1155 Joseph Cyr Road & 1082 Cyrville Road

Transportation Impact Assessment

Step 1 Screening Report

Step 2 Scoping Report

Step 3 Forecasting Report

Step 4 Strategy Report

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1 Screening

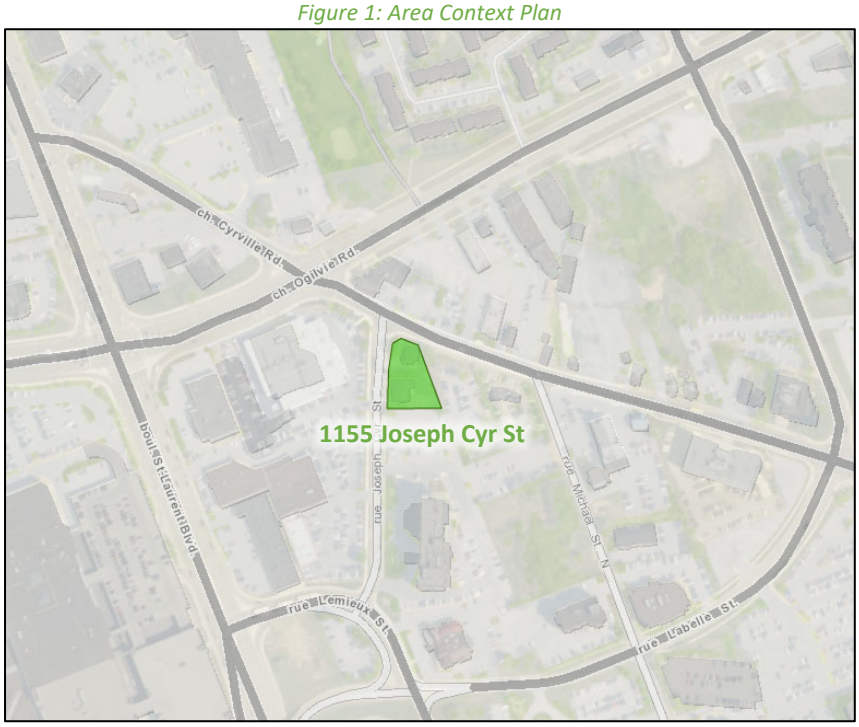
This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for TIA Study PM. As shown in the Screening Form, a TIA is required including the Design Review component and the Network Impact Component.

2 Existing and Planned Conditions

2.1 Proposed Development

The development site, located at 1155 Joseph Cyr Street & 1082 Cyrville Road within the Industrial Avenue/Trainyards/Cyrville Mixed Use Centre and St Laurent TOD areas, and zoned as Mixed-Use Centre (MC F(2.0) H48), is proposed as a six-storey mixed-use building with 117 residential dwelling units and a 1425 sq. ft. ground floor commercial component to be built in a single phase by 2023. The plan includes a full-movement access onto Joseph Cyr Street and currently considers vehicle parking for 6 vehicles on a surface lot, and bicycle parking for 75 bicycles. Figure 1 illustrates the Study Area Context. Figure 2 illustrates the proposed concept plan.

Figure 1: Area Context Plan



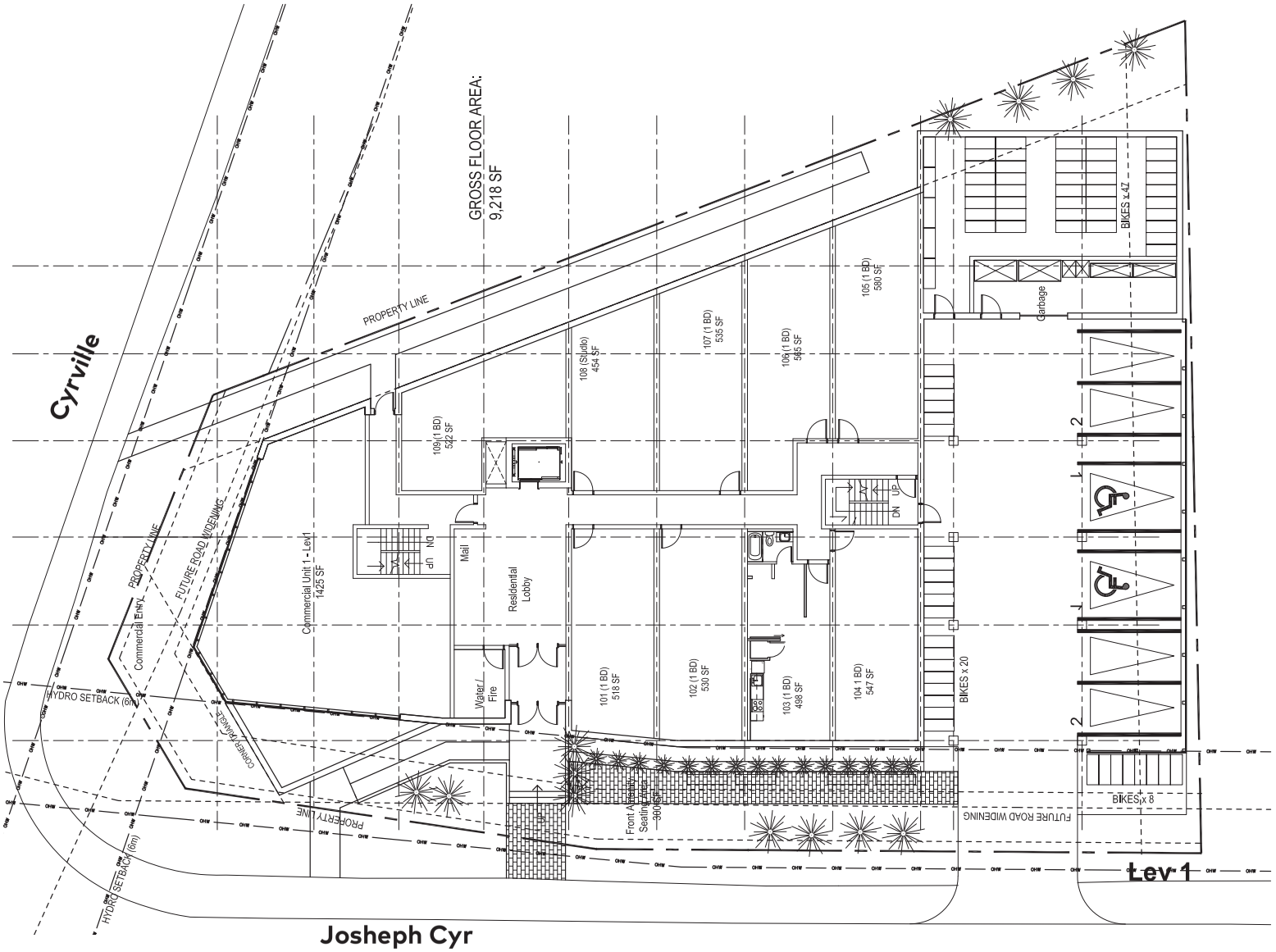
Source: http://maps.ottawa.ca/geoOttawa/ Accessed: July 15, 2020

UNIT MIX

Floor	Bach	1bed	2bed	3bed	Total
LL	1	10	2	0	13
First Floor	1	8	0	0	9
Second Floor	5	11	3	0	19
Third Floor	5	11	3	0	19
Fourth Floor	7	10	2	0	19
Fifth Floor	7	10	2	0	19
Sixth Floor	7	10	2	0	19
Total	**33**	**70**	**14**	**0**	**117**
Distribution	**28%**	**60%**	**12%**	**0%**	**100%**

Car Parking: x6
Bicycle Parking: Required (.5/unit) = 59
Provided (0.64/unit) = 75

Amenity: Required 64.5 sf / Unit = 7,546 sf
Provided: 6,000 sf (Communal)
700 sf(balconies)
Total: 6,700 sf



UPDATED CONCEPT PLANS
2020-06-22

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1155 Joseph Cyr (6 Storeys)
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2.2 Existing Conditions

2.2.1 Area Road Network

OR 174: OR 174 is City of Ottawa urban freeway with a six-lane rural cross-section east of the study area. The posted speed limit is 100 km/h and the right of way is generally 91.5 metres east of the study area and is Existing Corridor Protected.

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 Ottawa Official Plan reserves a 44.5 metre right of way within the study area. St Laurent Boulevard is a truck route.

Cummings Avenue: Cummings Avenue is a City of Ottawa arterial road south of Ogilvie Road with a two-lane semi-urban cross section, curbed on its east side, and a major collector road north of Ogilvie Road within the study area with a two-lane urban cross section. North of Ogilvie Road sidewalks are on both sides of the road, and south of Ogilvie road a sidewalk is on the east side of the road and a 1.5-metre-wide gravel shoulder is on the west side. The posted speed limit is 50 km/h and the Ottawa Official Plan reserves a 37.5 metre right of way south of Ogilvie Road, and a 26.0 metre right of way north of Ogilvie Road within the study area. Cummings Avenue is a truck route.

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

Coventry Road: Coventry Road is a City of Ottawa arterial road with a four-lane, divided urban cross-section with curbside bike lanes and sidewalks on both sides of the road within the study area. The posted speed limit is 60 km/h and Ottawa Official Plan reserves a 30.0 metre right of way within the study area. Coventry Road is a truck route.

Cyrville Road: Cyrville Road is a City of Ottawa arterial road east of Labelle Street, and a collector road west of Labelle Street, each with a two-lane cross-section. Between St Laurent Boulevard and Ogilvie Road, the cross-section includes a curb on the northeast side, with a sidewalk, and is uncurbed on the southwest side. Between Ogilvie Road and Cummings Avenue, the cross-section is fully urban and includes a sidewalk and curb-side bike lane on each side of the road. East of Cummings Avenue within the study area, the cross-section is uncurbed and includes a bike lane and sidewalk on the south side of the road and a mixed-use path on the north side of the road. The posted speed limit is 60 km/h and the right of way varies between 18.0 m and 23.0 m within the study area. Cyrville Road is a truck route.

Labelle Street: Labelle Street is a City of Ottawa major collector road with a two-lane urban cross-section with sidewalks on both sides of the road east of Michael Street, and on the north side of the road to the west The unposted speed limit is assumed to be 50 km/h and the right of way varies between 20.0 m and 22.5 m within the study area.

Lemieux Street: Lemieux Street is a City of Ottawa major collector road with a three-lane urban cross-section with a sidewalk on the north/east side of the road. The posted speed limit is 50 km/h. The Ottawa Official Plan reserves a 30.0 metre right of way within the study area. Lemieux Street is a truck route.

Joseph Cyr Street: Joseph Cyr Street is a City of Ottawa local road with a two-lane urban cross-section with sidewalks on both sides of the road and on-street parking permitted on the east side of the road. The unposted speed limit is 50 km/h and the Ottawa Official Plan reserves a 20.0 metre right of way along its entire length.

2.2.2 Existing Intersections

The existing signalized area intersections within 400 metres of the site have been summarized below:

Cyrville Road at St Laurent Boulevard	The intersection of Cyrville Road and St Laurent Boulevard is a signalized intersection. The northbound approach consists of a shared left-turn/through lane, a through lane, and a shared through/right-turn lane and the southbound approach consists of an auxiliary left-turn lane, two through lanes, and a shared through/right-turn lane. Northbound left turns are restricted between 7:00 and 9:00 AM and between 3:30 and 5:30 PM, southbound U-turns are restricted, and westbound through and left turns are restricted.
Coventry Road/Ogilvie Road at St Laurent Boulevard	The intersection of Coventry Road/Ogilvie 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/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, and an auxiliary right-turn lane. U-turns on all approaches are restricted at this intersection.
Lemieux Street at St Laurent Boulevard	The intersection of Lemieux Street at St Laurent Boulevard is a signalized intersection. The northbound approach consists of three through lanes and an auxiliary channelized right-turn lane, and the southbound approach consists of an auxiliary left-turn lane and three through lanes. The westbound approach consists of two left-turn lanes and an auxiliary channelized right-turn lane. Northbound U-turns are restricted at this intersection.
Ogilvie Road at Cyrville Road	The intersection of Ogilvie Road at Cyrville Road is a signalized intersection. The northbound approach consists of an auxiliary left-turn lane and a shared through/right-turn lane, and the southbound consists of an auxiliary left-turn lane and a shared through/channelized right-turn lane. The eastbound approach consists of two through-lanes and an auxiliary right-turn lane, and the westbound approach consist of an auxiliary left-turn lane, two through lanes, and an auxiliary right-turn lane. Eastbound left-turns are restricted at this intersection.
Joseph Cyr Street at Cyrville Road	The intersection of Joseph Cyr Street at Cyrville Road is a stop-controlled intersection on the minor approach of Joseph Cyr. The northbound approach consists of a shared left-turn/right-turn lane. The eastbound approach consists of a shared through/right-turn lane, and the westbound consists of an auxiliary left-turn lane and a through lane. No turn restrictions were noted.
Joseph Cyr Street at Lemieux Street	The intersection of Joseph Cyr Street at Lemieux Street is a stop-controlled intersection on the minor approach of Joseph Cyr Street. The north-westbound consists of a through lane and a shared through/right-turn lane, and the eastbound approach consists of an

	auxiliary left-turn lane and a through lane. No turn restrictions were noted.
Ogilvie Road at Cummings Avenue	The intersection of Ogilvie Road at Cummings Avenue is a signalized intersection. The northbound approach consists of an auxiliary left-turn lane, a through lane, and an auxiliary channelized right-turn lane while the southbound approach consists of an auxiliary left-turn lane and a shared through/right-turn lane. The eastbound and westbound approaches each consist of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane. No turn restrictions were noted.
Labelle Street/Cummings Avenue at Cyrville Road	The intersection of Labelle Street/Cummings Avenue at Cyrville Road is a signalized intersection with each approach consisting of an auxiliary left-turn lane and a shared through/right-turn lane. No turn restrictions were noted.

2.2.3 Existing Driveways

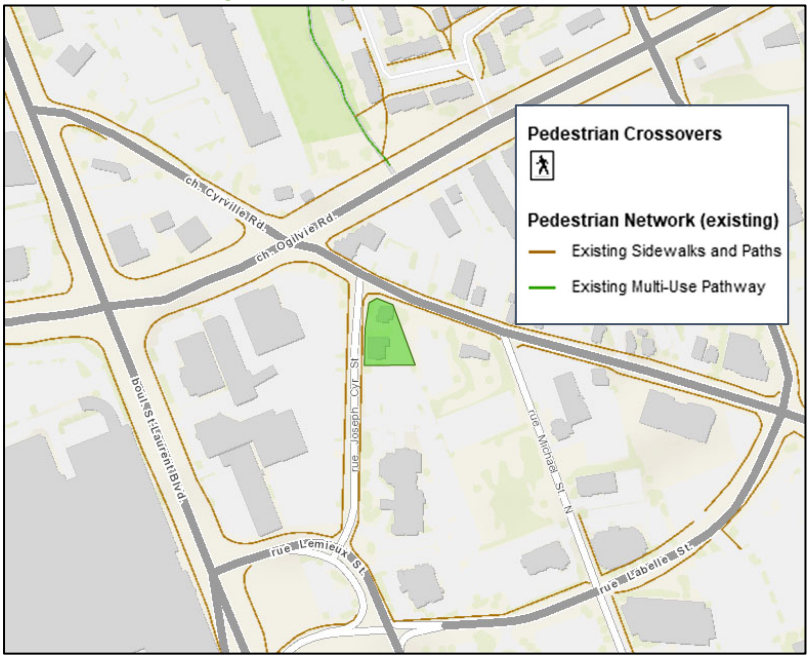
Driveways exist on both sides of Joseph Cyr Street within 200 m of the proposed site access, accessing car dealerships, private parking lots, and a hotel.

2.2.4 Cycling and Pedestrian Facilities

Figure 3 illustrates the pedestrian facilities in the study area and Figure 4 illustrates the cycling facilities.

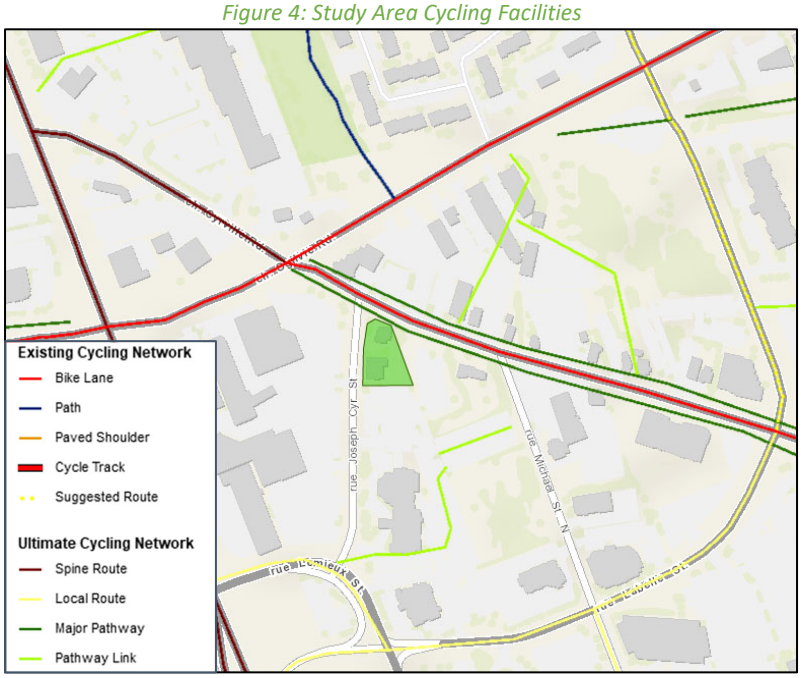
Sidewalks are provided along both sides of Cyrville Road, Ogilvie Road, St Laurent Boulevard, Labelle Street east of Michael Street, and Joseph Cyr Street and along one side of Cummings Avenue, Lemieux Street and Labelle Street west of Michael Street. Cycling facilities include bike lanes along Coventry road, Ogilvie Road, and Cyrville Road south of Ogilvie Road. Coventry Road, Ogilvie Road, St Laurent Boulevard, and Cyrville Road are all cycling spine routes and Lemieux Street, Labelle Street, and Cummings Avenue are all local cycling routes.

Figure 3: Study Area Pedestrian Facilities



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: July 15, 2020

Figure 4: Study Area Cycling Facilities



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: July 15, 2020

2.2.5 Existing Transit

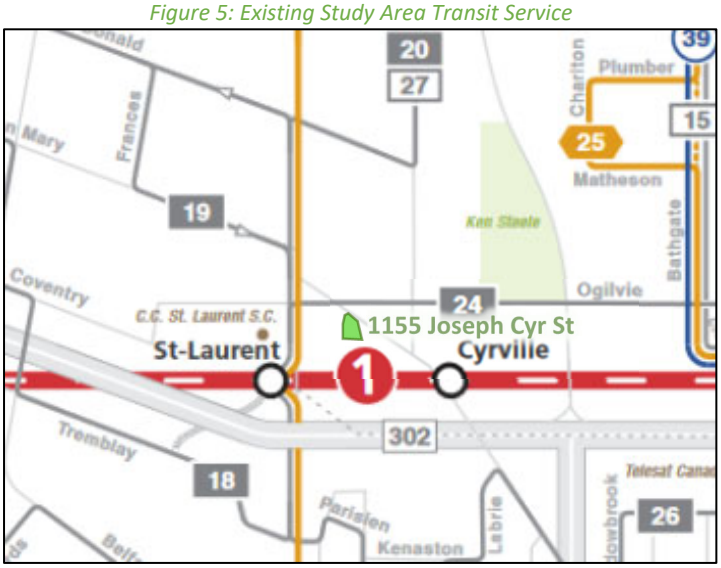
Within the study area, the route # 7, 14, 19, 20 travel along St Laurent Boulevard and the route #24 travels along Ogilvie Road. The frequency of these routes within proximity of the proposed site currently are:

- Route #7 – 15-minute service all day, 30-minute service after 7:00 PM
- Route # 14 – 15-minute service all day, 30-minute service after 8:00 PM
- Route #19 – 15-minute service during peak hours/direction, 30-minute service all day
- Route #20 – 30-minute service all day
- Route #24 – 15-minute service during peak hours, 30-minute service all day

Additionally, the site is approximately a 615-metre walk to St Laurent Station and a 700-metre walk to Cyrville Station, both on the LRT Confederation Line. Additionally, the following routes stop at St Laurent Station: #9, 10, 40, 42, 44, 45, 46, 48, 49, 88, 90, 92, 93, 96, 97, 98, 99, 190, 199, 290, 291, 294, 299.

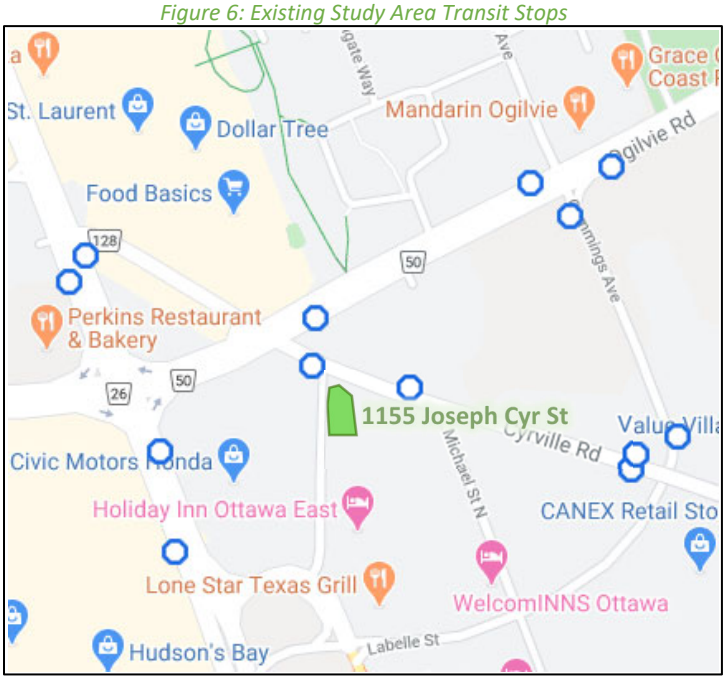
Figure 5 illustrates the transit system map in the study area and Figure 6 illustrates nearby transit stops.

Figure 5: Existing Study Area Transit Service



Source: http://www.octranspo.com/ Accessed: July 15, 2020

Figure 6: Existing Study Area Transit Stops



Source: http://www.octranspo.com/ Accessed: July 15, 2020

2.2.6 Existing Area Traffic Management Measures

There are no existing area traffic management measures within the study area, outside of on-street parking permitted on Joseph Cyr Street.

2.2.7 Existing Peak Hour Travel Demand

Existing turning movement counts were acquired from the City of Ottawa for the existing study area arterial-arterial and arterial-collector intersections. The intersections of Joseph Cyr Street and Cyrville Road and of Joseph Cyr Street and Lemieux Street did not have data available, and due to pandemic-related traffic disruption, none could be collected. The validated StreetLight™ data for these two intersections was requested from the City on July 14, 2020 and are still pending. Table 1 summarizes the intersection count dates.

Table 1: Intersection Count Date

Intersection	Count Date
Cyrville Road at St Laurent Boulevard	Wednesday, December 12, 2018
Coventry Road/Ogilvie Road at St Laurent Boulevard	Thursday, June 1, 2017
Lemieux Street at St Laurent Boulevard	Wednesday, March 21, 2018
Ogilvie Road at Cyrville Road	Wednesday, April 11, 2019
Joseph Cyr Street at Cyrville Road	Pending Streetlight Data
Joseph Cyr Street at Lemieux Street	Pending Streetlight Data
Ogilvie Road at Cummings Avenue	Wednesday, April 11, 2019
Labelle Street/Cummings Avenue at Cyrville Road	Wednesday, April 11, 2019

Figure 7 illustrates the existing traffic counts and Table 2 summarizes the existing intersection operations. The level of service for signalized intersections is based on HCM 2010 v/c calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection. Detailed turning movement count data is included in Appendix B and the Synchro worksheets are provided in Appendix C.

