400 Coventry Road

Transportation Impact Assessment

Step 1 Screening Report

Step 2 Scoping Report

Step 3 Forecasting Report

Step 4 Strategy Report (Revision #2 for SPA)

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Table of Contents

List of Figures

Table of Tables

List of Appendices

1 Screening

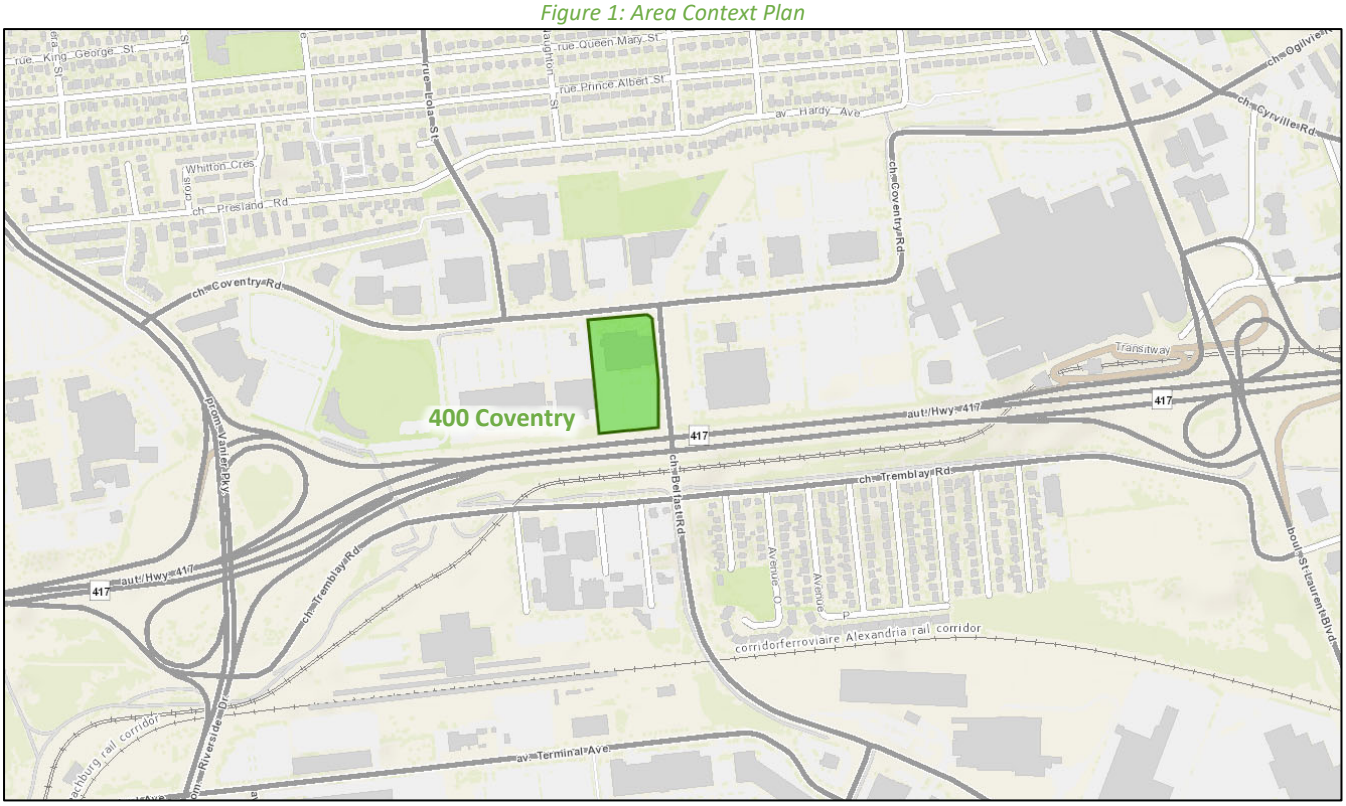
This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines, prior to the 2023 Update to the TIA Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for the TIA Study PM. As shown in the Screening Form, a TIA is required including the Design Review component and the Network Impact Component. This study was prepared to support a zoning bylaw amendment and has been updated to support a concurrent site plan application.

2 Existing and Planned Conditions

2.1 Proposed Development

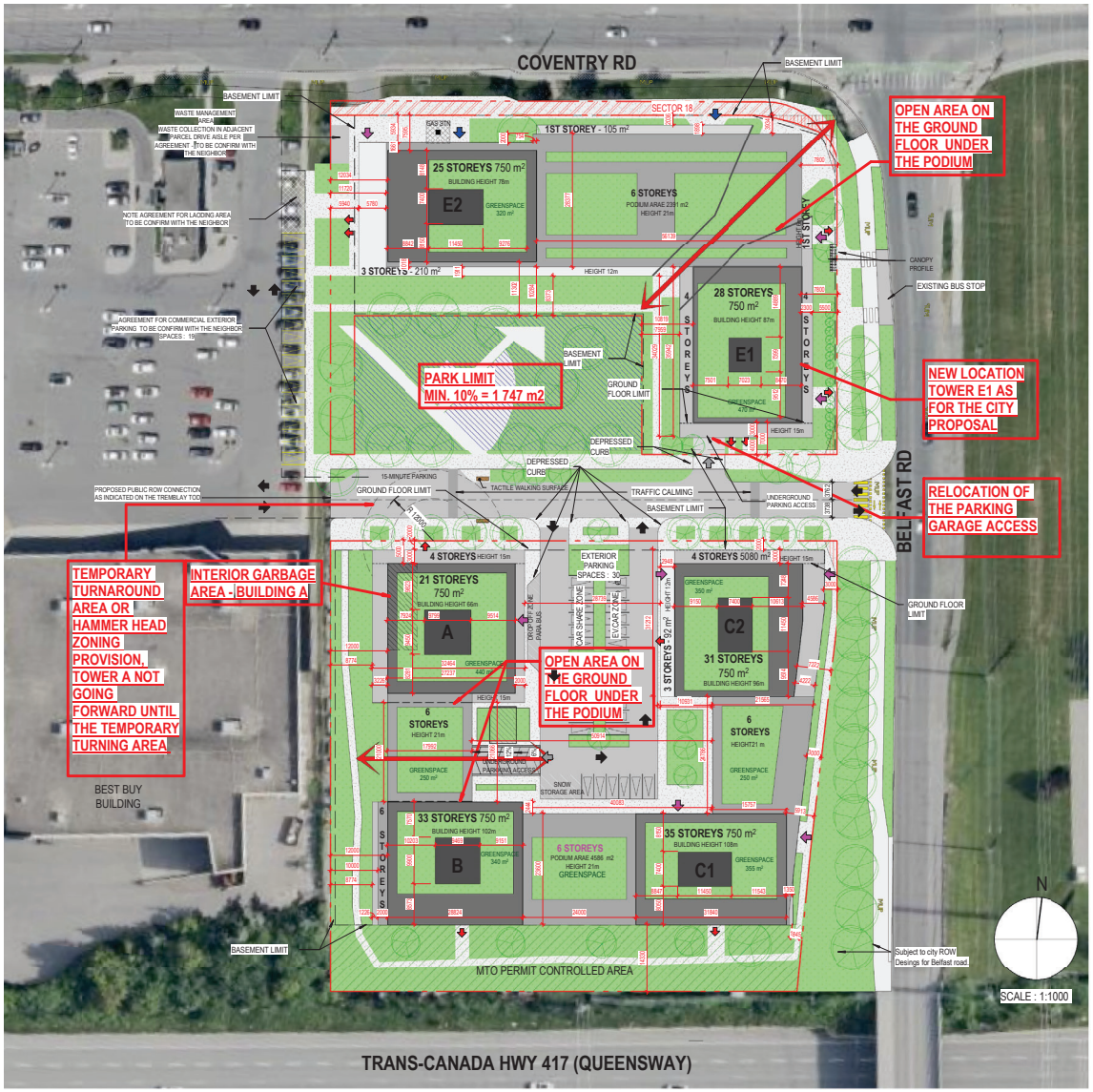
The development site is located at 400 Coventry Road within the Tremblay TOD and Industrial Avenue/ Cyrville Mixed Use Centre design priority areas, the Tremblay TOD Plan area, and the Tremblay, St. Laurent and Cyrville Secondary Plan area. The development site is zoned as General Mixed Use Zone (GM6 H(34) and GM6 H(90)). The development is proposed as six residential towers, the northernmost of which is on a mixed-use podium, a park, and a surface parking lot. The tower heights vary from 21 to 35 storeys. In total, the redevelopment will comprise 1,768 residential units, 13,003 sq. ft. of commercial space, and will include a total of 1,090 vehicle spaces across three levels of underground parking and a surface lot, and will include a total of 900 bicycle parking spaces. Access is to be provided via a new public local road connecting Belfast Road to the drive aisles of the commercial parcel to the west. Construction will occur in multiple phases with an anticipated full build-out and occupancy horizon of 2032. Figure 1 illustrates the study area context. Figure 2 illustrates the proposed concept plan.

Figure 1: Area Context Plan



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: September 1, 2022

SITE PLAN OPTION 2 (SERVICE PASSING THROUGH NORTH SIDE)



LEGEND OF SITE PLAN:

- GRASS
- SIDE WALK
- ASPHALT
- PROHIBITED PARKING AREA
- 3 STOREYS
- 6 STOREYS
- HIGH RISE
- TREE
- PLANT
- RESIDENTIAL BUILDING ENTRANCE
- COMMERCIAL ENTRANCE
- BASEMENT ENTRANCE
- DRIVEWAY DIRECTION
- EMERGENCY EXIT

2.2 Existing Conditions

2.2.1 Area Road Network

Coventry Road: Coventry Road is a City of Ottawa arterial road with a five-lane urban cross-section between Lola Street and the 500 Coventry Road access where a two-way left-turn lane is present, and a four-lane, divided urban cross-section in the remainder of the study area. Sidewalks are present on both sides of the road except between the westerly 330 Coventry Road access and Lola Street, where a MUP is present on the south side of the road and between the two St. Laurent Shopping Centre accesses where a MUP is present on the west/north side of the road. Cycletracks are present on both sides of the road between Lola Street and Belfast Road and bike lanes are present on both sides of the road between Belfast Road and the westerly St. Laurent Shopping Centre access, and east of the easterly shopping centre access, and on the east/south side of the road between the two shopping centre accesses. The posted speed limit is 60 km/h, and the City-protected right of way is 30.0 metres within the study area. Coventry Road is designated as a truck route.

Ogilvie Road: Ogilvie Road is a City of Ottawa arterial road with a four-lane, divided urban cross-section with bike lanes and sidewalks on both sides of the road. The posted speed limit is 60 km/h, and the City protected right of way is 44.5 metres within the study area. Ogilvie Road is designated as a truck route.

Vanier Parkway: Vanier Parkway is a City of Ottawa arterial road a four-lane, divided urban cross-section with sidewalks on both sides of the road within the study area. The posted speed limit is 60 km. The existing right of way throughout the study area varies along adjacent properties. Vanier Parkway south of Coventry Road is designated as a truck route.

Riverside Drive: Riverside Drive is a City of Ottawa arterial road with a six-lane, divided urban cross-section with sidewalks on both sides of the road within the study area. The posted speed limit is 60 km/h, and the City-protected right of way is 44.5 metres within the study area. Riverside Drive is designated as a truck route.

St. Laurent Boulevard: St Laurent Boulevard is a City of Ottawa arterial road with a six-lane, divided urban cross-section with sidewalks on both sides of the road. The posted speed limit is 60 km/h, and the City-protected right of way is 44.5 metres within the study area. St Laurent Boulevard is designated as a truck route.

Tremblay Road: Tremblay Road is a City of Ottawa major collector road with a two-lane urban cross-section east of Pickering Place and with a divided four-lane urban cross-section west of Pickering Place. East of the Via Rail station access, sidewalks are present on the south side of the road, and a MUP is present on the north side of the road, largely within the rail line right of way. West of the Via Rail station access, a MUP is on the south side of the road, largely within the adjacent right of way. The posted speed limit is 50 km/h, and the City-protected right of way is 26.0 metres.

Belfast Road: Belfast Road is a City of Ottawa major collector road with a two-lane rural cross-section north of Tremblay Road, and a collector road with a two-lane urban cross-section south of Tremblay Road. A MUP is present on the west side of the road except over the Highway 417 Overpass where it transitions to a sidewalk. A sidewalk of varying materiality is present on the east side of the road north of Tremblay Road. The unposted speed limit is assumed to be 50 km/h. The existing right of way throughout the study area varies throughout the study area but is typically 26.0 metres along the site frontage. Belfast Road is designated as a truck route.

Lola Street: Lola Street is a City of Ottawa collector road with a two-lane urban cross-section. Sidewalks are present on both sides south of Presland Road. Asphalt pathways are present on both sides of the road north of Presland Road except for the segment on the west side of the road between Hart Avenue and Prince Albert Street, which

has a sidewalk. The unposted speed limit is assumed to be 50 km/h, and the City-protected right of way is 24.0 metres within the study area.

2.2.2 Existing Intersections

The existing key intersections within one kilometre of the site have been summarized below:

Coventry Road at Vanier Parkway	The intersection of Coventry Road at Vanier Parkway is a signalized intersection. The northbound approach consists of an auxiliary left-turn lane, two throughs lane, and an auxiliary channelized right-turn lane, and the southbound approach consists of two auxiliary left-turn lanes, two through lanes, and an auxiliary shared through/channelized right-turn lane. The eastbound approach consists of shared left-turn/through lane and an auxiliary right-turn lane, and the westbound approach consists of an auxiliary left-turn lane, a left-turn lane, a shared left-turn/through lane, and a right-turn lane. Trucks are restricted from accessing the north leg of the intersection, no other turn restrictions are noted.
Coventry Road at Lola Street	The intersection of Coventry Road at Lola Street is a signalized intersection. The private northbound approach consists of a left-turn lane and a shared through/right-turn lane, and the southbound approach consists of an auxiliary left-turn lane and a shared through/right-turn lane. The eastbound approach consists of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane, and the westbound approach consists of an auxiliary left-turn lane continuing from a two-way left-turn lane, a through lane, and a shared through/right-turn lane. Trucks are restricted from turning onto Lola Street, no other turn restrictions are noted.
Coventry Road at Belfast Road	The intersection of Coventry Road at Belfast Road is a signalized intersection. The northbound approach consists of a shared left-turn/through lane, an auxiliary right-turn lane, and a cycletrack and the private southbound approach consists of a shared all-movement lane. The eastbound approach consists of an auxiliary left turn lane continuing from a two-way left-turn lane, a through lane, a right-turn lane, and a cycletrack and the westbound approach consists of a two-way left-turn lane, a shared through/right-turn lane and a cycletrack. Eastbound U-turn movements are restricted at this intersection.
Coventry Road / Ogilvie Road at St. Laurent Boulevard	The intersection of St Laurent Boulevard at Coventry Road/Ogilvie Road is a signalized intersection. The northbound approach consists of an auxiliary left-turn lane, two through lanes, and a shared through/channelized right-turn lane, and the southbound approach consists of an auxiliary left-turn lane, three through lanes and an auxiliary channelized right-turn lane. The eastbound and westbound approaches each consist of two auxiliary left-turn lanes, two through lanes, a bike lane, and an auxiliary channelized right-turn lane. U-turns on all approaches are restricted at this intersection.

Tremblay Road / Hwy 417 EB at Riverside Drive	The intersection of Tremblay Road/the Highway 417 eastbound ramp terminal at Riverside Drive is a signalized intersection. The northbound approach consists of two through lanes and a shared through/channelized right-turn lane, and the southbound approach consists of an auxiliary left-turn lane, and two through lanes. Fifty-five metres upstream of this approach, an off-ramp to Highway 417 eastbound is present. The eastbound approach consists of an auxiliary left-turn lane, a left-turn lane, a through lane, and an auxiliary through/channelized right-turn lane, and the westbound approach consists of a left-turn lane, a right-turn lane, and an auxiliary right-turn lane. Southbound U-turns and westbound right-turn on red are restricted at this intersection.
Tremblay Road at Via Rail Station	The intersection of Tremblay Road at the Via Rail station access is a signalized intersection. The northbound approach consists of a left-turn lane and a right-turn lane, and the southbound approach consists of a shared all-movement lane. The eastbound and westbound approaches each consists of an auxiliary left-turn lane, two through lanes, and an auxiliary right-turn lane. The north leg of the intersection is restricted to authorized vehicles only, no other turn restrictions are noted.
Tremblay Road at Belfast Road	The intersection of Tremblay Road at Belfast Road is a signalized intersection. Each approach consists of an auxiliary left-turn lane and a shared through/right-turn lane. No turn restrictions are noted.
Tremblay Road at St. Laurent Boulevard	The intersection of Tremblay Road at St. Laurent Boulevard is a signalized intersection. The northbound approach consists of an auxiliary left-turn lane, two through lanes, and a shared through/right-turn lane, and the southbound approach consists of an auxiliary left-turn lane, two through lanes, and an auxiliary right-turn lane. The eastbound and westbound approaches each consists of an auxiliary left-turn lane and a shared through/right-turn lane. No turn restrictions are noted.

2.2.3 Existing Driveways

Within 200 metres, one driveway to an office building is present on the south side of Coventry Road. One driveway to each to a hydro transforming station, a truck rental site, a retail plaza, and an auto repair shop are present on the north side of Coventry Road. Figure 3 illustrates the existing driveways.

Figure 3: Existing Driveways

2.2.4 Cycling and Pedestrian Facilities

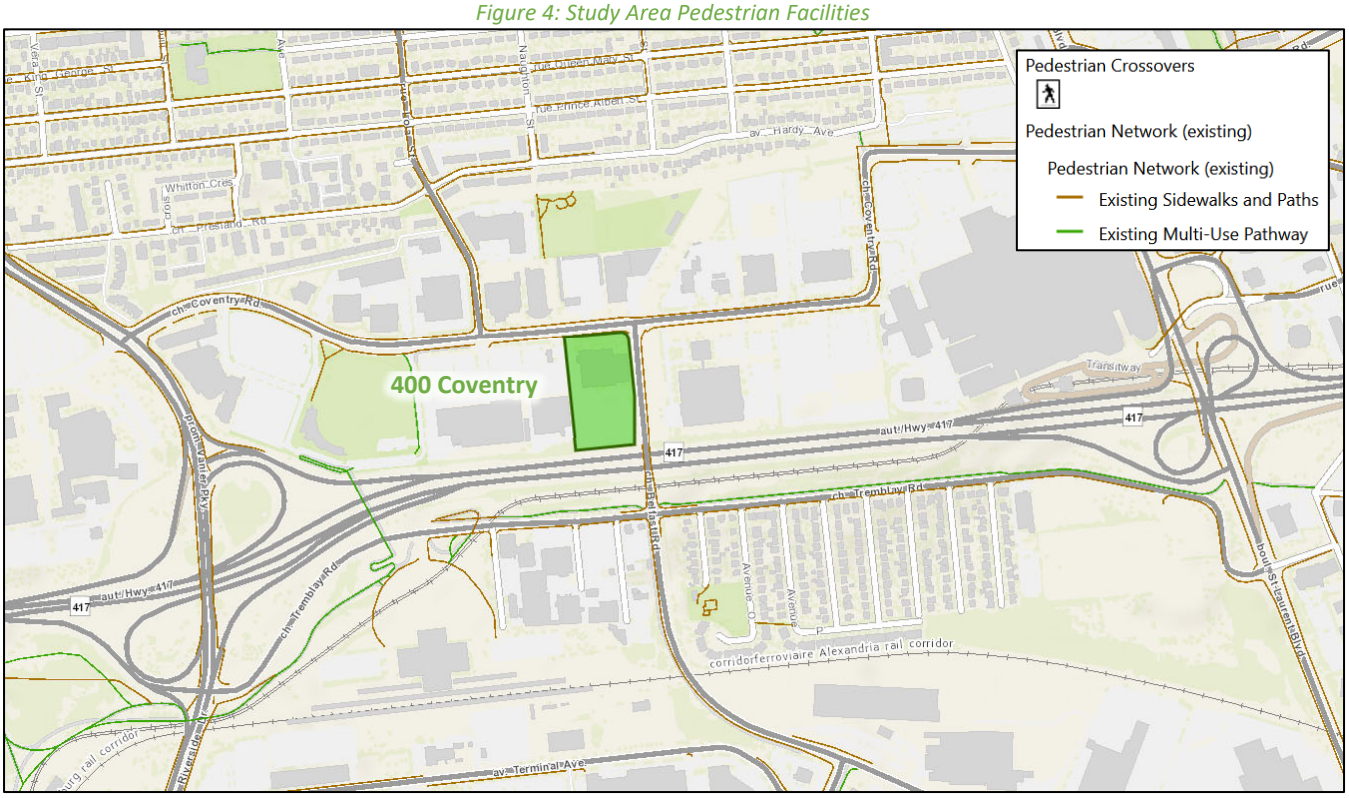
Figure 4 illustrates the pedestrian facilities in the study area and Figure 5 illustrates the cycling facilities.

Sidewalks are provided on both sides of Coventry Road excepting the 80-metre section west of Lola Street where a MUP is present in place of a sidewalk on the south side of the road and between the St. Laurent Shopping Centre access intersections where a MUP is present in place of the sidewalk on the north/west side of the Road. Sidewalks are present on both sides of Vanier Parkway, Ogilvie Road, St. Laurent Boulevard, Riverside Drive, Lola Street south of Presland Road, and on the east side of Belfast Road north of Tremblay Road and on the west side of Belfast Road across the Highway 417 Overpass. Sidewalks are also present on the south side of Tremblay Road east of the Via Rail access and on the west side of the Lola Street between Hart Avenue and Prince Albert Street. Asphalt pathways are present on the north side of Tremblay Road, on both sides of Lola Street north of Presland Road except for the segment on the west side of the road between Hart Avenue and Prince Albert Street.

Cycletracks are present on both sides of Coventry Road between Lola Street and Belfast Road. Bike lanes are present on both sides of Coventry Road between Belfast Road and the westerly St. Laurent Shopping Centre access, and east of the easterly shopping centre access, and on the east/south side of the road between the two shopping centre accesses. MUPs are present on the north side of Tremblay Road east of the Via Rail station access, on the south side of Tremblay Road west of the Via Rail station access, and on the west side of Belfast Road except across the Highway 417 Overpass.

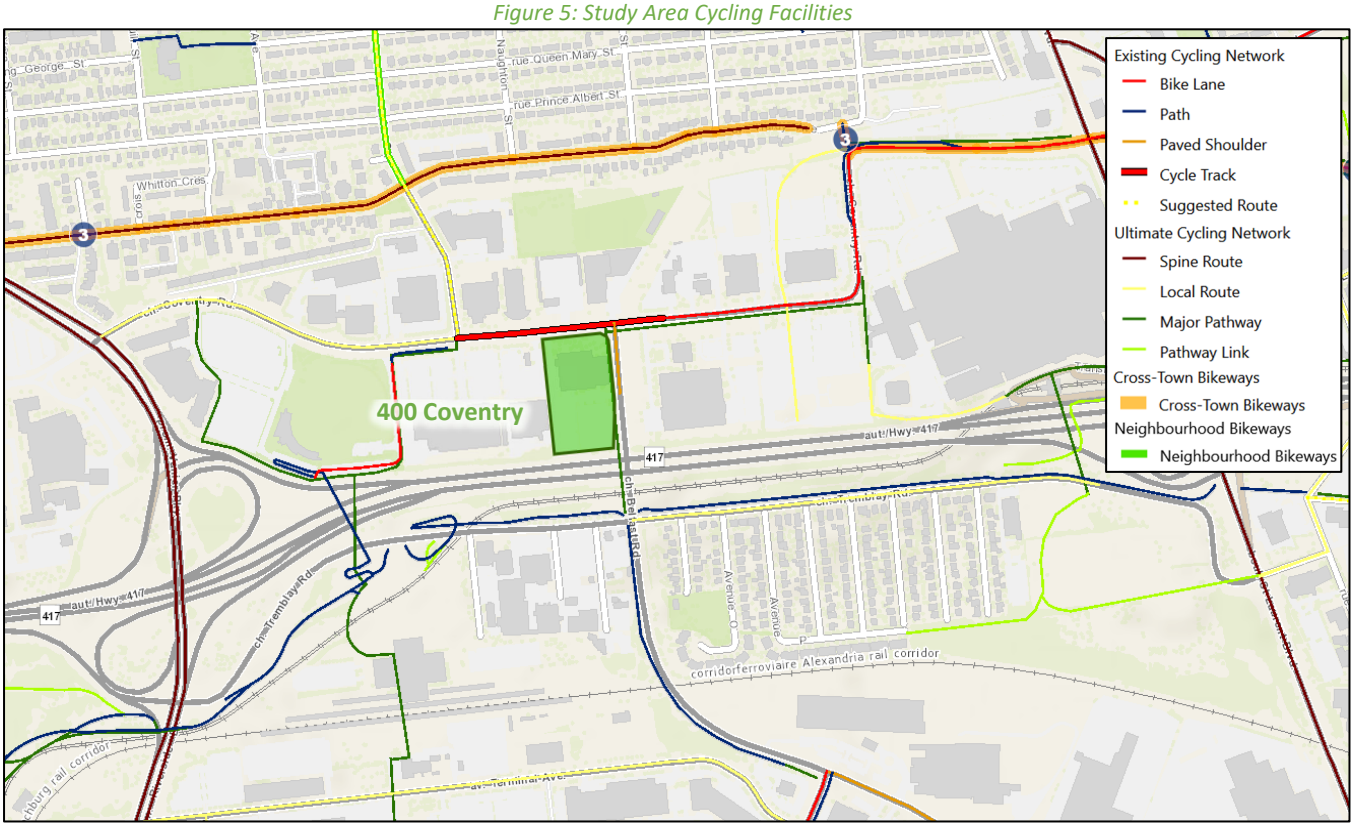
West Presland Road, Presland Road, and Hardy Avenue connect to Coventry Road and Ogilvie Road to comprise a cross-town bikeway, and Lola Street north of Presland Road is a neighbourhood bikeway. Vanier Parkway, Ogilvie Road, St Laurent Boulevard, Riverside Drive, and Ogilvie Road are spine routes, and Coventry Road, Tremblay Road, and Lola Street south of Presland Road are local routes.

Figure 4: Study Area Pedestrian Facilities



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: September 1, 2022

Figure 5: Study Area Cycling Facilities



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: September 1, 2022

Pedestrian and cyclist volumes included in study area intersection counts, presented in Section 2.2.7, have been compiled and are illustrated in Figure 6 and Figure 7, respectively. The City of Ottawa notes that the collection data may include lower numbers of cyclists than in summer conditions.

Figure 6: Existing Pedestrian Volumes

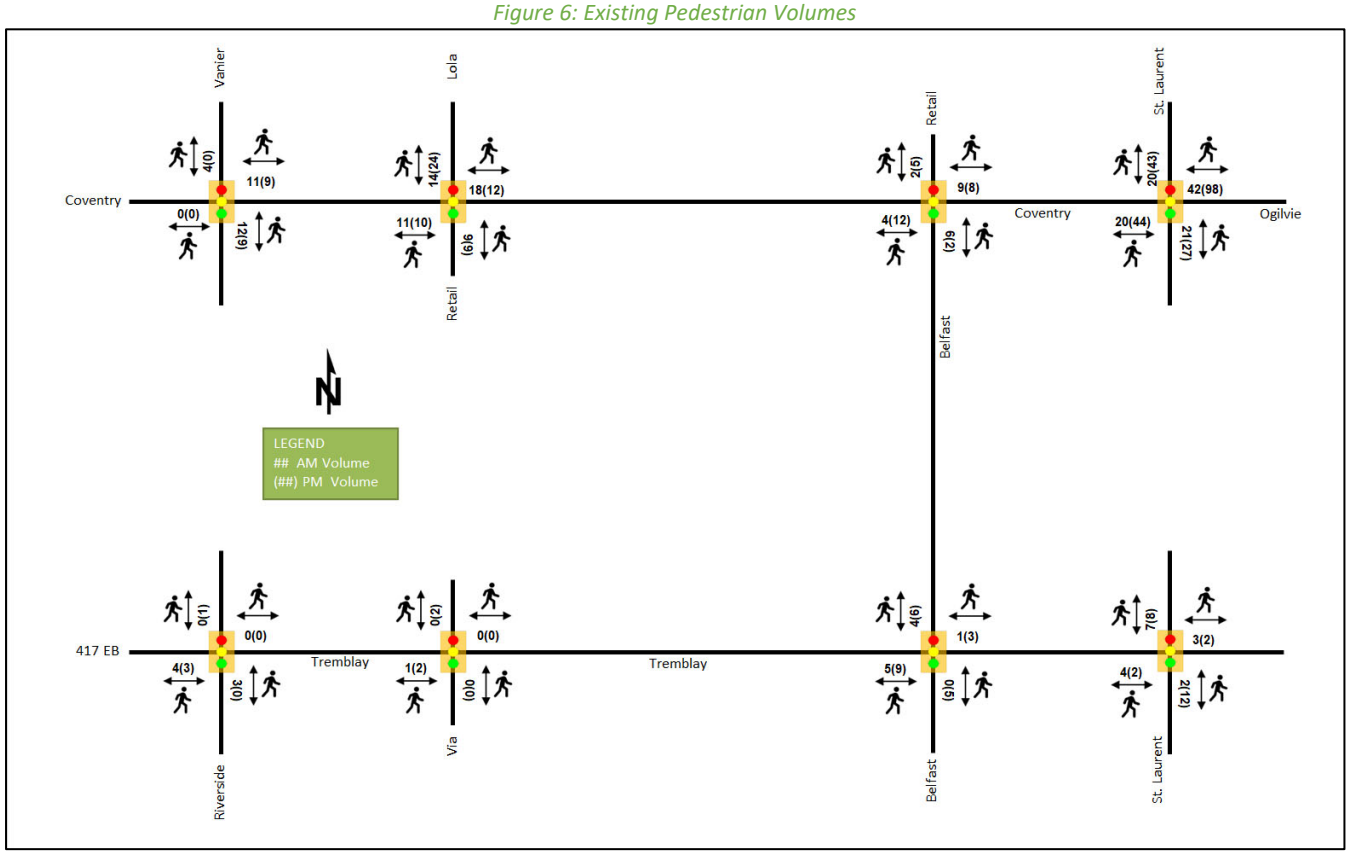
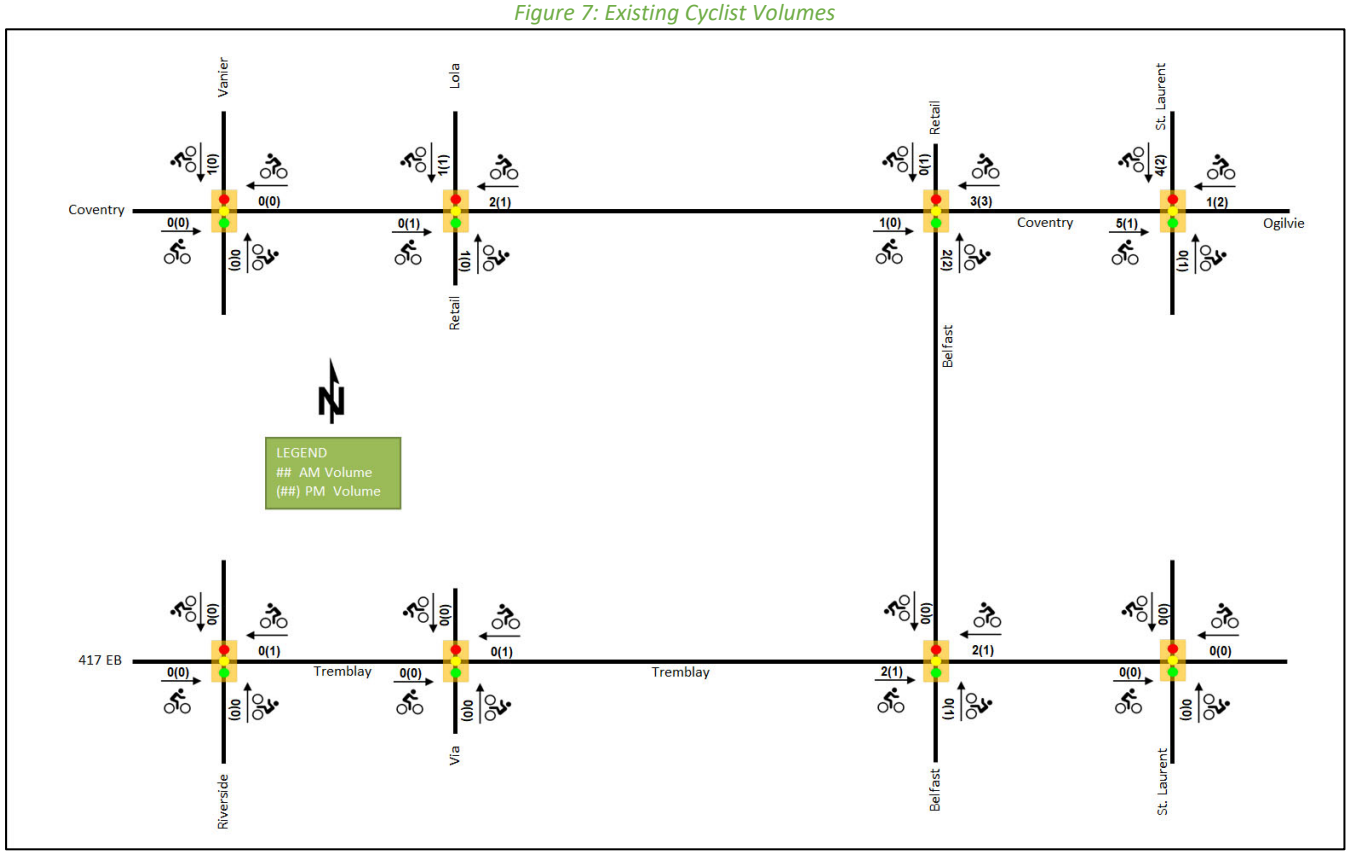


Figure 7: Existing Cyclist Volumes



2.2.5 Existing Transit

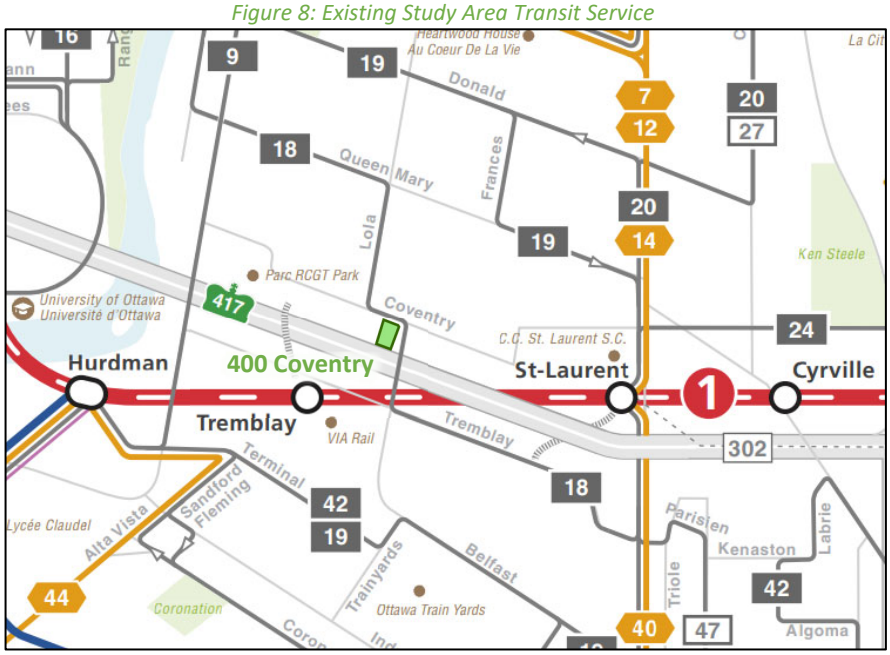
Figure 8 illustrates the transit system map in the study area and Figure 9 illustrates nearby transit stops. All transit information is from September 1, 2022, and is included for general information purposes and context to the surrounding area.

Within the study area, route #18 travels along Lola Street, Coventry Road, Belfast Road, and Tremblay Road. The frequency of these routes within proximity of the proposed site based on September 1, 2022 service levels are:

- Route # 18 – 30-minute service all day

Additionally, Tremblay O-train station and Ottawa Via Rail station are within 800 metres' walk (or 600 metres linear distance) of the site. St Laurent LRT Station is also within a one kilometre' walk of the site. The routes #7, #12, #14, #18, #19, #20, #24, #27, #40, and #47 stop at St Laurent Station.

Figure 8: Existing Study Area Transit Service



Source: http://www.octranspo.com/ Accessed: September 1, 2022

Figure 9: Existing Study Area Transit Stops

Source: http://maps.ottawa.ca/geoOttawa/ Accessed: September 1, 2022

2.2.6 Existing Area Traffic Management Measures

There are no existing area traffic management measures within the study area.

2.2.7 Existing Peak Hour Travel Demand

Existing turning movement counts were acquired from the City of Ottawa for the existing study area intersections. Table 1 summarizes the intersection count dates. Although the timeframe for data collection is considered to be among the more conservative pre-pandemic volumes collected in the City, given their age, these data will be updated as part of future TIA iterations supporting the remaining site plan approval as required.

Table 1: Intersection Count Date

Intersection	Count Date
Coventry Road at Vanier Parkway	Wednesday, January 22, 2020
Coventry Road at Lola Street	Wednesday, January 08, 2020
Coventry Road at Belfast Road	Wednesday, January 08, 2020
Coventry Road/ Ogilvie Road at St. Laurent Boulevard	Thursday, February 20, 2020
Tremblay Road/ 417 EB at Riverside Drive	Wednesday, January 30, 2019
Tremblay Road / Via Rail Station	Wednesday, January 30, 2019
Tremblay Road/ Belfast Road	Wednesday, January 08, 2020
Tremblay Road/ St. Laurent Boulevard	Wednesday, January 30, 2019

Figure 10 illustrates the existing traffic counts and Table 2 summarizes the existing intersection operations. The level of service for signalized intersections is based on volume to capacity ratio (v/c) calculations for individual lane movements and MMLOS Guidelines weighted v/c methodology for the overall intersection, per direction from Transportation Engineering Services. Detailed turning movement count data is included in Appendix B and the Synchro worksheets are provided in Appendix C.

Figure 10: Existing Traffic Counts

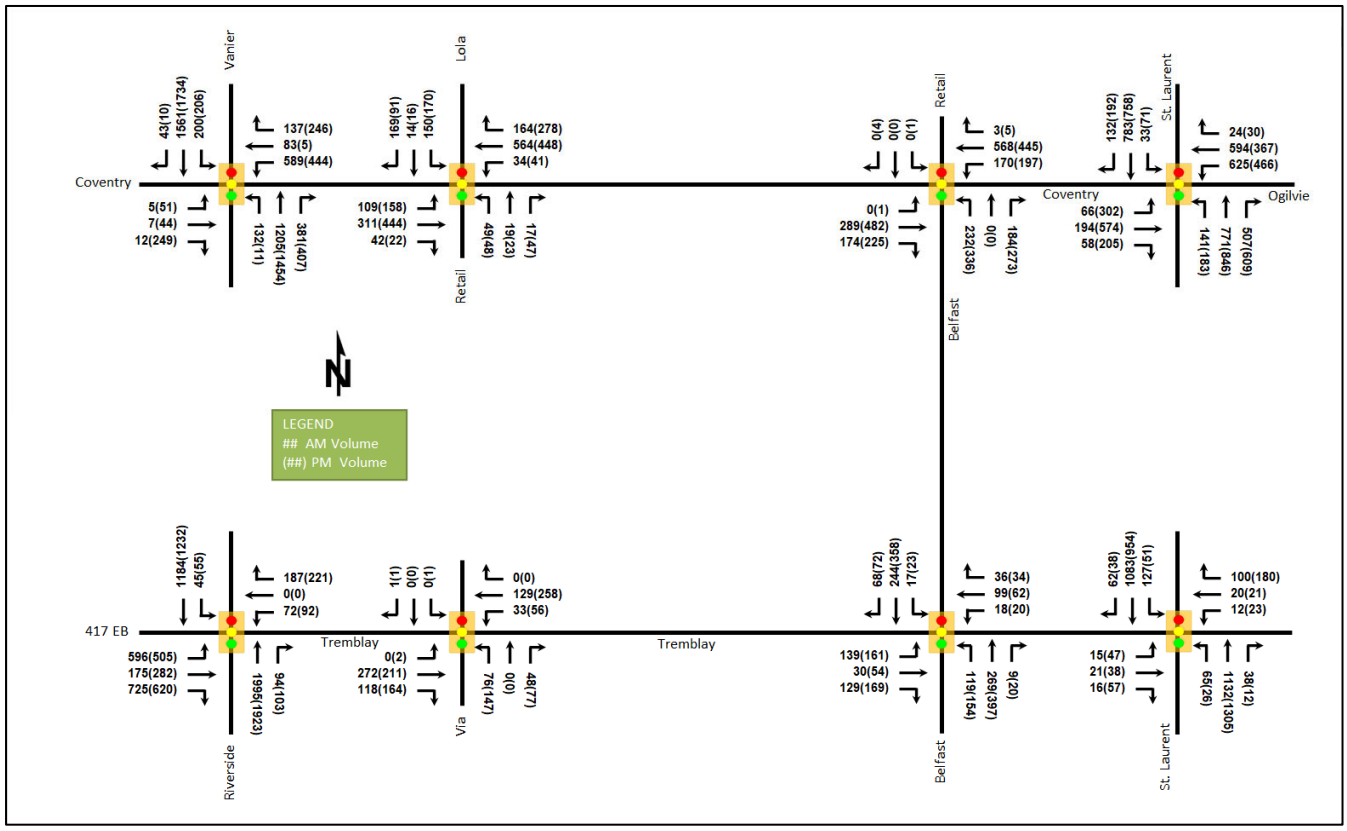


Table 2: Existing Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Coventry Road at Vanier Parkway ***Signalized***	EBL/T	A	0.11	63.2	11.0	B	0.68	**82.7**	**#54.0**
	EBR	A	0.05	0.3	0.0	**F**	**1.06**	**102.6**	**#104.3**
	WBL	C	0.79	62.2	89.5	B	0.67	61.1	58.8
	WBL/T	C	0.78	69.2	102.3	B	0.68	68.3	69.1
	WBR	A	0.34	4.4	8.9	B	0.68	23.6	45.1
	NBL	C	0.79	73.8	m44.4	A	0.15	68.0	m3.8
	NBT	D	0.86	24.5	m84.7	**F**	**1.14**	**101.2**	**m#300.2**
	NBR	A	0.47	1.1	m1.2	A	0.52	4.3	m11.9
	SBL	B	0.68	71.0	**#67.6**	A	0.58	64.6	**#66.5**
	SBT/R	D	0.81	38.4	**#217.9**	C	0.73	27.7	**#231.9**
	Overall	**D**	**0.82**	**36.8**	**-**	**F**	**1.02**	**57.4**	**-**
Coventry Road at Lola Street ***Signalized***	EBL	A	0.31	9.3	17.5	A	0.47	12.8	24.6
	EBT/R	A	0.21	12.1	33.5	A	0.29	14.6	46.0
	WBL	A	0.07	5.6	m3.1	A	0.09	6.0	m4.3
	WBT/R	A	0.51	12.6	45.0	A	0.53	12.0	m40.4
	NBL	A	0.30	32.7	16.1	A	0.21	27.7	15.5
	NBT/R	A	0.12	17.1	9.6	A	0.20	12.2	13.0
	SBL	B	0.67	45.8	41.5	B	0.70	44.8	47.7
	SBT/R	A	0.46	8.9	17.2	A	0.29	9.0	14.0
	Overall	**A**	**0.51**	**15.4**	**-**	**A**	**0.55**	**16.0**	**-**
Coventry Road at Belfast Road ***Signalized***	EBL	-	-	-	-	A	0.00	17.0	m0.2
	EBT	A	0.40	17.7	37.4	D	0.83	34.0	**#137.4**
	EBR	A	0.25	4.7	9.2	A	0.36	3.7	8.3
	WBL	A	0.32	8.7	22.4	B	0.66	22.3	**#36.8**
	WBT/R	A	0.58	13.5	96.6	A	0.54	17.0	86.4
	NBL/T	D	0.84	56.6	**#76.6**	D	0.89	54.0	**#104.7**
	NBR	A	0.45	11.6	24.3	A	0.52	12.6	37.0
	SB	-	-	-	-	A	0.01	0.0	0.0
	Overall	**B**	**0.66**	**18.8**	**-**	**D**	**0.82**	**25.9**	**-**
Coventry Road / Ogilvie Road at St. Laurent Boulevard ***Signalized***	EBL	A	0.16	47.3	15.5	C	0.76	61.6	**#56.5**
	EBT	A	0.37	47.0	35.2	C	0.79	50.3	93.9
	EBR	A	0.16	0.8	0.0	A	0.46	9.2	23.1
	WBL	E	0.93	69.3	**#130.6**	**F**	**1.05**	**104.1**	**#108.2**
	WBT	B	0.70	46.9	97.8	A	0.48	39.9	58.3
	WBR	A	0.05	0.2	0.0	A	0.07	0.3	0.0
	NBL	D	0.84	**90.3**	**#75.6**	D	0.89	**87.4**	**#88.1**
	NBT	C	0.71	42.5	**#162.6**	D	0.90	51.7	**#148.1**
	NBR	B	0.68	11.5	63.6	E	0.96	44.6	**#165.8**
	SBL	A	0.35	66.3	20.2	B	0.69	**84.5**	**#41.0**
	SBT	B	0.66	46.2	94.5	C	0.72	45.5	82.3
	SBR	A	0.28	3.1	6.4	A	0.43	7.9	19.4
	Overall	**C**	**0.75**	**44.2**	**-**	**E**	**0.92**	**52.4**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Tremblay Road / 417 EB at Riverside Drive ***Signalized***	EBL	D	0.84	60.3	105.0	D	0.87	69.4	98.1
	EBT	A	0.24	42.0	30.8	A	0.51	54.0	55.8
	EBR	A	0.55	1.5	0.0	A	0.47	1.1	0.0
	WBL	C	0.71	**95.4**	**#46.4**	C	0.72	**89.8**	**#51.7**
	WBR	A	0.39	24.1	25.7	A	0.46	29.6	32.5
	NBT/R	**F**	**1.07**	**78.6**	**#310.8**	E	0.94	42.7	**#259.4**
	SBL	A	0.51	62.1	**m#20.4**	B	0.69	**86.8**	**m#25.8**
	SBT/R	C	0.71	33.5	226.0	B	0.69	27.6	m225.4
	Overall	**E**	**0.97**	**51.7**	**-**	**D**	**0.88**	**37.9**	**-**
Tremblay Road at Via Rail Station ***Signalized***	EBL	-	-	-	-	A	0.00	10.5	1.3
	EBT	A	0.17	7.5	11.3	A	0.16	10.1	15.2
	EBR	A	0.16	2.5	5.7	A	0.24	3.5	10.1
	WBL	A	0.07	7.8	4.7	A	0.13	11.4	11.3
	WBT	A	0.08	7.4	6.0	A	0.19	10.2	18.1
	WBR	-	-	-	-	-	-	-	-
	NBL	A	0.23	13.3	13.3	A	0.37	12.6	21.7
	NBR	A	0.12	5.2	5.6	A	0.16	3.6	6.1
	SB	-	-	-	-	-	-	-	-
	Overall	**A**	**0.18**	**7.1**	**-**	**A**	**0.30**	**8.8**	**-**
Tremblay Road at Belfast Road ***Signalized***	EBL	B	0.61	36.3	36.4	C	0.72	48.8	50.8
	EBT/R	A	0.40	9.8	17.7	A	0.57	17.2	35.3
	WBL	A	0.08	22.6	7.1	A	0.14	29.6	9.2
	WBT/R	A	0.39	23.3	29.3	A	0.29	23.5	24.7
	NBL	A	0.25	8.3	17.0	A	0.35	9.4	23.8
	NBT/R	A	0.30	8.5	38.2	A	0.46	15.4	98.4
	SBL	A	0.04	15.6	6.0	A	0.20	43.5	12.7
	SBT/R	A	0.47	18.4	64.2	B	0.62	23.6	112.4
	Overall	**A**	**0.46**	**16.6**	**-**	**A**	**0.59**	**22.0**	**-**
Tremblay Road at St. Laurent Boulevard ***Signalized***	EBL	A	0.16	51.4	9.8	C	0.76	**103.3**	22.8
	EBT/R	A	0.21	33.5	13.8	A	0.40	24.2	21.6
	WBL/T	A	0.09	48.5	8.0	A	0.16	44.3	11.9
	WBR	A	0.50	19.1	20.7	B	0.64	19.3	29.0
	NBL	A	0.26	13.5	22.6	A	0.09	11.2	9.0
	NBT/R	A	0.40	10.3	89.4	A	0.45	10.9	99.1
	SBL	A	0.43	8.0	20.0	A	0.22	6.6	9.5
	SBT	A	0.46	6.2	98.4	A	0.42	6.7	82.8
	SBR	A	0.06	1.5	4.9	A	0.04	2.2	4.1
	Overall	**A**	**0.46**	**9.5**	**-**	**A**	**0.45**	**12.2**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
Queue is measured in metres
Peak Hour Factor = 0.90
Delay = average vehicle delay in seconds
m = metered queue
# = volume for the 95th %ile cycle exceeds capacity

During both the AM and PM peak hours, capacity issues are noted at the intersections of Coventry Road at Vanier Parkway, Coventry Road/ Ogilvie Road at St. Laurent Boulevard, and Tremblay Road/the Highway 417 eastbound off-ramp at Riverside Drive.

At the intersection of Coventry Road at Vanier Parkway, during the AM peak hour, the southbound left and southbound through/right movements may exhibit extended queues. During the PM peak hour, the eastbound right and the northbound through movements are over theoretical capacity and may exhibit high delays and

extended queues. Also during the PM peak hour, the eastbound shared left-turn/through movement may be subject to high delays and extended queues and the southbound left and southbound through/right movements may exhibit extended queues and the overall intersection is over theoretical capacity.

At the intersection of Coventry Road at Belfast Road, extended queues may be exhibited on the northbound left/through movement during both peak hours, and the eastbound through and westbound left movements during the PM peak hour.

At the intersection of Coventry Road/ Ogilvie Road at St. Laurent Boulevard, during the AM peak hour, the northbound left movement may be subject to high delays and extended queues, and the westbound left and northbound through movements may be subject to extended queues. During the PM peak hour, the westbound left movement is over theoretical capacity and may be subject to high delays and extended queues. Also during the PM peak hour, the northbound and southbound left-turn movements may be subject to high delays and extended queues, and the eastbound left, northbound through, and northbound right movements may be subject to extended queues.

At the intersection of Tremblay Road/ 417 EB at Riverside Drive, during the AM peak hour, the northbound through/right movement is over theoretical capacity and may exhibit extended queues, the westbound left may be subject to high delays and extended queues, and the southbound left may exhibit extended queues. During the PM peak hour, the westbound left and southbound left may be subject to high delays and extended queues, and the northbound through/right may exhibit extended queues.

2.2.8 Collision Analysis

Collision data have been acquired from the City of Ottawa open data website (data.ottawa.ca) for five years prior to the commencement of this TIA for the surrounding study are road network. Table 3 summarizes the collision types and conditions in the study area, Figure 11 illustrates the intersections and segments analyzed, and Table 4 summarizes the total collisions for each of these locations. Collision data are included in Appendix D.

Table 3: Study Area Collision Summary, 2016-2020

		Number	%
Total Collisions		**42**	**100%**
Classification	**Fatality**	0	0%
	Non-Fatal Injury	11	26%
	Property Damage Only	31	74%
Initial Impact Type	**Angle**	6	14%
	Rear end	20	48%
	Sideswipe	6	14%
	Turning Movement	8	19%
	SMV Unattended	1	2%
	SMV Other	1	2%
Road Surface Condition	**Dry**	24	57%
	Wet	10	24%
	Loose Snow	2	5%
	Slush	4	10%
	Packed Snow	1	2%
	Ice	1	2%
Pedestrian Involved		1	2%
Cyclists Involved		1	2%

Figure 11: Study Area Collision Records – Representation of 2015-2019

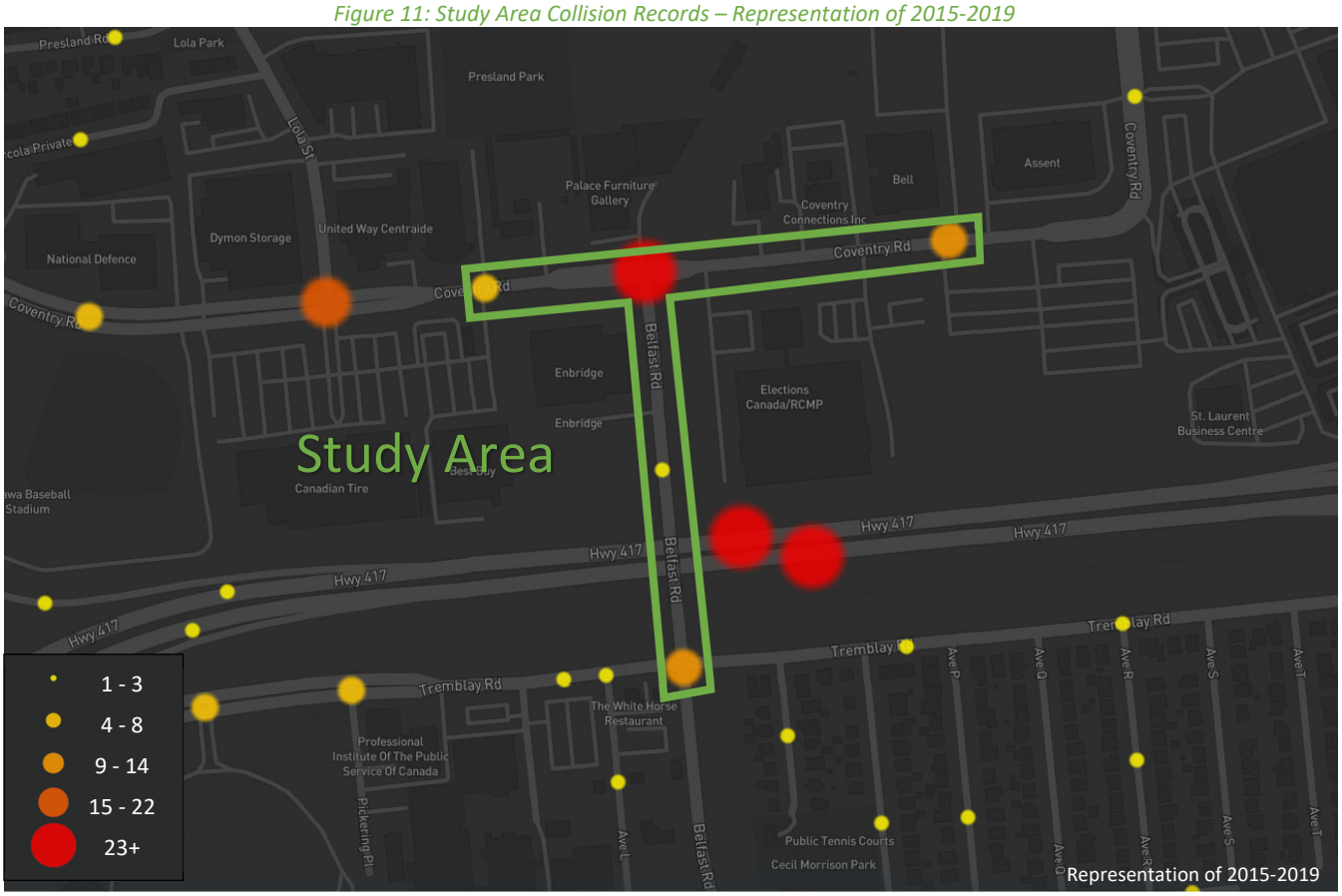


Table 4: Summary of Collision Locations, 2016-2020

	Number	%
Intersections / Segments	**42**	**100%**
Belfast Rd @ Coventry Rd	24	57%
Belfast Rd @ Tremblay Rd	11	26%
Coventry Rd btwn Lola St & Belfast Rd	5	12%
Belfast Rd btwn Coventry Rd & Tremblay Rd	2	5%

Within the study area, the intersection of Belfast Road at Coventry Road is noted to have experienced higher collisions than other locations. Table 5 summarizes the collision types and conditions for the intersection of Belfast Road at Coventry Road. Aside from collisions analyzed further at the intersection of Belfast Road and Coventry Road, one cyclist collision was noted within the study area at the intersection of Belfast Road at Tremblay Road. The conditions in which the collisions occurred were dark, and rainy with a wet road surface, and involved an eastbound automobile make a U-turn and a southbound bicycle making a through movement. No additional bicycle collisions were recorded in the study area, and this collision may have been the result of one of the two parties disobeying traffic control given these movements are permitted only in conflicting phases, and may have also been influenced by the visibility and surface conditions. No mitigation measures are required to address cyclist collisions through the study area, and no further review of this cyclist collision is required as part of this study.

Table 5: Intersection of Belfast Road at Coventry Road Collision Summary

		Number	%
Total Collisions		**24**	**100%**
Classification	**Fatality**	0	0%
	Non-Fatal Injury	3	13%
	Property Damage Only	21	88%
Initial Impact Type	**Angle**	1	4%
	Rear end	14	58%
	Sideswipe	4	17%
	Turning Movement	4	17%
	SMV Other	1	4%
Road Surface Condition	**Dry**	14	58%
	Wet	4	17%
	Loose Snow	1	4%
	Slush	3	13%
	Packed Snow	1	4%
	Ice	1	4%
Pedestrian Involved		1	4%
Cyclists Involved		0	0%

The Belfast Road at Coventry Road intersection had a total of 24 collisions during the 2016-2020 time period, with 21 involving property damage only and the remaining thee having non-fatal injuries. The collision types are most represented by rear end with 14 collisions, followed by four collisions each for sideswipe and turning movement collision types, with the remaining two collisions split between the angle and SMV other types. Rear end collisions are typical of congested conditions, and no other patterns are noted. Weather conditions do not affect collisions at this location. No further collision analysis is required as part of this study.

2.3 Planned Conditions

2.3.1 Changes to the Area Transportation Network

The subject development is within the within the Tremblay TOD and Industrial Avenue/ Cyrville Mixed Use Centre design priority areas, the Tremblay TOD Plan area, and the Tremblay, St. Laurent and Cyrville Secondary Plan area.

Within the Transportation Master Plan, the Road Network's Network Concept diagram shows Coventry Road as widened arterial and Tremblay Road as widened collector. Within the Affordable Network diagram, these sections are shown as segments for phase 3 (2026-2031) widening. The scope of the work per the Affordable Network is the widening of Coventry Road from two lanes to four between Belfast Road and the St Laurent Shopping Centre and widening of Tremblay Road from two lanes to four between Pickering Place and St. Laurent Boulevard. Since the project timeline is unknown, it is assumed that the widening of Coventry Road and Tremblay Road will be completed beyond 2037.

Within the Rapid Transit and Transit Priority Network's Network Concept diagram, isolated transit priority measures are shown along Ogilvie Road, however these are not included in the Affordable Network. Both Networks include an isolated measures transit priority corridor along St. Laurent Boulevard.

The Ottawa Cycling Plan a MUP connection between St. Laurent station and Aviation Parkway in Phase 2 (2020-2025), and a neighbourhood bikeway north of Presland Road along Lola Street in Phase 3 (2026-2030).

The Tremblay TOD plan outlines new public local road through the site area, pedestrian future pedestrian/cycling crossings of Highway 417 and the rail line to Tremblay Station and the VIA Station, and future sidewalks along both sides Tremblay Road west of the train station, of Belfast Road, and of the New Local Road through the site.

The Tremblay TOD plan also includes the cycling facilities along Vanier Parkway, Riverside Drive, Coventry Road, Belfast Road, Tremblay Road east of the train station, and Terminal Avenue. Figure 12, Figure 13, and Figure 14 illustrate the Tremblay TOD street, pedestrian, and cycling plans, respectively.

Figure 12: Tremblay TOD Street Network

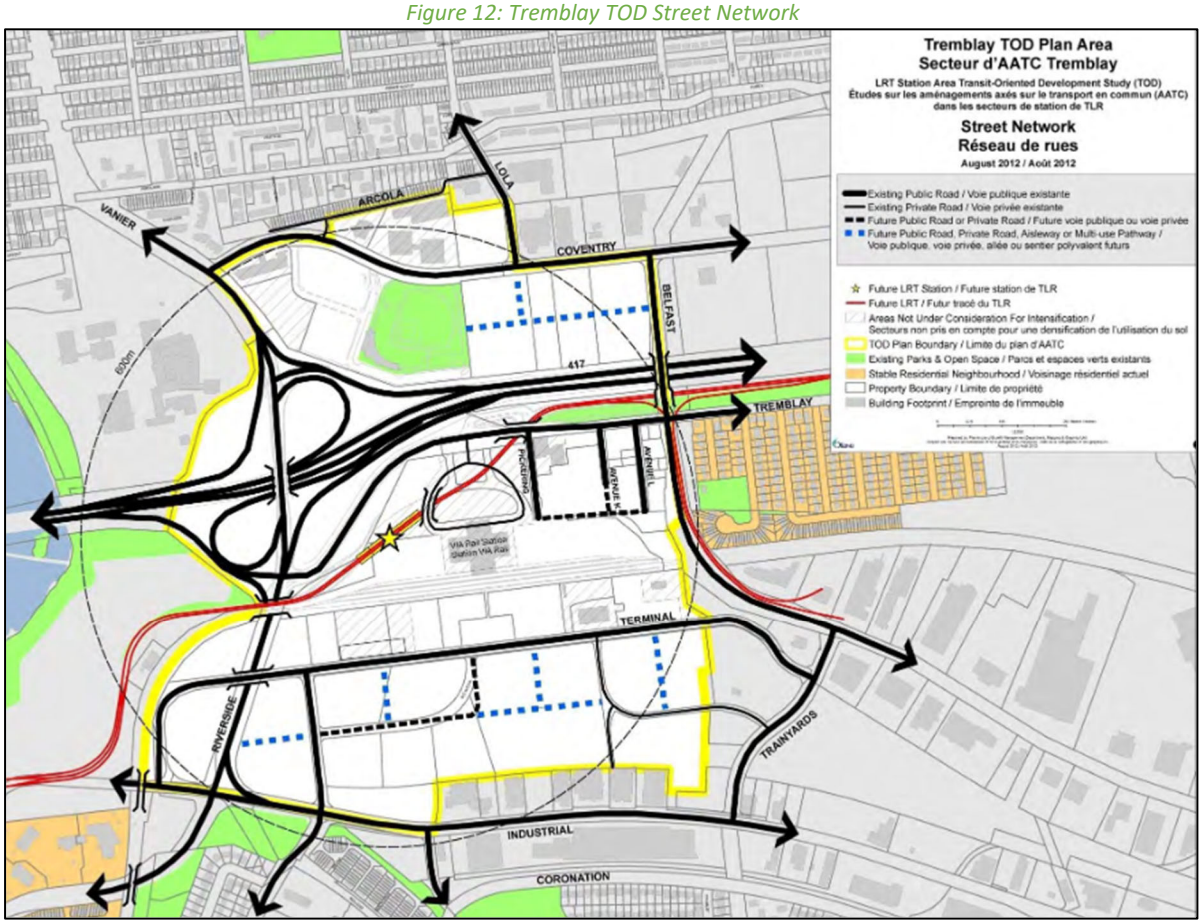


Figure 13: Tremblay TOD Pedestrian Network

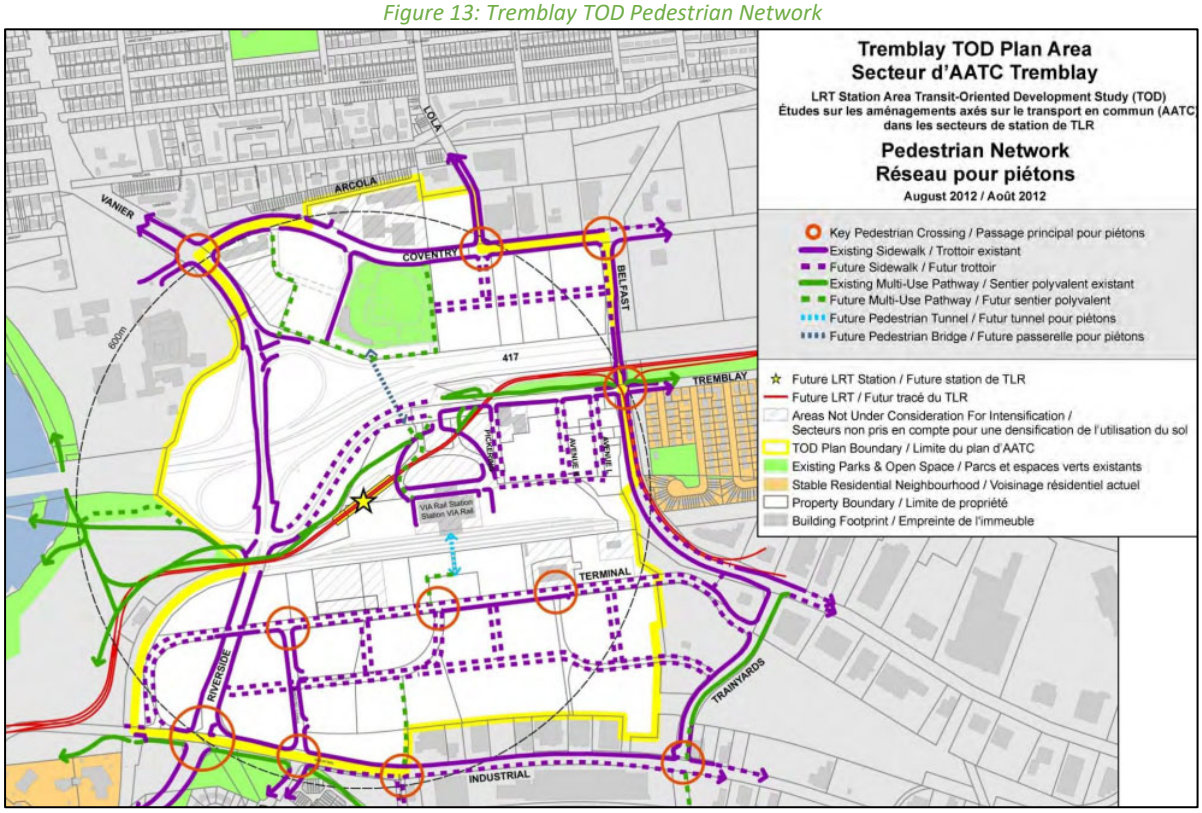
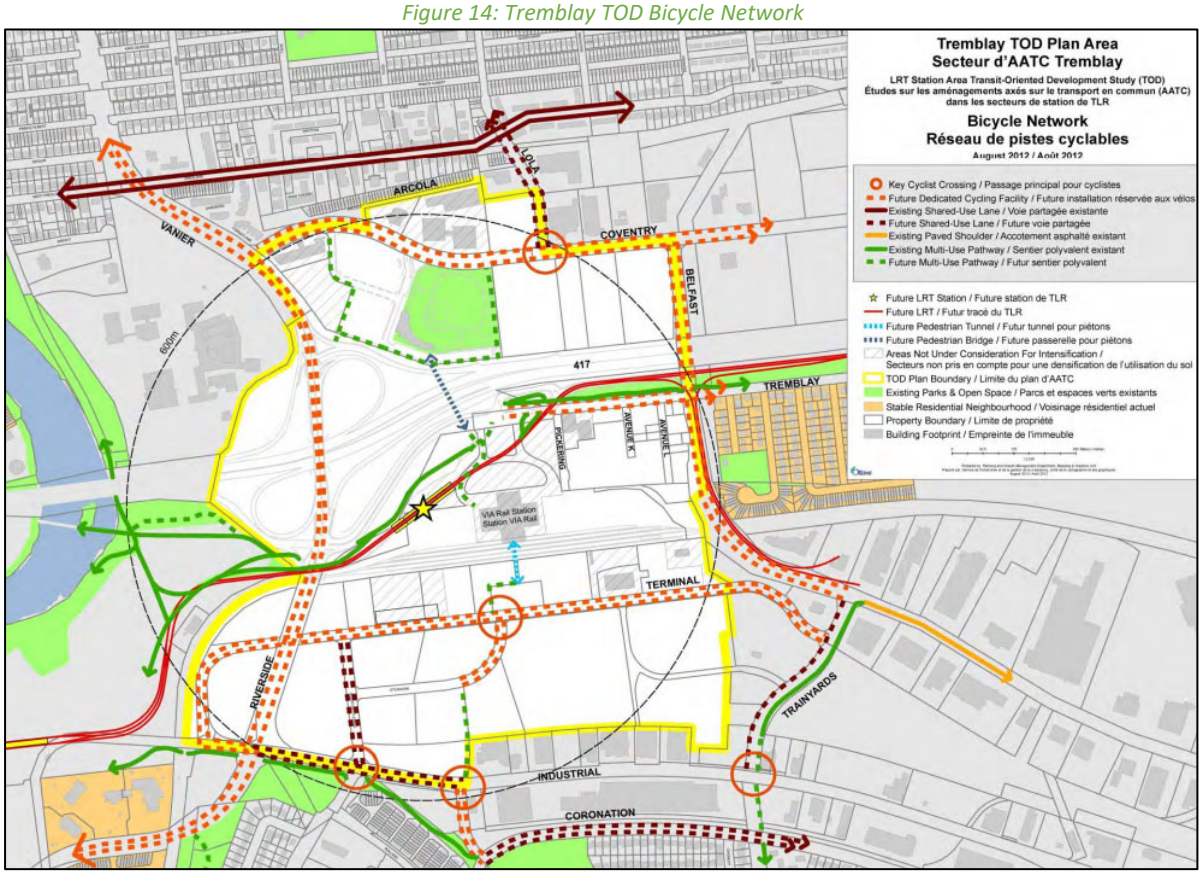


Figure 14: Tremblay TOD Bicycle Network



The St. Laurent TOD plan outlines the realignment of Coventry Road and Tremblay Road through the plan area, new area sidewalks, and dedicated cycling facilities along St Laurent Boulevard, Coventry Road, Tremblay Road and Belfast Road. Figure 15, Figure 12, and Figure 13 illustrate the St. Laurent TOD street, pedestrian, and cycling plans, respectively.

Figure 15: St. Laurent TOD Street Network

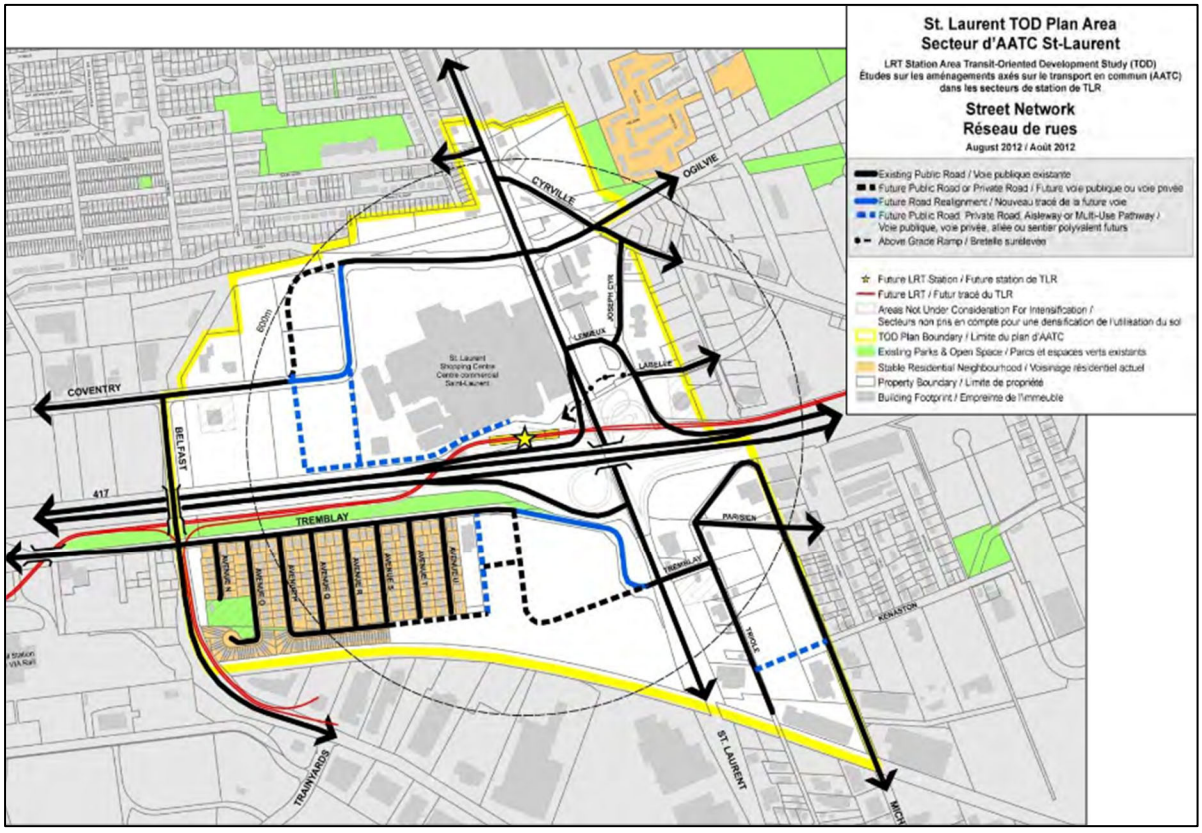


Figure 16: St. Laurent TOD Pedestrian Network

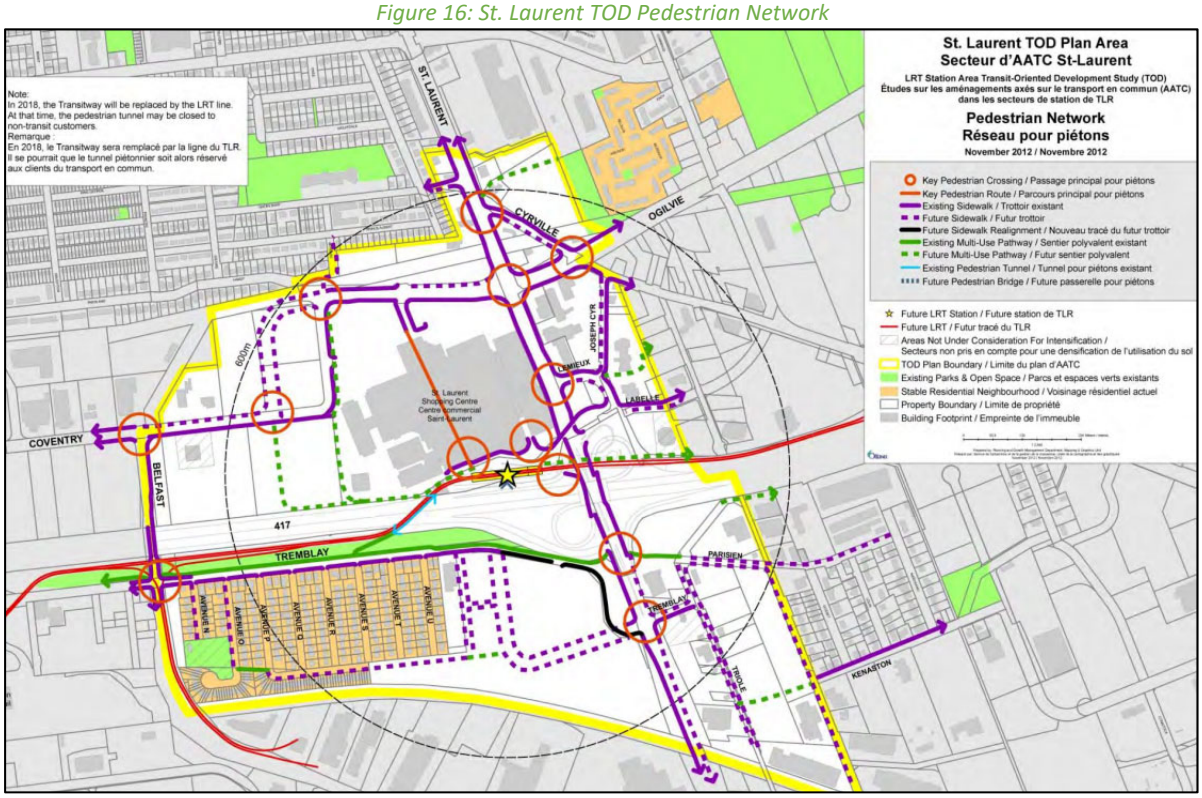
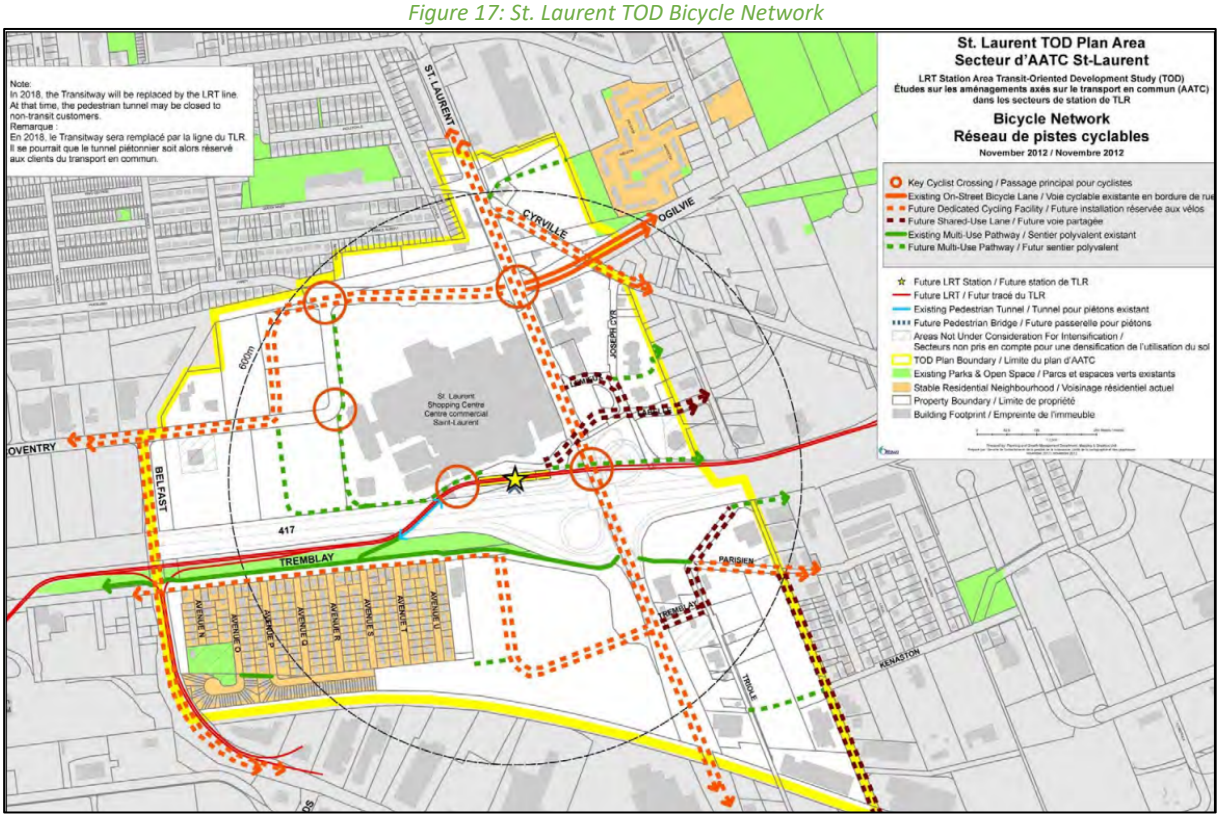


Figure 17: St. Laurent TOD Bicycle Network



2.3.2 Other Study Area Developments

208, 210, 212, 214 Prince Albert Street
The proposed development application includes a site plan for two two-storey semi-detached units adding to the existing units. No TIA is available.

