.30	0.29	0.03
Control Delay	12.6	9.9	15.8	5.5	12.5	14.5	3.7	16.1	15.1	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	9.9	15.8	5.5	12.5	14.5	3.7	16.1	15.1	0.9
LOS	B	A	B	A	B	B	A	B	B	A
Approach Delay		10.4		9.9		9.4			14.6	
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: 0.31	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 78.8%	ICU Level of Service D
Analysis Period (min) 15	

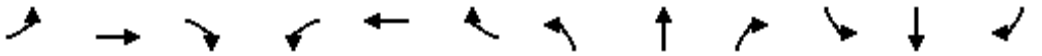
Splits and Phases: 6: Trafalgar Rd (24) & Sideroad 17





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	13	64	156	206	11	158	148	127	196	22
v/c Ratio	0.03	0.09	0.31	0.31	0.03	0.24	0.22	0.30	0.29	0.03
Control Delay	12.6	9.9	15.8	5.5	12.5	14.5	3.7	16.1	15.1	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	9.9	15.8	5.5	12.5	14.5	3.7	16.1	15.1	0.9
Queue Length 50th (m)	0.9	3.2	12.3	3.1	0.8	12.1	0.0	10.0	15.4	0.0
Queue Length 95th (m)	3.8	9.5	24.7	14.6	3.4	23.6	9.2	21.4	28.7	1.0
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)	671	1026	741	892	609	961	921	615	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	0.06	0.21	0.23	0.02	0.16	0.16	0.21	0.20	0.02

Intersection Summary



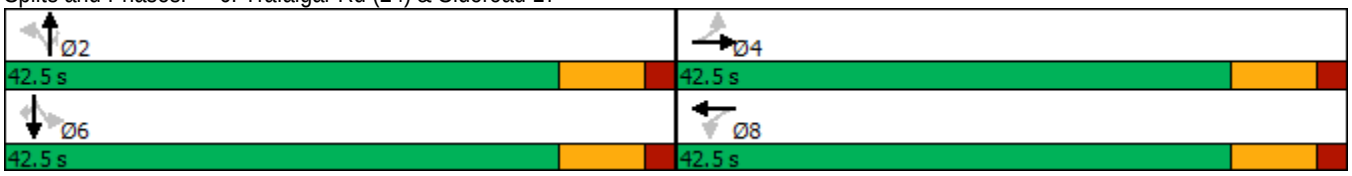
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	42	19	150	41	156	11	152	142	122	188	21
Future Volume (vph)	12	42	19	150	41	156	11	152	142	122	188	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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	1831		1772	1476		1644	1731	1541	1601	1746	1633
Flt Permitted	0.63	1.00		0.72	1.00		0.63	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	1208	1831		1334	1476		1098	1731	1541	1107	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	44	20	156	43	162	11	158	148	127	196	22
RTOR Reduction (vph)	0	12	0	0	101	0	0	0	92	0	0	14
Lane Group Flow (vph)	13	52	0	156	105	0	11	158	56	127	196	8
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)	460	697		508	562		418	659	587	421	665	622
v/s Ratio Prot		0.03			0.07			0.09			0.11	
v/s Ratio Perm	0.01			c0.12			0.01		0.04	c0.11		0.01
v/c Ratio	0.03	0.07		0.31	0.19		0.03	0.24	0.10	0.30	0.29	0.01
Uniform Delay, d1	12.2	12.4		13.7	13.0		12.2	13.3	12.5	13.6	13.6	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	0.2	0.0
Delay (s)	12.2	12.5		14.0	13.2		12.2	13.5	12.6	14.0	13.8	12.1
Level of Service	B	B		B	B		B	B	B	B	B	B
Approach Delay (s)		12.4			13.5			13.0			13.8	
Approach LOS		B			B			B			B	

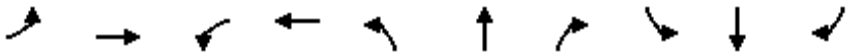
Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	16	39	165	72	19	352	294	243	261	9
Future Volume (vph)	16	39	165	72	19	352	294	243	261	9
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 Effct Green (s)	24.1	24.1	24.1	24.1	28.3	28.3	28.3	28.3	28.3	28.3
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.42	0.42	0.42	0.42	0.42	0.42
v/c Ratio	0.05	0.10	0.36	0.43	0.04	0.49	0.38	0.69	0.37	0.01
Control Delay	16.9	11.6	20.1	8.2	11.2	16.6	3.0	26.7	14.7	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	16.9	11.6	20.1	8.2	11.2	16.6	3.0	26.7	14.7	0.0
LOS	B	B	C	A	B	B	A	C	B	A
Approach Delay		12.7		12.6		10.4			20.2	
Approach LOS		B		B		B			C	

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 67.5	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 14.0	Intersection LOS: B
Intersection Capacity Utilization 78.8%	ICU Level of Service D
Analysis Period (min) 15	

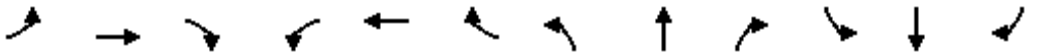
Splits and Phases: 6: Trafalgar Rd (24) & Sideroad 17





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	17	69	174	294	20	371	309	256	275	9
v/c Ratio	0.05	0.10	0.36	0.43	0.04	0.49	0.38	0.69	0.37	0.01
Control Delay	16.9	11.6	20.1	8.2	11.2	16.6	3.0	26.7	14.7	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	16.9	11.6	20.1	8.2	11.2	16.6	3.0	26.7	14.7	0.0
Queue Length 50th (m)	1.3	3.1	14.7	6.8	1.4	32.6	0.0	25.1	22.6	0.0
Queue Length 95th (m)	5.7	12.0	34.9	26.9	4.8	52.6	11.7	49.8	38.1	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)	521	953	701	907	590	944	935	462	935	879
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	0.03	0.07	0.25	0.32	0.03	0.39	0.33	0.55	0.29	0.01

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	39	27	165	72	207	19	352	294	243	261	9
Future Volume (vph)	16	39	27	165	72	207	19	352	294	243	261	9
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	1804		1798	1550		1825	1812	1512	1722	1795	1633
Flt Permitted	0.56	1.00		0.71	1.00		0.59	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	1001	1804		1347	1550		1134	1812	1512	888	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)	17	41	28	174	76	218	20	371	309	256	275	9
RTOR Reduction (vph)	0	18	0	0	133	0	0	0	179	0	0	5
Lane Group Flow (vph)	17	51	0	174	161	0	20	371	130	256	275	4
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		28.3	28.3	28.3	28.3	28.3	28.3
Effective Green, g (s)	24.1	24.1		24.1	24.1		28.3	28.3	28.3	28.3	28.3	28.3
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.42	0.42	0.42	0.42	0.42	0.42
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)	357	645		481	554		476	760	634	372	753	685
v/s Ratio Prot		0.03			0.10			0.20			0.15	
v/s Ratio Perm	0.02			c0.13			0.02		0.09	c0.29		0.00
v/c Ratio	0.05	0.08		0.36	0.29		0.04	0.49	0.20	0.69	0.37	0.01
Uniform Delay, d1	14.1	14.3		16.0	15.5		11.5	14.3	12.4	16.0	13.4	11.4
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	5.2	0.3	0.0
Delay (s)	14.2	14.4		16.4	15.8		11.6	14.8	12.6	21.2	13.7	11.4
Level of Service	B	B		B	B		B	B	B	C	B	B
Approach Delay (s)		14.3			16.0			13.7			17.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	67.4	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