Figure 7: Existing Traffic Counts

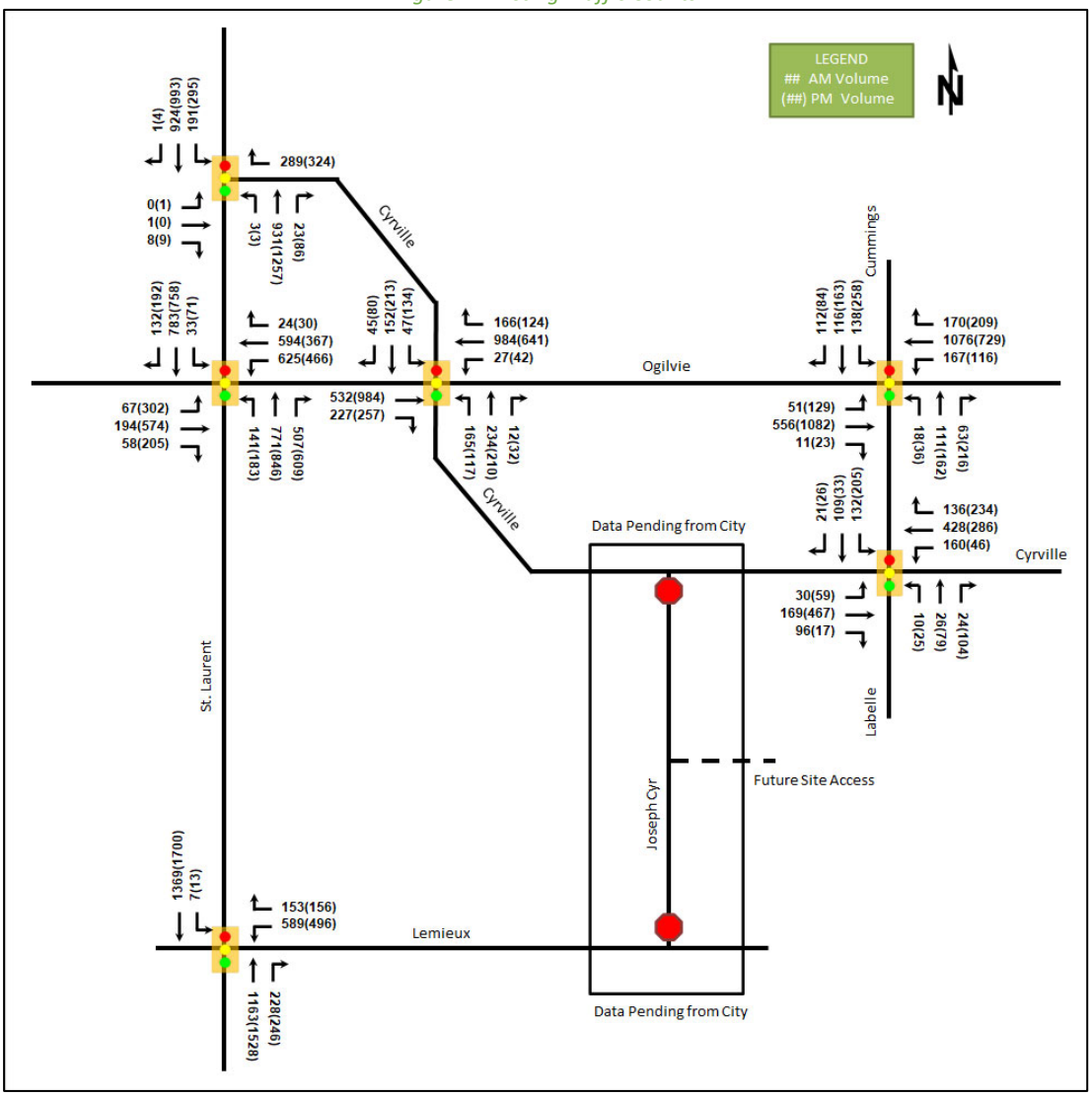


Table 2: Existing Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Cyrville Road at St Laurent Boulevard *Signalized*	EB	A	0.14	35.8	6.0	A	0.06	0.6	0.0
	WBR	A	0.51	26.3	18.5	A	0.52	28.3	35.3
	NB	A	0.43	7.3	m71.1	C	0.73	17.6	**m#156.1**
	SBL	C	0.78	65.3	53.1	D	0.81	55.4	75.8
	SBT/R	A	0.30	8.3	58.4	A	0.32	7.7	61.8
	Overall	**A**	**0.57**	**14.8**	**-**	**C**	**0.79**	**19.1**	**-**
Coventry Road/Ogilvie Road at St Laurent Boulevard *Signalized*	EBL	A	0.14	45.7	15.7	B	0.63	54.2	**#56.5**
	EBT	A	0.32	43.8	35.2	C	0.79	50.3	93.9
	EBR	A	0.15	0.7	0.0	A	0.46	9.3	23.2
	WBL	E	0.97	77.2	**#133.6**	**F**	**1.05**	**102.1**	**#106.2**
	WBT	B	0.70	32.8	86.6	A	0.53	47.9	69.9
	WBR	A	0.05	0.2	m0.0	A	0.07	0.3	m0.0
	NBL	D	0.85	**109.5**	**#77.4**	D	0.88	**100.8**	**#89.4**
	NBT	C	0.75	37.5	**#159.6**	E	0.90	41.1	**#148.8**
	NBR	**F**	**1.48**	**254.3**	**#205.6**	E	0.97	35.1	**#74.5**
	SBL	A	0.35	**82.8**	22.1	B	0.69	**87.7**	**#38.2**
	SBT	C	0.71	41.2	94.5	C	0.72	38.2	82.4
	SBR	A	0.30	5.0	5.5	A	0.46	11.9	44.7
	Overall	D	**0.88**	**46.0**	**-**	**E**	**0.95**	**61.1**	**-**
Lemieux Street at St Laurent Boulevard *Signalized*	WBL	D	0.82	54.5	95.9	C	0.73	48.0	77.8
	WBR	A	0.43	30.5	43.3	A	0.50	37.3	49.7
	NBT	A	0.41	11.2	72.2	A	0.53	11.5	88.7
	NBR	A	0.24	1.8	10.1	A	0.26	1.6	9.2
	SBL	A	0.04	8.7	m1.3	A	0.11	6.2	m1.8
	SBT	A	0.48	11.4	m73.1	A	0.59	7.5	m75.4
	Overall	**A**	**0.57**	**18.8**	**-**	**B**	**0.63**	**14.6**	**-**
Ogilvie Road at Cyrville Road *Signalized*	EBT	A	0.27	2.2	m8.2	A	0.51	3.9	m57.9
	EBR	A	0.25	0.7	m0.0	A	0.29	0.7	m4.6
	WBL	A	0.06	2.7	m1.3	A	0.19	22.3	m8.5
	WBT	A	0.50	3.8	55.6	A	0.33	18.6	m61.7
	WBR	A	0.20	0.5	m1.8	A	0.15	9.6	m11.2
	NBL	E	0.93	**97.0**	68.8	**F**	**1.03**	**132.9**	**#59.6**
	NBT/R	B	0.67	52.2	82.0	B	0.65	46.6	73.6
	SBL	A	0.34	28.5	m13.0	D	0.88	60.5	m23.8
	SBT/R	A	0.55	24.1	46.2	C	0.79	33.2	m46.5
	Overall	**B**	**0.61**	**15.5**	**-**	**B**	**0.65**	**22.1**	**-**
Joseph Cyr Street at Cyrville Road *Unsignalized*	EBT/R	Pending Data from City							
	WBL								
	WBT								
	NBL/R								
	Overall								
Joseph Cyr Street at Lemieux Street *Unsignalized*	EBT/R	Pending Data from City							
	WBL								
	WBT								
	SBL/R								
	Overall								

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Ogilvie Road at Cummings Avenue *Signalized*	EBL	A	0.33	26.6	20.4	C	0.73	49.4	**#46.2**
	EBT/R	A	0.36	22.3	59.5	**F**	**1.06**	**69.5**	**#216.8**
	WBL	A	0.45	16.2	32.4	B	0.68	40.8	**#39.0**
	WBT/R	C	0.79	29.3	190.3	E	0.93	52.3	**#170.7**
	NBL	A	0.09	40.7	11.1	A	0.15	34.5	16.2
	NBT/R	A	0.57	47.8	63.0	E	0.93	66.1	**#141.2**
	SBL	A	0.57	42.6	46.2	E	0.94	64.4	**#94.9**
	SBT/R	A	0.51	35.3	69.4	A	0.38	22.2	58.4
	Overall	**C**	**0.74**	**29.4**	**-**	**F**	**1.01**	**57.8**	**-**
Labelle Street/Cummings Avenue at Cyrville Road *Signalized*	EBL	A	0.09	7.6	5.4	A	0.20	11.8	12.7
	EBT/R	A	0.29	6.9	29.3	A	0.54	15.5	102.0
	WBL	A	0.34	17.0	36.7	A	0.15	20.6	15.3
	WBT/R	C	0.72	23.5	**#150.2**	C	0.78	31.7	**#167.6**
	NBL	A	0.04	23.3	5.1	A	0.08	22.3	9.3
	NBT/R	A	0.15	15.6	11.9	A	0.42	17.9	34.9
	SBL	A	0.58	35.7	37.5	D	0.85	56.5	64.4
	SBT/R	A	0.37	25.5	32.2	A	0.14	14.7	13.2
	Overall	**B**	**0.68**	**20.2**	**-**	**D**	**0.82**	**26.5**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 0.90
m = metered queue
# = queue exceeds storage or mid-block length

The intersection of Coventry Road/Ogilvie Road at St Laurent Boulevard has operational constraints during both peak hours. During the AM peak hour, the northbound right turn is over capacity and suffers delays and extended queuing, with a v/c of 1.48. The westbound left turn is approaching capacity, with a v/c of 0.97, experiencing high delays and extended queuing. Additionally, the northbound left and southbound left experience high delays, with the northbound left and northbound through exhibiting extended queuing. During the PM peak hour, the westbound left turn is over capacity and experiences high delays and extended queuing, the northbound right is approaching capacity with a v/c of 0.97 and experiencing extended queuing, and the northbound through, northbound left, and southbound left exhibit extended queuing, with the southbound left and northbound left additionally experience high delay.

The intersection of Ogilvie Road and Cummings Avenue during the PM peak hour shows the westbound through, northbound through, and southbound left movements approaching capacity with v/cs of between 0.93 and 0.94 and with each movement exhibiting substantial queuing. The eastbound through movement is over capacity with a v/c of 1.06 and this movement, the eastbound left, and the westbound left exhibiting substantial queuing. These movements push the overall intersection v/c over capacity, with a v/c of 1.01.

Outside of these intersections, the intersection of Labelle Street/Cummings Avenue and Cyrville Road's AM and PM peak hours show the westbound through/right exhibiting extended queuing, the intersection of Cyrville Road and St Laurent Boulevard's northbound through movement exhibits extended queuing during the PM peak hour, the intersection of Ogilvie Road and Cyrville Road's northbound left movement exhibits high delay during the AM peak hour, and is over capacity with high delay and extended queuing during the PM peak hour, with a v/c of 1.03.

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 collisions types and conditions in the study area, Figure 8 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, 2014-2018

		Number	%
Total Collisions		269	**100%**
Classification	**Fatality**	1	0%
	Non-Fatal Injury	51	19%
	Property Damage Only	217	81%
Initial Impact Type	**Approaching**	2	1%
	Angled	67	25%
	Rear end	92	34%
	Sideswipe	48	18%
	Turning Movement	33	12%
	SMV Other	16	6%
	Other	11	4%
Road Surface Condition	**Dry**	197	73%
	Wet	46	17%
	Loose Snow	9	3%
	Slush	8	3%
	Packed Snow	2	1%
	Ice	6	2%
	Unknown	1	0%
Pedestrian Involved		10	4%
Cyclists Involved		3	1%

Figure 8: Study Area Collision Records – Representation of 2014-2016

Source: https://maps.bikeottawa.ca/collisions/ Accessed: July 20, 2020

Table 4: Summary of Collision Locations, 2014-2018

	Number	%
Intersections / Segments	**269**	**100%**
Cyrville Rd @ St Laurent Blvd	51	19%
Cyrville Rd @ Ogilvie Rd	41	15%
Cyrville Rd @ Joseph Cyr St	1	0%
Cyrville Rd @ Cummings Ave/Labelle St	15	6%
Lemieux St @ St Laurent Blvd	88	33%
Lemieux St @ Joseph Cyr St	8	3%
Labelle St/Ramp @ Lemieux St/Hwy417 Ic115 Ramp	43	16%
Cyrville Rd btwn St Laurent Blvd & Cyrville Rd	1	0%
Cyrville Rd btwn Cyrville Rd & Ogilvie Rd	3	1%
Cyrville Rd btwn Ogilvie Rd & Joseph Cyr St	2	1%
Lemieux St btwn St Laurent Blvd & Lemieux St	1	0%
Lemieux St btwn Joseph Cyr St & Ramp	4	1%
Joseph Cyr St btwn Cyrville Rd & Lemieux St	2	1%
Ogilvie Rd btwn Cyrville Rd & Murdock Gt	9	3%

Within the study area, the intersections of Cyrville Road at St Laurent Boulevard, Cyrville Road at Ogilvie Road, Lemieux Street at St Laurent Boulevard, and Labelle Street at Lemieux Street are noted to have experienced higher collisions than other intersections. Table 5, Table 6, Table 7, and Table 8 summarize the collision types and conditions for each of the Cyrville Road at St Laurent Boulevard, Cyrville Road at Ogilvie Road, Lemieux Street at St Laurent Boulevard, and Labelle Street at Lemieux Street intersections. The segment of Ogilvie Road between Cyrville Road and Murdock Gate had a sideswipe collision which resulted in a fatality on August 30, 2016 at 9:52am in clear, daylit, dry conditions.

Table 5: Cyrville Road at St Laurent Boulevard Collision Summary

		Number	%
Total Collisions		**51**	**100%**
Classification	Fatality	0	0%
	Non-Fatal Injury	8	16%
	Property Damage Only	43	84%
Initial Impact Type	Angle	4	8%
	Rear end	22	43%
	Sideswipe	9	18%
	Approaching	1	2%
	Turning Movement	5	10%
	SMV Other	6	12%
	Other	4	8%
Road Surface Condition	Dry	38	75%
	Wet	8	16%
	Loose Snow	4	8%
	Slush	1	2%
Pedestrian Involved		2	4%
Cyclists Involved		0	0%

The Cyrville Road at St Laurent Boulevard intersection had a total of 51 collisions during the 2014-2018 time period, with 43 involving property damage only and the remaining eight having non-fatal injuries. The collision types are most represented by rear end with 22 collisions, followed by sideswipe with nine, turning movement with five, four each for angle and other, and one as approaching. Rear end collisions are typical of congested

intersection approaches. Sideswipe collisions may be influenced by the bus stop on the northbound approach where vehicles attempt to maneuver around stopping buses. SMV (other) collisions may include the pedestrian collisions. Weather conditions do not affect collisions at this location.

Table 6: Cyrville Road at Ogilvie Road Collision Summary

		Number	%
Total Collisions		**41**	**100%**
Classification	Fatality	0	0%
	Non-Fatal Injury	10	24%
	Property Damage Only	31	76%
Initial Impact Type	Angle	6	15%
	Rear end	14	34%
	Sideswipe	9	22%
	Turning Movement	5	12%
	SMV Other	4	10%
	Other	3	7%
Road Surface Condition	Dry	27	66%
	Wet	10	24%
	Loose Snow	1	2%
	Slush	1	2%
	Ice	2	5%
Pedestrian Involved		3	7%
Cyclists Involved		0	0%

The Cyrville Road at Ogilvie Road intersection had a total of 41 collisions during the 2014-2018 time period, with 31 involving property damage only and the remaining ten having non-fatal injuries. The collision types are most represented by rear end with 14, sideswipe with nine, angled with six, turning movement with five, SMV (other) with four, and other with three. Rear end collisions are typical of congested intersections, similarly with angle collisions, representing left turns, where turning drivers may attempt to push limited gaps in the oncoming traffic stream. Sideswipe collisions at this location may be influenced by the bus stops on the south and east departure legs. The intersection is skewed, which may also influence collision frequency and types. Weather conditions are not considered to affect collisions at this location.

Table 7: Lemieux Street at St Laurent Boulevard Collision Summary

		Number	%
Total Collisions		**88**	**100%**
Classification	Fatality	0	0%
	Non-Fatal Injury	15	17%
	Property Damage Only	73	83%
Initial Impact Type	Angle	12	14%
	Rear end	43	49%
	Sideswipe	14	16%
	Approaching	1	1%
	Turning Movement	17	19%
	Other	1	1%
Road Surface Condition	Dry	66	75%
	Wet	12	14%
	Loose Snow	2	2%
	Slush	5	6%
	Packed Snow	1	1%

		Number	%
Total Collisions		**88**	**100%**
	Ice	1	1%
Pedestrian Involved		1	1%
Cyclists Involved		1	1%

The Lemieux Street at St Laurent Boulevard intersection had a total of 88 collisions during the 2014-2018 time period, with 73 involving property damage only and the remaining 15 having non-fatal injuries. The collision types are most represented by rear end with 43 followed by turning movement with 17, sideswipe with 14, angle with 12, and one each for approaching and other. As previously stated, rear end and angle collisions are common types seen at congested intersections. Turning movement collisions, representing right turns, may be occurring where westbound right-turning drivers are pushing gaps in the high-volume northbound through movement traffic. Sideswipe collisions may be influenced by the bus stop on the southbound approach, where drivers attempt to maneuver around stopping buses, or where westbound left-turning vehicles looking to access Highway 417 find themselves in the wrong turning lane and attempt to weave across lanes on the departure. Weather conditions do not affect collisions at this location.

Table 8: Labelle Street/Ramp at Lemieux Street/OR 174 Ramp Collision Summary

		Number	%
Total Collisions		**43**	**100%**
Classification	Fatality	0	0%
	Non-Fatal Injury	8	19%
	Property Damage Only	35	81%
Initial Impact Type	Angle	31	72%
	Rear end	3	7%
	Sideswipe	5	12%
	Turning Movement	3	7%
	Other	1	2%
Road Surface Condition	Dry	31	72%
	Wet	10	23%
	Loose Snow	1	2%
	Ice	1	2%
Pedestrian Involved		0	0%
Cyclists Involved		0	0%

The Labelle Street at Lemieux Street intersection had a total of 43 collisions during the 2014-2018 time period, with 35 involving property damage only and the remaining eight having non-fatal injuries. The collision types are most represented by angle with 31, followed by sideswipe with five, three each as rear end and turning movement and one as other. Angle collisions represent left turns which are permitted only as the uncontrolled northbound left turn from OR 174 to the St Laurent Shopping Centre, and as the stop-controlled eastbound left turn. The collisions are roughly clustered around the AM peak hour, the midday hour, and the PM peak periods. Weather conditions do not affect collisions at this location.

2.3 Planned Conditions

2.3.1 Changes to the Area Transportation Network

Within the Transportation Master Plan, the Road Network's Network Concept diagram shows Cyrville Road between St Laurent Boulevard and Lemieux Street as a new or widened collector, and Coventry Road and Cyrville Road south of Lemieux Street as widened arterials. Within the Affordable Network diagram, these sections are

shown as segments for phase 3 widening. The scope of the work per the Affordable Network is the urbanization of the existing two-lane rural cross-section of Cyrville Road between Star Top Road and St Laurent Boulevard, and the widening of Coventry Road from two lanes to four between Belfast Road and the Shopping Centre–outside of the study area.

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.

From the Ottawa Planned Construction Projects portal, Lemieux Street, Labelle Street are due to for transit priority measures this year, and Michael Street N is due to receive sidewalks within 1-2 years.

2.3.2 Other Study Area Developments

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 peak hour two-way auto trips and 130 new PM peak hour two-way auto trips. (Parsons, 2020)

1298 Ogilvie Road

The proposed development application includes a site plan for seven townhome buildings comprising 78 residential units. The development is expected to generate 39 new AM peak hour two-way auto trips and 40 new PM peak hour two-way auto trips based upon a 50% auto mode share. (Parsons, 2018)

1220 Ogilvie Road, 1235 Cyrville Road

The proposed development application includes a site plan including, in addition to many townhome blocks that have been already been built-out, 161 as-yet unconstructed 3.5-storey townhome dwelling units, a 16-storey apartment building comprising 142 units, an eight-storey apartment building comprising 62 units, and an eight-storey apartment building comprising 56 units and 680 m2 of ground floor retail. The file does not include a TIA and was last updated in 2013.

1021 St Laurent Boulevard

The proposed development application includes a site plan for the demolition of a Zellers store and the construction of a Target store. The file was last updated in 2014.

1110 St Laurent Boulevard

The proposed development application includes a site plan for the construction of an accessory building in support of an existing car dealership. No TIA is included as part of this application.

500, 525, 535 Coventry Road, 1200 St Laurent Boulevard

The proposed development application includes a zoning by-law amendment to permit the construction of free-standing retail buildings with associated surface parking areas. No TIA is included as part of this application, and the file was last updated in 2014.

3 Study Area and Time Periods

3.1 Study Area

The study area will include the intersections of:

- Cyrville Road at:
  - St Laurent Boulevard
  - Ogilvie Road
  - Joseph Cyr Street
  - Labelle Street/Cummings Avenue
- Ogilvie Road at:
  - St Laurent Boulevard & Coventry Road
  - Cummings Avenue
- Lemieux Street at:
  - St Laurent Boulevard
  - Joseph Cyr Street
- Joseph Cyr Street at Site Access

The boundary roads will be Joseph Cyr Street and Cyrville Road, and no screenlines are present within proximity to the site.

3.2 Time Periods

As the proposed development is composed primarily of residential units, with only a small, supportive commercial component, the AM and PM peak hours will be examined.

3.3 Horizon Years

The anticipated build-out year is 2023. As a result, the full build-out plus five years horizon year is 2028.

4 Exemption Review

Table 9 summarizes the exemptions for this TIA.

Table 9: 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
	4.2.3 New Street Networks	Only required for plans of subdivision	Exempt
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	Exempt

Module	Element	Explanation	Exempt/Required
		total volumes exceed ATM capacity thresholds	
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	Exempt

5 Development-Generated Travel Demand

5.1 Trip Generation and Mode Shares

This TIA has been prepared using the vehicle and person trip rates for the residential component using the TRANS Trip Generation Study Report (2009) and for the commercial component using the converted person trip values of the average vehicle trip rate from the ITE Trip Generation Manual 10th Edition (2017). Table 10 summarizes the person trip rates for the proposed land uses.

Table 10: Trip Generation Person Trip Rates

Dwelling Type	Land Use Code	Peak Hour	Vehicle Trip Rate	Person Trip Rates
Mid-rise Apartments	233 (TRANS)	AM	0.24	0.65
		PM	0.28	0.70
Shopping Centre	820 (ITE)	AM	0.94	1.20
		PM	3.81	4.88

Using the above Person Trip rates, the total person trip generation has been estimates. Table 11 below illustrates the total person trip generation for the Townhomes dwelling type.

Table 11: Total Person Trip Generation

Land Use	Units / GFA	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Mid-rise Apartments	117	18	58	76	51	31	82
Shopping Centre	1,425	1	1	2	3	4	7

Using the most recent National Capital Region Origin-Destination survey (OD Survey), the existing mode shares for Ottawa East have been determined and compared to various modes share breakdowns identified by City Staff as potential interpretations of the data. Table 12 summarizes these modal shares.

Table 12: Mode Shares

Travel Mode	Ottawa East (average)	Ottawa East (AM from/within)	Ottawa East (PM to/within)	TOD
Auto Driver	55%	50%	50%	10%
Auto Passenger	15%	10%	15%	5%
Transit	20%	25%	20%	65%
Cycling	5%	5%	5%	5%
Walking	5%	10%	10%	15%
Total	100%	100%	100%	100%

Given the TOD context of the site, the TOD modal shares have been used to generate the person trips by mode. Table 13 summarizes the trip generation by mode.

Table 13: Trip Generation by Mode

Travel Mode	Mode Share	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto Driver	10%	2	6	8	5	3	9
Auto Passenger	5%	1	3	4	3	2	4
Transit	65%	13	39	50	35	23	58
Cycling	5%	1	3	4	3	2	4
Walking	15%	3	9	11	8	6	13
Total	**100%**	**19**	**59**	**77**	**53**	**35**	**89**

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

5.2 Trip Distribution

To understand the travel patterns of the subject development, the OD Survey has been reviewed to determine the travel patterns for the residential component, applied based on the build-out of Ottawa East. Table 14 below summarizes the distributions.

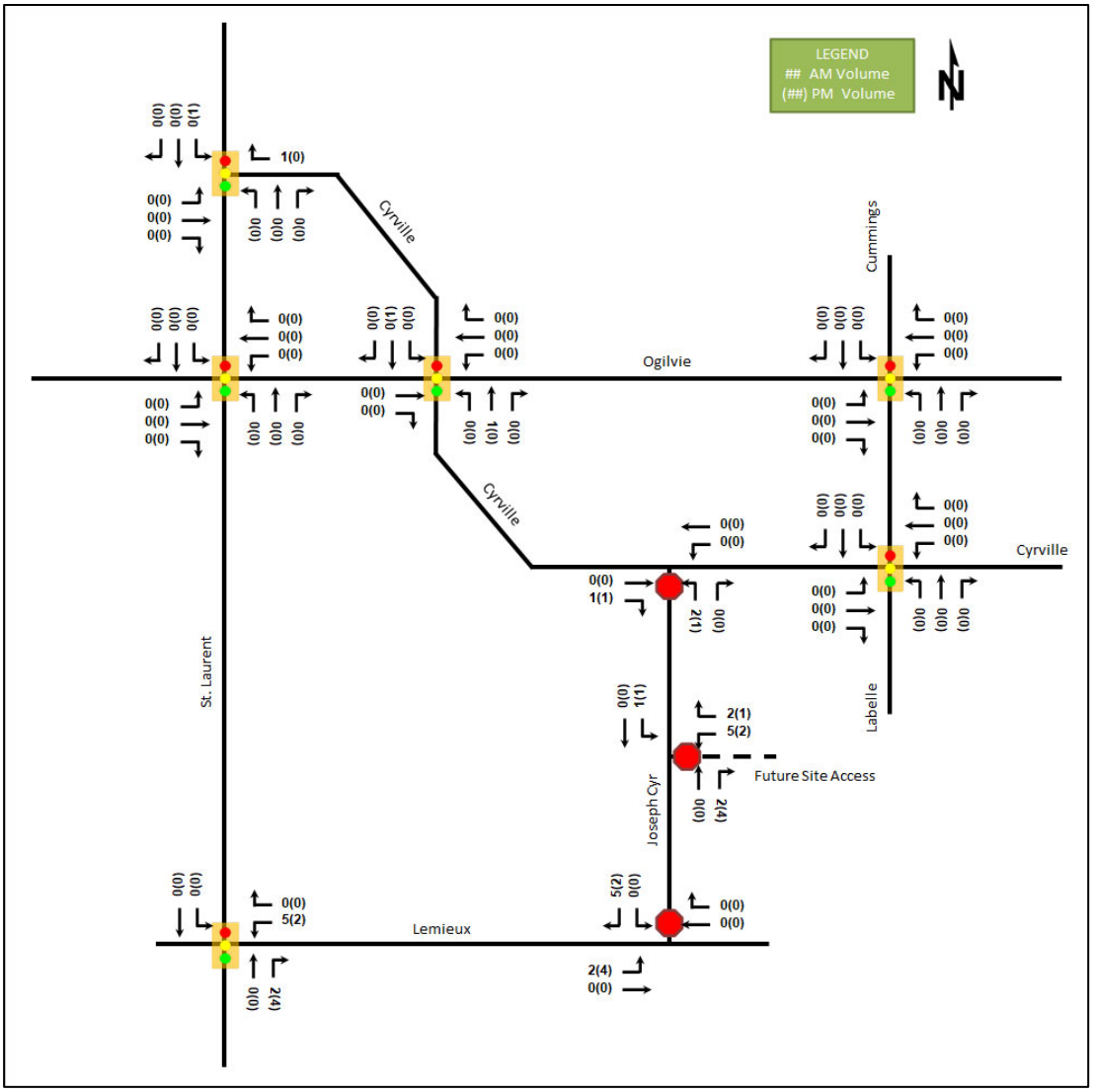
Table 14: OD Survey Distribution – Ottawa East

To/From	Residential % of Trips	Via
North	15%	St Laurent Blvd
South	20%	St Laurent Blvd/Hwy 417
East	15%	10% Hwy 417 E, 5% Ogilvie Rd
West	50%	45% via 417, 5% Coventry
Total	100%	-

5.3 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. Figure 9 illustrates the new site generated volumes.