1330 Avenue K
The proposed development application includes a Zoning By-Law Amendment to include residential uses along with complementary commercial uses. No TIA is available.

453 & 455 Coventry Road
The proposed development application includes a Zoning By-Law Amendment to allow 650 residential units and 1,115m² gross floor area (GFA) of commercial space. The development is predicted to generate 113 new AM and 135 new PM two-way peak hour auto trips. The anticipated build-out horizon is 2027. (Novatech, 2022)

500, 525, 535 Coventry Road & 1200 St. Laurent Boulevard
The proposed development application includes a Zoning By-Law amendment to permit the construction of freestanding retail buildings with associated surface parking areas. No TIA is included as part of this application, and the file was last updated in 2014.

1209 St Laurent Boulevard & 1200 Lemieux Street
The proposed development application includes a site plan for two 30-storey residential buildings including 640 units. The development is expected to generate 35 new AM and 38 new PM peak hour two-way auto trips, and the anticipated build-out horizon is assumed to be 2026. (CGH Transportation, 2022)

1125 - 1149 Cyrville Road
The proposed development application includes a site plan to construct two residential buildings with a total of 354 units. The development is predicted to generate 22 new AM and 21 new PM two-way peak hour auto trips. The anticipated build-out horizon is 2023. (Stantec, 2021)

599 Tremblay Road
The proposed development application includes a plan of subdivision for the construction of 500 apartment units and 150,000 m^2 of federal Office in three phases. Phase one is to comprise 200 dwelling units and 150,000 m^2 of office space and is forecast to be built out by 2025. Phase two is to comprise 200 dwelling units and is forecast to be built out by 2029. Phase three is to comprise the remaining 100 units, is forecast to be built out by 2033. (WSP, 2021)

1500 St. Laurent Boulevard
The proposed development application includes a site plan to include OC Transpo E-Bus Facility. No TIA is available.

1300 Michael Street
The proposed development application includes a site plan for approximately 15,000 sq. ft. of commercial and/or industrial space. The anticipated build-out horizon is 2023. No TIA is available.

200, 230, 260 Streamline Street
The proposed development application includes a site plan for seven-storey high-rise buildings with a total of 1890 units. Phase one is to construct 420 dwelling units and was forecast to be built out by 2021. Phase two is to comprise 865 dwelling units and is forecast to be built out by 2027. Phase three is to comprise the remaining 605

dwelling units and is forecast to be built out by 2031. Phase one has not been constructed and it will be assumed to be completed by 2023. (D. J. Halpenny & Associates Ltd., 2018)

530 Tremblay Road & 2098 Avenue P & 1399 Avenue U
The proposed development application includes a site plan to construct two apartment buildings with a total of 124 dwelling units. The development is forecast to be built out by 2023. (CGH Transportation, 2019)

25 Pickering Place
The proposed development application includes a site plan for a hotel, a senior residence, and four high-rise residential towers. Phase one is to construct a nine-storey hotel with 119 units, a twelve-storey senior residence comprising 164 dwelling units, and a 20-storey tower comprising 211 dwelling units and is forecast to be built out by 2025. Phase two is to construct three high-rise towers with a total of 849 units and is forecast to be built out by 2030. (CIMA+, 2020)

1098 Ogilvie Road, 1178 Cummings Avenue
The proposed development application includes a site plan for a two-phase development with occupancy horizons of 2022 and 2024, comprising three residential towers and one hotel for 850 residential dwelling units and 175 hotel rooms. The development is expected to generate 148 new AM and 130 new PM peak hour two-way auto trips. (Parsons, 2020)

3 Study Area and Time Periods

3.1 Study Area

The study area will include the intersections of:

- Coventry Road at:
  - Vanier Parkway
  - Lola Street
  - Belfast Road
  - St. Laurent Boulevard/Ogilvie Road
  - Site access (future conditions)
- Tremblay Road at:
  - Riverside Drive
  - Via Rail station access
  - Belfast Road
  - St. Laurent Boulevard
  - Belfast Road
- Belfast Road at:
  - New Local Road (future conditions)

The boundary road will be Coventry Road and Beland Belfast Road, and no screenlines are present within proximity to the site and no screenline analysis will be performed as part of the study.

3.2 Time Periods

As the proposed development is composed primarily of residential units the AM and PM peak hours will be examined.

3.3 Horizon Years

The anticipated build-out year is 2032. As a result, the full build-out plus five years horizon year is 2037.

4 Exemption Review

Table 6 summarizes the exemptions for this TIA.

Table 6: Exemption Review

Module	Element	Explanation	Exempt/Required
Design Review Component			
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plans	Required
	4.1.3 New Street Networks	Only required for plans of subdivision	Required due to New Local Road
4.2 Parking	4.2.1 Parking Supply	Only required for site plans	Required
	4.2.2 Spillover Parking	Only required for site plans where parking supply is 15% below unconstrained demand	Exempt
Network Impact Component			
4.5 Transportation Demand Management	All Elements	Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time	Required
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Required
4.8 Network Concept		Only required when proposed development generates more than 200 person-trips during the peak hour in excess of equivalent volume permitted by established zoning	Required

5 Development-Generated Travel Demand

5.1 Mode Shares

Examining the mode shares recommended in the TRANS Trip Generation Manual (2020) for the subject district, derived from the most recent National Capital Region Origin-Destination survey (OD Survey), the existing average district mode shares by land use for Ottawa East have been summarized in Table 7.

Table 7: TRANS Trip Generation Manual Recommended Mode Shares – Ottawa East

Travel Mode	Multi-Unit (High-Rise)		Commercial Generator	
	AM	PM	AM	PM
Auto Driver	40%	40%	57%	55%
Auto Passenger	7%	14%	10%	18%
Transit	38%	28%	15%	11%
Cycling	2%	3%	1%	1%
Walking	13%	15%	17%	15%
Total	**100%**	**100%**	**100%**	**100%**

Being within 850 metre-walk of Tremblay LRT station and 1.1 kilometre-walk of the St. Laurent LRT station, a higher transit mode is considered achievable at this location and modal shifts towards transit consistent with the TOD context are proposed. It is noted that the City has requested typical TOD modal shares, although the increased walking distance has been factored into the following proposed modal shares. Additionally, with the

quality of area local and regional cycling connections, and being within walking distance of the St. Laurent Shopping Centre and the Ottawa Trainyards commercial area, a higher active mode share targets are proposed for the site. The proposed modified mode share targets are summarized in Table 8.

Table 8: Proposed Development Mode Shares

Travel Mode	Multi-Unit (High-Rise)		Commercial Generator	
	AM	PM	AM	PM
Auto Driver	16%	19%	49%	47%
Auto Passenger	4%	8%	10%	18%
Transit	58%	48%	20%	16%
Cycling	4%	5%	2%	2%
Walking	18%	20%	19%	17%
Total	**100%**	**100%**	**100%**	**100%**

5.2 Trip Generation

This TIA has been prepared using the vehicle and person trip rates for the residential dwellings using the TRANS Trip Generation Manual (2020) and the vehicle trip rates and derived person trip rates for commercial component from the ITE Trip Generation Manual 11th Edition (2021) using the City-prescribed conversion factor of 1.28. Table 9 summarizes the person trip rates for the proposed residential land uses for each peak period and the person trip rates for the non-residential land uses by peak hour.

Table 9: Trip Generation Person Trip Rates by Peak Period

Land Use	Land Use Code	Peak	Peak Period		Peak Hour	
			Vehicle Trip Rate	Person Trip Rates	Vehicle Trip Rate	Person Trip Rates
Multi-Unit (High-Rise)	221 & 222 (TRANS)	AM	-	0.80	-	-
		PM	-	0.90	-	-
Retail (<40k sq. ft.)	822 (ITE)	AM	-	-	2.36	3.02
		PM	-	-	6.59	8.36

Using the above person trip rates, the total person trip generation has been estimated. Table 10 summarizes the total person trip generation for the residential land uses and for the non-residential land uses.

Table 10: Total Residential Person Trip Generation by Peak Period

Land Use	Units	AM Peak Period			PM Peak Period		
		In	Out	Total	In	Out	Total
Multi-Unit High-Rise	1,768	438	976	1414	923	668	1591
Land Use	GFA (sq. ft.)	AM Peak Hour			PM Peak Hour		
		In	**Out**	**Total**	**In**	**Out**	**Total**
Retail (<40k sq. ft.)	13,003	23	16	39	55	55	110

Internal capture rates from the ITE Trip Generation Handbook 3rd Edition have been assigned to the development's retail component for mixed-use developments. The rates summarized in Table 11 represent the percentage of trips to/from the retail use based on the residential component.

Table 11: Internal Capture Rates

Land Use	AM		PM	
	In	Out	In	Out
Residential to/from Shopping Centre	17%	14%	10%	26%

Pass-by reductions applied to the retail trip generation at a rate of 40% have been included using the recommended value presented in the ITE Trip Generation Manual 11th Edition (2021) for the most similar land use with a recommended rate, "Retail (40k – 150k sq. ft.)".

Using the above mode share targets for a LRT area, the internal capture and pass-by rates, and the person trip rates, the person trips by mode have been projected. Trip generation by peak hour has been forecasted using the prescribed peak period conversion factors presented in the TRANS Trip Generation Manual (2020) for the residential component. Table 12 summarizes the residential trip generation and the non-residential trip generation by mode and peak hour.

Table 12: Trip Generation by Mode

Travel Mode		AM Peak Hour				PM Peak Hour			
		Mode Share	**In**	**Out**	**Total**	**Mode Share**	**In**	**Out**	**Total**
Multi-Unit (Low-Rise)	Auto Driver	**16%**	34	75	108	**19%**	77	56	133
	Auto Passenger	**4%**	9	19	27	**8%**	33	23	56
	Transit	**58%**	140	311	451	**48%**	208	151	359
	Cycling	**4%**	10	23	33	**5%**	22	16	38
	Walking	**18%**	46	102	148	**20%**	96	70	165
	Total	**100%**	**239**	**530**	**767**	**100%**	**436**	**316**	**751**
Retail (<40k sq. ft.)	Auto Driver	**49%**	5	4	9	**47%**	14	11	25
	Auto Passenger	**10%**	2	1	3	**18%**	9	7	16
	Transit	**20%**	4	3	7	**16%**	8	7	15
	Cycling	**2%**	0	0	0	**2%**	1	1	2
	Walking	**19%**	4	3	7	**17%**	8	7	15
	Pass-by	*40%*	*-4*	*-3*	*-7*	*40%*	*-9*	*-8*	*-17*
	Internal Capture	*varies*	*-4*	*-2*	*-6*	*varies*	*-6*	*-14*	*-20*
	Total	**100%**	**15**	**11**	**26**	**100%**	**40**	**33**	**73**
Total	Auto Driver	-	39	79	117	-	91	67	158
	Auto Passenger	-	11	20	30	-	42	30	72
	Transit	-	144	314	458	-	216	158	374
	Cycling	-	10	23	33	-	23	17	40
	Walking	-	50	105	155	-	104	77	180
	Total	-	**254**	**541**	**793**	-	**476**	**349**	**824**

As shown above, a total of 117 AM and 158 PM new peak hour two-way vehicle trips are projected as a result of the proposed development.

5.3 Trip Distribution

To understand the travel patterns of the subject development the OD Survey has been reviewed to determine the travel for the residential component patterns were applied based on the build-out of Ottawa East. Table 13 below summarizes the distributions.

Table 13: OD Survey Distribution – Ottawa East

To/From	Residential % of Trips
North	25%
South	20%
East	25%
West	30%
Total	100%

5.4 Trip Assignment

Using the distribution outlined above, turning movement splits, and access to major transportation infrastructure, the trips generated by the site have been assigned to the study area road network. Table 14 summarizes the proportional assignment to the study area roadways, Figure 18 and Figure 19 illustrate the new site-generated volumes and pass-by volumes, respectively.

Table 14: Trip Assignment

To/From	Via
North	5% Vanier Parkway (N) 5% Lola Street (N) 15% St. Laurent Boulevard (N)
South	5% Belfast Road (S) 5% Riverside Drive (S) 10% St. Laurent Boulevard (S)
East	10% to/from OR174 (E) 5% to/from Highway 417 (E) 10% Ogilvie Road (E)
West	25% to/from Highway 417 (W) 5% Vanier Parkway (N)
Total	**100%**

Figure 18: New Site-Generated Auto Volumes

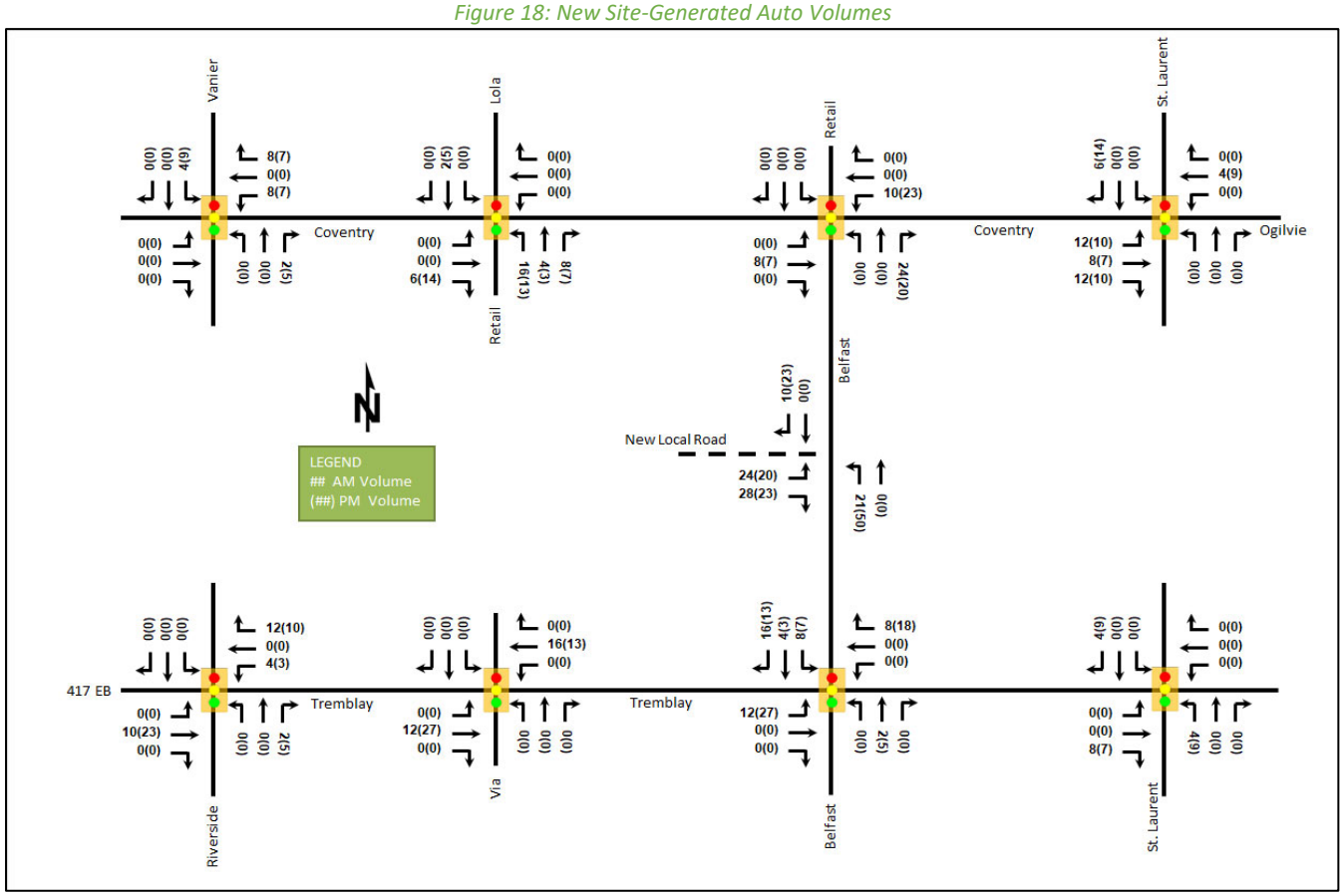
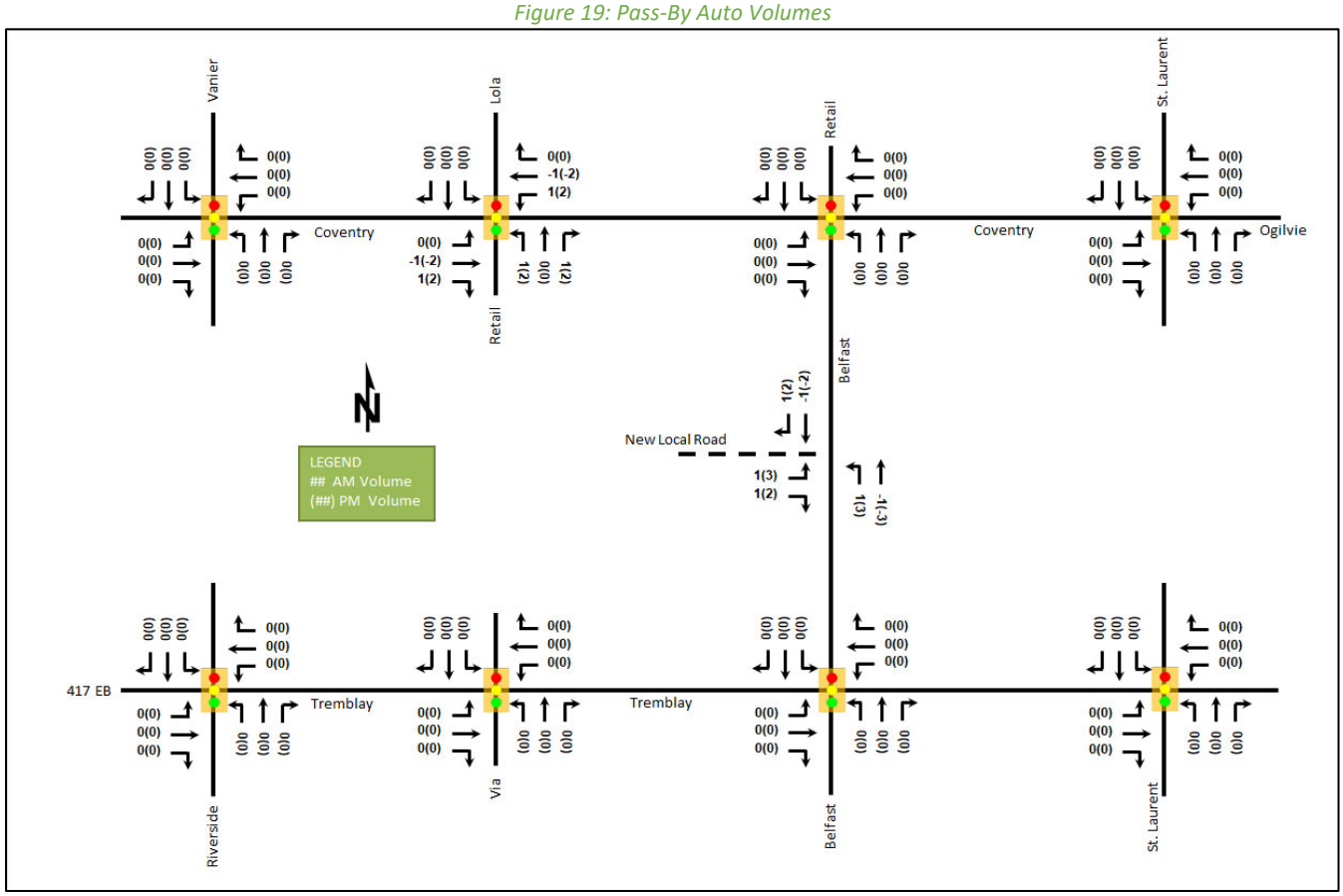


Figure 19: Pass-By Auto Volumes



6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3. A MUP has recently been completed on the west side of Belfast Road. The widening of Coventry Road and Belfast Road are assumed to be beyond 2037, and none of the proposed changes within the study horizons are considered to have any notable impact on the study area traffic volumes and travel patterns.

6.2 Background Growth

A review of the background projections from the City's TRANS Regional Model for the 2011 and 2031 horizons was completed to determine the background growth for each of the study area roadways. The background TRANS model growth rates are summarized in Table 15 and the TRANS model plots are provided in Appendix E.

Table 15: TRANS Regional Model Projections – Study Area Growth Rates

Street	TRANS Rate		2011 to Existing		Existing to 2031	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Coventry	2.79%	1.95%	4.24%	7.80%	1.62%	-2.60%
Tremblay	2.71%	1.32%	0.46%	3.32%	4.58%	-1.05%
Hwy 417 Ramp	1.41%	0.70%	2.18%	-	0.79%	-

Street	TRANS Rate		2011 to Existing		Existing to 2031	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Vanier/Riverside	0.77%	0.41%	0.84%	1.74%	0.71%	-0.66%
Belfast	2.79%	0.55%	8.74%	-0.39%	-1.83%	1.33%
St. Laurent	1.12%	0.27%	4.89%	-4.22%	-1.86%	4.10%

Examining the 2011 and 2031 TRANS models, growth is generally projected to be positive on all study area roads. The area is anticipated to see growth associated with area redevelopment given the TOD designation. Much of the anticipated area growth will be captured generally in the TRANS model plots.

Of the total growth on Coventry Road, a high proportion is noted westbound between St. Laurent Boulevard and the St. Laurent Shopping Centre access rather than associated with the remainder of the roadway. Eastbound growth along Tremblay Road west of Belfast Road, northbound growth along Belfast Road, and eastbound growth along Coventry Road between Belfast Road and the shopping centre access are also noted to be proportionally high and may be associated with additional traffic to the shopping centre.

Growth rates associated with the 2011 and 2031 TRANS models will be applied to and major arterial turning movement and the turning movements implicated in the above trends, reduced on Coventry Road, Tremblay Road, and Belfast Road given the explicit development volumes considered. Growth rates will be applied in the indicated direction in the AM peak hour and reversed in the PM peak hour. Table 16 summarizes the recommended growth rates to be applied within the study area.

Table 16: Recommended Area Growth Rates

Street	AM Peak Hour		PM Peak Hour	
	Eastbound	Westbound	Eastbound	Westbound
Coventry	1.75%	1.00%	1.00%	1.75%
Tremblay	1.50%	1.00%	1.00%	1.50%
Hwy 417 EB Ramp	1.50%	-	0.75%	-
	Northbound	**Southbound**	**Northbound**	**Southbound**
Vanier/Riverside	0.75%	0.50%	0.50%	0.75%
Belfast	1.00%	0.00%	0.00%	1.00%
St. Laurent	1.00%	0.50%	0.50%	1.00%

6.3 Other Developments

The background developments explicitly considered in the background conditions (Section 6.2) include:

- 453 & 455 Coventry Road
- 1209 St Laurent Boulevard & 1200 Lemieux Street
- 1125 - 1149 Cyrville Road
- 599 Tremblay Road
- 200, 230, 260 Streamline Street
- 530 Tremblay Road & 2098 Avenue P & 1399 Avenue U
- 25 Pickering Place
- 1098 Ogilvie Road, 1178 Cummings Avenue

Where applicable, development trip generation rates for high rise dwelling units have been updated to the TRANS Trip Generation Manual (2020) rates. The total background development volumes have been illustrated in Figure 20, and each background development volumes are provided in Appendix F.

Figure 20: 2032 Total Background Development Volumes

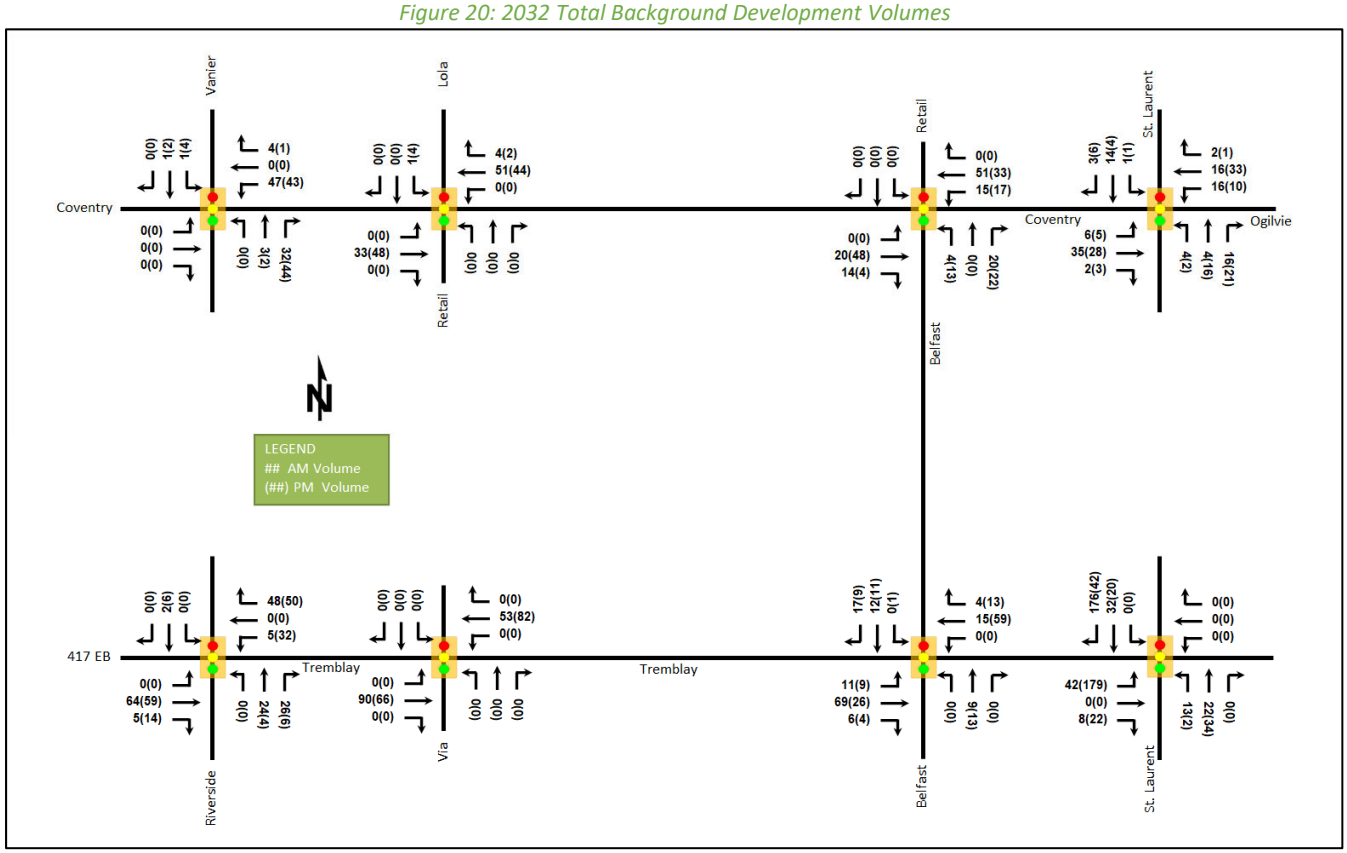
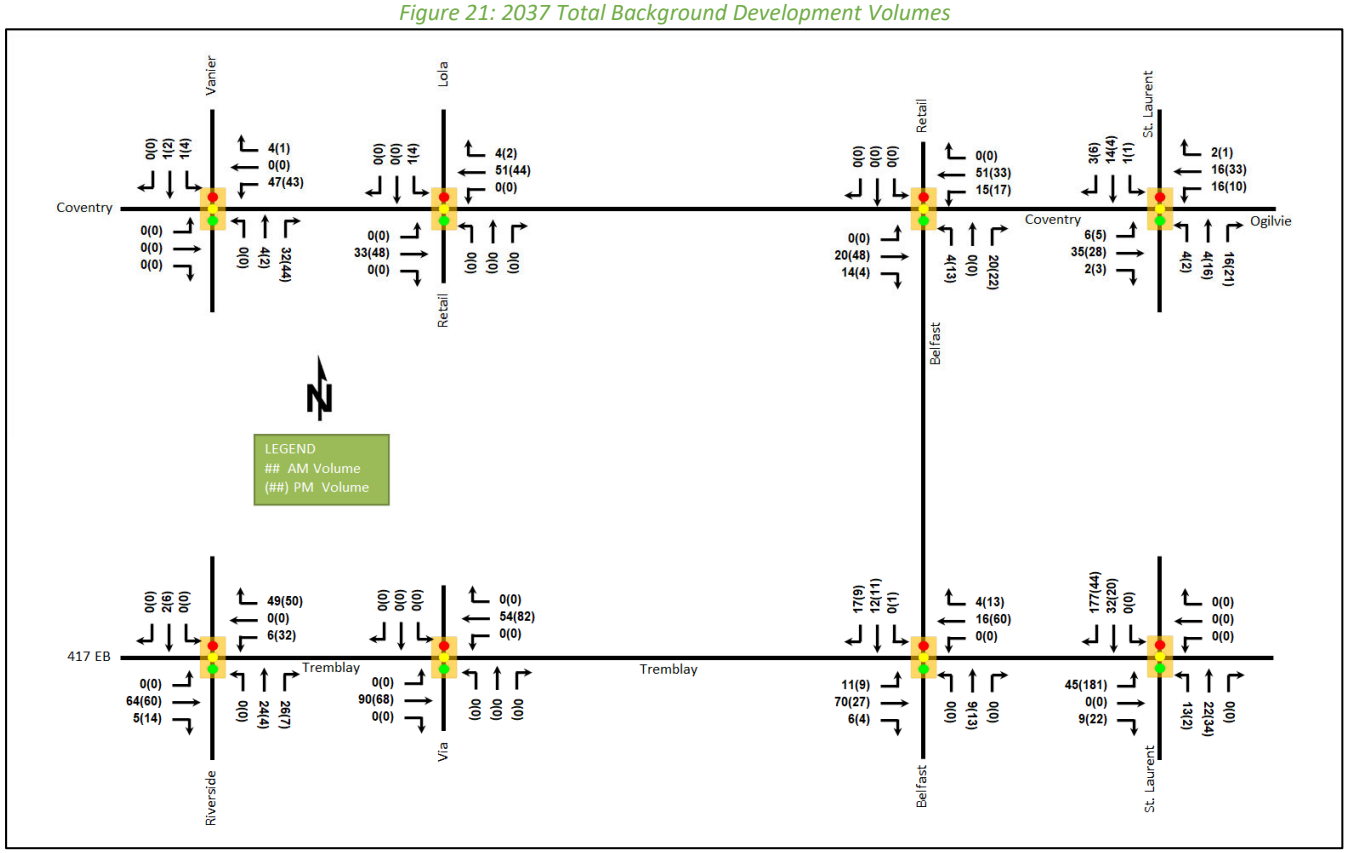


Figure 21: 2037 Total Background Development Volumes



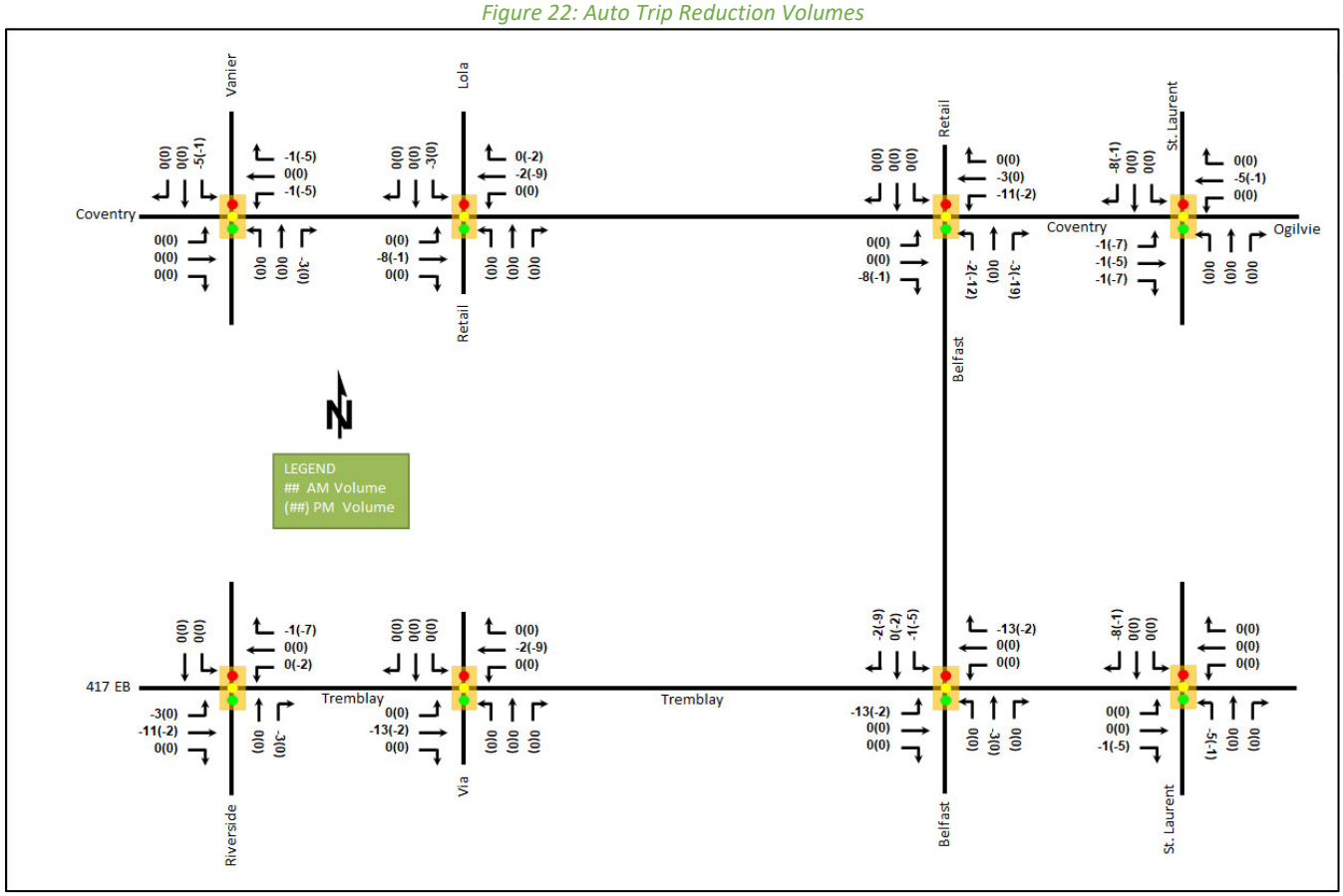
6.4 Trip Reductions from Existing Site Land Uses

To reduce network traffic for the removal of the existing office and industrial land uses, the vehicle trip rates and derived person trip rates from the ITE Trip Generation Manual 11th Edition (2017) using the City-prescribed conversion factor of 1.28 were used to estimate the existing site trips. The existing three-storey office building was reduced using the General Office Building land use (LUC 710) and the one-storey industrial building was reduced using the General Light Industrial land use (LUC 110), and the Employment Generator mode shares from the TRANS Trip Generation Manual (2020) were applied.

The existing site is estimated to produce 61 AM two-way auto trips in the AM peak hour and 55 two-way auto trips in the PM peak hour based on the existing land uses and the recommended area mode shares.

Figure 15 illustrates the auto trip reduction from the existing site volumes.

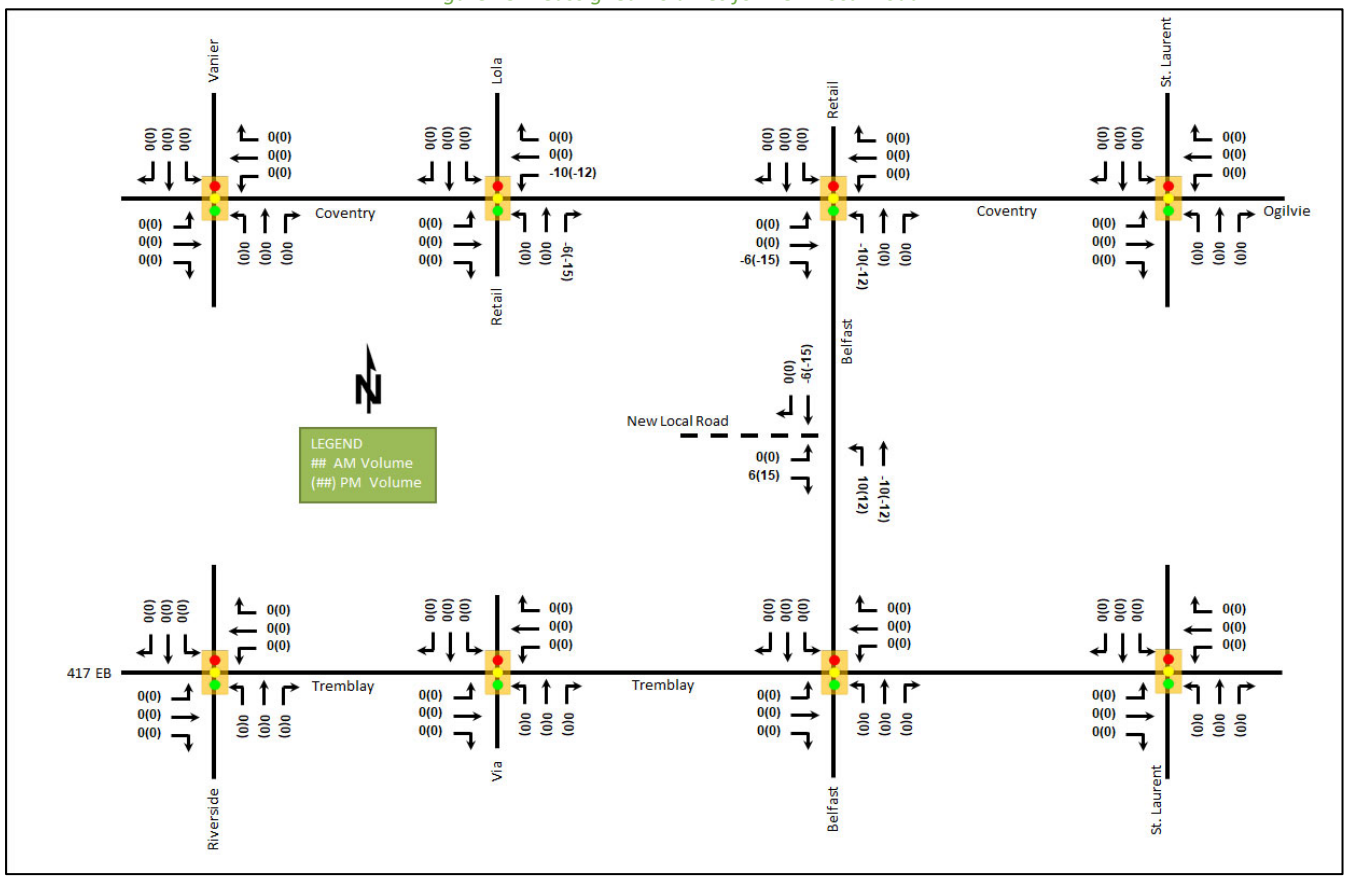
Figure 22: Auto Trip Reduction Volumes



6.5 Network Adjustment for New Local Road Connection

A New Local Road connection between Belfast Road and the drive aisles of the retail parcel to the west, which accesses the signalized intersection of Coventry Road at Lola Street is proposed as part of the subject development. The New Local Road is per Figure 38 of the Tremblay TOD Plan. Once this connection is established, existing traffic using the intersection of Coventry Road at Lola Street are expected to divert to the New Local Road for origins/destinations south on Belfast Road. The resultant traffic reassignment illustrated in Figure 23 will be applied to the future total horizons.

Figure 23: Reassigned Volumes for New Local Road



7 Demand Rationalization

7.1 2032 Future Background Operations

Figure 24 illustrates the 2032 background volumes and Table 17 summarizes the 2032 background intersection operations. The level of service for signalized intersections is based on v/c calculations for individual lane movements and MMLOS Guidelines weighted v/c methodology for the overall intersection, per direction from Transportation Engineering Services. The synchro worksheets for the 2032 future background horizon are provided in Appendix G.

Figure 24: 2032 Future Background Volumes

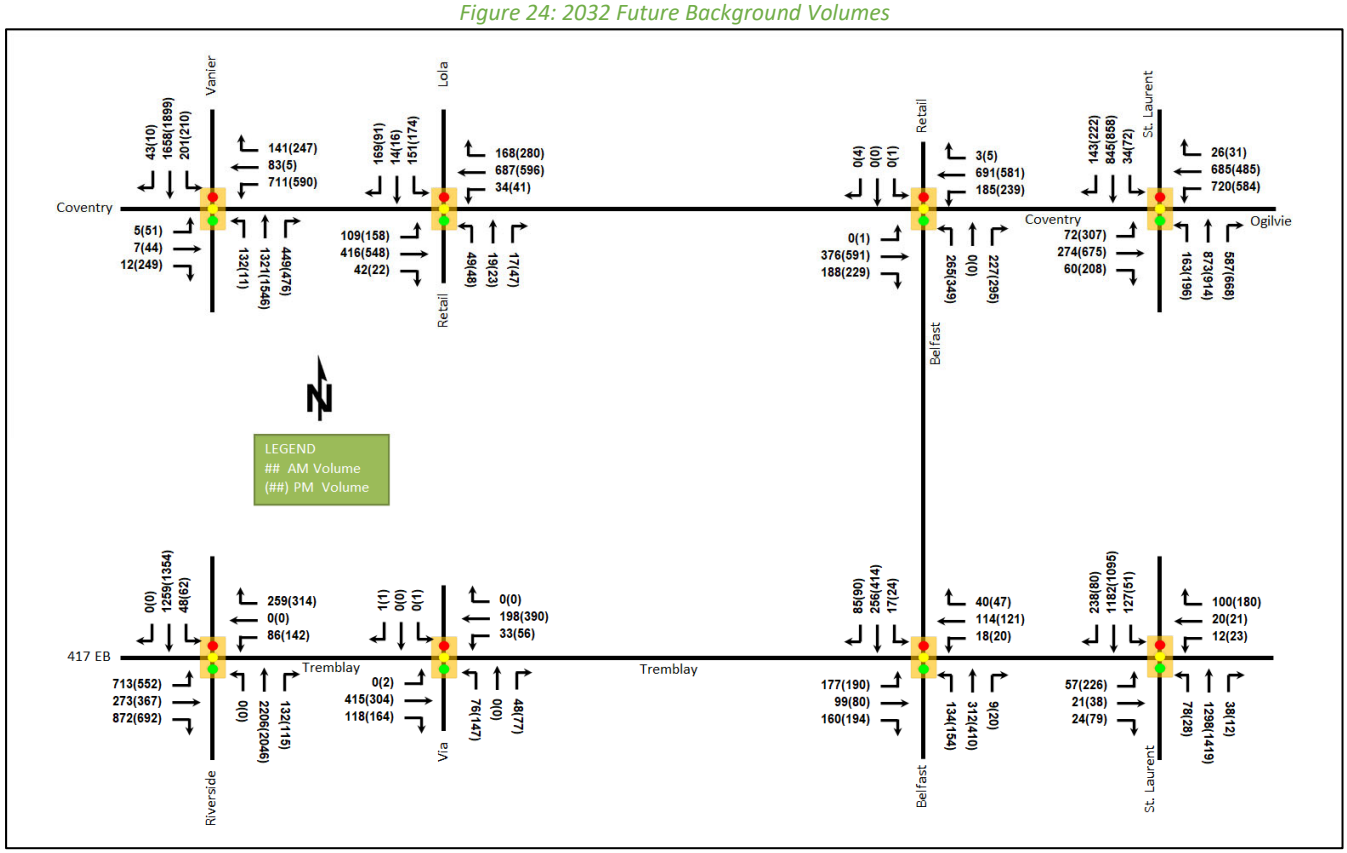


Table 17: 2032 Future Background Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Coventry Road at Vanier Parkway *Signalized*	EBL/T	A	0.10	62.8	9.9	B	0.61	77.9	**#44.6**
	EBR	A	0.04	0.3	0.0	E	0.98	78.9	**#88.0**
	WBL	D	0.81	61.8	95.3	B	0.66	56.0	70.6
	WBL/T	C	0.80	70.1	111.2	B	0.66	61.3	82.1
	WBR	A	0.32	3.5	5.8	A	0.55	14.1	33.5
	NBL	C	0.76	74.5	m39.2	A	0.14	69.6	m3.2
	NBT	D	0.83	23.9	m93.7	**F**	**1.11**	**85.1**	**m#289.3**
	NBR	A	0.49	0.9	m1.1	A	0.54	3.9	m11.7
	SBL	C	0.74	77.9	**#60.5**	C	0.76	79.9	**#60.0**
	SBT/R	C	0.78	37.7	**#200.9**	C	0.78	32.4	**#225.4**
	Overall	**D**	**0.81**	**36.6**	-	**E**	**0.97**	**52.1**	-
Coventry Road at Lola Street *Signalized*	EBL	A	0.30	11.1	16.0	A	0.48	14.1	22.2
	EBT/R	A	0.27	14.9	40.0	A	0.33	15.8	50.7
	WBL	A	0.07	7.6	m2.9	A	0.09	6.5	m3.3
	WBT/R	A	0.57	15.2	m57.7	B	0.62	14.5	m46.8
	NBL	A	0.21	26.9	14.9	A	0.18	25.9	14.3
	NBT/R	A	0.10	15.5	9.0	A	0.18	11.9	12.1
	SBL	A	0.55	36.3	38.3	B	0.62	39.3	44.1
	SBT/R	A	0.39	7.7	16.2	A	0.26	8.8	13.4
	Overall	**A**	**0.54**	**16.0**	-	**A**	**0.60**	**16.7**	-

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Coventry Road at Belfast Road *Signalized*	EBL	-	-	-	-	A	0.00	19.0	m0.3
	EBT	A	0.51	17.4	36.8	E	0.95	50.7	**#157.7**
	EBR	A	0.30	3.7	6.3	A	0.42	4.4	6.4
	WBL	A	0.36	9.6	21.9	D	0.85	45.3	**#66.1**
	WBT/R	B	0.67	16.2	114.7	B	0.64	19.8	108.2
	NBL/T	E	0.91	68.6	**#86.5**	E	0.92	60.3	**#104.2**
	NBR	A	0.54	13.8	29.1	A	0.59	14.1	38.5
	SB	-	-	-	-	A	0.01	0.0	0.0
	Overall	**C**	**0.74**	**21.5**	**-**	**E**	**0.92**	**34.3**	**-**
Coventry Road / Ogilvie Road at St. Laurent Boulevard *Signalized*	EBL	A	0.16	48.5	16.0	B	0.69	58.2	51.0
	EBT	A	0.40	45.2	43.7	D	0.83	52.6	100.2
	EBR	A	0.14	0.7	0.0	A	0.43	7.5	18.0
	WBL	E	0.97	76.0	**#138.0**	**F**	**1.22**	**161.2**	**#127.2**
	WBT	C	0.71	45.0	100.5	B	0.61	43.1	70.8
	WBR	A	0.06	0.2	0.0	A	0.07	0.3	0.0
	NBL	E	0.92	**105.6**	**#84.1**	D	0.90	**91.2**	**#87.4**
	NBT	D	0.83	49.4	**#171.8**	D	0.83	45.3	**#143.7**
	NBR	C	0.76	14.5	**#80.0**	E	0.95	42.6	**#167.5**
	SBL	A	0.33	66.1	19.0	B	0.64	79.5	**#36.1**
	SBT	C	0.73	50.6	91.4	C	0.73	46.1	84.1
	SBR	A	0.31	3.3	5.3	A	0.46	9.3	22.4
	Overall	**D**	**0.81**	**48.2**	**-**	**E**	**0.98**	**58.4**	**-**
Tremblay Road / 417 EB at Riverside Drive *Signalized*	EBL	D	0.86	60.1	113.0	E	0.92	75.1	**#107.1**
	EBT	A	0.31	41.2	42.1	A	0.60	56.0	65.5
	EBR	B	0.64	2.4	0.0	A	0.52	1.5	0.0
	WBL	C	0.78	**105.4**	**#51.7**	E	0.95	**124.5**	**#81.7**
	WBR	A	0.48	31.4	36.0	A	0.58	37.6	45.7
	NBT/R	**F**	**1.18**	**121.7**	**#325.4**	E	0.95	44.9	**#247.9**
	SBL	A	0.58	71.9	**m#19.1**	C	0.76	**93.0**	**m#25.5**
	SBT/R	C	0.72	33.6	211.3	B	0.70	31.4	m225.2
	Overall	**F**	**1.05**	**69.0**	**-**	**D**	**0.90**	**42.2**	**-**
Tremblay Road at Via Rail Station *Signalized*	EBL	-	-	-	-	A	0.01	12.0	1.3
	EBT	A	0.32	13.7	26.1	A	0.26	13.6	19.3
	EBR	A	0.33	6.2	9.2	A	0.44	7.2	11.6
	WBL	A	0.15	14.8	7.7	A	0.23	16.2	11.5
	WBT	A	0.15	12.4	13.1	A	0.31	14.1	24.2
	WBR	-	-	-	-	-	-	-	-
	NBL	A	0.23	13.6	12.0	A	0.38	15.0	21.8
	NBR	A	0.12	4.4	4.7	A	0.17	6.2	7.9
	SB	A	0.00	0.0	0.0	A	0.00	0.0	0.0
	Overall	**A**	**0.29**	**11.9**	**-**	**A**	**0.41**	**12.6**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Tremblay Road at Belfast Road *Signalized*	EBL	B	0.63	35.5	44.3	D	0.83	61.6	**#70.5**
	EBT/R	B	0.65	23.2	45.6	D	0.82	38.9	**#72.1**
	WBL	A	0.09	21.8	6.7	A	0.13	28.8	8.9
	WBT/R	A	0.32	20.8	30.1	A	0.44	29.1	41.9
	NBL	A	0.34	12.0	20.0	A	0.42	12.8	21.6
	NBT/R	A	0.35	11.9	46.4	A	0.48	18.4	91.3
	SBL	A	0.08	19.3	6.4	A	0.21	46.5	12.2
	SBT/R	B	0.61	25.6	71.5	C	0.78	34.2	**#137.7**
	Overall	**A**	**0.55**	**21.4**	-	**C**	**0.73**	**31.8**	-
Tremblay Road at St. Laurent Boulevard *Signalized*	EBL	A	0.32	45.7	24.5	**F**	**1.03**	**112.6**	**#105.4**
	EBT/R	A	0.13	22.7	14.0	A	0.25	14.2	21.1
	WBL	A	0.05	38.3	7.7	A	0.07	32.7	10.6
	WBT/R	A	0.33	13.2	19.9	A	0.38	9.2	22.6
	NBL	A	0.33	21.7	24.6	A	0.13	17.4	9.2
	NBT/R	A	0.53	18.5	96.0	A	0.56	20.2	98.6
	SBL	A	0.47	13.1	18.2	A	0.24	11.4	9.1
	SBT	A	0.56	12.4	101.1	A	0.56	14.9	92.4
	SBR	A	0.27	1.8	8.6	A	0.10	2.3	5.8
	Overall	**A**	**0.54**	**15.3**	-	**B**	**0.64**	**23.4**	-

Notes: Saturation flow rate of 1800 veh/h/lane
Queue is measured in metres
Peak Hour Factor = 1.00
Delay = average vehicle delay in seconds
m = metered queue
# = volume for the 95th %ile cycle exceeds capacity

At the 2032 future background horizon, during the AM and PM peak hours, the study area intersections are anticipated to operate similarly to the existing conditions. While minor improvements are noted on individual movements with the peak hour factor of 1.00 for future conditions, existing capacity issues are generally anticipated to persist throughout.

At the intersection of Coventry Road/Ogilvie Road at St. Laurent Boulevard, the northbound right movement may exhibit extended queues at this horizon.

The intersection of Tremblay Road/the Highway 417 eastbound off-ramp at this horizon is forecasted to be over theoretical capacity during the AM peak hour with extended queueing anticipated on the eastbound left during the PM peak hour. These operations are due to background growth, which may not fully materialize if the movement is constrained. If the forecasted growth does occur, shifting 16 seconds of split from the eastbound left, westbound through, and westbound right movements to the northbound through movement would reduce the v/c of any individual movements to 1.00 or less.

At this horizon, the intersection of Tremblay Road at Belfast Road may exhibit extended queues on the eastbound left, eastbound through/right, and southbound through/right movements during the PM peak hour.

The eastbound left movement at the intersection of Tremblay Road at St. Laurent Boulevard is forecasted to be over theoretical capacity during the PM peak hour and being subject to high delays and queueing. Shifting one second of split from the northbound and southbound phases to the eastbound and westbound phases at the intersection would reduce the v/c of all movements to 1.00 or below at this horizon.

7.2 2037 Future Background Operations

Figure 25 illustrates the 2037 background volumes and Table 18 summarizes the 2037 background intersection operations. The level of service for signalized intersections is based on v/c calculations for individual lane

movements and MMLOS Guidelines weighted v/c methodology for the overall intersection, per direction from Transportation Engineering Services. The synchro worksheets for the 2037 future background horizon are provided in Appendix H.

Figure 25: 2037 Future Background Volumes

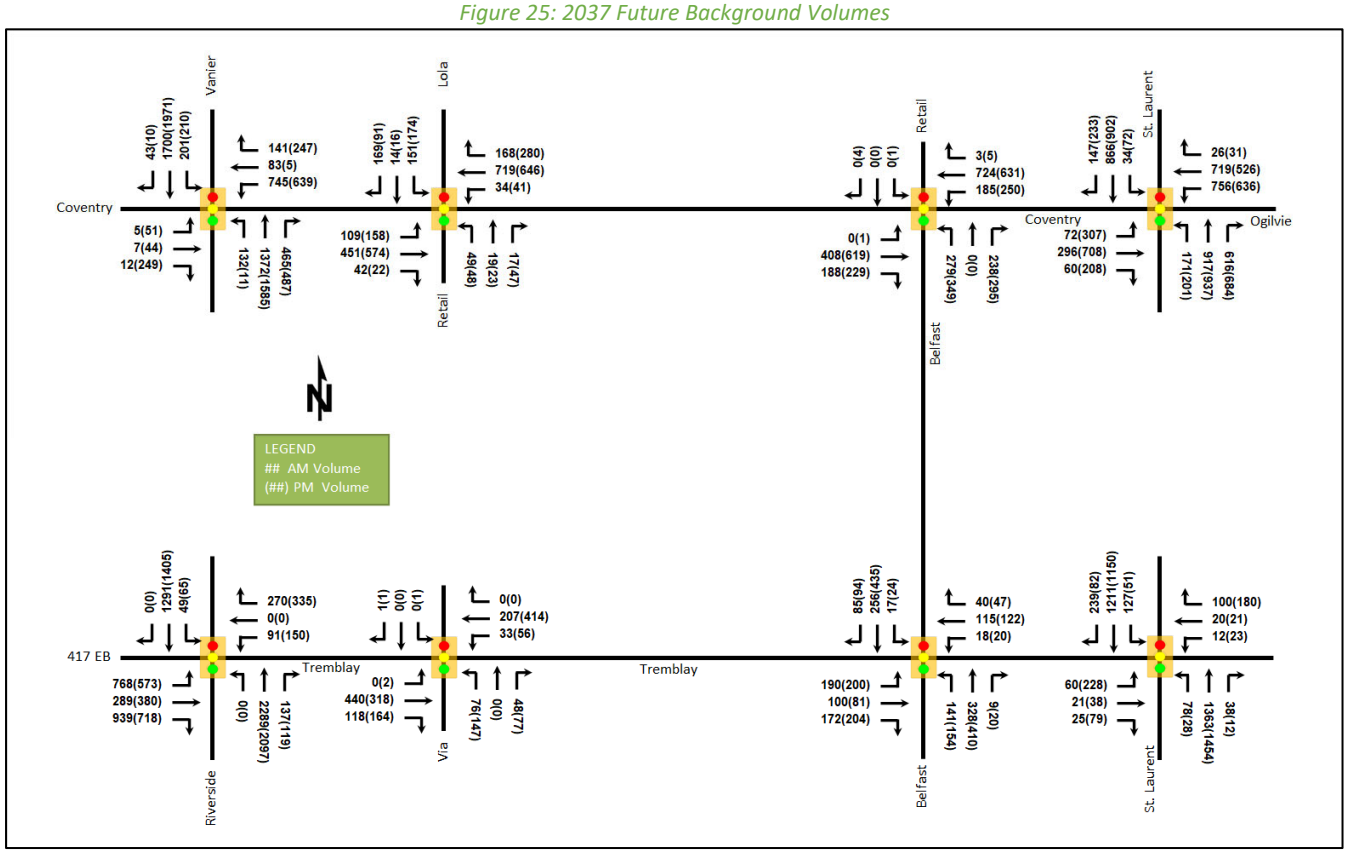


Table 18: 2037 Future Background Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Coventry Road at Vanier Parkway *Signalized*	EBL/T	A	0.10	62.8	9.9	B	0.61	77.9	**#44.6**
	EBR	A	0.04	0.3	0.0	E	0.98	78.9	**#88.0**
	WBL	D	0.83	63.5	100.4	B	0.70	57.2	76.7
	WBL/T	D	0.82	71.4	**#116.0**	B	0.70	63.4	89.0
	WBR	A	0.31	3.5	5.8	A	0.54	14.1	33.7
	NBL	C	0.76	73.9	m36.8	A	0.14	70.7	m3.3
	NBT	D	0.87	25.0	m97.0	**F**	**1.14**	**100.9**	**m#289.5**
	NBR	A	0.51	0.8	m1.0	A	0.55	3.8	m10.6
	SBL	C	0.74	77.9	**#60.5**	C	0.76	80.0	**#60.3**
	SBT/R	D	0.81	38.8	**#209.6**	D	0.81	33.9	**#240.9**
	Overall	**D**	**0.84**	**37.4**	-	**E**	**0.99**	**57.2**	-

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Coventry Road at Lola Street *Signalized*	EBL	A	0.32	11.3	16.0	A	0.50	14.9	22.2
	EBT/R	A	0.29	15.1	43.3	A	0.35	16.0	53.4
	WBL	A	0.08	7.9	m2.9	A	0.09	7.0	m3.5
	WBT/R	A	0.59	15.9	m63.1	B	0.65	15.5	m57.7
	NBL	A	0.21	26.9	14.9	A	0.18	25.9	14.3
	NBT/R	A	0.10	15.5	9.0	A	0.18	11.9	12.1
	SBL	A	0.55	36.3	38.3	B	0.62	39.3	44.1
	SBT/R	A	0.39	7.7	16.2	A	0.26	8.8	13.4
	Overall	**A**	**0.56**	**16.4**	**-**	**B**	**0.63**	**17.2**	**-**
Coventry Road at Belfast Road *Signalized*	EBL	-	-	-	-	A	0.00	20.0	m0.3
	EBT	A	0.56	18.1	37.9	**F**	**1.01**	**63.6**	**#168.8**
	EBR	A	0.30	3.4	5.6	A	0.42	4.7	7.4
	WBL	A	0.38	10.0	21.9	D	0.90	55.4	**#74.0**
	WBT/R	C	0.71	17.5	124.6	B	0.69	21.6	122.7
	NBL/T	E	0.94	73.6	**#92.7**	E	0.92	60.3	**#104.2**
	NBR	A	0.56	14.9	31.9	A	0.59	14.1	38.5
	SB	-	-	-	-	A	0.01	0.0	0.0
	Overall	**C**	**0.77**	**23.0**	**-**	**E**	**0.96**	**39.1**	**-**
Coventry Road / Ogilvie Road at St. Laurent Boulevard *Signalized*	EBL	A	0.17	50.0	16.2	B	0.69	58.2	51.0
	EBT	A	0.43	45.7	47.2	D	0.86	55.0	106.0
	EBR	A	0.14	0.7	0.0	A	0.43	7.5	18.0
	WBL	E	0.97	75.7	**#148.5**	**F**	**1.35**	**211.2**	**#141.1**
	WBT	B	0.70	43.1	103.7	B	0.66	44.6	77.5
	WBR	A	0.05	0.2	0.0	A	0.07	0.3	0.0
	NBL	E	0.93	**107.5**	**#88.9**	E	0.91	**93.3**	**#90.4**
	NBT	D	0.90	55.7	**#184.4**	D	0.85	46.7	**#150.2**
	NBR	C	0.80	18.1	**#107.0**	E	0.98	48.1	**#176.3**
	SBL	A	0.33	66.1	19.0	B	0.64	79.5	**#36.1**
	SBT	C	0.80	54.3	94.0	C	0.77	47.7	89.0
	SBR	A	0.33	3.8	6.4	A	0.49	10.6	26.0
	Overall	**D**	**0.85**	**50.4**	**-**	**F**	**1.04**	**66.6**	**-**
Tremblay Road / 417 EB at Riverside Drive *Signalized*	EBL	D	0.88	60.6	123.6	E	0.94	78.3	**#113.9**
	EBT	A	0.32	40.4	44.5	B	0.61	56.1	68.0
	EBR	B	0.69	2.9	0.0	A	0.54	1.6	0.0
	WBL	D	0.82	**110.3**	**#55.8**	**F**	**1.01**	**137.5**	**#87.5**
	WBR	A	0.52	33.6	38.1	B	0.62	39.7	49.8
	NBT/R	**F**	**1.25**	**150.0**	**#343.8**	E	0.99	51.0	**#259.3**
	SBL	B	0.63	77.0	**m#18.6**	C	0.78	**94.5**	**m#25.6**
	SBT/R	C	0.75	35.6	217.6	C	0.73	32.4	m234.4
	Overall	**F**	**1.10**	**80.6**	**-**	**E**	**0.94**	**45.5**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Tremblay Road at Via Rail Station *Signalized*	EBL	-	-	-	-	A	0.01	12.0	1.3
	EBT	A	0.34	13.9	27.7	A	0.27	13.7	20.2
	EBR	A	0.33	6.2	9.2	A	0.44	7.2	11.6
	WBL	A	0.15	14.8	7.7	A	0.23	16.2	11.6
	WBT	A	0.16	12.5	13.6	A	0.33	14.2	25.7
	WBR	-	-	-	-	-	-	-	-
	NBL	A	0.23	13.6	12.0	A	0.38	15.0	21.8
	NBR	A	0.12	4.4	4.7	A	0.17	6.4	8.0
	SB	A	0.00	0.0	0.0	A	0.00	0.0	0.0
	Overall	**A**	**0.32**	**12.1**	**-**	**A**	**0.41**	**12.8**	**-**
Tremblay Road at Belfast Road *Signalized*	EBL	B	0.67	37.5	48.2	D	0.86	66.0	**#75.3**
	EBT/R	B	0.68	24.0	48.4	D	0.84	41.5	**#76.6**
	WBL	A	0.09	21.7	6.7	A	0.13	28.8	8.9
	WBT/R	A	0.32	20.7	30.3	A	0.43	29.0	42.4
	NBL	A	0.36	12.4	20.9	A	0.44	13.3	21.6
	NBT/R	A	0.37	12.4	49.2	A	0.48	18.6	91.3
	SBL	A	0.08	19.5	6.4	A	0.21	46.6	12.2
	SBT/R	B	0.61	25.9	71.5	D	0.82	37.4	**#149.1**
	Overall	**A**	**0.56**	**22.0**	**-**	**C**	**0.76**	**33.9**	**-**
Tremblay Road at St. Laurent Boulevard *Signalized*	EBL	A	0.33	46.2	25.6	**F**	**1.04**	**114.9**	**#106.9**
	EBT/R	A	0.14	22.4	14.3	A	0.25	14.7	21.6
	WBL	A	0.05	38.3	7.7	A	0.07	32.7	10.6
	WBT/R	A	0.33	13.2	19.9	A	0.38	9.4	23.1
	NBL	A	0.35	22.4	25.2	A	0.14	17.9	9.3
	NBT/R	A	0.55	19.0	102.9	A	0.58	20.4	101.9
	SBL	A	0.49	14.0	18.2	A	0.25	11.6	9.1
	SBT	A	0.57	12.7	105.0	A	0.59	15.4	99.3
	SBR	A	0.27	1.8	8.6	A	0.10	2.3	5.9
	Overall	**A**	**0.56**	**15.7**	**-**	**B**	**0.66**	**23.8**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
Queue is measured in metres
Peak Hour Factor = 1.00
Delay = average vehicle delay in seconds
m = metered queue
# = volume for the 95th %ile cycle exceeds capacity

At the 2037 future background horizon, during the AM and PM peak hours, the study area intersections are anticipated to operate similarly to the 2032 future background conditions.

At this horizon, the intersection of Coventry Road at Vanier Parkway may exhibit extended queues on the westbound left/through movement during the AM peak hour.

The intersection of Coventry Road/Ogilvie Road at St. Laurent Boulevard is forecast to be over theoretical capacity during the PM peak hour at this horizon due to background traffic increases on the eastbound through, westbound left, and northbound right movements.

At the intersection of Coventry Road at Belfast Road, the eastbound through movement is forecast to be over theoretical capacity during the PM peak hour at this horizon. Shifting two seconds of split from the westbound left phase to the eastbound through phase would reduce the v/c of all movements at the intersection to 1.00 or below at this horizon.

At the intersection of Tremblay Road / 417 EB at Riverside Drive, the westbound left movement is forecast to be over theoretical capacity during the PM peak hour at this horizon due to the eight additional background vehicles

on the westbound left movement. Shifting one second of split from the eastbound through phase to the westbound left phase would reduce the v/c of all movements at the intersection to 1.00 or below during the PM peak hour at this horizon.

At the intersection of Tremblay Road at St. Laurent Boulevard, shifting one second of split from the northbound and southbound phases to the eastbound and westbound phases would reduce the v/c of all movements to 1.00 or below during the PM peak hour at this horizon.

7.3 2032 Future Total Operations

Figure 26 illustrates the 2032 future total volumes and Table 19 summarizes the 2032 future total intersection operations. The level of service for signalized intersections is based on v/c calculations for individual lane movements and MMLOS Guidelines weighted v/c methodology for the overall intersection, per direction from Transportation Engineering Services, and HCM 2010 delay for unsignalized intersections. The synchro worksheets for the 2032 future total horizon are provided in Appendix I.

Figure 26: 2032 Future Total Volumes

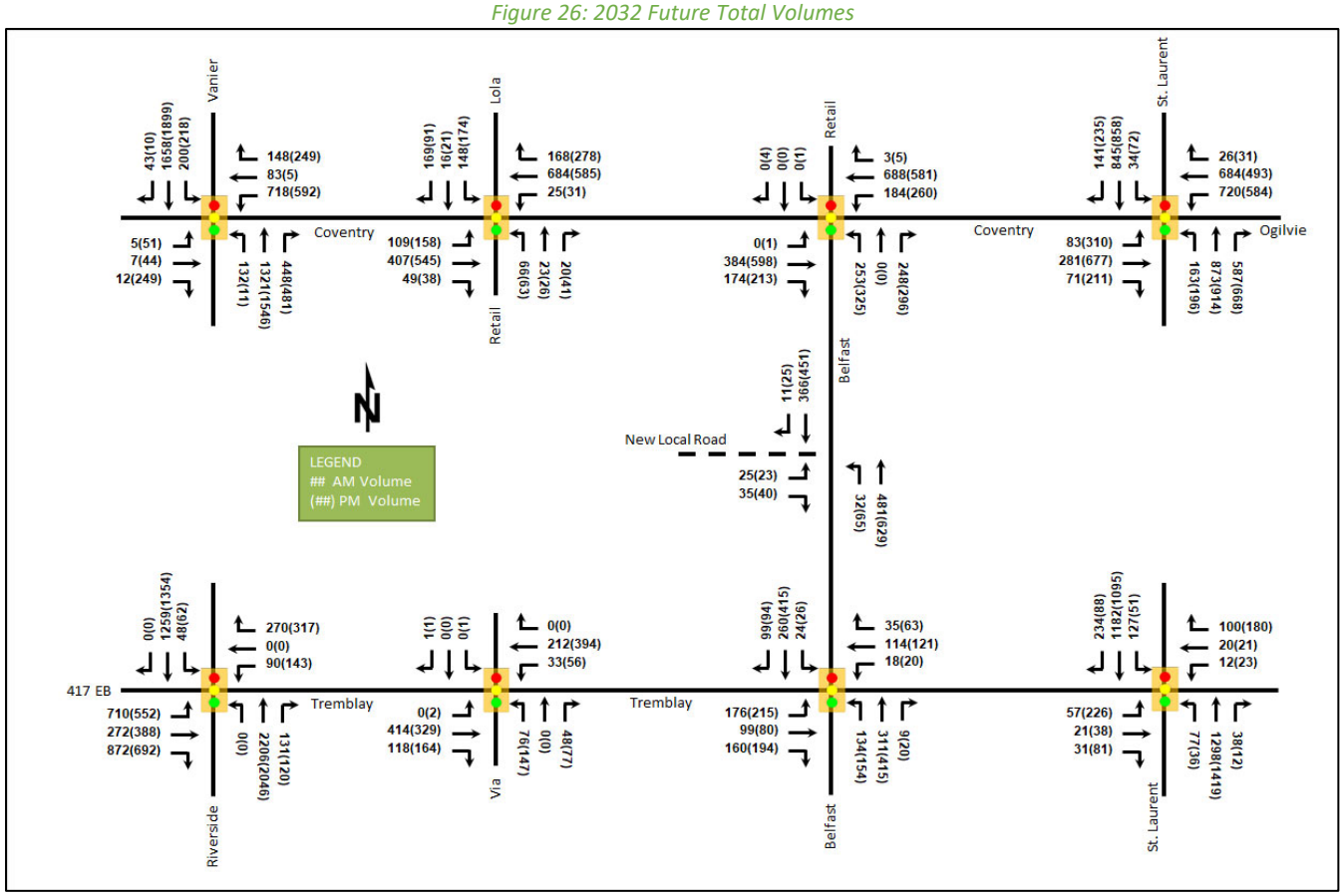


Table 19: 2032 Future Total Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Coventry Road at Vanier Parkway *Signalized*	EBL/T	A	0.10	62.8	9.9	B	0.61	77.9	**#44.6**
	EBR	A	0.04	0.3	0.0	E	0.98	78.9	**#88.0**
	WBL	D	0.81	62.1	96.3	B	0.66	56.1	71.0
	WBL/T	D	0.81	70.3	111.6	B	0.66	61.2	82.1
	WBR	A	0.33	4.1	7.6	A	0.55	14.4	34.5
	NBL	C	0.76	74.5	m38.8	A	0.14	69.7	m3.2
	NBT	D	0.83	23.9	m94.3	**F**	**1.12**	**89.6**	**m#288.4**
	NBR	A	0.49	0.9	m1.1	A	0.55	3.9	m11.8
	SBL	C	0.74	78.2	**#60.2**	C	0.76	78.6	**#62.6**
	SBT/R	C	0.78	37.8	**#200.9**	C	0.78	32.5	**#225.4**
	Overall	**D**	**0.81**	**36.7**	**-**	**E**	**0.96**	**53.3**	**-**
Coventry Road at Lola Street *Signalized*	EBL	A	0.31	11.1	16.0	A	0.47	13.9	22.2
	EBT/R	A	0.26	13.1	39.2	A	0.34	15.7	51.5
	WBL	A	0.05	7.7	m2.2	A	0.07	6.5	m2.6
	WBT/R	A	0.57	15.2	m57.3	B	0.61	14.2	44.4
	NBL	A	0.28	28.6	18.9	A	0.23	27.1	17.8
	NBT/R	A	0.12	15.5	10.2	A	0.17	12.7	12.3
	SBL	A	0.54	36.2	37.8	B	0.62	39.3	44.1
	SBT/R	A	0.40	7.8	16.5	A	0.27	9.3	14.2
	Overall	**A**	**0.54**	**15.7**	**-**	**A**	**0.59**	**16.7**	**-**
Coventry Road at Belfast Road *Signalized*	EBL	-	-	-	-	A	0.00	18.0	m0.3
	EBT	A	0.51	18.3	38.1	E	0.97	54.8	**#160.8**
	EBR	A	0.43	6.7	8.0	A	0.56	11.7	17.6
	WBL	A	0.40	10.2	21.8	D	0.87	50.6	**#78.1**
	WBT/R	B	0.66	15.9	113.9	B	0.63	19.1	108.2
	NBL/T	D	0.89	65.2	**#81.4**	D	0.90	56.9	**#95.0**
	NBR	A	0.58	13.6	29.8	A	0.60	13.5	36.2
	SB	-	-	-	-	A	0.01	0.0	0.0
	Overall	**C**	**0.72**	**21.2**	**-**	**E**	**0.93**	**36.0**	**-**
Coventry Road / Ogilvie Road at St. Laurent Boulevard *Signalized*	EBL	A	0.18	48.8	17.9	B	0.70	58.5	51.4
	EBT	A	0.41	45.3	44.7	D	0.83	52.7	100.5
	EBR	A	0.17	0.9	0.0	A	0.44	7.9	19.0
	WBL	E	0.97	76.0	**#138.0**	**F**	**1.22**	**161.6**	**#127.2**
	WBT	C	0.71	45.0	100.3	B	0.62	43.3	72.2
	WBR	A	0.06	0.2	0.0	A	0.07	0.3	0.0
	NBL	E	0.92	**105.6**	**#84.1**	D	0.90	**91.2**	**#87.4**
	NBT	D	0.83	49.5	**#171.8**	D	0.83	45.3	**#143.7**
	NBR	C	0.76	14.5	**#80.0**	E	0.95	42.6	**#167.5**
	SBL	A	0.33	66.1	19.0	B	0.64	79.5	**#36.1**
	SBT	C	0.74	50.7	91.4	C	0.73	46.1	84.1
	SBR	A	0.31	3.1	4.9	A	0.49	10.8	26.6
	Overall	**D**	**0.81**	**48.1**	**-**	**E**	**0.98**	**58.4**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Tremblay Road / 417 EB at Riverside Drive ***Signalized***	EBL	D	0.86	60.1	112.4	E	0.92	75.1	**#107.1**
	EBT	A	0.31	41.0	42.0	B	0.64	57.1	69.3
	EBR	B	0.64	2.4	0.0	A	0.52	1.5	0.0
	WBL	D	0.81	**109.2**	**#54.6**	E	0.96	**126.1**	**#82.9**
	WBR	A	0.50	32.6	38.1	A	0.59	37.9	46.3
	NBT/R	**F**	**1.18**	**122.7**	**#325.2**	E	0.96	45.4	**#248.9**
	SBL	A	0.59	72.7	**m#18.6**	C	0.76	**93.8**	**m#25.8**
	SBT/R	C	0.72	33.7	210.7	B	0.70	31.4	m225.3
	Overall	**F**	**1.05**	**69.5**	**-**	**E**	**0.91**	**42.5**	**-**
Tremblay Road at Via Rail Station ***Signalized***	EBL	-	-	-	-	A	0.01	11.5	1.2
	EBT	A	0.32	13.7	26.0	A	0.27	13.5	20.4
	EBR	A	0.39	10.7	14.8	A	0.50	11.5	18.1
	WBL	A	0.16	15.0	7.8	A	0.23	16.0	11.3
	WBT	A	0.16	12.5	13.9	A	0.31	13.8	24.0
	WBR	-	-	-	-	-	-	-	-
	NBL	A	0.23	13.7	12.0	A	0.40	16.4	24.7
	NBR	A	0.12	5.2	5.1	A	0.18	7.0	8.9
	SB	A	0.00	0.0	0.0	A	0.00	0.0	0.0
	Overall	**A**	**0.32**	**12.6**	**-**	**A**	**0.45**	**13.3**	**-**
Tremblay Road at Belfast Road ***Signalized***	EBL	B	0.62	35.3	44.0	E	0.93	79.7	**#83.9**
	EBT/R	B	0.65	23.4	45.8	D	0.81	37.2	**#72.1**
	WBL	A	0.09	21.8	6.7	A	0.13	28.5	8.9
	WBT/R	A	0.31	20.9	29.5	A	0.46	28.7	45.0
	NBL	A	0.36	12.5	20.0	A	0.44	13.5	21.6
	NBT/R	A	0.35	11.9	46.3	A	0.49	19.0	92.8
	SBL	A	0.11	19.6	8.0	A	0.23	46.8	12.8
	SBT/R	B	0.68	28.4	**#79.6**	D	0.81	37.3	**#142.7**
	Overall	**A**	**0.60**	**22.2**	**-**	**C**	**0.77**	**35.1**	**-**
Tremblay Road at St. Laurent Boulevard ***Signalized***	EBL	A	0.32	45.7	24.5	**F**	**1.03**	**112.6**	**#105.4**
	EBT/R	A	0.15	20.5	14.7	A	0.25	14.1	21.2
	WBL	A	0.05	38.3	7.7	A	0.07	32.8	10.6
	WBT/R	A	0.33	13.2	19.9	A	0.38	9.2	22.6
	NBL	A	0.33	21.5	24.4	A	0.17	18.2	11.4
	NBT/R	A	0.53	18.5	96.0	A	0.56	20.2	98.6
	SBL	A	0.47	13.1	18.2	A	0.24	11.4	9.1
	SBT	A	0.56	12.4	101.1	A	0.56	14.9	92.4
	SBR	A	0.26	1.7	8.4	A	0.11	2.2	6.1
	Overall	**A**	**0.54**	**15.3**	**-**	**B**	**0.64**	**23.3**	**-**
New Local Road at Belfast Road ***Unsignalized***	EBL/R	D	0.28	28.0	8.3	E	0.42	45.4	14.3
	NBL/T	A	0.04	9.9	0.8	B	0.09	10.7	2.3
	SBT/R	-	-	-	-	-	-	-	-
	Overall	**A**	**-**	**2.1**	**-**	**A**	**-**	**2.9**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
Queue is measured in metres
Peak Hour Factor = 1.00
Delay = average vehicle delay in seconds
m = metered queue
# = volume for the 95th %ile cycle exceeds capacity

At the 2032 future total horizon, during the AM and PM peak hours, the study area intersections are anticipated to operate similarly to the 2032 future background conditions.