Figure 9: New Site Generation Auto Volumes



6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3. None of the listed projects will have a 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. Table 15 summarizes the results of the model, and the projections are provided in Appendix E.

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

Street	Direction Growth Percentage	
	Eastbound	**Westbound**
Cyrville	1.76%	0.50%
Coventry	4.89%	3.98%
Ogilvie	0.29%	0.32%
Labelle	6.83%	-0.63%
SC Ramp	3.34%	1.38%
	Northbound	**Southbound**
St Laurent	0.95%	0.63%
Lemieux	1.42%	3.11%
Cummings	0.29%	1.00%

In general, the TRANS projections identify a growth rate range of –0.63% and 6.83%. Appropriate growth rates rounded to the nearest 0.25% will be peak-directionally applied to the identified links along mainline volumes and major turning movements, with negative growth rates being applied at zero.

6.3 Other Developments

The transportation network plans were discussed in Section 2.3. The 1098 Ogilvie Road, 1178 Cummings Avenue development is the only project that is a substantial traffic generator that includes a traffic study and will be considered explicitly in the background volumes.

7 Demand Rationalization

7.1 2023 Future Background Operations

Figure 10 illustrates the 2023 background volumes and Table 16 summarizes the 2023 background intersection operations. The level of service for signalized intersections is based on HCM 2010 v/c calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection, and HCM average delay for unsignalized intersections. The synchro worksheets for the 2023 future background horizon are provided in Appendix F.

Figure 10: 2023 Future Background Volumes

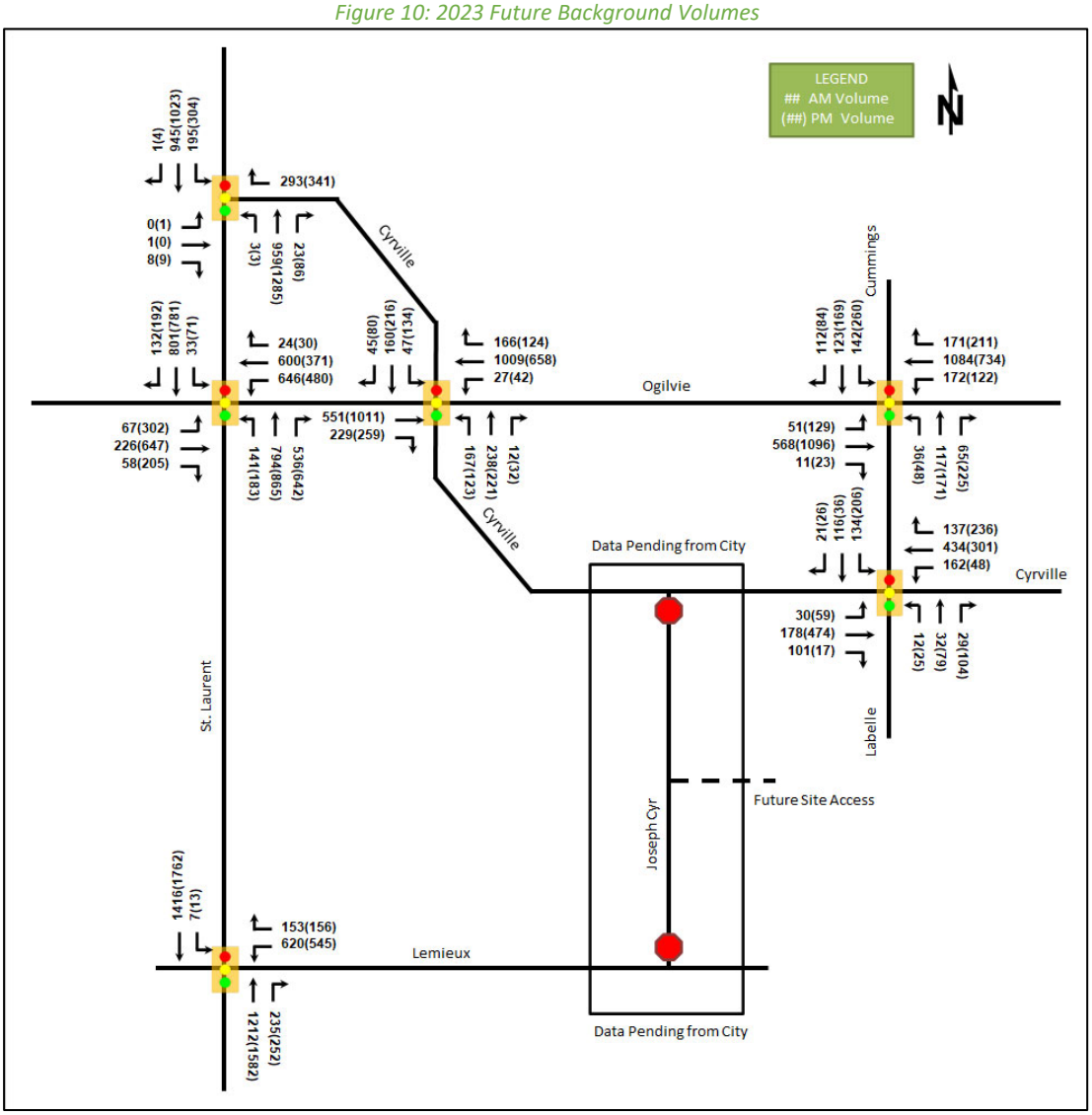


Table 16: 2023 Future Background Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Cyrville Road at St Laurent Boulevard *Signalized*	EB	A	0.12	36.2	6.0	A	0.05	0.5	0.0
	WBR	A	0.48	25.8	14.5	A	0.51	27.6	31.3
	NB	A	0.39	5.2	16.3	B	0.64	13.5	**#165.3**
	SBL	C	0.76	64.7	50.4	D	0.81	57.2	68.1
	SBT/R	A	0.27	8.0	52.8	A	0.30	7.6	56.4
	Overall	**A**	**0.53**	**13.7**	**-**	**C**	**0.74**	**17.4**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Coventry Road/Ogilvie Road at St Laurent Boulevard *Signalized*	EBL	A	0.11	43.4	14.2	A	0.56	52.1	50.2
	EBT	A	0.33	44.0	36.6	C	0.80	50.8	95.3
	EBR	A	0.13	0.6	0.0	A	0.42	7.2	17.1
	WBL	E	0.93	73.8	**#119.2**	E	0.98	**84.9**	**#96.1**
	WBT	B	0.69	35.8	84.9	A	0.49	49.5	64.6
	WBR	A	0.05	0.2	m0.0	A	0.06	0.3	m0.0
	NBL	C	0.79	**104.0**	**#67.1**	D	0.82	**95.6**	**#77.9**
	NBT	B	0.68	35.4	**#143.5**	C	0.77	32.5	121.9
	NBR	**F**	**1.37**	**207.1**	**#185.8**	D	0.88	21.8	**#61.3**
	SBL	A	0.32	**82.1**	20.6	B	0.63	**83.0**	**#32.8**
	SBT	B	0.63	38.7	86.2	B	0.65	36.2	76.1
	SBR	A	0.26	4.4	5.7	A	0.41	10.6	39.6
	Overall	**D**	**0.83**	**66.6**	**-**	**D**	**0.89**	**43.0**	**-**
Lemieux Street at St Laurent Boulevard *Signalized*	WBL	D	0.81	55.7	91.8	C	0.72	47.7	77.0
	WBR	A	0.40	25.8	36.0	A	0.44	32.9	42.5
	NBT	A	0.38	10.2	64.2	A	0.50	11.0	80.0
	NBR	A	0.22	1.7	9.5	A	0.24	1.6	8.9
	SBL	A	0.03	8.0	m1.2	A	0.09	5.5	m1.6
	SBT	A	0.44	10.7	m70.2	A	0.55	7.1	m70.6
	Overall	**A**	**0.54**	**18.2**	**-**	**A**	**0.60**	**14.3**	**-**
Ogilvie Road at Cyrville Road *Signalized*	EBT	A	0.24	6.1	m22.6	A	0.46	4.6	m48.8
	EBR	A	0.22	0.3	m0.0	A	0.26	0.5	m0.9
	WBL	A	0.05	2.9	m1.0	A	0.15	19.9	m8.6
	WBT	A	0.44	3.6	42.6	A	0.30	16.2	63.9
	WBR	A	0.17	0.4	m0.6	A	0.13	8.8	m12.0
	NBL	E	0.93	**100.6**	63.2	E	0.93	**106.4**	**#50.4**
	NBT/R	B	0.68	55.2	76.8	B	0.65	47.8	68.8
	SBL	A	0.32	32.1	m13.0	D	0.82	51.3	m20.8
	SBT/R	A	0.56	28.0	45.7	C	0.76	31.2	m40.0
	Overall	**A**	**0.56**	**17.0**	**-**	**A**	**0.58**	**20.2**	**-**
Joseph Cyr Street at Cyrville Road *Unsignalized*	EBT/R	Pending Data from City							
	WBL								
	WBT								
	NBL/R								
	Overall								
Joseph Cyr Street at Lemieux Street *Unsignalized*	EBT/R	Pending Data from City							
	WBL								
	WBT								
	SBL/R								
	Overall								

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Ogilvie Road at Cummings Avenue *Signalized*	EBL	A	0.25	18.3	14.8	A	0.59	32.4	28.5
	EBT/R	A	0.33	22.7	59.4	E	0.94	41.0	**#186.6**
	WBL	A	0.39	14.9	30.0	B	0.65	38.5	**#35.1**
	WBT/R	C	0.71	26.3	161.4	D	0.81	41.3	**#144.6**
	NBL	A	0.17	42.3	17.0	A	0.18	35.5	18.6
	NBT/R	A	0.54	46.5	59.3	E	0.91	62.8	**#127.6**
	SBL	A	0.51	40.2	43.2	D	0.84	46.2	**#74.8**
	SBT/R	A	0.48	34.3	64.1	A	0.36	22.2	53.4
	Overall	**B**	**0.67**	**27.7**	**-**	**D**	**0.89**	**42.2**	**-**
Labelle Street/Cummings Avenue at Cyrville Road *Signalized*	EBL	A	0.08	7.6	4.9	A	0.17	10.5	11.5
	EBT/R	A	0.28	6.9	26.8	**A**	0.49	13.5	91.5
	WBL	A	0.30	14.9	32.4	A	0.14	19.2	15.6
	WBT/R	B	0.63	19.0	**#127.1**	C	0.74	28.1	**#160.3**
	NBL	A	0.04	22.4	5.4	A	0.08	22.8	8.7
	NBT/R	A	0.16	14.9	12.8	A	0.40	17.4	30.2
	SBL	A	0.51	31.7	34.4	C	0.79	50.2	55.8
	SBT/R	A	0.34	23.9	30.8	A	0.14	15.6	13.2
	Overall	**B**	**0.62**	**17.4**	**-**	**C**	**0.76**	**23.8**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 1.00
m = metered queue
# = queue exceeds storage or mid-block length

During both the AM and PM peak hours, the 2023 future background intersections operate similarly to the existing conditions with operational improvement for all study area intersections due to the peak hour factor increasing from 0.90 to 1.00.

7.2 2028 Future Background Operations

Figure 11 illustrates the 2028 background volumes and Table 17 summarizes the 2028 background intersection operations. The level of service for signalized intersections is based on HCM 2010 calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection, and HCM average delay for unsignalized intersections. The synchro worksheets for the 2028 future background horizon are provided in Appendix G.

Figure 11: 2028 Future Background Volumes

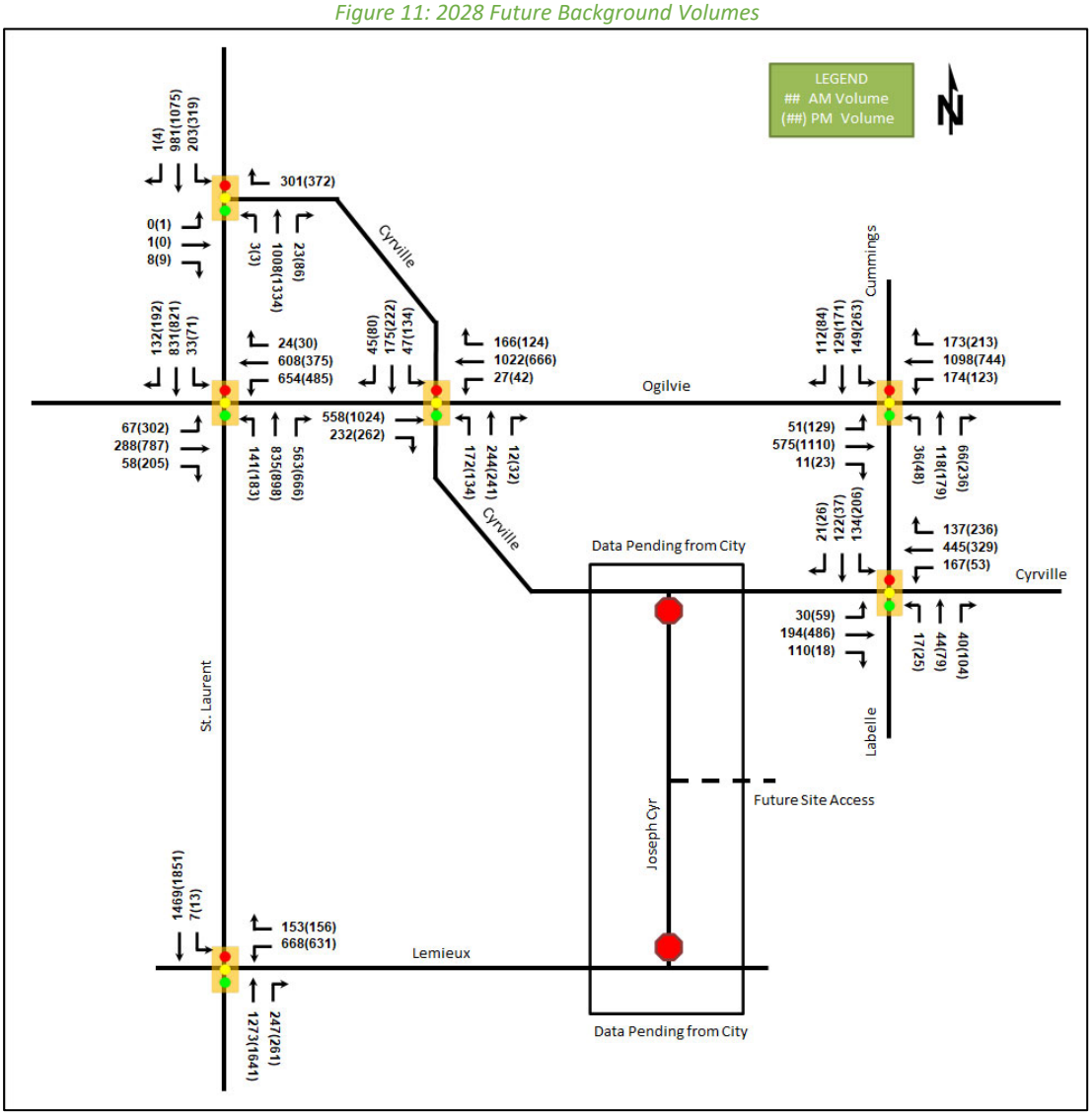


Table 17: 2028 Future Background Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Cyrville Road at St Laurent Boulevard *Signalized*	EB	A	0.12	36.2	6.0	A	0.05	0.5	0.0
	WBR	A	0.48	25.8	15.5	A	0.54	30.0	39.1
	NB	A	0.41	5.5	27.3	B	0.68	14.4	**#173.9**
	SBL	C	0.77	65.1	51.4	D	0.81	56.5	73.3
	SBT/R	A	0.29	8.1	55.2	A	0.31	7.7	60.0
	Overall	**A**	**0.55**	**13.8**	**-**	**C**	**0.77**	**18.1**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Coventry Road/Ogilvie Road at St Laurent Boulevard *Signalized*	EBL	A	0.12	43.6	14.2	A	0.56	52.1	50.2
	EBT	A	0.41	45.4	45.9	E	0.93	62.2	**#130.9**
	EBR	A	0.13	0.6	0.0	A	0.41	7.0	17.1
	WBL	E	0.94	75.0	**#121.9**	**F**	**1.07**	**108.0**	**#97.6**
	WBT	B	0.69	35.1	85.0	A	0.49	48.7	65.1
	WBR	A	0.05	0.2	m0.0	A	0.06	0.3	m0.0
	NBL	C	0.79	**103.7**	**#67.1**	D	0.82	**97.2**	**#77.7**
	NBT	C	0.72	36.0	**#151.3**	C	0.80	33.2	**#133.4**
	NBR	**F**	**1.44**	**236.7**	**#201.9**	E	0.92	26.9	**#72.0**
	SBL	A	0.32	**82.4**	20.6	B	0.63	**83.0**	**#32.7**
	SBT	B	0.66	39.5	89.9	B	0.69	36.8	80.1
	SBR	A	0.26	4.3	5.2	A	0.41	10.7	39.9
	Overall	**D**	**0.85**	**71.0**	**-**	**E**	**0.97**	**48.0**	**-**
Lemieux Street at St Laurent Boulevard *Signalized*	WBL	D	0.82	54.2	97.8	D	0.81	51.3	90.5
	WBR	A	0.38	26.9	37.2	A	0.43	33.3	43.4
	NBT	A	0.41	11.4	71.6	A	0.52	11.7	84.3
	NBR	A	0.24	1.8	10.1	A	0.25	1.6	9.0
	SBL	A	0.03	8.9	m1.1	A	0.10	5.9	m1.6
	SBT	A	0.47	11.9	m71.5	A	0.59	7.5	m71.8
	Overall	**A**	**0.57**	**19.1**	**-**	**B**	**0.65**	**15.6**	**-**
Ogilvie Road at Cyrville Road *Signalized*	EBT	A	0.25	5.9	m21.4	A	0.47	4.2	m41.3
	EBR	A	0.23	0.3	m0.0	A	0.26	0.4	m0.0
	WBL	A	0.05	2.9	m1.0	A	0.15	20.5	m8.3
	WBT	A	0.45	3.7	43.3	A	0.30	16.9	m63.3
	WBR	A	0.17	0.4	m0.6	A	0.13	9.0	m11.4
	NBL	E	0.98	**112.4**	**#70.6**	**F**	**1.03**	**130.9**	**#57.9**
	NBT/R	B	0.68	54.3	79.0	B	0.69	49.8	75.0
	SBL	A	0.32	32.2	m13.1	D	0.88	60.1	m19.7
	SBT/R	A	0.59	29.3	52.2	C	0.77	30.2	m38.6
	Overall	**A**	**0.58**	**18.0**	**-**	**B**	**0.61**	**22.3**	**-**
Joseph Cyr Street at Cyrville Road *Unsignalized*	EBT/R	Pending Data from City							
	WBL								
	WBT								
	NBL/R								
	Overall								
Joseph Cyr Street at Lemieux Street *Unsignalized*	EBT/R	Pending Data from City							
	WBL								
	WBT								
	SBL/R								
	Overall								

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Ogilvie Road at Cummings Avenue *Signalized*	EBL	A	0.26	18.7	15.2	B	0.61	36.3	30.1
	EBT/R	A	0.34	23.6	62.8	E	0.97	49.8	**#189.9**
	WBL	A	0.40	15.0	30.3	B	0.65	38.5	**#34.9**
	WBT/R	C	0.72	26.6	164.6	D	0.84	43.4	**#147.6**
	NBL	A	0.17	42.3	17.0	A	0.18	35.1	18.6
	NBT/R	A	0.55	46.7	59.9	E	0.93	65.4	**#138.1**
	SBL	A	0.54	41.4	45.3	D	0.86	50.0	**#80.1**
	SBT/R	A	0.49	35.1	66.3	A	0.36	21.8	54.0
	Overall	**B**	**0.68**	**28.2**	**-**	**E**	**0.92**	**46.6**	**-**
Labelle Street/Cummings Avenue at Cyrville Road *Signalized*	EBL	A	0.08	7.6	4.9	A	0.17	10.5	11.5
	EBT/R	A	0.30	7.2	29.9	A	0.49	13.5	91.5
	WBL	A	0.31	15.2	33.8	A	0.14	19.2	15.6
	WBT/R	B	0.64	19.4	**#131.7**	C	0.74	28.1	**#160.3**
	NBL	A	0.06	22.6	6.9	A	0.08	22.8	8.7
	NBT/R	A	0.22	15.1	16.0	A	0.40	17.4	30.2
	SBL	A	0.52	32.2	34.5	C	0.79	50.2	55.8
	SBT/R	A	0.36	24.2	32.0	A	0.14	15.6	13.2
	Overall	**B**	**0.63**	**17.6**	**-**	**C**	**0.76**	**23.8**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 1.00
m = metered queue
# = queue exceeds storage or mid-block length

During both the AM and PM peak hours, the 2028 future background intersections operate similarly to the 2023 future background and the existing condition with several exceptions. During the AM peak hour, the intersection of Ogilvie Road and Cyrville Road's northbound left movement begins exhibiting extended queuing, and during the PM peak hour, the intersection of Coventry Road/Ogilvie Road at St Laurent's eastbound through and northbound through movements begin to exhibit extended queuing.

7.3 Modal Share Sensitivity

Capacity constraints have been noted at the several study area intersections. As this development is targeted for a transit focus and meets the planned context of this area, rationalization for adjusted demand is not required for this TIA.

8 Development Design

8.1 Design for Sustainable Modes

Bicycle parking is divided between secure storage and open storage in racks at grade, and vehicle parking is in an open lot at grade. Hard surface connections are provided between all building entrances and the surrounding area pedestrian facilities.

Both area LRT stations are within 800 metres walk of all building entrances.

8.2 Circulation and Access

Access to bike parking, the surface vehicle parking, garbage storage/lift area is provided via a 6.0 metre access onto Joseph Cyr Street. No on-site turnaround for garbage exists and thus collection vehicles would be required to exit the site in reverse.

The 6.0 metre drive aisle should additionally serve as adequate emergency access in addition to the site's Joseph Cyr frontage.

9 Parking

9.1 Parking Supply

Visitor parking for six vehicles is provided on site, with two of these spaces marked as accessible spaces, where the minimum visitor parking provision is 11 spaces. No vehicle parking for residents is required for the site due to its TOD context and none is provided. Bicycle parking is provided at a rate of 0.64 spaces per unit for a total of 75 bicycle spaces, where the minimum provision rate is 0.50 spaces per unit.

9.2 Spillover Parking

The proposed site provides visitor parking at a deficit of seven spaces. On-street parking is permitted on the east side of Joseph Cyr Street, and the site frontage is would provide room for a minimum of six vehicles to park on Joseph Cyr Street. Anecdotally, the on-street parking is utilized during the day and predominantly unused during the evenings and nights.

As the site does not offer parking stalls for the residents, it is anticipated that the residents will not move in with the expectation of having a car and only visitor parking may park along the adjacent road network.

10 Boundary Street Design

Table 18 summarizes the MMLOS analysis for boundary streets of Joseph Cyr Street and Cyrville Road. The existing and future conditions for both boundary streets will be the same and are considered in one row. The boundary street analysis is based on the policy area of "Within 600m of a rapid transit station". The MMLOS worksheets has been provided in Appendix H.

Table 18: Boundary Street MMLOS Analysis

Segment	Pedestrian LOS		Bicycle LOS		Transit LOS		Truck LOS	
	PLOS	Target	BLOS	Target	TLOS	Target	TkLOS	Target
Joseph Cyr Street	B	A	B	D	N/A	N/A	N/A	N/A
Cyrville Road	C	A	B	C	D	D	D	D

Neither boundary street will meet the pedestrian MMLOS targets. While the sidewalks are 2.0 metres wide, a boulevard of a minimum of 0.5 metres would be required to meet the target along Joseph Cyr Road and the higher traffic volumes on Cyrville Road prevent targets from being reached. All other targets are being met.

Crowding PLOS is not considered in the PLOS due to the 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 nearly any sidewalk considered for installation in the City would not be able to meet this target.

11 Access Intersections Design

11.1 Location and Design of Access

The site access is proposed as being on the east side of Joseph Cyr Street, south of Cyrville Road. Full movements inbound and outbound from the site are recommended as being permitted, posing no operational concerns. The sidewalk along Joseph Cyr will pass through the access and a depressed curb will be required to meet Joseph Cyr Street at grade.

11.2 Intersection Control

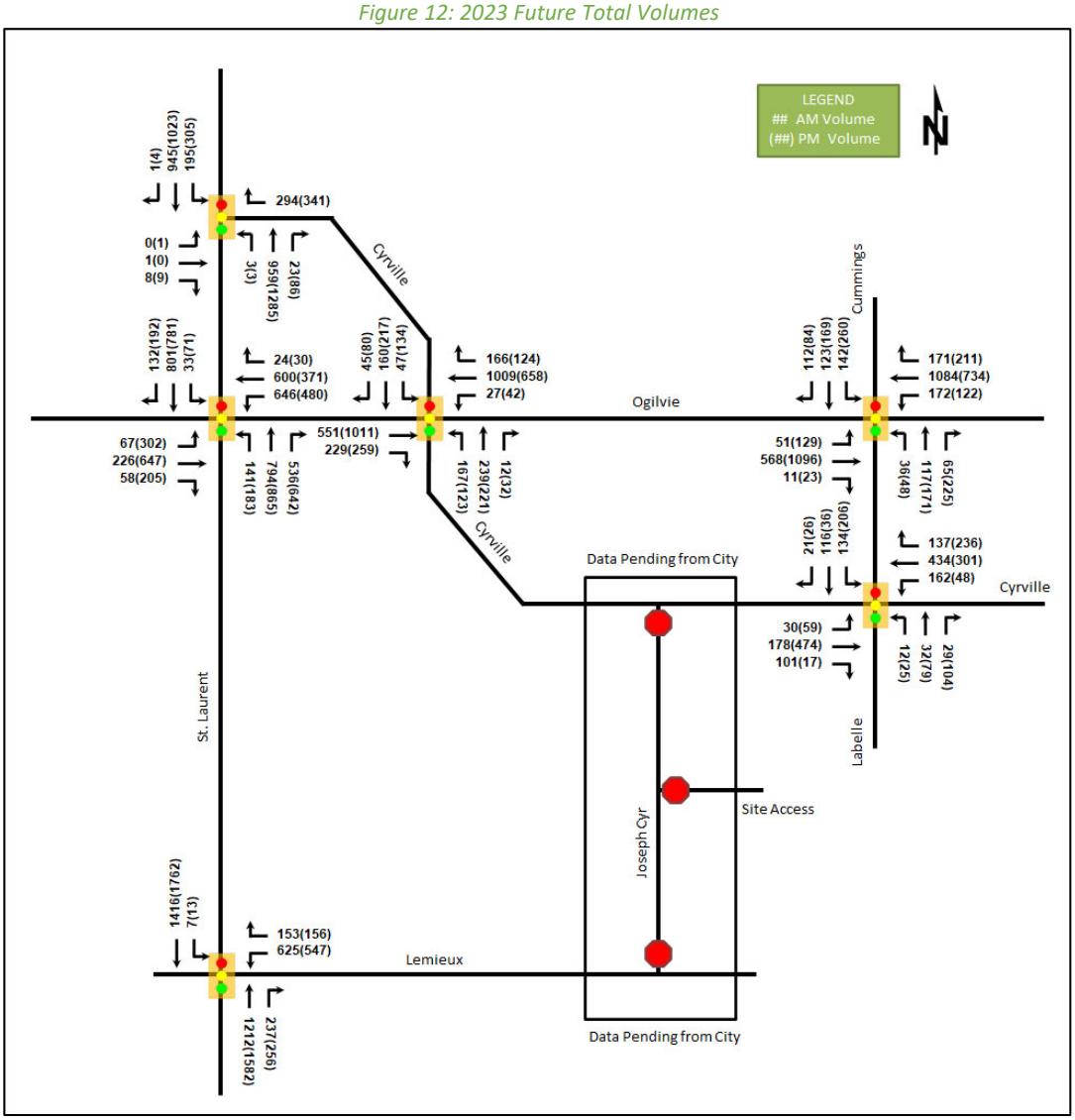
Given the low site-generated traffic volumes, stop control on the minor approach of the site access, is recommended.

11.3 Access Intersection Design

11.3.1 2023 Future Total Access Intersection Operations

The 2023 future total intersection volumes are illustrated in Figure 12.

Figure 12: 2023 Future Total Volumes

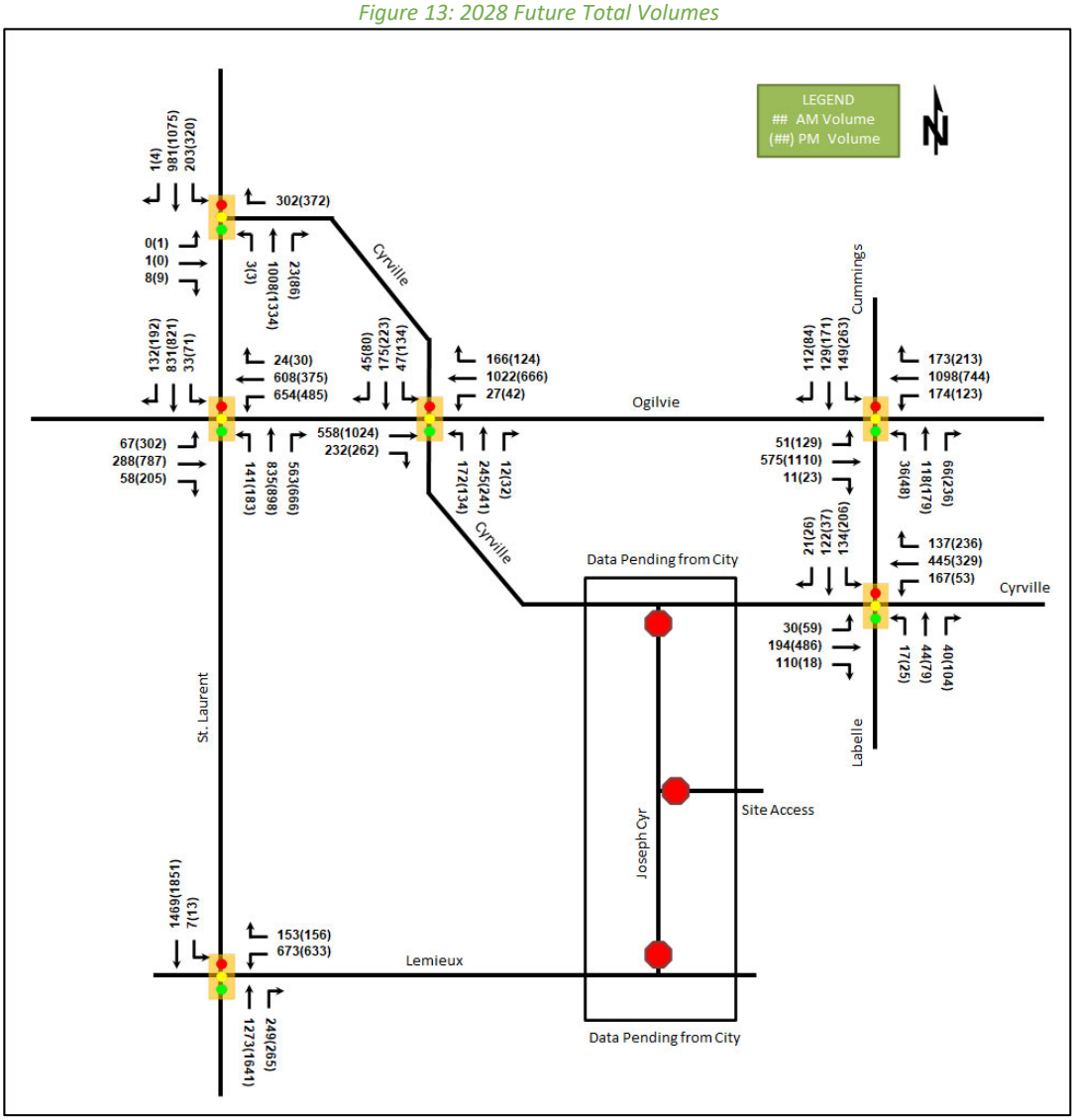


The access operations for the 2023 future total access intersection could not be evaluated due to data being unavailable for the site. It is anticipated that no operational constraints will exist due to low volumes on Joseph Cyr interacting with less than ten total movements both entering or exiting the site per peak hour.

11.3.2 2028 Future Total Access Intersection Operations

The 2028 future total intersection volumes are illustrated in Figure 13.

Figure 13: 2028 Future Total Volumes



The access operations for the 2028 future total access intersection could not be evaluated due to data being unavailable for the site. Given no growth is anticipated on Joseph Cyr Street, it is anticipated that the 2023 and 2028 access intersection operations will be identical, and that no operational constraints will exist due to low volumes on Joseph Cyr interacting with less than ten total movements entering or exiting the site per peak hour.

11.3.3 Access Intersection MMLOS

As the access intersection is unsignalized, no MMLOS analysis was performed.

11.3.4 Recommended Design Elements

No design elements are proposed for the site access outside of the typical private approach considerations.

12 Transportation Demand Management

12.1 Context for TDM

The mode shares used within the TIA are consistent with TOD shares. The site is within walking distance of both St Laurent Station and Cyrville Station which both provide access to the LRT Confederation Line, and the site falls within the St Laurent TOD area. Further to this proximity to rapid transit, no resident vehicle parking is being provided on-site, and therefore there exists limited opportunity to exceed the auto mode shares.

The above-mentioned planning and design mechanisms are considered robust, and overall, the modal shares are likely to be achieved. TDM measures are recommended in a supportive role to help facilitate this shift to transit.

The site currently considers 117 units consisting of 33 bachelor units, 70 one-bedroom units, and 14 two-bedroom units for a total of 131 bedrooms. No age restrictions are noted.

12.2 Need and Opportunity

The subject site has been assumed to rely predominantly on transit. As no on-site resident parking is provided, the risk of not achieving target modal shares is low.

Final design and operation conditions related to TDM are beyond the scope of this TIA, and the recommendations presented here simply constitute a framework for the ultimate development of such conditions.

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 I. The key TDM measures recommended include:

- Display local area maps with walking/cycling with key destinations, and display relevant transit information at major entrances
- Contract with provider to install on-site micromobility station
- Provide multi-modal travel option information package to new residents
- Inclusion of a 6-month Presto card for first time new townhome purchase and apartment rental, with a set time frame for this offer (e.g. 6-months) from the initial opening of the site

13 Transit

13.1 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 19 summarizes the transit trip generation.

Table 19: Trip Generation by Transit Mode

Travel Mode	Mode Share	AM Peak Period			PM Peak Period		
		In	Out	Total	In	Out	Total
Transit	65%	13	39	50	35	23	58

The proposed development is anticipated to generate an additional 50 AM peak hour transit trips and 58 PM peak hour transit trips. Of these trips, 39 outbound AM trips and 35 inbound PM trips are anticipated. From the trip distribution found in Section 5.2, these values can be further broken down.

Site-generated outbound AM trips break down to six trips north, eight trips south, six trips east, and 20 trips west. Given that the site is equidistant from St Laurent and Cyrville stations, the eastbound and westbound trips can be accommodated by LRT with residents likely opting for the station in the direction of travel, with most southbound

trips beginning as westbound LRT trips. With the frequency of area northbound routes, with routes #7 and 14 providing 15-minute service all day, site-generated ridership may be as few as one additional rider per bus, per route.

Site-generated inbound PM trips break down to five trips from the north, seven trips from the south, five trips from the east, and 18 trips from the west. As in the AM peak direction, the LRT Confederation Line can accommodate all trips from the east, west, and south, and the same frequency of trips from the north may amount to fewer than one additional rider per bus per route.

13.2 Transit Priority

No transit priority is required explicitly for this study.

14 Network Intersection Design

14.1 Network Intersection Control

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

14.2 Network Intersection Design

14.2.1 2023 Future Total Network Intersection Operations

The 2023 future total network intersection operations are summarized below in Table 20. The level of service for signalized intersections is based on HCM 2010 v/c calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection, and HCM average delay for unsignalized intersections. The synchro worksheets have been provided in Appendix J.

Table 20: 2023 Future Total Network Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Cyrville Road at St Laurent Boulevard *Signalized*	EB	A	0.12	36.2	6.0	A	0.05	0.5	0.0
	WBR	A	0.48	25.9	14.6	A	0.51	27.7	31.3
	NB	A	0.39	5.2	16.3	B	0.64	13.4	**#165.3**
	SBL	C	0.76	64.7	50.4	D	0.81	56.8	67.7
	SBT/R	A	0.27	8.0	52.8	A	0.30	7.4	56.4
	Overall	**A**	**0.53**	**13.7**	**-**	**C**	**0.74**	**17.3**	**-**
Coventry Road/Ogilvie Road at St Laurent Boulevard *Signalized*	EBL	A	0.11	43.4	14.2	A	0.56	52.1	50.2
	EBT	A	0.33	44.0	36.6	C	0.80	50.8	95.3
	EBR	A	0.13	0.6	0.0	A	0.42	7.2	17.1
	WBL	E	0.93	73.7	**#119.2**	E	0.98	**84.8**	**#96.0**
	WBT	B	0.69	35.8	84.9	A	0.49	49.4	64.6
	WBR	A	0.05	0.2	m0.0	A	0.06	0.3	m0.0
	NBL	C	0.79	**104.0**	**#67.2**	D	0.82	**95.7**	**#77.9**
	NBT	B	0.68	35.3	**#143.6**	C	0.77	32.5	121.9
	NBR	**F**	**1.37**	**207.1**	**#185.9**	D	0.88	21.8	**#61.3**
	SBL	A	0.32	**82.1**	20.6	B	0.63	**83.1**	**#32.8**
	SBT	B	0.63	38.7	86.2	B	0.65	36.3	76.1
	SBR	A	0.26	4.4	5.7	A	0.41	10.5	39.6
	Overall	**D**	**0.83**	**66.5**	**-**	**D**	**0.89**	**43.0**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Lemieux Street at St Laurent Boulevard ***Signalized***	WBL	D	0.82	55.7	92.4	C	0.72	47.8	77.3
	WBR	A	0.40	25.7	35.9	A	0.44	32.9	42.5
	NBT	A	0.38	10.3	64.6	A	0.50	11.0	80.0
	NBR	A	0.23	1.7	9.5	A	0.25	1.6	8.9
	SBL	A	0.03	8.0	m1.2	A	0.09	5.5	m1.6
	SBT	A	0.44	10.8	m70.2	A	0.55	7.1	m70.6
	Overall	**A**	**0.54**	**18.3**	**-**	**A**	**0.60**	**14.3**	**-**
Ogilvie Road at Cyrville Road ***Signalized***	EBT	A	0.24	6.2	m22.6	A	0.46	4.6	m48.8
	EBR	A	0.22	0.4	m0.0	A	0.26	0.5	m0.9
	WBL	A	0.05	2.9	m1.0	A	0.15	19.9	m8.6
	WBT	A	0.44	3.6	42.6	A	0.30	16.3	63.9
	WBR	A	0.17	0.4	m0.6	A	0.13	8.8	m12.0
	NBL	E	0.92	**96.2**	63.0	E	0.93	**107.2**	**#50.6**
	NBT/R	B	0.68	54.6	77.0	B	0.65	47.7	68.8
	SBL	A	0.32	31.4	m13.0	D	0.82	51.3	m20.9
	SBT/R	A	0.56	27.3	45.7	C	0.77	31.3	m40.4
	Overall	**A**	**0.56**	**16.6**	**-**	**A**	**0.58**	**20.3**	**-**
Joseph Cyr Street at Cyrville Road ***Unsignalized***	EBT/R	Pending Data from City							
	WBL								
	WBT								
	NBL/R								
	Overall								
Joseph Cyr Street at Lemieux Street ***Unsignalized***	EBT/R	Pending Data from City							
	WBL								
	WBT								
	SBL/R								
	Overall								
Ogilvie Road at Cummings Avenue ***Signalized***	EBL	A	0.25	18.3	14.8	A	0.59	32.3	28.5
	EBT/R	A	0.33	22.7	59.4	E	0.94	41.0	**#186.5**
	WBL	A	0.39	14.9	30.0	B	0.65	38.5	**#35.1**
	WBT/R	C	0.71	26.3	161.4	D	0.82	41.4	**#144.6**
	NBL	A	0.17	42.3	17.0	A	0.18	35.5	18.6
	NBT/R	A	0.54	46.5	59.3	E	0.91	62.8	**#127.6**
	SBL	A	0.51	40.2	43.2	D	0.84	46.2	**#74.8**
	SBT/R	A	0.48	34.3	64.1	A	0.36	22.2	53.4
	Overall	**B**	**0.67**	**27.7**	**-**	**D**	**0.89**	**42.2**	**-**
Labelle Street/Cummings Avenue at Cyrville Road ***Signalized***	EBL	A	0.08	7.6	4.9	A	0.16	10.4	11.5
	EBT/R	A	0.28	6.9	26.8	A	0.48	13.3	88.3
	WBL	A	0.30	14.9	32.4	A	0.13	19.0	14.3
	WBT/R	B	0.63	19.0	**#127.1**	B	0.70	26.3	**#147.0**
	NBL	A	0.04	22.4	5.4	A	0.08	22.8	8.8
	NBT/R	A	0.16	14.9	12.8	A	0.40	17.4	30.2
	SBL	A	0.51	31.7	34.4	C	0.79	50.2	55.8
	SBT/R	A	0.34	23.9	30.8	A	0.14	15.5	13.0
	Overall	**B**	**0.62**	**17.4**	**-**	**C**	**0.74**	**23.1**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 1.00

m = metered queue
# = queue exceeds storage or mid-block length

The network intersection operations for the 2023 future total horizon operate similarly to the 2023 future background conditions. No mitigation measures are required.

14.2.2 2028 Future Total Network Intersection Operations

The 2028 future total network intersection operations are summarized below in Table 21. The level of service for signalized intersections is based on HCM v/c 2010 calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection, and HCM average delay for unsignalized intersections. The synchro worksheets have been provided in Appendix K.

Table 21: 2028 Future Total Network Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Cyrville Road at St Laurent Boulevard *Signalized*	EB	A	0.12	36.2	6.0	A	0.05	0.5	0.0
	WBR	A	0.49	26.0	15.7	A	0.54	29.9	39.1
	NB	A	0.41	5.5	25.7	B	0.68	14.4	**#173.9**
	SBL	C	0.77	65.0	51.4	D	0.81	56.7	73.6
	SBT/R	A	0.29	8.1	55.2	A	0.31	7.7	60.0
	Overall	**A**	**0.55**	**13.8**	**-**	**C**	**0.77**	**18.1**	**-**
Coventry Road/Ogilvie Road at St Laurent Boulevard *Signalized*	EBL	A	0.12	43.6	14.2	A	0.56	52.1	50.2
	EBT	A	0.41	45.4	45.9	E	0.93	62.2	**#130.9**
	EBR	A	0.13	0.6	0.0	A	0.41	7.0	17.1
	WBL	E	0.94	74.9	**#121.9**	**F**	**1.07**	**108.0**	**#97.6**
	WBT	B	0.69	35.0	85.0	A	0.49	48.6	65.2
	WBR	A	0.05	0.2	m0.0	A	0.06	0.3	m0.0
	NBL	C	0.79	**103.5**	**#67.1**	D	0.82	**97.2**	**#77.7**
	NBT	C	0.72	35.9	**#150.7**	C	0.80	33.2	**#133.4**
	NBR	F	1.44	**236.8**	**#202.0**	E	0.92	26.9	**#72.0**
	SBL	A	0.32	**82.4**	20.6	B	0.63	**83.0**	**#32.7**
	SBT	B	0.66	39.5	89.9	B	0.69	36.8	80.1
	SBR	A	0.26	4.3	5.2	A	0.41	10.7	39.9
	Overall	**D**	**0.85**	**70.9**	**-**	**E**	**0.97**	**48.0**	**-**
Lemieux Street at St Laurent Boulevard *Signalized*	WBL	D	0.82	54.1	98.4	D	0.81	51.4	91.0
	WBR	A	0.38	26.7	37.1	A	0.43	33.3	43.4
	NBT	A	0.41	11.6	71.9	A	0.52	11.7	84.3
	NBR	A	0.24	1.8	10.2	A	0.26	1.6	9.1
	SBL	A	0.03	9.0	m1.1	A	0.10	5.9	m1.6
	SBT	A	0.47	12.0	m71.5	A	0.59	7.5	m71.8
	Overall	**A**	**0.57**	**19.2**	**-**	**B**	**0.65**	**15.6**	**-**
Ogilvie Road at Cyrville Road *Signalized*	EBT	A	0.25	6.1	m21.5	A	0.47	4.2	m41.3
	EBR	A	0.23	0.3	m0.0	A	0.26	0.4	m0.0
	WBL	A	0.05	3.0	m1.1	A	0.15	20.5	m8.3
	WBT	A	0.46	3.8	45.0	A	0.30	17.0	m63.3
	WBR	A	0.17	0.5	m0.8	A	0.13	9.0	m11.4
	NBL	E	0.95	**103.0**	**#67.5**	**F**	**1.02**	**128.1**	**#57.7**
	NBT/R	B	0.67	53.1	78.7	B	0.69	49.6	75.0
	SBL	A	0.31	30.3	m12.8	D	0.87	58.5	m19.7
	SBT/R	A	0.58	27.5	51.1	C	0.77	30.2	m38.9
	Overall	**A**	**0.58**	**17.2**	**-**	**B**	**0.61**	**22.1**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Joseph Cyr Street at Cyrville Road *Unsignalized*	EBT/R	Pending Data from City							
	WBL								
	WBT								
	NBL/R								
	Overall								
Joseph Cyr Street at Lemieux Street *Unsignalized*	EBT/R	Pending Data from City							
	WBL								
	WBT								
	SBL/R								
	Overall								
Ogilvie Road at Cummings Avenue *Signalized*	EBL	A	0.26	18.7	15.3	B	0.61	36.1	30.1
	EBT/R	A	0.34	23.6	63.1	E	0.97	49.8	**#189.9**
	WBL	A	0.40	15.0	30.3	B	0.65	38.6	**#34.9**
	WBT/R	C	0.72	26.6	164.6	D	0.84	43.5	**#147.6**
	NBL	A	0.17	42.3	17.0	A	0.18	35.1	18.6
	NBT/R	A	0.55	46.7	59.9	E	0.93	65.4	**#138.1**
	SBL	A	0.54	41.4	45.3	D	0.86	50.0	**#80.1**
	SBT/R	A	0.49	35.1	66.3	A	0.36	21.8	54.0
	Overall	**B**	**0.68**	**28.2**	**-**	**E**	**0.92**	**46.6**	**-**
Labelle Street/Cummings Avenue at Cyrville Road *Signalized*	EBL	A	0.08	7.6	4.9	A	0.17	10.5	11.5
	EBT/R	A	0.30	7.2	29.9	A	0.49	13.5	91.5
	WBL	A	0.31	15.2	33.8	A	0.14	19.2	15.6
	WBT/R	B	0.64	19.4	**#131.7**	C	0.74	28.1	**#160.3**
	NBL	A	0.06	22.7	6.9	A	0.08	22.8	8.8
	NBT/R	A	0.22	15.1	16.0	A	0.40	17.4	30.2
	SBL	A	0.52	32.2	34.5	C	0.79	50.2	55.8
	SBT/R	A	0.36	24.2	32.0	A	0.14	15.6	13.2
	Overall	**B**	**0.63**	**17.6**	**-**	**C**	**0.76**	**23.8**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 1.00
m = metered queue
# = queue exceeds storage or mid-block length

The network intersection operations for the 2028 future total horizon operate similarly to the 2028 future background conditions. No mitigation measures are required.

14.2.3 Network Intersection MMLOS

Table 22 summarizes the MMLOS analysis for the network intersections of Cyrville Road at St Laurent Boulevard, Coventry Road/Ogilvie Road at St Laurent Boulevard, Lemieux Street at St Laurent Boulevard, Ogilvie Road at Cyrville Road, Ogilvie Road at Cummings Avenue, and Labelle Street/Cummings Avenue at Cyrville Road. The existing and future conditions for the network intersections will be the same and are considered in one row. The intersection analysis is based on the policy area of "Within 600m of a rapid transit station". The MMLOS worksheets has been provided in Appendix H.

Table 22: Study Area Intersection MMLOS Analysis

Intersection	Pedestrian LOS		Bicycle LOS		Transit LOS		Truck LOS		Auto LOS	
	PLOS	Target	BLOS	Target	TLOS	Target	TkLOS	Target	ALOS	Target
Cyrville Road at St Laurent Boulevard	F	A	F	C	C	D	D	D	C	E
Coventry Road/Ogilvie Road at St Laurent Boulevard	F	A	F	C	E	D	A	D	E	E
Lemieux Street at St Laurent Boulevard	F	A	F	C	F	D	A	D	B	E
Ogilvie Road at Cyrville Road	F	A	F	C	C	D	E	D	B	E
Ogilvie Road at Cummings Avenue	F	A	F	C	F	D	F	D	E	E
Labelle Street/Cummings Avenue at Cyrville Road	F	A	F	C	D	D	F	D	C	E

The MMLOS targets will not be met for the pedestrian and bicycle LOS at all study area intersections, transit LOS at the intersections of Coventry Road/Ogilvie Road at St Laurent Boulevard, Lemieux Street at St Laurent Boulevard, and Ogilvie Road at Cummings Avenue, and truck LOS at the intersections of Ogilvie Road at Cyrville Road, Ogilvie Road at Cummings Avenue, and Labelle Street/Cummings Avenue at Cyrville Road.

The pedestrian level of service would require a maximum of two lanes at a crossing to meet a LOS A. The mixed traffic approaches for cyclists and left-turn arrangements at the study area intersections govern the bicycle LOS, requiring alternative left-turn configurations and/or bike lanes without shifting across right-turn lanes to meet the targets. The transit LOS will not be met due to the intersection delays on St Laurent Boulevard and on Ogilvie Road. The truck LOS is not met due to corner radii and Cyrville Road and Cummings Avenue each having only one receiving lane.

While not addressing inability to meet the MMLOS targets, improvements to crossing conditions may include the conversion of standard transverse lines to zebra/ladder markings at unprotected, high volume pedestrian crossings such as the north crossing of Lemieux Street at St Laurent Boulevard, and the east crossing of Cyrville Road and St Laurent Boulevard.

14.2.4 Recommended Design Elements

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

15 Next Steps

Following the circulation and review of the TIA, any outstanding comments will be documents within the context of the site plan in the Step 4 Strategy Report. Once remaining TIA Steps are completed and sign-off has been received from City Transportation Project Manager, a signed and stamped final report will be provided to City staff.