At this horizon, the southbound through/right movement at the intersection of Tremblay Road at Belfast Road may exhibit extended queues during the AM peak hour, increasing approximately one car-length above the background conditions.

At the intersection of Tremblay Road at St. Laurent Boulevard, as in the background conditions, shifting one second of split from the northbound and southbound phases to the eastbound and westbound phases would reduce the v/c of all movements to 1.00 or below during the PM peak hour at this horizon.

7.4 2037 Future Total Operations

Figure 27 illustrates the 2037 future total volumes and Table 20 summarizes the 2037 future total intersection operations. The level of service for signalized intersections is based on v/c calculations for individual lane movements and MMLOS Guidelines weighted v/c methodology for the overall intersection, per direction from Transportation Engineering Services, and HCM 2010 delay for unsignalized intersections. The synchro worksheets for the 2037 future total horizon are provided in Appendix J.

Figure 27: 2037 Future Total Volumes

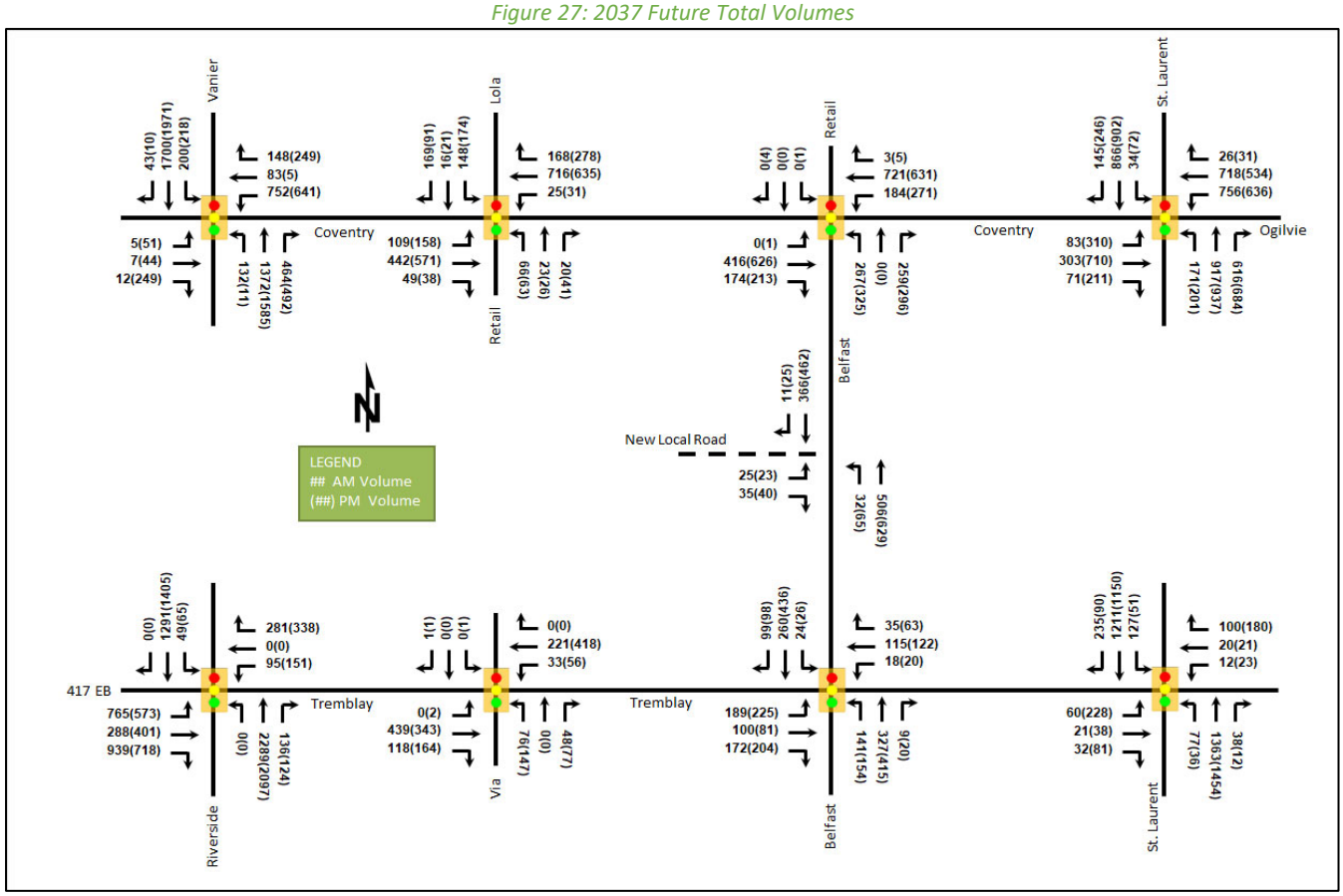


Table 20: 2037 Future Total Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Coventry Road at Vanier Parkway ***Signalized***	EBL/T	A	0.10	62.8	9.9	B	0.61	77.9	**#44.6**
	EBR	A	0.04	0.3	0.0	E	0.98	78.9	**#88.0**
	WBL	D	0.84	63.9	101.6	B	0.70	57.2	76.9
	WBL/T	D	0.83	71.7	**#117.6**	B	0.70	63.5	89.3
	WBR	A	0.33	4.1	7.6	A	0.55	14.4	34.7
	NBL	C	0.76	73.8	m36.7	A	0.14	70.8	m3.3
	NBT	D	0.87	25.0	m97.6	**F**	**1.15**	**105.5**	**m#289.0**
	NBR	A	0.51	0.7	m1.0	A	0.56	3.8	m10.7
	SBL	C	0.74	78.2	**#60.2**	C	0.76	78.7	**#63.0**
	SBT/R	D	0.81	38.9	**#209.7**	D	0.81	33.9	**#240.9**
	Overall	**D**	**0.85**	**37.5**	-	**E**	**1.00**	**58.5**	-
Coventry Road at Lola Street ***Signalized***	EBL	A	0.32	11.2	16.0	A	0.50	14.7	22.2
	EBT/R	A	0.28	13.3	42.5	A	0.35	15.8	54.0
	WBL	A	0.06	8.0	m2.2	A	0.07	7.1	m2.7
	WBT/R	A	0.59	15.8	m63.1	B	0.65	15.2	55.8
	NBL	A	0.28	28.6	18.9	A	0.23	27.1	17.8
	NBT/R	A	0.12	15.5	10.2	A	0.17	12.7	12.3
	SBL	A	0.54	36.2	37.8	B	0.62	39.3	44.1
	SBT/R	A	0.40	7.8	16.5	A	0.27	9.3	14.2
	Overall	**A**	**0.56**	**16.0**	-	**B**	**0.63**	**17.2**	-
Coventry Road at Belfast Road ***Signalized***	EBL	-	-	-	-	A	0.00	19.0	m0.3
	EBT	A	0.56	19.1	39.1	**F**	**1.04**	**72.0**	**#172.0**
	EBR	A	0.43	6.4	7.4	A	0.57	11.8	17.3
	WBL	A	0.42	10.5	21.8	D	0.88	51.7	**#82.6**
	WBT/R	B	0.70	17.2	123.6	B	0.68	20.7	122.7
	NBL/T	E	0.92	70.1	**#87.6**	D	0.90	56.9	**#95.0**
	NBR	A	0.60	15.0	33.1	A	0.60	13.5	36.2
	SB	-	-	-	-	A	0.01	0.0	0.0
	Overall	**C**	**0.76**	**22.7**	-	**E**	**0.97**	**41.0**	-
Coventry Road / Ogilvie Road at St. Laurent Boulevard ***Signalized***	EBL	A	0.20	50.4	18.2	B	0.70	58.5	51.4
	EBT	A	0.44	45.8	48.2	D	0.87	55.1	106.3
	EBR	A	0.17	0.8	0.0	A	0.44	7.8	19.0
	WBL	E	0.97	75.7	**#148.5**	**F**	**1.35**	**211.7**	**#141.1**
	WBT	B	0.70	43.1	103.5	B	0.67	44.9	78.7
	WBR	A	0.05	0.2	0.0	A	0.07	0.3	0.0
	NBL	E	0.93	**107.5**	**#88.9**	E	0.91	**93.3**	**#90.4**
	NBT	D	0.90	55.8	**#184.4**	D	0.85	46.7	**#150.2**
	NBR	C	0.80	18.1	**#107.0**	E	0.98	48.1	**#176.3**
	SBL	A	0.33	66.1	19.0	B	0.64	79.5	**#36.1**
	SBT	C	0.80	54.4	94.0	C	0.77	47.7	89.0
	SBR	A	0.33	3.6	5.8	A	0.52	12.1	29.9
	Overall	**D**	**0.85**	**50.3**	-	**F**	**1.04**	**66.6**	-

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95th)	LOS	V/C	Delay (s)	Q (95th)
Tremblay Road / 417 EB at Riverside Drive *Signalized*	EBL	D	0.88	60.5	122.9	E	0.94	78.3	**#113.9**
	EBT	A	0.32	40.3	44.3	B	0.64	57.1	71.6
	EBR	B	0.69	2.9	0.0	A	0.54	1.6	0.0
	WBL	D	0.84	**114.1**	**#58.1**	**F**	**1.01**	**138.9**	**#88.6**
	WBR	A	0.53	34.8	40.4	B	0.62	40.1	50.4
	NBT/R	**F**	**1.25**	**151.2**	**#343.6**	E	0.99	51.7	**#260.5**
	SBL	B	0.64	77.9	**m#18.1**	C	0.79	**95.9**	**m#25.8**
	SBT/R	C	0.75	35.8	216.9	C	0.73	32.4	m234.6
	Overall	**F**	**1.10**	**81.2**	**-**	**E**	**0.94**	**46.0**	**-**
Tremblay Road at Via Rail Station *Signalized*	EBL	-	-	-	-	A	0.01	11.5	1.2
	EBT	A	0.34	13.9	27.6	A	0.28	13.6	21.2
	EBR	A	0.39	10.7	14.8	A	0.50	11.5	18.1
	WBL	A	0.16	15.1	7.8	A	0.24	16.0	11.3
	WBT	A	0.17	12.5	14.4	A	0.33	14.0	25.5
	WBR	-	-	-	-	-	-	-	-
	NBL	A	0.23	13.7	12.0	A	0.40	16.4	24.7
	NBR	A	0.12	5.2	5.1	A	0.18	7.0	8.9
	SB	A	0.00	0.0	0.0	A	0.00	0.0	0.0
	Overall	**A**	**0.32**	**12.7**	**-**	**A**	**0.45**	**13.4**	**-**
Tremblay Road at Belfast Road *Signalized*	EBL	B	0.66	37.2	47.6	E	0.95	**83.3**	**#89.0**
	EBT/R	B	0.68	24.2	48.7	D	0.82	38.9	**#76.8**
	WBL	A	0.10	21.7	6.7	A	0.13	28.4	8.9
	WBT/R	A	0.31	20.8	29.7	A	0.45	28.5	45.4
	NBL	A	0.38	12.9	20.9	A	0.46	14.2	21.6
	NBT/R	A	0.37	12.3	48.9	A	0.50	19.3	92.8
	SBL	A	0.11	19.9	8.0	A	0.23	46.8	12.8
	SBT/R	B	0.68	28.8	**#79.6**	D	0.86	41.8	**#153.7**
	Overall	**B**	**0.61**	**22.8**	**-**	**D**	**0.81**	**37.4**	**-**
Tremblay Road at St. Laurent Boulevard *Signalized*	EBL	A	0.33	46.2	25.6	**F**	**1.04**	**114.9**	**#106.9**
	EBT/R	A	0.15	20.2	14.7	A	0.25	15.0	22.0
	WBL	A	0.05	38.3	7.7	A	0.07	32.8	10.6
	WBT/R	A	0.33	13.2	19.9	A	0.38	9.4	23.1
	NBL	A	0.34	22.2	24.9	A	0.18	18.8	11.6
	NBT/R	A	0.55	19.0	102.9	A	0.58	20.4	101.9
	SBL	A	0.49	14.0	18.2	A	0.25	11.6	9.1
	SBT	A	0.57	12.7	105.0	A	0.59	15.4	99.3
	SBR	A	0.26	1.7	8.5	A	0.11	2.2	6.1
	Overall	**A**	**0.56**	**15.7**	**-**	**B**	**0.66**	**23.7**	**-**
New Local Road at Belfast Road *Unsignalized*	EBL/R	D	0.28	28.7	8.3	E	0.43	46.2	14.3
	NBL/T	A	0.04	9.9	0.8	B	0.09	10.8	2.3
	SBT/R	-	-	-	-	-	-	-	-
	Overall	**A**	**-**	**2.1**	**-**	**A**	**-**	**2.9**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
Queue is measured in metres
Peak Hour Factor = 1.00
Delay = average vehicle delay in seconds
m = metered queue
# = volume for the 95th %ile cycle exceeds capacity

At the 2037 future total horizon, during the AM and PM peak hours, the study area intersections are anticipated to operate similarly to the 2037 future background conditions.

At this horizon, the southbound shared through/right-turn movement at the intersection of Tremblay Road at Belfast Road may exhibit extended queues during the AM peak hour, increasing approximately one-car length above the background conditions. The eastbound left-turn at this intersection may additionally exhibit high delays during the PM peak hour at this horizon.

As in the background conditions, during the PM peak hour, shifting two seconds of split from the westbound left phase to the eastbound through phase at the intersection of Coventry Road/Ogilvie Road at St. Laurent Boulevard, shifting one second of split from the eastbound through phase to the westbound left phase at the intersection of Tremblay Road / 417 EB at Riverside Drive, and shifting one second of split from the northbound and southbound phases to the eastbound and westbound phases at the intersection of Tremblay Road at St. Laurent Boulevard would reduce the v/c of all movements to 1.00 or below at these intersections at this horizon.

7.5 Demand Rationalization Conclusions

7.5.1 Rationalization for Background Travel Demand

With respect to the background conditions, no adjustment have been made to the growth based modal shifts towards transit. The analysis may be considered conservative from a regional/citywide perspective as any mode shifts would reduce the existing/future growth volumes and improve network operations. The City implementation of additional local route connectivity to the LRT Stations would further make auto reductions possible on the road network and also support further development within the TOD area. No further rationalization for the background volumes is required for this study.

7.5.2 Rationalization for Development Travel Demand

As this development is targeted for a transit focus and meets the planned context of this area, rationalization for the trip generation or mode share selection is not required for this TIA.

8 Development Design

8.1 Design for Sustainable Modes

The proposed development includes six residential towers with a ground floor commercial within the northernmost building podium fronting Coventry Road. The internal vehicle and bicycle parking within the underground garage are proposed to be accessed via 12%-15% ramp slopes. Elevators are provided to the parking levels providing cyclists ease of access. Hard surface connections are provided between all building entrances and the sidewalks on Coventry Road and the New Local Road through the site, and to the MUP on Belfast Road. An uncontrolled pedestrian crossing is proposed on the New Local Road west of the parking lot and drop-off loop access.

Bus stops for the route #18 are located on both sides of Coventry Road west of Belfast Road, and on both sides of Belfast Road south of Tremblay Road. Tremblay Station is located within 800 metres' walk of the site, and St. Laurent Station is located within one kilometre's walk of the site.

The infrastructure TDM checklist is provided in Appendix K.

8.2 Circulation and Access

A new local road connection to Belfast Road and the drive aisles of the commercial parcel to the west will connect to a ramp to underground parking for the buildings on the north half of the site. Accessing this New Local Road will be a one-way loop that includes surface parking, permits drop-offs along the building frontages, and provides access to the ramp to the underground parking for the buildings on the south half of the site. The one-way loop

driveways on the New Local Road, and the two-way access to the northern underground parking levels on the New Local Road are each recommended to be a minimum of 6.0-metres-wide.

Garbage collection is planned to be collected along the New Local Road for the southern site buildings and within the drive aisles of the parking lots to the west of the site for the northern site buildings through an agreement with the neighbouring property owner.

Emergency services may access the site via the three public roads that the site will front. If firetrucks are required to circulate the one-way loop, the radii at the access with the New Local Road would be required to be 5.0 metres, and the landscaping and parking stalls in the middle of the one-way loop would need to be modified to accommodate the turning radius requirements.

If garbage collection or larger vehicles are required to circulate the one-way loop, the radii at the access with the New Local Road would also be required to be 5.0 metres, the travel width at the south end of the one-way loop would require a 27.0-metre separation between the outside curb lines, and the landscaping and parking stalls in the middle of the one-way loop would need to be modified to accommodate the turning radius requirements.

Para Transpo vehicles can circulate the one-way loop and access the layby, for boarding and alighting passengers for the buildings on the south side of the site and can board and alight passengers along the New Local Road for the buildings to the north side of the site. Para Transpo turning templates are provided in Appendix L.

8.3 New Street Networks

Per the Coventry TOD Plan, as referenced in Section 2.3.1, a New Local Road is proposed to bisect the site, connecting Belfast Road and the existing lots and drive aisles of the commercial parcel to the west. The TOD Plan envisioned the local road will continue and form a future extension to the intersection of Coventry Road at Lola Street. During interim phasing before the connection to the adjacent parcel is made, a turning basin will be provided in the location of Building A south of the New Local Road to permit snow management and garbage collection vehicles to access all points along the local road. The interim turning basin is recommended to comply with the Type B detail from Ontario Provincial Standard Drawing 500.020.

The New Local Road through the site is proposed be a modified City standard 20.0-metre right-of-way. A modified cross-section is proposed given the contrast between the urban plaza intent of the design context and the suburban applicability of the City standard cross-sections. Sidewalks and streetscaping elements will be on both sides of the road, given the absence of hydro transformers otherwise required within the cross-section. A 7.5-metre-wide roadway supporting two travel lanes is proposed to mitigate traffic speeds, and a 2.5-metre-wide framed section of on-street parking is proposed along the north side of the road west of the uncontrolled pedestrian crossing. The roadway, and the eventual connection to the lands to the west, are recommended to be posted at 30 km/h and be designed to target a 30 km/h operating speed. To this effect, two speed humps are proposed along this new 7.5-metre-wide roadway.

The roadway will provide vehicular access to the local land uses that front it and will connect to the major collector Belfast Road. Given this function and connectivity, the classification of a local road is confirmed to be suitable.

The intersection of the New Local Road with Belfast Road is recommended as having 9.0-metre curb radii to facilitate fire access, and future truck movements once the connection is made to the commercial lands to the west. The crossing for the MUP on the site frontage along Belfast Road is proposed to be consistent with a separate crossride (Figure 6.2 of Ontario Traffic Manual Book 18 (OTC, 2021)).

Corner triangles of three metres by nine metres are proposed at the intersection of the New Local Road at Belfast Road and overlapping five-metre by 15-metre triangles are to be provided at the corner of Belfast Road at Coventry Road, consistent with typical City geometry for the intersecting classifications of roads.

9 Parking

9.1 Parking Supply

The site is to provide a total of 1,090 vehicle parking spaces across three underground levels, a surface parking lot, and an area reserved within the commercial lot to the west of the site. The underground parking levels will be divided to a north lot and south lot by the New Local Road.

From the Zoning By-Law, the minimum vehicle parking provision for the site, which lies in Area X of Schedule 1A, is 884 resident spaces, 177 visitor spaces, and 15 commercial spaces for a total of 1,080 total vehicle parking spaces. The maximum vehicle parking provision from the Zoning By-Law based on the site being within 800 metres' walking distance of a rapid transit station is 3,094 total for both residents and visitors, and 43 spaces for the commercial component based on the assumption of a retail store, for a combined maximum of 3,137 vehicle parking spaces. The minimum residential bicycle parking provision from the Zoning By-Law is 845 spaces, and minimum commercial bicycle parking provision is five spaces.

Therefore, the total minimum residential and visitor vehicle parking, minimum bicycle parking, and total maximum residential vehicle parking requirements are satisfied. The total maximum parking provision for the site will be 2,047 spaces below the by-law value for the total site. The proposed parking provision is based on the existing area context with the understanding that an evolution of the area will take place over time. The parking supply will be continually evaluated as construction phases progress.

10 Boundary Street Design

Table 21 summarizes the MMLOS analysis for the boundary streets of Coventry Road and Belfast Road. Where the existing and future conditions will be the same, they are considered in one row. The boundary street analysis is based on the most stringent policy area of "Within 600m of a rapid transit station". The MMLOS worksheets has been provided in Appendix M.

Table 21: Boundary Street MMLOS Analysis

Segment	Pedestrian LOS		Bicycle LOS		Transit LOS		Truck LOS	
	PLOS	Target	BLOS	Target	TLOS	Target	TrLOS	Target
Coventry Road (Existing/Future)	**D**	A	A	B	-	-	A	D
Belfast Road (Existing)	**F**	A	C	D	-	-	C	D
Belfast Road (Future)	**C**	A	A	D	-	-	C	D
New Local Road (Future)	A	A	B	D	-	-	-	-

The pedestrian LOS will not be met along all boundary streets and horizons except for the New Local Road. To meet the pedestrian LOS targets on Coventry Road and Belfast Road, the curb lane vehicle volumes would need to be reduced to below 3000 AADT.

The sidewalk configurations on Coventry Road and Belfast Road are considered acceptable given no LOS improvements are possible without altering the function of the roadway.

Crowding PLOS is not considered in the PLOS due to the excessively high-volume threshold. At the lowest threshold given, of 250 pedestrians per hour, the minimum effective sidewalk width required to achieve LOS A would be 3.0 metres, whereby the City standard 2.0-metre sidewalk fails to meet this target.

11 Access Intersections Design

11.1 Location and Design of Access

A new full-movement T-intersection on Belfast Road is proposed for the New Local Road connection through the site. Along the New Local Road, one (1) two-way full-movement access is proposed to the ramp to the northern underground parking garage, and two (2) one-way accesses are proposed to the one-way drop-off loop which includes surface parking and access to the ramp to the southern underground parking garage.

11.1.1 New Local Road Access Intersection at Belfast Road

The intersection of the New Local Road at Belfast Road is consistent with the vision from the Tremblay TOD Plan. Based on the forecasted volumes and operations presented in Section 5.2 and Section 7.4, respectively, the eastbound approach of the New Local Road will consist of a shared all-movements lane. The southbound approach is recommended to consist of a shared through/right-turn lane. For the northbound approach, the potential for the inclusion of an auxiliary left-turn lane is discussed below.

The warrants for the consideration of a northbound left-turn lane on Belfast Road at the New Local Road are met with the forecasted PM peak hour volumes at the 2032 and 2037 future total horizons and with the forecasted AM peak hour volumes at the 2037 future total horizon. Left-turn lane warrants are provided in Appendix N. Should one be provided, the calculated storage length from Equation 9.14.1 in the Geometric Design Guide for Canadian Roads (TAC 2017) applying the 1.5 volume factor specified in the City's TIA Guidelines is 25 metres.

Beyond the warrant analysis, it is noted that the existing site previously included an access just to the south of the proposed New Local Road connection to Belfast Road without an auxiliary northbound left-turn lane. The parking lot for this prior land use includes 172 parking spaces for employees and visitors which historically shows a high level of utilization based on past aerial imagery. It is noted that during the PM peak hour at the warranted horizons, a single northbound left-turn volume meets warrant for consideration, based on the high advancing volumes, and that historical traffic patterns would meet warrants in the existing condition. This segment of Belfast Road between Tremblay Road and Coventry Road was associated with three collisions during the seven-year 2016-2022 time period, all of which were rear end collisions. These collisions can be related to congestion or unexpected stopping, they cannot be directly related to the existing access and no angled or turning movement collisions have occurred without the left-turn lane. Therefore, a shared left-turn/through lane for the northbound approach at the New Local Road would be in keeping with the existing conditions and driver expectations, and would not be anticipated to cause a new, or exacerbate an existing, safety concern.

The theoretical queueing on the northbound shared left-through movement at the intersection of Belfast Road at Coventry Road are also noted to extend past the existing site access during the PM peak hour in the existing conditions and are forecast to extend past the New Local Road intersection during both peak hours, accounting for the 95th percentile queue lengths. It is noted that the 50th percentile queues are not forecast to reach the site access in the future total 2037 horizon. While the 95th percentile queues may reduce once the Coventry Road widening improvements are implemented, during the peak hours, minimal delays and negligible impact on queueing along the corridor may be associated with the northbound vehicles on Coventry Road turning left onto the New Local Road. Forecasted operations on the northbound approach without the inclusion of a left-turn lane are anticipated to be good with delays of 10.8 seconds or less and queues of 2.3 metres or less, and thus a left-turn lane is not required to address any forecasted operational issues.

From a constructability perspective, several constraints are present impacting the feasibility of providing an auxiliary lane in this location. Among these constraints are:

- Road grading up to the Highway 417 overpass, and the requirement for modification of associated embankment slopes
- The new embankment slopes potentially conflicting with the hydro corridor and hydro poles
- The requirement for the relocation of light standards potentially conflicting with the hydro corridor
- The shifting of the alignment of the northbound lane through the intersection, and based on the required recovery taper, conflicting with the guy wires, pole, and cabinets within the hydro corridor
- Widening to the east would reduce clear zone between the travel lanes and the above noted utilities/hydro poles and may result in roadside safety implications

As such, the overall modification is not considered feasible from a cost-benefit perspective.

Given the consistency with the historical operation of the corridor, no safety concerns anticipated, and good anticipated operations, it is recommended that no turn-lane be required at the New Local Road intersection.

11.1.2 Site Access Along the New Local Road

11.1.2.1 Northern Garage Ramp Access

The driveway to the underground parking ramp to the northern lot is proposed to be 6.0 metres in width with a throat length of approximately ten metres to the garage door under the building overhang. This throat length is considered adequate for the intersecting road's local classification. From the Private Approach By-Law, the driveway is required to have a grade of no more than 2% within the first nine metres of the property, which is proposed as being met.

The access is located approximately 35 metres from the Belfast Road roadway and approximately 24 metres from its right-of-way line. From the Private Approach By-Law, as the property is within 46 metres of Belfast Road, which is classified as a major collector, the access is to be 60 metres from the Belfast Road right-of-way, which is not met by the proposed configuration. From the Geometric Design Guide for Canadian Roads (TAC, 2017) the minimum suggested corner clearance from the access to the Belfast Road roadway is 15 metres, which is met by the proposed configuration. The location of the access is constrained by the parkland and is considered an improvement from the existing condition that provides vehicular access onto Coventry Road. Therefore, it is recommended that the TAC criteria govern the access location, and the location be approved.

It is recommended that the two-way access comply with City Standard SC 7.1 for a continuous depressed concrete sidewalk across the access.

11.1.2.2 One-Way Loop Accesses

The ingress and egress from the one-way loop, which provide access to the surface parking lot and ramp to the southern underground parking garage, are proposed to be 6.0 metres in width. The curb radii are recommended to be 5.0 metres. The throat lengths of the accesses are approximately 8.5 metres, and this value is considered adequate for an access on a local road. From the Private Approach By-Law, the driveway is required to have a grade of no more than 2% within the first nine metres of the property, which is proposed as being met.

The ingress and egress are proposed to be separated by approximately 13 metres. The Private Approach By-Law provides that one-way accesses be separated by a minimum of two metres, which is proposed as being met. The egress to the one-way loop is located approximately 49 metres from the Belfast Road roadway and 38 metres from its right-of-way line. The Private Approach By-Law provides that an access is to be located 60 metres from the nearest intersecting road right-of-way, which is not proposed as being met. From the Geometric Design Guide for Canadian Roads (TAC, 2017), the minimum suggested distance to the Belfast Road roadway is 15 metres, which is met by the proposed configuration. The location of the accesses is governed by being centrally located within

the buildings whose respective locations are governed by urban design requirements and setbacks. The parcel is noted to be 108 metres wide, of which a potential 60-metre offset is noted to be more than half the overall length. The egress will be stop-controlled, and not considered to impact the operations of the downstream major collector road. The inbound access is noted to be located approximately 57 metres from the right-of-way line which nearly meets the Private Approach By-Law value. It is therefore recommended that the TAC criteria govern the location, and the access locations be approved.

It is recommended that the accesses comply with City Standard SC 7.1 for a continuous depressed concrete sidewalk across each access.

11.2 Intersection Control

Based on the projected volumes, site access will have stop control on the minor access approaches, and it is recommended that the New Local Road be minor stop controlled at Belfast Road. Signal warrants for the intersection of the New Local Road at Belfast Road are provided in Appendix O. No change in traffic control is necessary to address operations.

11.3 Access Intersection Design

11.3.1 2032 Future Access Intersection Operations

Figure 26, above, illustrates the 2032 future total volumes and Table 19 summarizes the 2032 future total access intersection operations.

The site access intersections at the 2032 future total horizon are forecast to operate well. No capacity issues are noted.

11.3.2 2037 Future Access Intersection Operations

Figure 27, above, illustrates the 2037 future total volumes and Table 20 summarizes the 2037 future total access intersection operations.

The site access intersections at the 2037 future total horizon are forecast to operate well. No capacity issues are noted.

11.3.3 Access Intersection MMLOS

As the access intersections are not signalized, no access intersection MMLOS analysis is possible or required.

11.3.4 Recommended Design Elements

All site accesses are recommended to comply with City Standard SC7.1 where sidewalks are to be continuous through site driveways via a depressed curb.

12 Transportation Demand Management

12.1 Context for TDM

The subject site is within the Tremblay TOD area, the mode shares used within the TIA represent a shift from auto mode to transit mode, although slightly lower than the typical TOD values. Overall, the modal shares are likely to be achieved and supporting TDM measures should be provided.

Total bedrooms across apartment units are 2,557 with 1,117 bachelor or one-bedroom units, 513 two-bedroom units, 130 three-bedroom units, and eight ground floor townhouse units are proposed. No age restrictions are noted.

12.2 Need and Opportunity

The subject site has been assumed to rely predominantly on transit due to the proximity to the Tremblay LRT Station. The proximity of the transit station should provide the opportunity to reach the forecasted transit mode share, and the risks with not meeting targets may be increased volumes on the eastbound through movement at the intersection of Coventry Road at Belfast Road during the PM peak hour.

12.3 TDM Program

The "suite of post occupancy TDM measures" has been summarized in the TDM checklists for the residential land uses. The checklist is provided in Appendix K. The key TDM measures recommended include:

- Display local area maps with walking and cycling routes, and transit route information and schedules at major entrances
- Provide a multimodal travel option information package to new residents
- Contract with providers to install on-site bikeshare (or other micromobility alternatives) and carshare spaces
- Inclusion of a 1-year Presto card for first time apartment rental, with a set time frame for this offer (e.g. 6-months) from the initial opening of the site
- Unbundle parking cost from rental costs

13 Neighbourhood Traffic Management

Site traffic is proposed to access the arterial network via Belfast Road (a major collector road continuing to a collector road) and Tremblay Road (a major collector road). The TIA guidelines have outlined neighbourhood traffic management thresholds of 600 two-way vehicles per peak hour for major collector roads and 300 two-way vehicles per peak hour for collector roads. City Staff have noted that these NTM thresholds are too low for the purposes of this analysis, and they under review for future update.

Belfast Road and Tremblay Road are above NTM thresholds in the background conditions. At these locations, the site is forecast to comprise 3.8% to 6.1% of Belfast Road traffic on either side of the New Local Road and 3.4% to 7.7% of traffic on Tremblay Road on either side of Belfast Road. Thus, no impact to the road function or classification are forecast to result from the proposed development.

14 Transit

14.1 Route Capacity

In Section 5.1 the trip generation by mode was estimated, including an estimate of the number of transit trips that will be generated by the proposed development. Table 22 summarizes the transit trip generation.

Table 22: Trip Generation by Transit Mode

Travel Mode	Residential Mode Share AM(PM)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Transit	58%(48%)	144	314	458	216	158	374

The proposed development is anticipated to generate an additional 458 AM and 374 PM peak hour two-way transit trips. From the trip distribution found in section 5.2, these values can be further broken down. Table 23 summarizes forecasted site-generated transit ridership trips by direction, the types of transit service available for the direction's travel, and the equivalent bus loads. Based on September 1, 2022 transit service, trips on LRT may

be made by walking to Tremblay Station, walking to the further St. Laurent Station, or by taking the local bus that connects to St. Laurent Station.

Table 23: Forecasted Site-Generated Transit Ridership

Direction	AM Peak Hour		PM Peak Hour		Service Type	Approximate Equivalent Peak Hour/Direction Bus Loads
	In	Out	In	Out		
North	36	79	54	40	Bus	One articulated bus
South	29	63	43	32	Bus, LRT	One articulated bus
East	36	79	54	40	Bus, LRT	One articulated bus
West	43	94	65	47	Bus, LRT	One double decker bus

14.2 Transit Priority

Examining the study area intersection delays, negligible impacts are noted on the transit movements and no decrease in transit LOS at the study area intersections are noted as a result of forecasted site-generated traffic. Since the widening of Coventry Road is within the Affordable Network within the Transportation Master Plan, it is expected that the local transit service may be reconfigured or improved by the City once the design is initiated and the reconstruction is completed.

15 Network Concept

The proposed development is anticipated to generate approximately 245 AM and 241 PM two-way person trips above a permitted land use (office) for the current zoning of General Mixed Use. The proposed site plan is aligned with the building heights and density targets from the recent Tremblay TOD Plan and thus the network concept does not need to be revised in support of the proposed zoning. The operation of the infrastructure and service level provided by the City will be the primary factor of the network acceptability.

16 Network Intersection Design

16.1 Network Intersection Control

No change to the existing signalized control is recommended for the network intersections.

16.2 Network Intersection Design

16.2.1 Future Total Network Intersection Operations

The operations are noted in Sections 7.3 and 7.4. Reallocating two seconds of split would be required for the v/c of all movements at the intersection of Coventry Road to be 1.00 or below during the PM peak hour.

16.2.2 Network Intersection MMLOS

Table 24 summarizes the MMLOS analysis for the network intersections withing the study area. The existing and future conditions for both intersections will be the same and are considered in one row. Targets for the intersection of Coventry Road at Belfast Road are based on the land use designation of “Mixed Use Centre” and all other intersection targets are based on the policy area of “within 600m of a rapid transit station.” The MMLOS worksheets has been provided in Appendix M.

Table 24: Study Area Intersection MMLOS Analysis

Intersection	Pedestrian LOS		Bicycle LOS		Transit LOS		Truck LOS		Auto LOS	
	PLOS	Target	BLOS	Target	TLOS	Target	TrLOS	Target	ALOS	Target
Coventry Road at Vanier Parkway	F	A	F	B	-	-	B	D	E	E
Coventry Road at Lola Street	F	A	E	B	-	-	-	-	B	E

Intersection	Pedestrian LOS		Bicycle LOS		Transit LOS		Truck LOS		Auto LOS	
	PLOS	Target	BLOS	Target	TLOS	Target	TrLOS	Target	ALOS	Target
Coventry Road at Belfast Road	**F**	C	**D**	B	-	-	C	D	**E**	D
Coventry Road / Ogilvie Road at St. Laurent Boulevard	**F**	A	**F**	C	**F**	D	B	D	**F**	E
Tremblay Road / 417 EB at Riverside Drive	**F**	A	**F**	B	-	-	B	D	**F**	E
Tremblay Road at Via Rail Station	**F**	A	**F**	D	-	-	-	-	A	E
Tremblay Road at Belfast Road	**F**	A	**E**	B	-	-	C	D	D	E
Tremblay Road at St. Laurent Boulevard	**F**	A	**F**	B	**F**	D	**E**	D	B	E

The pedestrian and bicycle LOS targets will not be met at the study area intersections, the transit LOS will not be met at the intersection of Coventry Road/Ogilvie Road at St. Laurent Boulevards and at Tremblay Road at St. Laurent Boulevard. Auto LOS will not be met at the intersection of Coventry Road at Belfast Road, Coventry Road/Ogilvie Road at St. Laurent Boulevard, and Tremblay Road/the Highway 417 eastbound off-ramp at Riverside Drive.

To meet pedestrian LOS A, the maximum crossing distance on all pedestrian crossings would need to be reduced to two lane-widths and to meet pedestrian LOS C, the crossing width would typically need to be reduced to three lane-widths.

To meet bicycle LOS targets, the left-turn configurations would need to be two-stage or include left-turn boxes, and separated facilities would be required at the intersection of Coventry Road at Vanier Parkway, Coventry Road/Ogilvie Road at St. Laurent Boulevard, Tremblay Road/the Highway 417 eastbound off-ramp at Riverside Drive and Tremblay Road at St. Laurent Boulevard. It is noted that the St. Laurent and Tremblay TOD plans outline dedicated cycling facilities along St Laurent Boulevard, Belfast Road, Tremblay Road, and Vanier Parkway, and shared-use lane along Lola Street, but no timeline or description is confirmed for these improvements. Along the site frontage at the intersection of Coventry Road at Belfast Road, a cycletrack is present on the approach and a bike lane is present on the departure, thus no improvements are considered required to address cycling LOS on the quadrant of the intersection.

Meeting transit LOS would require delays of 30 seconds or less on transit movements.

Overall, solutions required to meet the MMLOS objectives will to be considered wholistically by the Coventry Road Widening EA to determine the trade-offs and balancing of the MMLOS objectives.

16.2.3 Recommended Design Elements

No study area intersection design elements are proposed as part of this study.

17 Summary of Improvements Indicated and Modifications Options

The following summarizes the analysis and results presented in this TIA report:

Proposed Site and Screening

- The redevelopment will comprise 1,768 residential units, 13,003 sq. ft. of ground floor commercial space, and will include a total of 1,090 vehicle spaces across three levels of underground parking and a surface lot, and 900 bicycle parking spaces
- Accesses will be provided on a local road along which one (1) two-way and two (2) one-way site accesses are proposed
- The development is proposed to be completed by 2032 with construction occurring in multiple phases
- The tip generation, location, and safety triggers were met for the TIA Screening
- This report is in support of a Zoning By-Law amendment and site plan application

Existing Conditions

- Coventry Road, Ogilvie Road, Vanier Parkway, Riverside Drive, and St Laurent Boulevard are arterial roads
- Tremblay Road and Belfast Road are major collector roads, and Lola Street is a collector road in the study area
- Sidewalks are provided on both sides of Coventry Road excepting the 80-metre section west of Lola Street where a MUP is present in place of a sidewalk on the south side of the road and between the St. Laurent Shopping Centre access intersections where a MUP is present in place of the sidewalk on the north/west side of the Road
- Sidewalks are present on both sides of Vanier Parkway, Ogilvie Road, St. Laurent Boulevard, Riverside Drive, Lola Street south of Presland Road, and on the east side of Belfast Road north of Tremblay Road and on the west side of Belfast Road across the Highway 417 Overpass
- Sidewalks are also present on the south side of Tremblay Road east of the Via Rail access and on the west side of the Lola Street between Hart Avenue and Prince Albert Street
- Cycletracks are present on both sides of Coventry Road between Lola Street and Belfast Road, bike lanes are present on both sides of Coventry Road between Belfast Road and the westerly St. Laurent Shopping Centre access, and east of the easterly shopping centre access, and on the east/south side of the road between the two shopping centre accesses
- MUPs are present on the north side of Tremblay Road east of the Via Rail station access, on the south side of Tremblay Road west of the Via Rail station access, and on the west side of Belfast Road except across the Highway 417 Overpass
- West Presland Road, Presland Road, and Hardy Avenue connect to Coventry Road and Ogilvie Road to comprise a cross-town bikeway, and Lola Street north of Presland Road is a neighbourhood bikeway
- Ogilvie Road, St Laurent Boulevard, Riverside Drive, and Ogilvie Road are spine routes
- Area collision types are most typically associated with congestion
- During both the AM and PM peak hours, capacity issues are noted at the intersection of Coventry Road at Vanier Parkway, Coventry Road/ Ogilvie Road at St. Laurent Boulevard, and Tremblay Road/ 417 EB at Riverside Drive

Development Generated Travel Demand

- The proposed development is forecasted produce 793 two-way people trips during the AM peak hour and 824 two-way people trips during the PM peak hour

- Of the forecasted people trips, 117 two-way trips will be vehicle trips during the AM peak hour and 158 two-way trips will be vehicle trips during the PM peak hour based on a 16%-19% residential auto mode share target
- Of the forecasted trips, 25% are anticipated to travel north and the east, 30% to the west, and 20% to the south

Background and Total Conditions

- The background developments were explicitly included in the background conditions, along with annual background growth rates derived from the TRANS horizons within the study area
- Vehicle trips associated with the existing site land uses and estimated using the ITE Trip Generation Manual 11^{e} were removed from the network intersection volumes at the future total horizons, and existing volumes were reassigned for the connection made by the New Local Road between Coventry Road and Belfast Road
- The study area intersections at the 2032 and 2037 background conditions are forecast to operate with a similar pattern of individual overcapacity movements as the existing conditions further over theoretical capacity due to the addition of background traffic
- The future total horizons are forecast to operate similarly to the background conditions

Development Design

- The internal vehicle and bicycle parking is proposed as accessing the underground parking garages via 12%-15% sloped ramps, bicycle parking is also proposed on the main floor and in surface racks, and elevators are provided to the parking levels for cyclists' ease of access
- Hard surface connections are provided between all building entrances and the sidewalks on Coventry Road and the New Local Road through the site and to the MUP on Belfast Road
- An uncontrolled pedestrian crossing is proposed on the New Local Road west of the parking lot access
- A ramp to the site's northern underground parking garage, and two one-way driveways for the one-way loop accessing surface parking and the ramp to the southern underground parking garage are proposed onto the New Local Road
- Garbage collection is planned along the New Local Road for the buildings south of the road, and in the drive aisle of the adjacent parcel to the west for the buildings north of the road
- Emergency services may access the site via the three public roads that the site will front, and Para Transpo vehicles can circulate the one-way loop
- If firetrucks or heavy single-unit trucks are required to circulate the one-way loop, modifications to the geometry and internal elements would be required

New Street Networks

- The New Local Road is proposed as a modified City Standard 20.0-metre right-of-way with a 7.5-metre roadway and sidewalks on both sides of the road, and with framed parking on the north side of the road west of the uncontrolled pedestrian crossing
- The intersection of the New Local Road with Belfast Road is recommended as having 9.0-metre radii on the curb returns, and to include a separate crossride for the MUP crossing per OTM Book 18
- The local road classification is confirmed to be suitable for the new road
- Corner triangles of three metres by nine metres are proposed at the intersection of the New Local Road at Belfast Road and overlapping five-metre by 15-metre triangles are to be provided at the corner of

Belfast Road at Coventry Road, consistent with typical City geometry for the intersecting classifications of roads.

Parking

- The site provides a total of 1,090 vehicle parking spaces across two underground levels of parking on each side of the New Local Road, and a surface parking lot within the one-way loop
- The minimum residential parking, minimum visitor parking, and minimum bicycle parking requirements are satisfied, and the maximum total parking provision is met
- The proposed parking provision is based on the existing area context with the understanding that an evolution of the area will take place over time where supply will be revisited as construction phases progress

Boundary Street Design

- The pedestrian LOS will not be met along the segments of Coventry Road and Belfast Road
- Meeting pedestrian LOS targets would require a reduction in vehicle volumes along the curb lanes of Coventry Road and Belfast Road to below 3000 AADT
- The sidewalk configurations on Coventry Road and Belfast Road are considered acceptable given no improvements to LOS scoring are possible within the MMLOS framework beyond reducing roadway speeds or volumes

Access Intersections Design

- The New Local Road at Belfast Road intersection is recommended to include a shared all-movements lane on the eastbound approach, and the intersection meets warrants for consideration of a left-turn lane for the northbound left-turn movement on Belfast Road with 25 metres of storage length at the 2037 future total horizon
- Based on the historical operations of the existing site access, forecasted operations of the new intersection, no safety concerns, and the potential constructability and feasibility issues, no left-turn lane is recommended at the New Local Road intersection with Belfast Road
- The northern garage ramp access meets TAC corner clearance, but does not meet the Private Approach By-Law spacing from the adjacent intersection due to its location being constrained by the park and is an improvement from the existing condition of an access onto the arterial Coventry Road, and it is recommended that TAC criteria govern the design and the location be approved
- The inlet and outlet for the one-way loop meet TAC corner clearance, but do not meet the Private Approach By-Law spacing from the adjacent intersection due to its location being constrained by buildings' urban design considerations although the inlet nearly meets the PABL criteria and the outlet is not anticipated to impact the adjacent major collector road, therefore it is recommended that TAC criteria govern the design and the locations be approved
- Site accesses are recommended to comply with City Standard SC7.1 with continuous sidewalks through the accesses
- Site access will be stop-controlled on the minor access approaches

TDM

- Supportive TDM measures to be included within the proposed development should include:
    - Display local area maps with walking and cycling routes, and transit route information and schedules at major entrances
    - Provide a multimodal travel option information package to new residents
    - Contract with providers to install on-site bikeshare (or other micromobility alternatives) and carshare spaces
    - Inclusion of a 1-year Presto card for first time apartment rental, with a set time frame for this offer (e.g. 6-months) from the initial opening of the site
    - Unbundle parking cost from rental costs

NTM

- The site is forecast to contribute 3.8% to 6.1% to Belfast Road and 3.4% to 7.7% on Tremblay Road, both roads being over NTM thresholds in the background conditions
- No impact to the road function or classification are forecast to result from the proposed development

Transit

- The forecasted transit trips will include 458 two-way trips during the AM peak hour and 374 two-way trips during the PM peak hour
- Peak hour increases in transit ridership resulting from the site equate to one articulated bus each north south, and east, and one double decker west
- Negligible increases in delays on transit movements and no decrease in transit LOS are noted at the study area intersections as a result of forecasted site-generated traffic

Network Concept

- While anticipated to generate up to 245 two-way peak hour person trips above permitted uses, the proposed land use is in line with the building heights and density targets from the recent Tremblay TOD Plan, and the network concept does not need to be revisited in support of the proposed zoning

Network Intersection Design

- The pedestrian LOS targets will not be met at the existing or future intersections within the study area, and the maximum crossing distance on all pedestrian crossings are required to be reduced to two lane-widths to meet LOS A and three lane-widths to meet LOS C
- The bicycle LOS targets will not be met at the existing or future intersections within the study area, and the left-turn configurations are required to be two-stage or include turn boxes and segregated facilities at most arterial-arterial intersections, and no improvements are noted to be required for the site frontages at the intersection of Coventry Road and Belfast Road
- Overall, solutions required to meet the MMLOS objectives will to be considered wholistically by the Coventry Road Widening EA to determine the trade-offs and balancing of the MMLOS objectives

18 Conclusion

It is recommended that, from a transportation perspective, the proposed development applications proceed.

Prepared By:

John Kingsley
Transportation Engineering-Intern

Reviewed By:

Andrew Harte, P.Eng.
Senior Transportation Engineer

Appendix A

TIA Screening Form and PM Certification Form

6 Plaza Court
Ottawa, ON K2H 7W1

City of Ottawa 2017 TIA Guidelines
Step 1 - Screening Form

Date: 24-Oct-22
Project Number: 2022-116
Project Reference: 400 Coventry

1.1 Description of Proposed Development	
Municipal Address	400 Coventry Road
Description of Location	Southwest quadrant of Coventry Road at Belfast Road intersection
Land Use Classification	General Mixed Use Zone (GM6 H(34) and GM6 H(90))
Development Size	1,690 residential units, 1,700 m2 of commercial
Accesses	East-west public road connection through the site from the Tremblay TOD Plan onto which three site accesses are proposed, and the existing site access on Belfast Road will remain
Phase of Development	Multiple phases
Buildout Year	2032
TIA Requirement	Full TIA Required

1.2 Trip Generation Trigger		
Land Use Type	Townhomes or apartments	
Development Size	1690	Units
Trip Generation Trigger	Yes	

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

1.4. Safety Triggers		
Are posted speed limits on a boundary street 80 km/hr or greater?	No	
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	No	
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	Yes	
Is the proposed driveway within auxiliary lanes of an intersection?	No	
Does the proposed driveway make use of an existing median break that serves an existing site?	No	
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?	Yes	The Belfast Road at Coventry Road intersection had a total of 24 collisions
Does the development include a drive-thru facility?	No	
Safety Trigger	Yes	

TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

CERTIFICATION

1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
4. I am either a licensed[1] or registered[2] professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering √ or transportation planning □.

[1,2] License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

City Of Ottawa
Infrastructure Services and Community Sustainability
Planning and Growth Management
110 Laurier Avenue West, 4th fl.
Ottawa, ON K1P 1J1
Tel. : 613-580-2424
Fax: 613-560-6006

Ville d'Ottawa
Services d 'infrastructure et Viabilité des collectivités
Urbanisme et Gestion de la croissance
110, avenue Laurier Ouest
Ottawa (Ontario) K1P 1J1
Tél. : 613-580-2424
Télécopieur: 613-560-6006

Dated at ___Ottawa_____ this __20__ day of _____September_____, 2018.
(City)

Name: _____Andrew Harte_____
(Please Print)

Professional Title: _____Professional Engineer_____

_____
Signature of Individual certifier that s/he meets the above four criteria

Office Contact Information (Please Print)
Address: 6 Plaza Court
City / Postal Code: Ottawa / K2H 7W1
Telephone / Extension: (613) 697-3797
E-Mail Address: Andrew.Harte@CGHTransportation.com

Appendix B

Turning Movement Counts

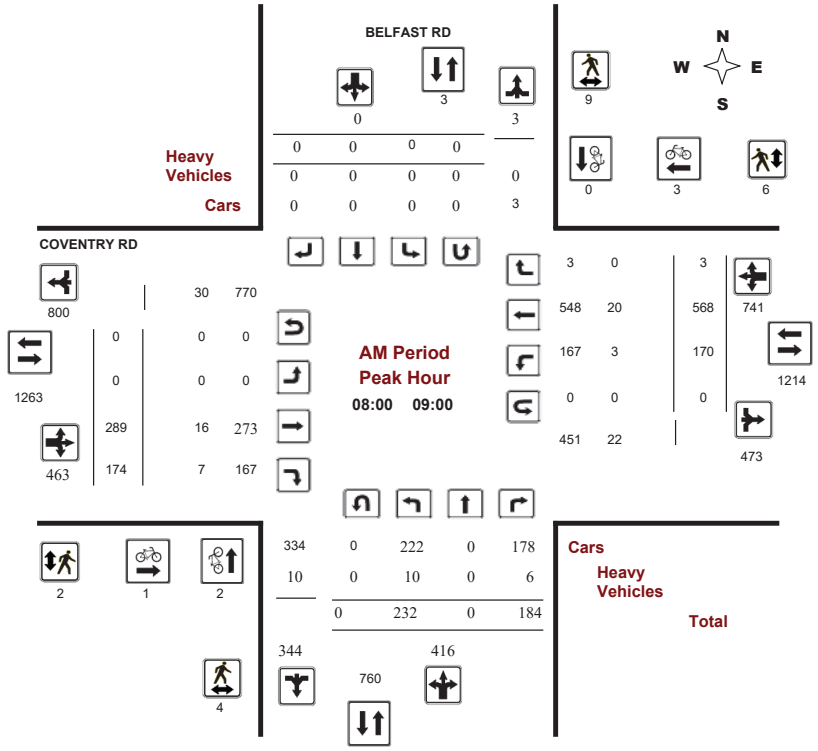
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BELFAST RD @ COVENTRY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39278

Start Time: 07:00 **Device:** Miovision



Comments 5469219 - WED JAN 08, 2020 - 8HRS - LORETTA

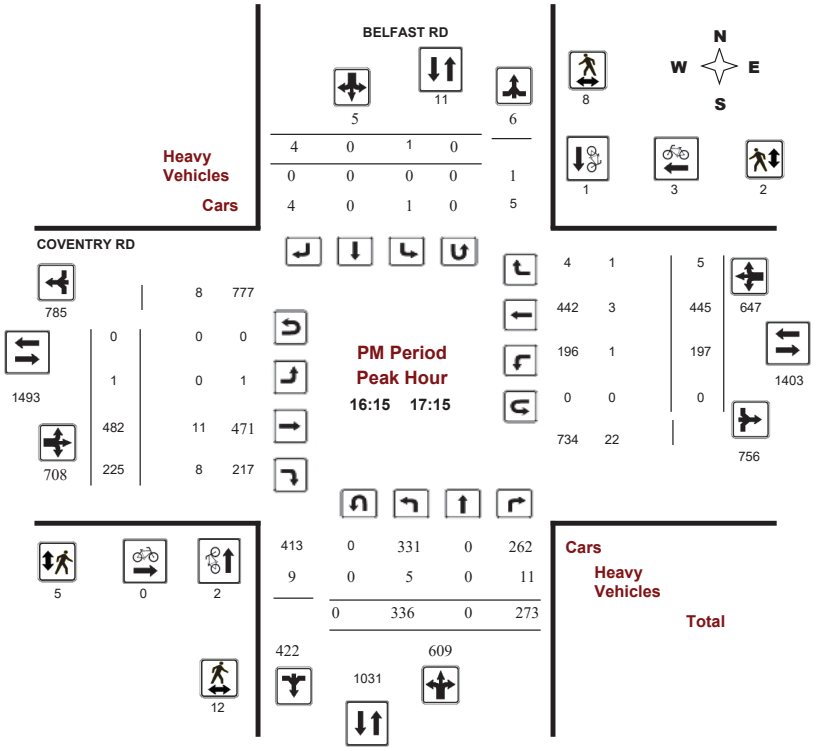
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BELFAST RD @ COVENTRY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39278

Start Time: 07:00 **Device:** Miovision



Comments 5469219 - WED JAN 08, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELFAST RD @ COVENTRY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39278

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		BELFAST RD			COVENTRY RD			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	0	0	0
07:45	08:00	0	0	0	2	0	2	2
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	1	0	1	0	2	2	3
08:30	08:45	1	0	1	0	1	1	2
08:45	09:00	0	0	0	1	0	1	1
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	1	0	1	1
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	1	0	1	1
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	1	1	1
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	1	0	1	1
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	1	2	3	3
15:15	15:30	0	0	0	0	1	1	1
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	1	1	0	1	1	2
16:30	16:45	0	0	0	0	1	1	1
16:45	17:00	2	0	2	0	1	1	3
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	1	1	2	2
17:45	18:00	0	0	0	1	0	1	1
Total		4	1	**5**	9	11	20	25

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELFAST RD @ COVENTRY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39278

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

Time Period		BELFAST RD			COVENTRY RD			
		NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00	07:15	2	1	**3**	0	0	**0**	**3**
07:15	07:30	2	1	**3**	0	0	**0**	**3**
07:30	07:45	2	3	**5**	1	1	**2**	**7**
07:45	08:00	2	1	**3**	1	2	**3**	**6**
08:00	08:15	1	3	**4**	0	2	**2**	**6**
08:15	08:30	0	4	**4**	1	2	**3**	**7**
08:30	08:45	3	1	**4**	0	1	**1**	**5**
08:45	09:00	0	1	**1**	1	1	**2**	**3**
09:00	09:15	1	0	**1**	0	0	**0**	**1**
09:15	09:30	1	2	**3**	0	1	**1**	**4**
09:30	09:45	1	0	**1**	1	0	**1**	**2**
09:45	10:00	6	1	**7**	0	1	**1**	**8**
11:30	11:45	5	3	**8**	1	1	**2**	**10**
11:45	12:00	1	8	**9**	2	2	**4**	**13**
12:00	12:15	4	4	**8**	3	2	**5**	**13**
12:15	12:30	3	7	**10**	3	0	**3**	**13**
12:30	12:45	6	4	**10**	2	2	**4**	**14**
12:45	13:00	10	6	**16**	0	2	**2**	**18**
13:00	13:15	2	9	**11**	6	1	**7**	**18**
13:15	13:30	7	1	**8**	2	4	**6**	**14**
15:00	15:15	0	3	**3**	0	1	**1**	**4**
15:15	15:30	2	1	**3**	0	0	**0**	**3**
15:30	15:45	9	5	**14**	3	1	**4**	**18**
15:45	16:00	5	0	**5**	2	1	**3**	**8**
16:00	16:15	2	1	**3**	1	1	**2**	**5**
16:15	16:30	3	1	**4**	0	0	**0**	**4**
16:30	16:45	2	5	**7**	3	1	**4**	**11**
16:45	17:00	2	1	**3**	0	0	**0**	**3**
17:00	17:15	5	1	**6**	2	1	**3**	**9**
17:15	17:30	3	2	**5**	2	0	**2**	**7**
17:30	17:45	2	2	**4**	1	1	**2**	**6**
17:45	18:00	2	1	**3**	0	0	**0**	**3**
Total		96	83	**179**	38	32	**70**	**249**

5469219 - WED JAN 08, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELFAST RD @ COVENTRY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39278

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		BELFAST RD									COVENTRY RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	4	0	1	**8**	0	0	0	**0**	**8**	0	1	1	**7**	2	1	0	**5**	**12**	**10**
07:15	07:30	3	0	1	**6**	0	0	0	**0**	**6**	0	4	1	**15**	1	7	0	**13**	**28**	**17**
07:30	07:45	7	0	0	**9**	0	0	0	**0**	**9**	0	2	2	**19**	0	8	0	**10**	**29**	**19**
07:45	08:00	4	0	1	**5**	0	0	0	**0**	**5**	0	2	0	**9**	0	3	0	**6**	**15**	**10**
08:00	08:15	2	0	2	**5**	0	0	0	**0**	**5**	0	2	1	**10**	0	5	0	**9**	**19**	**12**
08:15	08:30	1	0	1	**3**	0	0	0	**0**	**3**	0	4	0	**11**	1	6	0	**12**	**23**	**13**
08:30	08:45	4	0	3	**13**	0	0	0	**0**	**13**	0	3	5	**17**	1	5	0	**12**	**29**	**21**
08:45	09:00	3	0	0	**5**	0	0	0	**0**	**5**	0	7	1	**15**	1	4	0	**12**	**27**	**16**
09:00	09:15	6	0	5	**13**	0	0	0	**0**	**13**	0	9	2	**19**	0	2	0	**16**	**35**	**24**
09:15	09:30	4	0	8	**15**	0	0	0	**0**	**15**	0	3	3	**11**	0	1	0	**12**	**23**	**19**
09:30	09:45	2	0	2	**15**	0	0	0	**0**	**15**	0	2	11	**18**	0	3	0	**7**	**25**	**20**
09:45	10:00	4	0	1	**9**	0	0	0	**0**	**9**	0	2	4	**12**	0	2	0	**5**	**17**	**13**
11:30	11:45	4	0	0	**9**	0	0	0	**0**	**9**	0	2	4	**15**	1	5	0	**8**	**23**	**16**
11:45	12:00	5	0	1	**7**	0	0	0	**0**	**7**	0	3	1	**10**	0	1	0	**5**	**15**	**11**
12:00	12:15	1	0	0	**5**	0	0	0	**0**	**5**	0	2	1	**5**	3	1	0	**6**	**11**	**8**
12:15	12:30	1	0	2	**4**	0	0	0	**0**	**4**	0	3	0	**7**	1	3	0	**9**	**16**	**10**
12:30	12:45	4	0	0	**7**	0	0	0	**0**	**7**	0	0	3	**10**	0	3	0	**3**	**13**	**10**
12:45	13:00	4	0	0	**6**	0	0	0	**0**	**6**	0	1	1	**6**	1	0	0	**2**	**8**	**7**
13:00	13:15	3	0	2	**7**	0	0	0	**0**	**7**	0	2	1	**11**	1	5	0	**10**	**21**	**14**
13:15	13:30	1	0	1	**7**	0	0	0	**0**	**7**	0	0	3	**13**	2	9	0	**12**	**25**	**16**
15:00	15:15	3	0	1	**9**	1	0	0	**1**	**10**	0	2	2	**11**	3	4	0	**11**	**22**	**16**
15:15	15:30	8	0	1	**12**	0	0	0	**0**	**12**	0	4	2	**17**	1	3	0	**9**	**26**	**19**
15:30	15:45	1	0	1	**4**	0	0	0	**0**	**4**	0	0	2	**4**	0	1	0	**2**	**6**	**5**
15:45	16:00	2	0	4	**9**	0	0	0	**0**	**9**	0	3	3	**9**	0	1	0	**8**	**17**	**13**
16:00	16:15	2	0	3	**8**	0	0	0	**0**	**8**	0	3	3	**10**	0	2	0	**8**	**18**	**13**
16:15	16:30	1	0	3	**4**	0	0	0	**0**	**4**	0	4	0	**7**	0	2	0	**9**	**16**	**10**
16:30	16:45	1	0	4	**9**	0	0	0	**0**	**9**	0	2	4	**8**	0	1	0	**7**	**15**	**12**
16:45	17:00	3	0	2	**7**	0	0	0	**0**	**7**	0	1	1	**5**	1	0	0	**4**	**9**	**8**
17:00	17:15	0	0	2	**5**	0	0	0	**1**	**6**	0	4	3	**7**	0	0	1	**7**	**14**	**10**
17:15	17:30	1	0	1	**3**	0	0	0	**0**	**3**	0	2	1	**5**	0	1	0	**4**	**9**	**6**
17:30	17:45	0	0	0	**1**	0	0	0	**0**	**1**	0	0	1	**2**	0	1	0	**1**	**3**	**2**
17:45	18:00	2	0	0	**4**	0	0	0	**0**	**4**	0	1	2	**7**	0	2	0	**3**	**10**	**7**
Total:	None	91	0	53	**233**	1	0	0	**2**	**235**	0	80	69	**332**	20	92	1	**247**	**579**	**407**

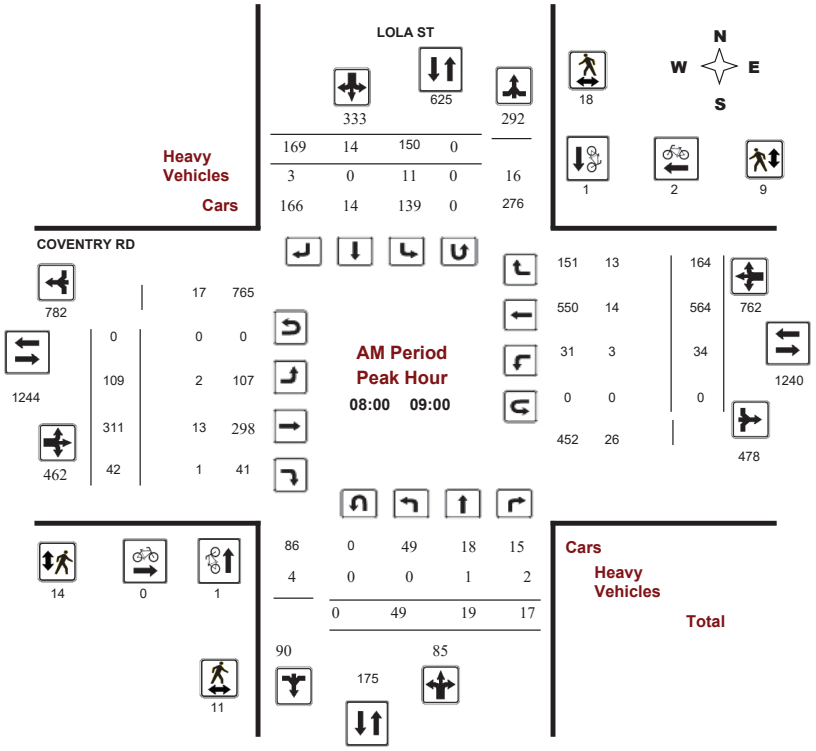
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

COVENTRY RD @ LOLA ST

Survey Date: Wednesday, January 08, 2020 **WO No:** 39273

Start Time: 07:00 **Device:** Miovision



Comments 5469214 - WED JAN 08, 2020 - 8HRS - LORETTA

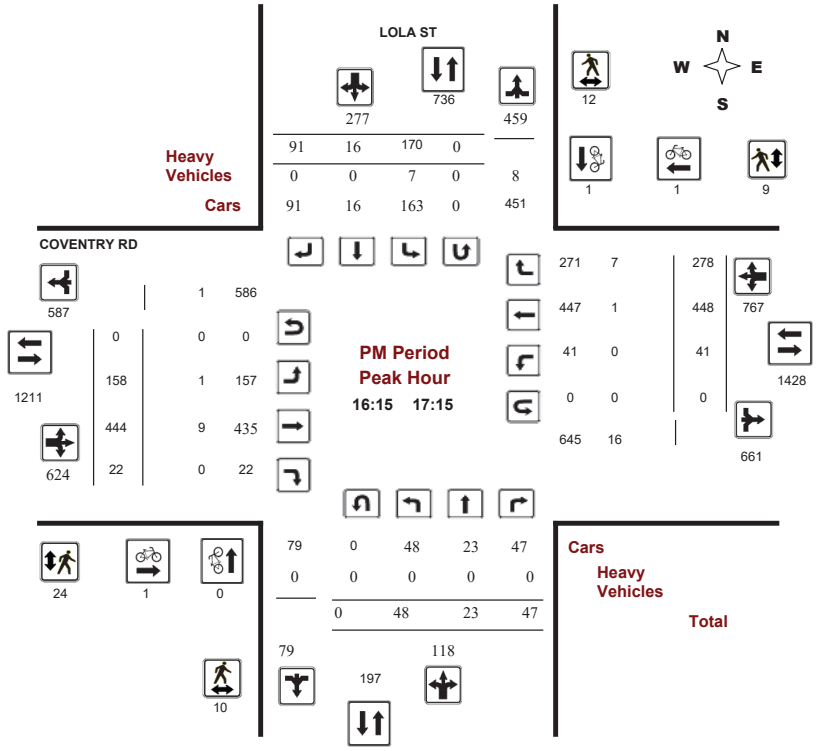
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

COVENTRY RD @ LOLA ST

Survey Date: Wednesday, January 08, 2020 **WO No:** 39273

Start Time: 07:00 **Device:** Miovision



Comments 5469214 - WED JAN 08, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ LOLA ST

Survey Date: Wednesday, January 08, 2020 **WO No:** 39273

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

		LOLA ST			COVENTRY RD			
Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	**0**	0	0	**0**	**0**
07:15	07:30	0	0	**0**	0	0	**0**	**0**
07:30	07:45	0	0	**0**	0	1	**1**	**1**
07:45	08:00	0	0	**0**	1	0	**1**	**1**
08:00	08:15	1	0	**1**	0	0	**0**	**1**
08:15	08:30	0	0	**0**	0	0	**0**	**0**
08:30	08:45	0	1	**1**	0	2	**2**	**3**
08:45	09:00	0	0	**0**	0	0	**0**	**0**
09:00	09:15	1	0	**1**	1	0	**1**	**2**
09:15	09:30	0	0	**0**	0	0	**0**	**0**
09:30	09:45	0	0	**0**	0	0	**0**	**0**
09:45	10:00	0	0	**0**	0	0	**0**	**0**
11:30	11:45	0	0	**0**	0	0	**0**	**0**
11:45	12:00	0	0	**0**	0	0	**0**	**0**
12:00	12:15	0	0	**0**	0	0	**0**	**0**
12:15	12:30	0	0	**0**	0	0	**0**	**0**
12:30	12:45	0	0	**0**	0	0	**0**	**0**
12:45	13:00	0	0	**0**	0	0	**0**	**0**
13:00	13:15	0	0	**0**	0	0	**0**	**0**
13:15	13:30	0	1	**1**	0	0	**0**	**1**
15:00	15:15	0	0	**0**	1	0	**1**	**1**
15:15	15:30	1	0	**1**	0	0	**0**	**1**
15:30	15:45	0	0	**0**	0	0	**0**	**0**
15:45	16:00	0	0	**0**	0	0	**0**	**0**
16:00	16:15	0	0	**0**	0	0	**0**	**0**
16:15	16:30	0	0	**0**	0	1	**1**	**1**
16:30	16:45	0	0	**0**	0	0	**0**	**0**
16:45	17:00	0	0	**0**	1	0	**1**	**1**
17:00	17:15	0	1	**1**	0	0	**0**	**1**
17:15	17:30	0	0	**0**	0	0	**0**	**0**
17:30	17:45	0	1	**1**	0	1	**1**	**2**
17:45	18:00	0	1	**1**	0	0	**0**	**1**
Total		3	5	**8**	4	5	**9**	**17**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ LOLA ST

Survey Date: Wednesday, January 08, 2020 **WO No:** 39273

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

		LOLA ST			COVENTRY RD			
Time Period		NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00	07:15	1	3	**4**	1	1	**2**	**6**
07:15	07:30	1	2	**3**	1	2	**3**	**6**
07:30	07:45	6	3	**9**	4	3	**7**	**16**
07:45	08:00	4	1	**5**	4	5	**9**	**14**
08:00	08:15	2	7	**9**	3	4	**7**	**16**
08:15	08:30	3	2	**5**	6	2	**8**	**13**
08:30	08:45	1	6	**7**	3	2	**5**	**12**
08:45	09:00	5	3	**8**	2	1	**3**	**11**
09:00	09:15	1	3	**4**	2	5	**7**	**11**
09:15	09:30	10	6	**16**	6	1	**7**	**23**
09:30	09:45	2	3	**5**	3	1	**4**	**9**
09:45	10:00	1	3	**4**	9	3	**12**	**16**
11:30	11:45	1	0	**1**	4	2	**6**	**7**
11:45	12:00	8	2	**10**	5	0	**5**	**15**
12:00	12:15	0	1	**1**	7	2	**9**	**10**
12:15	12:30	3	2	**5**	0	11	**11**	**16**
12:30	12:45	7	3	**10**	8	1	**9**	**19**
12:45	13:00	3	3	**6**	3	3	**6**	**12**
13:00	13:15	0	6	**6**	0	6	**6**	**12**
13:15	13:30	0	2	**2**	1	0	**1**	**3**
15:00	15:15	2	2	**4**	2	3	**5**	**9**
15:15	15:30	4	1	**5**	0	4	**4**	**9**
15:30	15:45	4	2	**6**	4	6	**10**	**16**
15:45	16:00	1	0	**1**	5	2	**7**	**8**
16:00	16:15	5	5	**10**	11	6	**17**	**27**
16:15	16:30	2	4	**6**	8	1	**9**	**15**
16:30	16:45	3	4	**7**	9	1	**10**	**17**
16:45	17:00	5	1	**6**	5	2	**7**	**13**
17:00	17:15	0	3	**3**	2	5	**7**	**10**
17:15	17:30	1	2	**3**	5	2	**7**	**10**
17:30	17:45	2	0	**2**	4	1	**5**	**7**
17:45	18:00	2	1	**3**	4	2	**6**	**9**
Total	.....	90	86	**176**	131	90	**221**	**397**

5469214 - WED JAN 08, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ LOLA ST