16 Summary of Improvements Indicated and Modifications Options

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

Proposed Site and Screening

- The proposed site includes 117 residential dwelling units and a 1425 sq. ft. of ground floor commercial
- Accesses will be provided via a single full-movement access onto Joseph Cyr Street
- The development is proposed to be completed as a single phase by 2023
- The Trip Generation, Location, and Safety triggers were met for the TIA Screening
- This study is supporting a site plan application

Existing Conditions

- St Laurent Boulevard, Cummings Avenue, Ogilvie Road, Coventry Road, Cyrville Road are arterial roads, and Labelle Street and Lemieux Street are major collector roads in the study area
- Sidewalks are generally provided on both sides of the study area roadways, and on-street bike lanes on both sides of the roadway on Ogilvie Road and Coventry, and on Cyrville Road south of Ogilvie Road
- St Laurent Boulevard, Ogilvie Road, and Cyrville Road are cycling spine routes, and Labelle Street, Lemieux Street, and Cummings Avenue are local routes
- High collision incidence is noted at the high-volume intersections of Cyrville Road at St Laurent Boulevard, Cyrville Road at Ogilvie Road, Lemieux Street at St Laurent Boulevard, and Labelle Street at Lemieux Street
- The collisions are predominantly rear end, angled, and sideswipe collisions indicating that they are a result of congested conditions
- Some high delays are noted at the Coventry Road/Ogilvie Road at St Laurent Boulevard and Ogilvie Road at Cummings Avenue intersections during the peak hours, but other intersections operate well with various individual movement experiencing capacity issues and delays or queuing throughout

Development Generated Travel Demand

- The proposed development is forecasted produce 78 two-way people trips during the AM peak hour and 89 two-way people trips during the PM peak hour
- Of the forecasted people trips, eight two-way trips will be vehicle trips during the AM peak hour and nine two-way trips will be vehicle trips during the PM peak hour based on a 10% auto modal share target
- Of the forecasted trips, 15% are anticipated to travel north, 20% to the south, 15% to the east, and 50% to the south

Background Conditions

- Recent background developments with TIAs were explicitly included in the background conditions, along with a total background growth using rounded TRANS growth rates on mainline volumes and major turning movements
- All study area intersections will operate similar to the existing conditions with only two additional movements showing extended queuing in the 2028 background horizon

Development Design

- The bike and auto parking areas are to be located at grade where bike parking is divided between at-grade racks and an at-grade secure storage are
- Pedestrian connections will be made to surrounding sidewalk facilities which access both area transit stations within an 800-metre walk
- A surface parking lot and the garbage storage/life area are accessed via a 6.0 metre access and drive aisle

- Emergency services are assumed to use the site's Joseph Cyr Street frontage for site access, however, should be able to access the site access

Parking

- No on-site parking is provided for residents, consistent with TOD by-laws
- Visitor parking is provided via six stalls on a surface lot, below the by-law minimum of 11 spaces
- Bicycle parking comprising 75 spaces is provided at-grade
- On-street parking is provided on adjacent streets.

Boundary Street Design

- The boundary streets will not meet pedestrian MMLOS targets, due to traffic volumes and lack of boulevard along boundary streets

Access Intersections Design

- The site access onto Joseph Cyr Street is proposed as a full-movement access and will require a depressed curb and sidewalk through the access
- The access intersection is proposed as being stop controlled on the minor approach
- No specific recommendations or design elements are required outside of typical site design

TDM

- The proposed development should meet modal share targets due to transit context and zero parking provision
- Supportive TDM measures to be included within the proposed development should include:
    - Display local area maps with walking/cycling with key destinations, and display relevant transit information at major entrances
    - Provide multi-modal travel option information package to new residents
    - Inclusion of a 6-month Presto card for first time new townhome purchase and apartment rental, with a set time frame for this offer (e.g. 6-months) from the initial opening of the site

Transit

- Thirty-nine outbound AM and 35 inbound PM peak hour transit trips are forecasted, breaking down to six or fewer trips each north and east, eight or fewer trips south, and 20 or fewer trips west per peak hour
- LRT stations can accommodate all eastbound, westbound, and southbound traffic, and additional ridership on northbound routes may equate to an additional rider per bus per route per peak hour

Network Intersection Design

- Generally, the network intersections will operate similarly to background conditions at both future horizons
- The MMLOS targets will not be met for the pedestrian or bicycle LOS at all network intersections, transit LOS at the intersections of Coventry Road/Ogilvie Road at St Laurent Boulevard, Lemieux Street at St Laurent Boulevard, and Ogilvie Road at Cummings Avenue, and truck LOS at Ogilvie Road at Cyrville Road, Ogilvie Road at Cummings Avenue, and Labelle Street/Cummings Avenue at Cyrville Road
- Improved cycling facilities, including left-turn configurations out of mixed flow could improve the bicycle LOS scores but due to the nature of arterials roadways, the pedestrian and transit LOS cannot be met

- Substituting high-visibility pavement markings at crossings with high pedestrian volumes exposed to permissive left-turns would improve crossing conditions while not improving MMLOS

17 Conclusion

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

Prepared By:

John Kingsley, EIT
Transportation Engineering-Intern

Reviewed By:

LICENSED PROFESSIONAL ENGINEER
A. J. HARTE
100149314
Sept. 28, 2020
PROVINCE OF ONTARIO

Andrew Harte, P.Eng.
Senior Transportation Engineer

Appendix A

TIA Screening Form and PM Certification Form

CGH TRANSPORTATION

13 Markham Avenue
Ottawa ON K2G 3Z1

City of Ottawa 2017 TIA Guidelines
Step 1 - Screening Form

Date:	22-Jul-20
Project Number:	2020-45
Project Reference:	TCU 1155 Joseph Cyr

1.1 Description of Proposed Development	
Municipal Address	1155 Joseph Cyr Street & 1082 Cyrville Road
Description of Location	Corner lot, approx. 1600 m2 area; currently occupied by two single-family homes
Land Use Classification	Mixed-Use Centre - MC F(2.0) H(48)
Development Size	6-storey mix unit building; 117 apartment units, 132 m2 commercial unit
Accesses	One access on Joseph Cyr St
Phase of Development	Single Phase
Buildout Year	2023
TIA Requirement	Full TIA Required

1.2 Trip Generation Trigger		
Land Use Type	Townhomes or apartments	
Development Size	117	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	St Laurent 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	Within 150m of the intersection of Cyrville Rd / Ogilvie Rd
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	Cyrville Rd at Ogilvie Rd Cyrville Rd at St Laurent Blvd
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: 13 Markham Avenue
City / Postal Code: Ottawa / K2G 3Z1
Telephone / Extension: (613) 697-3797
E-Mail Address: Andrew.Harte@CGHTransportation.com

Appendix B

Turning Movement Counts

CGH TRANSPORTATION

Transportation Services - Traffic Services

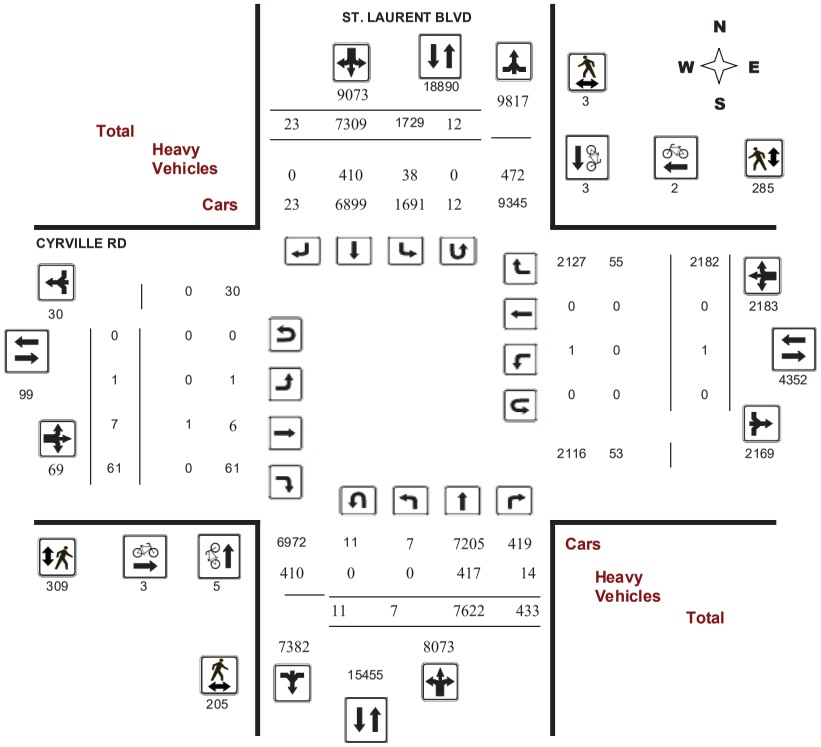
Turning Movement Count - Study Results

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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

Full Study Diagram



Transportation Services - Traffic Services

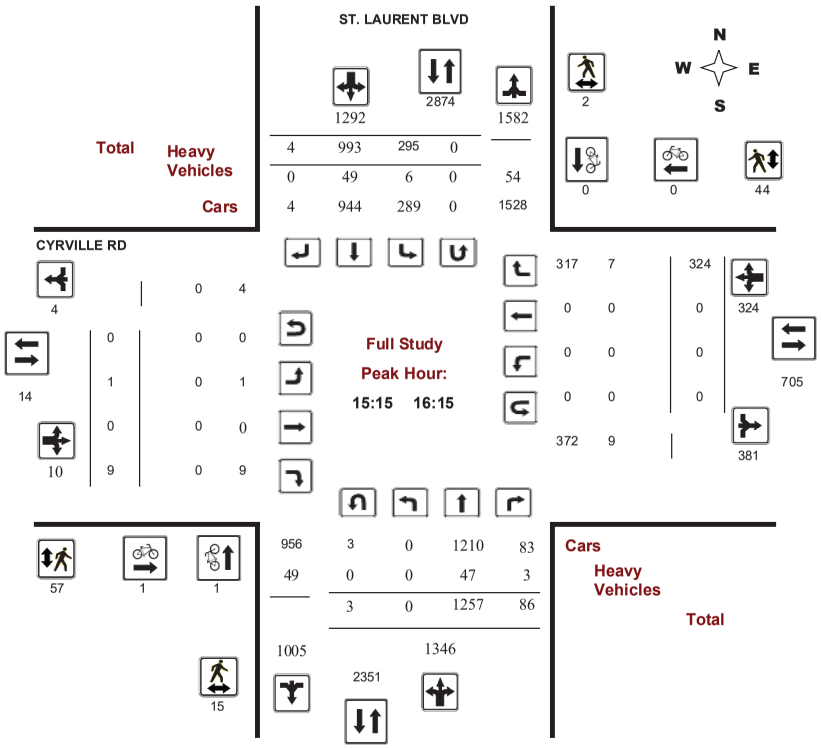
Turning Movement Count - Study Results

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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

Full Study Peak Hour Diagram



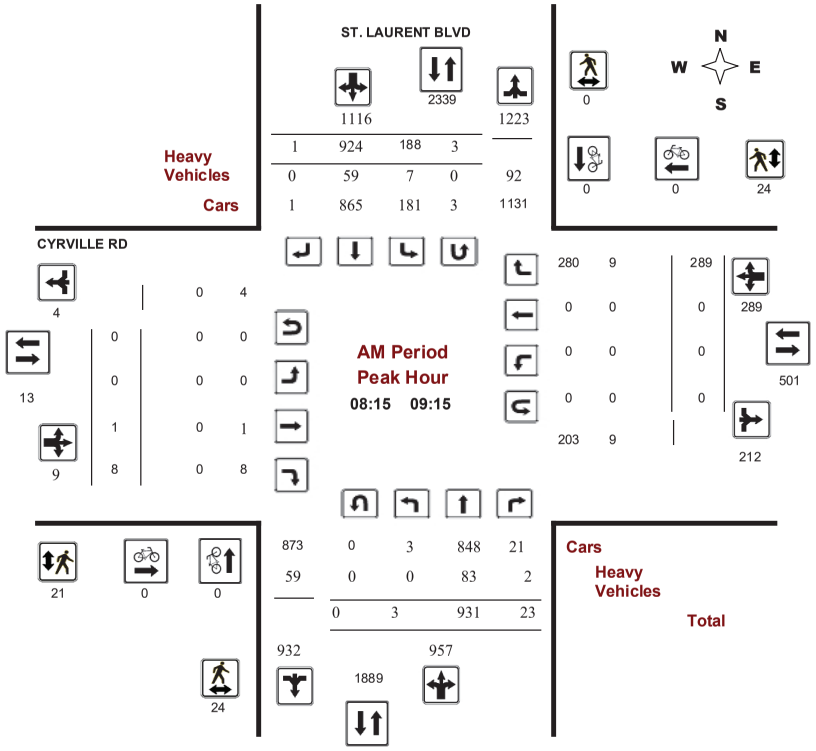
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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



Comments

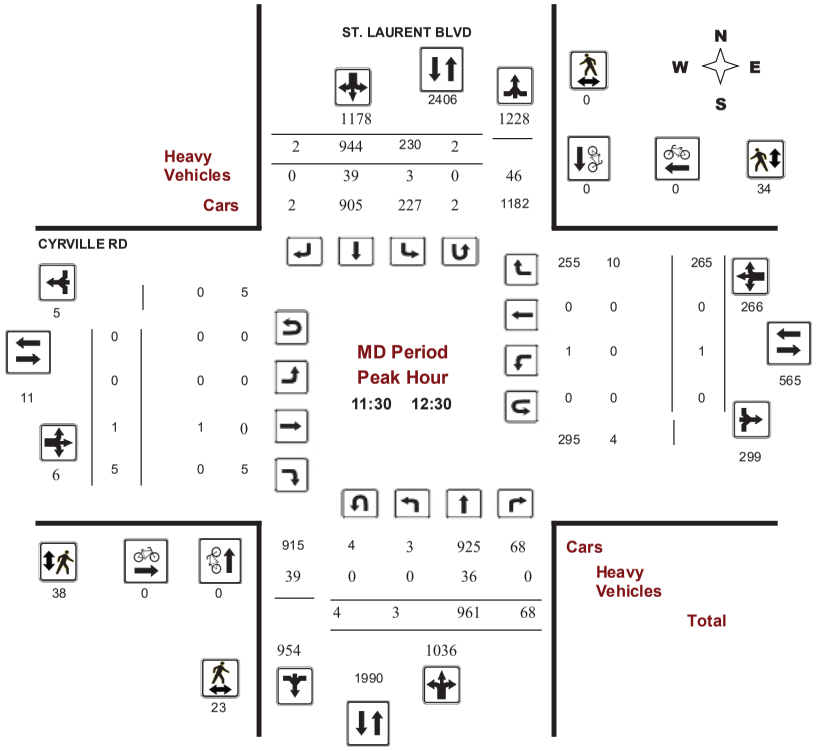
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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



Comments

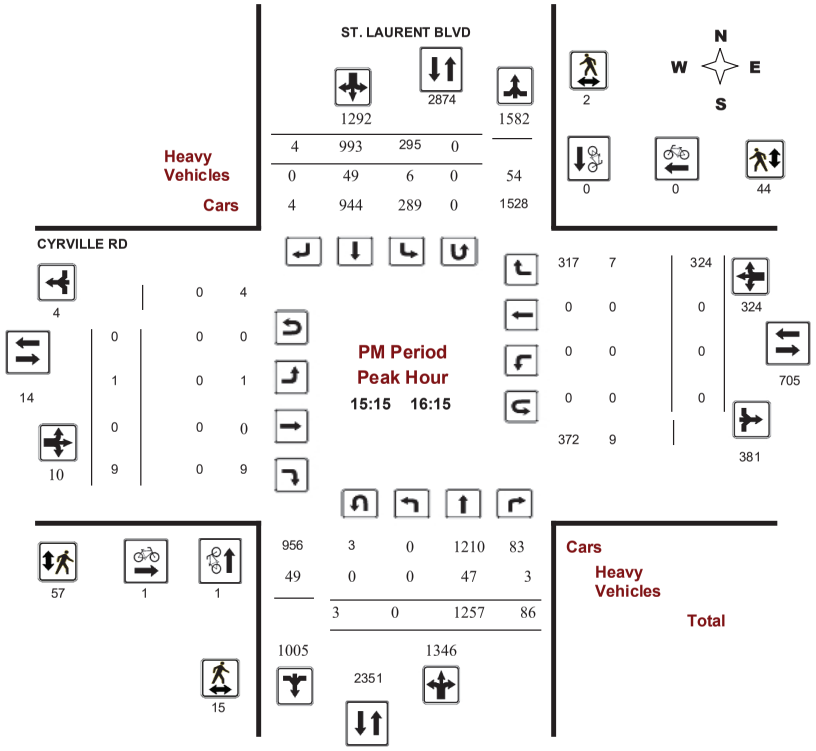
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, December 12, 2018

Total Observed U-Turns

Northbound: 11 Southbound: 12

Eastbound: 0 Westbound: 0

AADT Factor

1.00

	ST. LAURENT BLVD									CYRVILLE 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	0	631	14	**645**	149	786	3	**938**	**1583**	0	2	10	**12**	0	0	269	**269**	**281**	**1864**
08:00 09:00	2	921	21	**944**	183	912	1	**1096**	**2040**	0	1	1	**2**	0	0	305	**305**	**307**	**2347**
09:00 10:00	1	736	24	**761**	157	828	4	**989**	**1750**	0	0	17	**17**	0	0	215	**215**	**232**	**1982**
11:30 12:30	3	961	68	**1032**	230	944	2	**1176**	**2208**	0	1	5	**6**	1	0	265	**266**	**272**	**2480**
12:30 13:30	1	859	60	**920**	205	979	4	**1188**	**2108**	0	1	7	**8**	0	0	241	**241**	**249**	**2357**
15:00 16:00	0	1222	86	**1308**	278	989	5	**1272**	**2580**	1	1	9	**11**	0	0	312	**312**	**323**	**2903**
16:00 17:00	0	1160	94	**1254**	301	964	2	**1267**	**2521**	0	0	6	**6**	0	0	310	**310**	**316**	**2837**
17:00 18:00	0	1132	66	**1198**	226	907	2	**1135**	**2333**	0	1	6	**7**	0	0	265	**265**	**272**	**2605**
Sub Total	7	7622	433	**8062**	1729	7309	23	**9061**	**17123**	1	7	61	**69**	1	0	2182	**2183**	**2252**	**19375**
U Turns				**11**				**12**	**23**				**0**				**0**	**0**	**23**
Total	7	7622	433	**8073**	1729	7309	23	**9073**	**17146**	1	7	61	**69**	1	0	2182	**2183**	**2252**	**19398**
EQ 12Hr	10	10595	602	**11221**	2403	10160	32	**12611**	**23833**	1	10	85	**96**	1	0	3033	**3034**	**3130**	**26963**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	9	9985	567	**10576**	2265	9575	30	**11886**	**23833**	1	9	80	**90**	1	0	2858	**2860**	**3130**	**26963**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	12	13080	743	**13854**	2967	12543	39	**15570**	**29424**	2	12	105	**118**	2	0	3745	**3746**	**3864**	**33288**
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

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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

Full Study 15 Minute Increments

		ST. LAURENT BLVD									CYRVILLE 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	125	3	128	30	169	1	200	29	0	0	1	1	0	0	61	61	29	390
07:15	07:30	0	150	5	155	36	160	0	196	36	0	2	1	3	0	0	66	66	36	420
07:30	07:45	0	173	2	175	42	211	2	255	32	0	0	4	4	0	0	62	62	32	496
07:45	08:00	0	183	4	187	41	246	0	287	30	0	0	4	4	0	0	80	80	30	558
08:00	08:15	0	216	4	220	38	233	0	271	31	0	0	0	0	0	0	77	77	31	568
08:15	08:30	1	255	2	258	47	199	0	247	29	0	1	0	1	0	0	72	72	29	578
08:30	08:45	0	218	10	228	48	250	0	298	37	0	0	1	1	0	0	84	84	37	611
08:45	09:00	1	232	5	238	50	230	1	281	38	0	0	0	0	0	0	72	72	38	591
09:00	09:15	1	226	6	233	43	245	0	290	47	0	0	7	7	0	0	61	61	47	591
09:15	09:30	0	153	7	161	35	190	3	229	39	0	0	4	4	0	0	54	54	39	448
09:30	09:45	0	182	7	189	36	203	1	242	41	0	0	5	5	0	0	49	49	41	485
09:45	10:00	0	175	4	179	43	190	0	236	32	0	0	1	1	0	0	51	51	32	467
11:30	11:45	0	261	12	275	50	243	1	295	24	0	0	1	1	0	0	57	57	24	628
11:45	12:00	1	231	15	248	59	237	0	297	19	0	0	1	1	0	0	69	69	19	615
12:00	12:15	1	243	29	274	57	221	1	279	19	0	0	0	0	0	0	68	68	19	621
12:15	12:30	1	226	12	239	64	243	0	307	16	0	1	3	4	1	0	71	72	16	622
12:30	12:45	0	224	12	238	48	269	1	318	31	0	1	2	3	0	0	62	62	31	621
12:45	13:00	0	196	16	212	60	229	0	289	26	0	0	2	2	0	0	63	63	26	566
13:00	13:15	0	235	20	255	56	237	2	295	29	0	0	2	2	0	0	51	51	29	603
13:15	13:30	1	204	12	218	41	244	1	287	22	0	0	1	1	0	0	65	65	22	571
15:00	15:15	0	286	24	310	57	257	2	316	29	0	1	3	4	0	0	67	67	29	697
15:15	15:30	0	313	23	337	65	266	1	332	32	0	0	2	2	0	0	87	87	32	758
15:30	15:45	0	321	22	343	75	220	1	296	21	0	0	2	2	0	0	72	72	21	713
15:45	16:00	0	302	17	321	81	246	1	328	29	1	0	2	3	0	0	86	86	29	738
16:00	16:15	0	321	24	345	74	261	1	336	23	0	0	3	3	0	0	79	79	23	763
16:15	16:30	0	291	21	312	79	241	1	321	23	0	0	2	2	0	0	91	91	23	726
16:30	16:45	0	284	32	316	72	224	0	296	26	0	0	0	0	0	0	47	47	26	659
16:45	17:00	0	264	17	281	76	238	0	314	16	0	0	1	1	0	0	93	93	16	689
17:00	17:15	0	288	15	303	58	226	0	284	14	0	1	0	1	0	0	81	81	14	669
17:15	17:30	0	288	7	295	68	227	0	295	28	0	0	0	0	0	0	67	67	28	657
17:30	17:45	0	273	25	298	44	226	2	272	17	0	0	4	4	0	0	51	51	17	625
17:45	18:00	0	283	19	302	56	228	0	284	14	0	0	2	2	0	0	66	66	14	654
Total:		7	7622	433	8073	1729	7309	23	9073	879	1	7	61	69	1	0	2182	2183	879	19,398

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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

Full Study Cyclist Volume

		ST. LAURENT BLVD			CYRVILLE 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	1	2	2
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	1	1	0	0	0	1
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	1	0	1	0	0	0	1
13:15	13:30	1	0	1	0	0	0	1
15:00	15:15	2	0	2	0	1	1	3
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	1	0	1	1
16:15	16:30	0	1	1	0	0	0	1
16:30	16:45	0	1	1	1	0	1	2
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		5	3	**8**	3	2	5	13

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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

Full Study Pedestrian Volume

Time Period		ST. LAURENT BLVD NB Approach (E or W Crossing)	ST. LAURENT BLVD SB Approach (E or W Crossing)	Total	CYRVILLE RD EB Approach (N or S Crossing)	CYRVILLE RD WB Approach (N or S Crossing)	Total	Grand Total
07:00	07:15	5	0	**5**	5	1	**6**	**11**
07:15	07:30	5	0	**5**	5	5	**10**	**15**
07:30	07:45	4	0	**4**	8	1	**9**	**13**
07:45	08:00	7	0	**7**	9	8	**17**	**24**
08:00	08:15	8	0	**8**	13	3	**16**	**24**
08:15	08:30	6	0	**6**	8	1	**9**	**15**
08:30	08:45	3	0	**3**	6	8	**14**	**17**
08:45	09:00	9	0	**9**	7	10	**17**	**26**
09:00	09:15	6	0	**6**	0	5	**5**	**11**
09:15	09:30	9	0	**9**	6	4	**10**	**19**
09:30	09:45	5	0	**5**	11	11	**22**	**27**
09:45	10:00	4	0	**4**	8	4	**12**	**16**
11:30	11:45	6	0	**6**	10	6	**16**	**22**
11:45	12:00	2	0	**2**	8	7	**15**	**17**
12:00	12:15	7	0	**7**	10	11	**21**	**28**
12:15	12:30	8	0	**8**	10	10	**20**	**28**
12:30	12:45	7	0	**7**	7	15	**22**	**29**
12:45	13:00	17	0	**17**	7	14	**21**	**38**
13:00	13:15	6	0	**6**	12	15	**27**	**33**
13:15	13:30	2	0	**2**	14	8	**22**	**24**
15:00	15:15	4	0	**4**	10	15	**25**	**29**
15:15	15:30	3	2	**5**	12	6	**18**	**23**
15:30	15:45	2	0	**2**	13	15	**28**	**30**
15:45	16:00	7	0	**7**	9	11	**20**	**27**
16:00	16:15	3	0	**3**	23	12	**35**	**38**
16:15	16:30	9	0	**9**	15	15	**30**	**39**
16:30	16:45	6	0	**6**	13	9	**22**	**28**
16:45	17:00	10	1	**11**	8	11	**19**	**30**
17:00	17:15	8	0	**8**	11	15	**26**	**34**
17:15	17:30	11	0	**11**	12	13	**25**	**36**
17:30	17:45	12	0	**12**	9	13	**22**	**34**
17:45	18:00	4	0	**4**	10	3	**13**	**17**
Total	.....	205	3	**208**	309	285	**594**	**802**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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