Survey Date: Wednesday, January 08, 2020 **WO No:** 39273

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		LOLA ST									COVENTRY RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	0	0	**0**	1	0	1	**2**	**2**	0	1	0	**1**	1	1	3	**5**	**6**	**8**
07:15	07:30	0	1	0	**1**	2	0	0	**2**	**3**	0	3	0	**3**	1	8	3	**12**	**15**	**18**
07:30	07:45	0	0	0	**0**	2	0	0	**2**	**2**	0	1	0	**1**	0	10	2	**12**	**13**	**15**
07:45	08:00	0	0	0	**0**	1	0	3	**4**	**4**	1	0	0	**1**	0	4	2	**6**	**7**	**11**
08:00	08:15	0	1	0	**1**	1	0	1	**2**	**3**	1	2	0	**3**	0	3	4	**7**	**10**	**13**
08:15	08:30	0	0	1	**1**	2	0	0	**2**	**3**	0	3	1	**4**	1	1	4	**6**	**10**	**13**
08:30	08:45	0	0	0	**0**	4	0	2	**6**	**6**	0	2	0	**2**	2	5	3	**10**	**12**	**18**
08:45	09:00	0	0	1	**1**	4	0	0	**4**	**5**	1	6	0	**7**	0	5	2	**7**	**14**	**19**
09:00	09:15	0	0	0	**0**	4	0	1	**5**	**5**	0	5	1	**6**	1	6	0	**7**	**13**	**18**
09:15	09:30	0	0	0	**0**	2	0	0	**2**	**2**	3	5	0	**8**	0	5	1	**6**	**14**	**16**
09:30	09:45	0	0	0	**0**	0	1	1	**2**	**2**	0	12	0	**12**	0	3	2	**5**	**17**	**19**
09:45	10:00	0	0	0	**0**	2	0	2	**4**	**4**	1	2	0	**3**	0	4	3	**7**	**10**	**14**
11:30	11:45	0	0	0	**0**	4	0	1	**5**	**5**	1	4	0	**5**	1	4	2	**7**	**12**	**17**
11:45	12:00	0	0	0	**0**	1	0	1	**2**	**2**	1	2	0	**3**	0	6	1	**7**	**10**	**12**
12:00	12:15	0	0	0	**0**	1	0	0	**1**	**1**	0	2	0	**2**	1	2	0	**3**	**5**	**6**
12:15	12:30	0	0	0	**0**	0	0	0	**0**	**0**	2	3	0	**5**	0	2	1	**3**	**8**	**8**
12:30	12:45	1	0	0	**1**	2	0	1	**3**	**4**	2	1	0	**3**	0	5	1	**6**	**9**	**13**
12:45	13:00	1	0	1	**2**	1	0	1	**2**	**4**	1	1	0	**2**	0	3	1	**4**	**6**	**10**
13:00	13:15	0	0	0	**0**	1	0	1	**2**	**2**	2	2	0	**4**	0	7	0	**7**	**11**	**13**
13:15	13:30	0	0	0	**0**	0	1	0	**1**	**1**	2	2	0	**4**	0	9	1	**10**	**14**	**16**
15:00	15:15	0	0	0	**0**	2	0	2	**4**	**4**	2	1	0	**3**	1	4	2	**7**	**10**	**14**
15:15	15:30	0	0	1	**1**	2	0	1	**3**	**4**	0	3	0	**3**	0	9	2	**11**	**14**	**18**
15:30	15:45	1	0	0	**1**	1	0	0	**1**	**2**	1	1	0	**2**	0	3	0	**3**	**5**	**7**
15:45	16:00	0	0	0	**0**	1	0	1	**2**	**2**	1	6	0	**7**	0	2	1	**3**	**10**	**12**
16:00	16:15	0	0	0	**0**	5	0	0	**5**	**5**	1	2	0	**3**	0	2	3	**5**	**8**	**13**
16:15	16:30	0	0	0	**0**	1	0	0	**1**	**1**	0	2	0	**2**	0	1	2	**3**	**5**	**6**
16:30	16:45	0	0	0	**0**	2	0	0	**2**	**2**	0	3	0	**3**	0	0	2	**2**	**5**	**7**
16:45	17:00	0	0	0	**0**	1	0	0	**1**	**1**	0	1	0	**1**	0	0	3	**3**	**4**	**5**
17:00	17:15	0	0	0	**0**	3	0	0	**3**	**3**	1	3	0	**4**	0	0	0	**0**	**4**	**7**
17:15	17:30	0	0	0	**0**	2	0	0	**2**	**2**	0	2	0	**2**	0	1	1	**2**	**4**	**6**
17:30	17:45	0	0	0	**0**	1	0	0	**1**	**1**	0	0	0	**0**	0	1	0	**1**	**1**	**2**
17:45	18:00	0	0	0	**0**	1	0	0	**1**	**1**	2	2	0	**4**	0	3	1	**4**	**8**	**9**
Total:	None	3	2	4	**9**	57	2	20	**79**	**88**	26	85	2	**113**	9	119	53	**181**	**294**	**383**

Transportation Services - Traffic Services

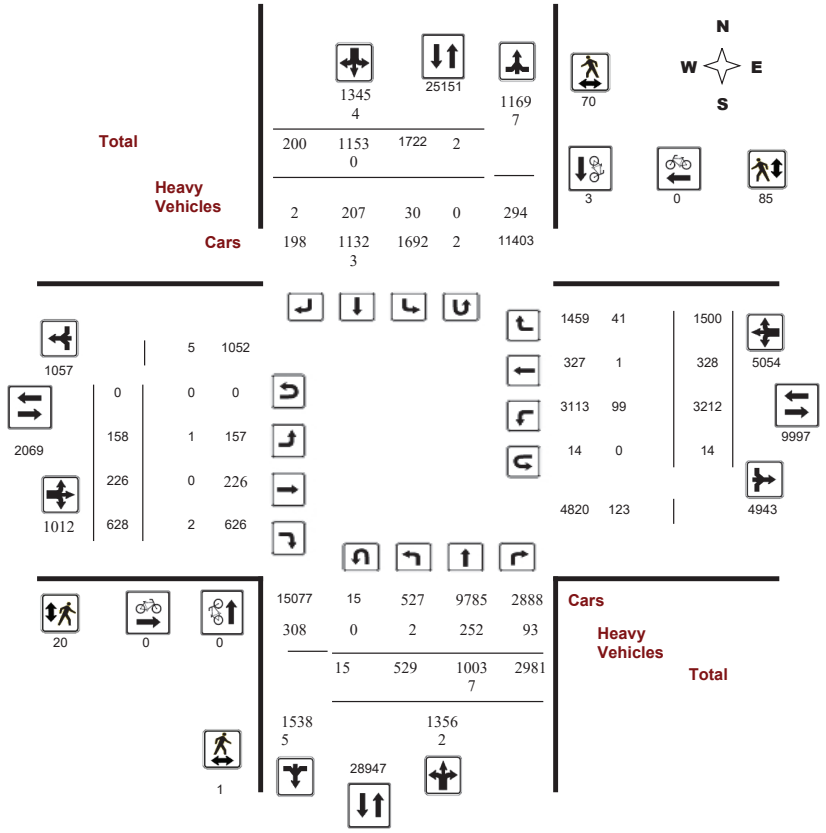
Turning Movement Count - Study Results

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision

Full Study Diagram



5472173 - WED JAN 22, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

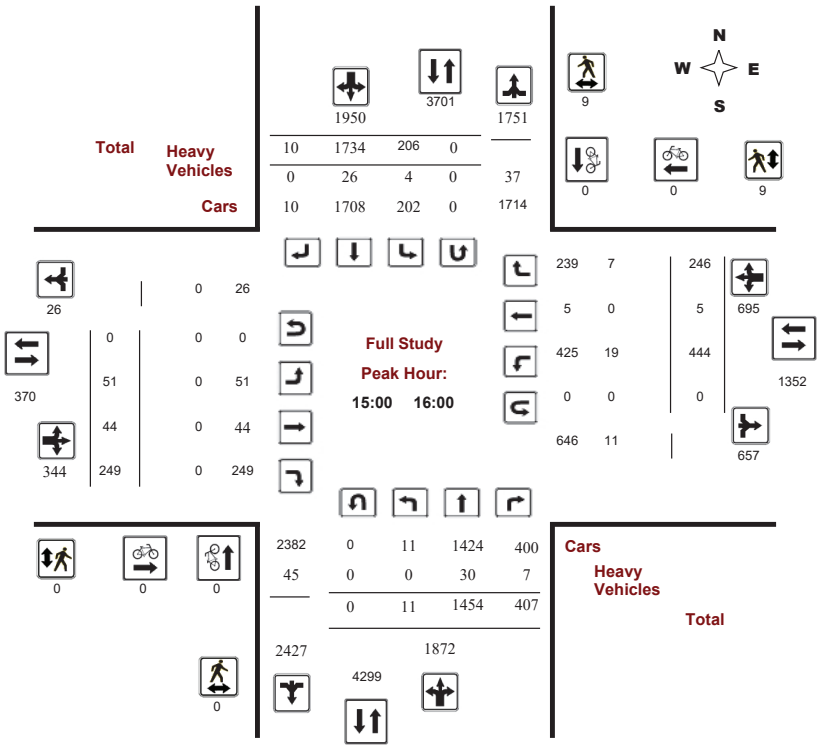
Turning Movement Count - Study Results

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision

Full Study Peak Hour Diagram



5472173 - WED JAN 22, 2020 - 8HRS - LORETTA

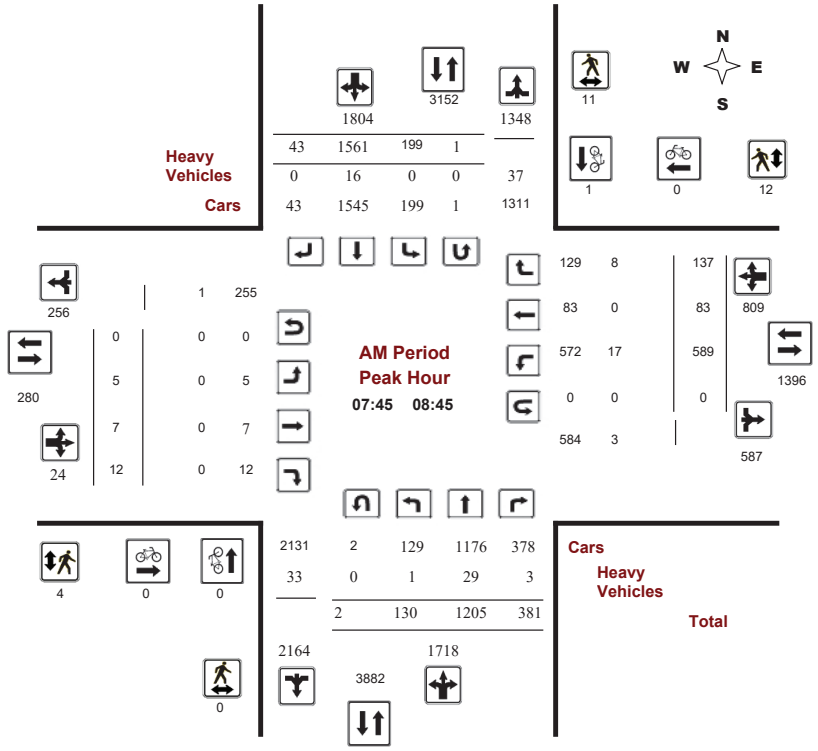
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision



Comments 5472173 - WED JAN 22, 2020 - 8HRS - LORETTA

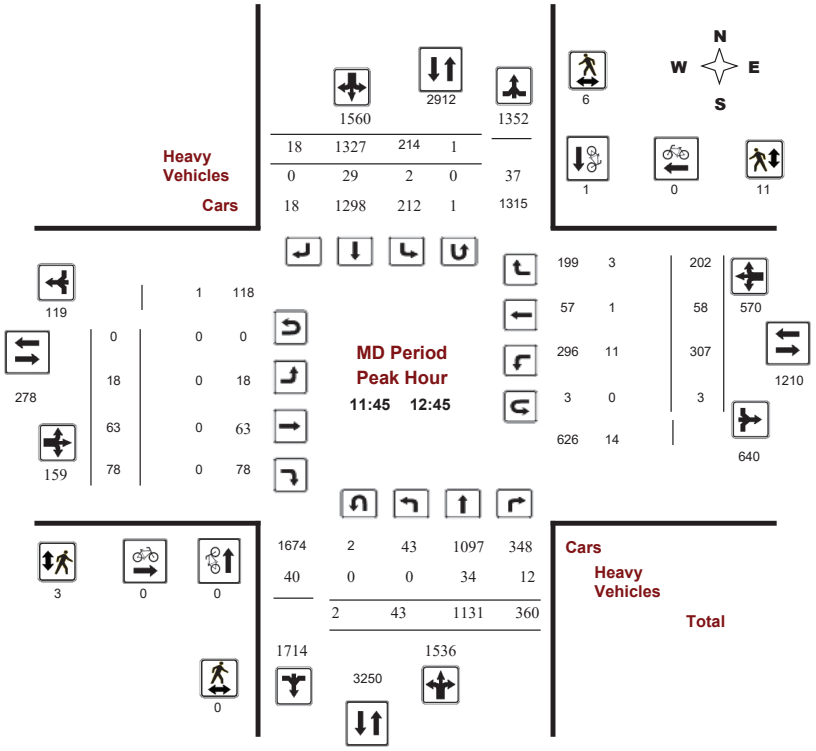
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision



Comments 5472173 - WED JAN 22, 2020 - 8HRS - LORETTA

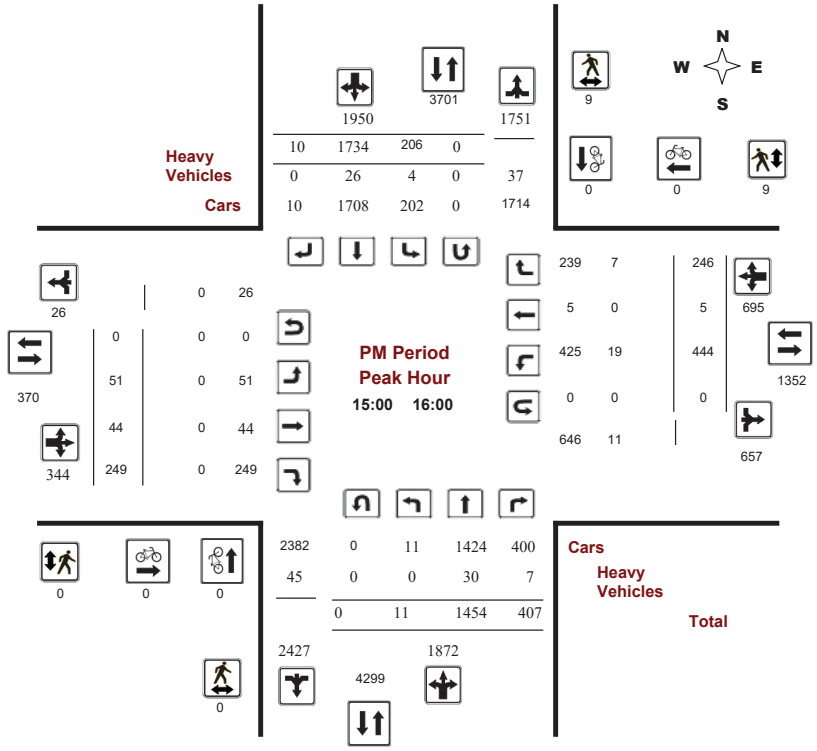
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision



Comments 5472173 - WED JAN 22, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, January 22, 202

Total Observed U-Turns

Northbound: 15 Southbound: 2

Eastbound: 0 Westbound: 14

AADT Factor 1.00

	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	182	892	364	**1438**	187	1484	62	**1733**	**3171**	7	5	16	**28**	427	88	126	**641**	**669**	**3840**
08:00 09:00	120	1296	350	**1766**	208	1477	38	**1723**	**3489**	5	6	13	**24**	573	80	135	**788**	**812**	**4301**
09:00 10:00	112	1262	336	**1710**	264	1337	32	**1633**	**3343**	11	10	20	**41**	372	34	133	**539**	**580**	**3923**
11:30 12:30	37	1139	345	**1521**	213	1326	14	**1553**	**3074**	25	70	88	**183**	289	48	191	**528**	**711**	**3785**
12:30 13:30	44	1066	329	**1439**	229	1226	28	**1483**	**2922**	6	23	33	**62**	333	63	231	**627**	**689**	**3611**
15:00 16:00	11	1454	407	**1872**	206	1734	10	**1950**	**3822**	51	44	249	**344**	444	5	246	**695**	**1039**	**4861**
16:00 17:00	8	1395	431	**1834**	228	1606	9	**1843**	**3677**	38	42	151	**231**	412	1	227	**640**	**871**	**4548**
17:00 18:00	15	1533	419	**1967**	187	1340	7	**1534**	**3501**	15	26	58	**99**	362	9	211	**582**	**681**	**4182**
Sub Total	529	10037	2981	**13547**	1722	11530	200	**13452**	**26999**	158	226	628	**1012**	3212	328	1500	**5040**	**6052**	**33051**
U Turns				**15**				**2**	**17**				**0**				**14**	**14**	**31**
Total	529	10037	2981	**13562**	1722	11530	200	**13454**	**27016**	158	226	628	**1012**	3212	328	1500	**5054**	**6066**	**33082**
EQ 12Hr	735	13951	4144	**18851**	2394	16027	278	**18701**	**37552**	220	314	873	**1407**	4465	456	2085	**7025**	**8432**	**45984**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	693	13148	3905	**17766**	2256	15104	262	**17625**	**37552**	207	296	823	**1326**	4208	430	1965	**6621**	**8432**	**45984**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	908	17224	5116	**23274**	2955	19787	343	**23088**	**46362**	271	388	1078	**1737**	5512	563	2574	**8673**	**10410**	**56772**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	55	195	75	325	32	301	12	345	1277	1	2	3	6	84	20	23	128	1277	804
07:15	07:30	46	203	72	321	57	347	22	426	1438	4	1	5	10	96	16	36	149	1438	906
07:30	07:45	40	242	95	377	49	378	14	441	1570	1	1	3	5	97	33	31	162	1570	985
07:45	08:00	41	252	122	415	49	458	14	522	1840	1	1	5	7	150	19	36	205	1840	1149
08:00	08:15	32	332	82	447	48	353	8	409	1714	2	2	2	6	135	22	33	190	1714	1052
08:15	08:30	30	286	85	402	42	394	16	452	1722	1	3	3	7	152	23	31	206	1722	1067
08:30	08:45	27	335	92	454	60	356	5	421	1758	1	1	2	4	152	19	37	208	1758	1087
08:45	09:00	31	343	91	465	58	374	9	441	1798	1	0	6	7	134	16	34	184	1798	1097
09:00	09:15	40	329	83	454	72	364	5	441	1750	4	5	2	11	119	16	35	170	1750	1076
09:15	09:30	31	349	93	475	50	335	11	396	1720	2	3	8	13	112	8	41	161	1720	1045
09:30	09:45	15	263	78	356	86	344	10	440	1524	1	2	6	9	84	4	30	118	1524	923
09:45	10:00	26	321	82	433	56	294	6	356	1500	4	0	4	8	57	6	27	90	1500	887
11:30	11:45	8	246	79	333	66	302	2	370	1400	9	19	23	51	71	9	46	129	1400	883
11:45	12:00	6	312	90	408	45	351	2	398	1625	11	21	28	60	65	9	52	127	1625	993
12:00	12:15	9	282	89	380	54	356	5	415	1585	3	22	27	52	70	15	52	139	1585	986
12:15	12:30	14	299	87	401	48	317	5	371	1526	2	8	10	20	83	15	41	139	1526	931
12:30	12:45	14	238	94	347	67	303	6	376	1426	2	12	13	27	89	19	57	165	1426	915
12:45	13:00	17	289	80	386	58	349	9	416	1593	1	8	9	18	87	26	56	170	1593	990
13:00	13:15	7	262	79	348	58	285	5	348	1398	1	2	7	10	85	8	62	155	1398	861
13:15	13:30	6	277	76	359	46	289	8	343	1402	2	1	4	7	72	10	56	138	1402	847
15:00	15:15	3	336	106	445	44	417	3	464	1996	23	14	103	140	146	2	62	210	1996	1259
15:15	15:30	4	404	106	514	57	478	1	536	2148	8	6	46	60	101	0	61	162	2148	1272
15:30	15:45	1	337	93	431	51	426	2	479	1897	9	12	52	73	108	1	55	164	1897	1147
15:45	16:00	3	377	102	482	54	413	4	471	1959	11	12	48	71	89	2	68	159	1959	1183
16:00	16:15	3	316	97	416	58	496	3	557	2030	18	10	59	87	116	0	52	169	2030	1229
16:15	16:30	3	346	120	470	63	372	3	438	1843	12	12	39	63	103	0	62	165	1843	1136
16:30	16:45	2	350	102	455	58	414	1	473	1897	6	9	28	43	105	0	65	170	1897	1141
16:45	17:00	0	383	112	495	49	324	2	375	1740	2	11	25	38	88	1	48	137	1740	1045
17:00	17:15	1	401	112	514	40	323	2	365	1769	3	11	20	34	89	1	54	144	1769	1057
17:15	17:30	5	373	104	483	62	342	2	406	1780	2	6	19	27	105	3	49	157	1780	1073
17:30	17:45	7	391	100	498	38	294	1	333	1685	6	4	11	21	93	3	59	155	1685	1007
17:45	18:00	2	368	103	473	47	381	2	430	1788	4	5	8	17	75	2	49	129	1788	1049
Total:		529	1003	2981	1356	1722	11530	200	13454	54098	158	226	628	1012	3212	328	1500	5054	54098	33,082

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	1	1	0	0	0	1
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	0	0	0	0	0	0	0
08:30	08:45	0	1	1	0	0	0	1
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	1	1	0	0	0	1
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		0	3	3	0	0	0	3

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	4	**4**	0	1	**1**	**5**
07:15 07:30	0	3	**3**	0	3	**3**	**6**
07:30 07:45	0	4	**4**	1	4	**5**	**9**
07:45 08:00	0	2	**2**	1	2	**3**	**5**
08:00 08:15	0	3	**3**	1	2	**3**	**6**
08:15 08:30	0	2	**2**	1	3	**4**	**6**
08:30 08:45	0	4	**4**	1	5	**6**	**10**
08:45 09:00	0	3	**3**	0	0	**0**	**3**
09:00 09:15	0	0	**0**	0	1	**1**	**1**
09:15 09:30	0	1	**1**	1	1	**2**	**3**
09:30 09:45	0	1	**1**	0	3	**3**	**4**
09:45 10:00	0	3	**3**	2	1	**3**	**6**
11:30 11:45	0	0	**0**	0	4	**4**	**4**
11:45 12:00	0	0	**0**	0	3	**3**	**3**
12:00 12:15	0	1	**1**	0	4	**4**	**5**
12:15 12:30	0	2	**2**	0	3	**3**	**5**
12:30 12:45	0	3	**3**	3	1	**4**	**7**
12:45 13:00	0	2	**2**	0	2	**2**	**4**
13:00 13:15	0	2	**2**	2	1	**3**	**5**
13:15 13:30	0	2	**2**	0	3	**3**	**5**
15:00 15:15	0	3	**3**	0	2	**2**	**5**
15:15 15:30	0	3	**3**	0	3	**3**	**6**
15:30 15:45	0	0	**0**	0	2	**2**	**2**
15:45 16:00	0	3	**3**	0	2	**2**	**5**
16:00 16:15	1	3	**4**	2	4	**6**	**10**
16:15 16:30	0	2	**2**	0	2	**2**	**4**
16:30 16:45	0	2	**2**	0	5	**5**	**7**
16:45 17:00	0	4	**4**	3	9	**12**	**16**
17:00 17:15	0	1	**1**	1	2	**3**	**4**
17:15 17:30	0	2	**2**	1	1	**2**	**4**
17:30 17:45	0	4	**4**	0	5	**5**	**9**
17:45 18:00	0	1	**1**	0	1	**1**	**2**
Total	1	70	**71**	20	85	**105**	**176**

5472173 - WED JAN 22, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	5	1	**18**	0	4	0	**10**	**28**	0	0	0	**0**	8	0	1	**10**	**10**	**19**
07:15	07:30	0	11	1	**21**	0	4	0	**16**	**37**	0	0	1	**1**	4	0	1	**6**	**7**	**22**
07:30	07:45	0	9	3	**21**	0	4	0	**15**	**36**	0	0	0	**0**	5	0	2	**10**	**10**	**23**
07:45	08:00	0	5	0	**14**	0	3	0	**14**	**28**	0	0	0	**0**	6	0	6	**12**	**12**	**20**
08:00	08:15	1	10	1	**22**	0	4	0	**15**	**37**	0	0	0	**1**	6	0	1	**8**	**9**	**23**
08:15	08:30	0	8	0	**12**	0	3	0	**11**	**23**	0	0	0	**0**	1	0	0	**1**	**1**	**12**
08:30	08:45	0	6	2	**18**	0	6	0	**13**	**31**	0	0	0	**0**	4	0	1	**7**	**7**	**19**
08:45	09:00	1	8	1	**23**	3	10	0	**21**	**44**	0	0	0	**1**	3	0	0	**7**	**8**	**26**
09:00	09:15	0	20	9	**47**	2	14	0	**42**	**89**	1	0	0	**1**	4	0	5	**20**	**21**	**55**
09:15	09:30	0	10	6	**29**	0	8	1	**24**	**53**	0	0	0	**1**	5	0	5	**16**	**17**	**35**
09:30	09:45	0	10	5	**26**	2	9	0	**22**	**48**	0	0	0	**0**	2	0	1	**10**	**10**	**29**
09:45	10:00	0	11	6	**37**	0	16	1	**29**	**66**	0	0	0	**1**	4	0	1	**11**	**12**	**39**
11:30	11:45	0	7	4	**22**	2	10	0	**19**	**41**	0	0	0	**0**	1	0	0	**7**	**7**	**24**
11:45	12:00	0	10	2	**25**	0	8	0	**18**	**43**	0	0	0	**0**	5	0	0	**7**	**7**	**25**
12:00	12:15	0	8	3	**16**	0	4	0	**13**	**29**	0	0	0	**0**	1	0	1	**5**	**5**	**17**
12:15	12:30	0	4	4	**16**	0	6	0	**11**	**27**	0	0	0	**1**	2	1	1	**8**	**9**	**18**
12:30	12:45	0	12	3	**29**	2	11	0	**26**	**55**	0	0	0	**0**	3	0	1	**9**	**9**	**32**
12:45	13:00	0	15	3	**28**	2	7	0	**26**	**54**	0	0	1	**1**	2	0	2	**9**	**10**	**32**
13:00	13:15	0	11	9	**30**	1	6	0	**18**	**48**	0	0	0	**0**	4	0	0	**14**	**14**	**31**
13:15	13:30	0	13	5	**29**	3	6	0	**23**	**52**	0	0	0	**0**	5	0	1	**14**	**14**	**33**
15:00	15:15	0	11	3	**25**	0	5	0	**18**	**43**	0	0	0	**0**	6	0	2	**11**	**11**	**27**
15:15	15:30	0	8	0	**22**	0	7	0	**19**	**41**	0	0	0	**0**	7	0	4	**11**	**11**	**26**
15:30	15:45	0	3	2	**14**	1	6	0	**10**	**24**	0	0	0	**0**	3	0	0	**6**	**6**	**15**
15:45	16:00	0	8	2	**21**	3	8	0	**20**	**41**	0	0	0	**0**	3	0	1	**9**	**9**	**25**
16:00	16:15	0	5	0	**14**	3	7	0	**16**	**30**	0	0	0	**0**	2	0	1	**6**	**6**	**18**
16:15	16:30	0	3	4	**14**	0	7	0	**10**	**24**	0	0	0	**0**	0	0	0	**4**	**4**	**14**
16:30	16:45	0	5	4	**19**	3	7	0	**15**	**34**	0	0	0	**0**	3	0	0	**10**	**10**	**22**
16:45	17:00	0	2	3	**8**	0	3	0	**5**	**13**	0	0	0	**0**	0	0	0	**3**	**3**	**8**
17:00	17:15	0	6	5	**15**	1	4	0	**12**	**27**	0	0	0	**0**	0	0	1	**7**	**7**	**17**
17:15	17:30	0	3	1	**10**	1	6	0	**11**	**21**	0	0	0	**0**	0	0	1	**3**	**3**	**12**
17:30	17:45	0	2	1	**6**	1	3	0	**6**	**12**	0	0	0	**0**	0	0	0	**2**	**2**	**7**
17:45	18:00	0	3	0	**4**	0	1	0	**5**	**9**	0	0	0	**0**	0	0	1	**1**	**1**	**5**
Total:	None	2	252	93	**655**	30	207	2	**533**	**1188**	1	0	2	**8**	99	1	41	**264**	**272**	**730**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

COVENTRY RD @ VANIER PKWY

Survey Date: Wednesday, January 22, 2020 **WO No:** 39367

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	1	1
07:15	07:30	0	0	0	1	1
07:30	07:45	0	0	0	1	1
07:45	08:00	0	1	0	0	1
08:00	08:15	1	0	0	0	1
08:15	08:30	1	0	0	0	1
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	2	0	0	0	2
09:15	09:30	2	0	0	0	2
09:30	09:45	0	0	0	0	0
09:45	10:00	4	0	0	0	4
11:30	11:45	0	0	0	3	3
11:45	12:00	0	0	0	1	1
12:00	12:15	0	0	0	2	2
12:15	12:30	1	1	0	0	2
12:30	12:45	1	0	0	0	1
12:45	13:00	0	0	0	1	1
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	1	1
16:15	16:30	1	0	0	0	1
16:30	16:45	1	0	0	0	1
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	1	0	0	0	1
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	3	3
Total		15	2	0	14	31

Transportation Services - Traffic Services

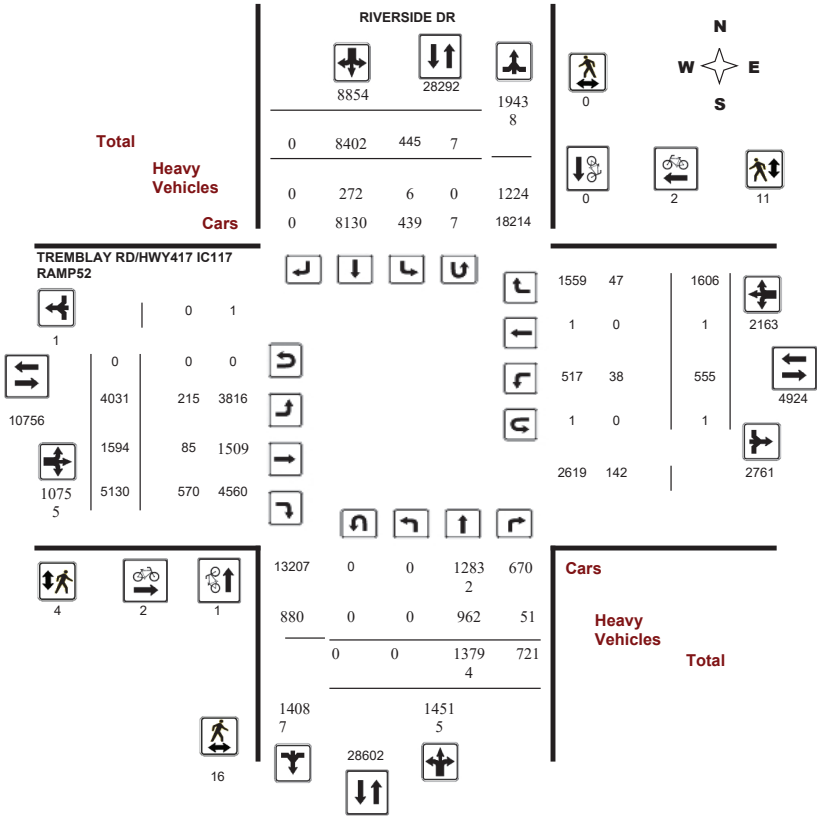
Turning Movement Count - Study Results

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision

Full Study Diagram



Transportation Services - Traffic Services

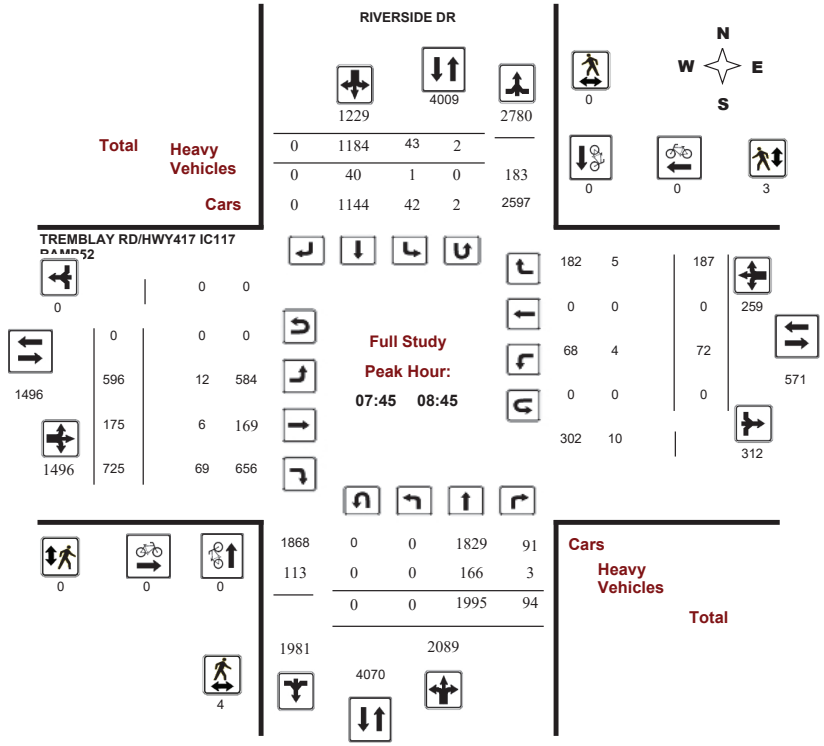
Turning Movement Count - Study Results

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision

Full Study Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, January 30, 201

Total Observed U-Turns

Northbound: 0 Southbound: 7

Eastbound: 0 Westbound: 1

AADT Factor 1.00

	RIVERSIDE DR								TREMBLAY RD/HWY417 IC117 RAMP52								
	Northbound				Southbound				Eastbound				Westbound				
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	0	1579	77	**1656**	32	1040	0	**1072**	**2728**	468	186	727	**1381**	46	1	146	**193**	**1574**	**4302**
08:00 09:00	0	1928	94	**2022**	43	1148	0	**1191**	**3213**	637	184	705	**1526**	75	0	207	**282**	**1808**	**5021**
09:00 10:00	0	1619	97	**1716**	81	968	0	**1049**	**2765**	534	202	654	**1390**	63	0	147	**210**	**1600**	**4365**
11:30 12:30	0	1374	78	**1452**	51	877	0	**928**	**2380**	401	191	620	**1212**	47	0	234	**281**	**1493**	**3873**
12:30 13:30	0	1565	64	**1629**	53	909	0	**962**	**2591**	467	170	632	**1269**	55	0	155	**210**	**1479**	**4070**
15:00 16:00	0	1954	114	**2068**	84	1132	0	**1216**	**3284**	485	205	568	**1258**	91	0	322	**413**	**1671**	**4955**
16:00 17:00	0	1873	105	**1978**	46	1178	0	**1224**	**3202**	495	212	569	**1276**	99	0	210	**309**	**1585**	**4787**
17:00 18:00	0	1902	92	**1994**	55	1150	0	**1205**	**3199**	544	244	655	**1443**	79	0	185	**264**	**1707**	**4906**
Sub Total	0	13794	721	**14515**	445	8402	0	**8847**	**23362**	4031	1594	5130	**10755**	555	1	1606	**2162**	**12917**	**36279**
U Turns				**0**				**7**	**7**				**0**				**1**	**1**	**8**
Total	0	13794	721	**14515**	445	8402	0	**8854**	**23369**	4031	1594	5130	**10755**	555	1	1606	**2163**	**12918**	**36287**
EQ 12Hr	0	19174	1002	**20176**	619	11679	0	**12307**	**32483**	5603	2216	7131	**14949**	771	1	2232	**3007**	**17956**	**50439**

Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**

AVG 12Hr	0	18070	945	**19015**	583	11007	0	**11599**	**32483**	5281	2088	6720	**14089**	727	1	2104	**2834**	**17956**	**50439**

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **1**

AVG 24Hr	0	23672	1237	**24909**	764	14419	0	**15194**	**40103**	6918	2735	8804	**18457**	952	2	2756	**3712**	**22169**	**62272**

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

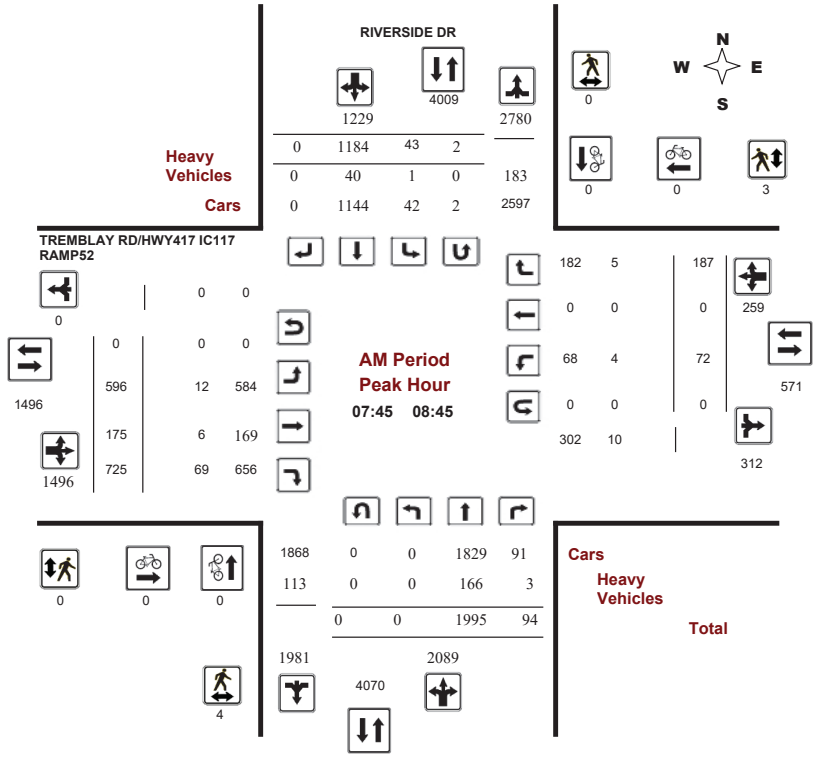
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision



Comments

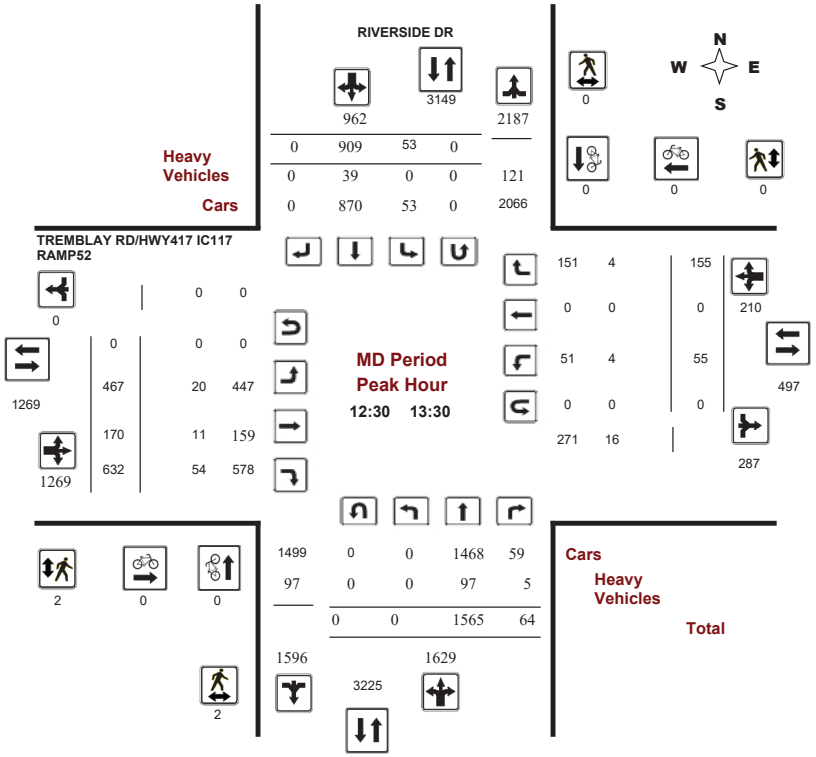
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision



Comments

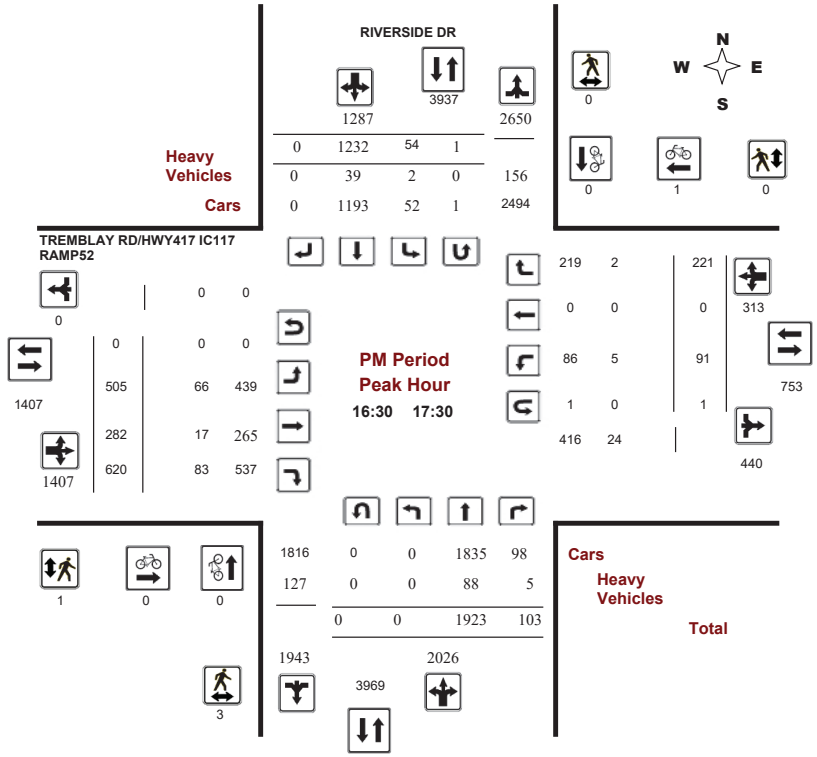
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		RIVERSIDE DR									TREMBLAY RD/HWY417 IC117 RAMP52									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	225	12	237	9	236	0	245	37	110	49	175	334	6	1	36	43	37	859
07:15	07:30	0	421	15	436	4	251	0	255	42	106	37	175	318	8	0	32	40	42	1049
07:30	07:45	0	393	27	420	10	250	0	260	35	124	54	181	359	17	0	39	56	35	1095
07:45	08:00	0	540	23	563	9	303	0	312	47	128	46	196	370	15	0	39	54	47	1299
08:00	08:15	0	468	26	494	17	317	0	336	48	161	46	196	403	17	0	35	52	48	1285
08:15	08:30	0	472	18	490	9	286	0	295	59	149	45	181	375	15	0	42	57	59	1217
08:30	08:45	0	515	27	542	8	278	0	286	56	158	38	152	348	25	0	71	96	56	1272
08:45	09:00	0	473	23	496	9	267	0	276	43	169	55	176	400	18	0	59	77	43	1249
09:00	09:15	0	498	22	520	19	248	0	267	52	134	41	181	356	15	0	39	54	52	1197
09:15	09:30	0	394	23	417	18	221	0	239	63	143	58	171	372	16	0	27	43	63	1071
09:30	09:45	0	371	22	393	24	266	0	291	51	136	50	141	327	16	0	39	55	51	1066
09:45	10:00	0	356	30	386	20	233	0	253	54	121	53	161	335	16	0	42	58	54	1032
11:30	11:45	0	354	27	381	17	207	0	224	26	107	50	165	322	10	0	36	46	26	973
11:45	12:00	0	335	16	351	13	221	0	234	34	110	46	159	315	9	0	63	72	34	972
12:00	12:15	0	350	19	369	12	222	0	236	32	95	42	141	278	11	0	57	68	32	951
12:15	12:30	0	335	16	351	9	227	0	236	44	89	53	155	297	17	0	78	95	44	979
12:30	12:45	0	388	13	401	12	251	0	263	40	85	38	149	272	10	0	46	56	40	992
12:45	13:00	0	430	23	453	9	227	0	236	48	140	42	180	362	12	0	34	46	48	1097
13:00	13:15	0	389	16	405	13	196	0	209	26	123	52	153	328	21	0	37	58	26	1000
13:15	13:30	0	358	12	370	19	235	0	254	27	119	38	150	307	12	0	38	50	27	981
15:00	15:15	0	516	38	554	18	291	0	309	47	134	54	141	329	20	0	85	105	47	1297
15:15	15:30	0	448	27	475	18	291	0	309	34	119	51	145	315	20	0	76	96	34	1195
15:30	15:45	0	510	25	535	32	319	0	351	41	116	49	161	326	24	0	64	88	41	1300
15:45	16:00	0	480	24	504	16	231	0	247	36	116	51	121	288	27	0	97	124	36	1163
16:00	16:15	0	473	25	498	6	231	0	238	40	118	45	135	298	22	0	68	90	40	1124
16:15	16:30	0	461	27	488	15	306	0	321	41	126	43	125	294	28	0	42	70	41	1173
16:30	16:45	0	410	22	432	12	330	0	342	28	117	60	139	316	28	0	36	64	28	1154
16:45	17:00	0	529	31	560	13	311	0	325	33	134	64	170	368	21	0	64	85	33	1338
17:00	17:15	0	427	30	457	16	286	0	302	36	131	96	148	375	23	0	77	100	36	1234
17:15	17:30	0	557	20	577	13	305	0	318	37	123	62	163	348	19	0	44	64	37	1307
17:30	17:45	0	425	20	445	11	268	0	279	29	153	40	167	360	21	0	25	46	29	1130
17:45	18:00	0	493	22	515	15	291	0	306	25	137	46	177	360	16	0	39	55	25	1236
Total:		0	1379	721	1451	445	8402	0	8854	1291	4031	1594	5130	10755	555	1	1606	2163	1291	36,287

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		RIVERSIDE DR			TREMBLAY RD/HWY417 IC117 RAMP52			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	0	0	0
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	0	0	0	0	0	0	0
08:30	08:45	0	0	0	0	0	0	0
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	2	0	2	2
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	1	0	1	0	0	0	1
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	1	1	1
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	1	1	1
Total		1	0	1	2	2	4	5

Transportation Services - Traffic Services

Turning Movement Count - Study Results

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

Time Period		RIVERSIDE DR			TREMBLAY RD/HWY417 IC117 RAMP52			
		NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00	07:15	1	0	**1**	0	0	**0**	**1**
07:15	07:30	0	0	**0**	0	0	**0**	**0**
07:30	07:45	0	0	**0**	0	0	**0**	**0**
07:45	08:00	1	0	**1**	0	2	**2**	**3**
08:00	08:15	1	0	**1**	0	0	**0**	**1**
08:15	08:30	2	0	**2**	0	1	**1**	**3**
08:30	08:45	0	0	**0**	0	0	**0**	**0**
08:45	09:00	1	0	**1**	0	0	**0**	**1**
09:00	09:15	0	0	**0**	0	0	**0**	**0**
09:15	09:30	0	0	**0**	0	0	**0**	**0**
09:30	09:45	0	0	**0**	0	0	**0**	**0**
09:45	10:00	0	0	**0**	0	1	**1**	**1**
11:30	11:45	0	0	**0**	0	0	**0**	**0**
11:45	12:00	0	0	**0**	0	1	**1**	**1**
12:00	12:15	0	0	**0**	0	0	**0**	**0**
12:15	12:30	1	0	**1**	0	0	**0**	**1**
12:30	12:45	0	0	**0**	0	0	**0**	**0**
12:45	13:00	2	0	**2**	1	0	**1**	**3**
13:00	13:15	0	0	**0**	1	0	**1**	**1**
13:15	13:30	0	0	**0**	0	0	**0**	**0**
15:00	15:15	0	0	**0**	0	2	**2**	**2**
15:15	15:30	0	0	**0**	0	0	**0**	**0**
15:30	15:45	1	0	**1**	0	1	**1**	**2**
15:45	16:00	1	0	**1**	0	0	**0**	**1**
16:00	16:15	1	0	**1**	1	1	**2**	**3**
16:15	16:30	0	0	**0**	0	1	**1**	**1**
16:30	16:45	1	0	**1**	1	0	**1**	**2**
16:45	17:00	1	0	**1**	0	0	**0**	**1**
17:00	17:15	1	0	**1**	0	0	**0**	**1**
17:15	17:30	0	0	**0**	0	0	**0**	**0**
17:30	17:45	1	0	**1**	0	0	**0**	**1**
17:45	18:00	0	0	**0**	0	1	**1**	**1**
Total	.....	16	0	**16**	4	11	**15**	**31**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		RIVERSIDE DR									TREMBLAY RD/HWY417 IC117 RAMP52									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	28	1	**29**	0	8	0	**8**	**37**	3	0	15	**18**	0	0	4	**4**	**22**	**59**
07:15	07:30	0	32	1	**33**	0	9	0	**9**	**42**	3	0	16	**19**	2	0	1	**3**	**22**	**64**
07:30	07:45	0	30	1	**31**	0	4	0	**4**	**35**	4	1	21	**26**	3	0	4	**7**	**33**	**68**
07:45	08:00	0	35	1	**36**	0	11	0	**11**	**47**	1	0	13	**14**	1	0	2	**3**	**17**	**64**
08:00	08:15	0	37	0	**37**	0	11	0	**11**	**48**	3	5	19	**27**	1	0	2	**3**	**30**	**78**
08:15	08:30	0	51	0	**51**	1	7	0	**8**	**59**	2	0	18	**20**	1	0	1	**2**	**22**	**81**
08:30	08:45	0	43	2	**45**	0	11	0	**11**	**56**	6	1	19	**26**	1	0	0	**1**	**27**	**83**
08:45	09:00	0	34	1	**35**	0	8	0	**8**	**43**	5	3	23	**31**	0	0	1	**1**	**32**	**75**
09:00	09:15	0	44	2	**46**	1	5	0	**6**	**52**	8	6	29	**43**	1	0	1	**2**	**45**	**97**
09:15	09:30	0	50	3	**53**	0	10	0	**10**	**63**	6	4	19	**29**	2	0	0	**2**	**31**	**94**
09:30	09:45	0	38	1	**39**	1	11	0	**12**	**51**	4	2	22	**28**	1	0	1	**2**	**30**	**81**
09:45	10:00	0	38	4	**42**	0	12	0	**12**	**54**	7	6	23	**36**	1	0	5	**6**	**42**	**96**
11:30	11:45	0	21	3	**24**	0	2	0	**2**	**26**	4	1	10	**15**	2	0	2	**4**	**19**	**45**
11:45	12:00	0	26	2	**28**	0	6	0	**6**	**34**	3	2	20	**25**	1	0	1	**2**	**27**	**61**
12:00	12:15	0	26	1	**27**	0	5	0	**5**	**32**	2	0	9	**11**	1	0	4	**5**	**16**	**48**
12:15	12:30	0	36	0	**36**	0	8	0	**8**	**44**	3	1	14	**18**	2	0	1	**3**	**21**	**65**
12:30	12:45	0	27	0	**27**	0	13	0	**13**	**40**	4	0	15	**19**	1	0	2	**3**	**22**	**62**
12:45	13:00	0	26	4	**30**	0	18	0	**18**	**48**	2	3	14	**19**	0	0	0	**0**	**19**	**67**
13:00	13:15	0	24	0	**24**	0	2	0	**2**	**26**	7	7	13	**27**	1	0	2	**3**	**30**	**56**
13:15	13:30	0	20	1	**21**	0	6	0	**6**	**27**	7	1	12	**20**	2	0	0	**2**	**22**	**49**
15:00	15:15	0	35	2	**37**	0	10	0	**10**	**47**	8	3	17	**28**	1	0	2	**3**	**31**	**78**
15:15	15:30	0	19	3	**22**	0	12	0	**12**	**34**	12	3	14	**29**	1	0	3	**4**	**33**	**67**
15:30	15:45	0	29	2	**31**	0	10	0	**10**	**41**	7	6	17	**30**	1	0	2	**3**	**33**	**74**
15:45	16:00	0	25	0	**25**	1	10	0	**11**	**36**	7	4	14	**25**	0	0	2	**2**	**27**	**63**
16:00	16:15	0	34	1	**35**	0	5	0	**5**	**40**	10	2	19	**31**	2	0	1	**3**	**34**	**74**
16:15	16:30	0	29	4	**33**	0	8	0	**8**	**41**	6	5	18	**29**	2	0	0	**2**	**31**	**72**
16:30	16:45	0	17	1	**18**	0	10	0	**10**	**28**	7	3	20	**30**	2	0	0	**2**	**32**	**60**
16:45	17:00	0	21	1	**22**	0	11	0	**11**	**33**	25	4	20	**49**	2	0	0	**2**	**51**	**84**
17:00	17:15	0	24	2	**26**	0	10	0	**10**	**36**	21	5	21	**47**	1	0	0	**1**	**48**	**84**
17:15	17:30	0	26	1	**27**	2	8	0	**10**	**37**	13	5	22	**40**	0	0	2	**2**	**42**	**79**
17:30	17:45	0	21	3	**24**	0	5	0	**5**	**29**	10	1	24	**35**	2	0	0	**2**	**37**	**66**
17:45	18:00	0	16	3	**19**	0	6	0	**6**	**25**	5	1	20	**26**	0	0	1	**1**	**27**	**52**
Total:	None	0	962	51	**1013**	6	272	0	**278**	**1291**	215	85	570	**870**	38	0	47	**85**	**955**	**2,246**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

RIVERSIDE DR @ TREMBLAY RD/HWY417 IC117 RAMP52

Survey Date: Wednesday, January 30, 2019 **WO No:** 38345

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

		RIVERSIDE DR		TREMBLAY RD/HWY417 IC117 RAMP52		
Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	2	0	0	2
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	1	0	0	1
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	2	0	0	2
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	1	0	0	1
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	1	0	0	1
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	1	1
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	7	0	1	8

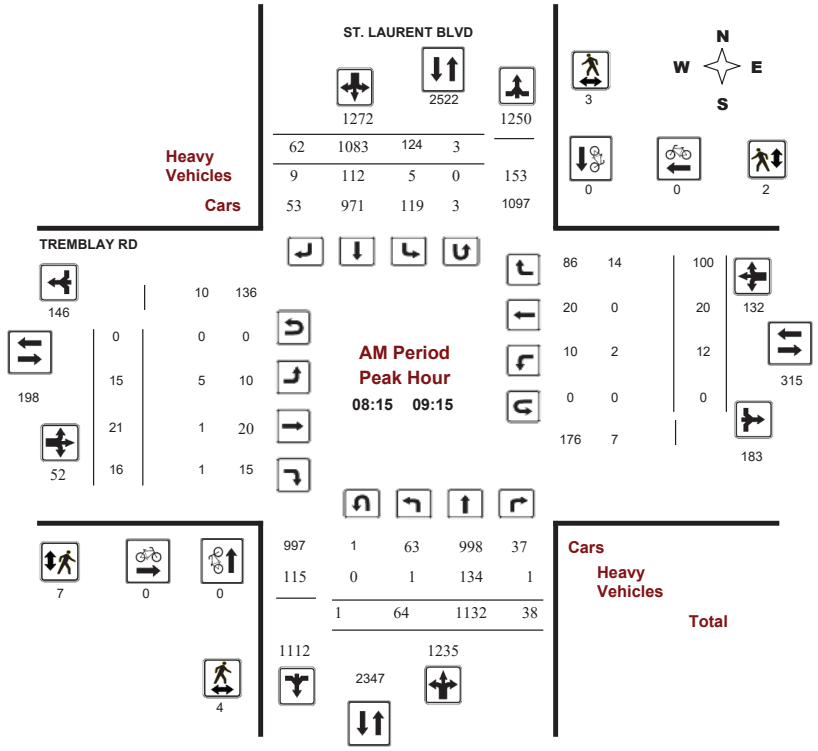
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 2019 **WO No:** 38338

Start Time: 07:00 **Device:** Miovision



Comments

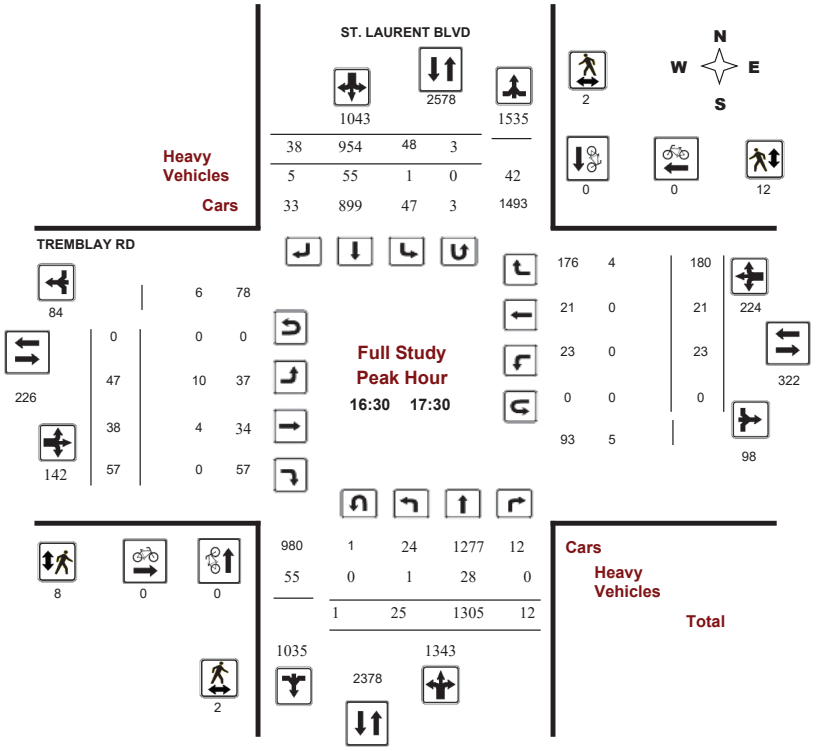
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 2019 **WO No:** 38338

Start Time: 07:00 **Device:** Miovision



Comments

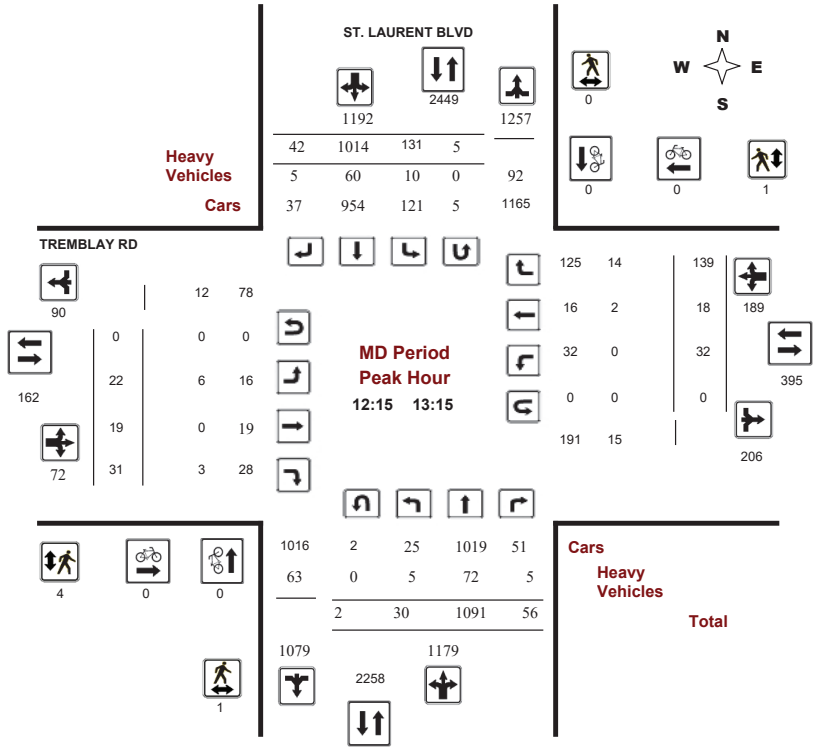
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 2019 **WO No:** 38338

Start Time: 07:00 **Device:** Miovision



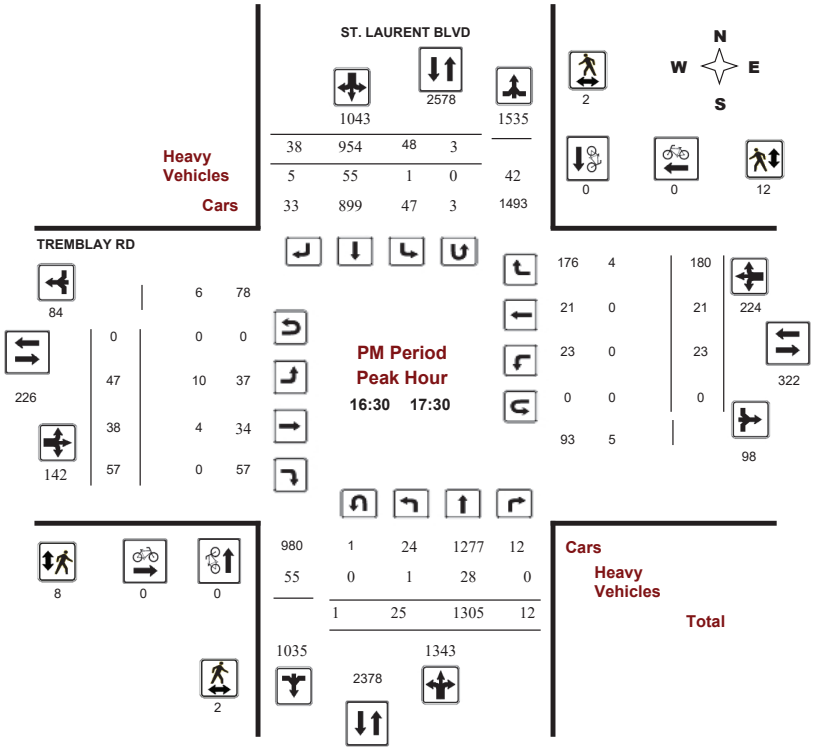
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 2019 **WO No:** 38338

Start Time: 07:00 **Device:** Miovision



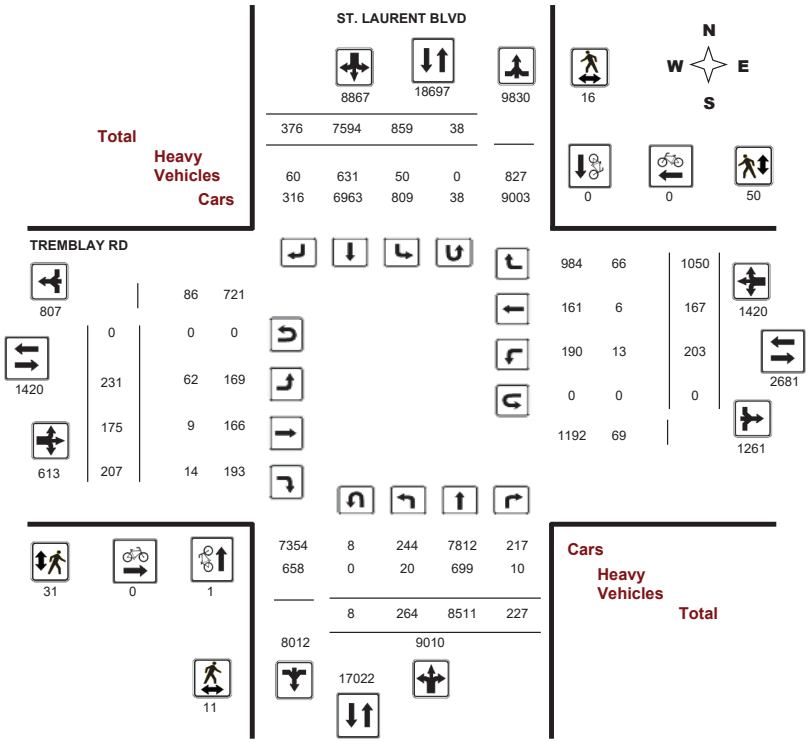
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 2019 **WO#:** 38338

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 38338

Turning Movement Count - Full Study Summary Report

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 201

Total Observed U-Turns

Northbound: 8 Southbound: 38

Eastbound: 0 Westbound: 0

AADT Factor 1.00

Full Study

	ST. LAURENT BLVD									TREMBLAY RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	34	827	29	**890**	168	978	58	**1204**	**2094**	21	25	15	**61**	13	19	68	**100**	**161**	**2255**
08:00 09:00	62	1157	40	**1259**	108	1055	67	**1230**	**2489**	14	20	21	**55**	16	17	101	**134**	**189**	**2678**
09:00 10:00	29	885	23	**937**	133	1038	46	**1217**	**2154**	23	23	17	**63**	12	21	76	**109**	**172**	**2326**
11:30 12:30	32	1008	37	**1077**	113	1004	48	**1165**	**2242**	29	10	28	**67**	41	24	144	**209**	**276**	**2518**
12:30 13:30	28	1058	48	**1134**	133	975	38	**1146**	**2280**	24	20	30	**74**	30	19	140	**189**	**263**	**2543**
15:00 16:00	31	1182	19	**1232**	100	787	34	**921**	**2153**	34	21	23	**78**	34	24	186	**244**	**322**	**2475**
16:00 17:00	34	1192	23	**1249**	68	807	41	**916**	**2165**	42	31	29	**102**	36	23	193	**252**	**354**	**2519**
17:00 18:00	14	1202	8	**1224**	36	950	44	**1030**	**2254**	44	25	44	**113**	21	20	142	**183**	**296**	**2550**
Sub Total	264	8511	227	**9002**	859	7594	376	**8829**	**17831**	231	175	207	**613**	203	167	1050	**1420**	**2033**	**19864**
U Turns				**8**				**38**	**46**				**0**				**0**	**0**	**46**
Total	264	8511	227	**9010**	859	7594	376	**8867**	**17877**	231	175	207	**613**	203	167	1050	**1420**	**2033**	**19910**
EQ 12Hr	367	11830	316	**12524**	1194	10556	523	**12325**	**24849**	321	243	288	**852**	282	232	1460	**1974**	**2826**	**27675**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	367	11830	316	**12524**	1194	10556	523	**12325**	**24849**	321	243	288	**852**	282	232	1460	**1974**	**2826**	**27675**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1.00**						
AVG 24Hr	481	15498	413	**16406**	1564	13828	685	**16146**	**32552**	421	319	377	**1116**	370	304	1912	**2586**	**3702**	**36254**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													**1.31**						

Comments:

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

W.O. 38338

Turning Movement Count - 15 Minute Summary Report

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 2019

Total Observed U-Turns

Northbound: 8 Southbound: 38

Eastbound: 0 Westbound: 0

		ST. LAURENT BLVD									TREMBLAY RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	3	159	9	**171**	42	228	12	**283**	**454**	5	6	5	**16**	5	2	14	**21**	**37**	**491**
07:15	07:30	10	189	6	**205**	42	234	14	**290**	**495**	2	7	3	**12**	1	1	13	**15**	**27**	**522**
07:30	07:45	9	228	9	**246**	45	241	14	**300**	**546**	6	5	4	**15**	5	10	23	**38**	**53**	**599**
07:45	08:00	12	251	5	**268**	39	275	18	**334**	**602**	8	7	3	**18**	2	6	18	**26**	**44**	**646**
08:00	08:15	14	277	11	**302**	22	235	18	**275**	**577**	4	5	8	**17**	7	5	20	**32**	**49**	**626**
08:15	08:30	13	294	10	**317**	26	279	14	**319**	**636**	2	6	5	**13**	5	1	23	**29**	**42**	**678**
08:30	08:45	17	283	12	**313**	29	270	23	**322**	**635**	3	4	2	**9**	3	6	26	**35**	**44**	**679**
08:45	09:00	18	303	7	**328**	31	271	12	**316**	**644**	5	5	6	**16**	1	5	32	**38**	**54**	**698**
09:00	09:15	16	252	9	**277**	38	263	13	**315**	**592**	5	6	3	**14**	3	8	19	**30**	**44**	**636**
09:15	09:30	4	212	4	**221**	24	271	18	**313**	**534**	3	9	3	**15**	3	3	17	**23**	**38**	**572**
09:30	09:45	5	222	5	**232**	32	252	8	**295**	**527**	7	5	5	**17**	5	3	18	**26**	**43**	**570**
09:45	10:00	4	199	5	**208**	39	252	7	**300**	**508**	8	3	6	**17**	1	7	22	**30**	**47**	**555**
11:30	11:45	5	237	7	**250**	21	248	7	**277**	**527**	11	4	4	**19**	7	5	30	**42**	**61**	**588**
11:45	12:00	8	258	8	**274**	34	250	15	**302**	**576**	7	2	6	**15**	7	7	43	**57**	**72**	**648**
12:00	12:15	9	241	8	**258**	33	223	10	**267**	**525**	8	4	11	**23**	19	7	39	**65**	**88**	**613**
12:15	12:30	10	272	14	**297**	25	283	16	**325**	**622**	3	0	7	**10**	8	5	32	**45**	**55**	**677**
12:30	12:45	6	277	16	**300**	36	237	12	**285**	**585**	4	4	7	**15**	9	4	37	**50**	**65**	**650**
12:45	13:00	6	257	12	**275**	39	263	7	**312**	**587**	9	8	10	**27**	6	6	32	**44**	**71**	**658**
13:00	13:15	8	285	14	**307**	31	231	7	**270**	**577**	6	7	7	**20**	9	3	38	**50**	**70**	**647**
13:15	13:30	8	239	6	**253**	27	244	12	**285**	**538**	5	1	6	**12**	6	6	33	**45**	**57**	**595**
15:00	15:15	9	295	2	**307**	31	219	14	**266**	**573**	7	4	5	**16**	11	8	59	**78**	**94**	**667**
15:15	15:30	5	316	6	**327**	22	226	4	**253**	**580**	8	4	4	**16**	7	5	40	**52**	**68**	**648**
15:30	15:45	9	307	6	**322**	19	190	9	**218**	**540**	10	6	11	**27**	7	5	47	**59**	**86**	**626**
15:45	16:00	8	264	5	**277**	28	152	7	**189**	**466**	9	7	3	**19**	9	6	40	**55**	**74**	**540**
16:00	16:15	6	270	8	**284**	14	168	13	**195**	**479**	10	10	1	**21**	13	8	68	**89**	**110**	**589**
16:15	16:30	10	284	6	**300**	23	150	13	**188**	**488**	8	5	4	**17**	10	5	35	**50**	**67**	**555**
16:30	16:45	9	299	3	**311**	9	232	9	**250**	**561**	16	9	17	**42**	9	5	66	**80**	**122**	**683**
16:45	17:00	9	339	6	**354**	22	257	6	**286**	**640**	8	7	7	**22**	4	5	24	**33**	**55**	**695**
17:00	17:15	3	318	1	**322**	10	237	13	**261**	**583**	13	11	16	**40**	8	5	54	**67**	**107**	**690**
17:15	17:30	4	349	2	**356**	7	228	10	**246**	**602**	10	11	17	**38**	2	6	36	**44**	**82**	**684**
17:30	17:45	4	282	3	**289**	9	212	11	**235**	**524**	9	1	7	**17**	6	5	25	**36**	**53**	**577**
17:45	18:00	3	253	2	**259**	10	273	10	**295**	**554**	12	2	4	**18**	5	4	27	**36**	**54**	**608**
TOTAL:		264	8511	227	**9010**	859	7594	376	**8867**	**17877**	231	175	207	**613**	203	167	1050	**1420**	**2033**	**19910**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 38338

ST. LAURENT BLVD @ TREMBLAY RD

Count Date: Wednesday, January 30, 2019 **Start Time:** 07:00

	ST. LAURENT BLVD			TREMBLAY RD			
Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 08:00	0	0	**0**	0	0	**0**	**0**
08:00 09:00	0	0	**0**	0	0	**0**	**0**
09:00 10:00	1	0	**1**	0	0	**0**	**1**
11:30 12:30	0	0	**0**	0	0	**0**	**0**
12:30 13:30	0	0	**0**	0	0	**0**	**0**
15:00 16:00	0	0	**0**	0	0	**0**	**0**
16:00 17:00	0	0	**0**	0	0	**0**	**0**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	1	0	**1**	0	0	**0**	**1**

Comment:

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

Transportation Services - Traffic Services

W.O. 38338

Turning Movement Count - Heavy Vehicle Report

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 2019

Time Period	ST. LAURENT BLVD Northbound LT	ST	RT	N TOT	ST. LAURENT BLVD Southbound LT	ST	RT	S TOT	STR TOT	TREMBLAY RD Eastbound LT	ST	RT	E TOT	TREMBLAY RD Westbound LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 08:00	2	134	1	**137**	10	52	10	**72**	**209**	9	1	0	**10**	4	0	9	**13**	**23**	**232**
08:00 09:00	2	124	1	**127**	3	80	11	**94**	**221**	4	1	1	**6**	4	0	15	**19**	**25**	**246**
09:00 10:00	3	116	1	**120**	6	183	5	**194**	**314**	9	1	1	**11**	0	2	8	**10**	**21**	**335**
11:30 12:30	2	66	1	**69**	8	68	8	**84**	**153**	8	0	5	**13**	1	0	11	**12**	**25**	**178**
12:30 13:30	5	80	5	**90**	7	62	7	**76**	**166**	6	0	3	**9**	0	2	11	**13**	**22**	**188**
15:00 16:00	4	112	0	**116**	10	74	5	**89**	**205**	7	1	3	**11**	3	2	6	**11**	**22**	**227**
16:00 17:00	2	40	1	**43**	3	65	10	**78**	**121**	10	1	1	**12**	0	0	2	**2**	**14**	**135**
17:00 18:00	0	27	0	**27**	3	47	4	**54**	**81**	9	4	0	**13**	1	0	4	**5**	**18**	**99**
Sub Total	20	699	10	**729**	50	631	60	**741**	**1470**	62	9	14	**85**	13	6	66	**85**	**170**	**1640**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	20	699	10	**0**	50	631	60	**741**	**1470**	62	9	14	**85**	13	6	66	**85**	**170**	**1640**

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.

Transportation Services - Traffic Services

Work Order 38338

Turning Movement Count - Pedestrian Volume Report

ST. LAURENT BLVD @ TREMBLAY RD

Count Date: Wednesday, January 30, 2019 **Start Time:** 07:00

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	1	**1**	0	6	**6**	**7**
07:15 07:30	0	0	**0**	0	1	**1**	**1**
07:30 07:45	1	0	**1**	2	4	**6**	**7**
07:45 08:00	1	0	**1**	1	1	**2**	**3**
07:00 08:00	2	1	**3**	3	12	**15**	**18**
08:00 08:15	0	0	**0**	0	0	**0**	**0**
08:15 08:30	1	0	**1**	0	0	**0**	**1**
08:30 08:45	0	0	**0**	1	0	**1**	**1**
08:45 09:00	3	1	**4**	3	1	**4**	**8**
08:00 09:00	4	1	**5**	4	1	**5**	**10**
09:00 09:15	0	2	**2**	3	1	**4**	**6**
09:15 09:30	0	0	**0**	1	4	**5**	**5**
09:30 09:45	0	0	**0**	0	0	**0**	**0**
09:45 10:00	0	0	**0**	1	2	**3**	**3**
09:00 10:00	0	2	**2**	5	7	**12**	**14**
11:30 11:45	0	0	**0**	0	1	**1**	**1**
11:45 12:00	0	1	**1**	0	1	**1**	**2**
12:00 12:15	0	0	**0**	0	0	**0**	**0**
12:15 12:30	0	0	**0**	0	0	**0**	**0**
11:30 12:30	0	1	**1**	0	2	**2**	**3**
12:30 12:45	0	0	**0**	1	0	**1**	**1**
12:45 13:00	1	0	**1**	1	1	**2**	**3**
13:00 13:15	0	0	**0**	2	0	**2**	**2**
13:15 13:30	0	1	**1**	0	1	**1**	**2**
12:30 13:30	1	1	**2**	4	2	**6**	**8**
15:00 15:15	0	0	**0**	1	2	**3**	**3**
15:15 15:30	1	4	**5**	2	2	**4**	**9**
15:30 15:45	0	1	**1**	0	3	**3**	**4**
15:45 16:00	0	1	**1**	1	0	**1**	**2**
15:00 16:00	1	6	**7**	4	7	**11**	**18**
16:00 16:15	0	1	**1**	0	3	**3**	**4**
16:15 16:30	1	0	**1**	1	2	**3**	**4**
16:30 16:45	2	0	**2**	3	5	**8**	**10**
16:45 17:00	0	1	**1**	2	4	**6**	**7**
16:00 17:00	3	2	**5**	6	14	**20**	**25**
17:00 17:15	0	0	**0**	1	1	**2**	**2**
17:15 17:30	0	1	**1**	2	2	**4**	**5**
17:30 17:45	0	1	**1**	2	1	**3**	**4**
17:45 18:00	0	0	**0**	0	1	**1**	**1**
17:00 18:00	0	2	**2**	5	5	**10**	**12**
Total	11	16	**27**	31	50	**81**	**108**

Comment:

Transportation Services - Traffic Services

Work Order 38338

Turning Movement Count - 15 Min U-Turn Total Report

ST. LAURENT BLVD @ TREMBLAY RD

Survey Date: Wednesday, January 30, 2019

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	1	0	0	1
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	2	0	0	2
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	1	0	0	0	1
08:45	09:00	0	2	0	0	2
09:00	09:15	0	1	0	0	1
09:15	09:30	1	0	0	0	1
09:30	09:45	0	3	0	0	3
09:45	10:00	0	2	0	0	2
11:30	11:45	1	1	0	0	2
11:45	12:00	0	3	0	0	3
12:00	12:15	0	1	0	0	1
12:15	12:30	1	1	0	0	2
12:30	12:45	1	0	0	0	1
12:45	13:00	0	3	0	0	3
13:00	13:15	0	1	0	0	1
13:15	13:30	0	2	0	0	2
15:00	15:15	1	2	0	0	3
15:15	15:30	0	1	0	0	1
15:30	15:45	0	0	0	0	0
15:45	16:00	0	2	0	0	2
16:00	16:15	0	0	0	0	0
16:15	16:30	0	2	0	0	2
16:30	16:45	0	0	0	0	0
16:45	17:00	0	1	0	0	1
17:00	17:15	0	1	0	0	1
17:15	17:30	1	1	0	0	2
17:30	17:45	0	3	0	0	3
17:45	18:00	1	2	0	0	3
Total		8	38	0	0	46

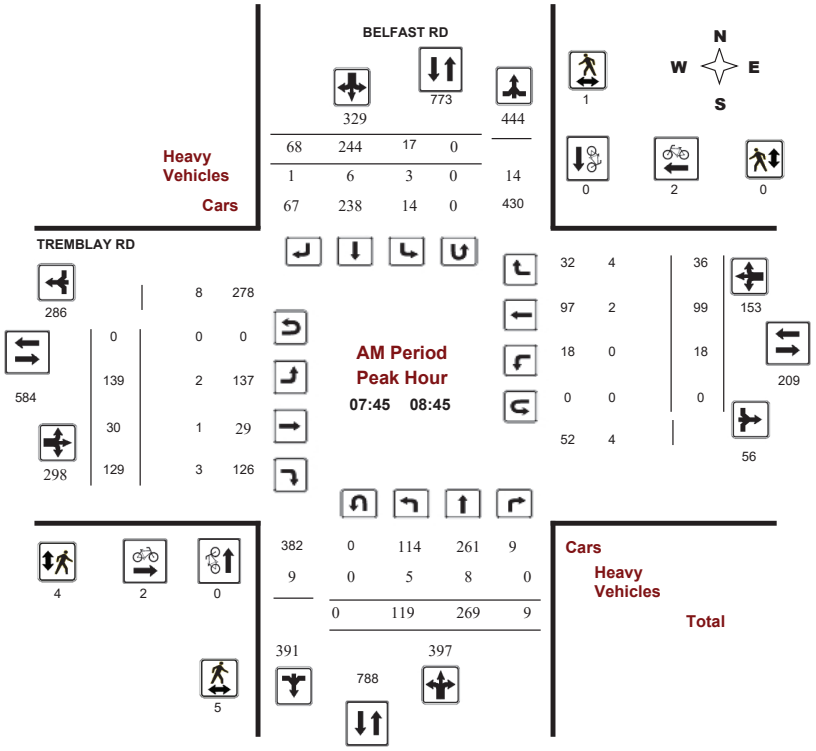
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BELFAST RD @ TREMBLAY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39277

Start Time: 07:00 **Device:** Miovision



Comments 5469218 - WED JAN 08, 2020 - 8HRS - LORETTA

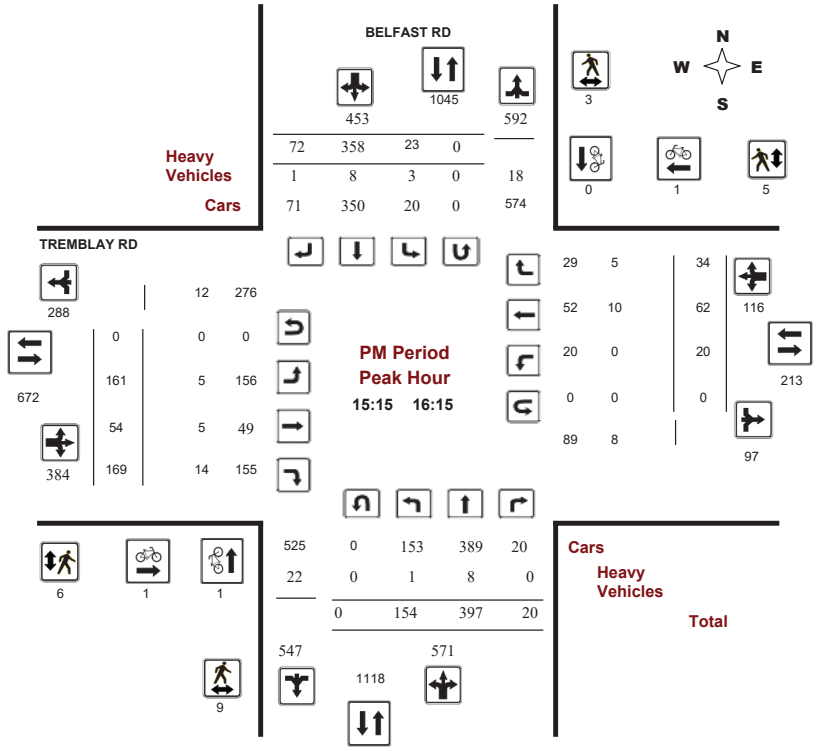
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BELFAST RD @ TREMBLAY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39277

Start Time: 07:00 **Device:** Miovision



Comments 5469218 - WED JAN 08, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELFAST RD @ TREMBLAY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39277

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

		BELFAST RD			TREMBLAY RD			
Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	2	0	2	2
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	1	0	1	1
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	0	0	0	2	1	3	3
08:30	08:45	0	0	0	0	1	1	1
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	2	2	0	0	0	2
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	1	0	1	1	0	1	2
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	1	1	0	1	1	2
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	1	1	2	0	1	1	3
15:15	15:30	1	0	1	1	1	2	3
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	1	1	0	0	0	1
16:30	16:45	0	0	0	0	1	1	1
16:45	17:00	1	0	1	0	0	0	1
17:00	17:15	0	0	0	1	1	2	2
17:15	17:30	0	0	0	1	0	1	1
17:30	17:45	0	0	0	1	0	1	1
17:45	18:00	0	0	0	0	0	0	0
Total		4	5	**9**	10	7	17	26

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELFAST RD @ TREMBLAY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39277

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

		BELFAST RD			TREMBLAY RD			
Time Period		NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00	07:15	1	0	**1**	0	0	**0**	**1**
07:15	07:30	5	0	**5**	2	1	**3**	**8**
07:30	07:45	1	0	**1**	0	1	**1**	**2**
07:45	08:00	3	0	**3**	1	0	**1**	**4**
08:00	08:15	0	0	**0**	1	0	**1**	**1**
08:15	08:30	1	1	**2**	2	0	**2**	**4**
08:30	08:45	1	0	**1**	0	0	**0**	**1**
08:45	09:00	1	1	**2**	2	1	**3**	**5**
09:00	09:15	0	0	**0**	0	0	**0**	**0**
09:15	09:30	2	0	**2**	1	0	**1**	**3**
09:30	09:45	2	0	**2**	3	1	**4**	**6**
09:45	10:00	1	0	**1**	1	0	**1**	**2**
11:30	11:45	2	1	**3**	3	1	**4**	**7**
11:45	12:00	0	1	**1**	4	0	**4**	**5**
12:00	12:15	1	0	**1**	0	0	**0**	**1**
12:15	12:30	0	0	**0**	1	0	**1**	**1**
12:30	12:45	0	1	**1**	3	0	**3**	**4**
12:45	13:00	4	0	**4**	1	2	**3**	**7**
13:00	13:15	0	0	**0**	1	0	**1**	**1**
13:15	13:30	1	0	**1**	4	0	**4**	**5**
15:00	15:15	2	0	**2**	1	1	**2**	**4**
15:15	15:30	3	0	**3**	0	0	**0**	**3**
15:30	15:45	1	1	**2**	2	1	**3**	**5**
15:45	16:00	2	2	**4**	2	3	**5**	**9**
16:00	16:15	3	0	**3**	2	1	**3**	**6**
16:15	16:30	3	0	**3**	1	0	**1**	**4**
16:30	16:45	2	0	**2**	2	0	**2**	**4**
16:45	17:00	3	0	**3**	3	3	**6**	**9**
17:00	17:15	4	0	**4**	1	0	**1**	**5**
17:15	17:30	0	0	**0**	3	1	**4**	**4**
17:30	17:45	1	0	**1**	1	0	**1**	**2**
17:45	18:00	2	0	**2**	5	1	**6**	**8**
Total	.....	52	8	**60**	53	18	**71**	**131**

5469218 - WED JAN 08, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELFAST RD @ TREMBLAY RD

Survey Date: Wednesday, January 08, 2020 **WO No:** 39277

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		BELFAST RD									TREMBLAY RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	12	3	1	**18**	1	2	0	**7**	**25**	0	0	0	**12**	0	0	1	**3**	**15**	**20**
07:15	07:30	5	2	0	**8**	1	1	0	**7**	**15**	2	0	0	**7**	0	0	1	**2**	**9**	**12**
07:30	07:45	0	6	1	**8**	1	0	0	**9**	**17**	0	1	1	**2**	0	0	2	**5**	**7**	**12**
07:45	08:00	0	2	0	**3**	0	1	0	**4**	**7**	0	1	0	**2**	0	1	1	**3**	**5**	**6**
08:00	08:15	1	0	0	**2**	1	0	0	**3**	**5**	1	0	1	**3**	0	0	1	**2**	**5**	**5**
08:15	08:30	2	1	0	**4**	0	1	0	**3**	**7**	0	0	0	**2**	0	0	1	**1**	**3**	**5**
08:30	08:45	2	5	0	**13**	2	4	1	**14**	**27**	1	0	2	**7**	0	1	1	**4**	**11**	**19**
08:45	09:00	3	0	0	**8**	0	4	0	**7**	**15**	0	0	1	**5**	0	1	3	**4**	**9**	**12**
09:00	09:15	3	9	0	**16**	1	1	0	**14**	**30**	2	1	2	**9**	1	1	1	**5**	**14**	**22**
09:15	09:30	2	6	0	**13**	1	2	0	**14**	**27**	3	0	2	**8**	1	1	2	**5**	**13**	**20**
09:30	09:45	1	2	0	**14**	0	11	0	**15**	**29**	2	0	0	**4**	0	1	0	**1**	**5**	**17**
09:45	10:00	0	2	0	**7**	1	4	0	**11**	**18**	3	0	0	**4**	1	1	1	**4**	**8**	**13**
11:30	11:45	2	3	0	**11**	1	3	1	**8**	**19**	0	0	3	**6**	0	0	0	**1**	**7**	**13**
11:45	12:00	1	0	0	**3**	0	0	1	**7**	**10**	3	0	2	**7**	0	0	3	**3**	**10**	**10**
12:00	12:15	2	1	0	**7**	2	2	0	**5**	**12**	0	3	2	**7**	0	0	0	**5**	**12**	**12**
12:15	12:30	2	0	1	**8**	0	1	1	**4**	**12**	1	1	2	**8**	2	1	1	**6**	**14**	**13**
12:30	12:45	0	4	0	**12**	1	2	0	**8**	**20**	1	1	4	**7**	2	1	0	**5**	**12**	**16**
12:45	13:00	0	3	1	**7**	0	1	1	**6**	**13**	0	0	2	**3**	0	0	1	**2**	**5**	**9**
13:00	13:15	3	3	0	**8**	1	1	0	**6**	**14**	0	1	1	**6**	0	1	1	**4**	**10**	**12**
13:15	13:30	0	0	0	**6**	0	5	0	**7**	**13**	0	0	1	**3**	0	2	2	**4**	**7**	**10**
15:00	15:15	5	5	0	**17**	1	2	0	**8**	**25**	0	1	5	**11**	0	0	0	**2**	**13**	**19**
15:15	15:30	1	4	0	**11**	0	3	0	**9**	**20**	0	0	3	**7**	0	3	2	**5**	**12**	**16**
15:30	15:45	0	1	0	**6**	1	1	0	**5**	**11**	1	1	4	**10**	0	4	1	**7**	**17**	**14**
15:45	16:00	0	1	0	**5**	0	2	1	**8**	**13**	2	2	2	**9**	0	2	2	**6**	**15**	**14**
16:00	16:15	0	2	0	**9**	2	2	0	**8**	**17**	2	2	5	**10**	0	1	0	**5**	**15**	**16**
16:15	16:30	0	6	0	**6**	0	0	0	**7**	**13**	0	1	0	**1**	0	0	1	**2**	**3**	**8**
16:30	16:45	0	5	0	**14**	2	2	0	**11**	**25**	1	0	7	**9**	0	1	1	**4**	**13**	**19**
16:45	17:00	0	2	0	**6**	1	0	1	**6**	**12**	1	2	4	**8**	0	0	1	**4**	**12**	**12**
17:00	17:15	1	1	0	**5**	1	2	0	**5**	**10**	1	0	1	**3**	0	0	0	**1**	**4**	**7**
17:15	17:30	0	1	1	**4**	1	0	0	**3**	**7**	0	0	2	**2**	0	0	1	**3**	**5**	**6**
17:30	17:45	1	0	0	**1**	1	0	0	**1**	**2**	0	0	0	**2**	0	1	0	**2**	**4**	**3**
17:45	18:00	0	0	0	**2**	1	1	0	**4**	**6**	1	0	1	**2**	0	0	1	**2**	**4**	**5**
Total:	None	49	80	5	**262**	25	61	7	**234**	**496**	28	18	60	**186**	7	24	33	**112**	**298**	**397**

Transportation Services - Traffic Services

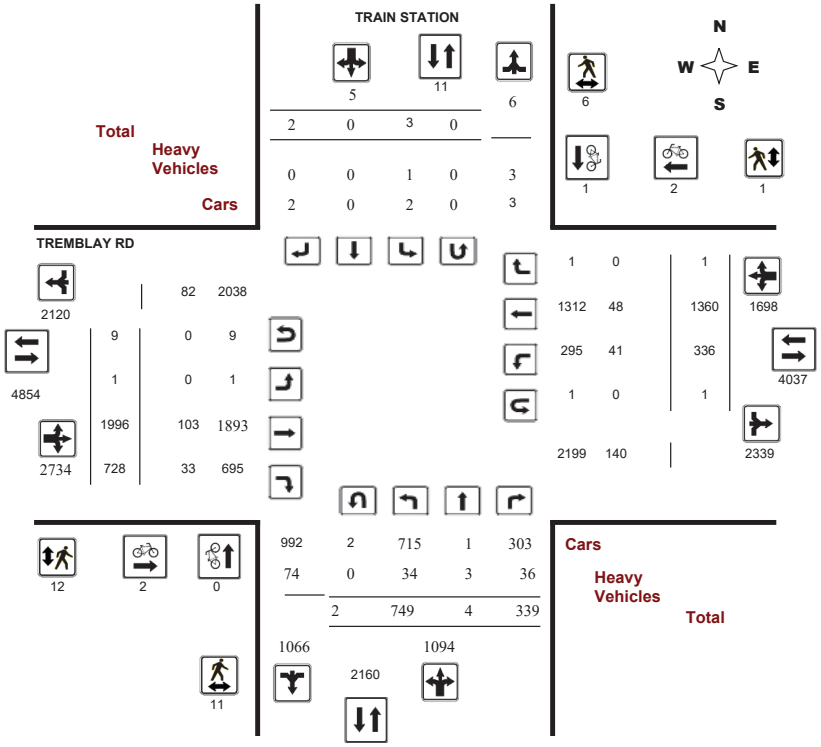
Turning Movement Count - Study Results

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision

Full Study Diagram



Transportation Services - Traffic Services

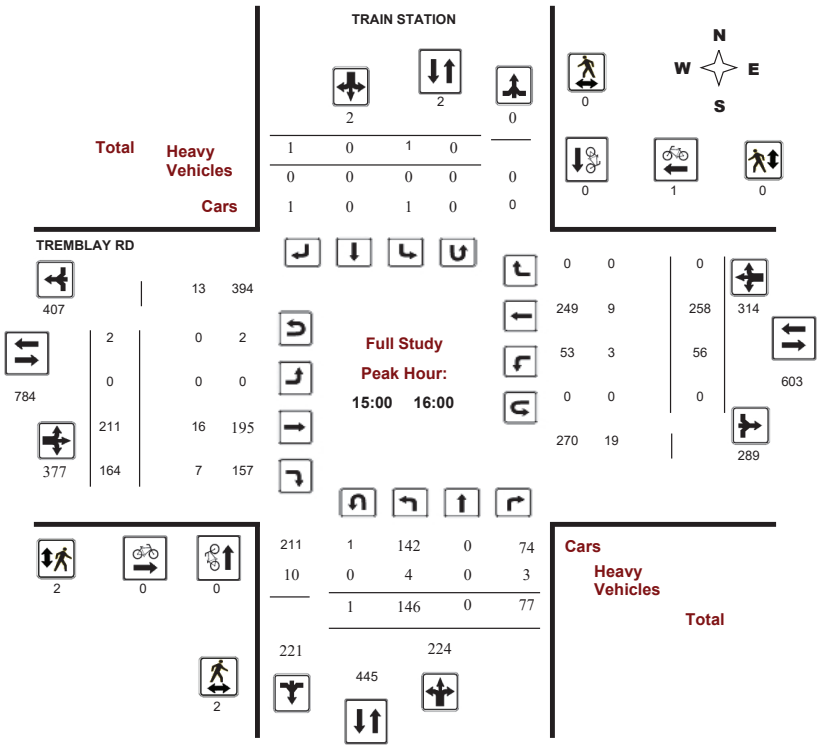
Turning Movement Count - Study Results

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision

Full Study Peak Hour Diagram



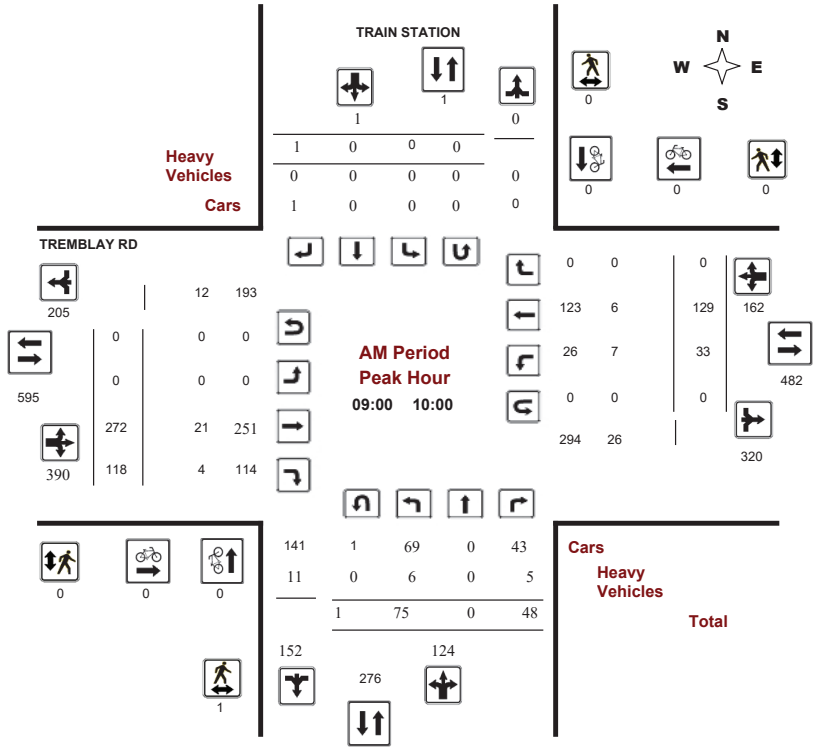
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision



Comments

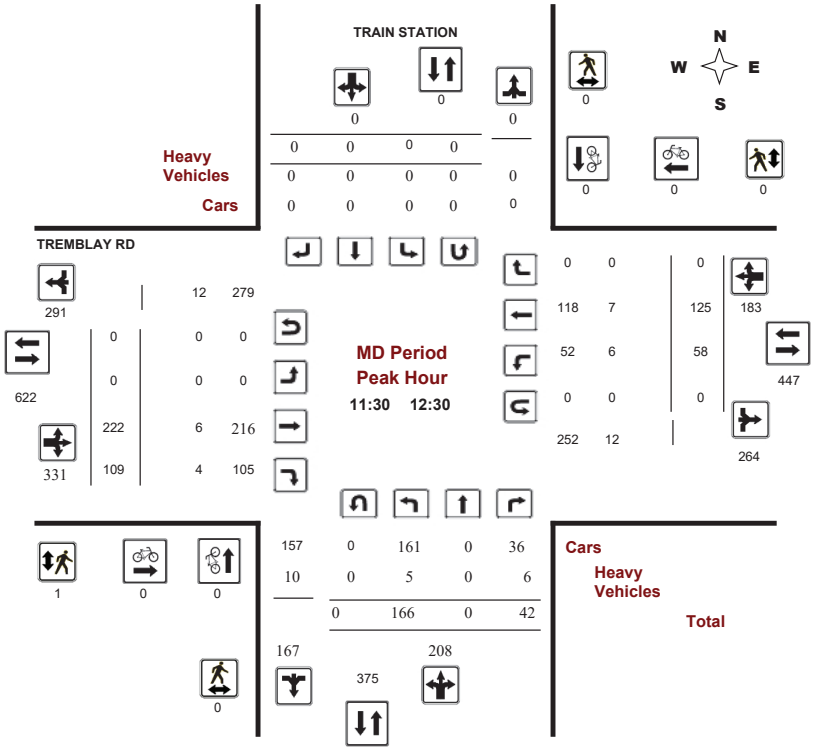
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision



Comments

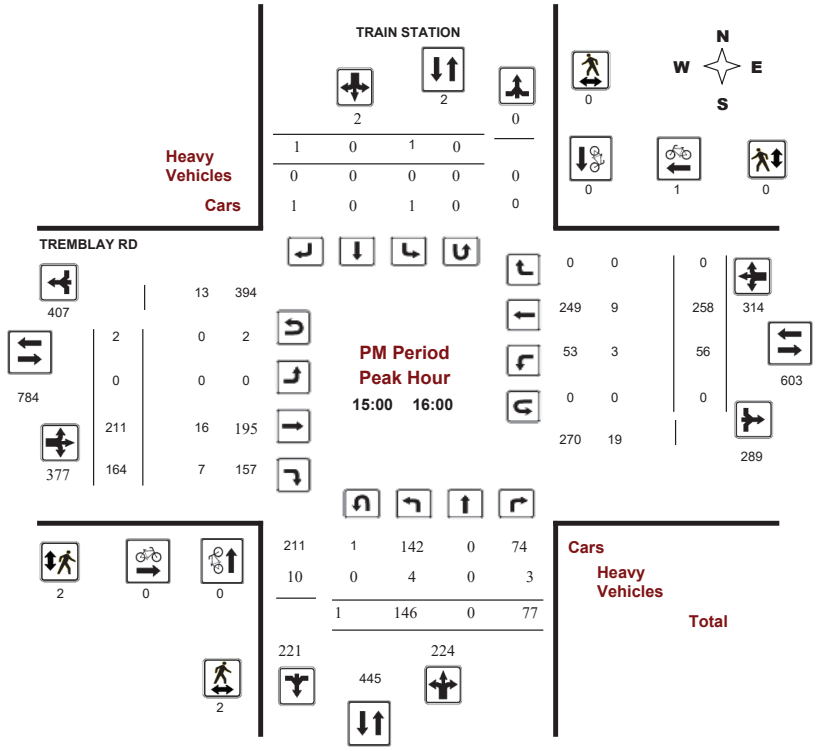
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, January 30, 201

Total Observed U-Turns

Northbound: 2 Southbound: 0

Eastbound: 9 Westbound: 1

AADT Factor 1.00

	TRAIN STATION								TREMBLAY RD									
	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	26	0	22	**48**	0	0	0	**0**	**48**	0	266	28	**294**	24	164	0	**188**	**482**	**530**
08:00 09:00	79	4	18	**101**	2	0	0	**2**	**103**	1	233	58	**292**	49	175	0	**224**	**516**	**619**
09:00 10:00	75	0	48	**123**	0	0	1	**1**	**124**	0	272	118	**390**	33	129	0	**162**	**552**	**676**
11:30 12:30	166	0	42	**208**	0	0	0	**0**	**208**	0	222	109	**331**	58	125	0	**183**	**514**	**722**
12:30 13:30	65	0	43	**108**	0	0	0	**0**	**108**	0	214	73	**287**	37	138	0	**175**	**462**	**570**
15:00 16:00	146	0	77	**223**	1	0	1	**2**	**225**	0	211	164	**375**	56	258	0	**314**	**689**	**914**
16:00 17:00	95	0	45	**140**	0	0	0	**0**	**140**	0	284	85	**369**	35	211	0	**246**	**615**	**755**
17:00 18:00	97	0	44	**141**	0	0	0	**0**	**141**	0	294	93	**387**	44	160	1	**205**	**592**	**733**
Sub Total	749	4	339	**1092**	3	0	2	**5**	**1097**	1	1996	728	**2725**	336	1360	1	**1697**	**4422**	**5519**
U Turns				**2**				**0**	**2**				**9**				**1**	**10**	**12**
Total	749	4	339	**1094**	3	0	2	**5**	**1099**	1	1996	728	**2734**	336	1360	1	**1698**	**4432**	**5531**
EQ 12Hr	1041	6	471	**1521**	4	0	3	**7**	**1528**	1	2774	1012	**3800**	467	1890	1	**2360**	**6160**	**7688**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	981	5	444	**1433**	4	0	3	**7**	**1528**	1	2615	954	**3582**	440	1782	1	**2224**	**6160**	**7688**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	1285	7	582	**1877**	5	0	3	**9**	**1886**	2	3425	1249	**4692**	577	2334	2	**2914**	**7606**	**9492**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		TRAIN STATION									TREMBLAY RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	10	0	10	20	0	0	0	0	1	0	56	11	67	6	25	0	31	1	118
07:15	07:30	8	0	3	11	0	0	0	0	3	0	54	6	60	2	36	0	38	3	109
07:30	07:45	4	0	6	10	0	0	0	0	4	0	76	3	79	9	50	0	59	4	148
07:45	08:00	4	0	3	7	0	0	0	0	2	0	80	8	88	7	53	0	60	2	155
08:00	08:15	2	0	3	5	1	0	0	1	2	1	69	14	84	4	41	0	45	2	135
08:15	08:30	7	1	2	10	1	0	0	1	1	0	58	13	71	7	49	0	56	1	138
08:30	08:45	45	3	6	54	0	0	0	0	6	0	44	18	62	24	45	0	69	6	185
08:45	09:00	25	0	7	32	0	0	0	0	0	0	62	13	75	14	40	0	55	0	162
09:00	09:15	12	0	4	16	0	0	0	0	2	0	78	14	92	6	38	0	44	2	152
09:15	09:30	20	0	11	31	0	0	0	0	4	0	66	24	90	10	28	0	38	4	159
09:30	09:45	15	0	15	31	0	0	1	1	3	0	64	31	95	11	33	0	44	3	171
09:45	10:00	28	0	18	46	0	0	0	0	2	0	64	49	113	6	30	0	36	2	195
11:30	11:45	18	0	9	27	0	0	0	0	4	0	70	30	100	9	29	0	38	4	165
11:45	12:00	47	0	10	57	0	0	0	0	4	0	51	27	78	23	30	0	53	4	188
12:00	12:15	39	0	16	55	0	0	0	0	1	0	45	26	71	11	35	0	46	1	172
12:15	12:30	62	0	7	69	0	0	0	0	2	0	56	26	82	15	31	0	46	2	197
12:30	12:45	21	0	8	29	0	0	0	0	2	0	45	21	66	10	35	0	45	2	140
12:45	13:00	16	0	9	25	0	0	0	0	5	0	64	10	75	10	32	0	42	5	142
13:00	13:15	12	0	9	21	0	0	0	0	1	0	64	14	78	9	36	0	45	1	144
13:15	13:30	16	0	17	33	0	0	0	0	4	0	41	28	69	8	35	0	43	4	145
15:00	15:15	28	0	19	48	0	0	0	0	1	0	58	39	98	10	66	0	76	1	222
15:15	15:30	27	0	17	44	0	0	0	0	4	0	47	42	89	10	64	0	74	4	207
15:30	15:45	20	0	17	37	1	0	0	1	1	0	57	46	103	13	75	0	88	1	229
15:45	16:00	71	0	24	95	0	0	1	1	1	0	49	37	87	23	53	0	76	1	259
16:00	16:15	18	0	7	25	0	0	0	0	3	0	62	15	79	5	61	0	66	3	170
16:15	16:30	12	0	6	18	0	0	0	0	3	0	61	25	86	6	54	0	60	3	164
16:30	16:45	7	0	9	16	0	0	0	0	1	0	68	17	88	13	55	0	68	1	172
16:45	17:00	58	0	23	81	0	0	0	0	3	0	93	28	121	11	41	0	52	3	254
17:00	17:15	46	0	14	60	0	0	0	0	1	0	109	22	131	25	45	0	70	1	261
17:15	17:30	21	0	8	29	0	0	0	0	1	0	88	22	110	4	50	0	54	1	193
17:30	17:45	8	0	9	17	0	0	0	0	1	0	46	16	63	9	31	0	40	1	120
17:45	18:00	22	0	13	35	0	0	0	0	1	0	51	33	84	6	34	1	41	1	160
Total:		749	4	339	1094	3	0	2	5	74	1	1996	728	2734	336	1360	1	1698	74	5,531

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

		TRAIN STATION			TREMBLAY RD			
Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	1	0	1	1
07:45	08:00	0	0	0	1	0	1	1
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	0	0	0	0	0	0	0
08:30	08:45	0	0	0	0	0	0	0
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	1	1	1
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	1	1	1
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	1	1	0	0	0	1
Total		0	1	1	2	2	4	5

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

	TRAIN STATION			TREMBLAY RD			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	**0**	1	0	**1**	**1**
07:15 07:30	1	0	**1**	0	0	**0**	**1**
07:30 07:45	0	0	**0**	1	0	**1**	**1**
07:45 08:00	0	0	**0**	0	0	**0**	**0**
08:00 08:15	0	0	**0**	0	0	**0**	**0**
08:15 08:30	1	0	**1**	0	0	**0**	**1**
08:30 08:45	2	0	**2**	0	0	**0**	**2**
08:45 09:00	0	0	**0**	0	0	**0**	**0**
09:00 09:15	0	0	**0**	0	0	**0**	**0**
09:15 09:30	0	0	**0**	0	0	**0**	**0**
09:30 09:45	0	0	**0**	0	0	**0**	**0**
09:45 10:00	1	0	**1**	0	0	**0**	**1**
11:30 11:45	0	0	**0**	0	0	**0**	**0**
11:45 12:00	0	0	**0**	0	0	**0**	**0**
12:00 12:15	0	0	**0**	1	0	**1**	**1**
12:15 12:30	0	0	**0**	0	0	**0**	**0**
12:30 12:45	0	0	**0**	0	0	**0**	**0**
12:45 13:00	0	0	**0**	0	0	**0**	**0**
13:00 13:15	0	0	**0**	0	0	**0**	**0**
13:15 13:30	0	0	**0**	0	0	**0**	**0**
15:00 15:15	1	0	**1**	0	0	**0**	**1**
15:15 15:30	0	0	**0**	2	0	**2**	**2**
15:30 15:45	1	0	**1**	0	0	**0**	**1**
15:45 16:00	0	0	**0**	0	0	**0**	**0**
16:00 16:15	1	1	**2**	1	0	**1**	**3**
16:15 16:30	0	0	**0**	0	0	**0**	**0**
16:30 16:45	1	0	**1**	1	0	**1**	**2**
16:45 17:00	0	0	**0**	1	0	**1**	**1**
17:00 17:15	1	0	**1**	1	1	**2**	**3**
17:15 17:30	0	2	**2**	1	0	**1**	**3**
17:30 17:45	1	1	**2**	1	0	**1**	**3**
17:45 18:00	0	2	**2**	1	0	**1**	**3**
Total	11	6	**17**	12	1	**13**	**30**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		TRAIN STATION									TREMBLAY RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	0	1	**1**	0	0	0	**0**	**1**	0	1	1	**2**	1	2	0	**3**	**5**	**6**
07:15	07:30	2	0	1	**3**	0	0	0	**0**	**3**	0	0	1	**1**	0	3	0	**3**	**4**	**7**
07:30	07:45	2	0	2	**4**	0	0	0	**0**	**4**	0	0	1	**1**	2	4	0	**6**	**7**	**11**
07:45	08:00	1	0	1	**2**	0	0	0	**0**	**2**	0	1	2	**3**	1	4	0	**5**	**8**	**10**
08:00	08:15	1	0	0	**1**	1	0	0	**1**	**2**	0	5	0	**5**	1	1	0	**2**	**7**	**9**
08:15	08:30	1	0	0	**1**	0	0	0	**0**	**1**	0	1	0	**1**	2	0	0	**2**	**3**	**4**
08:30	08:45	1	3	2	**6**	0	0	0	**0**	**6**	0	1	2	**3**	4	0	0	**4**	**7**	**13**
08:45	09:00	0	0	0	**0**	0	0	0	**0**	**0**	0	4	0	**4**	0	1	0	**1**	**5**	**5**
09:00	09:15	1	0	1	**2**	0	0	0	**0**	**2**	0	7	1	**8**	1	1	0	**2**	**10**	**12**
09:15	09:30	2	0	2	**4**	0	0	0	**0**	**4**	0	5	2	**7**	2	1	0	**3**	**10**	**14**
09:30	09:45	2	0	1	**3**	0	0	0	**0**	**3**	0	2	0	**2**	1	1	0	**2**	**4**	**7**
09:45	10:00	1	0	1	**2**	0	0	0	**0**	**2**	0	7	1	**8**	3	3	0	**6**	**14**	**16**
11:30	11:45	1	0	3	**4**	0	0	0	**0**	**4**	0	2	3	**5**	1	2	0	**3**	**8**	**12**
11:45	12:00	1	0	3	**4**	0	0	0	**0**	**4**	0	3	1	**4**	2	3	0	**5**	**9**	**13**
12:00	12:15	1	0	0	**1**	0	0	0	**0**	**1**	0	0	0	**0**	1	1	0	**2**	**2**	**3**
12:15	12:30	2	0	0	**2**	0	0	0	**0**	**2**	0	1	0	**1**	2	1	0	**3**	**4**	**6**
12:30	12:45	1	0	1	**2**	0	0	0	**0**	**2**	0	0	1	**1**	1	2	0	**3**	**4**	**6**
12:45	13:00	0	0	5	**5**	0	0	0	**0**	**5**	0	4	3	**7**	1	0	0	**1**	**8**	**13**
13:00	13:15	1	0	0	**1**	0	0	0	**0**	**1**	0	6	0	**6**	2	2	0	**4**	**10**	**11**
13:15	13:30	1	0	3	**4**	0	0	0	**0**	**4**	0	4	1	**5**	2	1	0	**3**	**8**	**12**
15:00	15:15	1	0	0	**1**	0	0	0	**0**	**1**	0	3	2	**5**	1	2	0	**3**	**8**	**9**
15:15	15:30	2	0	2	**4**	0	0	0	**0**	**4**	0	4	2	**6**	1	3	0	**4**	**10**	**14**
15:30	15:45	1	0	0	**1**	0	0	0	**0**	**1**	0	4	3	**7**	1	2	0	**3**	**10**	**11**
15:45	16:00	0	0	1	**1**	0	0	0	**0**	**1**	0	5	0	**5**	0	2	0	**2**	**7**	**8**
16:00	16:15	2	0	1	**3**	0	0	0	**0**	**3**	0	2	1	**3**	2	1	0	**3**	**6**	**9**
16:15	16:30	1	0	2	**3**	0	0	0	**0**	**3**	0	7	2	**9**	1	0	0	**1**	**10**	**13**
16:30	16:45	1	0	0	**1**	0	0	0	**0**	**1**	0	4	0	**4**	2	1	0	**3**	**7**	**8**
16:45	17:00	2	0	1	**3**	0	0	0	**0**	**3**	0	4	1	**5**	1	1	0	**2**	**7**	**10**
17:00	17:15	0	0	1	**1**	0	0	0	**0**	**1**	0	3	1	**4**	0	0	0	**0**	**4**	**5**
17:15	17:30	1	0	0	**1**	0	0	0	**0**	**1**	0	9	0	**9**	1	2	0	**3**	**12**	**13**
17:30	17:45	1	0	0	**1**	0	0	0	**0**	**1**	0	3	1	**4**	1	0	0	**1**	**5**	**6**
17:45	18:00	0	0	1	**1**	0	0	0	**0**	**1**	0	1	0	**1**	0	1	0	**1**	**2**	**3**
Total:	None	34	3	36	**73**	1	0	0	**1**	**74**	0	103	33	**136**	41	48	0	**89**	**225**	**299**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TREMBLAY RD @ TRAIN STATION

Survey Date: Wednesday, January 30, 2019 **WO No:** 38347

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

		TRAIN STATION		TREMBLAY RD		
Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	1	1
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	1	0	0	0	1
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	1	0	1
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	1	0	1	0	2
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	1	0	1
16:00	16:15	0	0	2	0	2
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	3	0	3
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	1	0	1
17:45	18:00	0	0	0	0	0
Total		2	0	9	1	12

Appendix C

Synchro Intersection Worksheets – Existing Conditions

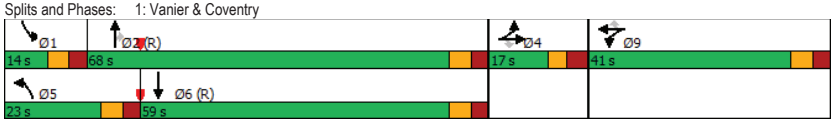
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	7	12	589	83	137	132	1205	381	200	1561	43
Future Volume (vph)	5	7	12	589	83	137	132	1205	381	200	1561	43
Satd. Flow (prot)	0	1708	1483	3017	1539	1483	1658	3316	1483	3216	4741	0
Flt Permitted		0.979		0.950	0.969		0.950			0.950		
Satd. Flow (perm)	0	1701	1483	3017	1539	1446	1656	3316	1440	3208	4741	0
Satd. Flow (RTOR)			189			189			423		3	
Lane Group Flow (vph)	0	14	13	497	249	152	147	1339	423	222	1782	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	17.0	17.0	17.0	41.0	41.0	41.0	23.0	68.0	68.0	14.0	59.0	
Total Split (%)	12.1%	12.1%	12.1%	29.3%	29.3%	29.3%	16.4%	48.6%	48.6%	10.0%	42.1%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		10.0	10.0	29.1	29.1	29.1	15.7	66.0	66.0	14.3	64.7	
Actuated g/C Ratio		0.07	0.07	0.21	0.21	0.21	0.11	0.47	0.47	0.10	0.46	
v/c Ratio		0.11	0.05	0.79	0.78	0.34	0.79	0.86	0.47	0.68	0.81	
Control Delay		63.2	0.3	62.2	69.2	4.4	83.8	25.2	1.4	71.0	38.4	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		63.2	0.3	62.2	69.2	4.4	83.8	25.2	1.4	71.0	38.4	
LOS		E	A	E	E	A	F	C	A	E	D	
Approach Delay		32.9			54.4			24.5			42.0	
Approach LOS		C			D			C			D	
Queue Length 50th (m)		3.7	0.0	72.3	72.3	0.0	43.3	124.7	1.7	31.5	173.6	
Queue Length 95th (m)		11.0	0.0	89.5	102.3	8.9	m47.0	m104.3	m1.4	#67.6	#217.9	
Internal Link Dist (m)		99.6			160.2			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		122	281	734	374	495	196	1564	902	328	2191	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.11	0.05	0.68	0.67	0.31	0.75	0.86	0.47	0.68	0.81	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86
Intersection Signal Delay: 37.3 — Intersection LOS: D
Intersection Capacity Utilization 80.5% — ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	311	42	34	564	164	49	19	17	150	14	169
Future Volume (vph)	109	311	42	34	564	164	49	19	17	150	14	169
Satd. Flow (prot)	1658	3239	0	1658	3160	0	1658	1605	0	1658	1468	0
Flt Permitted	0.263			0.520			0.532			0.731		
Satd. Flow (perm)	455	3239	0	895	3160	0	919	1605	0	1265	1468	0
Satd. Flow (RTOR)		17			43			19			188	
Lane Group Flow (vph)	121	393	0	38	809	0	54	40	0	167	204	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	22.0	34.5		22.0	34.5		33.5	33.5		33.5	33.5	
Total Split (%)	24.4%	38.3%		24.4%	38.3%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	56.7	51.1		50.8	44.4		17.7	17.7		17.7	17.7	
Actuated g/C Ratio	0.63	0.57		0.56	0.49		0.20	0.20		0.20	0.20	
v/c Ratio	0.31	0.21		0.07	0.51		0.30	0.12		0.67	0.46	
Control Delay	9.3	12.1		5.6	12.6		32.7	17.1		45.8	8.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.3	12.1		5.6	12.6		32.7	17.1		45.8	8.9	
LOS	A	B		A	B		C	B		D	A	
Approach Delay		11.4			12.3			26.1			25.5	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	6.7	17.5		1.2	34.3		8.1	3.0		27.1	2.3	
Queue Length 95th (m)	17.5	33.5		m3.1	45.0		16.1	9.6		41.5	17.2	
Internal Link Dist (m)		374.2			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	505	1847		713	1581		275	494		379	572	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.21		0.05	0.51		0.20	0.08		0.44	0.36	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67
Intersection Signal Delay: 15.4 — Intersection LOS: B
Intersection Capacity Utilization 75.5% — ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

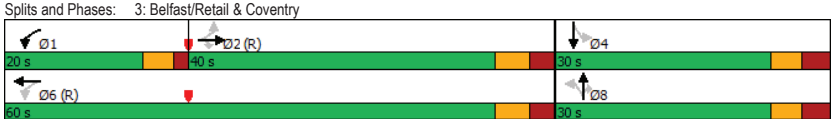
Splits and Phases: 2: Retail/Lola & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	289	174	170	568	3	232	0	184	0	0	0
Future Volume (vph)	0	289	174	170	568	3	232	0	184	0	0	0
Satd. Flow (prot)	1745	1745	1483	1658	1743	0	0	1658	1483	0	1745	0
Flt Permitted				0.454				0.757				
Satd. Flow (perm)	1745	1745	1441	789	1743	0	0	1318	1432	0	1745	0
Satd. Flow (RTOR)			193						155			
Lane Group Flow (vph)	0	321	193	189	634	0	0	258	204	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm			
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	40.0	40.0	40.0	20.0	60.0		30.0	30.0	30.0	30.0	30.0	
Total Split (%)	44.4%	44.4%	44.4%	22.2%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)		41.1	41.1	57.5	56.0			21.0	21.0			
Actuated g/C Ratio		0.46	0.46	0.64	0.62			0.23	0.23			
v/c Ratio		0.40	0.25	0.32	0.58			0.84	0.45			
Control Delay		17.7	4.7	8.7	13.5			56.6	11.6			
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay		17.7	4.7	8.7	13.5			56.6	11.6			
LOS		B	A	A	B			E	B			
Approach Delay		12.8			12.4			36.7				
Approach LOS		B			B			D				
Queue Length 50th (m)		26.2	4.4	13.0	63.8			41.2	6.5			
Queue Length 95th (m)		37.4	9.2	22.4	96.6			#76.6	24.3			
Internal Link Dist (m)		236.9			288.2			248.0			26.2	
Turn Bay Length (m)				75.0					20.0			
Base Capacity (vph)		797	763	649	1084			344	488			
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		0.40	0.25	0.29	0.58			0.75	0.42			

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84
Intersection Signal Delay: 18.8 — Intersection LOS: B
Intersection Capacity Utilization 76.6% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Belfast/Retail & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	194	58	625	594	24	141	771	507	33	783	132
Future Volume (vph)	66	194	58	625	594	24	141	771	507	33	783	132
Satd. Flow (prot)	3216	3316	1483	3216	3316	1483	1658	3316	1483	1658	4764	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3103	3316	1422	3156	3316	1388	1645	3316	1424	1644	4764	1421
Satd. Flow (RTOR)			195			140			489			196
Lane Group Flow (vph)	73	216	64	694	660	27	157	857	563	37	870	147
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	15.0	37.5	37.5	35.5	58.0	58.0	21.6	35.4	35.4	21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	27.2%	27.2%	16.6%	27.2%	27.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	18.8	23.0	23.0	30.1	36.9	36.9	14.8	47.4	47.4	8.4	35.9	35.9
Actuated g/C Ratio	0.14	0.18	0.18	0.23	0.28	0.28	0.11	0.36	0.36	0.06	0.28	0.28
v/c Ratio	0.16	0.37	0.16	0.93	0.70	0.05	0.84	0.71	0.68	0.35	0.66	0.28
Control Delay	47.3	47.0	0.8	69.3	46.9	0.2	90.3	42.5	11.5	66.3	46.2	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	47.0	0.8	69.3	46.9	0.2	90.3	42.5	11.5	66.3	46.2	3.1
LOS	D	D	A	E	D	A	F	D	B	E	D	A
Approach Delay		38.7			57.2			36.2			40.9	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	7.7	23.8	0.0	91.9	85.2	0.0	39.9	113.1	14.5	9.2	78.2	0.0
Queue Length 95th (m)	15.5	35.2	0.0	#130.6	97.8	0.0	#75.6	#162.6	63.6	20.2	94.5	6.4
Internal Link Dist (m)		237.3			375.2			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	475	790	487	744	1313	634	195	1208	829	193	1315	534
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.27	0.13	0.93	0.50	0.04	0.81	0.71	0.68	0.19	0.66	0.28

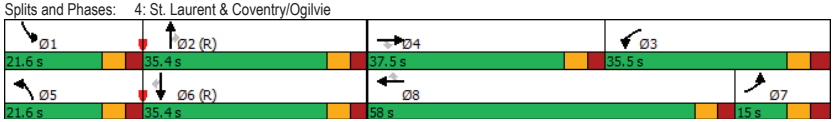
Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 44.2	Intersection LOS: D
Intersection Capacity Utilization 89.9%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	596	175	725	72	0	187	0	1995	94	45	1184	0
Future Volume (vph)	596	175	725	72	0	187	0	1995	94	45	1184	0
Satd. Flow (prot)	3216	3316	1483	1658	0	2611	0	4727	0	1658	3316	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3216	3316	1464	1650	0	2611	0	4727	0	1658	3316	0
Satd. Flow (RTOR)			407			118		6				
Lane Group Flow (vph)	662	194	806	80	0	208	0	2321	0	50	1316	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	49.0	49.0		16.0				64.0		11.0	75.0	
Total Split (%)	35.0%	35.0%		11.4%				45.7%		7.9%	53.6%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	34.3	34.0	140.0	9.5		23.6		64.0		8.4	78.3	
Actuated g/C Ratio	0.24	0.24	1.00	0.07		0.17		0.46		0.06	0.56	
v/c Ratio	0.84	0.24	0.55	0.71		0.39		1.07		0.51	0.71	
Control Delay	60.3	42.0	1.5	95.4		24.1		78.6		62.1	33.5	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	60.3	42.0	1.5	95.4		24.1		78.6		62.1	33.5	
LOS	E	D	A	F		C		E		E	C	
Approach Delay		29.6			43.9			78.6			34.5	
Approach LOS		C			D			E			C	
Queue Length 50th (m)	90.4	22.8	0.0	22.0		12.0		~271.3		13.1	166.7	
Queue Length 95th (m)	105.0	30.8	0.0	#46.4		25.7		#310.8		m#20.4	226.0	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	987	1018	1464	118		497		2164		99	1855	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.67	0.19	0.55	0.68		0.42		1.07		0.51	0.71	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	16.0
Total Split (%)	11%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

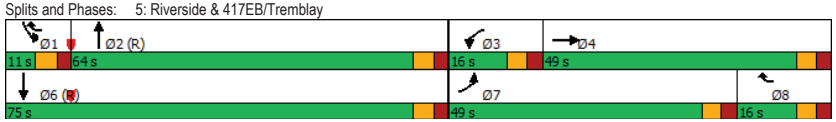
Intersection Summary

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 51.7	Intersection LOS: D
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Riverside & 417EB/Tremblay

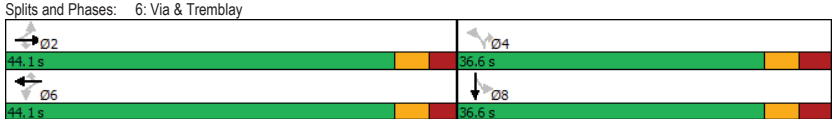


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	272	118	33	129	0	76	0	48	0	0	1
Future Volume (vph)	0	272	118	33	129	0	76	0	48	0	0	1
Satd. Flow (prot)	1745	3316	1483	1658	3316	1745	1658	0	1483	0	1510	0
Flt Permitted				0.568			0.757					
Satd. Flow (perm)	1745	3316	1451	990	3316	1745	1321	0	1483	0	1510	0
Satd. Flow (RTOR)			131						53		740	
Lane Group Flow (vph)	0	302	131	37	143	0	84	0	53	0	1	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm		NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	26.1	26.1	26.1	26.1	26.1	26.1	30.6		30.6	30.6	30.6	
Total Split (s)	44.1	44.1	44.1	44.1	44.1	44.1	36.6		36.6	36.6	36.6	
Total Split (%)	54.6%	54.6%	54.6%	54.6%	54.6%	54.6%	45.4%		45.4%	45.4%	45.4%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)		19.7	19.7	19.7	19.7		10.3		10.3		10.3	
Actuated g/C Ratio		0.52	0.52	0.52	0.52		0.27		0.27		0.27	
v/c Ratio		0.17	0.16	0.07	0.08		0.23		0.12		0.00	
Control Delay		7.5	2.5	7.8	7.4		13.3		5.2		0.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay		7.5	2.5	7.8	7.4		13.3		5.2		0.0	
LOS		A	A	A	A		B		A		A	
Approach Delay		6.0			7.5			10.2				
Approach LOS		A			A			B				
Queue Length 50th (m)		6.1	0.0	1.4	2.7		3.4		0.0		0.0	
Queue Length 95th (m)		11.3	5.7	4.7	6.0		13.3		5.6		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)			40.0	45.0								
Base Capacity (vph)		3106	1367	927	3106		1082		1224		1370	
Starvation Cap Reductn		0	0	0	0		0		0		0	
Spillback Cap Reductn		0	0	0	0		0		0		0	
Storage Cap Reductn		0	0	0	0		0		0		0	
Reduced v/c Ratio		0.10	0.10	0.04	0.05		0.08		0.04		0.00	

Intersection Summary
Cycle Length: 80.7
Actuated Cycle Length: 37.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.23

Intersection Signal Delay: 7.1 | Intersection LOS: A
Intersection Capacity Utilization 41.6% | ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay

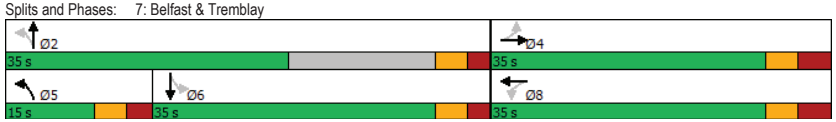


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	30	129	18	99	36	119	269	9	17	244	68
Future Volume (vph)	139	30	129	18	99	36	119	269	9	17	244	68
Satd. Flow (prot)	1658	1490	0	1658	1669	0	1658	1736	0	1658	1677	0
Flt Permitted	0.662			0.646			0.403			0.572		
Satd. Flow (perm)	1154	1490	0	1117	1669	0	701	1736	0	998	1677	0
Satd. Flow (RTOR)		143			23			3			18	
Lane Group Flow (vph)	154	176	0	20	150	0	132	309	0	19	347	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		28.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		15.0	35.0		35.0	35.0	
Total Split (%)	41.2%	41.2%		41.2%	41.2%		17.6%	41.2%		41.2%	41.2%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Act Effct Green (s)	15.1	15.1		15.1	15.1		40.8	40.8		29.7	29.7	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.59	0.59		0.43	0.43	
v/c Ratio	0.61	0.40		0.08	0.39		0.25	0.30		0.04	0.47	
Control Delay	36.3	9.8		22.6	23.3		8.3	8.5		15.6	18.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.3	9.8		22.6	23.3		8.3	8.5		15.6	18.4	
LOS	D	A		C	C		A	A		B	B	
Approach Delay		22.1			23.2			8.4			18.3	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	19.1	3.6		2.2	14.8		6.5	16.7		1.5	31.5	
Queue Length 95th (m)	36.4	17.7		7.1	29.3		17.0	38.2		6.0	64.2	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	482	706		467	711		544	1136		430	734	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.32	0.25		0.04	0.21		0.24	0.27		0.04	0.47	

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 68.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.61

Intersection Signal Delay: 16.6 Intersection LOS: B
Intersection Capacity Utilization 66.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Belfast & Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	21	16	12	20	100	65	1132	38	127	1083	62
Future Volume (vph)	15	21	16	12	20	100	65	1132	38	127	1083	62
Satd. Flow (prot)	1658	1618	0	1658	1507	0	1658	4737	0	1658	3316	1483
Flt Permitted	0.546			0.730			0.234			0.173		
Satd. Flow (perm)	950	1618	0	1268	1507	0	407	4737	0	302	3316	1434
Satd. Flow (RTOR)		18			111			5				69
Lane Group Flow (vph)	17	41	0	13	133	0	72	1300	0	141	1203	69
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		72.0	72.0		18.0	90.0	90.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%		55.4%	55.4%		13.8%	69.2%	69.2%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	14.5	14.5		14.5	14.5		90.0	90.0		104.3	102.8	102.8
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.69	0.69		0.80	0.79	0.79
v/c Ratio	0.16	0.21		0.09	0.50		0.26	0.40		0.43	0.46	0.06
Control Delay	51.4	33.5		48.5	19.1		13.5	10.3		8.0	6.2	1.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	51.4	33.5		48.5	19.1		13.5	10.3		8.0	6.2	1.5
LOS	D	C		D	B		B	B		A	A	A
Approach Delay		38.7			21.7			10.4			6.1	
Approach LOS		D			C			B			A	
Queue Length 50th (m)	4.2	5.6		3.2	5.4		5.3	39.8		5.0	35.1	0.0
Queue Length 95th (m)	9.8	13.8		8.0	20.7		22.6	89.4		20.0	98.4	4.9
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	244	430		326	470		281	3280		381	2622	1148
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	0.07	0.10		0.04	0.28		0.26	0.40		0.37	0.46	0.06

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 53 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 9.5	Intersection LOS: A
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: St. Laurent & Tremblay

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	44	249	444	5	246	11	1454	407	206	1734	10
Future Volume (vph)	51	44	249	444	5	246	11	1454	407	206	1734	10
Satd. Flow (prot)	0	1700	1483	3017	1515	1483	1658	3316	1483	3216	4759	0
Flt Permitted		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (perm)	0	1692	1483	3017	1515	1449	1658	3316	1447	3209	4759	0
Satd. Flow (RTOR)			136			199			452		1	
Lane Group Flow (vph)	0	106	277	330	169	273	12	1616	452	229	1938	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	20.0	20.0	20.0	41.0	41.0	41.0	15.0	64.0	64.0	15.0	64.0	
Total Split (%)	14.3%	14.3%	14.3%	29.3%	29.3%	29.3%	10.7%	45.7%	45.7%	10.7%	45.7%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		13.0	13.0	22.9	22.9	22.9	6.6	59.6	59.6	17.1	77.7	
Actuated g/C Ratio		0.09	0.09	0.16	0.16	0.16	0.05	0.43	0.43	0.12	0.56	
v/c Ratio		0.68	1.06	0.67	0.68	0.68	0.15	1.14	0.52	0.58	0.73	
Control Delay		82.7	102.6	61.1	68.3	23.6	68.2	101.6	4.4	64.6	27.7	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		82.7	102.6	61.1	68.3	23.6	68.2	101.6	4.4	64.6	27.7	
LOS		F	F	E	E	C	E	F	A	E	C	
Approach Delay		97.1			49.4			80.3			31.6	
Approach LOS		F			D			F			C	
Queue Length 50th (m)		28.9	~47.8	48.2	49.5	18.5	3.3	~272.6	8.4	31.0	124.8	
Queue Length 95th (m)		#54.0	#104.3	58.8	69.1	45.1	m3.8	m#314.2	m12.9	#66.5	#231.9	
Internal Link Dist (m)		99.6			161.3			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		157	261	734	369	503	97	1412	875	392	2641	
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		0.68	1.06	0.45	0.46	0.54	0.12	1.14	0.52	0.58	0.73	

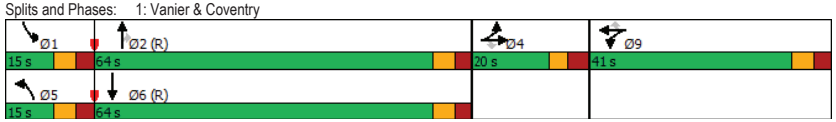
Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 31 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 57.5	Intersection LOS: E
Intersection Capacity Utilization 87.9%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	444	22	41	448	278	48	23	47	170	16	91
Future Volume (vph)	158	444	22	41	448	278	48	23	47	170	16	91
Satd. Flow (prot)	1658	3286	0	1658	3071	0	1658	1549	0	1658	1478	0
Flt Permitted	0.257			0.461			0.681			0.706		
Satd. Flow (perm)	446	3286	0	797	3071	0	1153	1549	0	1222	1478	0
Satd. Flow (RTOR)		6			174			52			101	
Lane Group Flow (vph)	176	517	0	46	807	0	53	78	0	189	119	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	15.0	41.5		15.0	41.5		33.5	33.5		33.5	33.5	
Total Split (%)	16.7%	46.1%		16.7%	46.1%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	53.8	48.6		48.8	42.2		20.0	20.0		20.0	20.0	
Actuated g/C Ratio	0.60	0.54		0.54	0.47		0.22	0.22		0.22	0.22	
v/c Ratio	0.47	0.29		0.09	0.53		0.21	0.20		0.70	0.29	
Control Delay	12.8	14.6		6.0	12.0		27.7	12.2		44.8	9.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	12.8	14.6		6.0	12.0		27.7	12.2		44.8	9.0	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		14.1			11.7			18.5			31.0	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	10.9	26.4		1.9	31.3		7.6	3.6		30.6	2.5	
Queue Length 95th (m)	24.6	46.0		m4.3	m40.4		15.5	13.0		47.7	14.0	
Internal Link Dist (m)		369.8			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	382	1776		528	1531		345	501		366	514	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.29		0.09	0.53		0.15	0.16		0.52	0.23	

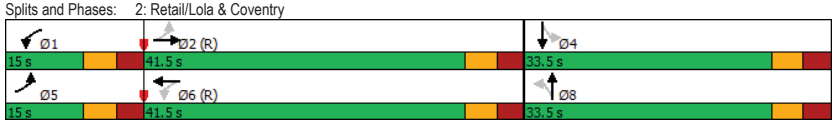
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 16.0	Intersection LOS: B
Intersection Capacity Utilization 68.5%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 2: Retail/Lola & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	482	225	197	445	5	336	0	273	1	0	4
Future Volume (vph)	1	482	225	197	445	5	336	0	273	1	0	4
Satd. Flow (prot)	1658	1745	1483	1658	1741	0	0	1658	1483	0	1518	0
Flt Permitted	0.480			0.194				0.754			0.948	
Satd. Flow (perm)	831	1745	1420	339	1741	0	0	1308	1445	0	1453	0
Satd. Flow (RTOR)			250		1				182		103	
Lane Group Flow (vph)	1	536	250	219	500	0	0	373	303	0	5	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	37.0	37.0	37.0	15.0	52.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	41.1%	41.1%	41.1%	16.7%	57.8%		42.2%	42.2%	42.2%	42.2%	42.2%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)	33.5	33.5	33.5	49.8	48.3			28.7	28.7		28.7	
Actuated g/C Ratio	0.37	0.37	0.37	0.55	0.54			0.32	0.32		0.32	
v/c Ratio	0.00	0.83	0.36	0.66	0.54			0.89	0.52		0.01	
Control Delay	17.0	34.0	3.7	22.3	17.0			54.0	12.6		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	17.0	34.0	3.7	22.3	17.0			54.0	12.6		0.0	
LOS	B	C	A	C	B			D	B		A	
Approach Delay		24.4			18.6			35.5				
Approach LOS		C			B			D				
Queue Length 50th (m)	0.1	92.4	3.9	19.7	56.9			57.8	14.6		0.0	
Queue Length 95th (m)	m0.2	#137.4	8.3	#36.8	86.4			#104.7	37.0		0.0	
Internal Link Dist (m)		236.9			288.2			248.0			26.2	
Turn Bay Length (m)	54.0			75.0					20.0			
Base Capacity (vph)	309	649	685	335	934			457	624		575	
Starvation Cap Reductn	0	0	0	0	0			0	0		0	
Spillback Cap Reductn	0	0	0	0	0			0	0		0	
Storage Cap Reductn	0	0	0	0	0			0	0		0	
Reduced v/c Ratio	0.00	0.83	0.36	0.65	0.54			0.82	0.49		0.01	

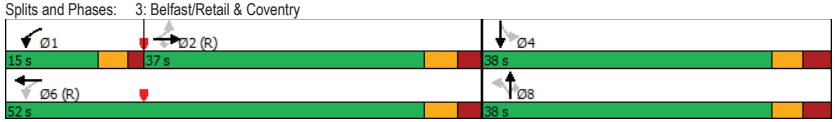
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 25.9	Intersection LOS: C
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Belfast/Retail & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	574	205	466	367	30	183	846	609	71	758	192
Future Volume (vph)	302	574	205	466	367	30	183	846	609	71	758	192
Satd. Flow (prot)	3216	3316	1483	3216	3316	1483	1658	3316	1483	1658	4764	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2870	3316	1390	3148	3316	1298	1630	3316	1416	1643	4764	1385
Satd. Flow (RTOR)			212			210			375			211
Lane Group Flow (vph)	336	638	228	518	408	33	203	940	677	79	842	213
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	23.5	37.5	37.5	23.5	37.5	37.5	23.5	44.0	44.0	15.0	35.5	35.5
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.6%	36.7%	36.7%	12.5%	29.6%	29.6%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	16.6	29.2	29.2	18.4	31.0	31.0	16.6	37.9	37.9	8.3	29.6	29.6
Actuated g/C Ratio	0.14	0.24	0.24	0.15	0.26	0.26	0.14	0.32	0.32	0.07	0.25	0.25
v/c Ratio	0.76	0.79	0.46	1.05	0.48	0.07	0.89	0.90	0.96	0.69	0.72	0.43
Control Delay	61.6	50.3	9.2	104.1	39.9	0.3	87.4	51.7	44.6	84.5	45.5	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	50.3	9.2	104.1	39.9	0.3	87.4	51.7	44.6	84.5	45.5	7.9
LOS	E	D	A	F	D	A	F	D	D	F	D	A
Approach Delay		45.7			73.2			53.0			41.2	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	39.7	72.8	2.8	~74.6	42.8	0.0	47.3	111.4	84.3	18.5	67.1	0.4
Queue Length 95th (m)	#56.5	93.9	23.1	#108.2	58.3	0.0	#88.1	#148.1	#165.8	#41.0	82.3	19.4
Internal Link Dist (m)		235.7			375.0			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	444	856	516	492	856	491	236	1047	704	118	1176	500
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.75	0.44	1.05	0.48	0.07	0.86	0.90	0.96	0.67	0.72	0.43

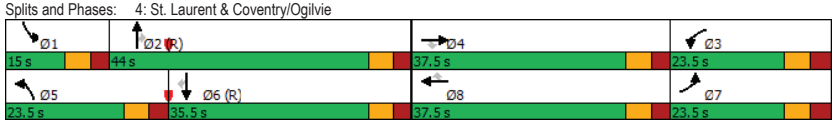
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 52.4	Intersection LOS: D
Intersection Capacity Utilization 94.5%	ICU Level of Service F
Analysis Period (min) 15	

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

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	505	282	620	92	0	221	0	1923	103	55	1232	0
Future Volume (vph)	505	282	620	92	0	221	0	1923	103	55	1232	0
Satd. Flow (prot)	3216	3316	1483	1658	0	2611	0	4726	0	1658	3316	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3216	3316	1464	1653	0	2611	0	4726	0	1658	3316	0
Satd. Flow (RTOR)			279			118		8				
Lane Group Flow (vph)	561	313	689	102	0	246	0	2251	0	61	1369	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	36.0	34.0		19.0				74.0		13.0	87.0	
Total Split (%)	25.7%	24.3%		13.6%				52.9%		9.3%	62.1%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	28.0	26.0	140.0	11.9		23.4		70.5		7.6	84.0	
Actuated g/C Ratio	0.20	0.19	1.00	0.08		0.17		0.50		0.05	0.60	
v/c Ratio	0.87	0.51	0.47	0.72		0.46		0.94		0.69	0.69	
Control Delay	69.4	54.0	1.1	89.8		29.6		42.7		86.8	27.6	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	69.4	54.0	1.1	89.8		29.6		42.7		86.8	27.6	
LOS	E	D	A	F		C		D		F	C	
Approach Delay		36.2			47.3			42.7			30.1	
Approach LOS		D			D			D			C	
Queue Length 50th (m)	77.2	40.6	0.0	27.8		17.7		218.9		17.7	93.5	
Queue Length 95th (m)	98.1	55.8	0.0	#51.7		32.5		#259.4		m#25.8	m225.4	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	689	663	1464	153		512		2384		90	1989	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.81	0.47	0.47	0.67		0.48		0.94		0.68	0.69	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 3 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	17.0
Total Split (%)	12%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

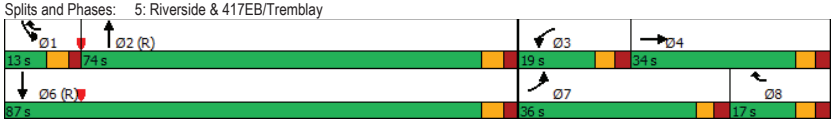
Intersection Summary	

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 37.9	Intersection LOS: D
Intersection Capacity Utilization 80.1%	ICU Level of Service D
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Riverside & 417EB/Tremblay

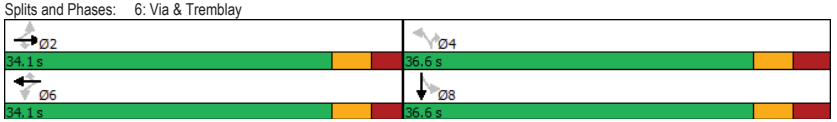


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	211	164	56	258	0	147	0	77	1	0	1
Future Volume (vph)	2	211	164	56	258	0	147	0	77	1	0	1
Satd. Flow (prot)	1658	3316	1483	1658	3316	1745	1658	0	1483	0	1576	0
Flt Permitted	0.576			0.606			0.757				0.976	
Satd. Flow (perm)	1005	3316	1449	1055	3316	1745	1319	0	1483	0	1576	0
Satd. Flow (RTOR)			182						86		48	
Lane Group Flow (vph)	2	234	182	62	287	0	163	0	86	0	2	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm	Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6	30.6	36.6		36.6	30.6	30.6	
Total Split (s)	34.1	34.1	34.1	34.1	34.1	34.1	36.6		36.6	36.6	36.6	
Total Split (%)	48.2%	48.2%	48.2%	48.2%	48.2%	48.2%	51.8%		51.8%	51.8%	51.8%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)	16.9	16.9	16.9	16.9	16.9		12.5		12.5		12.5	
Actuated g/C Ratio	0.45	0.45	0.45	0.45	0.45		0.34		0.34		0.34	
v/c Ratio	0.00	0.16	0.24	0.13	0.19		0.37		0.16		0.00	
Control Delay	10.5	10.1	3.5	11.4	10.2		12.6		3.6		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay	10.5	10.1	3.5	11.4	10.2		12.6		3.6		0.0	
LOS	B	B	A	B	B		B		A		A	
Approach Delay		7.2			10.4			9.5				
Approach LOS		A			B			A				
Queue Length 50th (m)	0.1	4.6	0.0	2.3	5.8		6.6		0.0		0.0	
Queue Length 95th (m)	1.3	15.2	10.1	11.3	18.1		21.7		6.1		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)	38.0		40.0	45.0								
Base Capacity (vph)	794	2621	1183	833	2621		1117		1269		1341	
Starvation Cap Reductn	0	0	0	0	0		0		0		0	
Spillback Cap Reductn	0	0	0	0	0		0		0		0	
Storage Cap Reductn	0	0	0	0	0		0		0		0	
Reduced v/c Ratio	0.00	0.09	0.15	0.07	0.11		0.15		0.07		0.00	

Intersection Summary
Cycle Length: 70.7
Actuated Cycle Length: 37.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.37

Intersection Signal Delay: 8.8 — Intersection LOS: A
Intersection Capacity Utilization 45.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay

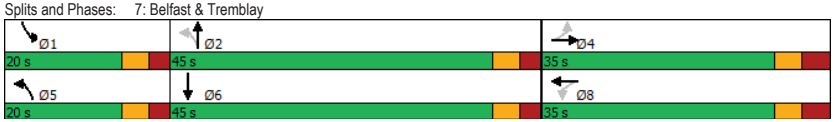


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	54	169	20	62	34	154	397	20	23	358	72
Future Volume (vph)	161	54	169	20	62	34	154	397	20	23	358	72
Satd. Flow (prot)	1658	1492	0	1658	1643	0	1658	1730	0	1658	1692	0
Flt Permitted	0.688			0.445			0.321			0.950		
Satd. Flow (perm)	1197	1492	0	765	1643	0	558	1730	0	1646	1692	0
Satd. Flow (RTOR)		157			28			3			12	
Lane Group Flow (vph)	179	248	0	22	107	0	171	463	0	26	478	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		10.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		20.0	45.0		20.0	45.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		20.0%	45.0%		20.0%	45.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	18.0	18.0		18.0	18.0		55.1	50.6		7.0	39.5	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.64	0.58		0.08	0.46	
v/c Ratio	0.72	0.57		0.14	0.29		0.35	0.46		0.20	0.62	
Control Delay	48.8	17.2		29.6	23.5		9.4	15.4		43.5	23.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.8	17.2		29.6	23.5		9.4	15.4		43.5	23.6	
LOS	D	B		C	C		A	B		D	C	
Approach Delay		30.4			24.6			13.8			24.6	
Approach LOS		C			C			B			C	
Queue Length 50th (m)	27.8	12.8		3.0	11.0		9.9	32.4		4.1	56.5	
Queue Length 95th (m)	50.8	35.3		9.2	24.7		23.8	98.4		12.7	112.4	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	393	595		251	559		539	1011		272	777	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.42		0.09	0.19		0.32	0.46		0.10	0.62	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 86.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72

Intersection Signal Delay: 22.0 — Intersection LOS: C
Intersection Capacity Utilization 66.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Belfast & Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	38	57	23	21	180	26	1305	12	51	954	38
Future Volume (vph)	47	38	57	23	21	180	26	1305	12	51	954	38
Satd. Flow (prot)	1658	1575	0	1658	1490	0	1658	4758	0	1658	3316	1483
Flt Permitted	0.299			0.689			0.270			0.139		
Satd. Flow (perm)	521	1575	0	1200	1490	0	470	4758	0	242	3316	1433
Satd. Flow (RTOR)		62			178			1				42
Lane Group Flow (vph)	52	105	0	26	223	0	29	1463	0	57	1060	42
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		65.0	65.0		15.0	80.0	80.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		54.2%	54.2%		12.5%	66.7%	66.7%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	15.9	15.9		15.9	15.9		82.1	82.1		92.9	91.4	91.4
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.68	0.68		0.77	0.76	0.76
v/c Ratio	0.76	0.40		0.16	0.64		0.09	0.45		0.22	0.42	0.04
Control Delay	103.3	24.2		44.3	19.3		11.2	10.9		6.6	6.7	2.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	103.3	24.2		44.3	19.3		11.2	10.9		6.6	6.7	2.2
LOS	F	C		D	B		B	B		A	A	A
Approach Delay		50.4			21.9			10.9			6.5	
Approach LOS		D			C			B			A	
Queue Length 50th (m)	12.4	9.5		5.7	10.0		2.0	49.0		2.2	32.9	0.0
Queue Length 95th (m)	22.8	21.6		11.9	29.0		9.0	99.1		9.5	82.8	4.1
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	145	484		335	544		321	3257		308	2525	1101
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.36	0.22		0.08	0.41		0.09	0.45		0.19	0.42	0.04

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 12.2	Intersection LOS: B
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: St. Laurent & Tremblay