Full Study Heavy Vehicles

Time Period		ST. LAURENT BLVD Northbound LT	ST	RT	N TOT	Southbound LT	ST	RT	S TOT	STR TOT	CYRVILLE RD Eastbound LT	ST	RT	E TOT	Westbound LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	20	1	**21**	2	6	0	**8**	**29**	0	0	0	**0**	0	0	4	**4**	**4**	**33**
07:15	07:30	0	23	1	**24**	0	12	0	**12**	**36**	0	0	0	**0**	0	0	1	**1**	**1**	**37**
07:30	07:45	0	22	1	**23**	1	8	0	**9**	**32**	0	0	0	**0**	0	0	2	**2**	**2**	**34**
07:45	08:00	0	16	1	**17**	0	13	0	**13**	**30**	0	0	0	**0**	0	0	1	**1**	**1**	**31**
08:00	08:15	0	16	1	**17**	0	14	0	**14**	**31**	0	0	0	**0**	0	0	3	**3**	**3**	**34**
08:15	08:30	0	15	1	**16**	2	11	0	**13**	**29**	0	0	0	**0**	0	0	2	**2**	**2**	**31**
08:30	08:45	0	24	1	**25**	2	10	0	**12**	**37**	0	0	0	**0**	0	0	1	**1**	**1**	**38**
08:45	09:00	0	23	0	**23**	0	15	0	**15**	**38**	0	0	0	**0**	0	0	3	**3**	**3**	**41**
09:00	09:15	0	21	0	**21**	3	23	0	**26**	**47**	0	0	0	**0**	0	0	3	**3**	**3**	**50**
09:15	09:30	0	17	0	**17**	3	19	0	**22**	**39**	0	0	0	**0**	0	0	0	**0**	**0**	**39**
09:30	09:45	0	22	1	**23**	3	15	0	**18**	**41**	0	0	0	**0**	0	0	1	**1**	**1**	**42**
09:45	10:00	0	16	0	**16**	1	15	0	**16**	**32**	0	0	0	**0**	0	0	3	**3**	**3**	**35**
11:30	11:45	0	15	0	**15**	1	8	0	**9**	**24**	0	0	0	**0**	0	0	1	**1**	**1**	**25**
11:45	12:00	0	6	0	**6**	0	13	0	**13**	**19**	0	0	0	**0**	0	0	1	**1**	**1**	**20**
12:00	12:15	0	6	0	**6**	1	12	0	**13**	**19**	0	0	0	**0**	0	0	5	**5**	**5**	**24**
12:15	12:30	0	9	0	**9**	1	6	0	**7**	**16**	0	1	0	**1**	0	0	3	**3**	**4**	**20**
12:30	12:45	0	13	0	**13**	1	17	0	**18**	**31**	0	0	0	**0**	0	0	4	**4**	**4**	**35**
12:45	13:00	0	9	1	**10**	0	16	0	**16**	**26**	0	0	0	**0**	0	0	1	**1**	**1**	**27**
13:00	13:15	0	11	0	**11**	2	16	0	**18**	**29**	0	0	0	**0**	0	0	2	**2**	**2**	**31**
13:15	13:30	0	10	0	**10**	1	11	0	**12**	**22**	0	0	0	**0**	0	0	1	**1**	**1**	**23**
15:00	15:15	0	6	2	**8**	1	20	0	**21**	**29**	0	0	0	**0**	0	0	2	**2**	**2**	**31**
15:15	15:30	0	16	1	**17**	3	12	0	**15**	**32**	0	0	0	**0**	0	0	2	**2**	**2**	**34**
15:30	15:45	0	8	1	**9**	1	11	0	**12**	**21**	0	0	0	**0**	0	0	1	**1**	**1**	**22**
15:45	16:00	0	13	0	**13**	1	15	0	**16**	**29**	0	0	0	**0**	0	0	4	**4**	**4**	**33**
16:00	16:15	0	10	1	**11**	1	11	0	**12**	**23**	0	0	0	**0**	0	0	0	**0**	**0**	**23**
16:15	16:30	0	9	0	**9**	2	12	0	**14**	**23**	0	0	0	**0**	0	0	0	**0**	**0**	**23**
16:30	16:45	0	5	0	**5**	1	20	0	**21**	**26**	0	0	0	**0**	0	0	2	**2**	**2**	**28**
16:45	17:00	0	6	0	**6**	1	9	0	**10**	**16**	0	0	0	**0**	0	0	2	**2**	**2**	**18**
17:00	17:15	0	5	0	**5**	1	8	0	**9**	**14**	0	0	0	**0**	0	0	0	**0**	**0**	**14**
17:15	17:30	0	12	0	**12**	2	14	0	**16**	**28**	0	0	0	**0**	0	0	0	**0**	**0**	**28**
17:30	17:45	0	5	0	**5**	0	12	0	**12**	**17**	0	0	0	**0**	0	0	0	**0**	**0**	**17**
17:45	18:00	0	8	0	**8**	0	6	0	**6**	**14**	0	0	0	**0**	0	0	0	**0**	**0**	**14**
Total:	None	0	417	14	**431**	38	410	0	**448**	**879**	0	1	0	**1**	0	0	55	**55**	**56**	**935**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ ST. LAURENT BLVD

Survey Date: Wednesday, December 12, 2018 **WO No:** 38201

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

Full Study 15 Minute U-Turn Total

Time Period		ST. LAURENT BLVD Northbound U-Turn Total	ST. LAURENT BLVD Southbound U-Turn Total	CYRVILLE RD Eastbound U-Turn Total	CYRVILLE RD 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	1	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	0	2	0	0	2
09:15	09:30	1	1	0	0	2
09:30	09:45	0	2	0	0	2
09:45	10:00	0	3	0	0	3
11:30	11:45	2	1	0	0	3
11:45	12:00	1	1	0	0	2
12:00	12:15	1	0	0	0	1
12:15	12:30	0	0	0	0	0
12:30	12:45	2	0	0	0	2
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	1	1	0	0	2
15:00	15:15	0	0	0	0	0
15:15	15:30	1	0	0	0	1
15:30	15:45	0	0	0	0	0
15:45	16:00	2	0	0	0	2
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
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	0	0	0
17:45	18:00	0	0	0	0	0
Total		11	12	0	0	23

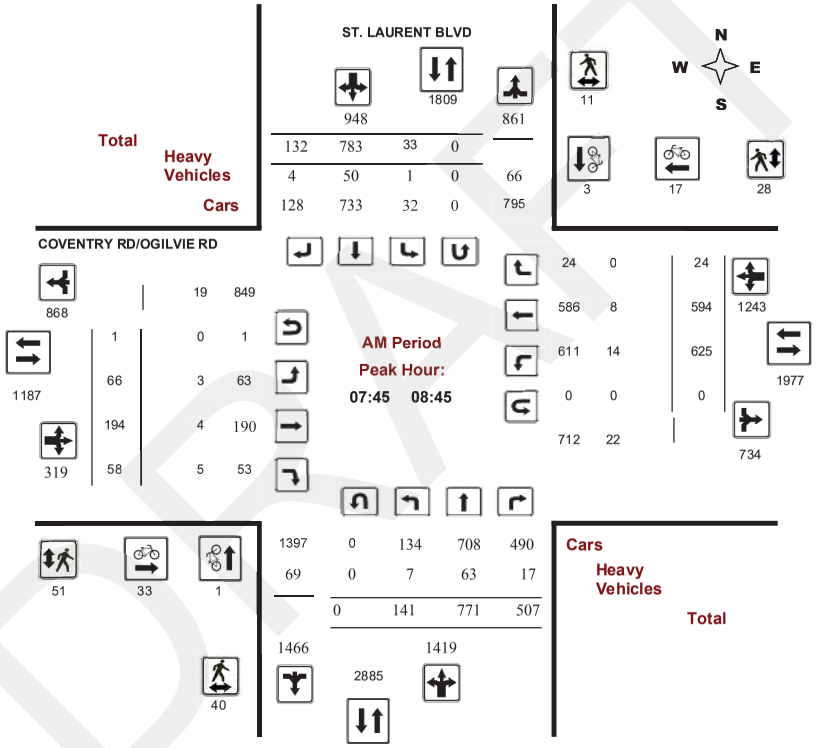
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

ST. LAURENT BLVD @ COVENTRY RD/OGILVIE RD

Survey Date: Thursday, June 01, 2017 **WO No:** 37069

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



DRAFT

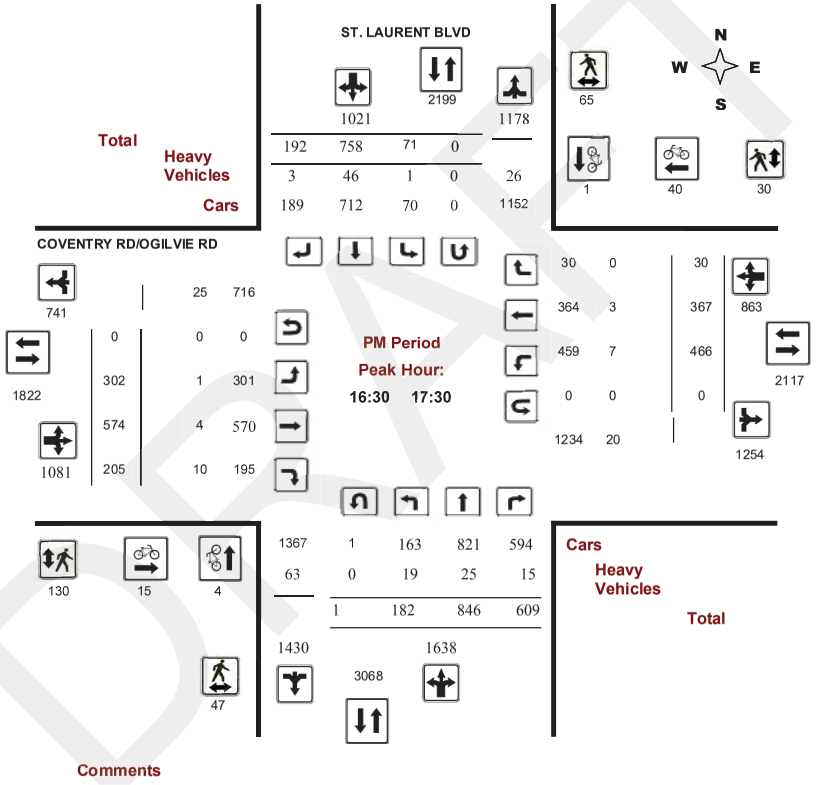
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

ST. LAURENT BLVD @ COVENTRY RD/OGILVIE RD

Survey Date: Thursday, June 01, 2017 **WO No:** 37069

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



Transportation Services - Traffic Services

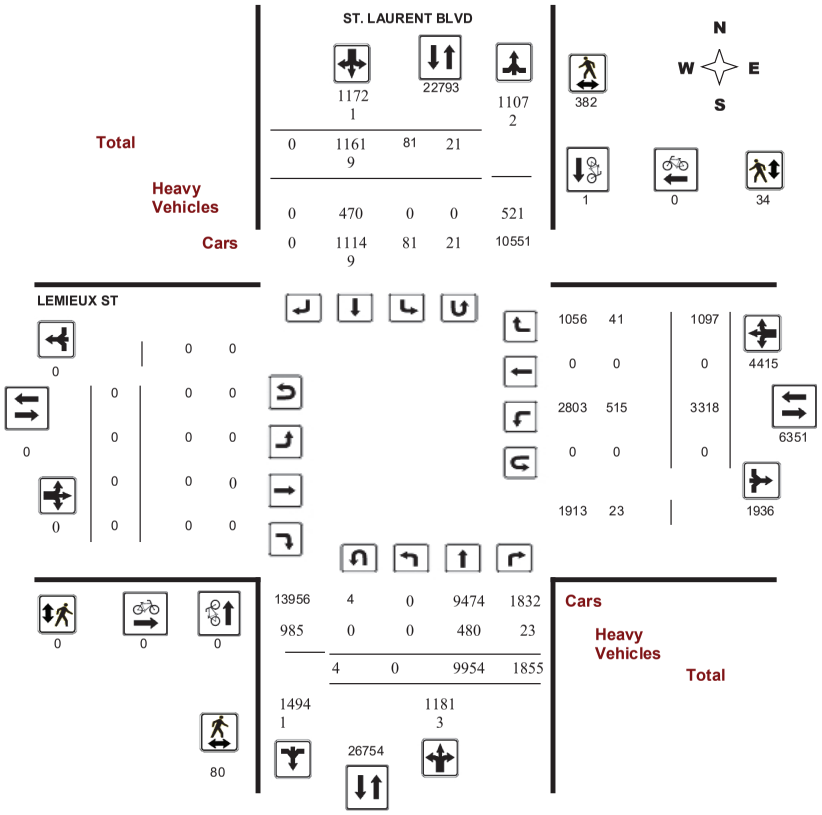
Turning Movement Count - Study Results

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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

Full Study Diagram



Transportation Services - Traffic Services

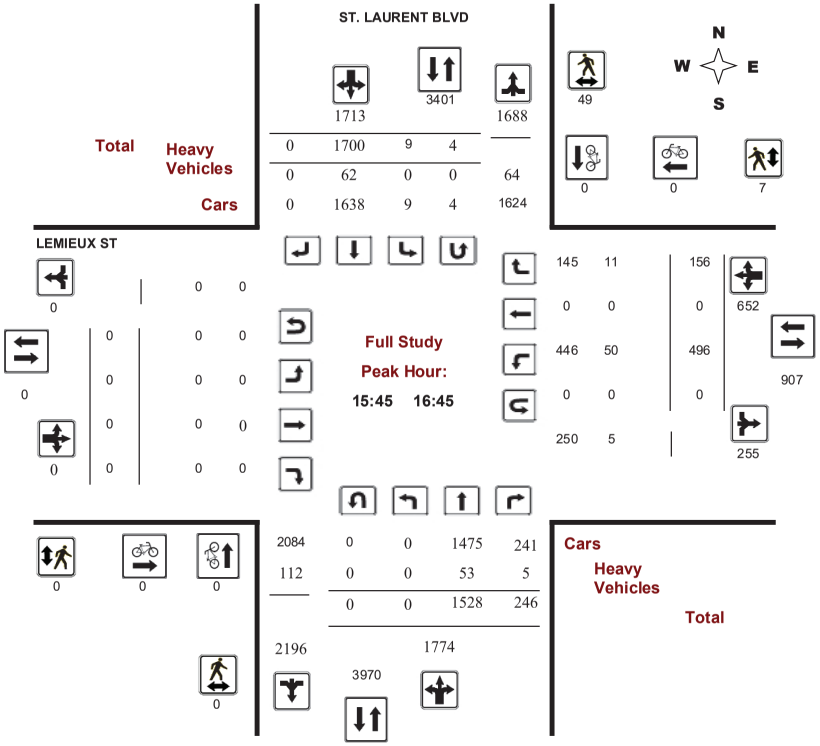
Turning Movement Count - Study Results

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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

Full Study Peak Hour Diagram



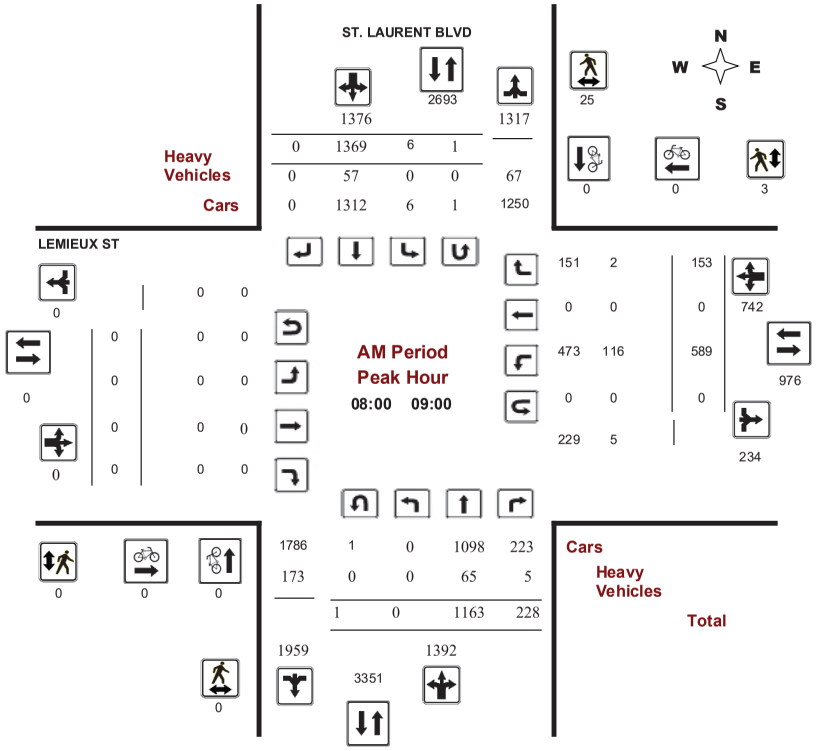
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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



Comments

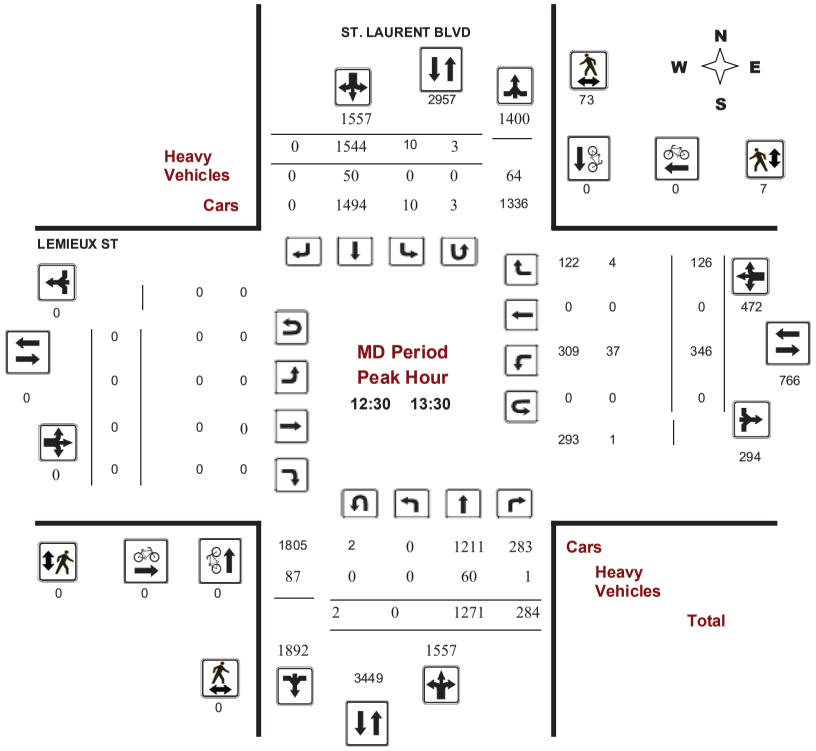
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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



Comments

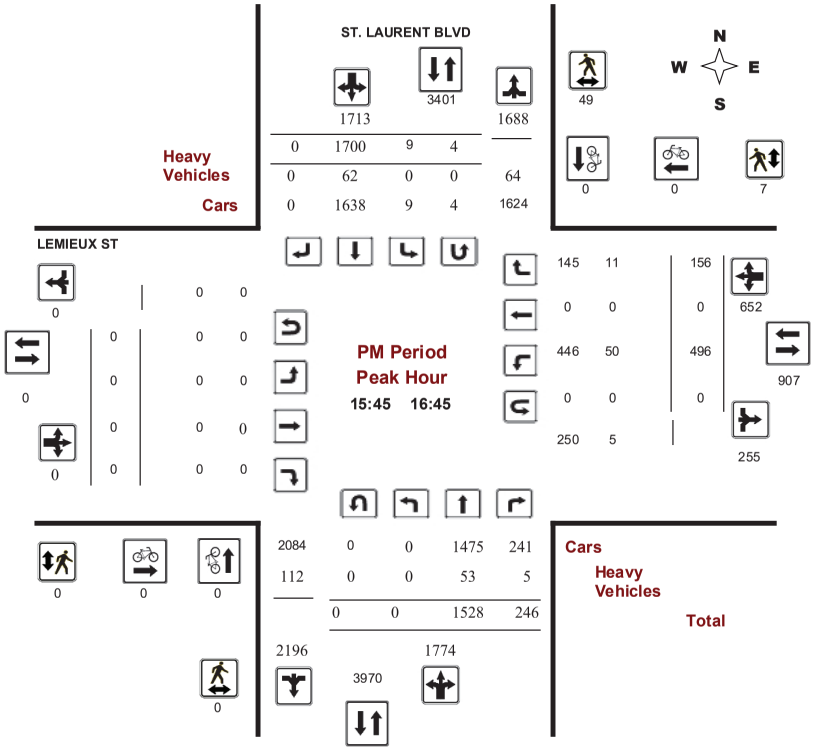
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, March 21, 2018

Total Observed U-Turns

Northbound: 4 Southbound: 21

Eastbound: 0 Westbound: 0

AADT Factor

1.00

	ST. LAURENT BLVD									LEMIEUX ST									
	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	1017	187	**1204**	7	1234	0	**1241**	**2445**	0	0	0	**0**	489	0	105	**594**	**594**	**3039**
08:00 09:00	0	1163	228	**1391**	6	1369	0	**1375**	**2766**	0	0	0	**0**	589	0	153	**742**	**742**	**3508**
09:00 10:00	0	1069	221	**1290**	6	1084	0	**1090**	**2380**	0	0	0	**0**	287	0	130	**417**	**417**	**2797**
11:30 12:30	0	1160	252	**1412**	14	1443	0	**1457**	**2869**	0	0	0	**0**	299	0	131	**430**	**430**	**3299**
12:30 13:30	0	1271	284	**1555**	10	1544	0	**1554**	**3109**	0	0	0	**0**	346	0	126	**472**	**472**	**3581**
15:00 16:00	0	1383	172	**1555**	6	1702	0	**1708**	**3263**	0	0	0	**0**	426	0	154	**580**	**580**	**3843**
16:00 17:00	0	1512	268	**1780**	11	1681	0	**1692**	**3472**	0	0	0	**0**	481	0	170	**651**	**651**	**4123**
17:00 18:00	0	1379	243	**1622**	21	1562	0	**1583**	**3205**	0	0	0	**0**	401	0	128	**529**	**529**	**3734**
Sub Total	0	9954	1855	**11809**	81	11619	0	**11700**	**23509**	0	0	0	**0**	3318	0	1097	**4415**	**4415**	**27924**
U Turns				**4**				**21**	**25**				**0**				**0**	**0**	**25**
Total	0	9954	1855	**11813**	81	11619	0	**11721**	**23534**	0	0	0	**0**	3318	0	1097	**4415**	**4415**	**27949**
EQ 12Hr	0	13836	2578	**16420**	113	16150	0	**16292**	**32712**	0	0	0	**0**	4612	0	1525	**6137**	**6137**	**38849**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	0	13040	2430	**15475**	106	15221	0	**15355**	**32712**	0	0	0	**0**	4347	0	1437	**5784**	**6137**	**38849**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	0	17082	3183	**20272**	139	19939	0	**20114**	**40386**	0	0	0	**0**	5694	0	1883	**7577**	**7577**	**47963**
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

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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

Full Study 15 Minute Increments

		ST. LAURENT BLVD									LEMIEUX ST									
		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	201	39	240	1	249	0	250	33	0	0	0	0	94	0	25	119	33	609
07:15	07:30	0	251	51	302	4	280	0	284	37	0	0	0	0	119	0	23	142	37	728
07:30	07:45	0	277	46	323	0	352	0	352	35	0	0	0	0	138	0	30	168	35	843
07:45	08:00	0	288	51	339	2	353	0	355	41	0	0	0	0	138	0	27	165	41	859
08:00	08:15	0	286	56	342	1	327	0	328	37	0	0	0	0	167	0	34	201	37	871
08:15	08:30	0	291	52	343	2	317	0	320	27	0	0	0	0	171	0	33	204	27	867
08:30	08:45	0	297	44	342	2	355	0	357	29	0	0	0	0	134	0	45	179	29	878
08:45	09:00	0	289	76	365	1	370	0	371	34	0	0	0	0	117	0	41	158	34	894
09:00	09:15	0	252	66	318	3	288	0	291	39	0	0	0	0	75	0	38	113	39	722
09:15	09:30	0	257	54	311	1	251	0	252	37	0	0	0	0	71	0	29	100	37	663
09:30	09:45	0	278	46	324	2	250	0	252	39	0	0	0	0	65	0	32	97	39	673
09:45	10:00	0	282	55	337	0	295	0	296	37	0	0	0	0	76	0	31	107	37	740
11:30	11:45	0	295	55	350	3	349	0	352	30	0	0	0	0	72	0	23	95	30	797
11:45	12:00	0	255	65	320	4	349	0	353	34	0	0	0	0	83	0	36	119	34	792
12:00	12:15	0	324	65	389	4	360	0	364	25	0	0	0	0	57	0	35	92	25	845
12:15	12:30	0	286	67	353	3	385	0	388	29	0	0	0	0	87	0	37	124	29	865
12:30	12:45	0	342	73	417	4	419	0	424	20	0	0	0	0	92	0	37	129	20	970
12:45	13:00	0	325	82	407	3	396	0	400	22	0	0	0	0	73	0	25	98	22	905
13:00	13:15	0	308	68	376	1	360	0	362	24	0	0	0	0	81	0	27	108	24	846
13:15	13:30	0	296	61	357	2	369	0	371	45	0	0	0	0	100	0	37	137	45	865
15:00	15:15	0	348	41	389	1	475	0	476	39	0	0	0	0	110	0	34	144	39	1009
15:15	15:30	0	312	47	359	4	381	0	387	29	0	0	0	0	100	0	31	131	29	877
15:30	15:45	0	321	37	358	0	443	0	446	24	0	0	0	0	113	0	58	171	24	975
15:45	16:00	0	402	47	449	1	403	0	404	35	0	0	0	0	103	0	31	134	35	987
16:00	16:15	0	387	61	448	1	457	0	458	32	0	0	0	0	147	0	40	187	32	1093
16:15	16:30	0	353	63	416	3	395	0	399	28	0	0	0	0	140	0	45	185	28	1000
16:30	16:45	0	386	75	461	4	445	0	452	25	0	0	0	0	106	0	40	146	25	1059
16:45	17:00	0	386	69	455	3	384	0	390	22	0	0	0	0	88	0	45	133	22	978
17:00	17:15	0	394	60	454	3	421	0	425	22	0	0	0	0	105	0	35	140	22	1019
17:15	17:30	0	379	57	437	3	409	0	413	24	0	0	0	0	120	0	37	157	24	1007
17:30	17:45	0	308	66	374	6	399	0	405	20	0	0	0	0	82	0	25	107	20	886
17:45	18:00	0	298	60	358	9	333	0	344	19	0	0	0	0	94	0	31	125	19	827
Total:		0	9954	1855	1181	81	11619	0	11721	973	0	0	0	0	3318	0	1097	4415	973	27,949