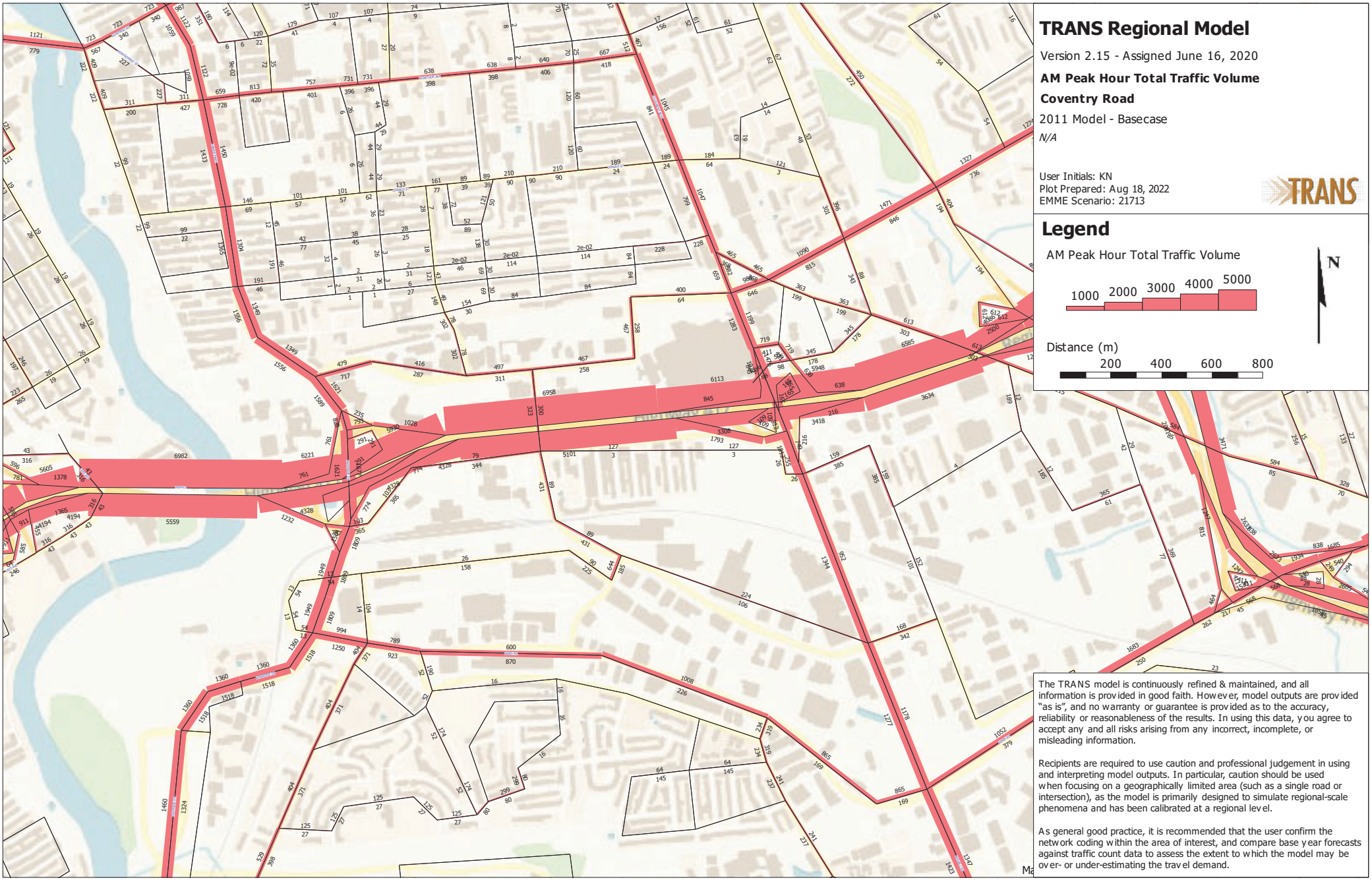
Appendix D

Collision Data

Accident Date	Accident Year	Accident Time	Location	Environment Condition	Light	Traffic Control	Traffic Control Condition	Classification Of Accident	Initial Impact Type	Road Surface Condition	# Vehicles	# Motorcycles	# Bicycles	# Pedestrians
2016-11-18	2016	17:36	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	07 - Dark	01 - Traffic signal	00 - Unknown	03 - P.D. only	03 - Rear end	02 - Wet	2	0	0	0
2016-11-15	2016	11:43	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	05 - Turning movement	01 - Dry	2	0	0	0
2016-12-13	2016	15:50	BELFAST RD @ COVENTRY RD (0002646)	03 - Snow	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	02 - Wet	2	0	0	0
2016-12-10	2016	8:13	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	06 - Ice	2	0	0	0
2016-12-29	2016	18:29	BELFAST RD @ COVENTRY RD (0002646)	03 - Snow	07 - Dark	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	05 - Packed snow	3	0	0	0
2016-03-05	2016	16:05	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	05 - Turning movement	01 - Dry	2	0	0	0
2016-01-14	2016	12:50	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	04 - Slush	2	0	0	0
2016-07-19	2016	17:00	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	01 - Dry	2	0	0	0
2017-10-13	2017	15:55	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	01 - Dry	2	0	0	0
2017-10-23	2017	16:13	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	04 - Sideswipe	01 - Dry	2	0	0	0
2017-11-15	2017	17:07	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	07 - Dark	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	01 - Dry	2	0	0	0
2017-12-23	2017	12:15	BELFAST RD @ COVENTRY RD (0002646)	03 - Snow	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	03 - Loose snow	2	0	0	0
2017-03-29	2017	8:36	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	04 - Sideswipe	01 - Dry	2	0	0	0
2017-05-30	2017	7:28	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	01 - Dry	2	0	0	0
2017-01-17	2017	17:42	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	07 - Dark	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	03 - Rear end	01 - Dry	2	0	0	0
2018-02-16	2018	21:05	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	07 - Dark	01 - Traffic signal	01 - Functioning	03 - P.D. only	04 - Sideswipe	02 - Wet	2	0	0	0
2018-06-04	2018	15:07	BELFAST RD @ COVENTRY RD (0002646)	02 - Rain	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	02 - Wet	2	0	0	0
2018-07-12	2018	16:28	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	01 - Dry	3	0	0	0
2018-01-13	2018	16:08	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	05 - Turning movement	04 - Slush	2	0	0	0
2018-07-24	2018	19:10	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	02 - Angle	01 - Dry	2	0	0	0
2019-11-08	2019	13:45	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	04 - Sideswipe	01 - Dry	2	0	0	0
2019-11-22	2019	20:47	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	07 - Dark	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	03 - Rear end	01 - Dry	2	0	0	0
2020-02-25	2020	15:36	BELFAST RD @ COVENTRY RD (0002646)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	07 - SMV other	01 - Dry	1	0	0	1
2020-11-22	2020	17:14	BELFAST RD @ COVENTRY RD (0002646)	03 - Snow	07 - Dark	01 - Traffic signal	01 - Functioning	03 - P.D. only	05 - Turning movement	04 - Slush	2	0	0	0
2016-11-24	2016	8:28	BELFAST RD @ TREMBLAY RD (0002698)	02 - Rain	01 - Daylight	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	02 - Angle	02 - Wet	2	0	0	0
2016-07-07	2016	11:58	BELFAST RD @ TREMBLAY RD (0002698)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	05 - Turning movement	01 - Dry	3	0	0	0
2017-10-18	2017	16:51	BELFAST RD @ TREMBLAY RD (0002698)	01 - Clear	05 - Dusk	01 - Traffic signal	01 - Functioning	03 - P.D. only	03 - Rear end	01 - Dry	2	0	0	0
2017-12-31	2017	10:33	BELFAST RD @ TREMBLAY RD (0002698)	01 - Clear	01 - Daylight	01 - Traffic signal	00 - Unknown	03 - P.D. only	05 - Turning movement	02 - Wet	2	0	0	0
2017-07-21	2017	17:00	BELFAST RD @ TREMBLAY RD (0002698)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	04 - Sideswipe	01 - Dry	2	0	0	0
2017-08-24	2017	17:56	BELFAST RD @ TREMBLAY RD (0002698)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	05 - Turning movement	01 - Dry	2	0	0	0
2018-11-16	2018	15:14	BELFAST RD @ TREMBLAY RD (0002698)	03 - Snow	01 - Daylight	01 - Traffic signal	01 - Functioning	03 - P.D. only	02 - Angle	03 - Loose snow	2	0	0	0
2018-06-27	2018	20:53	BELFAST RD @ TREMBLAY RD (0002698)	99 - Other	05 - Dusk	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	03 - Rear end	02 - Wet	2	0	0	0
2019-10-22	2019	21:35	BELFAST RD @ TREMBLAY RD (0002698)	02 - Rain	07 - Dark	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	02 - Angle	02 - Wet	2	0	1	0
2019-06-23	2019	15:38	BELFAST RD @ TREMBLAY RD (0002698)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	03 - Rear end	01 - Dry	2	0	0	0
2020-10-11	2020	17:49	BELFAST RD @ TREMBLAY RD (0002698)	01 - Clear	01 - Daylight	01 - Traffic signal	01 - Functioning	02 - Non-fatal injury	05 - Turning movement	01 - Dry	2	0	0	0
2016-06-21	2016	15:28	BELFAST RD btwn COVENTRY RD & TREMBLAY RD (__3ZA3CW)	01 - Clear	01 - Daylight	10 - No control	0	03 - P.D. only	03 - Rear end	01 - Dry	2	0	0	0
2017-12-28	2017	15:08	BELFAST RD btwn COVENTRY RD & TREMBLAY RD (__3ZA3CW)	01 - Clear	01 - Daylight	10 - No control	0	02 - Non-fatal injury	03 - Rear end	04 - Slush	2	0	0	0
2016-12-28	2016	16:59	COVENTRY RD btwn LOLA ST & BELFAST RD (__3ZA3ME)	01 - Clear	07 - Dark	10 - No control	0	03 - P.D. only	04 - Sideswipe	01 - Dry	2	0	0	0
2017-02-01	2017	12:40	COVENTRY RD btwn LOLA ST & BELFAST RD (__3ZA3ME)	01 - Clear	01 - Daylight	10 - No control	0	03 - P.D. only	03 - Rear end	02 - Wet	3	0	0	0
2018-12-20	2018	12:38	COVENTRY RD btwn LOLA ST & BELFAST RD (__3ZA3ME)	01 - Clear	01 - Daylight	10 - No control	0	03 - P.D. only	02 - Angle	01 - Dry	2	0	0	0
2019-04-26	2019	16:00	COVENTRY RD btwn LOLA ST & BELFAST RD (__3ZA3ME)	02 - Rain	01 - Daylight	10 - No control	0	03 - P.D. only	02 - Angle	02 - Wet	2	0	0	0
2020-09-22	2020	18:53	COVENTRY RD btwn LOLA ST & BELFAST RD (__3ZA3ME)	01 - Clear	01 - Daylight	10 - No control	0	03 - P.D. only	06 - SMV unattended vehicle	01 - Dry	1	0	0	0

Appendix E

TRANS Model Plots



TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Coventry Road

2011 Model - Basecase

N/A

User Initials: KN
Plot Prepared: Aug 18, 2022
EMME Scenario: 21713

TRANS

Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

N

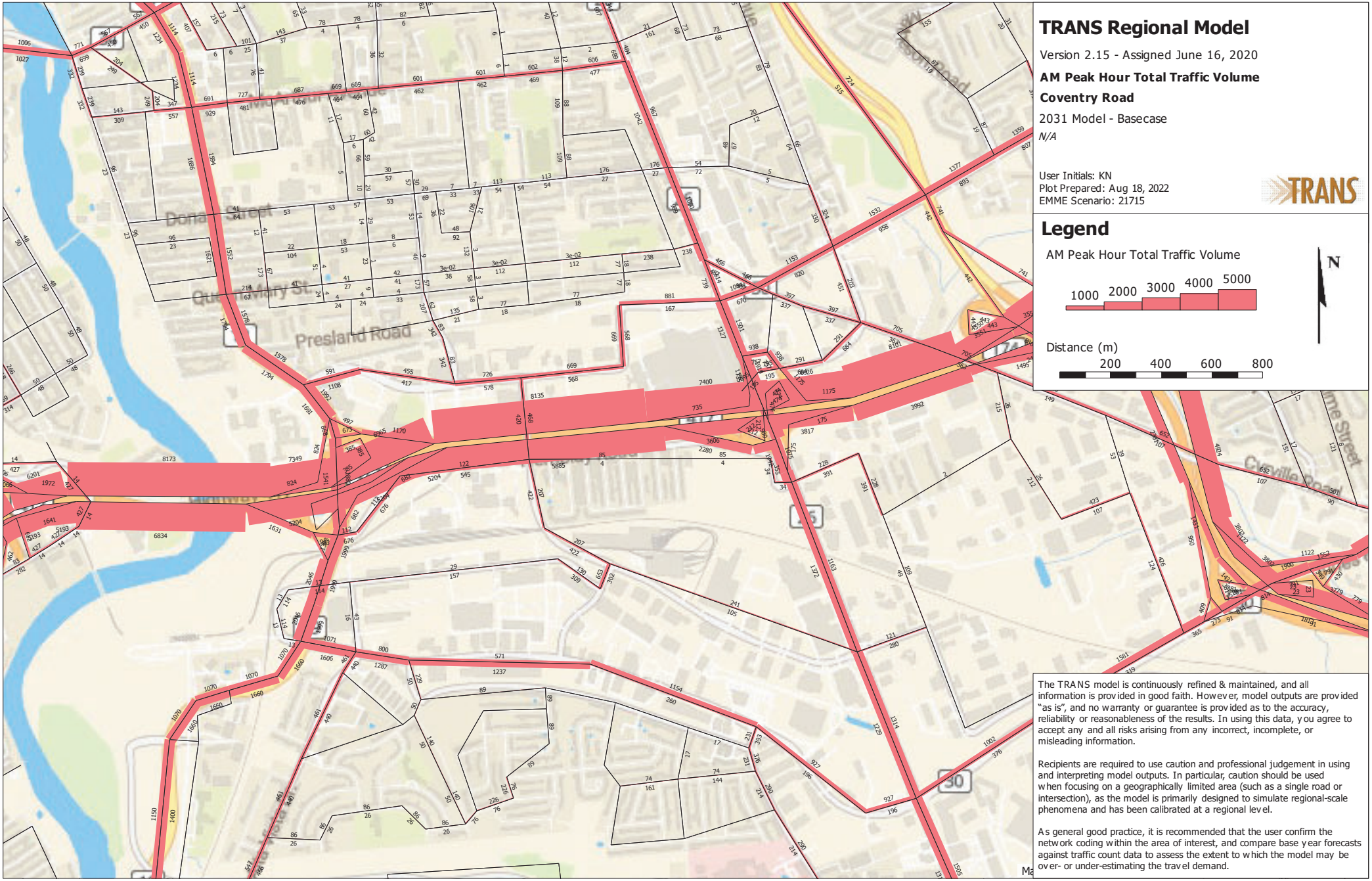
Distance (m)

200 400 600 800

The TRANS model is continuously refined & maintained, and all information is provided in good faith. However, model outputs are provided "as is", and no warranty or guarantee is provided as to the accuracy, reliability or reasonableness of the results. In using this data, you agree to accept any and all risks arising from any incorrect, incomplete, or misleading information.

Recipients are required to use caution and professional judgement in using and interpreting model outputs. In particular, caution should be used when focusing on a geographically limited area (such as a single road or intersection), as the model is primarily designed to simulate regional-scale phenomena and has been calibrated at a regional level.

As general good practice, it is recommended that the user confirm the network coding within the area of interest, and compare base year forecasts against traffic count data to assess the extent to which the model may be over- or under-estimating the travel demand.



TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Coventry Road

2031 Model - Basecase

N/A

User Initials: KN
Plot Prepared: Aug 18, 2022
EMME Scenario: 21715

TRANS

Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

N

Distance (m)

200 400 600 800

Appendix F

Background Development Volumes

CGH TRANSPORTATION

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, and our local area knowledge. (e.g. the location and proximity of other area shopping, communities, recreational opportunities, etc.). For analysis purposes, the following approximate distribution of projected site-generated traffic was assumed:

70%	to/from the west via HWY 417 (via Tremblay);
10%	to/from the east via Tremblay Road;
10%	to/from the north via Belfast Road; and
+ 10%	to/from the south via Belfast Road.
100%	

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 12** and **Figure 14** for phase 1 and phase 2, respectively. Similarly, projected 'pass-by' site-generated traffic, which represents existing traffic temporarily diverted to/from the subject site, is depicted in the following **Figure 13** and **Figure 15** for phase 1 and phase 2, respectively.

It should be noted that Avenue J is a private driveway owned by PIPSC (Professional Institute of the Public Service Canada) and there are currently no plans for this to be a connection to/from the subject development.

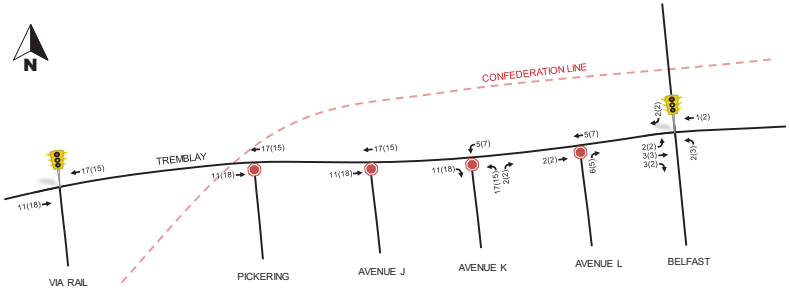


Figure 13: 'New' Projected Site-Generated Traffic - Phase 1

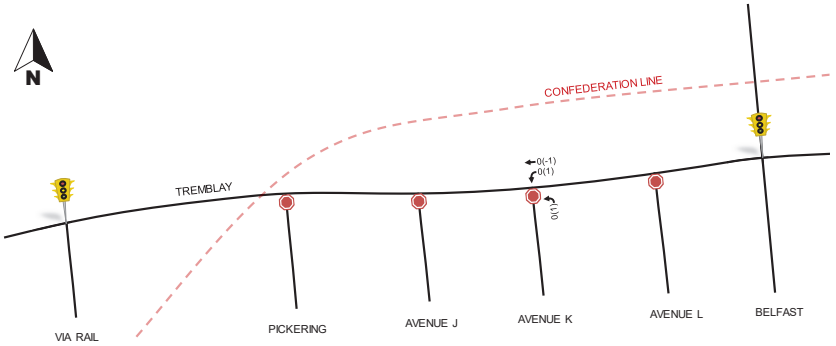


Figure 14: 'Pass-by' Projected Site-Generated Traffic - Phase 1

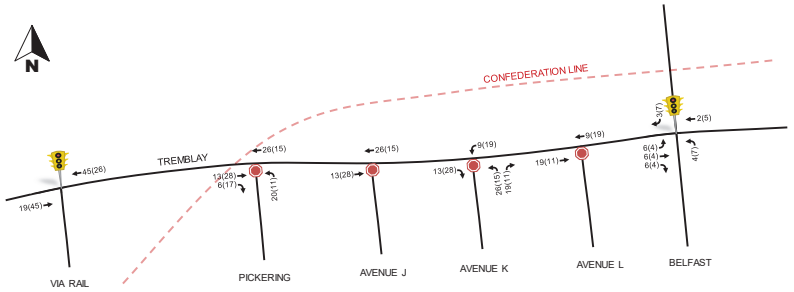


Figure 15: 'New' Projected Site-Generated Traffic - Phase 2

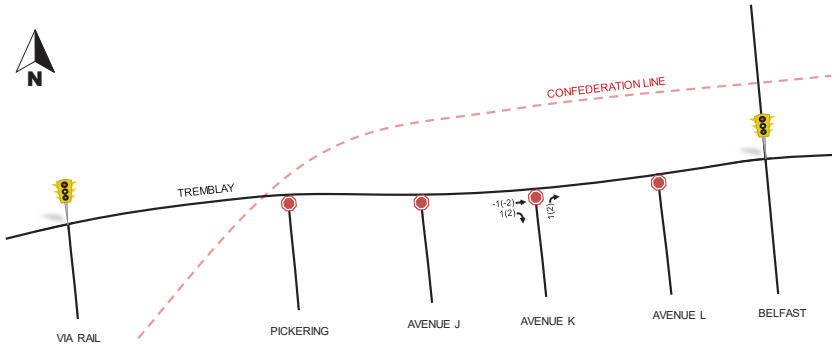


Figure 16: 'Pass-by' Projected Site-Generated Traffic - Phase 2

Given a 0% growth rate for general background traffic and given all area development is assumed to be fully built-out by the horizon year 2025, projected background traffic volumes for the horizon years 2030 and 2035 well be the same as the background traffic volumes for the 2025 horizon year. Therefore, the following **Figure 17** depicts projected background traffic volumes for the 2025 horizon year and beyond.

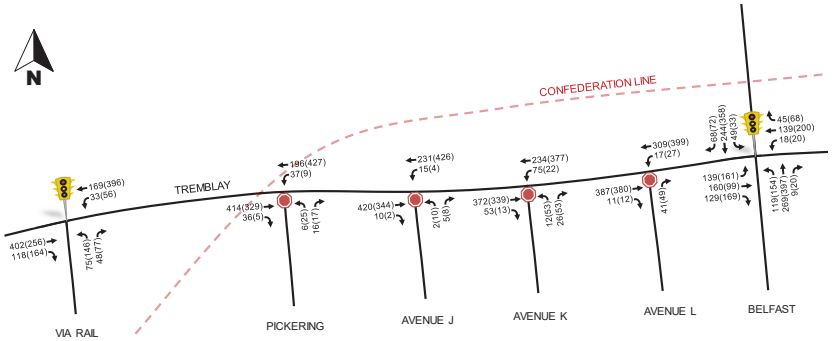


Figure 17: Background Traffic Volumes (2025, 2030, 2035)

3.3 Demand Rationalization

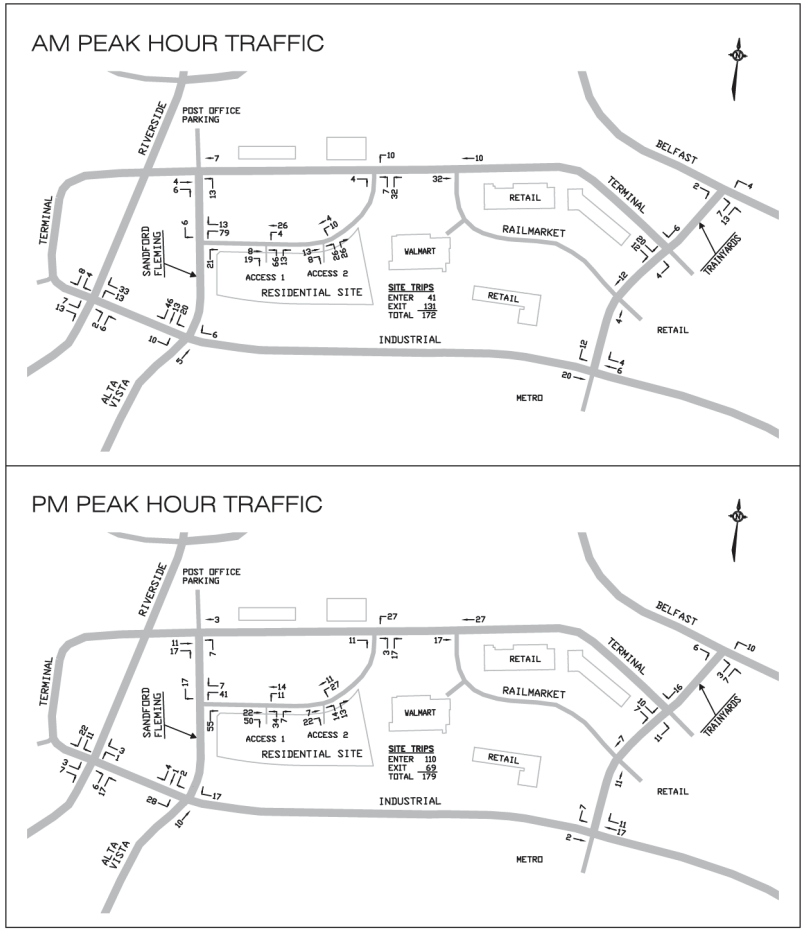
The following section summarizes the vehicular intersection capacity analysis of existing, future background and future total volume scenarios.

Using the intersection capacity analysis software Synchro (v9), study area intersections were assessed in terms of vehicle delay, 95th percentile queues, a volume-to-capacity ratio (v/c) and a corresponding Level of Service (LOS). It should be noted that the overall performance of a signalized intersection is calculated as a weighted v/c ratio and assigned a corresponding LOS, with critical movements assigned a LOS based on their respective v/c ratio. The overall performance of an unsignalized intersection is a LOS output from Synchro, which is based on an Intersection Capacity Utilization (ICU) method, and critical movements are assigned a LOS based on delay.

Existing and Background Conditions

The following **Table 8, Table 9** summarize existing and projected background conditions at study area intersections, in the absence of the proposed development. The objective of this analysis is to determine if network improvements are, or will be required to support background traffic. Detailed Synchro output data for existing and background conditions is provided as **Appendix E**.

FIGURE 4.3
PHASE 1 to 3 – PEAK AM AND PM HOUR SITE GENERATED TRIPS



NOT TO SCALE

Figure 6: Net Assignment of Trips with Redevelopment

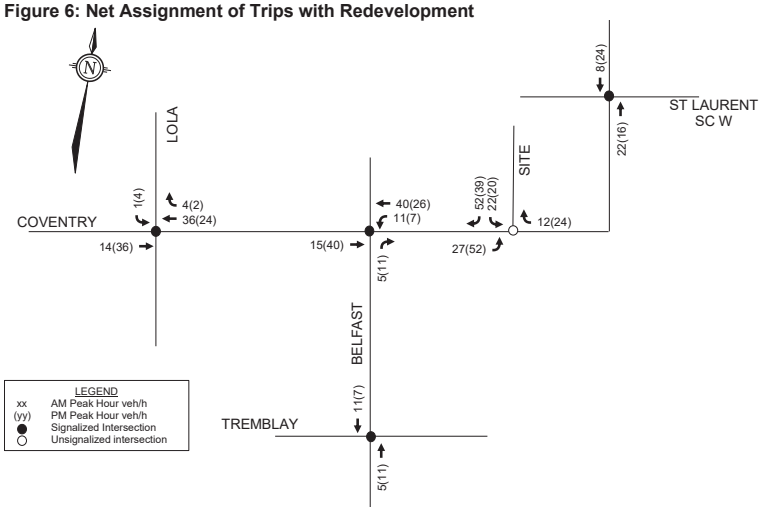
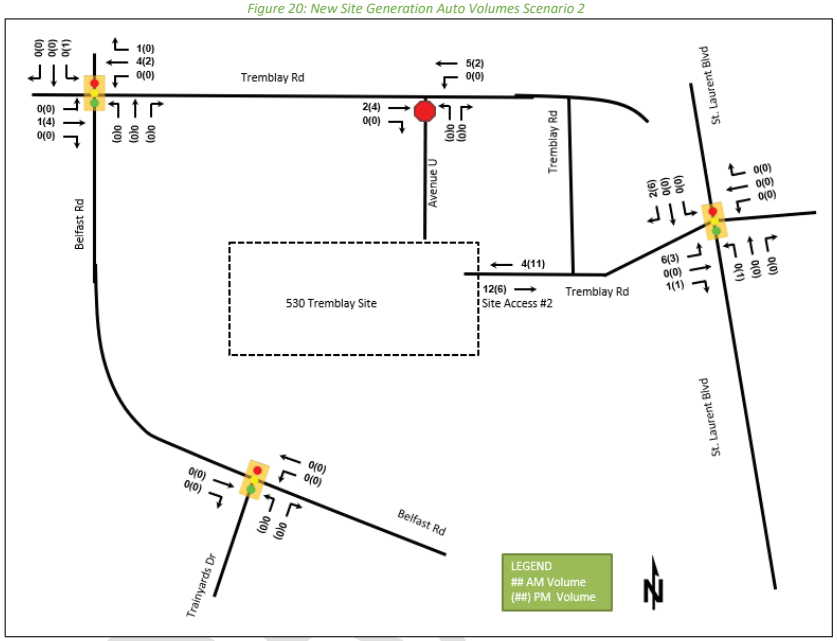


Figure 20: New Site Generation Auto Volumes Scenario 2



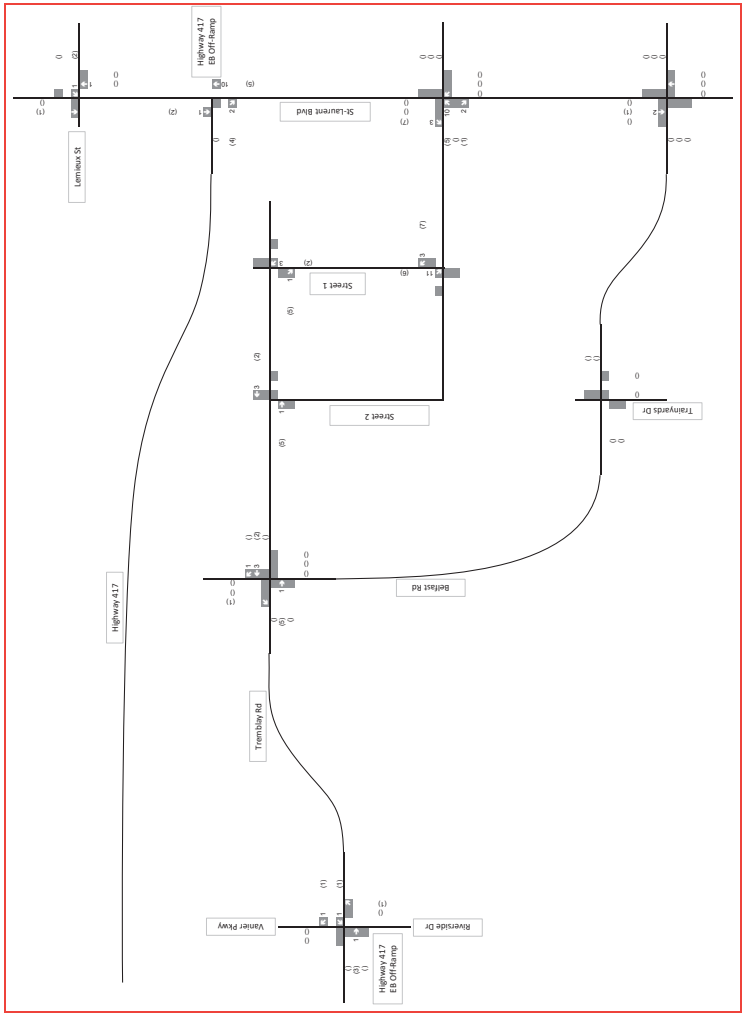
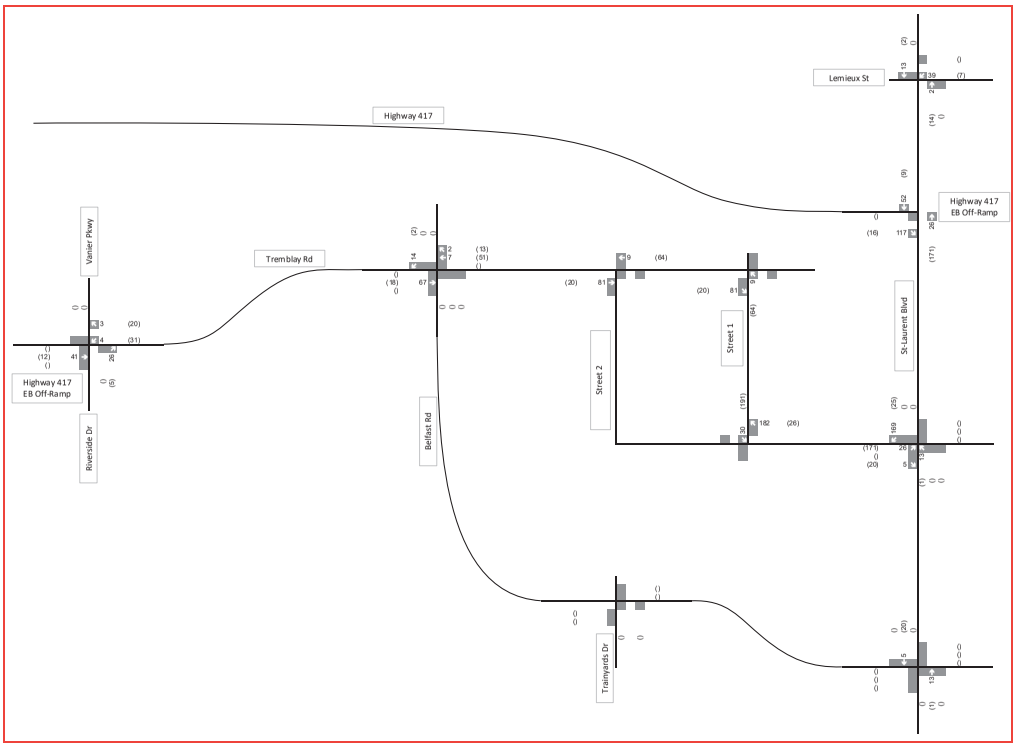


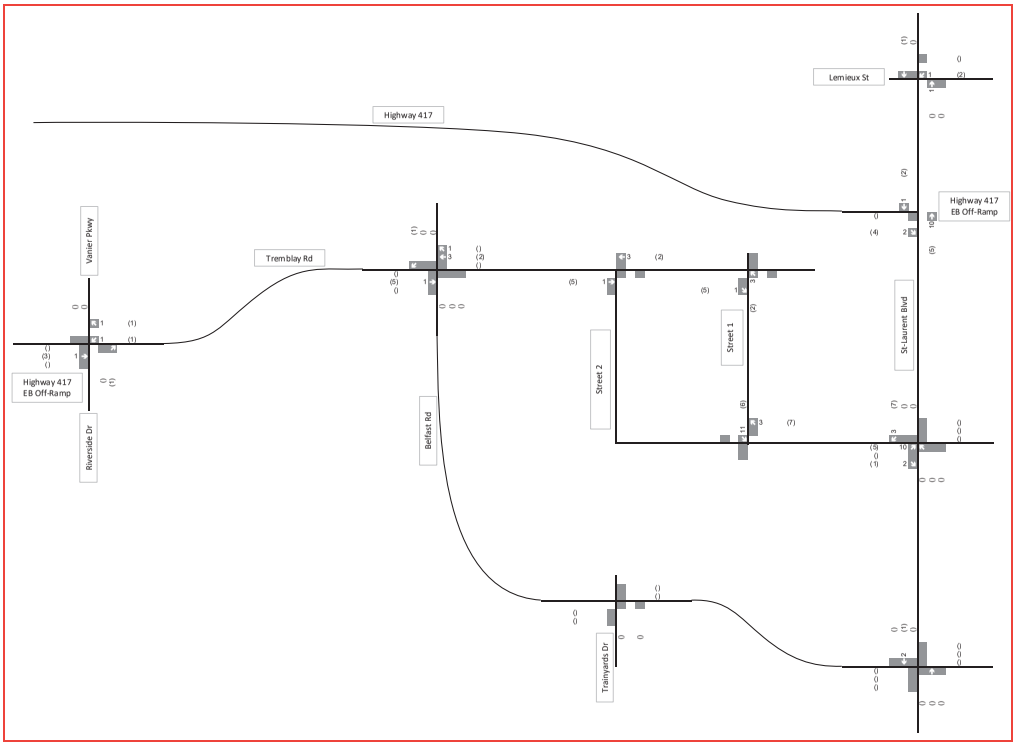
Figure 3-2
2025 Residential Trips Generated



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 3-3
2025 Office Trips Generated



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 3-4
2029 Residential Trip Generation

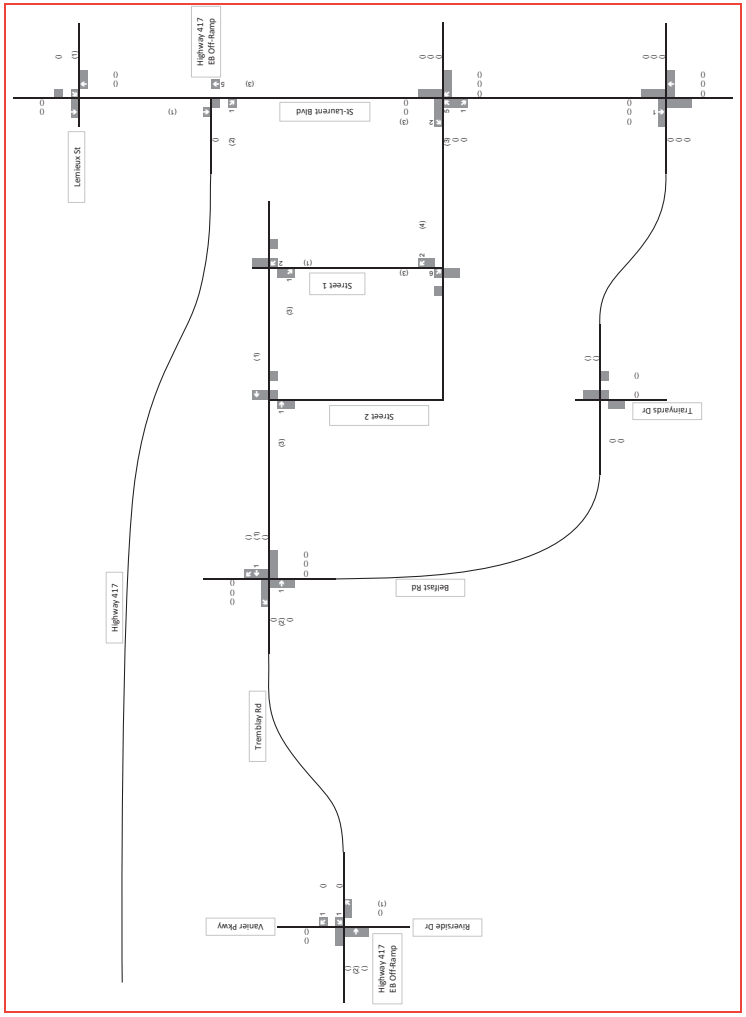
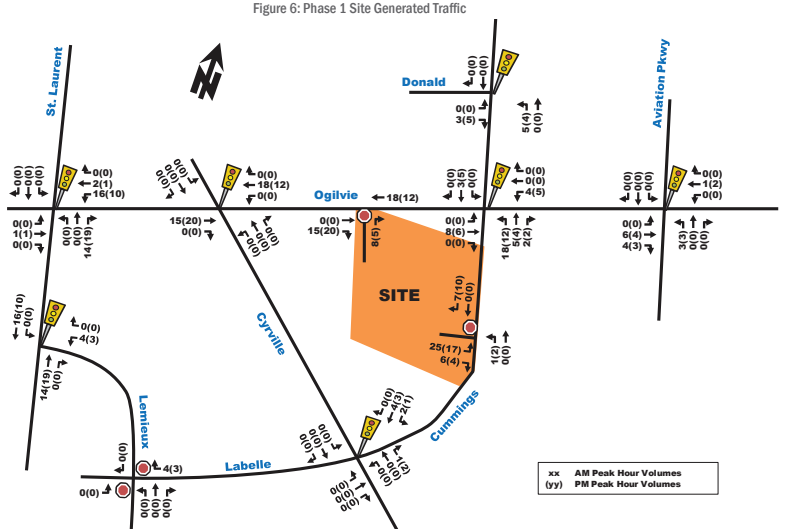


Figure 3-5
2033 Residential Trips Generated

- 10% to/from the east; and
- 20% to/from the west.

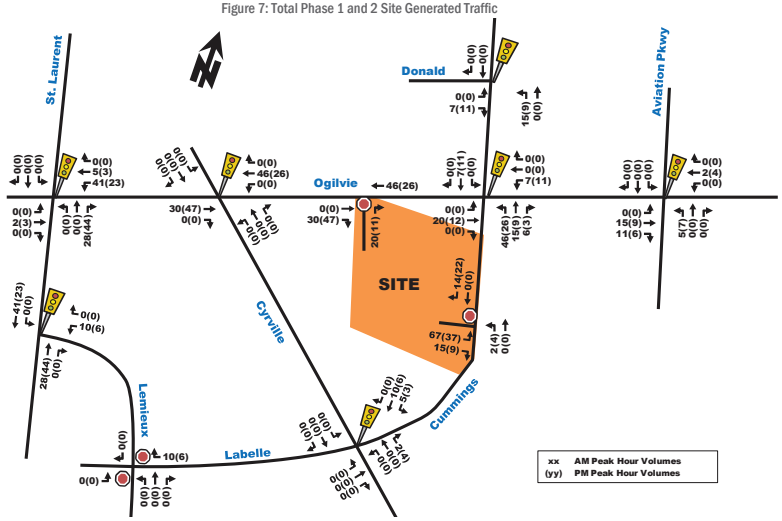
Based on the foregoing distribution, 'new' 2022 and 2024 projected site-generated trips were assigned to the study area, which are illustrated as **Figure 6** and **Figure 7**, respectively.

Figure 6: Phase 1 Site Generated Traffic



PARSONS

Figure 7: Total Phase 1 and 2 Site Generated Traffic



3.2. BACKGROUND NETWORK TRAVEL DEMANDS

3.2.1. TRANSPORTATION NETWORK PLANS

See Section 2.1.3.

3.2.2. BACKGROUND GROWTH

The following background traffic growth through the immediate study area (summarized in **Table 15**) was calculated based on historical traffic count data (years 2001, 2009, and 2018) provided by the City of Ottawa at the Ogilvie/Cyrville intersection. Detailed background traffic growth analysis is included as Appendix E.

Table 15: Ogilvie/Cyrville Historical Background Growth (2001 – 2018)

Time Period	Percent Annual Change				
	North Leg	South Leg	East Leg	West Leg	Overall
8 hrs	2.20%	0.80%	1.24%	1.02%	**1.23%**
AM Peak	2.75%	2.53%	1.72%	1.97%	**2.07%**
PM Peak	1.25%	0.37%	0.45%	0.54%	**0.58%**

As shown in **Table 15**, the Ogilvie/Cyrville intersection has experienced an approximate 0.5% to 2% annual increase overall in vehicle traffic within recent years. To account for area development within the surrounding area, a 1% per annum growth factor was applied to existing traffic volumes along the arterial roadways, namely St. Laurent Boulevard, Ogilvie Road, Cyrville Road, Cummings Avenue and Aviation Parkway. Background traffic volumes for the 2022 built-out horizon year, 2024 built-out horizon year and 2029 (5-years beyond site build-out) are depicted within **Figure 8**, **Figure 9**, and **Figure 10**, respectively.

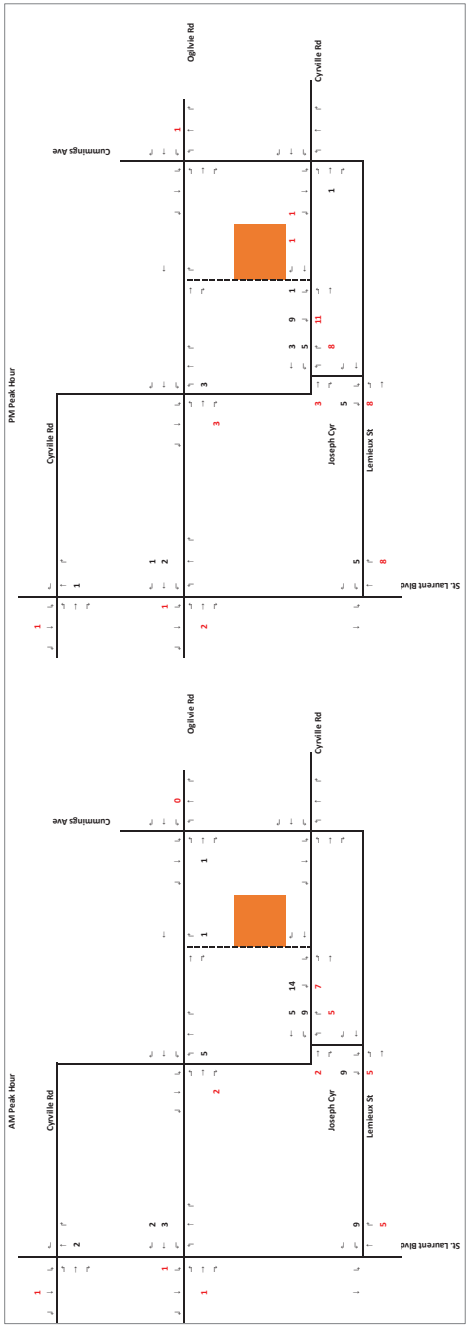
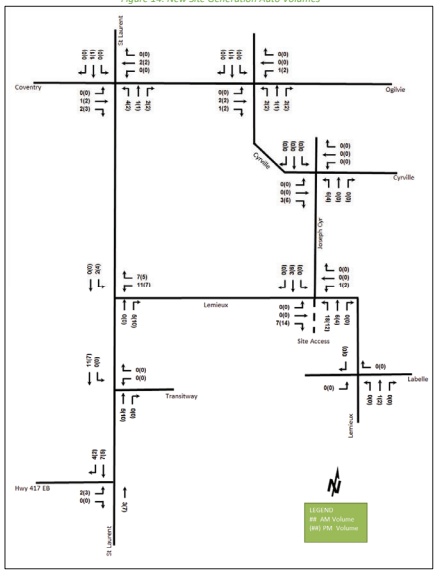


Figure 10 - Site Traffic Assignment

Figure 14: New Site Generation Auto Volumes



Appendix G

Synchro Intersection Worksheets – 2032 Future Background Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	7	12	711	83	141	132	1321	449	201	1658	43
Future Volume (vph)	5	7	12	711	83	141	132	1321	449	201	1658	43
Satd. Flow (prot)	0	1710	1483	2988	1525	1427	1658	3316	1483	3216	4738	0
Flt Permitted		0.980		0.950	0.967		0.950			0.950		
Satd. Flow (perm)	0	1697	1404	2927	1513	1374	1653	3316	1419	3200	4738	0
Satd. Flow (RTOR)			189			189			449		3	
Lane Group Flow (vph)	0	12	12	526	268	141	132	1321	449	201	1701	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	17.0	17.0	17.0	41.0	41.0	41.0	23.0	68.0	68.0	14.0	59.0	
Total Split (%)	12.1%	12.1%	12.1%	29.3%	29.3%	29.3%	16.4%	48.6%	48.6%	10.0%	42.1%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		10.0	10.0	30.6	30.6	30.6	14.7	66.9	66.9	11.9	64.1	
Actuated g/C Ratio		0.07	0.07	0.22	0.22	0.22	0.10	0.48	0.48	0.08	0.46	
v/c Ratio		0.10	0.04	0.81	0.80	0.32	0.76	0.83	0.49	0.74	0.78	
Control Delay		62.8	0.3	61.8	70.1	3.5	74.5	23.9	0.9	77.9	37.7	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		62.8	0.3	61.8	70.1	3.5	74.5	23.9	0.9	77.9	37.7	
LOS		E	A	E	E	A	E	C	A	E	D	
Approach Delay		31.6			55.4			22.0			42.0	
Approach LOS		C			E			C			D	
Queue Length 50th (m)		3.2	0.0	74.0	75.3	0.0	38.7	114.6	1.3	~34.6	167.4	
Queue Length 95th (m)		9.9	0.0	95.3	111.2	5.8	m39.2	m93.7	m1.1	#60.5	#200.9	
Internal Link Dist (m)		99.6			160.2			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		122	275	727	371	477	191	1583	912	273	2172	
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		0.10	0.04	0.72	0.72	0.30	0.69	0.83	0.49	0.74	0.78	

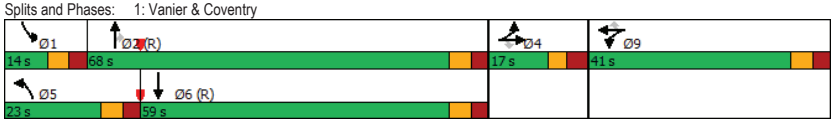
Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 36.6	Intersection LOS: D
Intersection Capacity Utilization 86.8%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	416	42	34	687	168	49	19	17	151	14	169
Future Volume (vph)	109	416	42	34	687	168	49	19	17	151	14	169
Satd. Flow (prot)	1658	3168	0	1551	3077	0	1658	1496	0	1580	1437	0
Flt Permitted	0.243			0.488			0.601			0.734		
Satd. Flow (perm)	412	3168	0	746	3077	0	1021	1496	0	1187	1437	0
Satd. Flow (RTOR)		12			35			17			169	
Lane Group Flow (vph)	109	458	0	34	855	0	49	36	0	151	183	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	22.0	34.5		22.0	34.5		33.5	33.5		33.5	33.5	
Total Split (%)	24.4%	38.3%		24.4%	38.3%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	53.5	47.8		49.0	43.7		20.9	20.9		20.9	20.9	
Actuated g/C Ratio	0.59	0.53		0.54	0.49		0.23	0.23		0.23	0.23	
v/c Ratio	0.30	0.27		0.07	0.57		0.21	0.10		0.55	0.39	
Control Delay	11.1	14.9		7.6	15.2		26.9	15.5		36.3	7.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	11.1	14.9		7.6	15.2		26.9	15.5		36.3	7.7	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		14.2			14.9			22.1			20.6	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	8.4	27.1		1.7	36.4		6.2	2.3		20.8	1.7	
Queue Length 95th (m)	16.0	40.0		m2.9	m57.7		14.9	9.0		38.3	16.2	
Internal Link Dist (m)		374.2			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	469	1688		597	1510		306	460		356	549	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.23	0.27		0.06	0.57		0.16	0.08		0.42	0.33	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57
Intersection Signal Delay: 16.0 Intersection LOS: B
Intersection Capacity Utilization 83.1% ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Retail/Lola & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	376	188	185	691	3	265	0	227	0	0	0
Future Volume (vph)	0	376	188	185	691	3	265	0	227	0	0	0
Satd. Flow (prot)	1745	1679	1455	1658	1709	0	0	1626	1469	0	1745	0
Flt Permitted				0.396				0.757				
Satd. Flow (perm)	1745	1679	1188	643	1709	0	0	1171	1187	0	1745	0
Satd. Flow (RTOR)			188						168			
Lane Group Flow (vph)	0	376	188	185	694	0	0	265	227	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm			
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	40.0	40.0	40.0	20.0	60.0		30.0	30.0	30.0	30.0	30.0	
Total Split (%)	44.4%	44.4%	44.4%	22.2%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)		39.7	39.7	56.1	54.6			22.4	22.4			
Actuated g/C Ratio		0.44	0.44	0.62	0.61			0.25	0.25			
v/c Ratio		0.51	0.30	0.36	0.67			0.91	0.54			
Control Delay		17.4	3.7	9.6	16.2			68.6	13.8			
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay		17.4	3.7	9.6	16.2			68.6	13.8			
LOS		B	A	A	B			E	B			
Approach Delay		12.8			14.8			43.3				
Approach LOS		B			B			D				
Queue Length 50th (m)		26.5	2.1	12.8	75.2			43.8	7.9			
Queue Length 95th (m)		36.8	6.3	21.9	114.7			#86.5	29.1			
Internal Link Dist (m)		236.9			288.2			248.0			26.2	
Turn Bay Length (m)				75.0					20.0			
Base Capacity (vph)		740	629	570	1036			305	434			
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		0.51	0.30	0.32	0.67			0.87	0.52			

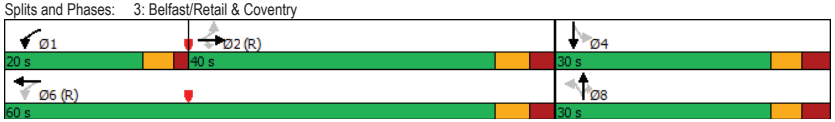
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 85.4%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 3: Belfast/Retail & Coventry

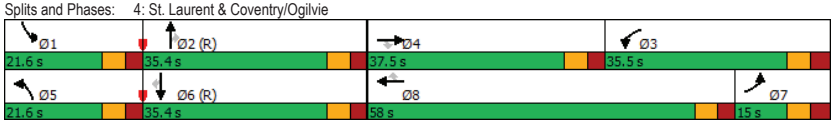


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	274	60	720	685	26	163	873	587	34	845	143
Future Volume (vph)	72	274	60	720	685	26	163	873	587	34	845	143
Satd. Flow (prot)	3010	3283	1388	3216	3103	1339	1523	3161	1441	1642	4764	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2834	3283	1268	3078	3103	1202	1492	3161	1327	1608	4764	1301
Satd. Flow (RTOR)			195			140			501			196
Lane Group Flow (vph)	72	274	60	720	685	26	163	873	587	34	845	143
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	15.0	37.5	37.5	35.5	58.0	58.0	21.6	35.4	35.4	21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	27.2%	27.2%	16.6%	27.2%	27.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.3	27.2	27.2	30.1	40.5	40.5	15.2	43.4	43.4	8.2	31.4	31.4
Actuated g/C Ratio	0.15	0.21	0.21	0.23	0.31	0.31	0.12	0.33	0.33	0.06	0.24	0.24
v/c Ratio	0.16	0.40	0.14	0.97	0.71	0.06	0.92	0.83	0.76	0.33	0.73	0.31
Control Delay	48.5	45.2	0.7	76.0	45.0	0.2	105.6	49.4	14.5	66.1	50.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	45.2	0.7	76.0	45.0	0.2	105.6	49.4	14.5	66.1	50.6	3.3
LOS	D	D	A	E	D	A	F	D	B	E	D	A
Approach Delay		39.2			59.8			42.4			44.5	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	7.9	30.9	0.0	~100.4	86.7	0.0	41.9	117.7	17.4	8.5	75.4	0.0
Queue Length 95th (m)	16.0	43.7	0.0	#138.0	100.5	0.0	#84.1	#171.8	#80.0	19.0	91.4	5.3
Internal Link Dist (m)		237.3			375.2			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	456	782	450	743	1244	565	178	1056	777	191	1150	462
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.35	0.13	0.97	0.55	0.05	0.92	0.83	0.76	0.18	0.73	0.31

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97
Intersection Signal Delay: 48.2 Intersection LOS: D
Intersection Capacity Utilization 99.7% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	713	273	872	86	0	259	0	2206	132	48	1259	0
Future Volume (vph)	713	273	872	86	0	259	0	2206	132	48	1259	0
Satd. Flow (prot)	3216	3283	1375	1595	0	2585	0	4470	0	1658	3283	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3190	3283	1355	1579	0	2585	0	4470	0	1657	3283	0
Satd. Flow (RTOR)			406			118		8				
Lane Group Flow (vph)	713	273	872	86	0	259	0	2338	0	48	1259	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	49.0	49.0		16.0				64.0		11.0	75.0	
Total Split (%)	35.0%	35.0%		11.4%				45.7%		7.9%	53.6%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	36.2	37.2	140.0	9.7		23.7		62.0		7.1	74.9	
Actuated g/C Ratio	0.26	0.27	1.00	0.07		0.17		0.44		0.05	0.54	
v/c Ratio	0.86	0.31	0.64	0.78		0.48		1.18		0.58	0.72	
Control Delay	60.1	41.2	2.4	105.4		31.4		121.7		71.9	33.6	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	60.1	41.2	2.4	105.4		31.4		121.7		71.9	33.6	
LOS	E	D	A	F		C		F		E	C	
Approach Delay		30.2			49.9			121.7			35.0	
Approach LOS		C			D			F			C	
Queue Length 50th (m)	97.3	31.5	0.0	23.8		19.0		~297.9		13.4	167.4	
Queue Length 95th (m)	113.0	42.1	0.0	#51.7		36.0		#325.4		m#19.1	211.3	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	987	1008	1355	113		524		1982		83	1757	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.72	0.27	0.64	0.76		0.49		1.18		0.58	0.72	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	16.0
Total Split (%)	11%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

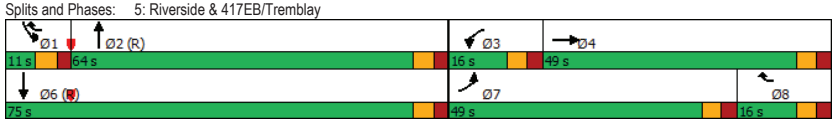
Intersection Summary

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 69.0	Intersection LOS: E
Intersection Capacity Utilization 94.8%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Riverside & 417EB/Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	415	118	33	198	0	76	0	48	0	0	1
Future Volume (vph)	0	415	118	33	198	0	76	0	48	0	0	1
Satd. Flow (prot)	1745	3131	1469	1398	3221	1745	1566	0	1375	0	1047	0
Flt Permitted				0.509			0.757					
Satd. Flow (perm)	1745	3131	689	529	3221	1745	873	0	954	0	1047	0
Satd. Flow (RTOR)			118						48		116	
Lane Group Flow (vph)	0	415	118	33	198	0	76	0	48	0	1	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm		NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	26.1	26.1	26.1	26.1	26.1	26.1	30.6		30.6	30.6	30.6	
Total Split (s)	44.1	44.1	44.1	44.1	44.1	44.1	36.6		36.6	36.6	36.6	
Total Split (%)	54.6%	54.6%	54.6%	54.6%	54.6%	54.6%	45.4%		45.4%	45.4%	45.4%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)		26.2	26.2	26.2	26.2		24.3		24.3		24.3	
Actuated g/C Ratio		0.41	0.41	0.41	0.41		0.38		0.38		0.38	
v/c Ratio		0.32	0.33	0.15	0.15		0.23		0.12		0.00	
Control Delay		13.7	6.2	14.8	12.4		13.6		4.4		0.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay		13.7	6.2	14.8	12.4		13.6		4.4		0.0	
LOS		B	A	B	B		B		A		A	
Approach Delay		12.1			12.8			10.0				
Approach LOS		B			B			B				
Queue Length 50th (m)		16.3	0.0	2.3	7.2		5.3		0.0		0.0	
Queue Length 95th (m)		26.1	9.2	7.7	13.1		12.0		4.7		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)			40.0	45.0								
Base Capacity (vph)		1901	464	321	1955		418		482		562	
Starvation Cap Reductn		0	0	0	0		0		0		0	
Spillback Cap Reductn		0	0	0	0		0		0		0	
Storage Cap Reductn		0	0	0	0		0		0		0	
Reduced v/c Ratio		0.22	0.25	0.10	0.10		0.18		0.10		0.00	

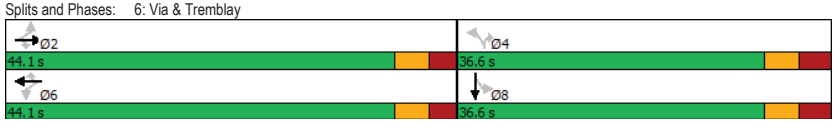
Intersection Summary
Cycle Length: 80.7
Actuated Cycle Length: 63.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.33

Lanes, Volumes, Timings
6: Via & Tremblay

06/09/2023

Intersection Signal Delay: 11.9 | Intersection LOS: B
Intersection Capacity Utilization 72.7% | ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay



Lanes, Volumes, Timings
7: Belfast & Tremblay

06/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	99	160	18	114	40	134	312	9	17	256	85
Future Volume (vph)	177	99	160	18	114	40	134	312	9	17	256	85
Satd. Flow (prot)	1658	1092	0	1658	1540	0	1626	1698	0	1433	1517	0
Flt Permitted	0.659			0.533			0.366			0.566		
Satd. Flow (perm)	943	1092	0	640	1540	0	521	1698	0	596	1517	0
Satd. Flow (RTOR)		102			22			3			21	
Lane Group Flow (vph)	177	259	0	18	154	0	134	321	0	17	341	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		28.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		15.0	35.0		35.0	35.0	
Total Split (%)	41.2%	41.2%		41.2%	41.2%		17.6%	41.2%		41.2%	41.2%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Act Effct Green (s)	24.2	24.2		24.2	24.2		43.5	43.5		29.1	29.1	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.54	0.54		0.36	0.36	
v/c Ratio	0.63	0.65		0.09	0.32		0.34	0.35		0.08	0.61	
Control Delay	35.5	23.2		21.8	20.8		12.0	11.9		19.3	25.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.5	23.2		21.8	20.8		12.0	11.9		19.3	25.6	
LOS	D	C		C	C		B	B		B	C	
Approach Delay		28.2			20.9			12.0			25.3	
Approach LOS		C			C			B			C	
Queue Length 50th (m)	23.4	20.5		2.0	15.5		9.2	24.6		1.7	38.6	
Queue Length 95th (m)	44.3	45.6		6.7	30.1		20.0	46.4		6.4	71.5	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	331	449		224	555		407	934		216	563	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.58		0.08	0.28		0.33	0.34		0.08	0.61	

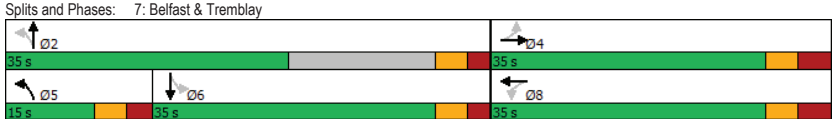
Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 80.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.65

Lanes, Volumes, Timings
7: Belfast & Tremblay

06/09/2023

Intersection Signal Delay: 21.4 | Intersection LOS: C
Intersection Capacity Utilization 80.1% | ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 7: Belfast & Tremblay



Lanes, Volumes, Timings
8: St. Laurent & Tremblay

06/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	21	24	12	20	100	78	1298	38	127	1182	238
Future Volume (vph)	57	21	24	12	20	100	78	1298	38	127	1182	238
Satd. Flow (prot)	1271	1508	0	1445	1331	0	1658	4321	0	1626	3075	1316
Flt Permitted	0.660			0.728			0.235			0.148		
Satd. Flow (perm)	853	1508	0	1064	1331	0	404	4321	0	252	3075	1195
Satd. Flow (RTOR)		24			100			5				238
Lane Group Flow (vph)	57	45	0	12	120	0	78	1336	0	127	1182	238
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		72.0	72.0		18.0	90.0	90.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%		55.4%	55.4%		13.8%	69.2%	69.2%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	27.6	27.6		27.6	27.6		76.0	76.0		91.2	89.7	89.7
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.58	0.58		0.70	0.69	0.69
v/c Ratio	0.32	0.13		0.05	0.33		0.33	0.53		0.47	0.56	0.27
Control Delay	45.7	22.7		38.3	13.2		21.7	18.5		13.1	12.4	1.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	45.7	22.7		38.3	13.2		21.7	18.5		13.1	12.4	1.8
LOS	D	C		D	B		C	B		B	B	A
Approach Delay		35.5			15.5			18.7			10.9	
Approach LOS		D			B			B			B	
Queue Length 50th (m)	11.9	4.1		2.4	4.0		10.7	78.2		10.8	82.6	0.0
Queue Length 95th (m)	24.5	14.0		7.7	19.9		24.6	96.0		18.2	101.1	8.6
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	219	406		274	417		236	2527		317	2121	897
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	0.26	0.11		0.04	0.29		0.33	0.53		0.40	0.56	0.27

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 53 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

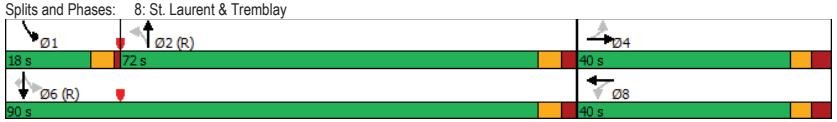
Lanes, Volumes, Timings
8: St. Laurent & Tremblay

06/09/2023

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 15.3	Intersection LOS: B
Intersection Capacity Utilization 79.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: St. Laurent & Tremblay



Lanes, Volumes, Timings
1: Vanier & Coventry

06/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	44	249	590	5	247	11	1546	476	210	1899	10
Future Volume (vph)	51	44	249	590	5	247	11	1546	476	210	1899	10
Satd. Flow (prot)	0	1700	1483	2959	1487	1469	1658	3316	1483	3216	4758	0
Flt Permitted		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (perm)	0	1684	1419	2906	1471	1418	1655	3316	1426	3199	4758	0
Satd. Flow (RTOR)			136			207			476		1	
Lane Group Flow (vph)	0	95	249	395	200	247	11	1546	476	210	1909	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	20.0	20.0	20.0	41.0	41.0	41.0	15.0	64.0	64.0	15.0	64.0	
Total Split (%)	14.3%	14.3%	14.3%	29.3%	29.3%	29.3%	10.7%	45.7%	45.7%	10.7%	45.7%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		13.0	13.0	28.5	28.5	28.5	6.6	59.1	59.1	12.0	72.2	
Actuated g/C Ratio		0.09	0.09	0.20	0.20	0.20	0.05	0.42	0.42	0.09	0.52	
v/c Ratio		0.61	0.98	0.66	0.66	0.55	0.14	1.11	0.54	0.76	0.78	
Control Delay		77.9	78.9	56.0	61.3	14.1	69.6	85.1	3.9	79.9	32.4	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		77.9	78.9	56.0	61.3	14.1	69.6	85.1	3.9	79.9	32.4	
LOS		E	E	E	E	B	E	F	A	E	C	
Approach Delay		78.6			45.0			66.0			37.1	
Approach LOS		E			D			E			D	
Queue Length 50th (m)		25.7	32.9	52.9	53.6	8.7	2.9	~259.6	7.5	~33.9	151.7	
Queue Length 95th (m)		#44.6	#88.0	70.6	82.1	33.5	m3.2	m#289.3	m11.7	#60.0	#225.4	
Internal Link Dist (m)		99.6			161.3			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		157	255	720	362	501	97	1399	876	276	2453	
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		0.61	0.98	0.55	0.55	0.49	0.11	1.11	0.54	0.76	0.78	

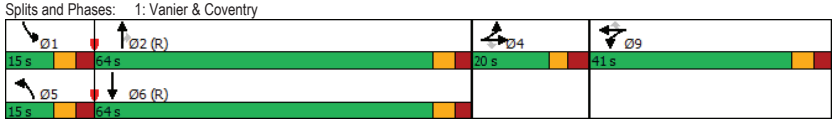
Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 31 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 52.1	Intersection LOS: D
Intersection Capacity Utilization 93.5%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	548	22	41	596	280	48	23	47	174	16	91
Future Volume (vph)	158	548	22	41	596	280	48	23	47	174	16	91
Satd. Flow (prot)	1658	3274	0	1658	2972	0	1658	1526	0	1626	1448	0
Flt Permitted	0.225			0.438			0.688			0.711		
Satd. Flow (perm)	380	3274	0	718	2972	0	1155	1526	0	1185	1448	0
Satd. Flow (RTOR)		5			101			47			91	
Lane Group Flow (vph)	158	570	0	41	876	0	48	70	0	174	107	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	15.0	41.5		15.0	41.5		33.5	33.5		33.5	33.5	
Total Split (%)	16.7%	46.1%		16.7%	46.1%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	52.4	47.4		47.7	41.2		21.3	21.3		21.3	21.3	
Actuated g/C Ratio	0.58	0.53		0.53	0.46		0.24	0.24		0.24	0.24	
v/c Ratio	0.48	0.33		0.09	0.62		0.18	0.18		0.62	0.26	
Control Delay	14.1	15.8		6.5	14.5		25.9	11.9		39.3	8.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.1	15.8		6.5	14.5		25.9	11.9		39.3	8.8	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		15.5			14.2			17.6			27.7	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	12.6	35.8		2.4	34.4		6.0	2.8		24.6	2.0	
Queue Length 95th (m)	22.2	50.7		m3.3	m46.8		14.3	12.1		44.1	13.4	
Internal Link Dist (m)		369.8			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	340	1725		483	1414		346	490		355	498	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.33		0.08	0.62		0.14	0.14		0.49	0.21	

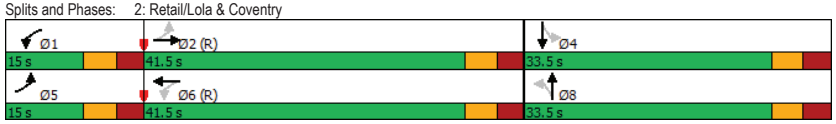
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 75.3%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 2: Retail/Lola & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	591	229	239	581	5	349	0	295	1	0	4
Future Volume (vph)	1	591	229	239	581	5	349	0	295	1	0	4
Satd. Flow (prot)	1658	1745	1455	1658	1737	0	0	1658	1455	0	1375	0
Flt Permitted	0.443			0.120				0.754			0.951	
Satd. Flow (perm)	701	1745	1113	209	1737	0	0	1155	1134	0	1294	0
Satd. Flow (RTOR)			229		1				189		103	
Lane Group Flow (vph)	1	591	229	239	586	0	0	349	295	0	5	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	37.0	37.0	37.0	15.0	52.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	41.1%	41.1%	41.1%	16.7%	57.8%		42.2%	42.2%	42.2%	42.2%	42.2%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)	31.9	31.9	31.9	48.9	47.4			29.6	29.6		29.6	
Actuated g/C Ratio	0.35	0.35	0.35	0.54	0.53			0.33	0.33		0.33	
v/c Ratio	0.00	0.95	0.42	0.85	0.64			0.92	0.59		0.01	
Control Delay	19.0	50.7	4.4	45.3	19.8			60.3	14.1		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	19.0	50.7	4.4	45.3	19.8			60.3	14.1		0.0	
LOS	B	D	A	D	B			E	B		A	
Approach Delay		37.7			27.2			39.1				
Approach LOS		D			C			D				
Queue Length 50th (m)	0.1	51.6	2.1	24.6	71.9			55.4	13.0		0.0	
Queue Length 95th (m)	m0.3	#157.7	6.4	#66.1	108.2			#104.2	38.5		0.0	
Internal Link Dist (m)		236.9			288.2			248.0			26.2	
Turn Bay Length (m)	54.0			75.0					20.0			
Base Capacity (vph)	248	619	542	282	915			404	519		519	
Starvation Cap Reductn	0	0	0	0	0			0	0		0	
Spillback Cap Reductn	0	0	0	0	0			0	0		0	
Storage Cap Reductn	0	0	0	0	0			0	0		0	
Reduced v/c Ratio	0.00	0.95	0.42	0.85	0.64			0.86	0.57		0.01	

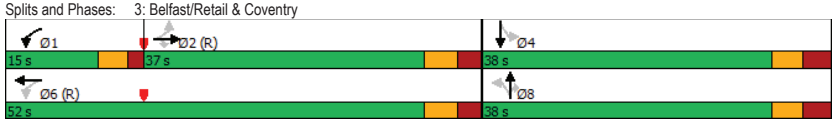
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 34.3	Intersection LOS: C
Intersection Capacity Utilization 93.2%	ICU Level of Service F
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Belfast/Retail & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	307	675	208	584	485	31	196	914	668	72	858	222
Future Volume (vph)	307	675	208	584	485	31	196	914	668	72	858	222
Satd. Flow (prot)	3216	3316	1483	3154	3075	1469	1566	3252	1483	1658	4764	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2778	3316	1321	3034	3075	1215	1517	3252	1342	1619	4764	1309
Satd. Flow (RTOR)			210			210			374			211
Lane Group Flow (vph)	307	675	208	584	485	31	196	914	668	72	858	222
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	23.5	37.5	37.5	23.5	37.5	37.5	23.5	44.0	44.0	15.0	35.5	35.5
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.6%	36.7%	36.7%	12.5%	29.6%	29.6%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	16.6	29.4	29.4	18.2	31.0	31.0	16.7	40.6	40.6	8.2	29.5	29.5
Actuated g/C Ratio	0.14	0.24	0.24	0.15	0.26	0.26	0.14	0.34	0.34	0.07	0.25	0.25
v/c Ratio	0.69	0.83	0.43	1.22	0.61	0.07	0.90	0.83	0.95	0.64	0.73	0.46
Control Delay	58.2	52.6	7.5	161.2	43.1	0.3	91.2	45.3	42.6	79.5	46.1	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	52.6	7.5	161.2	43.1	0.3	91.2	45.3	42.6	79.5	46.1	9.3
LOS	E	D	A	F	D	A	F	D	D	E	D	A
Approach Delay		46.2			104.6			49.4			41.1	
Approach LOS		D			F			D			D	
Queue Length 50th (m)	35.9	78.2	0.0	~92.4	53.1	0.0	45.9	108.0	85.2	16.8	68.7	2.0
Queue Length 95th (m)	51.0	100.2	18.0	#127.2	70.8	0.0	#87.4	#143.7	#167.5	#36.1	84.1	22.4
Internal Link Dist (m)		235.7			375.0			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	444	856	497	477	794	469	223	1099	701	118	1172	481
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.79	0.42	1.22	0.61	0.07	0.88	0.83	0.95	0.61	0.73	0.46

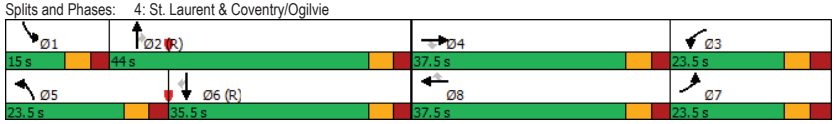
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.22

Intersection Signal Delay: 58.4	Intersection LOS: E
Intersection Capacity Utilization 100.5%	ICU Level of Service G
Analysis Period (min) 15	

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

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	552	367	692	142	0	314	0	2046	115	62	1354	0
Future Volume (vph)	552	367	692	142	0	314	0	2046	115	62	1354	0
Satd. Flow (prot)	2903	3191	1339	1610	0	2611	0	4587	0	1626	3283	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	2869	3191	1320	1598	0	2611	0	4587	0	1625	3283	0
Satd. Flow (RTOR)			266			118		8				
Lane Group Flow (vph)	552	367	692	142	0	314	0	2161	0	62	1354	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	36.0	34.0		19.0				74.0		13.0	87.0	
Total Split (%)	25.7%	24.3%		13.6%				52.9%		9.3%	62.1%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	29.1	26.8	140.0	13.0		23.8		69.1		7.1	82.1	
Actuated g/C Ratio	0.21	0.19	1.00	0.09		0.17		0.49		0.05	0.59	
v/c Ratio	0.92	0.60	0.52	0.95		0.58		0.95		0.76	0.70	
Control Delay	75.1	56.0	1.5	124.5		37.6		44.9		93.0	31.4	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	75.1	56.0	1.5	124.5		37.6		44.9		93.0	31.4	
LOS	E	E	A	F		D		D		F	C	
Approach Delay		39.1			64.7			44.9			34.1	
Approach LOS		D			E			D			C	
Queue Length 50th (m)	77.1	48.8	0.0	39.8		28.4		208.0		18.0	140.6	
Queue Length 95th (m)	#107.1	65.5	0.0	#81.7		45.7		#247.9		m#25.5	m225.2	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	622	638	1320	149		525		2266		82	1925	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.89	0.58	0.52	0.95		0.60		0.95		0.76	0.70	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 3 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	17.0
Total Split (%)	12%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

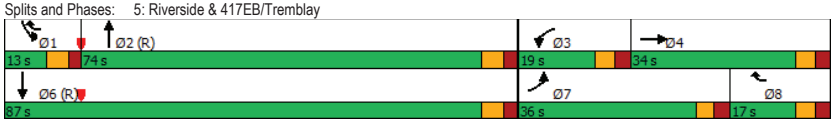
Intersection Summary	

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 42.2	Intersection LOS: D
Intersection Capacity Utilization 90.2%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Riverside & 417EB/Tremblay

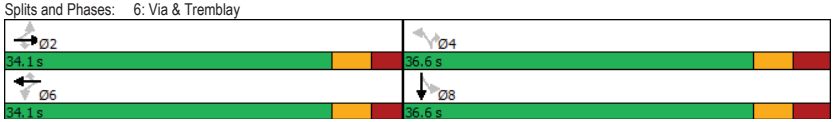


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	304	164	56	390	0	147	0	77	1	0	1
Future Volume (vph)	2	304	164	56	390	0	147	0	77	1	0	1
Satd. Flow (prot)	1658	3131	1455	1610	3283	1745	1642	0	1455	0	1370	0
Flt Permitted	0.521			0.567			0.757				0.976	
Satd. Flow (perm)	642	3131	703	642	3283	1745	960	0	1059	0	1189	0
Satd. Flow (RTOR)			164						50		48	
Lane Group Flow (vph)	2	304	164	56	390	0	147	0	77	0	2	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm	Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6	30.6	36.6		36.6	30.6	30.6	
Total Split (s)	34.1	34.1	34.1	34.1	34.1	34.1	36.6		36.6	36.6	36.6	
Total Split (%)	48.2%	48.2%	48.2%	48.2%	48.2%	48.2%	51.8%		51.8%	51.8%	51.8%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)	22.8	22.8	22.8	22.8	22.8		24.2		24.2		24.2	
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38		0.40		0.40		0.40	
v/c Ratio	0.01	0.26	0.44	0.23	0.31		0.38		0.17		0.00	
Control Delay	12.0	13.6	7.2	16.2	14.1		15.0		6.2		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay	12.0	13.6	7.2	16.2	14.1		15.0		6.2		0.0	
LOS	B	B	A	B	B		B		A		A	
Approach Delay		11.4			14.3			12.0				
Approach LOS		B			B			B				
Queue Length 50th (m)	0.1	11.5	0.0	4.0	15.1		9.8		1.6		0.0	
Queue Length 95th (m)	1.3	19.3	11.6	11.5	24.2		21.8		7.9		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)	38.0		40.0	45.0								
Base Capacity (vph)	316	1541	429	316	1615		485		560		625	
Starvation Cap Reductn	0	0	0	0	0		0		0		0	
Spillback Cap Reductn	0	0	0	0	0		0		0		0	
Storage Cap Reductn	0	0	0	0	0		0		0		0	
Reduced v/c Ratio	0.01	0.20	0.38	0.18	0.24		0.30		0.14		0.00	

Intersection Summary
Cycle Length: 70.7
Actuated Cycle Length: 59.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44

Intersection Signal Delay: 12.6 Intersection LOS: B
Intersection Capacity Utilization 72.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	80	194	20	121	47	154	410	20	24	414	90
Future Volume (vph)	190	80	194	20	121	47	154	410	20	24	414	90
Satd. Flow (prot)	1642	892	0	1658	1345	0	1658	1688	0	1496	1540	0
Flt Permitted	0.636			0.453			0.268			0.950		
Satd. Flow (perm)	836	892	0	546	1345	0	395	1688	0	1050	1540	0
Satd. Flow (RTOR)		122			19			3			13	
Lane Group Flow (vph)	190	274	0	20	168	0	154	430	0	24	504	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		10.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		20.0	45.0		20.0	45.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		20.0%	45.0%		20.0%	45.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	26.1	26.1		26.1	26.1		54.6	49.9		7.1	39.2	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.58	0.53		0.08	0.42	
v/c Ratio	0.83	0.82		0.13	0.44		0.42	0.48		0.21	0.78	
Control Delay	61.6	38.9		28.8	29.1		12.8	18.4		46.5	34.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	61.6	38.9		28.8	29.1		12.8	18.4		46.5	34.2	
LOS	E	D		C	C		B	B		D	C	
Approach Delay		48.2			29.1			16.9			34.8	
Approach LOS		D			C			B			C	
Queue Length 50th (m)	32.7	26.9		2.8	22.3		12.5	42.2		4.3	79.9	
Queue Length 95th (m)	#70.5	#72.1		8.9	41.9		21.6	91.3		12.2	#137.7	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	250	352		163	416		421	894		224	647	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.76	0.78		0.12	0.40		0.37	0.48		0.11	0.78	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 94.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83

Intersection Signal Delay: 31.8 Intersection LOS: C
Intersection Capacity Utilization 91.7% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Belfast & Tremblay