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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

Full Study Cyclist Volume

		ST. LAURENT BLVD			LEMIEUX ST			
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	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	1	1	0	0	0	1
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	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	1	**1**	0	0	0	1

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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

Full Study Pedestrian Volume

	ST. LAURENT BLVD			LEMIEUX ST			
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	0	**0**	**4**
07:15 07:30	0	8	**8**	0	1	**1**	**9**
07:30 07:45	0	8	**8**	0	0	**0**	**8**
07:45 08:00	0	7	**7**	0	0	**0**	**7**
08:00 08:15	0	5	**5**	0	1	**1**	**6**
08:15 08:30	0	9	**9**	0	0	**0**	**9**
08:30 08:45	0	3	**3**	0	0	**0**	**3**
08:45 09:00	0	8	**8**	0	2	**2**	**10**
09:00 09:15	0	3	**3**	0	2	**2**	**5**
09:15 09:30	0	12	**12**	0	1	**1**	**13**
09:30 09:45	0	4	**4**	0	0	**0**	**4**
09:45 10:00	0	4	**4**	0	0	**0**	**4**
11:30 11:45	1	16	**17**	0	2	**2**	**19**
11:45 12:00	0	8	**8**	0	2	**2**	**10**
12:00 12:15	0	20	**20**	0	1	**1**	**21**
12:15 12:30	0	16	**16**	0	1	**1**	**17**
12:30 12:45	0	33	**33**	0	2	**2**	**35**
12:45 13:00	0	24	**24**	0	1	**1**	**25**
13:00 13:15	0	7	**7**	0	2	**2**	**9**
13:15 13:30	0	9	**9**	0	2	**2**	**11**
15:00 15:15	0	13	**13**	0	1	**1**	**14**
15:15 15:30	0	8	**8**	0	0	**0**	**8**
15:30 15:45	0	8	**8**	0	1	**1**	**9**
15:45 16:00	0	7	**7**	0	2	**2**	**9**
16:00 16:15	0	18	**18**	0	3	**3**	**21**
16:15 16:30	0	14	**14**	0	2	**2**	**16**
16:30 16:45	0	10	**10**	0	0	**0**	**10**
16:45 17:00	0	17	**17**	0	1	**1**	**18**
17:00 17:15	12	12	**24**	0	1	**1**	**25**
17:15 17:30	18	18	**36**	0	1	**1**	**37**
17:30 17:45	33	32	**65**	0	1	**1**	**66**
17:45 18:00	16	17	**33**	0	1	**1**	**34**
Total	80	382	**462**	0	34	**34**	**496**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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

Full Study Heavy Vehicles

		ST. LAURENT BLVD									LEMIEUX ST									
		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	21	0	**21**	0	12	0	**12**	**33**	0	0	0	**0**	23	0	0	**23**	**23**	**56**
07:15	07:30	0	22	0	**22**	0	15	0	**15**	**37**	0	0	0	**0**	36	0	2	**38**	**38**	**75**
07:30	07:45	0	18	1	**19**	0	16	0	**16**	**35**	0	0	0	**0**	31	0	3	**34**	**34**	**69**
07:45	08:00	0	21	0	**21**	0	20	0	**20**	**41**	0	0	0	**0**	27	0	0	**27**	**27**	**68**
08:00	08:15	0	20	1	**21**	0	16	0	**16**	**37**	0	0	0	**0**	31	0	0	**31**	**31**	**68**
08:15	08:30	0	14	2	**16**	0	11	0	**11**	**27**	0	0	0	**0**	29	0	2	**31**	**31**	**58**
08:30	08:45	0	17	0	**17**	0	12	0	**12**	**29**	0	0	0	**0**	30	0	0	**30**	**30**	**59**
08:45	09:00	0	14	2	**16**	0	18	0	**18**	**34**	0	0	0	**0**	26	0	0	**26**	**26**	**60**
09:00	09:15	0	21	0	**21**	0	18	0	**18**	**39**	0	0	0	**0**	20	0	0	**20**	**20**	**59**
09:15	09:30	0	22	1	**23**	0	14	0	**14**	**37**	0	0	0	**0**	13	0	1	**14**	**14**	**51**
09:30	09:45	0	21	0	**21**	0	18	0	**18**	**39**	0	0	0	**0**	13	0	2	**15**	**15**	**54**
09:45	10:00	0	13	1	**14**	0	23	0	**23**	**37**	0	0	0	**0**	19	0	0	**19**	**19**	**56**
11:30	11:45	0	15	3	**18**	0	12	0	**12**	**30**	0	0	0	**0**	8	0	1	**9**	**9**	**39**
11:45	12:00	0	11	1	**12**	0	22	0	**22**	**34**	0	0	0	**0**	8	0	1	**9**	**9**	**43**
12:00	12:15	0	13	1	**14**	0	11	0	**11**	**25**	0	0	0	**0**	4	0	2	**6**	**6**	**31**
12:15	12:30	0	13	0	**13**	0	16	0	**16**	**29**	0	0	0	**0**	10	0	4	**14**	**14**	**43**
12:30	12:45	0	13	1	**14**	0	6	0	**6**	**20**	0	0	0	**0**	7	0	1	**8**	**8**	**28**
12:45	13:00	0	10	0	**10**	0	12	0	**12**	**22**	0	0	0	**0**	13	0	1	**14**	**14**	**36**
13:00	13:15	0	15	0	**15**	0	9	0	**9**	**24**	0	0	0	**0**	6	0	0	**6**	**6**	**30**
13:15	13:30	0	22	0	**22**	0	23	0	**23**	**45**	0	0	0	**0**	11	0	2	**13**	**13**	**58**
15:00	15:15	0	15	1	**16**	0	23	0	**23**	**39**	0	0	0	**0**	9	0	0	**9**	**9**	**48**
15:15	15:30	0	11	1	**12**	0	17	0	**17**	**29**	0	0	0	**0**	13	0	0	**13**	**13**	**42**
15:30	15:45	0	14	0	**14**	0	10	0	**10**	**24**	0	0	0	**0**	12	0	1	**13**	**13**	**37**
15:45	16:00	0	17	0	**17**	0	18	0	**18**	**35**	0	0	0	**0**	8	0	0	**8**	**8**	**43**
16:00	16:15	0	15	1	**16**	0	16	0	**16**	**32**	0	0	0	**0**	13	0	2	**15**	**15**	**47**
16:15	16:30	0	11	2	**13**	0	15	0	**15**	**28**	0	0	0	**0**	17	0	6	**23**	**23**	**51**
16:30	16:45	0	10	2	**12**	0	13	0	**13**	**25**	0	0	0	**0**	12	0	3	**15**	**15**	**40**
16:45	17:00	0	12	0	**12**	0	10	0	**10**	**22**	0	0	0	**0**	12	0	1	**13**	**13**	**35**
17:00	17:15	0	7	0	**7**	0	15	0	**15**	**22**	0	0	0	**0**	9	0	5	**14**	**14**	**36**
17:15	17:30	0	14	0	**14**	0	10	0	**10**	**24**	0	0	0	**0**	17	0	1	**18**	**18**	**42**
17:30	17:45	0	10	1	**11**	0	9	0	**9**	**20**	0	0	0	**0**	13	0	0	**13**	**13**	**33**
17:45	18:00	0	8	1	**9**	0	10	0	**10**	**19**	0	0	0	**0**	15	0	0	**15**	**15**	**34**
Total:	None	0	480	23	**503**	0	470	0	**470**	**973**	0	0	0	**0**	515	0	41	**556**	**556**	**1,529**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEMIEUX ST @ ST. LAURENT BLVD

Survey Date: Wednesday, March 21, 2018 **WO No:** 37620

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

Full Study 15 Minute U-Turn Total

		ST. LAURENT BLVD		LEMIEUX ST		
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	1	0	0	1
08:30	08:45	1	0	0	0	1
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	0	0	0	0
09:45	10:00	0	1	0	0	1
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	2	1	0	0	3
12:45	13:00	0	1	0	0	1
13:00	13:15	0	1	0	0	1
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	2	0	0	2
15:30	15:45	0	3	0	0	3
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	1	0	0	1
16:30	16:45	0	3	0	0	3
16:45	17:00	0	3	0	0	3
17:00	17:15	0	1	0	0	1
17:15	17:30	1	1	0	0	2
17:30	17:45	0	0	0	0	0
17:45	18:00	0	2	0	0	2
Total		4	21	0	0	25

Transportation Services - Traffic Services

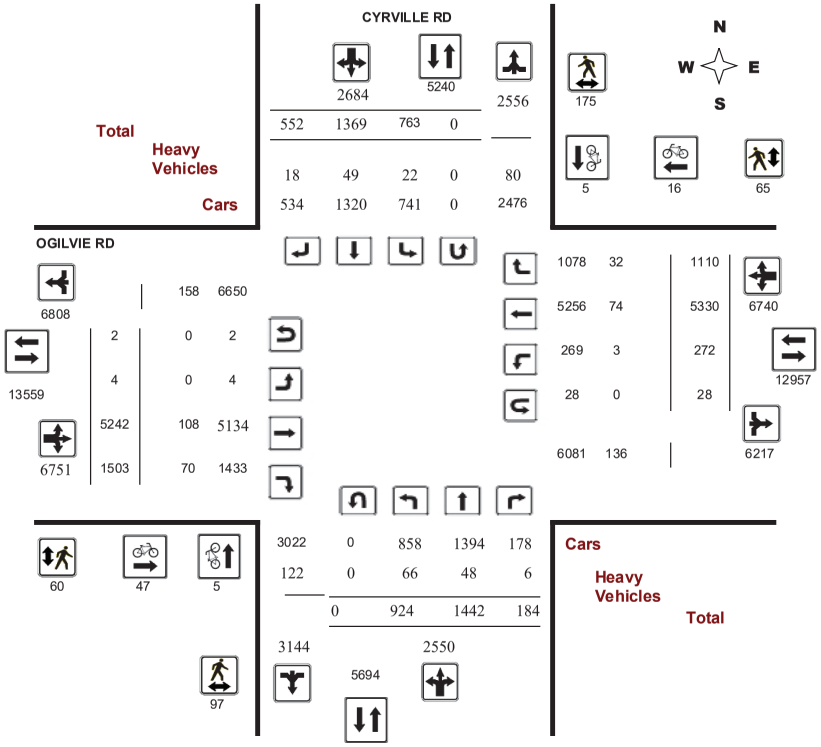
Turning Movement Count - Study Results

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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

Full Study Diagram



Transportation Services - Traffic Services

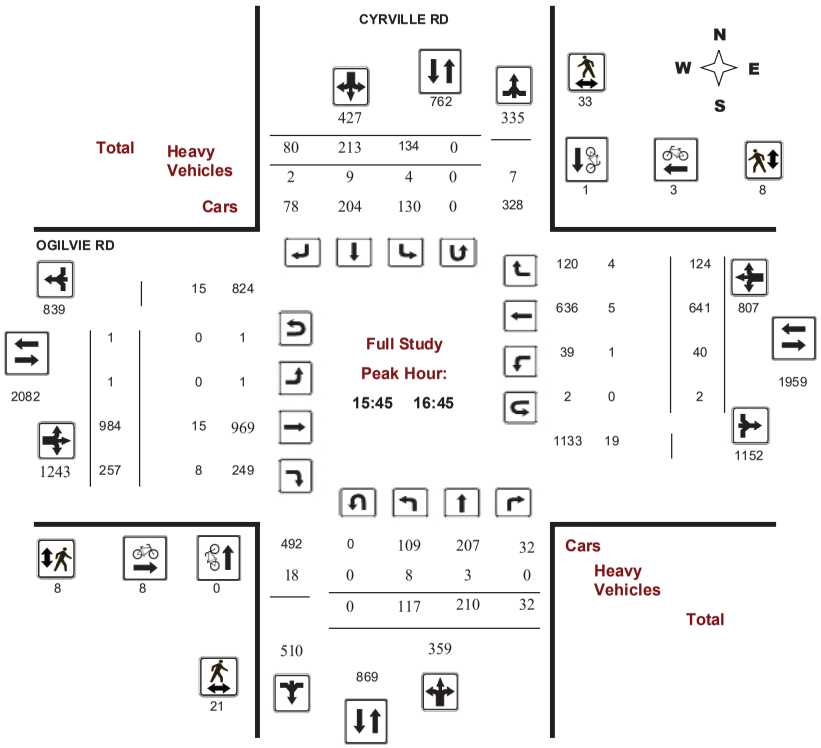
Turning Movement Count - Study Results

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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

Full Study Peak Hour Diagram



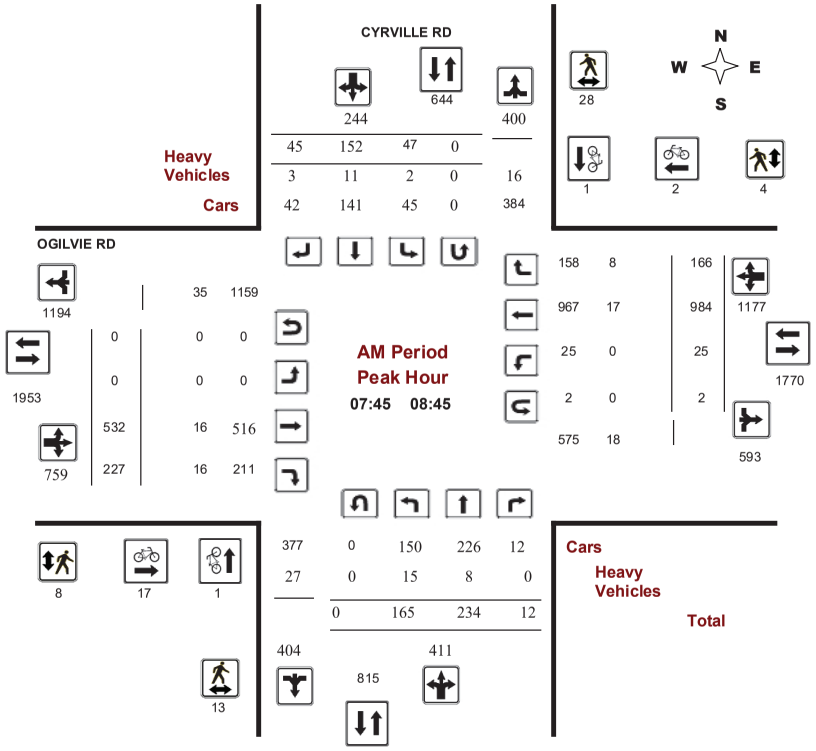
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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



Comments

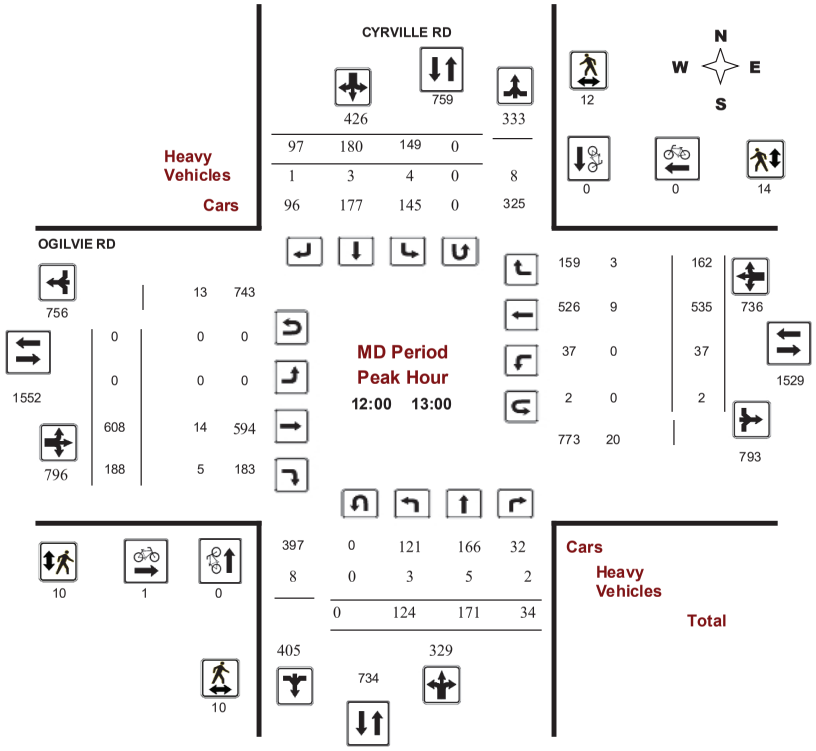
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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



Comments

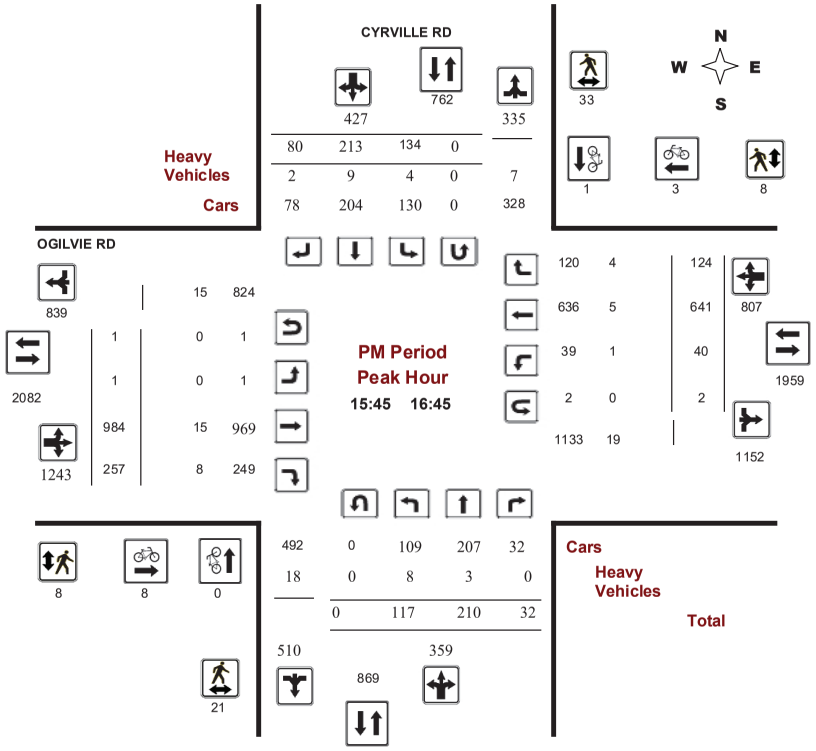
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, April 11, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 2 Westbound: 28

AADT Factor .90

	CYRVILLE RD									OGILVIE 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	144	156	10	**310**	27	172	35	**234**	**544**	0	556	185	**741**	24	838	146	**1008**	**1749**	**2293**
08:00 09:00	157	230	13	**400**	64	144	49	**257**	**657**	0	545	201	**746**	31	921	172	**1124**	**1870**	**2527**
09:00 10:00	86	133	12	**231**	74	144	52	**270**	**501**	1	475	145	**621**	38	576	126	**740**	**1361**	**1862**
11:30 12:30	113	173	36	**322**	92	156	105	**353**	**675**	0	654	174	**828**	27	523	152	**702**	**1530**	**2205**
12:30 13:30	113	151	35	**299**	146	179	90	**415**	**714**	0	563	188	**751**	44	535	138	**717**	**1468**	**2182**
15:00 16:00	109	178	29	**316**	122	227	64	**413**	**729**	2	828	205	**1035**	33	632	143	**808**	**1843**	**2572**
16:00 17:00	124	215	16	**355**	129	189	86	**404**	**759**	1	736	256	**993**	34	656	117	**807**	**1800**	**2559**
17:00 18:00	78	206	33	**317**	109	158	71	**338**	**655**	0	885	149	**1034**	41	649	116	**806**	**1840**	**2495**
Sub Total	924	1442	184	**2550**	763	1369	552	**2684**	**5234**	4	5242	1503	**6749**	272	5330	1110	**6712**	**13461**	**18695**
U Turns				**0**				**0**	**0**				**2**				**28**	**30**	**30**
Total	924	1442	184	**2550**	763	1369	552	**2684**	**5234**	4	5242	1503	**6751**	272	5330	1110	**6740**	**13491**	**18725**
EQ 12Hr	1284	2004	256	**3544**	1061	1903	767	**3731**	**7275**	6	7286	2089	**9384**	378	7409	1543	**9369**	**18752**	**26028**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	1089	1700	217	**3006**	900	1614	651	**3164**	**6548**	5	6180	1772	**7959**	321	6284	1309	**7946**	**16877**	**23425**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**0.9**					
AVG 24Hr	1427	2227	284	**3938**	1178	2114	853	**4145**	**8083**	6	8096	2321	**10427**	420	8232	1714	**10410**	**20837**	**28920**
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

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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

Full Study 15 Minute Increments

		CYRVILLE RD									OGILVIE 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	26	39	1	66	4	36	9	49	5	0	128	42	170	6	162	37	206	5	491
07:15	07:30	44	28	3	75	6	36	10	52	8	0	146	40	186	3	188	39	230	8	543
07:30	07:45	31	37	3	71	7	53	6	66	9	0	148	39	187	12	236	31	279	9	603
07:45	08:00	43	52	3	98	10	47	10	67	10	0	134	64	198	3	252	39	294	10	657
08:00	08:15	32	50	3	85	12	28	7	47	10	0	131	52	183	6	270	38	314	10	629
08:15	08:30	44	73	3	120	10	31	13	54	8	0	140	58	198	8	252	33	295	8	667
08:30	08:45	46	59	3	108	15	46	15	76	11	0	127	53	180	8	210	56	274	11	638
08:45	09:00	35	48	4	87	27	39	14	80	11	0	147	38	185	9	189	45	243	11	595
09:00	09:15	21	31	3	55	16	48	10	74	7	0	126	40	166	12	163	52	227	7	522
09:15	09:30	26	35	1	62	15	27	15	57	4	0	130	32	162	9	140	26	175	4	456
09:30	09:45	16	35	5	56	27	46	19	92	10	1	126	39	166	14	150	24	188	10	502
09:45	10:00	23	32	3	58	16	23	8	47	9	0	93	34	127	3	123	24	153	9	385
11:30	11:45	30	40	9	79	31	33	25	89	3	0	166	41	207	7	128	28	163	3	538
11:45	12:00	23	45	8	76	16	37	22	75	12	0	160	44	204	7	126	35	179	12	534
12:00	12:15	32	46	11	89	24	38	30	92	2	0	150	33	183	7	144	37	189	2	553
12:15	12:30	28	42	8	78	21	48	28	97	3	0	178	56	234	6	125	52	184	3	593
12:30	12:45	30	40	7	77	73	36	15	124	8	0	130	44	174	11	143	34	188	8	563
12:45	13:00	34	43	8	85	31	58	24	113	5	0	150	55	205	13	123	39	175	5	578
13:00	13:15	29	39	12	80	27	42	28	97	10	0	139	49	188	10	126	29	165	10	530
13:15	13:30	20	29	8	57	15	43	23	81	5	0	144	40	184	10	143	36	190	5	512
15:00	15:15	34	40	5	79	35	55	23	113	5	0	195	47	243	12	158	28	198	5	633
15:15	15:30	23	49	3	75	30	53	14	97	4	2	206	36	244	6	143	38	187	4	603
15:30	15:45	25	48	5	78	26	46	16	88	3	0	179	46	225	9	184	38	232	3	623
15:45	16:00	27	41	16	84	31	73	11	115	9	0	248	76	324	6	147	39	192	9	715
16:00	16:15	31	70	3	104	40	45	15	100	6	0	259	55	315	13	171	23	207	6	726
16:15	16:30	22	48	4	74	30	47	28	105	5	0	233	78	311	14	154	32	201	5	691
16:30	16:45	37	51	9	97	33	48	26	107	6	1	244	48	293	7	169	30	207	6	704
16:45	17:00	34	46	0	80	26	49	17	92	5	0	0	75	75	0	162	32	194	5	441
17:00	17:15	17	63	9	89	28	49	12	89	5	0	283	44	327	11	167	26	205	5	710
17:15	17:30	19	47	7	73	34	43	17	94	4	0	245	38	283	16	182	31	231	4	681
17:30	17:45	22	55	8	85	31	38	20	89	2	0	197	29	226	5	145	27	177	2	577
17:45	18:00	20	41	9	70	16	28	22	66	5	0	160	38	198	9	155	32	198	5	532
Total:		924	1442	184	2550	763	1369	552	2684	209	4	5242	1503	6751	272	5330	1110	6740	209	18,725

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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