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	38	79	23	21	180	28	1419	12	51	1095	80
Future Volume (vph)	226	38	79	23	21	180	28	1419	12	51	1095	80
Satd. Flow (prot)	1398	1476	0	1658	1447	0	1626	4756	0	1658	3191	1339
Flt Permitted	0.549			0.682			0.240			0.119		
Satd. Flow (perm)	787	1476	0	1154	1447	0	405	4756	0	206	3191	1222
Satd. Flow (RTOR)		79			177			1				80
Lane Group Flow (vph)	226	117	0	23	201	0	28	1431	0	51	1095	80
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		65.0	65.0		15.0	80.0	80.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		54.2%	54.2%		12.5%	66.7%	66.7%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	33.5	33.5		33.5	33.5		64.2	64.2		75.3	73.8	73.8
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.54	0.54		0.63	0.62	0.62
v/c Ratio	1.03	0.25		0.07	0.38		0.13	0.56		0.24	0.56	0.10
Control Delay	112.6	14.2		32.7	9.2		17.4	20.2		11.4	14.9	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	112.6	14.2		32.7	9.2		17.4	20.2		11.4	14.9	2.3
LOS	F	B		C	A		B	C		B	B	A
Approach Delay		79.0			11.6			20.1			13.9	
Approach LOS		E			B			C			B	
Queue Length 50th (m)	~56.9	6.6		4.0	4.2		3.3	81.9		4.3	74.5	0.0
Queue Length 95th (m)	#105.4	21.1		10.6	22.6		9.2	98.6		9.1	92.4	5.8
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	219	468		322	531		216	2546		253	1962	782
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	1.03	0.25		0.07	0.38		0.13	0.56		0.20	0.56	0.10

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03
Intersection Signal Delay: 23.4 Intersection LOS: C
Intersection Capacity Utilization 96.8% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: St. Laurent & Tremblay

Appendix H

Synchro Intersection Worksheets – 2037 Future Background Conditions

CGH TRANSPORTATION

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	7	12	745	83	141	132	1372	465	201	1700	43
Future Volume (vph)	5	7	12	745	83	141	132	1372	465	201	1700	43
Satd. Flow (prot)	0	1710	1483	2988	1524	1427	1658	3316	1483	3216	4739	0
Flt Permitted		0.980		0.950	0.966		0.950			0.950		
Satd. Flow (perm)	0	1698	1404	2927	1511	1374	1653	3316	1419	3201	4739	0
Satd. Flow (RTOR)			189			189			465		3	
Lane Group Flow (vph)	0	12	12	551	277	141	132	1372	465	201	1743	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	17.0	17.0	17.0	41.0	41.0	41.0	23.0	68.0	68.0	14.0	59.0	
Total Split (%)	12.1%	12.1%	12.1%	29.3%	29.3%	29.3%	16.4%	48.6%	48.6%	10.0%	42.1%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		10.0	10.0	31.0	31.0	31.0	14.7	66.5	66.5	11.9	63.7	
Actuated g/C Ratio		0.07	0.07	0.22	0.22	0.22	0.10	0.48	0.48	0.08	0.46	
v/c Ratio		0.10	0.04	0.83	0.82	0.31	0.76	0.87	0.51	0.74	0.81	
Control Delay		62.8	0.3	63.5	71.4	3.5	73.9	25.0	0.8	77.9	38.8	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		62.8	0.3	63.5	71.4	3.5	73.9	25.0	0.8	77.9	38.8	
LOS		E	A	E	E	A	E	C	A	E	D	
Approach Delay		31.6			57.0			22.5			42.8	
Approach LOS		C			E			C			D	
Queue Length 50th (m)		3.2	0.0	78.4	78.5	0.0	38.8	132.7	1.3	~34.6	173.8	
Queue Length 95th (m)		9.9	0.0	100.4	#116.0	5.8	m36.8	m97.0	m1.0	#60.5	#209.6	
Internal Link Dist (m)		99.6			160.2			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		122	275	727	371	477	191	1573	917	273	2158	
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		0.10	0.04	0.76	0.75	0.30	0.69	0.87	0.51	0.74	0.81	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

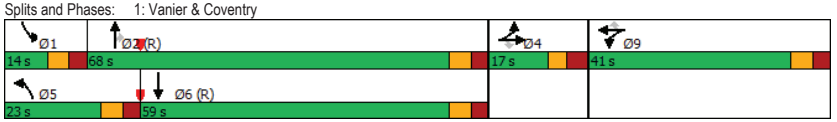
Lanes, Volumes, Timings
1: Vanier & Coventry 06/09/2023

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 37.4	Intersection LOS: D
Intersection Capacity Utilization 88.6%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry

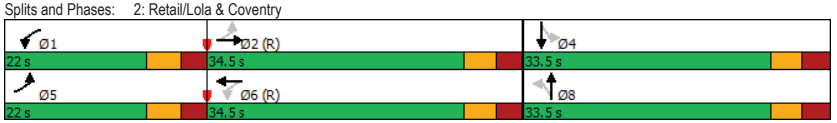


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	451	42	34	719	168	49	19	17	151	14	169
Future Volume (vph)	109	451	42	34	719	168	49	19	17	151	14	169
Satd. Flow (prot)	1658	3174	0	1551	3085	0	1658	1496	0	1580	1437	0
Flt Permitted	0.229			0.472			0.601			0.734		
Satd. Flow (perm)	389	3174	0	725	3085	0	1021	1496	0	1187	1437	0
Satd. Flow (RTOR)		11			33			17			169	
Lane Group Flow (vph)	109	493	0	34	887	0	49	36	0	151	183	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	22.0	34.5		22.0	34.5		33.5	33.5		33.5	33.5	
Total Split (%)	24.4%	38.3%		24.4%	38.3%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	53.5	47.8		49.0	43.7		20.9	20.9		20.9	20.9	
Actuated g/C Ratio	0.59	0.53		0.54	0.49		0.23	0.23		0.23	0.23	
v/c Ratio	0.32	0.29		0.08	0.59		0.21	0.10		0.55	0.39	
Control Delay	11.3	15.1		7.9	15.9		26.9	15.5		36.3	7.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	11.3	15.1		7.9	15.9		26.9	15.5		36.3	7.7	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		14.4			15.6			22.1			20.6	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	8.4	29.7		1.7	37.9		6.2	2.3		20.8	1.7	
Queue Length 95th (m)	16.0	43.3		m2.9	m63.1		14.9	9.0		38.3	16.2	
Internal Link Dist (m)		374.2			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	458	1691		588	1513		306	460		356	549	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.29		0.06	0.59		0.16	0.08		0.42	0.33	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59
Intersection Signal Delay: 16.4 Intersection LOS: B
Intersection Capacity Utilization 84.0% ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Retail/Lola & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	408	188	185	724	3	279	0	238	0	0	0
Future Volume (vph)	0	408	188	185	724	3	279	0	238	0	0	0
Satd. Flow (prot)	1745	1679	1455	1658	1709	0	0	1626	1469	0	1745	0
Flt Permitted				0.364				0.757				
Satd. Flow (perm)	1745	1679	1188	595	1709	0	0	1171	1187	0	1745	0
Satd. Flow (RTOR)			188						168			
Lane Group Flow (vph)	0	408	188	185	727	0	0	279	238	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm			
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	40.0	40.0	40.0	20.0	60.0		30.0	30.0	30.0	30.0	30.0	
Total Split (%)	44.4%	44.4%	44.4%	22.2%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)		39.2	39.2	55.6	54.1			22.9	22.9			
Actuated g/C Ratio		0.44	0.44	0.62	0.60			0.25	0.25			
v/c Ratio		0.56	0.30	0.38	0.71			0.94	0.56			
Control Delay		18.1	3.4	10.0	17.5			73.6	14.9			
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay		18.1	3.4	10.0	17.5			73.6	14.9			
LOS		B	A	B	B			E	B			
Approach Delay		13.4			16.0			46.6				
Approach LOS		B			B			D				
Queue Length 50th (m)		27.6	1.9	12.8	81.6			46.8	9.5			
Queue Length 95th (m)		37.9	5.6	21.9	124.6			#92.7	31.9			
Internal Link Dist (m)		236.9			288.2			248.0			26.2	
Turn Bay Length (m)				75.0					20.0			
Base Capacity (vph)		730	623	544	1026			305	434			
Starvation Cap Reductn		0	0	0	0			0	0			
Spillback Cap Reductn		0	0	0	0			0	0			
Storage Cap Reductn		0	0	0	0			0	0			
Reduced v/c Ratio		0.56	0.30	0.34	0.71			0.91	0.55			

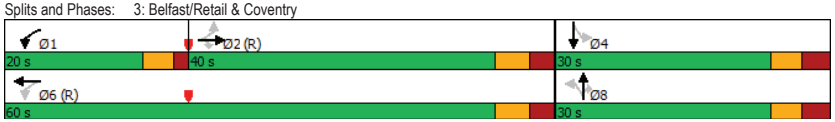
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 23.0	Intersection LOS: C
Intersection Capacity Utilization 88.0%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 3: Belfast/Retail & Coventry

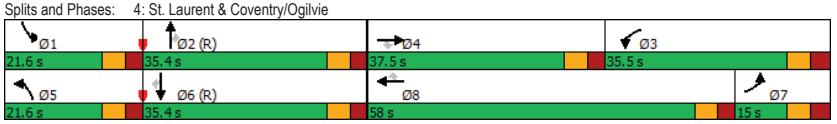


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	296	60	756	719	26	171	917	616	34	866	147
Future Volume (vph)	72	296	60	756	719	26	171	917	616	34	866	147
Satd. Flow (prot)	3010	3283	1388	3216	3103	1339	1523	3161	1441	1642	4764	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2842	3283	1268	3082	3103	1202	1493	3161	1327	1610	4764	1301
Satd. Flow (RTOR)			195			140			500			196
Lane Group Flow (vph)	72	296	60	756	719	26	171	917	616	34	866	147
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	15.0	37.5	37.5	35.5	58.0	58.0	21.6	35.4	35.4	21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	27.2%	27.2%	16.6%	27.2%	27.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	18.0	27.3	27.3	31.4	43.3	43.3	15.7	41.9	41.9	8.2	29.4	29.4
Actuated g/C Ratio	0.14	0.21	0.21	0.24	0.33	0.33	0.12	0.32	0.32	0.06	0.23	0.23
v/c Ratio	0.17	0.43	0.14	0.97	0.70	0.05	0.93	0.90	0.80	0.33	0.80	0.33
Control Delay	50.0	45.7	0.7	75.7	43.1	0.2	107.5	55.7	18.1	66.1	54.3	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	45.7	0.7	75.7	43.1	0.2	107.5	55.7	18.1	66.1	54.3	3.8
LOS	D	D	A	E	D	A	F	E	B	E	D	A
Approach Delay		40.1			58.8			47.3			47.6	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	8.1	33.6	0.0	~110.3	90.4	0.0	44.2	~133.9	28.4	8.5	77.8	0.0
Queue Length 95th (m)	16.2	47.2	0.0	#148.5	103.7	0.0	#88.9	#184.4	#107.0	19.0	94.0	6.4
Internal Link Dist (m)		237.3			375.2			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	426	782	450	777	1280	577	183	1019	766	191	1077	446
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.38	0.13	0.97	0.56	0.05	0.93	0.90	0.80	0.18	0.80	0.33

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97
Intersection Signal Delay: 50.4 Intersection LOS: D
Intersection Capacity Utilization 101.4% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	768	289	939	91	0	270	0	2289	137	49	1291	0
Future Volume (vph)	768	289	939	91	0	270	0	2289	137	49	1291	0
Satd. Flow (prot)	3216	3283	1375	1595	0	2585	0	4470	0	1658	3283	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3190	3283	1355	1580	0	2585	0	4470	0	1657	3283	0
Satd. Flow (RTOR)			403			118		8				
Lane Group Flow (vph)	768	289	939	91	0	270	0	2426	0	49	1291	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	49.0	49.0		16.0				64.0		11.0	75.0	
Total Split (%)	35.0%	35.0%		11.4%				45.7%		7.9%	53.6%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	38.1	38.7	140.0	9.8		23.0		60.8		6.6	73.3	
Actuated g/C Ratio	0.27	0.28	1.00	0.07		0.16		0.43		0.05	0.52	
v/c Ratio	0.88	0.32	0.69	0.82		0.52		1.25		0.63	0.75	
Control Delay	60.6	40.4	2.9	110.3		33.6		150.0		77.0	35.6	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	60.6	40.4	2.9	110.3		33.6		150.0		77.0	35.6	
LOS	E	D	A	F		C		F		E	D	
Approach Delay		30.5			52.9			150.0			37.1	
Approach LOS		C			D			F			D	
Queue Length 50th (m)	104.7	32.5	0.0	25.3		21.1		~316.7		14.1	194.2	
Queue Length 95th (m)	123.6	44.5	0.0	#55.8		38.1		#343.8		m#18.6	217.6	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	987	1008	1355	113		509		1947		78	1719	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.78	0.29	0.69	0.81		0.53		1.25		0.63	0.75	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	16.0
Total Split (%)	11%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

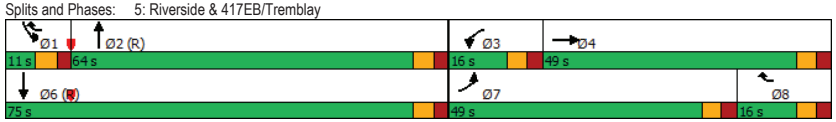
Intersection Summary

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 80.6	Intersection LOS: F
Intersection Capacity Utilization 98.7%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Riverside & 417EB/Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	440	118	33	207	0	76	0	48	0	0	1
Future Volume (vph)	0	440	118	33	207	0	76	0	48	0	0	1
Satd. Flow (prot)	1745	3131	1469	1398	3221	1745	1566	0	1375	0	1047	0
Flt Permitted				0.497			0.757					
Satd. Flow (perm)	1745	3131	689	525	3221	1745	873	0	954	0	1047	0
Satd. Flow (RTOR)			118						48		113	
Lane Group Flow (vph)	0	440	118	33	207	0	76	0	48	0	1	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm		NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	26.1	26.1	26.1	26.1	26.1	26.1	30.6		30.6	30.6	30.6	
Total Split (s)	44.1	44.1	44.1	44.1	44.1	44.1	36.6		36.6	36.6	36.6	
Total Split (%)	54.6%	54.6%	54.6%	54.6%	54.6%	54.6%	45.4%		45.4%	45.4%	45.4%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)		26.2	26.2	26.2	26.2		24.3		24.3		24.3	
Actuated g/C Ratio		0.41	0.41	0.41	0.41		0.38		0.38		0.38	
v/c Ratio		0.34	0.33	0.15	0.16		0.23		0.12		0.00	
Control Delay		13.9	6.2	14.8	12.5		13.6		4.4		0.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay		13.9	6.2	14.8	12.5		13.6		4.4		0.0	
LOS		B	A	B	B		B		A		A	
Approach Delay		12.3			12.8			10.0				
Approach LOS		B			B			B				
Queue Length 50th (m)		17.4	0.0	2.3	7.5		5.3		0.0		0.0	
Queue Length 95th (m)		27.7	9.2	7.7	13.6		12.0		4.7		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)			40.0	45.0								
Base Capacity (vph)		1901	464	318	1955		418		482		560	
Starvation Cap Reductn		0	0	0	0		0		0		0	
Spillback Cap Reductn		0	0	0	0		0		0		0	
Storage Cap Reductn		0	0	0	0		0		0		0	
Reduced v/c Ratio		0.23	0.25	0.10	0.11		0.18		0.10		0.00	

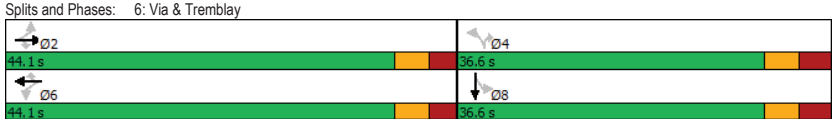
Intersection Summary
Cycle Length: 80.7
Actuated Cycle Length: 63.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.34

Lanes, Volumes, Timings
6: Via & Tremblay

06/09/2023

Intersection Signal Delay: 12.1 | Intersection LOS: B
Intersection Capacity Utilization 72.7% | ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay



Lanes, Volumes, Timings
7: Belfast & Tremblay

06/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	100	172	18	115	40	141	328	9	17	256	85
Future Volume (vph)	190	100	172	18	115	40	141	328	9	17	256	85
Satd. Flow (prot)	1658	1078	0	1658	1541	0	1626	1699	0	1433	1517	0
Flt Permitted	0.659			0.514			0.365			0.558		
Satd. Flow (perm)	943	1078	0	627	1541	0	520	1699	0	593	1517	0
Satd. Flow (RTOR)		109			22			2			21	
Lane Group Flow (vph)	190	272	0	18	155	0	141	337	0	17	341	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		28.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		15.0	35.0		35.0	35.0	
Total Split (%)	41.2%	41.2%		41.2%	41.2%		17.6%	41.2%		41.2%	41.2%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Act Effct Green (s)	24.5	24.5		24.5	24.5		43.6	43.6		29.1	29.1	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.54	0.54		0.36	0.36	
v/c Ratio	0.67	0.68		0.09	0.32		0.36	0.37		0.08	0.61	
Control Delay	37.5	24.0		21.7	20.7		12.4	12.4		19.5	25.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.5	24.0		21.7	20.7		12.4	12.4		19.5	25.9	
LOS	D	C		C	C		B	B		B	C	
Approach Delay		29.5			20.8			12.4			25.6	
Approach LOS		C			C			B			C	
Queue Length 50th (m)	25.5	21.5		2.0	15.6		9.7	26.2		1.7	38.6	
Queue Length 95th (m)	48.2	48.4		6.7	30.3		20.9	49.2		6.4	71.5	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	329	447		219	552		405	929		213	560	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.58	0.61		0.08	0.28		0.35	0.36		0.08	0.61	

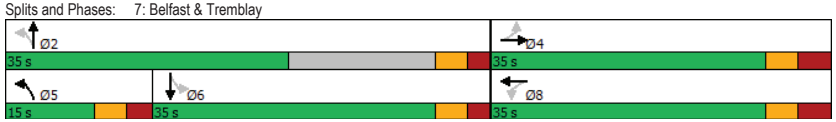
Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 80.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68

Lanes, Volumes, Timings
7: Belfast & Tremblay

06/09/2023

Intersection Signal Delay: 22.0 | Intersection LOS: C
Intersection Capacity Utilization 81.3% | ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 7: Belfast & Tremblay



Lanes, Volumes, Timings
8: St. Laurent & Tremblay

06/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	21	25	12	20	100	78	1363	38	127	1211	239
Future Volume (vph)	60	21	25	12	20	100	78	1363	38	127	1211	239
Satd. Flow (prot)	1271	1504	0	1445	1331	0	1658	4321	0	1626	3075	1316
Flt Permitted	0.660			0.727			0.225			0.135		
Satd. Flow (perm)	853	1504	0	1063	1331	0	387	4321	0	230	3075	1195
Satd. Flow (RTOR)		25			100			4				239
Lane Group Flow (vph)	60	46	0	12	120	0	78	1401	0	127	1211	239
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		72.0	72.0		18.0	90.0	90.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%		55.4%	55.4%		13.8%	69.2%	69.2%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	27.6	27.6		27.6	27.6		76.0	76.0		91.2	89.7	89.7
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.58	0.58		0.70	0.69	0.69
v/c Ratio	0.33	0.14		0.05	0.33		0.35	0.55		0.49	0.57	0.27
Control Delay	46.2	22.4		38.3	13.2		22.4	19.0		14.0	12.7	1.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.2	22.4		38.3	13.2		22.4	19.0		14.0	12.7	1.8
LOS	D	C		D	B		C	B		B	B	A
Approach Delay		35.9			15.5			19.2			11.1	
Approach LOS		D			B			B			B	
Queue Length 50th (m)	12.5	4.1		2.4	4.0		10.8	83.9		10.8	85.9	0.0
Queue Length 95th (m)	25.6	14.3		7.7	19.9		25.2	102.9		18.2	105.0	8.6
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	219	406		273	417		226	2527		304	2121	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	0.27	0.11		0.04	0.29		0.35	0.55		0.42	0.57	0.27

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 53 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

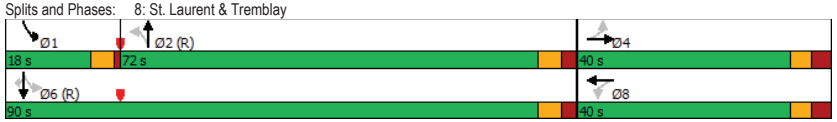
Lanes, Volumes, Timings
8: St. Laurent & Tremblay

06/09/2023

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 15.7	Intersection LOS: B
Intersection Capacity Utilization 80.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: St. Laurent & Tremblay



Lanes, Volumes, Timings
1: Vanier & Coventry

06/09/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	44	249	639	5	247	11	1585	487	210	1971	10
Future Volume (vph)	51	44	249	639	5	247	11	1585	487	210	1971	10
Satd. Flow (prot)	0	1700	1483	2959	1485	1469	1658	3316	1483	3216	4758	0
Flt Permitted		0.974		0.950	0.953		0.950			0.950		
Satd. Flow (perm)	0	1684	1419	2906	1469	1418	1655	3316	1426	3200	4758	0
Satd. Flow (RTOR)			136			206			487		1	
Lane Group Flow (vph)	0	95	249	428	216	247	11	1585	487	210	1981	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	20.0	20.0	20.0	41.0	41.0	41.0	15.0	64.0	64.0	15.0	64.0	
Total Split (%)	14.3%	14.3%	14.3%	29.3%	29.3%	29.3%	10.7%	45.7%	45.7%	10.7%	45.7%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		13.0	13.0	29.0	29.0	29.0	6.6	58.5	58.5	12.0	71.6	
Actuated g/C Ratio		0.09	0.09	0.21	0.21	0.21	0.05	0.42	0.42	0.09	0.51	
v/c Ratio		0.61	0.98	0.70	0.70	0.54	0.14	1.14	0.55	0.76	0.81	
Control Delay		77.9	78.9	57.2	63.4	14.1	70.7	100.9	3.8	80.0	33.9	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		77.9	78.9	57.2	63.4	14.1	70.7	100.9	3.8	80.0	33.9	
LOS		E	E	E	E	B	E	F	A	F	C	
Approach Delay		78.6			46.7			78.0			38.3	
Approach LOS		E			D			E			D	
Queue Length 50th (m)		25.7	32.9	58.0	58.6	8.9	3.0	~271.5	8.8	~33.9	161.6	
Queue Length 95th (m)		#44.6	#88.0	76.7	89.0	33.7	m3.3	m#289.5	m10.6	#60.3	#240.9	
Internal Link Dist (m)		99.6			161.3			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		157	255	720	361	501	97	1386	879	276	2433	
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		0.61	0.98	0.59	0.60	0.49	0.11	1.14	0.55	0.76	0.81	

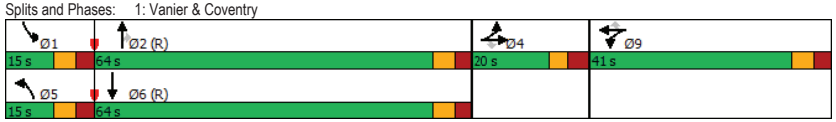
Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 31 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 57.2	Intersection LOS: E
Intersection Capacity Utilization 95.0%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	574	22	41	646	280	48	23	47	174	16	91
Future Volume (vph)	158	574	22	41	646	280	48	23	47	174	16	91
Satd. Flow (prot)	1658	3275	0	1658	2991	0	1658	1526	0	1626	1448	0
Flt Permitted	0.205			0.427			0.688			0.711		
Satd. Flow (perm)	348	3275	0	702	2991	0	1155	1526	0	1185	1448	0
Satd. Flow (RTOR)		5			88			47			91	
Lane Group Flow (vph)	158	596	0	41	926	0	48	70	0	174	107	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	15.0	41.5		15.0	41.5		33.5	33.5		33.5	33.5	
Total Split (%)	16.7%	46.1%		16.7%	46.1%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	52.4	47.4		47.7	41.2		21.3	21.3		21.3	21.3	
Actuated g/C Ratio	0.58	0.53		0.53	0.46		0.24	0.24		0.24	0.24	
v/c Ratio	0.50	0.35		0.09	0.65		0.18	0.18		0.62	0.26	
Control Delay	14.9	16.0		7.0	15.5		25.9	11.9		39.3	8.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.9	16.0		7.0	15.5		25.9	11.9		39.3	8.8	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		15.8			15.1			17.6			27.7	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	12.6	37.8		2.3	35.8		6.0	2.8		24.6	2.0	
Queue Length 95th (m)	22.2	53.4		m3.5	m57.7		14.3	12.1		44.1	13.4	
Internal Link Dist (m)		369.8			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	325	1725		475	1415		346	490		355	498	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.49	0.35		0.09	0.65		0.14	0.14		0.49	0.21	

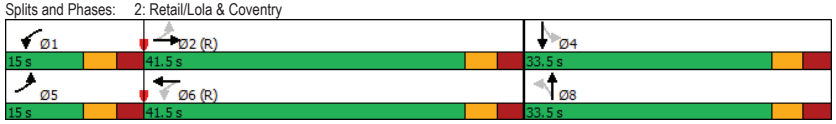
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 76.7%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 2: Retail/Lola & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	619	229	250	631	5	349	0	295	1	0	4
Future Volume (vph)	1	619	229	250	631	5	349	0	295	1	0	4
Satd. Flow (prot)	1658	1745	1455	1658	1738	0	0	1658	1455	0	1375	0
Flt Permitted	0.410			0.109				0.754			0.951	
Satd. Flow (perm)	657	1745	1113	190	1738	0	0	1155	1134	0	1294	0
Satd. Flow (RTOR)			229		1				189		103	
Lane Group Flow (vph)	1	619	229	250	636	0	0	349	295	0	5	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	37.0	37.0	37.0	15.0	52.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	41.1%	41.1%	41.1%	16.7%	57.8%		42.2%	42.2%	42.2%	42.2%	42.2%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)	31.7	31.7	31.7	48.9	47.4			29.6	29.6		29.6	
Actuated g/C Ratio	0.35	0.35	0.35	0.54	0.53			0.33	0.33		0.33	
v/c Ratio	0.00	1.01	0.42	0.90	0.69			0.92	0.59		0.01	
Control Delay	20.0	63.6	4.7	55.4	21.6			60.3	14.1		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	20.0	63.6	4.7	55.4	21.6			60.3	14.1		0.0	
LOS	B	E	A	E	C			E	B		A	
Approach Delay		47.7			31.1			39.1				
Approach LOS		D			C			D				
Queue Length 50th (m)	0.1	~119.4	2.0	28.5	81.5			55.4	13.0		0.0	
Queue Length 95th (m)	m0.3	#168.8	7.4	#74.0	122.7			#104.2	38.5		0.0	
Internal Link Dist (m)		236.9			288.2			248.0			26.2	
Turn Bay Length (m)	54.0			75.0					20.0			
Base Capacity (vph)	231	614	540	278	916			404	519		519	
Starvation Cap Reductn	0	0	0	0	0			0	0		0	
Spillback Cap Reductn	0	0	0	0	0			0	0		0	
Storage Cap Reductn	0	0	0	0	0			0	0		0	
Reduced v/c Ratio	0.00	1.01	0.42	0.90	0.69			0.86	0.57		0.01	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 39.1	Intersection LOS: D
Intersection Capacity Utilization 94.8%	ICU Level of Service F
Analysis Period (min) 15	

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

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

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

Splits and Phases: 3: Belfast/Retail & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	307	708	208	636	526	31	201	937	684	72	902	233
Future Volume (vph)	307	708	208	636	526	31	201	937	684	72	902	233
Satd. Flow (prot)	3216	3316	1483	3154	3075	1469	1566	3252	1483	1658	4764	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2802	3316	1321	3039	3075	1215	1520	3252	1342	1620	4764	1309
Satd. Flow (RTOR)			210			210			373			211
Lane Group Flow (vph)	307	708	208	636	526	31	201	937	684	72	902	233
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	23.5	37.5	37.5	23.5	37.5	37.5	23.5	44.0	44.0	15.0	35.5	35.5
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.6%	36.7%	36.7%	12.5%	29.6%	29.6%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	16.6	29.7	29.7	17.9	31.0	31.0	16.9	40.6	40.6	8.2	29.3	29.3
Actuated g/C Ratio	0.14	0.25	0.25	0.15	0.26	0.26	0.14	0.34	0.34	0.07	0.24	0.24
v/c Ratio	0.69	0.86	0.43	1.35	0.66	0.07	0.91	0.85	0.98	0.64	0.77	0.49
Control Delay	58.2	55.0	7.5	211.2	44.6	0.3	93.3	46.7	48.1	79.5	47.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	55.0	7.5	211.2	44.6	0.3	93.3	46.7	48.1	79.5	47.7	10.6
LOS	E	D	A	F	D	A	F	D	D	E	D	B
Approach Delay		47.7			132.2			52.4			42.4	
Approach LOS		D			F			D			D	
Queue Length 50th (m)	35.9	83.0	0.0	~105.5	58.5	0.0	47.2	111.7	~96.8	16.8	73.0	4.0
Queue Length 95th (m)	51.0	106.0	18.0	#141.1	77.5	0.0	#90.4	#150.2	#176.3	#36.1	89.0	26.0
Internal Link Dist (m)		235.7			375.0			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	444	856	497	471	794	469	223	1099	700	118	1164	479
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.83	0.42	1.35	0.66	0.07	0.90	0.85	0.98	0.61	0.77	0.49

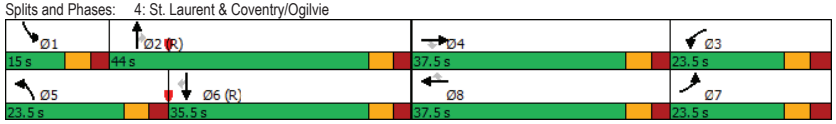
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 66.6	Intersection LOS: E
Intersection Capacity Utilization 102.4%	ICU Level of Service G
Analysis Period (min) 15	

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

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	573	380	718	150	0	335	0	2097	119	65	1405	0
Future Volume (vph)	573	380	718	150	0	335	0	2097	119	65	1405	0
Satd. Flow (prot)	2903	3191	1339	1610	0	2611	0	4587	0	1626	3283	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	2869	3191	1320	1598	0	2611	0	4587	0	1625	3283	0
Satd. Flow (RTOR)			261			118		9				
Lane Group Flow (vph)	573	380	718	150	0	335	0	2216	0	65	1405	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	36.0	34.0		19.0				74.0		13.0	87.0	
Total Split (%)	25.7%	24.3%		13.6%				52.9%		9.3%	62.1%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	29.4	27.3	140.0	13.0		24.0		68.5		7.2	81.6	
Actuated g/C Ratio	0.21	0.20	1.00	0.09		0.17		0.49		0.05	0.58	
v/c Ratio	0.94	0.61	0.54	1.01		0.62		0.99		0.78	0.73	
Control Delay	78.3	56.1	1.6	137.5		39.7		51.0		94.5	32.4	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	78.3	56.1	1.6	137.5		39.7		51.0		94.5	32.4	
LOS	E	E	A	F		D		D		F	C	
Approach Delay		40.3			70.0			51.0			35.2	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	80.7	50.8	0.0	~42.4		31.8		218.4		19.0	155.5	
Queue Length 95th (m)	#113.9	68.0	0.0	#87.5		49.8		#259.3		m#25.6	m234.4	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	622	638	1320	149		526		2249		83	1914	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.92	0.60	0.54	1.01		0.64		0.99		0.78	0.73	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 3 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	17.0
Total Split (%)	12%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary	

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 45.5	Intersection LOS: D
Intersection Capacity Utilization 92.1%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

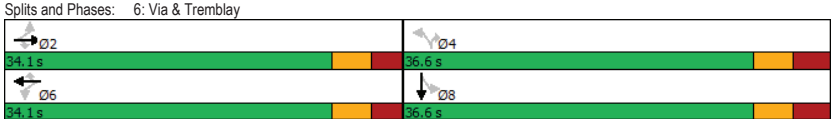
Splits and Phases: 5: Riverside & 417EB/Tremblay

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	318	164	56	414	0	147	0	77	1	0	1
Future Volume (vph)	2	318	164	56	414	0	147	0	77	1	0	1
Satd. Flow (prot)	1658	3131	1455	1610	3283	1745	1642	0	1455	0	1370	0
Flt Permitted	0.509			0.559			0.757				0.976	
Satd. Flow (perm)	635	3131	703	639	3283	1745	960	0	1059	0	1189	0
Satd. Flow (RTOR)			164						48		48	
Lane Group Flow (vph)	2	318	164	56	414	0	147	0	77	0	2	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm	Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6	30.6	36.6		36.6	30.6	30.6	
Total Split (s)	34.1	34.1	34.1	34.1	34.1	34.1	36.6		36.6	36.6	36.6	
Total Split (%)	48.2%	48.2%	48.2%	48.2%	48.2%	48.2%	51.8%		51.8%	51.8%	51.8%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)	22.8	22.8	22.8	22.8	22.8		24.2		24.2		24.2	
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38		0.40		0.40		0.40	
v/c Ratio	0.01	0.27	0.44	0.23	0.33		0.38		0.17		0.00	
Control Delay	12.0	13.7	7.2	16.2	14.2		15.0		6.4		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay	12.0	13.7	7.2	16.2	14.2		15.0		6.4		0.0	
LOS	B	B	A	B	B		B		A		A	
Approach Delay		11.5			14.5			12.0				
Approach LOS		B			B			B				
Queue Length 50th (m)	0.1	12.0	0.0	4.0	16.1		9.8		1.7		0.0	
Queue Length 95th (m)	1.3	20.2	11.6	11.6	25.7		21.8		8.0		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)	38.0		40.0	45.0								
Base Capacity (vph)	312	1541	429	314	1615		485		559		625	
Starvation Cap Reductn	0	0	0	0	0		0		0		0	
Spillback Cap Reductn	0	0	0	0	0		0		0		0	
Storage Cap Reductn	0	0	0	0	0		0		0		0	
Reduced v/c Ratio	0.01	0.21	0.38	0.18	0.26		0.30		0.14		0.00	

Intersection Summary
Cycle Length: 70.7
Actuated Cycle Length: 59.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44

Intersection Signal Delay: 12.8 Intersection LOS: B
Intersection Capacity Utilization 72.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	81	204	20	122	47	154	410	20	24	435	94
Future Volume (vph)	200	81	204	20	122	47	154	410	20	24	435	94
Satd. Flow (prot)	1642	885	0	1658	1345	0	1658	1688	0	1496	1541	0
Flt Permitted	0.635			0.437			0.246			0.950		
Satd. Flow (perm)	836	885	0	535	1345	0	369	1688	0	1050	1541	0
Satd. Flow (RTOR)		126			19			3			13	
Lane Group Flow (vph)	200	285	0	20	169	0	154	430	0	24	529	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		10.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		20.0	45.0		20.0	45.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		20.0%	45.0%		20.0%	45.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	26.5	26.5		26.5	26.5		54.6	49.9		7.1	39.2	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.58	0.53		0.07	0.41	
v/c Ratio	0.86	0.84		0.13	0.43		0.44	0.48		0.21	0.82	
Control Delay	66.0	41.5		28.8	29.0		13.3	18.6		46.6	37.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	66.0	41.5		28.8	29.0		13.3	18.6		46.6	37.4	
LOS	E	D		C	C		B	B		D	D	
Approach Delay		51.6			29.0			17.2			37.8	
Approach LOS		D			C			B			D	
Queue Length 50th (m)	34.9	28.8		2.8	22.5		12.5	42.2		4.3	86.0	
Queue Length 95th (m)	#75.3	#76.6		8.9	42.4		21.6	91.3		12.2	#149.1	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	249	352		159	414		407	890		223	645	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.80	0.81		0.13	0.41		0.38	0.48		0.11	0.82	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 94.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86

Intersection Signal Delay: 33.9 Intersection LOS: C
Intersection Capacity Utilization 93.9% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Belfast & Tremblay

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	38	79	23	21	180	28	1454	12	51	1150	82
Future Volume (vph)	228	38	79	23	21	180	28	1454	12	51	1150	82
Satd. Flow (prot)	1398	1476	0	1658	1447	0	1626	4756	0	1658	3191	1339
Flt Permitted	0.549			0.682			0.221			0.112		
Satd. Flow (perm)	787	1476	0	1154	1447	0	373	4756	0	194	3191	1222
Satd. Flow (RTOR)		77			175			1				82
Lane Group Flow (vph)	228	117	0	23	201	0	28	1466	0	51	1150	82
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		65.0	65.0		15.0	80.0	80.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		54.2%	54.2%		12.5%	66.7%	66.7%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	33.5	33.5		33.5	33.5		64.2	64.2		75.3	73.8	73.8
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.54	0.54		0.63	0.62	0.62
v/c Ratio	1.04	0.25		0.07	0.38		0.14	0.58		0.25	0.59	0.10
Control Delay	114.9	14.7		32.7	9.4		17.9	20.4		11.6	15.4	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	114.9	14.7		32.7	9.4		17.9	20.4		11.6	15.4	2.3
LOS	F	B		C	A		B	C		B	B	A
Approach Delay		80.9			11.8			20.4			14.4	
Approach LOS		F			B			C			B	
Queue Length 50th (m)	~57.9	7.0		4.0	4.5		3.3	84.9		4.3	80.4	0.0
Queue Length 95th (m)	#106.9	21.6		10.6	23.1		9.3	101.9		9.1	99.3	5.9
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	219	467		322	530		199	2546		247	1962	783
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	1.04	0.25		0.07	0.38		0.14	0.58		0.21	0.59	0.10

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 96.9%	ICU Level of Service F
Analysis Period (min) 15	

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

Splits and Phases: 8: St. Laurent & Tremblay

Appendix I

Synchro Intersection Worksheets – 2032 Future Total Conditions

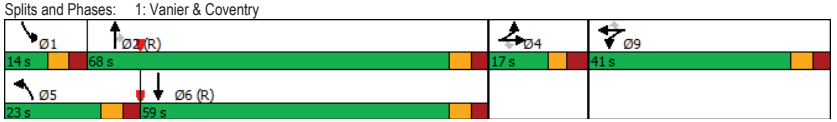
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	7	12	718	83	148	132	1321	448	200	1658	43
Future Volume (vph)	5	7	12	718	83	148	132	1321	448	200	1658	43
Satd. Flow (prot)	0	1710	1483	2988	1525	1427	1658	3316	1483	3216	4738	0
Flt Permitted		0.980		0.950	0.967		0.950			0.950		
Satd. Flow (perm)	0	1697	1404	2927	1512	1371	1653	3316	1419	3200	4738	0
Satd. Flow (RTOR)			189			189			448		3	
Lane Group Flow (vph)	0	12	12	531	270	148	132	1321	448	200	1701	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	17.0	17.0	17.0	41.0	41.0	41.0	23.0	68.0	68.0	14.0	59.0	
Total Split (%)	12.1%	12.1%	12.1%	29.3%	29.3%	29.3%	16.4%	48.6%	48.6%	10.0%	42.1%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		10.0	10.0	30.7	30.7	30.7	14.7	66.9	66.9	11.8	64.0	
Actuated g/C Ratio		0.07	0.07	0.22	0.22	0.22	0.10	0.48	0.48	0.08	0.46	
v/c Ratio		0.10	0.04	0.81	0.81	0.33	0.76	0.83	0.49	0.74	0.78	
Control Delay		62.8	0.3	62.1	70.3	4.1	74.5	23.9	0.9	78.2	37.8	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		62.8	0.3	62.1	70.3	4.1	74.5	23.9	0.9	78.2	37.8	
LOS		E	A	E	E	A	E	C	A	E	D	
Approach Delay		31.6			55.4			22.0			42.1	
Approach LOS		C			E			C			D	
Queue Length 50th (m)		3.2	0.0	74.9	76.1	0.0	38.8	115.3	1.3	~34.3	167.4	
Queue Length 95th (m)		9.9	0.0	96.3	111.6	7.6	m38.8	m94.3	m1.1	#60.2	#200.9	
Internal Link Dist (m)		99.6			160.2			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		122	275	727	371	476	191	1583	911	271	2168	
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		0.10	0.04	0.73	0.73	0.31	0.69	0.83	0.49	0.74	0.78	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83
Intersection Signal Delay: 36.7 Intersection LOS: D
Intersection Capacity Utilization 86.9% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	407	49	25	684	168	66	23	20	148	16	169
Future Volume (vph)	109	407	49	25	684	168	66	23	20	148	16	169
Satd. Flow (prot)	1658	3153	0	1551	3068	0	1658	1504	0	1580	1438	0
Flt Permitted	0.237			0.489			0.597			0.729		
Satd. Flow (perm)	401	3153	0	745	3068	0	1013	1504	0	1177	1438	0
Satd. Flow (RTOR)		15			35			20			169	
Lane Group Flow (vph)	109	456	0	25	852	0	66	43	0	148	185	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	22.0	34.5		22.0	34.5		33.5	33.5		33.5	33.5	
Total Split (%)	24.4%	38.3%		24.4%	38.3%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	54.6	50.6		48.8	43.7		20.9	20.9		20.9	20.9	
Actuated g/C Ratio	0.61	0.56		0.54	0.49		0.23	0.23		0.23	0.23	
v/c Ratio	0.31	0.26		0.05	0.57		0.28	0.12		0.54	0.40	
Control Delay	11.1	13.1		7.7	15.2		28.6	15.5		36.2	7.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	11.1	13.1		7.7	15.2		28.6	15.5		36.2	7.8	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		12.7			14.9			23.4			20.4	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	8.4	19.4		1.3	35.7		8.5	2.8		20.4	2.0	
Queue Length 95th (m)	16.0	39.2		m2.2	m57.3		18.9	10.2		37.8	16.5	
Internal Link Dist (m)		374.2			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	464	1778		596	1507		303	465		353	549	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.23	0.26		0.04	0.57		0.22	0.09		0.42	0.34	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 15.7	Intersection LOS: B
Intersection Capacity Utilization 83.3%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 2: Retail/Lola & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	384	174	184	688	3	253	0	248	0	0	0
Future Volume (vph)	0	384	174	184	688	3	253	0	248	0	0	0
Satd. Flow (prot)	1745	1679	1455	1658	1708	0	0	1626	1469	0	1745	0
Flt Permitted				0.391				0.757				
Satd. Flow (perm)	1745	1679	695	540	1708	0	0	1163	1161	0	1745	0
Satd. Flow (RTOR)			174						193			
Lane Group Flow (vph)	0	384	174	184	691	0	0	253	248	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm			
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	40.0	40.0	40.0	20.0	60.0		30.0	30.0	30.0	30.0	30.0	
Total Split (%)	44.4%	44.4%	44.4%	22.2%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)		40.1	40.1	56.4	54.9			22.1	22.1			
Actuated g/C Ratio		0.45	0.45	0.63	0.61			0.25	0.25			
v/c Ratio		0.51	0.43	0.40	0.66			0.89	0.58			
Control Delay		18.3	6.7	10.2	15.9			65.2	13.6			
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay		18.3	6.7	10.2	15.9			65.2	13.6			
LOS		B	A	B	B			E	B			
Approach Delay		14.7			14.7			39.6				
Approach LOS		B			B			D				
Queue Length 50th (m)		56.1	2.3	12.7	74.8			41.3	7.4			
Queue Length 95th (m)		38.1	8.0	21.8	113.9			#81.4	29.8			
Internal Link Dist (m)		236.9			288.2			76.8			26.2	
Turn Bay Length (m)				75.0					20.0			
Base Capacity (vph)		747	405	524	1042			303	445			
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		0.51	0.43	0.35	0.66			0.83	0.56			

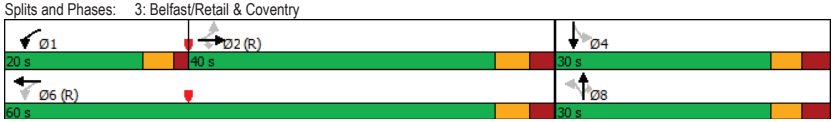
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 21.2	Intersection LOS: C
Intersection Capacity Utilization 84.5%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 3: Belfast/Retail & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	281	71	720	684	26	163	873	587	34	845	141
Future Volume (vph)	83	281	71	720	684	26	163	873	587	34	845	141
Satd. Flow (prot)	3038	3283	1414	3216	3103	1339	1523	3161	1441	1642	4764	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2853	3283	1286	3079	3103	1197	1490	3161	1327	1608	4764	1294
Satd. Flow (RTOR)			195			140			501			196
Lane Group Flow (vph)	83	281	71	720	684	26	163	873	587	34	845	141
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	15.0	37.5	37.5	35.5	58.0	58.0	21.6	35.4	35.4	21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	27.2%	27.2%	16.6%	27.2%	27.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.4	27.2	27.2	30.1	40.5	40.5	15.2	43.4	43.4	8.2	31.4	31.4
Actuated g/C Ratio	0.15	0.21	0.21	0.23	0.31	0.31	0.12	0.33	0.33	0.06	0.24	0.24
v/c Ratio	0.18	0.41	0.17	0.97	0.71	0.06	0.92	0.83	0.76	0.33	0.74	0.31
Control Delay	48.8	45.3	0.9	76.0	45.0	0.2	105.6	49.5	14.5	66.1	50.7	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	45.3	0.9	76.0	45.0	0.2	105.6	49.5	14.5	66.1	50.7	3.1
LOS	D	D	A	E	D	A	F	D	B	E	D	A
Approach Delay		38.7			59.8			42.5			44.6	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	9.2	31.7	0.0	~100.4	86.5	0.0	41.9	117.7	17.4	8.5	75.4	0.0
Queue Length 95th (m)	17.9	44.7	0.0	#138.0	100.3	0.0	#84.1	#171.8	#80.0	19.0	91.4	4.9
Internal Link Dist (m)		237.3			375.2			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	461	782	455	743	1245	563	178	1055	776	191	1149	460
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.36	0.16	0.97	0.55	0.05	0.92	0.83	0.76	0.18	0.74	0.31

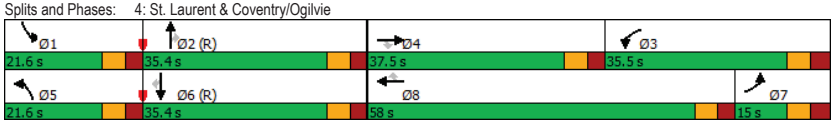
Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 48.1	Intersection LOS: D
Intersection Capacity Utilization 99.7%	ICU Level of Service F
Analysis Period (min) 15	

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

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	710	272	872	90	0	270	0	2206	131	48	1259	0
Future Volume (vph)	710	272	872	90	0	270	0	2206	131	48	1259	0
Satd. Flow (prot)	3216	3283	1375	1595	0	2585	0	4470	0	1658	3283	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3190	3283	1355	1579	0	2585	0	4470	0	1657	3283	0
Satd. Flow (RTOR)			405			118		8				
Lane Group Flow (vph)	710	272	872	90	0	270	0	2337	0	48	1259	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	49.0	49.0		16.0				64.0		11.0	75.0	
Total Split (%)	35.0%	35.0%		11.4%				45.7%		7.9%	53.6%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	36.1	37.4	140.0	9.8		23.9		61.8		7.0	74.7	
Actuated g/C Ratio	0.26	0.27	1.00	0.07		0.17		0.44		0.05	0.53	
v/c Ratio	0.86	0.31	0.64	0.81		0.50		1.18		0.59	0.72	
Control Delay	60.1	41.0	2.4	109.2		32.6		122.7		72.7	33.7	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	60.1	41.0	2.4	109.2		32.6		122.7		72.7	33.7	
LOS	E	D	A	F		C		F		E	C	
Approach Delay		30.1			51.8			122.7			35.2	
Approach LOS		C			D			F			D	
Queue Length 50th (m)	96.8	31.2	0.0	25.0		20.6		~297.7		13.5	169.3	
Queue Length 95th (m)	112.4	42.0	0.0	#54.6		38.1		#325.2		m#18.6	210.7	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	987	1008	1355	113		527		1978		82	1752	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.72	0.27	0.64	0.80		0.51		1.18		0.59	0.72	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	16.0
Total Split (%)	11%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

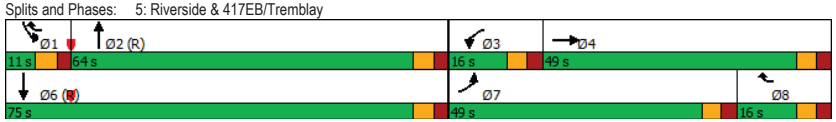
Intersection Summary

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 69.5	Intersection LOS: E
Intersection Capacity Utilization 95.1%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Riverside & 417EB/Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	414	118	33	212	0	76	0	48	0	0	1
Future Volume (vph)	0	414	118	33	212	0	76	0	48	0	0	1
Satd. Flow (prot)	1745	3131	1469	1398	3221	1745	1566	0	1375	0	1026	0
Flt Permitted				0.509			0.757					
Satd. Flow (perm)	1745	3131	622	510	3221	1745	856	0	935	0	1026	0
Satd. Flow (RTOR)			77						42		65	
Lane Group Flow (vph)	0	414	118	33	212	0	76	0	48	0	1	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm		NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	26.1	26.1	26.1	26.1	26.1	26.1	30.6		30.6	30.6	30.6	
Total Split (s)	44.1	44.1	44.1	44.1	44.1	44.1	36.6		36.6	36.6	36.6	
Total Split (%)	54.6%	54.6%	54.6%	54.6%	54.6%	54.6%	45.4%		45.4%	45.4%	45.4%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)		26.2	26.2	26.2	26.2		24.3		24.3		24.3	
Actuated g/C Ratio		0.41	0.41	0.41	0.41		0.38		0.38		0.38	
v/c Ratio		0.32	0.39	0.16	0.16		0.23		0.12		0.00	
Control Delay		13.7	10.7	15.0	12.5		13.7		5.2		0.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay		13.7	10.7	15.0	12.5		13.7		5.2		0.0	
LOS		B	B	B	B		B		A		A	
Approach Delay		13.1			12.8			10.4				
Approach LOS		B			B			B				
Queue Length 50th (m)		16.2	2.9	2.3	7.7		5.3		0.4		0.0	
Queue Length 95th (m)		26.0	14.8	7.8	13.9		12.0		5.1		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)			40.0	45.0								
Base Capacity (vph)		1901	407	309	1955		410		469		525	
Starvation Cap Reductn		0	0	0	0		0		0		0	
Spillback Cap Reductn		0	0	0	0		0		0		0	
Storage Cap Reductn		0	0	0	0		0		0		0	
Reduced v/c Ratio		0.22	0.29	0.11	0.11		0.19		0.10		0.00	

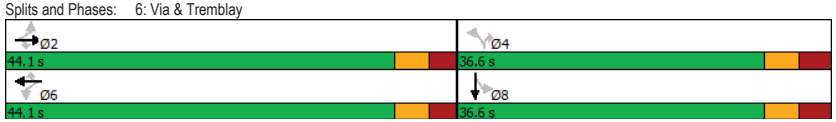
Intersection Summary
Cycle Length: 80.7
Actuated Cycle Length: 63.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.39

Lanes, Volumes, Timings
6: Via & Tremblay

01-13-2025

Intersection Signal Delay: 12.6 | Intersection LOS: B
Intersection Capacity Utilization 72.7% | ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay



Lanes, Volumes, Timings
7: Belfast & Tremblay

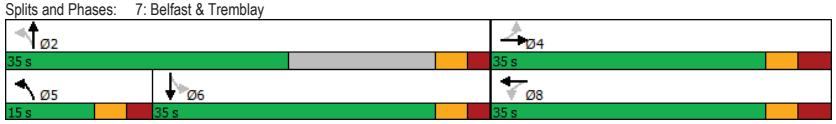
01-13-2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	99	160	18	114	35	134	311	9	24	260	99
Future Volume (vph)	176	99	160	18	114	35	134	311	9	24	260	99
Satd. Flow (prot)	1658	1085	0	1658	1567	0	1626	1698	0	1510	1418	0
Flt Permitted	0.662			0.533			0.347			0.567		
Satd. Flow (perm)	946	1085	0	636	1567	0	458	1698	0	628	1418	0
Satd. Flow (RTOR)		102			19			3			25	
Lane Group Flow (vph)	176	259	0	18	149	0	134	320	0	24	359	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		28.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		15.0	35.0		35.0	35.0	
Total Split (%)	41.2%	41.2%		41.2%	41.2%		17.6%	41.2%		41.2%	41.2%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Act Effct Green (s)	24.1	24.1		24.1	24.1		43.5	43.5		29.1	29.1	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.54	0.54		0.36	0.36	
v/c Ratio	0.62	0.65		0.09	0.31		0.36	0.35		0.11	0.68	
Control Delay	35.3	23.4		21.8	20.9		12.5	11.9		19.6	28.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.3	23.4		21.8	20.9		12.5	11.9		19.6	28.4	
LOS	D	C		C	C		B	B		B	C	
Approach Delay		28.2			21.0			12.1			27.9	
Approach LOS		C			C			B			C	
Queue Length 50th (m)	23.2	20.5		2.0	15.2		9.2	24.5		2.4	41.8	
Queue Length 95th (m)	44.0	45.8		6.7	29.5		20.0	46.3		8.0	#79.6	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	332	447		223	563		380	934		227	529	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.58		0.08	0.26		0.35	0.34		0.11	0.68	

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 80.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68

Intersection Signal Delay: 22.2 Intersection LOS: C
Intersection Capacity Utilization 81.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Belfast & Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	21	31	12	20	100	77	1298	38	127	1182	234
Future Volume (vph)	57	21	31	12	20	100	77	1298	38	127	1182	234
Satd. Flow (prot)	1271	1504	0	1445	1331	0	1658	4321	0	1626	3075	1339
Flt Permitted	0.660			0.723			0.235			0.148		
Satd. Flow (perm)	853	1504	0	1058	1331	0	404	4321	0	252	3075	1217
Satd. Flow (RTOR)		31			100			5				234
Lane Group Flow (vph)	57	52	0	12	120	0	77	1336	0	127	1182	234
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		72.0	72.0		18.0	90.0	90.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%		55.4%	55.4%		13.8%	69.2%	69.2%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	27.6	27.6		27.6	27.6		76.0	76.0		91.2	89.7	89.7
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.58	0.58		0.70	0.69	0.69
v/c Ratio	0.32	0.15		0.05	0.33		0.33	0.53		0.47	0.56	0.26
Control Delay	45.7	20.5		38.3	13.2		21.5	18.5		13.1	12.4	1.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	45.7	20.5		38.3	13.2		21.5	18.5		13.1	12.4	1.7
LOS	D	C		D	B		C	B		B	B	A
Approach Delay		33.7			15.5			18.7			10.9	
Approach LOS		C			B			B			B	
Queue Length 50th (m)	11.9	4.2		2.4	4.0		10.6	78.2		10.8	82.6	0.0
Queue Length 95th (m)	24.5	14.7		7.7	19.9		24.4	96.0		18.2	101.1	8.4
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	219	410		272	417		236	2527		317	2121	911
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	0.26	0.13		0.04	0.29		0.33	0.53		0.40	0.56	0.26

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 53 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 15.3	Intersection LOS: B
Intersection Capacity Utilization 79.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: St. Laurent & Tremblay

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	35	32	481	366	11
Future Vol, veh/h	25	35	32	481	366	11
Conflicting Peds, #/hr	0	0	247	0	0	247
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	35	32	481	366	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1164	619	624	0	-	0
Stage 1	619	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	215	489	957	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	132	395	774	-	-	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	774	-	216	-	-
HCM Lane V/C Ratio	0.041	-	0.278	-	-
HCM Control Delay (s)	9.9	0	28	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-

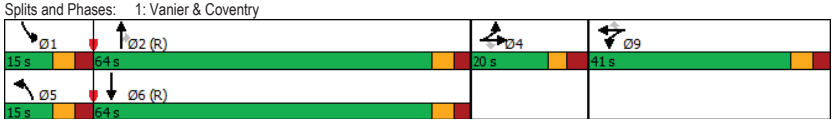
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	44	249	592	5	249	11	1546	481	218	1899	10
Future Volume (vph)	51	44	249	592	5	249	11	1546	481	218	1899	10
Satd. Flow (prot)	0	1700	1483	2959	1487	1469	1658	3316	1483	3216	4758	0
Flt Permitted		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (perm)	0	1684	1419	2906	1471	1415	1655	3316	1426	3199	4758	0
Satd. Flow (RTOR)			136			207			481		1	
Lane Group Flow (vph)	0	95	249	397	200	249	11	1546	481	218	1909	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	20.0	20.0	20.0	41.0	41.0	41.0	15.0	64.0	64.0	15.0	64.0	
Total Split (%)	14.3%	14.3%	14.3%	29.3%	29.3%	29.3%	10.7%	45.7%	45.7%	10.7%	45.7%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		13.0	13.0	28.5	28.5	28.5	6.6	58.5	58.5	12.6	72.1	
Actuated g/C Ratio		0.09	0.09	0.20	0.20	0.20	0.05	0.42	0.42	0.09	0.52	
v/c Ratio		0.61	0.98	0.66	0.66	0.55	0.14	1.12	0.55	0.76	0.78	
Control Delay		77.9	78.9	56.1	61.2	14.4	69.7	89.6	3.9	78.6	32.5	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		77.9	78.9	56.1	61.2	14.4	69.7	89.6	3.9	78.6	32.5	
LOS		E	E	E	E	B	E	F	A	E	C	
Approach Delay		78.6			45.0			69.2			37.2	
Approach LOS		E			D			E			D	
Queue Length 50th (m)		25.7	32.9	53.2	53.6	9.2	2.9	~260.0	7.8	~36.3	151.7	
Queue Length 95th (m)		#44.6	#88.0	71.0	82.1	34.5	m3.2	m#288.4	m11.8	#62.6	#225.4	
Internal Link Dist (m)		99.6			161.3			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		157	255	720	362	501	97	1386	875	288	2451	
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		0.61	0.98	0.55	0.55	0.50	0.11	1.12	0.55	0.76	0.78	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 31 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12
Intersection Signal Delay: 53.3 Intersection LOS: D
Intersection Capacity Utilization 93.5% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	545	38	31	585	278	63	26	41	174	21	91
Future Volume (vph)	158	545	38	31	585	278	63	26	41	174	21	91
Satd. Flow (prot)	1658	3244	0	1658	2960	0	1658	1542	0	1626	1459	0
Flt Permitted	0.229			0.432			0.685			0.713		
Satd. Flow (perm)	386	3244	0	707	2960	0	1148	1542	0	1186	1459	0
Satd. Flow (RTOR)		9			103			41			91	
Lane Group Flow (vph)	158	583	0	31	863	0	63	67	0	174	112	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	15.0	41.5		15.0	41.5		33.5	33.5		33.5	33.5	
Total Split (%)	16.7%	46.1%		16.7%	46.1%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	52.6	47.6		47.5	41.2		21.3	21.3		21.3	21.3	
Actuated g/C Ratio	0.58	0.53		0.53	0.46		0.24	0.24		0.24	0.24	
v/c Ratio	0.47	0.34		0.07	0.61		0.23	0.17		0.62	0.27	
Control Delay	13.9	15.7		6.5	14.2		27.1	12.7		39.3	9.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	13.9	15.7		6.5	14.2		27.1	12.7		39.3	9.3	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		15.3			13.9			19.7			27.5	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	12.6	36.4		1.9	32.4		8.0	3.2		24.6	2.6	
Queue Length 95th (m)	22.2	51.5		m2.6	44.4		17.8	12.3		44.1	14.2	
Internal Link Dist (m)		369.8			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	344	1718		477	1409		344	491		355	501	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.34		0.06	0.61		0.18	0.14		0.49	0.22	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 75.1%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 2: Retail/Lola & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	598	213	260	581	5	325	0	296	1	0	4
Future Volume (vph)	1	598	213	260	581	5	325	0	296	1	0	4
Satd. Flow (prot)	1658	1745	1455	1658	1737	0	0	1658	1455	0	1367	0
Flt Permitted	0.443			0.110				0.754			0.952	
Satd. Flow (perm)	698	1745	686	192	1737	0	0	1146	1111	0	1284	0
Satd. Flow (RTOR)			213		1				204		103	
Lane Group Flow (vph)	1	598	213	260	586	0	0	325	296	0	5	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	37.0	37.0	37.0	15.0	52.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	41.1%	41.1%	41.1%	16.7%	57.8%		42.2%	42.2%	42.2%	42.2%	42.2%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)	31.7	31.7	31.7	50.0	48.5			28.5	28.5		28.5	
Actuated g/C Ratio	0.35	0.35	0.35	0.56	0.54			0.32	0.32		0.32	
v/c Ratio	0.00	0.97	0.56	0.87	0.63			0.90	0.60		0.01	
Control Delay	18.0	54.8	11.7	50.6	19.1			56.9	13.5		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	18.0	54.8	11.7	50.6	19.1			56.9	13.5		0.0	
LOS	B	D	B	D	B			E	B		A	
Approach Delay		43.4			28.8			36.2				
Approach LOS		D			C			D				
Queue Length 50th (m)	0.0	~54.1	2.3	30.4	71.9			50.3	11.1		0.0	
Queue Length 95th (m)	m0.3	#160.8	17.6	#78.1	108.2			#95.0	36.2		0.0	
Internal Link Dist (m)		236.9			288.2			76.8			26.2	
Turn Bay Length (m)	54.0			75.0					20.0			
Base Capacity (vph)	245	614	379	298	935			401	521		516	
Starvation Cap Reductn	0	0	0	0	0			0	0		0	
Spillback Cap Reductn	0	0	0	0	0			0	0		0	
Storage Cap Reductn	0	0	0	0	0			0	0		0	
Reduced v/c Ratio	0.00	0.97	0.56	0.87	0.63			0.81	0.57		0.01	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 36.0	Intersection LOS: D
Intersection Capacity Utilization 93.9%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Belfast/Retail & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	677	211	584	493	31	196	914	668	72	858	235
Future Volume (vph)	310	677	211	584	493	31	196	914	668	72	858	235
Satd. Flow (prot)	3216	3316	1483	3154	3075	1469	1566	3252	1483	1658	4764	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2771	3316	1317	3034	3075	1207	1514	3252	1342	1619	4764	1300
Satd. Flow (RTOR)			210			210			374			211
Lane Group Flow (vph)	310	677	211	584	493	31	196	914	668	72	858	235
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	23.5	37.5	37.5	23.5	37.5	37.5	23.5	44.0	44.0	15.0	35.5	35.5
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.6%	36.7%	36.7%	12.5%	29.6%	29.6%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	16.6	29.4	29.4	18.2	31.0	31.0	16.7	40.6	40.6	8.2	29.5	29.5
Actuated g/C Ratio	0.14	0.24	0.24	0.15	0.26	0.26	0.14	0.34	0.34	0.07	0.25	0.25
v/c Ratio	0.70	0.83	0.44	1.22	0.62	0.07	0.90	0.83	0.95	0.64	0.73	0.49
Control Delay	58.5	52.7	7.9	161.6	43.3	0.3	91.2	45.3	42.6	79.5	46.1	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	52.7	7.9	161.6	43.3	0.3	91.2	45.3	42.6	79.5	46.1	10.8
LOS	E	D	A	F	D	A	F	D	D	E	D	B
Approach Delay		46.3			104.4			49.4			41.0	
Approach LOS		D			F			D			D	
Queue Length 50th (m)	36.3	78.4	0.2	~92.4	54.1	0.0	45.9	108.0	85.2	16.8	68.7	4.4
Queue Length 95th (m)	51.4	100.5	19.0	#127.2	72.2	0.0	#87.4	#143.7	#167.5	#36.1	84.1	26.6
Internal Link Dist (m)		235.7			375.0			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	444	856	495	477	794	467	223	1099	701	118	1172	479
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.79	0.43	1.22	0.62	0.07	0.88	0.83	0.95	0.61	0.73	0.49

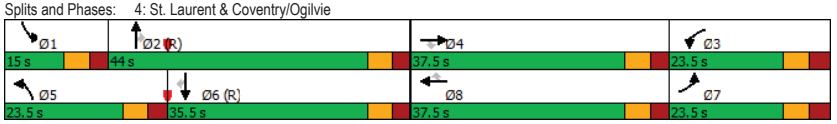
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.22

Intersection Signal Delay: 58.4	Intersection LOS: E
Intersection Capacity Utilization 100.5%	ICU Level of Service G
Analysis Period (min) 15	

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

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	552	388	692	143	0	317	0	2046	120	62	1354	0
Future Volume (vph)	552	388	692	143	0	317	0	2046	120	62	1354	0
Satd. Flow (prot)	2903	3191	1339	1610	0	2611	0	4586	0	1610	3283	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	2869	3191	1320	1598	0	2611	0	4586	0	1610	3283	0
Satd. Flow (RTOR)			266			118		9				
Lane Group Flow (vph)	552	388	692	143	0	317	0	2166	0	62	1354	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	36.0	34.0		19.0				74.0		13.0	87.0	
Total Split (%)	25.7%	24.3%		13.6%				52.9%		9.3%	62.1%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	29.1	26.8	140.0	13.0		23.8		69.0		7.2	82.1	
Actuated g/C Ratio	0.21	0.19	1.00	0.09		0.17		0.49		0.05	0.59	
v/c Ratio	0.92	0.64	0.52	0.96		0.59		0.96		0.76	0.70	
Control Delay	75.1	57.1	1.5	126.1		37.9		45.4		93.8	31.4	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	75.1	57.1	1.5	126.1		37.9		45.4		93.8	31.4	
LOS	E	E	A	F		D		D		F	C	
Approach Delay		39.6			65.3			45.4			34.1	
Approach LOS		D			E			D			C	
Queue Length 50th (m)	77.1	52.0	0.0	40.1		28.9		208.9		18.0	140.3	
Queue Length 95th (m)	#107.1	69.3	0.0	#82.9		46.3		#248.9		m#25.8	m225.3	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	622	638	1320	149		525		2265		82	1925	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.89	0.61	0.52	0.96		0.60		0.96		0.76	0.70	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 3 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	17.0
Total Split (%)	12%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

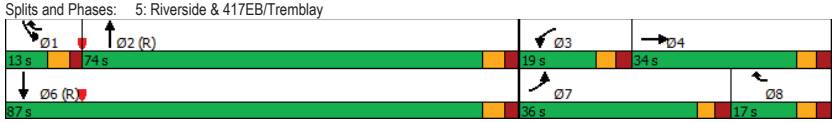
Intersection Summary

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 42.5	Intersection LOS: D
Intersection Capacity Utilization 90.8%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Riverside & 417EB/Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	329	164	56	394	0	147	0	77	1	0	1
Future Volume (vph)	2	329	164	56	394	0	147	0	77	1	0	1
Satd. Flow (prot)	1658	3161	1455	1610	3283	1745	1642	0	1455	0	1342	0
Flt Permitted	0.519			0.553			0.757				0.976	
Satd. Flow (perm)	626	3161	655	617	3283	1745	912	0	1005	0	1138	0
Satd. Flow (RTOR)			117						48		48	
Lane Group Flow (vph)	2	329	164	56	394	0	147	0	77	0	2	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm	Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6	30.6	36.6		36.6	30.6	30.6	
Total Split (s)	34.1	34.1	34.1	34.1	34.1	34.1	36.6		36.6	36.6	36.6	
Total Split (%)	48.2%	48.2%	48.2%	48.2%	48.2%	48.2%	51.8%		51.8%	51.8%	51.8%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)	23.5	23.5	23.5	23.5	23.5		24.2		24.2		24.2	
Actuated g/C Ratio	0.39	0.39	0.39	0.39	0.39		0.40		0.40		0.40	
v/c Ratio	0.01	0.27	0.50	0.23	0.31		0.40		0.18		0.00	
Control Delay	11.5	13.5	11.5	16.0	13.8		16.4		7.0		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay	11.5	13.5	11.5	16.0	13.8		16.4		7.0		0.0	
LOS	B	B	B	B	B		B		A		A	
Approach Delay		12.8			14.1			13.2				
Approach LOS		B			B			B				
Queue Length 50th (m)	0.1	12.5	3.3	4.0	15.3		9.9		1.7		0.0	
Queue Length 95th (m)	1.2	20.4	18.1	11.3	24.0		24.7		8.9		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)	38.0		40.0	45.0								
Base Capacity (vph)	304	1536	378	300	1596		456		526		593	
Starvation Cap Reductn	0	0	0	0	0		0		0		0	
Spillback Cap Reductn	0	0	0	0	0		0		0		0	
Storage Cap Reductn	0	0	0	0	0		0		0		0	
Reduced v/c Ratio	0.01	0.21	0.43	0.19	0.25		0.32		0.15		0.00	

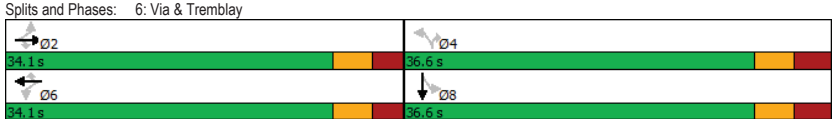
Intersection Summary
Cycle Length: 70.7
Actuated Cycle Length: 60.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50

Lanes, Volumes, Timings
6: Via & Tremblay

01-13-2025

Intersection Signal Delay: 13.3 | Intersection LOS: B
Intersection Capacity Utilization 72.7% | ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay



Lanes, Volumes, Timings
7: Belfast & Tremblay

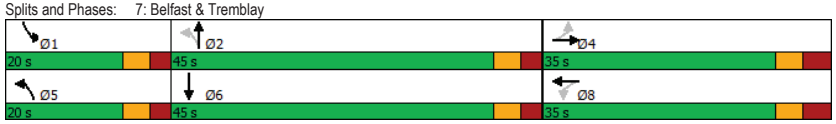
01-13-2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	80	194	20	121	63	154	415	20	26	415	94
Future Volume (vph)	215	80	194	20	121	63	154	415	20	26	415	94
Satd. Flow (prot)	1642	889	0	1658	1328	0	1658	1689	0	1537	1510	0
Flt Permitted	0.609			0.459			0.259			0.950		
Satd. Flow (perm)	810	889	0	553	1328	0	373	1689	0	1082	1510	0
Satd. Flow (RTOR)		122			26			3			13	
Lane Group Flow (vph)	215	274	0	20	184	0	154	435	0	26	509	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		10.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		20.0	45.0		20.0	45.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		20.0%	45.0%		20.0%	45.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	27.3	27.3		27.3	27.3		54.6	49.8		7.2	39.2	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.57	0.52		0.08	0.41	
v/c Ratio	0.93	0.81		0.13	0.46		0.44	0.49		0.23	0.81	
Control Delay	79.7	37.2		28.5	28.7		13.5	19.0		46.8	37.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	79.7	37.2		28.5	28.7		13.5	19.0		46.8	37.3	
LOS	E	D		C	C		B	B		D	D	
Approach Delay		55.9			28.7			17.6			37.7	
Approach LOS		E			C			B			D	
Queue Length 50th (m)	38.8	27.0		2.8	24.0		12.5	42.8		4.7	82.0	
Queue Length 95th (m)	#83.9	#72.1		8.9	45.0		21.6	92.8		12.8	#142.7	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	239	348		163	411		405	882		227	626	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.90	0.79		0.12	0.45		0.38	0.49		0.11	0.81	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 95.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93

Intersection Signal Delay: 35.1 Intersection LOS: D
Intersection Capacity Utilization 92.7% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Belfast & Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	38	81	23	21	180	36	1419	12	51	1095	88
Future Volume (vph)	226	38	81	23	21	180	36	1419	12	51	1095	88
Satd. Flow (prot)	1398	1475	0	1658	1447	0	1642	4756	0	1658	3191	1375
Flt Permitted	0.549			0.681			0.240			0.119		
Satd. Flow (perm)	787	1475	0	1152	1447	0	409	4756	0	206	3191	1255
Satd. Flow (RTOR)		81			177			1				88
Lane Group Flow (vph)	226	119	0	23	201	0	36	1431	0	51	1095	88
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		65.0	65.0		15.0	80.0	80.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		54.2%	54.2%		12.5%	66.7%	66.7%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	33.5	33.5		33.5	33.5		64.2	64.2		75.3	73.8	73.8
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.54	0.54		0.63	0.62	0.62
v/c Ratio	1.03	0.25		0.07	0.38		0.17	0.56		0.24	0.56	0.11
Control Delay	112.6	14.1		32.8	9.2		18.2	20.2		11.4	14.9	2.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	112.6	14.1		32.8	9.2		18.2	20.2		11.4	14.9	2.2
LOS	F	B		C	A		B	C		B	B	A
Approach Delay		78.6			11.6			20.1			13.9	
Approach LOS		E			B			C			B	
Queue Length 50th (m)	~56.9	6.6		4.0	4.2		4.3	81.9		4.3	74.5	0.0
Queue Length 95th (m)	#105.4	21.2		10.6	22.6		11.4	98.6		9.1	92.4	6.1
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	219	470		321	531		218	2546		253	1962	805
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	1.03	0.25		0.07	0.38		0.17	0.56		0.20	0.56	0.11

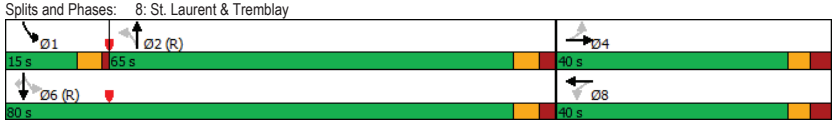
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 23.3	Intersection LOS: C
Intersection Capacity Utilization 96.8%	ICU Level of Service F
Analysis Period (min) 15	

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

Splits and Phases: 8: St. Laurent & Tremblay



Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	40	65	629	451	25
Future Vol, veh/h	23	40	65	629	451	25
Conflicting Peds, #/hr	0	0	256	0	0	256
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	2	2	2
Mvmt Flow	23	40	65	629	451	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1479	720	732	0	-	0
Stage 1	720	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	138	428	868	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	76	343	696	-	-	-
Mov Cap-2 Maneuver	76	-	-	-	-	-
Stage 1	331	-	-	-	-	-
Stage 2	370	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.4	1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	696	-	150	-	-
HCM Lane V/C Ratio	0.093	-	0.42	-	-
HCM Control Delay (s)	10.7	0	45.4	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.3	-	1.9	-	-

Appendix J

Synchro Intersection Worksheets – 2037 Future Total Conditions

CGH TRANSPORTATION

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	7	12	752	83	148	132	1372	464	200	1700	43
Future Volume (vph)	5	7	12	752	83	148	132	1372	464	200	1700	43
Satd. Flow (prot)	0	1710	1483	2988	1524	1427	1658	3316	1483	3216	4738	0
Flt Permitted		0.980		0.950	0.966		0.950			0.950		
Satd. Flow (perm)	0	1698	1404	2927	1511	1371	1653	3316	1419	3201	4738	0
Satd. Flow (RTOR)			189			189			464		3	
Lane Group Flow (vph)	0	12	12	556	279	148	132	1372	464	200	1743	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	17.0	17.0	17.0	41.0	41.0	41.0	23.0	68.0	68.0	14.0	59.0	
Total Split (%)	12.1%	12.1%	12.1%	29.3%	29.3%	29.3%	16.4%	48.6%	48.6%	10.0%	42.1%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		10.0	10.0	31.1	31.1	31.1	14.7	66.5	66.5	11.8	63.6	
Actuated g/C Ratio		0.07	0.07	0.22	0.22	0.22	0.10	0.48	0.48	0.08	0.45	
v/c Ratio		0.10	0.04	0.84	0.83	0.33	0.76	0.87	0.51	0.74	0.81	
Control Delay		62.8	0.3	63.9	71.7	4.1	73.8	25.0	0.7	78.2	38.9	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		62.8	0.3	63.9	71.7	4.1	73.8	25.0	0.7	78.2	38.9	
LOS		E	A	E	E	A	E	C	A	E	D	
Approach Delay		31.6			57.1			22.5			42.9	
Approach LOS		C			E			C			D	
Queue Length 50th (m)		3.2	0.0	79.2	79.2	0.0	38.8	133.7	1.3	~34.3	173.8	
Queue Length 95th (m)		9.9	0.0	101.6	#117.6	7.6	m36.7	m97.6	m1.0	#60.2	#209.7	
Internal Link Dist (m)		99.6			160.2			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		122	275	727	371	476	191	1573	917	271	2155	
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		0.10	0.04	0.76	0.75	0.31	0.69	0.87	0.51	0.74	0.81	

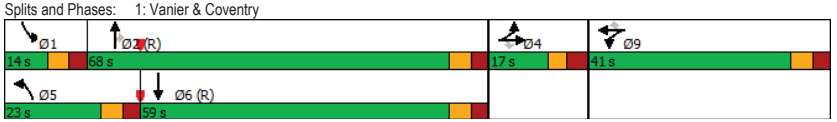
Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 13 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 37.5	Intersection LOS: D
Intersection Capacity Utilization 88.7%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	442	49	25	716	168	66	23	20	148	16	169
Future Volume (vph)	109	442	49	25	716	168	66	23	20	148	16	169
Satd. Flow (prot)	1658	3159	0	1551	3077	0	1658	1504	0	1580	1438	0
Flt Permitted	0.224			0.473			0.597			0.729		
Satd. Flow (perm)	380	3159	0	724	3077	0	1013	1504	0	1177	1438	0
Satd. Flow (RTOR)		14			33			20			169	
Lane Group Flow (vph)	109	491	0	25	884	0	66	43	0	148	185	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	22.0	34.5		22.0	34.5		33.5	33.5		33.5	33.5	
Total Split (%)	24.4%	38.3%		24.4%	38.3%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	54.6	50.6		48.8	43.7		20.9	20.9		20.9	20.9	
Actuated g/C Ratio	0.61	0.56		0.54	0.49		0.23	0.23		0.23	0.23	
v/c Ratio	0.32	0.28		0.06	0.59		0.28	0.12		0.54	0.40	
Control Delay	11.2	13.3		8.0	15.8		28.6	15.5		36.2	7.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	11.2	13.3		8.0	15.8		28.6	15.5		36.2	7.8	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		12.9			15.6			23.4			20.4	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	8.4	21.2		1.2	37.3		8.5	2.8		20.4	2.0	
Queue Length 95th (m)	16.0	42.5		m2.2	m63.1		18.9	10.2		37.8	16.5	
Internal Link Dist (m)		374.2			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	455	1781		587	1510		303	465		353	549	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.28		0.04	0.59		0.22	0.09		0.42	0.34	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 16.0	Intersection LOS: B
Intersection Capacity Utilization 84.2%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 2: Retail/Lola & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	416	174	184	721	3	267	0	259	0	0	0
Future Volume (vph)	0	416	174	184	721	3	267	0	259	0	0	0
Satd. Flow (prot)	1745	1679	1455	1658	1709	0	0	1626	1469	0	1745	0
Flt Permitted				0.360				0.757				
Satd. Flow (perm)	1745	1679	695	509	1709	0	0	1163	1161	0	1745	0
Satd. Flow (RTOR)			174						191			
Lane Group Flow (vph)	0	416	174	184	724	0	0	267	259	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm			
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	40.0	40.0	40.0	20.0	60.0		30.0	30.0	30.0	30.0	30.0	
Total Split (%)	44.4%	44.4%	44.4%	22.2%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)		39.6	39.6	56.0	54.5			22.5	22.5			
Actuated g/C Ratio		0.44	0.44	0.62	0.61			0.25	0.25			
v/c Ratio		0.56	0.43	0.42	0.70			0.92	0.60			
Control Delay		19.1	6.4	10.5	17.2			70.1	15.0			
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay		19.1	6.4	10.5	17.2			70.1	15.0			
LOS		B	A	B	B			E	B			
Approach Delay		15.3			15.8			43.0				
Approach LOS		B			B			D				
Queue Length 50th (m)		61.4	2.0	12.7	80.9			44.3	9.2			
Queue Length 95th (m)		39.1	7.4	21.8	123.6			#87.6	33.1			
Internal Link Dist (m)		236.9			288.2			76.8			26.2	
Turn Bay Length (m)				75.0					20.0			
Base Capacity (vph)		737	403	507	1033			303	444			
Starvation Cap Reductn		0	0	0	0			0	0			
Spillback Cap Reductn		0	0	0	0			0	0			
Storage Cap Reductn		0	0	0	0			0	0			
Reduced v/c Ratio		0.56	0.43	0.36	0.70			0.88	0.58			

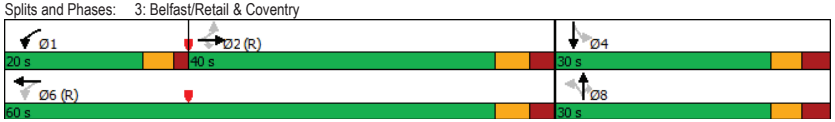
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 22.7	Intersection LOS: C
Intersection Capacity Utilization 87.1%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 3: Belfast/Retail & Coventry



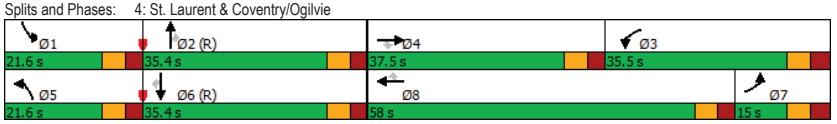
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	303	71	756	718	26	171	917	616	34	866	145
Future Volume (vph)	83	303	71	756	718	26	171	917	616	34	866	145
Satd. Flow (prot)	3038	3283	1414	3216	3103	1339	1523	3161	1441	1642	4764	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2861	3283	1286	3083	3103	1197	1491	3161	1327	1610	4764	1294
Satd. Flow (RTOR)			195			140			500			196
Lane Group Flow (vph)	83	303	71	756	718	26	171	917	616	34	866	145
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	15.0	37.5	37.5	35.5	58.0	58.0	21.6	35.4	35.4	21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	27.2%	27.2%	16.6%	27.2%	27.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	18.1	27.3	27.3	31.4	43.3	43.3	15.7	41.9	41.9	8.2	29.4	29.4
Actuated g/C Ratio	0.14	0.21	0.21	0.24	0.33	0.33	0.12	0.32	0.32	0.06	0.23	0.23
v/c Ratio	0.20	0.44	0.17	0.97	0.70	0.05	0.93	0.90	0.80	0.33	0.80	0.33
Control Delay	50.4	45.8	0.8	75.7	43.1	0.2	107.5	55.8	18.1	66.1	54.4	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	45.8	0.8	75.7	43.1	0.2	107.5	55.8	18.1	66.1	54.4	3.6
LOS	D	D	A	E	D	A	F	E	B	E	D	A
Approach Delay		39.7			58.8			47.3			47.8	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	9.4	34.4	0.0	~110.3	90.2	0.0	44.2	~133.9	28.4	8.5	77.8	0.0
Queue Length 95th (m)	18.2	48.2	0.0	#148.5	103.5	0.0	#88.9	#184.4	#107.0	19.0	94.0	5.8
Internal Link Dist (m)		237.3			375.2			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	431	782	455	777	1281	576	183	1018	766	191	1076	443
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.39	0.16	0.97	0.56	0.05	0.93	0.90	0.80	0.18	0.80	0.33

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97
Intersection Signal Delay: 50.3 Intersection LOS: D
Intersection Capacity Utilization 101.4% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	765	288	939	95	0	281	0	2289	136	49	1291	0
Future Volume (vph)	765	288	939	95	0	281	0	2289	136	49	1291	0
Satd. Flow (prot)	3216	3283	1375	1595	0	2585	0	4470	0	1658	3283	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	3190	3283	1355	1580	0	2585	0	4470	0	1657	3283	0
Satd. Flow (RTOR)			402			118		8				
Lane Group Flow (vph)	765	288	939	95	0	281	0	2425	0	49	1291	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	49.0	49.0		16.0				64.0		11.0	75.0	
Total Split (%)	35.0%	35.0%		11.4%				45.7%		7.9%	53.6%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	38.0	38.9	140.0	10.0		23.2		60.7		6.5	73.1	
Actuated g/C Ratio	0.27	0.28	1.00	0.07		0.17		0.43		0.05	0.52	
v/c Ratio	0.88	0.32	0.69	0.84		0.53		1.25		0.64	0.75	
Control Delay	60.5	40.3	2.9	114.1		34.8		151.2		77.9	35.8	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	60.5	40.3	2.9	114.1		34.8		151.2		77.9	35.8	
LOS	E	D	A	F		C		F		E	D	
Approach Delay		30.4			54.8			151.2			37.3	
Approach LOS		C			D			F			D	
Queue Length 50th (m)	104.2	32.2	0.0	26.5		22.8		~316.5		14.2	195.8	
Queue Length 95th (m)	122.9	44.3	0.0	#58.1		40.4		#343.6		m#18.1	216.9	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	987	1008	1355	113		511		1942		77	1713	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.78	0.29	0.69	0.84		0.55		1.25		0.64	0.75	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	16.0
Total Split (%)	11%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

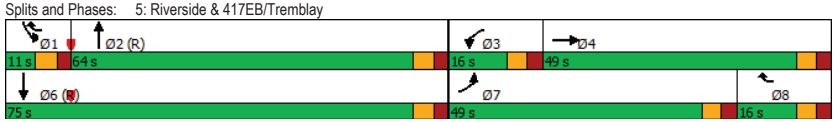
Intersection Summary

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 81.2	Intersection LOS: F
Intersection Capacity Utilization 99.0%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Riverside & 417EB/Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	439	118	33	221	0	76	0	48	0	0	1
Future Volume (vph)	0	439	118	33	221	0	76	0	48	0	0	1
Satd. Flow (prot)	1745	3131	1469	1398	3221	1745	1566	0	1375	0	1026	0
Flt Permitted				0.497			0.757					
Satd. Flow (perm)	1745	3131	622	507	3221	1745	856	0	935	0	1026	0
Satd. Flow (RTOR)			77						42		63	
Lane Group Flow (vph)	0	439	118	33	221	0	76	0	48	0	1	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm		NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	26.1	26.1	26.1	26.1	26.1	26.1	30.6		30.6	30.6	30.6	
Total Split (s)	44.1	44.1	44.1	44.1	44.1	44.1	36.6		36.6	36.6	36.6	
Total Split (%)	54.6%	54.6%	54.6%	54.6%	54.6%	54.6%	45.4%		45.4%	45.4%	45.4%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)		26.2	26.2	26.2	26.2		24.3		24.3		24.3	
Actuated g/C Ratio		0.41	0.41	0.41	0.41		0.38		0.38		0.38	
v/c Ratio		0.34	0.39	0.16	0.17		0.23		0.12		0.00	
Control Delay		13.9	10.7	15.1	12.5		13.7		5.2		0.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay		13.9	10.7	15.1	12.5		13.7		5.2		0.0	
LOS		B	B	B	B		B		A		A	
Approach Delay		13.2			12.9			10.4				
Approach LOS		B			B			B				
Queue Length 50th (m)		17.3	2.9	2.3	8.1		5.3		0.4		0.0	
Queue Length 95th (m)		27.6	14.8	7.8	14.4		12.0		5.1		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)			40.0	45.0								
Base Capacity (vph)		1901	407	307	1955		410		469		524	
Starvation Cap Reductn		0	0	0	0		0		0		0	
Spillback Cap Reductn		0	0	0	0		0		0		0	
Storage Cap Reductn		0	0	0	0		0		0		0	
Reduced v/c Ratio		0.23	0.29	0.11	0.11		0.19		0.10		0.00	

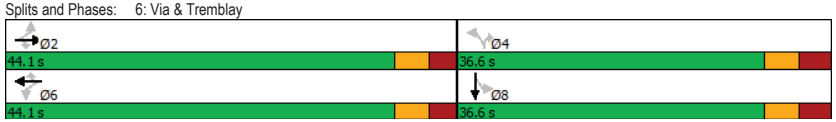
Intersection Summary
Cycle Length: 80.7
Actuated Cycle Length: 63.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.39

Lanes, Volumes, Timings
6: Via & Tremblay

01-13-2025

Intersection Signal Delay: 12.7 | Intersection LOS: B
Intersection Capacity Utilization 72.7% | ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay



Lanes, Volumes, Timings
7: Belfast & Tremblay

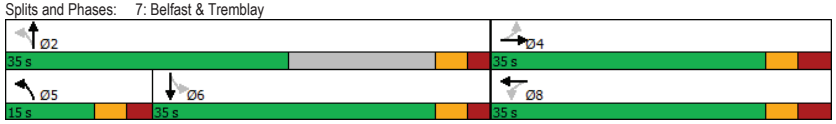
01-13-2025

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	100	172	18	115	35	141	327	9	24	260	99
Future Volume (vph)	189	100	172	18	115	35	141	327	9	24	260	99
Satd. Flow (prot)	1658	1071	0	1658	1567	0	1626	1699	0	1510	1418	0
Flt Permitted	0.662			0.514			0.347			0.558		
Satd. Flow (perm)	946	1071	0	623	1567	0	458	1699	0	624	1418	0
Satd. Flow (RTOR)		109			19			2			25	
Lane Group Flow (vph)	189	272	0	18	150	0	141	336	0	24	359	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		28.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		15.0	35.0		35.0	35.0	
Total Split (%)	41.2%	41.2%		41.2%	41.2%		17.6%	41.2%		41.2%	41.2%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Act Effct Green (s)	24.4	24.4		24.4	24.4		43.6	43.6		29.1	29.1	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.54	0.54		0.36	0.36	
v/c Ratio	0.66	0.68		0.10	0.31		0.38	0.37		0.11	0.68	
Control Delay	37.2	24.2		21.7	20.8		12.9	12.3		19.9	28.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.2	24.2		21.7	20.8		12.9	12.3		19.9	28.8	
LOS	D	C		C	C		B	B		B	C	
Approach Delay		29.5			20.9			12.5			28.3	
Approach LOS		C			C			B			C	
Queue Length 50th (m)	25.3	21.6		2.0	15.3		9.7	26.1		2.4	41.8	
Queue Length 95th (m)	47.6	48.7		6.7	29.7		20.9	48.9		8.0	#79.6	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	330	445		217	560		378	929		225	527	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.57	0.61		0.08	0.27		0.37	0.36		0.11	0.68	

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 80.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68

Intersection Signal Delay: 22.8 Intersection LOS: C
Intersection Capacity Utilization 83.0% ICU Level of Service E
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Belfast & Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	21	32	12	20	100	77	1363	38	127	1211	235
Future Volume (vph)	60	21	32	12	20	100	77	1363	38	127	1211	235
Satd. Flow (prot)	1271	1501	0	1445	1331	0	1658	4321	0	1626	3075	1339
Flt Permitted	0.660			0.722			0.225			0.135		
Satd. Flow (perm)	853	1501	0	1056	1331	0	387	4321	0	230	3075	1217
Satd. Flow (RTOR)		32			100			4				235
Lane Group Flow (vph)	60	53	0	12	120	0	77	1401	0	127	1211	235
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		72.0	72.0		18.0	90.0	90.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%		55.4%	55.4%		13.8%	69.2%	69.2%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	27.6	27.6		27.6	27.6		76.0	76.0		91.2	89.7	89.7
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.58	0.58		0.70	0.69	0.69
v/c Ratio	0.33	0.15		0.05	0.33		0.34	0.55		0.49	0.57	0.26
Control Delay	46.2	20.2		38.3	13.2		22.2	19.0		14.0	12.7	1.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.2	20.2		38.3	13.2		22.2	19.0		14.0	12.7	1.7
LOS	D	C		D	B		C	B		B	B	A
Approach Delay		34.0			15.5			19.2			11.2	
Approach LOS		C			B			B			B	
Queue Length 50th (m)	12.5	4.1		2.4	4.0		10.7	83.9		10.8	85.9	0.0
Queue Length 95th (m)	25.6	14.7		7.7	19.9		24.9	102.9		18.2	105.0	8.5
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	219	410		272	417		226	2527		304	2121	912
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	0.27	0.13		0.04	0.29		0.34	0.55		0.42	0.57	0.26

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 53 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 15.7	Intersection LOS: B
Intersection Capacity Utilization 80.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: St. Laurent & Tremblay

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	35	32	506	366	11
Future Vol, veh/h	25	35	32	506	366	11
Conflicting Peds, #/hr	0	0	247	0	0	247
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	35	32	506	366	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1189	619	624	0	-	0
Stage 1	619	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	208	489	957	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	128	395	774	-	-	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	409	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.7	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	774	-	211	-	-
HCM Lane V/C Ratio	0.041	-	0.284	-	-
HCM Control Delay (s)	9.9	0	28.7	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-

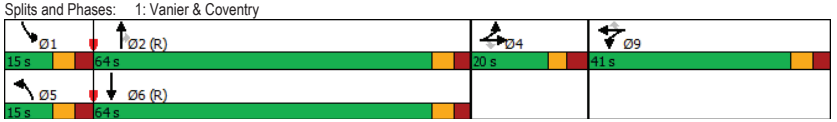
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	44	249	641	5	249	11	1585	492	218	1971	10
Future Volume (vph)	51	44	249	641	5	249	11	1585	492	218	1971	10
Satd. Flow (prot)	0	1700	1483	2959	1485	1469	1658	3316	1483	3216	4758	0
Flt Permitted		0.974		0.950	0.953		0.950			0.950		
Satd. Flow (perm)	0	1684	1419	2906	1469	1415	1655	3316	1426	3200	4758	0
Satd. Flow (RTOR)			136			206			492		1	
Lane Group Flow (vph)	0	95	249	429	217	249	11	1585	492	218	1981	0
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		9	9		5	2		1	6	
Permitted Phases			4			9			2			
Detector Phase	4	4	4	9	9	9	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	17.0	17.0	17.0	40.9	40.9	40.9	11.8	35.7	35.7	11.8	35.7	
Total Split (s)	20.0	20.0	20.0	41.0	41.0	41.0	15.0	64.0	64.0	15.0	64.0	
Total Split (%)	14.3%	14.3%	14.3%	29.3%	29.3%	29.3%	10.7%	45.7%	45.7%	10.7%	45.7%	
Yellow Time (s)	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	
All-Red Time (s)	3.7	3.7	3.7	3.2	3.2	3.2	3.1	3.0	3.0	3.1	3.0	
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)		7.0	7.0	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		13.0	13.0	29.1	29.1	29.1	6.6	58.0	58.0	12.5	71.6	
Actuated g/C Ratio		0.09	0.09	0.21	0.21	0.21	0.05	0.41	0.41	0.09	0.51	
v/c Ratio		0.61	0.98	0.70	0.70	0.55	0.14	1.15	0.56	0.76	0.81	
Control Delay		77.9	78.9	57.2	63.5	14.4	70.8	105.5	3.8	78.7	33.9	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		77.9	78.9	57.2	63.5	14.4	70.8	105.5	3.8	78.7	33.9	
LOS		E	E	E	E	B	E	F	A	E	C	
Approach Delay		78.6			46.8			81.3			38.4	
Approach LOS		E			D			F			D	
Queue Length 50th (m)		25.7	32.9	58.1	59.0	9.4	3.0	~271.6	8.9	~36.3	161.6	
Queue Length 95th (m)		#44.6	#88.0	76.9	89.3	34.7	m3.3	m#289.0	m10.7	#63.0	#240.9	
Internal Link Dist (m)		99.6			161.3			436.0			226.1	
Turn Bay Length (m)			60.0	90.0			85.0		200.0	90.0		
Base Capacity (vph)		157	255	720	361	500	97	1374	879	288	2432	
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		0.61	0.98	0.60	0.60	0.50	0.11	1.15	0.56	0.76	0.81	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 31 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15
Intersection Signal Delay: 58.5 Intersection LOS: E
Intersection Capacity Utilization 95.0% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Vanier & Coventry



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	571	38	31	635	278	63	26	41	174	21	91
Future Volume (vph)	158	571	38	31	635	278	63	26	41	174	21	91
Satd. Flow (prot)	1658	3249	0	1658	2977	0	1658	1542	0	1626	1459	0
Flt Permitted	0.209			0.421			0.685			0.713		
Satd. Flow (perm)	353	3249	0	691	2977	0	1148	1542	0	1186	1459	0
Satd. Flow (RTOR)		9			89			41			91	
Lane Group Flow (vph)	158	609	0	31	913	0	63	67	0	174	112	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.6	27.6		11.6	27.6		33.5	33.5		33.5	33.5	
Total Split (s)	15.0	41.5		15.0	41.5		33.5	33.5		33.5	33.5	
Total Split (%)	16.7%	46.1%		16.7%	46.1%		37.2%	37.2%		37.2%	37.2%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.9	2.9		2.9	2.9		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	52.6	47.6		47.5	41.2		21.3	21.3		21.3	21.3	
Actuated g/C Ratio	0.58	0.53		0.53	0.46		0.24	0.24		0.24	0.24	
v/c Ratio	0.50	0.35		0.07	0.65		0.23	0.17		0.62	0.27	
Control Delay	14.7	15.8		7.1	15.2		27.1	12.7		39.3	9.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.7	15.8		7.1	15.2		27.1	12.7		39.3	9.3	
LOS	B	B		A	B		C	B		D	A	
Approach Delay		15.6			15.0			19.7			27.5	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	12.6	38.4		1.8	33.8		8.0	3.2		24.6	2.6	
Queue Length 95th (m)	22.2	54.0		m2.7	55.8		17.8	12.3		44.1	14.2	
Internal Link Dist (m)		369.8			236.9			66.3			115.1	
Turn Bay Length (m)	75.0			60.0						39.0		
Base Capacity (vph)	328	1721		470	1409		344	491		355	501	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.48	0.35		0.07	0.65		0.18	0.14		0.49	0.22	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 76.4%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 2: Retail/Lola & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	626	213	271	631	5	325	0	296	1	0	4
Future Volume (vph)	1	626	213	271	631	5	325	0	296	1	0	4
Satd. Flow (prot)	1658	1745	1455	1658	1738	0	0	1658	1455	0	1367	0
Flt Permitted	0.423			0.111				0.754			0.952	
Satd. Flow (perm)	675	1745	686	194	1738	0	0	1146	1111	0	1284	0
Satd. Flow (RTOR)			213		1				204		103	
Lane Group Flow (vph)	1	626	213	271	636	0	0	325	296	0	5	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	29.5	29.5	29.5	10.4	29.5		29.5	29.5	29.5	29.5	29.5	
Total Split (s)	37.0	37.0	37.0	15.0	52.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	41.1%	41.1%	41.1%	16.7%	57.8%		42.2%	42.2%	42.2%	42.2%	42.2%	
Yellow Time (s)	3.7	3.7	3.7	3.3	3.7		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	1.7	2.8		3.2	3.2	3.2	3.2	3.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	6.5	6.5	6.5	5.0	6.5			6.5	6.5		6.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Act Effct Green (s)	31.1	31.1	31.1	50.0	48.5			28.5	28.5		28.5	
Actuated g/C Ratio	0.35	0.35	0.35	0.56	0.54			0.32	0.32		0.32	
v/c Ratio	0.00	1.04	0.57	0.88	0.68			0.90	0.60		0.01	
Control Delay	19.0	72.0	11.8	51.7	20.7			56.9	13.5		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay	19.0	72.0	11.8	51.7	20.7			56.9	13.5		0.0	
LOS	B	E	B	D	C			E	B		A	
Approach Delay		56.7			30.0			36.2				
Approach LOS		E			C			D				
Queue Length 50th (m)	0.0	~121.7	2.1	~35.4	81.5			50.3	11.1		0.0	
Queue Length 95th (m)	m0.3	#172.0	17.3	#82.6	122.7			#95.0	36.2		0.0	
Internal Link Dist (m)		236.9			288.2			76.8			26.2	
Turn Bay Length (m)	54.0			75.0					20.0			
Base Capacity (vph)	233	603	376	308	936			401	521		516	
Starvation Cap Reductn	0	0	0	0	0			0	0		0	
Spillback Cap Reductn	0	0	0	0	0			0	0		0	
Storage Cap Reductn	0	0	0	0	0			0	0		0	
Reduced v/c Ratio	0.00	1.04	0.57	0.88	0.68			0.81	0.57		0.01	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 41.0	Intersection LOS: D
Intersection Capacity Utilization 95.5%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Belfast/Retail & Coventry

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	710	211	636	534	31	201	937	684	72	902	246
Future Volume (vph)	310	710	211	636	534	31	201	937	684	72	902	246
Satd. Flow (prot)	3216	3316	1483	3154	3075	1469	1566	3252	1483	1658	4764	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2795	3316	1317	3040	3075	1207	1517	3252	1342	1620	4764	1300
Satd. Flow (RTOR)			210			210			373			211
Lane Group Flow (vph)	310	710	211	636	534	31	201	937	684	72	902	246
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	11.9	37.5	37.5	11.9	37.5	37.5	11.4	35.4	35.4	11.4	35.4	35.4
Total Split (s)	23.5	37.5	37.5	23.5	37.5	37.5	23.5	44.0	44.0	15.0	35.5	35.5
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.6%	36.7%	36.7%	12.5%	29.6%	29.6%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.2	2.8	2.8	3.2	2.8	2.8	2.7	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.5	6.5	6.9	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	16.6	29.7	29.7	17.9	31.0	31.0	16.9	40.6	40.6	8.2	29.3	29.3
Actuated g/C Ratio	0.14	0.25	0.25	0.15	0.26	0.26	0.14	0.34	0.34	0.07	0.24	0.24
v/c Ratio	0.70	0.87	0.44	1.35	0.67	0.07	0.91	0.85	0.98	0.64	0.77	0.52
Control Delay	58.5	55.1	7.8	211.7	44.9	0.3	93.3	46.7	48.1	79.5	47.7	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	55.1	7.8	211.7	44.9	0.3	93.3	46.7	48.1	79.5	47.7	12.1
LOS	E	E	A	F	D	A	F	D	D	E	D	B
Approach Delay		47.9			132.1			52.4			42.4	
Approach LOS		D			F			D			D	
Queue Length 50th (m)	36.3	83.3	0.2	~105.5	59.5	0.0	47.2	111.7	~96.8	16.8	73.0	6.5
Queue Length 95th (m)	51.4	106.3	19.0	#141.1	78.7	0.0	#90.4	#150.2	#176.3	#36.1	89.0	29.9
Internal Link Dist (m)		235.7			375.0			144.1			235.2	
Turn Bay Length (m)	100.0		64.0	75.0			47.5			40.0		45.0
Base Capacity (vph)	444	856	495	470	794	467	223	1099	700	118	1164	477
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.83	0.43	1.35	0.67	0.07	0.90	0.85	0.98	0.61	0.77	0.52

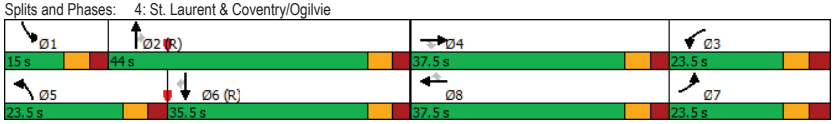
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 66.6	Intersection LOS: E
Intersection Capacity Utilization 102.4%	ICU Level of Service G
Analysis Period (min) 15	

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

Splits and Phases: 4: St. Laurent & Coventry/Ogilvie



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	573	401	718	151	0	338	0	2097	124	65	1405	0
Future Volume (vph)	573	401	718	151	0	338	0	2097	124	65	1405	0
Satd. Flow (prot)	2903	3191	1339	1610	0	2611	0	4586	0	1610	3283	0
Flt Permitted	0.950			0.950						0.950		
Satd. Flow (perm)	2869	3191	1320	1599	0	2611	0	4586	0	1610	3283	0
Satd. Flow (RTOR)			261			118		9				
Lane Group Flow (vph)	573	401	718	151	0	338	0	2221	0	65	1405	0
Turn Type	Prot	NA	Free	Prot		pt+ov		NA		Prot	NA	
Protected Phases	7	4		3		8 1		2		1	6	
Permitted Phases			Free									
Detector Phase	7	4		3		8 1		2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0				10.0		5.0	10.0	
Minimum Split (s)	11.0	32.0		11.0				40.1		10.9	40.1	
Total Split (s)	36.0	34.0		19.0				74.0		13.0	87.0	
Total Split (%)	25.7%	24.3%		13.6%				52.9%		9.3%	62.1%	
Yellow Time (s)	3.3	3.3		3.3				3.7		3.7	3.7	
All-Red Time (s)	2.7	2.7		2.7				2.4		2.2	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0				0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0				6.1		5.9	6.1	
Lead/Lag	Lead	Lag		Lead				Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes				Yes		Yes		
Recall Mode	None	None		None				C-Max		None	C-Max	
Act Effct Green (s)	29.4	27.3	140.0	13.0		24.0		68.5		7.2	81.6	
Actuated g/C Ratio	0.21	0.20	1.00	0.09		0.17		0.49		0.05	0.58	
v/c Ratio	0.94	0.64	0.54	1.01		0.62		0.99		0.79	0.73	
Control Delay	78.3	57.1	1.6	138.9		40.1		51.7		95.9	32.4	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	78.3	57.1	1.6	138.9		40.1		51.7		95.9	32.4	
LOS	E	E	A	F		D		D		F	C	
Approach Delay		40.7			70.6			51.7			35.2	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	80.7	54.0	0.0	~43.1		32.3		219.2		19.0	155.4	
Queue Length 95th (m)	#113.9	71.6	0.0	#88.6		50.4		#260.5		m#25.8	m234.6	
Internal Link Dist (m)		156.9			92.5			218.5			164.5	
Turn Bay Length (m)	50.0		71.0			60.0				35.0		
Base Capacity (vph)	622	638	1320	149		526		2247		82	1913	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.92	0.63	0.54	1.01		0.64		0.99		0.79	0.73	

Intersection Summary
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 3 (2%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	17.0
Total Split (%)	12%
Yellow Time (s)	3.3
All-Red Time (s)	2.7
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Maximum v/c Ratio: 1.01

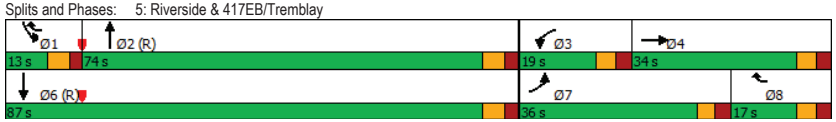
Intersection Signal Delay: 46.0	Intersection LOS: D
Intersection Capacity Utilization 92.7%	ICU Level of Service F
Analysis Period (min) 15	

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

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

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

Splits and Phases: 5: Riverside & 417EB/Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	343	164	56	418	0	147	0	77	1	0	1
Future Volume (vph)	2	343	164	56	418	0	147	0	77	1	0	1
Satd. Flow (prot)	1658	3161	1455	1610	3283	1745	1642	0	1455	0	1342	0
Flt Permitted	0.507			0.546			0.757				0.976	
Satd. Flow (perm)	621	3161	655	615	3283	1745	912	0	1005	0	1138	0
Satd. Flow (RTOR)			117						48		48	
Lane Group Flow (vph)	2	343	164	56	418	0	147	0	77	0	2	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm		Perm	Perm	NA	
Protected Phases		2			6						8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	2	2	2	6	6	6	4		4	8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6	30.6	36.6		36.6	30.6	30.6	
Total Split (s)	34.1	34.1	34.1	34.1	34.1	34.1	36.6		36.6	36.6	36.6	
Total Split (%)	48.2%	48.2%	48.2%	48.2%	48.2%	48.2%	51.8%		51.8%	51.8%	51.8%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.8	3.3		3.3	3.3	3.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.1	6.1	6.1	6.1	6.1	6.1	6.6		6.6		6.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	Min	None		None	None	None	
Act Effct Green (s)	23.5	23.5	23.5	23.5	23.5		24.2		24.2		24.2	
Actuated g/C Ratio	0.39	0.39	0.39	0.39	0.39		0.40		0.40		0.40	
v/c Ratio	0.01	0.28	0.50	0.24	0.33		0.40		0.18		0.00	
Control Delay	11.5	13.6	11.5	16.0	14.0		16.4		7.0		0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0		0.0	
Total Delay	11.5	13.6	11.5	16.0	14.0		16.4		7.0		0.0	
LOS	B	B	B	B	B		B		A		A	
Approach Delay		12.9			14.2			13.2				
Approach LOS		B			B			B				
Queue Length 50th (m)	0.1	13.1	3.3	4.0	16.3		9.9		1.7		0.0	
Queue Length 95th (m)	1.2	21.2	18.1	11.3	25.5		24.7		8.9		0.0	
Internal Link Dist (m)		339.7			91.7			21.9			4.0	
Turn Bay Length (m)	38.0		40.0	45.0								
Base Capacity (vph)	302	1536	378	299	1596		456		526		593	
Starvation Cap Reductn	0	0	0	0	0		0		0		0	
Spillback Cap Reductn	0	0	0	0	0		0		0		0	
Storage Cap Reductn	0	0	0	0	0		0		0		0	
Reduced v/c Ratio	0.01	0.22	0.43	0.19	0.26		0.32		0.15		0.00	

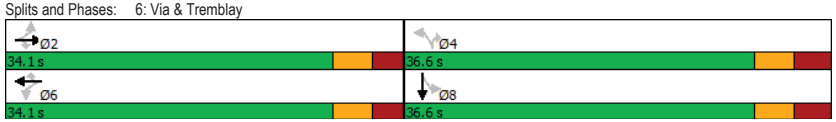
Intersection Summary
Cycle Length: 70.7
Actuated Cycle Length: 60.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50

Lanes, Volumes, Timings
6: Via & Tremblay

01-13-2025

Intersection Signal Delay: 13.4 | Intersection LOS: B
Intersection Capacity Utilization 72.7% | ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Via & Tremblay



Lanes, Volumes, Timings
7: Belfast & Tremblay

01-13-2025

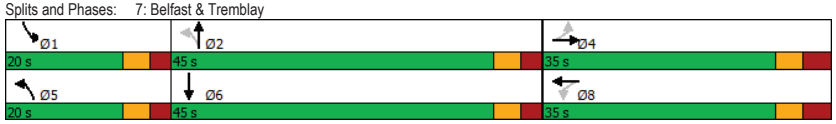
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	81	204	20	122	63	154	415	20	26	436	98
Future Volume (vph)	225	81	204	20	122	63	154	415	20	26	436	98
Satd. Flow (prot)	1642	881	0	1658	1328	0	1658	1689	0	1537	1511	0
Flt Permitted	0.609			0.446			0.233			0.950		
Satd. Flow (perm)	811	881	0	546	1328	0	342	1689	0	1082	1511	0
Satd. Flow (RTOR)		126			26			3			13	
Lane Group Flow (vph)	225	285	0	20	185	0	154	435	0	26	534	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	24.8	24.8		29.8	29.8		10.9	23.9		10.9	28.9	
Total Split (s)	35.0	35.0		35.0	35.0		20.0	45.0		20.0	45.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		20.0%	45.0%		20.0%	45.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.5	3.5		3.5	3.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		5.9	5.9		5.9	5.9	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	28.2	28.2		28.2	28.2		54.5	49.7		7.2	39.1	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.57	0.52		0.07	0.41	
v/c Ratio	0.95	0.82		0.13	0.45		0.46	0.50		0.23	0.86	
Control Delay	83.3	38.9		28.4	28.5		14.2	19.3		46.8	41.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	83.3	38.9		28.4	28.5		14.2	19.3		46.8	41.8	
LOS	F	D		C	C		B	B		D	D	
Approach Delay		58.5			28.5			18.0			42.0	
Approach LOS		E			C			B			D	
Queue Length 50th (m)	41.4	28.9		2.8	24.2		12.5	42.8		4.7	88.3	
Queue Length 95th (m)	#89.0	#76.8		8.9	45.4		21.6	92.8		12.8	#153.7	
Internal Link Dist (m)		254.6			135.9			210.0			31.1	
Turn Bay Length (m)	98.0			35.0			45.0			16.5		
Base Capacity (vph)	237	346		159	407		388	872		224	620	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.95	0.82		0.13	0.45		0.40	0.50		0.12	0.86	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 96.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95

Intersection Signal Delay: 37.4	Intersection LOS: D
Intersection Capacity Utilization 94.7%	ICU Level of Service F
Analysis Period (min) 15	

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

Splits and Phases: 7: Belfast & Tremblay



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	38	81	23	21	180	36	1454	12	51	1150	90
Future Volume (vph)	228	38	81	23	21	180	36	1454	12	51	1150	90
Satd. Flow (prot)	1398	1475	0	1658	1447	0	1642	4756	0	1658	3191	1375
Flt Permitted	0.549			0.681			0.221			0.112		
Satd. Flow (perm)	787	1475	0	1152	1447	0	377	4756	0	194	3191	1255
Satd. Flow (RTOR)		77			175			1				90
Lane Group Flow (vph)	228	119	0	23	201	0	36	1466	0	51	1150	90
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	38.5	38.5		38.5	38.5		39.2	39.2		9.7	39.2	39.2
Total Split (s)	40.0	40.0		40.0	40.0		65.0	65.0		15.0	80.0	80.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		54.2%	54.2%		12.5%	66.7%	66.7%
Yellow Time (s)	3.3	3.3		3.3	3.3		3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.2	3.2		3.2	3.2		2.5	2.5		1.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		4.7	6.2	6.2
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Act Effct Green (s)	33.5	33.5		33.5	33.5		64.2	64.2		75.3	73.8	73.8
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.54	0.54		0.63	0.62	0.62
v/c Ratio	1.04	0.25		0.07	0.38		0.18	0.58		0.25	0.59	0.11
Control Delay	114.9	15.0		32.8	9.4		18.8	20.4		11.6	15.4	2.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	114.9	15.0		32.8	9.4		18.8	20.4		11.6	15.4	2.2
LOS	F	B		C	A		B	C		B	B	A
Approach Delay		80.7			11.8			20.4			14.4	
Approach LOS		F			B			C			B	
Queue Length 50th (m)	~57.9	7.4		4.0	4.5		4.4	84.9		4.3	80.4	0.0
Queue Length 95th (m)	#106.9	22.0		10.6	23.1		11.6	101.9		9.1	99.3	6.1
Internal Link Dist (m)		156.9			90.2			55.6			120.1	
Turn Bay Length (m)	34.5			35.0			35.0			78.5		
Base Capacity (vph)	219	467		321	530		201	2546		247	1962	806
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	1.04	0.25		0.07	0.38		0.18	0.58		0.21	0.59	0.11

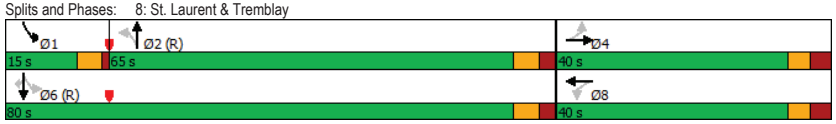
Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 23.7	Intersection LOS: C
Intersection Capacity Utilization 96.9%	ICU Level of Service F
Analysis Period (min) 15	

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

Splits and Phases: 8: St. Laurent & Tremblay



Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	40	65	629	462	25
Future Vol, veh/h	23	40	65	629	462	25
Conflicting Peds, #/hr	0	0	256	0	0	256
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	2	2	2
Mvmt Flow	23	40	65	629	462	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1490	731	743	0	-	0
Stage 1	731	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	136	422	860	-	-	-
Stage 1	476	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	75	338	689	-	-	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	326	-	-	-	-	-
Stage 2	370	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	46.2	1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	689	-	148	-	-
HCM Lane V/C Ratio	0.094	-	0.426	-	-
HCM Control Delay (s)	10.8	0	46.2	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.3	-	1.9	-	-

Appendix K

TDM Checklist

CGH TRANSPORTATION

TDM Measures Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		1. TDM PROGRAM MANAGEMENT	
		1.1 Program coordinator	
BASIC	★	1.1.1 Designate an internal coordinator, or contract with an external coordinator	☐
		1.2 Travel surveys	
BETTER		1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐
		2. WALKING AND CYCLING	
		2.1 Information on walking/cycling routes & destinations	
BASIC		2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances	☐
		2.2 Bicycle skills training	
		Commuter travel	
BETTER	★	2.2.1 Offer on-site cycling courses for commuters, or subsidize off-site courses	☐
		2.3 Valet bike parking	
		Visitor travel	
BETTER		2.3.1 Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	☐

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		3. TRANSIT	
		3.1 Transit information	
BASIC		3.1.1 Display relevant transit schedules and route maps at entrances	☑
BASIC		3.1.2 Provide online links to OC Transpo and STO information	☑
BETTER		3.1.3 Provide real-time arrival information display at entrances	☐
		3.2 Transit fare incentives	
		Commuter travel	
BETTER		3.2.1 Offer preloaded PRESTO cards to encourage commuters to use transit	☐
BETTER	★	3.2.2 Subsidize or reimburse monthly transit pass purchases by employees	☐
		Visitor travel	
BETTER		3.2.3 Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	☐
		3.3 Enhanced public transit service	
		Commuter travel	
BETTER		3.3.1 Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER		3.3.2 Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	☐
		3.4 Private transit service	
		Commuter travel	
BETTER		3.4.1 Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER		3.4.2 Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	☐

			TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		4.	**RIDESHARING**	
		4.1	**Ridematching service**	
			Commuter travel	
BASIC	★	4.1.1	Provide a dedicated ridematching portal at OttawaRideMatch.com	☐
		4.2	**Carpool parking price incentives**	
			Commuter travel	
BETTER		4.2.1	Provide discounts on parking costs for registered carpools	☐
		4.3	**Vanpool service**	
			Commuter travel	
BETTER		4.3.1	Provide a vanpooling service for long-distance commuters	☐
		5.	**CARSHARING & BIKESHARING**	
		5.1	**Bikeshare stations & memberships**	
BETTER		5.1.1	Contract with provider to install on-site bikeshare station for use by commuters and visitors	☐
			Commuter travel	
BETTER		5.1.2	Provide employees with bikeshare memberships for local business travel	☐
		5.2	**Carshare vehicles & memberships**	
			Commuter travel	
BETTER		5.2.1	Contract with provider to install on-site carshare vehicles and promote their use by tenants	☐
BETTER		5.2.2	Provide employees with carshare memberships for local business travel	☐
		6.	**PARKING**	
		6.1	**Priced parking**	
			Commuter travel	
BASIC	★	6.1.1	Charge for long-term parking (daily, weekly, monthly)	☑
BASIC		6.1.2	Unbundle parking cost from lease rates at multi-tenant sites	☐
			Visitor travel	
BETTER		6.1.3	Charge for short-term parking (hourly)	☐

			TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		7.	**TDM MARKETING & COMMUNICATIONS**	
		7.1	**Multimodal travel information**	
			Commuter travel	
BASIC	★	7.1.1	Provide a multimodal travel option information package to new/relocating employees and students	☑
			Visitor travel	
BETTER	★	7.1.2	Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	☐
		7.2	**Personalized trip planning**	
			Commuter travel	
BETTER	★	7.2.1	Offer personalized trip planning to new/relocating employees	☐
		7.3	**Promotions**	
			Commuter travel	
BETTER		7.3.1	Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	☐
		8.	**OTHER INCENTIVES & AMENITIES**	
		8.1	**Emergency ride home**	
			Commuter travel	
BETTER	★	8.1.1	Provide emergency ride home service to non-driving commuters	☐
		8.2	**Alternative work arrangements**	
			Commuter travel	
BASIC	★	8.2.1	Encourage flexible work hours	☐
BETTER		8.2.2	Encourage compressed workweeks	☐
BETTER	★	8.2.3	Encourage telework	☐
		8.3	**Local business travel options**	
			Commuter travel	
BASIC	★	8.3.1	Provide local business travel options that minimize the need for employees to bring a personal car to work	☐
		8.4	**Commuter incentives**	
			Commuter travel	
BETTER		8.4.1	Offer employees a taxable, mode-neutral commuting allowance	☐
		8.5	**On-site amenities**	
			Commuter travel	
BETTER		8.5.1	Provide on-site amenities/services to minimize mid-day or mid-commute errands	☐

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Residential developments*	Check if proposed & add descriptions
		1. TDM PROGRAM MANAGEMENT	
		1.1 Program coordinator	
BASIC	★	1.1.1 Designate an internal coordinator, or contract with an external coordinator	☐
		1.2 Travel surveys	
BETTER		1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐
		2. WALKING AND CYCLING	
		2.1 Information on walking/cycling routes & destinations	
BASIC		2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances *(multi-family, condominium)*	☑
		2.2 Bicycle skills training	
BETTER		2.2.1 Offer on-site cycling courses for residents, or subsidize off-site courses	☐

TDM Measures Checklist **City of Ottawa**
Version 1.0 (30 June 2017)

		TDM measures: *Residential developments*	Check if proposed & add descriptions
		3. TRANSIT	
		3.1 Transit information	
BASIC		3.1.1 Display relevant transit schedules and route maps at entrances *(multi-family, condominium)*	☑
BETTER		3.1.2 Provide real-time arrival information display at entrances *(multi-family, condominium)*	☐
		3.2 Transit fare incentives	
BASIC	★	3.2.1 Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	☐
BETTER		3.2.2 Offer at least one year of free monthly transit passes on residence purchase/move-in	☑
		3.3 Enhanced public transit service	
BETTER	★	3.3.1 Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels *(subdivision)*	☐
		3.4 Private transit service	
BETTER		3.4.1 Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	☐
		4. CARSHARING & BIKESHARING	
		4.1 Bikeshare stations & memberships	
BETTER		4.1.1 Contract with provider to install on-site bikeshare station *(multi-family)*	☑
BETTER		4.1.2 Provide residents with bikeshare memberships, either free or subsidized *(multi-family)*	☐
		4.2 Carshare vehicles & memberships	
BETTER		4.2.1 Contract with provider to install on-site carshare vehicles and promote their use by residents	☑
BETTER		4.2.2 Provide residents with carshare memberships, either free or subsidized	☐
		5. PARKING	
		5.1 Priced parking	
BASIC	★	5.1.1 Unbundle parking cost from purchase price *(condominium)*	☑
BASIC	★	5.1.2 Unbundle parking cost from monthly rent *(multi-family)*	☑

			TDM measures: *Residential developments*	Check if proposed & add descriptions
		6.	**TDM MARKETING & COMMUNICATIONS**	
		6.1	**Multimodal travel information**	
BASIC	★	6.1.1	Provide a multimodal travel option information package to new residents	☑
		6.2	**Personalized trip planning**	
BETTER	★	6.2.1	Offer personalized trip planning to new residents	☐

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

Legend

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

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

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

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

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

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

TDM-Supportive Development Design and Infrastructure Checklist:
Residential Developments (multi-family or condominium)

Legend

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

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

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

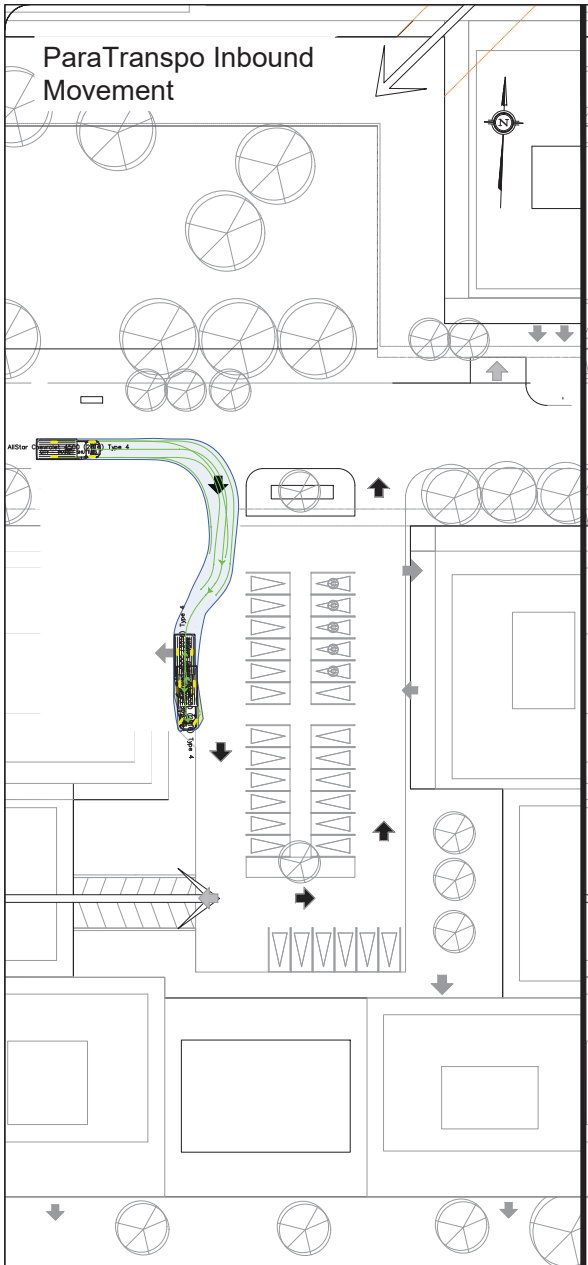
	TDM-supportive design & infrastructure measures: *Residential developments*		Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☐
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☑
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☐
	2.3	**Bicycle repair station**	
BETTER	2.3.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐

	TDM-supportive design & infrastructure measures: *Residential developments*		Check if completed & add descriptions, explanations or plan/drawing references
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☑
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses *(see Zoning By-law Section 94)*	☐
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☑
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☐
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	☐

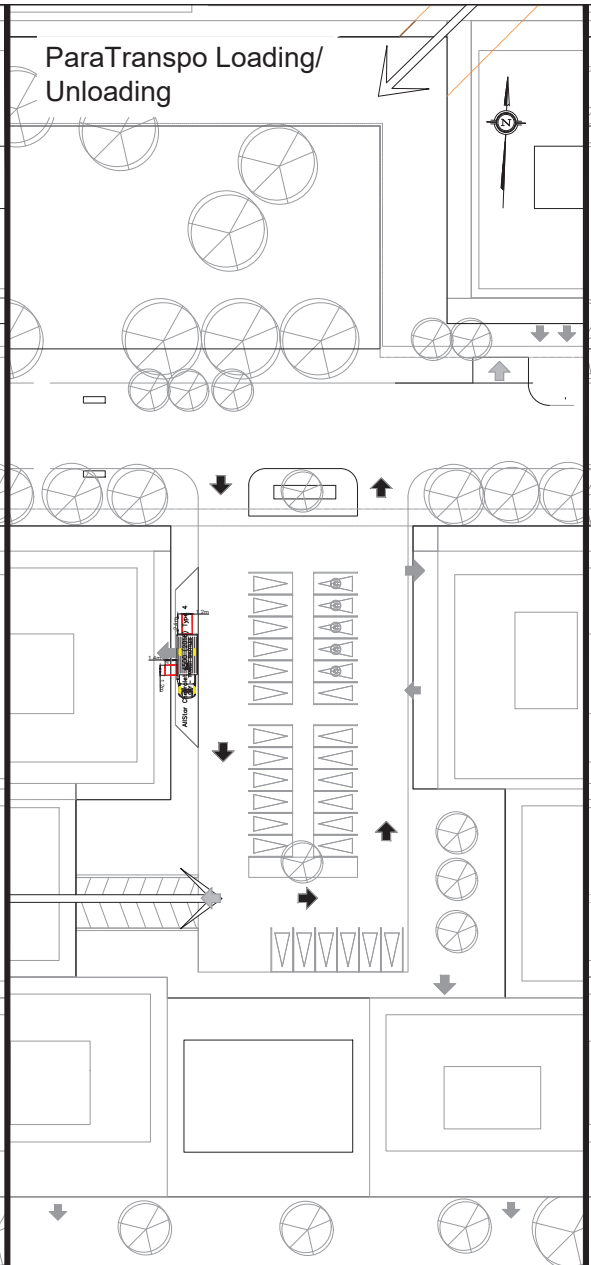
Appendix L

Para Transpo Turning Templates

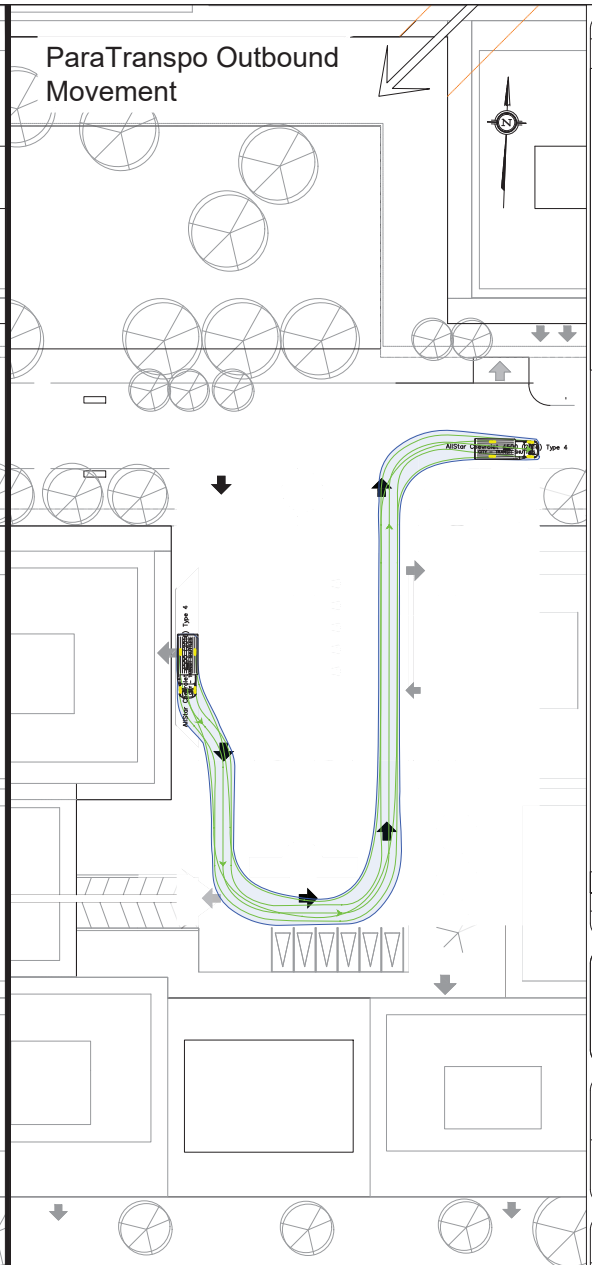
ParaTranspo Inbound Movement



ParaTranspo Loading/ Unloading

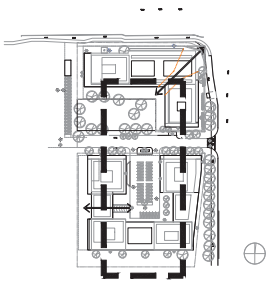


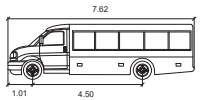
ParaTranspo Outbound Movement



Notes:

Key Plan:





AllStar Chevrolet 4500 (2016) Type 4

	meters
Width	: 2.44
Track	: 1.96
Lock to Lock Time	: 6.0
Steering Angle	: 34.2

REV:	DESCRIPTION:	BY:	DATE:
01	Issued for Review:	AN	2025-01-29

STATUS:

CGH Transportation
6 Plaza Court
Ottawa, ON
K2H 7W1
(343) 999-9117

CLIENT: Groupe Oradev

ARCHITECT:

SITE: 400 Coventry Road

TITLE: Turning Movement Analysis
ParaTranspo Movements

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
NTS	2025-01-29	AN	JK

PROJECT NO:	DRAWING NO:	REVISION:
2022-116	001	01

Appendix M

MMLOS Analysis

CGH TRANSPORTATION

Multi-Modal Level of Service - Segments Form

Consultant	**CGH Transportation Inc.**	**Project**	**2022-116**
Scenario	**Existing/Future**	**Date**	**2022-10-21**
Comments			

SEGMENTS			Coventry Rd	Belfast Rd	New Local	Belfast Rd
			Ex/Fut	Existing	Future	Future
Pedestrian	Sidewalk Width Boulevard Width	-	≥ 2 m > 2 m	no sidewalk n/a	≥ 2 m < 0.5	≥ 2 m > 2 m
	Avg Daily Curb Lane Traffic Volume		> 3000	> 3000	≤ 3000	> 3000
	Operating Speed On-Street Parking		> 50 to 60 km/h yes	> 50 to 60 km/h no	≤ 30 km/h no	> 50 to 60 km/h no
	Exposure to Traffic PLoS		**B**	**F**	**A**	**C**
	Effective Sidewalk Width					
	Pedestrian Volume					
	Crowding PLoS		-	-	-	-
	Level of Service		**-**	**-**	**-**	**-**
Bicycle	Type of Cycling Facility	C	Physically Separated	Curbside Bike Lane	Mixed Traffic	Physically Separated
	Number of Travel Lanes			≤ 1 each direction	≤ 2 (no centreline)	
	Operating Speed			>50 to 70 km/h	>40 to <50 km/h	
	# of Lanes & Operating Speed LoS		-	**C**	**B**	-
	Bike Lane (+ Parking Lane) Width			≥ 1.8 m		
	Bike Lane Width LoS		-	**A**	-	-
	Bike Lane Blockages			Rare		
	Blockage LoS		-	**A**	-	-
	Median Refuge Width (no median = < 1.8 m)			< 1.8 m refuge	< 1.8 m refuge	
	No. of Lanes at Unsignalized Crossing			≤ 3 lanes	≤ 3 lanes	
	Sidestreet Operating Speed			>50 to 60 km/h	≤ 40 km/h	
	Unsignalized Crossing - Lowest LoS		**A**	**B**	**A**	**A**
	Level of Service		**A**	**C**	**B**	**A**
Transit	Facility Type	-				
	Friction or Ratio Transit:Posted Speed					
	Level of Service		**-**	**-**	**-**	**-**
Truck	Truck Lane Width	C	> 3.7 m	≤ 3.5 m		
	Travel Lanes per Direction		> 1	1		
	Level of Service		**A**	**C**	**-**	**-**

Multi-Modal Level of Service - Intersections Form

Consultant	**CGH Transportation Inc.**	**Project**	**2022-116**
Scenario	**Existing/Future**	**Date**	**2023-06-06**
Comments			

	INTERSECTIONS	Coventry Road at Vanier Parkway				Coventry Road at Lola Street				Coventry Road at Belfast Road			
	Crossing Side	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	9		8	7	5	6	5	6	3	6	6	6
	Median	No Median - 2.4 m		No Median - 2.4 m	Median > 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
	Conflicting Left Turns	Protected/ Permissive		Protected	Protected	Protected/ Permissive	Protected/ Permissive	Permissive	Permissive	Permissive	Protected/ Permissive	Permissive	Permissive
	Conflicting Right Turns	Permissive or yield control		Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
	Right Turns on Red (RToR) ?	RTOR allowed		RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	No		No	No	No	No	No	No	No	No	No	No
	Right Turn Channel	No Channel		Conventional with Receiving Lane	Conv'tl without Receiving Lane	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel	No Channel
	Corner Radius	15-25m		15-25m	10-15m	10-15m	5-10m	5-10m	10-15m	5-10m	15-25m	15-25m	5-10m
	Crosswalk Type	Std transverse markings		Std transverse markings	Std transverse markings	Std transverse markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Std transverse markings	Std transverse markings	Zebra stripe hi-vis markings	Std transverse markings	Std transverse markings
	PETSI Score	**-31**		**-5**	**22**	**37**	**24**	**41**	**20**	**71**	**21**	**18**	**21**
	Ped. Exposure to Traffic LoS	**F**	**-**	**F**	**F**	**E**	**F**	**E**	**F**	**C**	**F**	**F**	**F**
	Cycle Length	140	140	140	140	90	90	90	90	90	90	90	90
	Effective Walk Time	35	30	10	7	6	6	14	14	8	8	15	30
	Average Pedestrian Delay	**39**	**43**	**60**	**63**	**39**	**39**	**32**	**32**	**37**	**37**	**31**	**20**
	Pedestrian Delay LoS	**D**	**E**	**F**	**F**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**C**
	Level of Service	**F**	**E**	**F**	**F**	**E**	**F**	**E**	**F**	**D**	**F**	**F**	**F**
		F				**F**				**F**			
	Approach From	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP
	Right Turn Lane Configuration		> 50 m	> 50 m	> 50 m						Not Applicable	Not Applicable	
	Right Turning Speed		≤ 25 km/h	>25 km/h	>25 km/h						Not Applicable	Not Applicable	
	Cyclist relative to RT motorists	-	F	F	F	-	-	Not Applicable	Not Applicable	-	Not Applicable	Not Applicable	Not Applicable
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	Mixed Traffic	Separated	Separated	Separated
	Left Turn Approach	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	One lane crossed	One lane crossed	One lane crossed	2-stage, LT box	2-stage, LT box	No lane crossed	1 lane crossed	2-stage, LT box	2-stage, LT box
	Operating Speed	≥ 60 km/h	≥ 60 km/h	≥ 60 km/h	≥ 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	≥ 60 km/h	≥ 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	≥ 60 km/h	≥ 60 km/h
	Left Turning Cyclist	F	F	F	F	E	E	A	A	C	D	A	A
	Level of Service	**F**	**F**	**F**	**F**	**E**	**E**	**A**	**A**	**C**	**D**	**A**	**A**
		F				**E**				**C**			
Transit	Average Signal Delay	≤ 40 sec	> 40 sec			> 40 sec		≤ 20 sec			> 40 sec		≤ 10 sec
	Level of Service	**E**	**F**	**-**	**-**	**F**	**-**	**C**	**-**	**-**	**F**	**-**	**B**
		F				**F**				**F**			
Truck	Effective Corner Radius		10 - 15 m									> 15 m	
	Number of Receiving Lanes on Departure from Intersection		≥ 2									1	
	Level of Service	**-**	**B**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**C**	**-**
		B				**-**				**C**			
Auto	Volume to Capacity Ratio	0.91 - 1.00				0.61 - 0.70				0.91 - 1.00			
	Level of Service	**E**				**B**				**E**			

Coventry Road/Ogilvie Road at St. Laurent Boulevard			
NORTH	SOUTH	EAST	WEST
8	8	7	7
No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
Protected	Protected	Protected	Protected
Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
No	No	No	No
Conv'tl without Receiving Lane	Conventional with Receiving Lane	Conventional with Receiving Lane	Conv'tl without Receiving Lane
15-25m	15-25m	>25m	10-15m
Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
-2	**-5**	**10**	**16**
F	**F**	**F**	**F**
120	120	120	120
7	7	7	7
53	**53**	**53**	**53**
E	**E**	**E**	**E**
F	**F**	**F**	**F**
F			
NORTH	SOUTH	EAST	WEST
Mixed Traffic	Mixed Traffic	Pocket Bike Lane	Pocket Bike Lane
≤ 50 m		Bike lane shifts to the left of right turn	Bike lane shifts to the left of right turn
≤ 25 km/h		>25 to 30 km/h	> 30 km/h
D	**-**	**F**	**F**
Mixed Traffic	**Mixed Traffic**	**Separated**	**Separated**
≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed
≥ 60 km/h	≥ 60 km/h	≥ 60 km/h	≥ 60 km/h
F	**F**	**F**	**F**
F	**F**	**F**	**F**
F			
> 40 sec	> 40 sec	> 40 sec	
F	**F**	**F**	**-**
F			
10 - 15 m	> 15 m	> 15 m	> 15 m
≥ 2	≥ 2	≥ 2	≥ 2
B	**A**	**A**	**A**
B			
> 1.00			
F			

Tremblay Road/417 EB at Riverside Drive			
NORTH	SOUTH	EAST	WEST
	7	9	
	No Median - 2.4 m	No Median - 2.4 m	
	Protected	Protected	
	Permissive or yield control	Permissive or yield control	
	RTOR allowed	RTOR allowed	
	No	No	
	Conventional with Receiving Lane	Conventional with Receiving Lane	
	>25m	>25m	
	Std transverse markings	Std transverse markings	
	10	**-23**	
-	**F**	**F**	**-**
140	140	140	140
31	42	9	21
	34	**61**	**51**
	D	**F**	**E**
E	**F**	**F**	**E**
F			
Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
			> 50 m
			≤ 25 km/h
-	**-**	**-**	**F**
Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**
≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed
≥ 60 km/h	≥ 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
F	**F**	**F**	**F**
F	**F**	**F**	**F**
F			
> 40 sec	> 40 sec	> 40 sec	
F	**F**	**F**	**-**
F			
> 15 m	> 15 m	10 - 15 m	
≥ 2	≥ 2	≥ 2	
A	**A**	**B**	**-**
B			
> 1.00			
F			

Tremblay Road at Via Rail Station			
NORTH	SOUTH	EAST	WEST
7	6	8	7
No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
Permissive	Permissive	Permissive	Permissive
Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
No	No	No	No
No Channel	No Channel	No Channel	No Channel
0-3m	5-10m	5-10m	5-10m
Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
7	**21**	**-11**	**5**
F	**F**	**F**	**F**
80	80	80	80
13	13	15	15
28	**28**	**26**	**26**
C	**C**	**C**	**C**
F	**F**	**F**	**F**
F			
Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	≤ 50 m	≤ 50 m	≤ 50 m
	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h
-	**D**	**D**	**D**
Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**
No lane crossed	One lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed
> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
C	**E**	**F**	**F**
F			
C	**E**	**F**	**F**
F			
-	**-**	**-**	**-**
-			
-	**-**	**-**	**-**
-			
0.0 - 0.60			
A			

Tremblay Road at Belfast Road			
NORTH	SOUTH	EAST	WEST
8	7	5	5
No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
Permissive	Permissive	Protected/ Permissive	Protected/ Permissive
Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
No	No	No	No
No Channel	No Channel	No Channel	No Channel
10-15m	10-15m	10-15m	10-15m
Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
-12	**4**	**37**	**37**
F	**F**	**E**	**E**
85	85	100	100
22	22	12	12
23	**23**	**39**	**39**
C	**C**	**D**	**D**
F	**F**	**E**	**E**
F			
Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
-	**-**	**-**	**-**
Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**
One lane crossed	One lane crossed	One lane crossed	One lane crossed
> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
E	**E**	**E**	**E**
E			
E	**E**	**E**	**E**
E			
> 40 sec		≤ 30 sec	
F	**-**	**D**	**-**
F			
10 - 15 m	10 - 15 m	10 - 15 m	10 - 15 m
1	≥ 2	≥ 2	1
E	**B**	**B**	**E**
E			
0.81 - 0.90			
D			

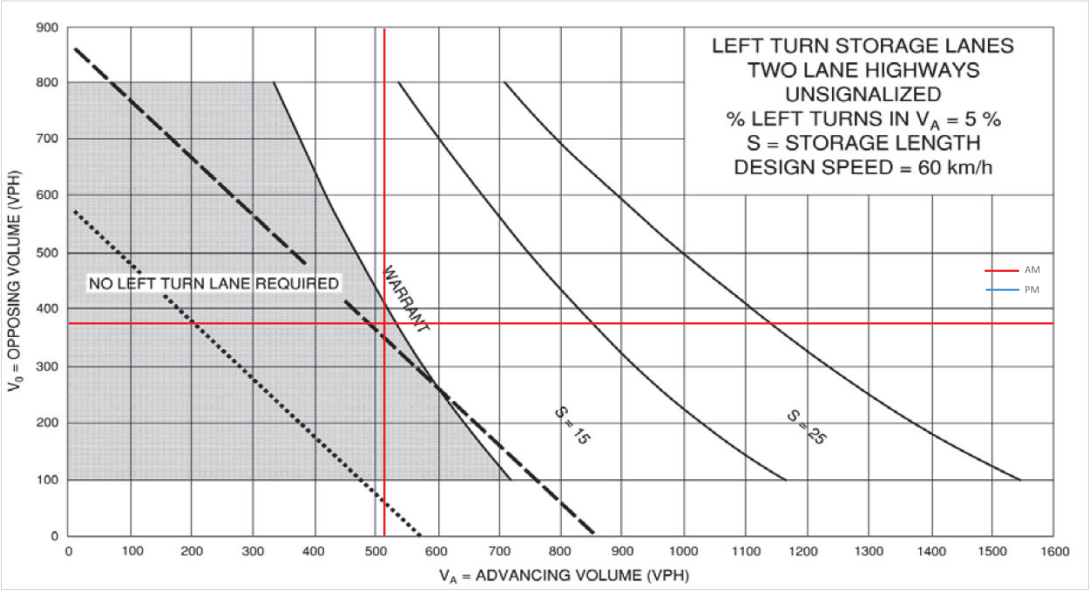
Tremblay Road at St. Laurent Boulevard			
NORTH	SOUTH	EAST	WEST
9	8	6	8
No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
Permissive	Permissive	Protected/ Permissive	Permissive
Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
No	No	No	No
No Channel	No Channel	No Channel	No Channel
10-15m	5-10m	15-25m	10-15m
Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
-29	**-11**	**18**	**-12**
F	**F**	**F**	**F**
120	120	120	120
37	52	9	9
29	**19**	**51**	**51**
C	**B**	**E**	**E**
F	**F**	**F**	**F**
F			
Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
> 50 m	≤ 50 m		
≤ 25 km/h	>25 km/h		
F	**E**	**-**	**-**
Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**
≥ 2 lanes crossed	≥ 2 lanes crossed	One lane crossed	One lane crossed
≥ 60 km/h	≥ 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h
F	**F**	**E**	**E**
F	**F**	**E**	**E**
F			
≤ 20 sec	≤ 20 sec		> 40 sec
C	**C**	**-**	**F**
F			
> 15 m	10 - 15 m	10 - 15 m	> 15 m
1	≥ 2	≥ 2	1
C	**B**	**B**	**C**
C			
0.61 - 0.70			
B			

Appendix N

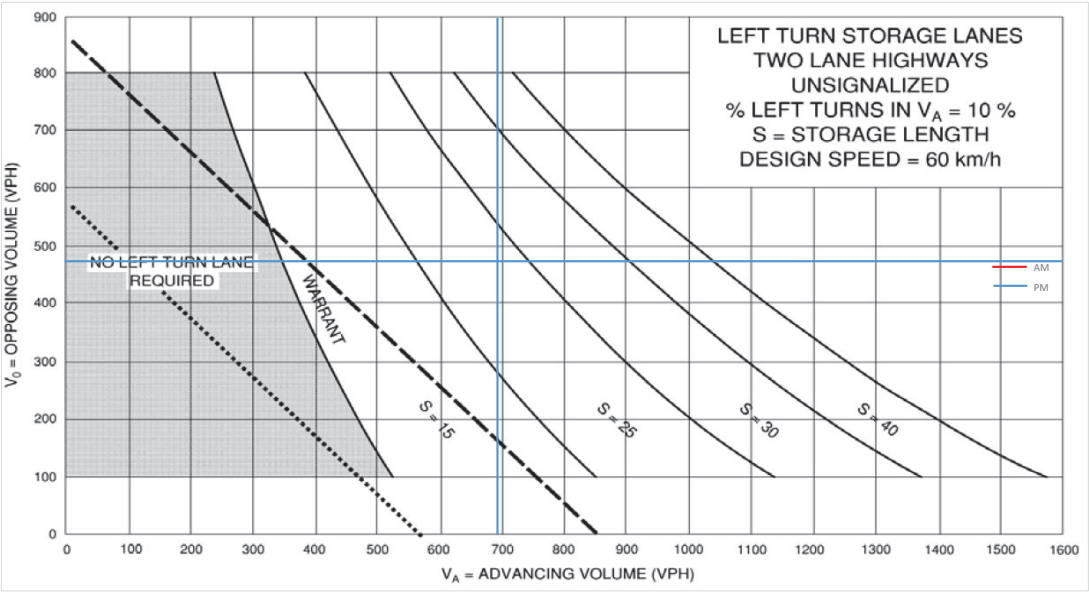
Left-Turn Lane Warrants

CGH TRANSPORTATION

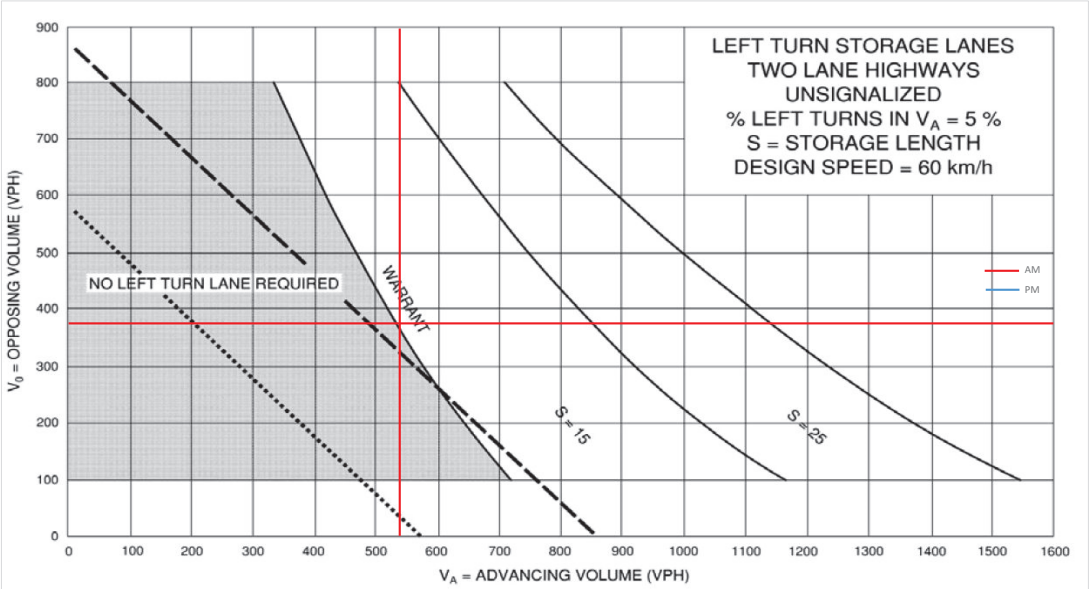
Belfast at New Local Future Total 2032 - Northbound Left



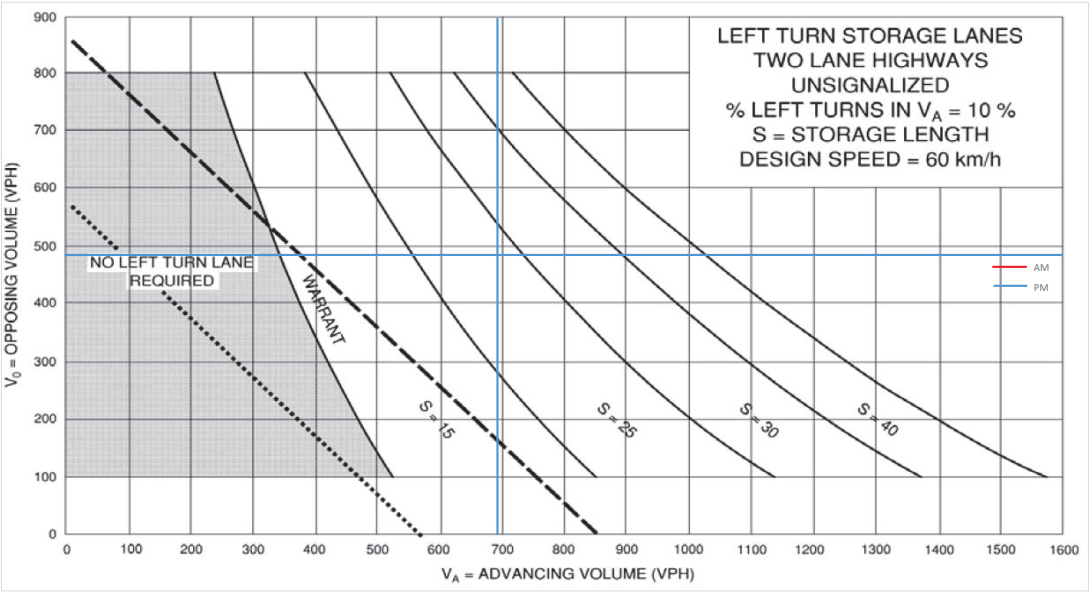
Belfast at New Local Future Total 2032 - Northbound Left



Belfast at New Local Future Total 2037 - Northbound Left



Belfast at New Local Future Total 2037 - Northbound Left



Appendix O

Signal Warrants

Belfast Road at New Collector Road
2037 Future Total

Justification #7

Justification	Description	Minimum Requirement 1 Lane Highway		Minimum Requirement 2 or More Lanes		Compliance Sectional		Compliance Entire %	Signal
		Free Flow	Restr. Flow	Free Flow	Restr. Flow	Numerical	%		
1. Minimum Vehicular Volume	A. Vehicle volume, all approaches (average hour)	480	720	600	900	555	77%	27%	No
	B. Vehicle volume, along minor streets (average hour)	120	170	120	170	46	27%		
2. Delay to Cross Traffic	A. Vehicle volumes, major street (average hour)	480	720	600	900	524	73%	16%	No
	B. Combined vehicle and pedestrian volume crossing artery from minor streets (average hour)	50	75	50	75	12	16%		

Notes
1. Refer to OTM Book 12, pg 92, Mar 2012
2. Lowest section percentage governs justification
3. Average hourly volumes estimated from peak hour volumes, AHV = PM/2 or (AM + PM) / 4, including amplifcation factors
4. T-intersection factor corrected, applies only to 1B