Full Study Cyclist Volume

		CYRVILLE RD			OGILVIE RD			
Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	1	0	1	1
07:15	07:30	1	0	1	1	1	2	3
07:30	07:45	0	1	1	1	2	3	4
07:45	08:00	1	0	1	3	1	4	5
08:00	08:15	0	0	0	8	0	8	8
08:15	08:30	0	1	1	4	1	5	6
08:30	08:45	0	0	0	2	0	2	2
08:45	09:00	0	1	1	3	0	3	4
09:00	09:15	1	0	1	1	0	1	2
09:15	09:30	0	0	0	2	0	2	2
09:30	09:45	0	0	0	1	1	2	2
09:45	10:00	0	0	0	1	0	1	1
11:30	11:45	1	0	1	0	0	0	1
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	1	0	1	1
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	1	1	2	2
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	2	0	2	2
15:45	16:00	0	0	0	2	0	2	2
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	1	1	2	1	3	4
16:30	16:45	0	0	0	4	2	6	6
16:45	17:00	0	0	0	0	1	1	1
17:00	17:15	0	0	0	4	2	6	6
17:15	17:30	0	1	1	1	1	2	3
17:30	17:45	1	0	1	1	2	3	4
17:45	18:00	0	0	0	1	0	1	1
Total		5	5	**10**	47	16	63	73

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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

Full Study Pedestrian Volume

Time Period	CYRVILLE RD NB Approach (E or W Crossing)	CYRVILLE RD SB Approach (E or W Crossing)	Total	OGILVIE RD EB Approach (N or S Crossing)	OGILVIE RD WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	2	3	**5**	1	2	**3**	**8**
07:15 07:30	2	6	**8**	2	1	**3**	**11**
07:30 07:45	1	5	**6**	2	2	**4**	**10**
07:45 08:00	5	8	**13**	0	1	**1**	**14**
08:00 08:15	3	5	**8**	3	1	**4**	**12**
08:15 08:30	3	7	**10**	2	0	**2**	**12**
08:30 08:45	2	8	**10**	3	2	**5**	**15**
08:45 09:00	6	7	**13**	4	1	**5**	**18**
09:00 09:15	4	7	**11**	3	2	**5**	**16**
09:15 09:30	3	3	**6**	0	2	**2**	**8**
09:30 09:45	0	2	**2**	0	2	**2**	**4**
09:45 10:00	0	2	**2**	0	0	**0**	**2**
11:30 11:45	7	3	**10**	0	2	**2**	**12**
11:45 12:00	4	4	**8**	1	2	**3**	**11**
12:00 12:15	7	1	**8**	3	4	**7**	**15**
12:15 12:30	1	4	**5**	6	2	**8**	**13**
12:30 12:45	1	4	**5**	0	3	**3**	**8**
12:45 13:00	1	3	**4**	1	5	**6**	**10**
13:00 13:15	2	6	**8**	1	1	**2**	**10**
13:15 13:30	1	7	**8**	3	2	**5**	**13**
15:00 15:15	6	4	**10**	1	1	**2**	**12**
15:15 15:30	6	5	**11**	7	3	**10**	**21**
15:30 15:45	0	4	**4**	1	2	**3**	**7**
15:45 16:00	2	6	**8**	4	1	**5**	**13**
16:00 16:15	8	16	**24**	2	5	**7**	**31**
16:15 16:30	5	3	**8**	2	2	**4**	**12**
16:30 16:45	6	8	**14**	0	0	**0**	**14**
16:45 17:00	0	8	**8**	4	6	**10**	**18**
17:00 17:15	2	7	**9**	1	1	**2**	**11**
17:15 17:30	5	7	**12**	1	3	**4**	**16**
17:30 17:45	1	7	**8**	0	1	**1**	**9**
17:45 18:00	1	5	**6**	2	3	**5**	**11**
Total	97	175	**272**	60	65	**125**	**397**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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

Full Study Heavy Vehicles

Time Period		CYRVILLE RD Northbound LT	ST	RT	N TOT	Southbound LT	ST	RT	S TOT	STR TOT	OGILVIE RD Eastbound LT	ST	RT	E TOT	Westbound LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	1	2	0	**3**	1	1	0	**2**	**5**	0	7	2	**9**	0	3	1	**4**	**13**	**18**
07:15	07:30	4	1	0	**5**	1	1	1	**3**	**8**	0	4	1	**5**	0	1	1	**2**	**7**	**15**
07:30	07:45	4	4	1	**9**	0	0	0	**0**	**9**	0	5	2	**7**	0	3	0	**3**	**10**	**19**
07:45	08:00	6	3	0	**9**	0	0	1	**1**	**10**	0	6	3	**9**	0	7	2	**9**	**18**	**28**
08:00	08:15	1	3	0	**4**	1	4	1	**6**	**10**	0	5	3	**8**	0	4	0	**4**	**12**	**22**
08:15	08:30	3	0	0	**3**	1	4	0	**5**	**8**	0	4	4	**8**	0	1	1	**2**	**10**	**18**
08:30	08:45	5	2	0	**7**	0	3	1	**4**	**11**	0	1	6	**7**	0	5	5	**10**	**17**	**28**
08:45	09:00	3	0	1	**4**	1	5	1	**7**	**11**	0	3	1	**4**	0	2	1	**3**	**7**	**18**
09:00	09:15	3	1	1	**5**	0	2	0	**2**	**7**	0	5	3	**8**	0	3	1	**4**	**12**	**19**
09:15	09:30	1	2	0	**3**	0	0	1	**1**	**4**	0	4	4	**8**	0	2	0	**2**	**10**	**14**
09:30	09:45	3	4	0	**7**	1	2	0	**3**	**10**	0	3	3	**6**	0	4	1	**5**	**11**	**21**
09:45	10:00	4	5	0	**9**	0	0	0	**0**	**9**	0	3	2	**5**	0	5	2	**7**	**12**	**21**
11:30	11:45	1	1	0	**2**	1	0	0	**1**	**3**	0	7	2	**9**	0	1	1	**2**	**11**	**14**
11:45	12:00	2	5	0	**7**	0	1	4	**5**	**12**	0	1	1	**2**	0	3	2	**5**	**7**	**19**
12:00	12:15	1	0	0	**1**	1	0	0	**1**	**2**	0	3	0	**3**	0	2	1	**3**	**6**	**8**
12:15	12:30	1	2	0	**3**	0	0	0	**0**	**3**	0	3	2	**5**	0	2	0	**2**	**7**	**10**
12:30	12:45	0	2	2	**4**	2	2	0	**4**	**8**	0	6	3	**9**	0	4	1	**5**	**14**	**22**
12:45	13:00	1	1	0	**2**	1	1	1	**3**	**5**	0	2	0	**2**	0	1	1	**2**	**4**	**9**
13:00	13:15	2	4	0	**6**	1	1	2	**4**	**10**	0	2	3	**5**	1	6	1	**8**	**13**	**23**
13:15	13:30	3	0	0	**3**	1	1	0	**2**	**5**	0	0	1	**1**	0	1	2	**3**	**4**	**9**
15:00	15:15	1	0	1	**2**	0	2	1	**3**	**5**	0	10	2	**12**	0	4	2	**6**	**18**	**23**
15:15	15:30	2	0	0	**2**	0	2	0	**2**	**4**	0	5	3	**8**	0	1	1	**2**	**10**	**14**
15:30	15:45	1	0	0	**1**	1	1	0	**2**	**3**	0	1	1	**2**	1	0	0	**1**	**3**	**6**
15:45	16:00	5	0	0	**5**	0	4	0	**4**	**9**	0	2	2	**4**	0	1	3	**4**	**8**	**17**
16:00	16:15	1	3	0	**4**	1	1	0	**2**	**6**	0	8	1	**9**	0	3	1	**4**	**13**	**19**
16:15	16:30	0	0	0	**0**	1	3	1	**5**	**5**	0	3	2	**5**	1	0	0	**1**	**6**	**11**
16:30	16:45	2	0	0	**2**	2	1	1	**4**	**6**	0	2	3	**5**	0	1	0	**1**	**6**	**12**
16:45	17:00	1	0	0	**1**	0	4	0	**4**	**5**	0	0	4	**4**	0	1	0	**1**	**5**	**10**
17:00	17:15	1	1	0	**2**	1	2	0	**3**	**5**	0	1	2	**3**	0	1	0	**1**	**4**	**9**
17:15	17:30	1	1	0	**2**	1	0	1	**2**	**4**	0	1	1	**2**	0	0	1	**1**	**3**	**7**
17:30	17:45	1	1	0	**2**	0	0	0	**0**	**2**	0	1	2	**3**	0	2	0	**2**	**5**	**7**
17:45	18:00	1	0	0	**1**	2	1	1	**4**	**5**	0	0	1	**1**	0	0	0	**0**	**1**	**6**
Total:	None	66	48	6	**120**	22	49	18	**89**	**209**	0	108	70	**178**	3	74	32	**109**	**287**	**496**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CYRVILLE RD @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37723

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

Full Study 15 Minute U-Turn Total

Time Period		CYRVILLE RD Northbound U-Turn Total	CYRVILLE RD Southbound U-Turn Total	OGILVIE RD Eastbound U-Turn Total	OGILVIE RD Westbound U-Turn Total	Total
07:00	07:15	0	0	0	1	1
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	2	2
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	0	0	0	0
09:45	10:00	0	0	0	3	3
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	11	11
12:00	12:15	0	0	0	1	1
12:15	12:30	0	0	0	1	1
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	1	1
15:00	15:15	0	0	1	0	1
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	1	1
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	1	0	1
16:15	16:30	0	0	0	1	1
16:30	16:45	0	0	0	1	1
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	1	1
17:15	17:30	0	0	0	2	2
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	2	2
Total		0	0	2	28	30

Transportation Services - Traffic Services

W.O. 37738

Turning Movement Count - 15 Minute Summary Report

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018

Total Observed U-Turns
Northbound: 2 Southbound: 0
Eastbound: 76 Westbound: 20

		CUMMINGS AVE Northbound				Southbound				OGILVIE RD 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	1	24	9	**34**	19	23	22	**64**	**98**	7	105	3	**115**	22	165	30	**217**	**332**	**430**
07:15	07:30	5	21	17	**43**	25	23	23	**71**	**114**	11	138	1	**151**	45	194	26	**265**	**416**	**530**
07:30	07:45	4	23	16	**43**	43	30	36	**109**	**152**	14	142	0	**158**	25	226	30	**281**	**439**	**591**
07:45	08:00	2	25	13	**40**	32	33	23	**88**	**128**	14	145	2	**161**	42	280	40	**363**	**524**	**652**
08:00	08:15	4	33	11	**48**	41	33	35	**109**	**157**	15	122	2	**139**	38	289	35	**363**	**502**	**659**
08:15	08:30	6	25	21	**52**	34	23	29	**86**	**138**	11	142	3	**156**	47	256	54	**358**	**514**	**652**
08:30	08:45	6	28	18	**52**	31	27	25	**83**	**135**	8	147	4	**162**	36	251	41	**329**	**491**	**626**
08:45	09:00	6	20	17	**43**	41	24	23	**88**	**131**	9	161	5	**177**	37	225	41	**303**	**480**	**611**
09:00	09:15	4	40	14	**58**	57	31	18	**106**	**164**	9	119	5	**133**	21	182	27	**230**	**363**	**527**
09:15	09:30	6	27	21	**54**	38	26	22	**86**	**140**	13	147	7	**168**	24	168	42	**235**	**403**	**543**
09:30	09:45	5	32	29	**66**	36	28	22	**86**	**152**	9	132	3	**144**	24	161	26	**211**	**355**	**507**
09:45	10:00	2	32	26	**60**	25	33	33	**91**	**151**	14	117	2	**135**	27	115	35	**177**	**312**	**463**
11:30	11:45	5	28	33	**66**	40	40	21	**101**	**167**	17	158	8	**184**	31	152	37	**220**	**404**	**571**
11:45	12:00	7	41	42	**90**	44	36	18	**98**	**188**	21	156	10	**190**	35	164	37	**236**	**426**	**614**
12:00	12:15	5	38	46	**89**	56	37	17	**110**	**199**	15	157	5	**180**	32	173	51	**258**	**438**	**637**
12:15	12:30	10	33	50	**93**	54	42	16	**112**	**205**	22	168	9	**201**	31	168	47	**246**	**447**	**652**
12:30	12:45	7	42	31	**80**	48	46	26	**120**	**200**	13	185	8	**209**	26	157	25	**208**	**417**	**617**
12:45	13:00	9	39	36	**84**	55	45	16	**116**	**200**	17	177	8	**206**	30	152	36	**219**	**425**	**625**
13:00	13:15	10	32	32	**74**	48	59	11	**118**	**192**	22	163	5	**193**	35	146	37	**218**	**411**	**603**
13:15	13:30	7	35	39	**81**	60	22	21	**103**	**184**	14	135	10	**168**	37	148	45	**230**	**398**	**582**
15:00	15:15	7	35	53	**95**	52	30	13	**95**	**190**	24	173	6	**208**	24	163	54	**242**	**450**	**640**
15:15	15:30	10	43	46	**99**	48	43	17	**108**	**207**	25	199	7	**233**	23	144	46	**213**	**446**	**653**
15:30	15:45	5	40	49	**94**	77	51	27	**155**	**249**	21	207	5	**235**	28	199	68	**296**	**531**	**780**
15:45	16:00	5	45	48	**98**	63	44	24	**131**	**229**	25	193	3	**223**	32	160	53	**246**	**469**	**698**
16:00	16:15	3	47	59	**110**	62	40	29	**131**	**241**	23	292	9	**327**	21	173	50	**244**	**571**	**812**
16:15	16:30	6	45	40	**92**	76	44	17	**137**	**229**	21	267	0	**289**	20	163	39	**224**	**513**	**742**
16:30	16:45	8	35	73	**116**	61	39	22	**122**	**238**	21	283	5	**313**	24	196	43	**264**	**577**	**815**
16:45	17:00	4	49	45	**98**	71	44	20	**135**	**233**	28	246	4	**279**	27	161	42	**233**	**512**	**745**
17:00	17:15	13	36	48	**97**	61	28	23	**112**	**209**	33	300	6	**343**	32	182	69	**283**	**626**	**835**
17:15	17:30	11	42	50	**103**	65	52	19	**136**	**239**	28	253	8	**299**	26	190	55	**274**	**573**	**812**
17:30	17:45	9	37	31	**77**	58	27	15	**100**	**177**	25	220	7	**254**	18	174	33	**225**	**479**	**656**
17:45	18:00	6	30	35	**71**	56	23	29	**108**	**179**	25	168	4	**198**	18	154	39	**211**	**409**	**588**
TOTAL:		198	1102	1098	**2400**	1577	1126	712	**3415**	**5815**	574	5717	164	**6531**	938	5831	1333	**8122**	**14653**	**20468**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 37738

CUMMINGS AVE @ OGILVIE RD

Count Date: Wednesday, April 11, 2018 **Start Time:** 07:00

	CUMMINGS AVE			OGILVIE RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	0	1	**1**	8	6	**14**	**15**
08:00 09:00	3	1	**4**	13	1	**14**	**18**
09:00 10:00	0	0	**0**	5	1	**6**	**6**
11:30 12:30	0	1	**1**	0	2	**2**	**3**
12:30 13:30	0	0	**0**	1	2	**3**	**3**
15:00 16:00	3	4	**7**	5	8	**13**	**20**
16:00 17:00	1	5	**6**	6	7	**13**	**19**
17:00 18:00	3	2	**5**	7	8	**15**	**20**
Total	10	14	**24**	45	35	**80**	**104**

Comment:

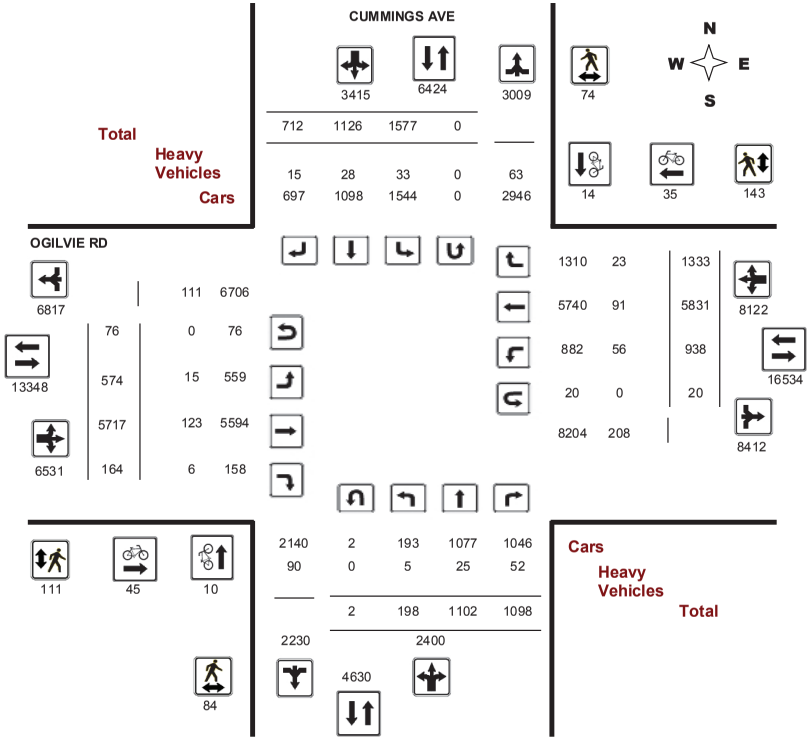
Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO#:** 37738 **Device:** Miovision



Comments

Transportation Services - Traffic Services

W.O. 37738

Turning Movement Count - Heavy Vehicle Report

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018

	CUMMINGS AVE									OGILVIE 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 08:00	2	7	6	**15**	5	2	0	**7**	**22**	1	25	0	**26**	5	14	4	**23**	**49**	**71**
08:00 09:00	0	5	12	**17**	9	1	0	**10**	**27**	3	11	1	**15**	9	26	5	**40**	**55**	**82**
09:00 10:00	0	6	6	**12**	7	7	3	**17**	**29**	2	14	1	**17**	10	12	1	**23**	**40**	**69**
11:30 12:30	0	2	8	**10**	1	1	3	**5**	**15**	5	11	1	**17**	8	9	0	**17**	**34**	**49**
12:30 13:30	1	1	5	**7**	3	3	3	**9**	**16**	1	17	0	**18**	4	15	3	**22**	**40**	**56**
15:00 16:00	0	2	8	**10**	5	8	4	**17**	**27**	0	25	0	**25**	10	8	6	**24**	**49**	**76**
16:00 17:00	1	2	3	**6**	3	5	1	**9**	**15**	2	13	3	**18**	6	4	3	**13**	**31**	**46**
17:00 18:00	1	0	4	**5**	0	1	1	**2**	**7**	1	7	0	**8**	4	3	1	**8**	**16**	**23**
Sub Total	5	25	52	**82**	33	28	15	**76**	**158**	15	123	6	**144**	56	91	23	**170**	**314**	**472**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	5	25	52	**0**	33	28	15	**76**	**158**	15	123	6	**144**	56	91	23	**170**	**314**	**472**

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 37738

Turning Movement Count - Pedestrian Volume Report

CUMMINGS AVE @ OGILVIE RD

Count Date: Wednesday, April 11, 2018 **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	1	0	**1**	2	1	**3**	**4**
07:15 07:30	3	4	**7**	0	7	**7**	**14**
07:30 07:45	2	3	**5**	3	2	**5**	**10**
07:45 08:00	2	3	**5**	0	9	**9**	**14**
07:00 08:00	8	10	**18**	5	19	**24**	**42**
08:00 08:15	4	6	**10**	2	12	**14**	**24**
08:15 08:30	4	5	**9**	1	17	**18**	**27**
08:30 08:45	5	11	**16**	2	14	**16**	**32**
08:45 09:00	5	2	**7**	4	17	**21**	**28**
08:00 09:00	18	24	**42**	9	60	**69**	**111**
09:00 09:15	4	1	**5**	0	5	**5**	**10**
09:15 09:30	1	1	**2**	0	0	**0**	**2**
09:30 09:45	0	2	**2**	0	1	**1**	**3**
09:45 10:00	0	1	**1**	0	4	**4**	**5**
09:00 10:00	5	5	**10**	0	10	**10**	**20**
11:30 11:45	4	1	**5**	1	2	**3**	**8**
11:45 12:00	1	1	**2**	1	0	**1**	**3**
12:00 12:15	3	3	**6**	1	6	**7**	**13**
12:15 12:30	0	1	**1**	2	5	**7**	**8**
11:30 12:30	8	6	**14**	5	13	**18**	**32**
12:30 12:45	1	1	**2**	2	1	**3**	**5**
12:45 13:00	2	1	**3**	2	3	**5**	**8**
13:00 13:15	3	4	**7**	1	7	**8**	**15**
13:15 13:30	0	2	**2**	1	0	**1**	**3**
12:30 13:30	6	8	**14**	6	11	**17**	**31**
15:00 15:15	3	1	**4**	0	6	**6**	**10**
15:15 15:30	5	1	**6**	20	2	**22**	**28**
15:30 15:45	0	2	**2**	5	2	**7**	**9**
15:45 16:00	1	2	**3**	28	0	**28**	**31**
15:00 16:00	9	6	**15**	53	10	**63**	**78**
16:00 16:15	5	2	**7**	5	1	**6**	**13**
16:15 16:30	1	1	**2**	1	0	**1**	**3**
16:30 16:45	7	1	**8**	5	4	**9**	**17**
16:45 17:00	3	5	**8**	8	2	**10**	**18**
16:00 17:00	16	9	**25**	19	7	**26**	**51**
17:00 17:15	8	3	**11**	7	1	**8**	**19**
17:15 17:30	3	1	**4**	5	9	**14**	**18**
17:30 17:45	2	0	**2**	0	0	**0**	**2**
17:45 18:00	1	2	**3**	2	3	**5**	**8**
17:00 18:00	14	6	**20**	14	13	**27**	**47**
Total	84	74	**158**	111	143	**254**	**412**

Comment:

Transportation Services - Traffic Services

Work Order 37738

Turning Movement Count - Full Study Summary Report

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018

Total Observed U-Turns

Northbound: 2 Southbound: 0

Eastbound: 76 Westbound: 20

AADT Factor .90

Full Study

	CUMMINGS AVE									OGILVIE 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	12	93	55	**160**	119	109	104	**332**	**492**	46	530	6	**582**	134	865	126	**1125**	**1707**	**2199**
08:00 09:00	22	106	67	**195**	147	107	112	**366**	**561**	43	572	14	**629**	158	1021	171	**1350**	**1979**	**2540**
09:00 10:00	17	131	90	**238**	156	118	95	**369**	**607**	45	515	17	**577**	96	626	130	**852**	**1429**	**2036**
11:30 12:30	27	140	171	**338**	194	155	72	**421**	**759**	75	639	32	**746**	129	657	172	**958**	**1704**	**2463**
12:30 13:30	33	148	138	**319**	211	172	74	**457**	**776**	66	660	31	**757**	128	603	143	**874**	**1631**	**2407**
15:00 16:00	27	163	196	**386**	240	168	81	**489**	**875**	95	772	21	**888**	107	666	221	**994**	**1882**	**2757**
16:00 17:00	21	176	217	**414**	270	167	88	**525**	**939**	93	1088	18	**1199**	92	693	174	**959**	**2158**	**3097**
17:00 18:00	39	145	164	**348**	240	130	86	**456**	**804**	111	941	25	**1077**	94	700	196	**990**	**2067**	**2871**
Sub Total	198	1102	1098	**2398**	1577	1126	712	**3415**	**5813**	574	5717	164	**6455**	938	5831	1333	**8102**	**14557**	**20370**
U Turns				**2**				**0**	**2**				**76**				**20**	**96**	**98**
Total	198	1102	1098	**2400**	1577	1126	712	**3415**	**5815**	574	5717	164	**6531**	938	5831	1333	**8122**	**14653**	**20468**
EQ 12Hr	275	1532	1526	**3336**	2192	1565	990	**4747**	**8083**	798	7947	228	**9078**	1304	8105	1853	**11290**	**20368**	**28451**

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

AVG 12Hr	248	1379	1374	**3002**	1973	1409	891	**4272**	**7274**	718	7152	205	**8170**	1173	7295	1668	**10161**	**18331**	**25605**

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **.90**

AVG 24Hr	324	1806	1799	**3933**	2584	1845	1167	**5597**	**9530**	941	9369	269	**10703**	1537	9556	2185	**13310**	**24013**	**33543**

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.

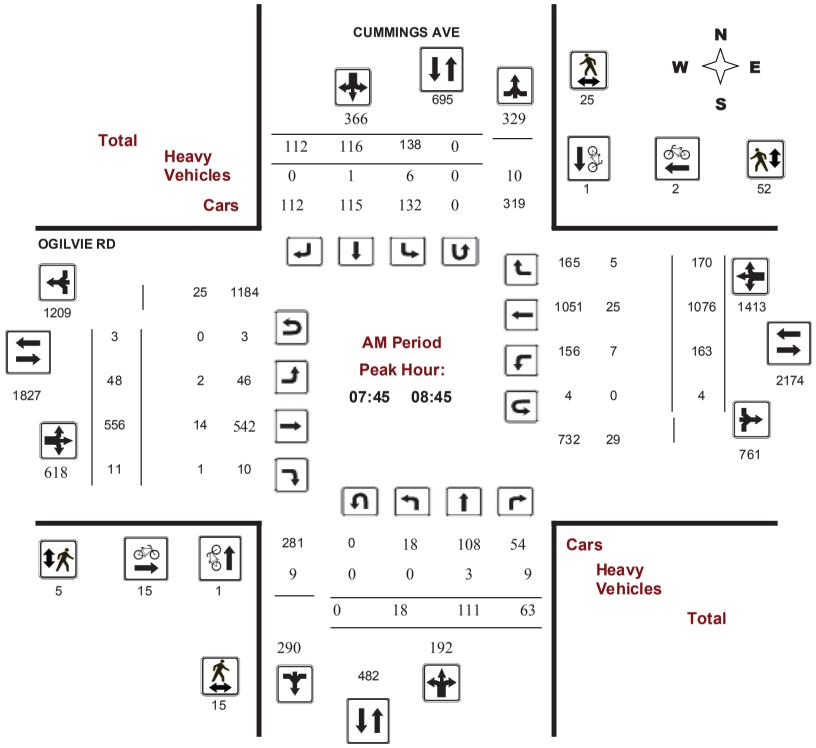
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37738

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



Comments

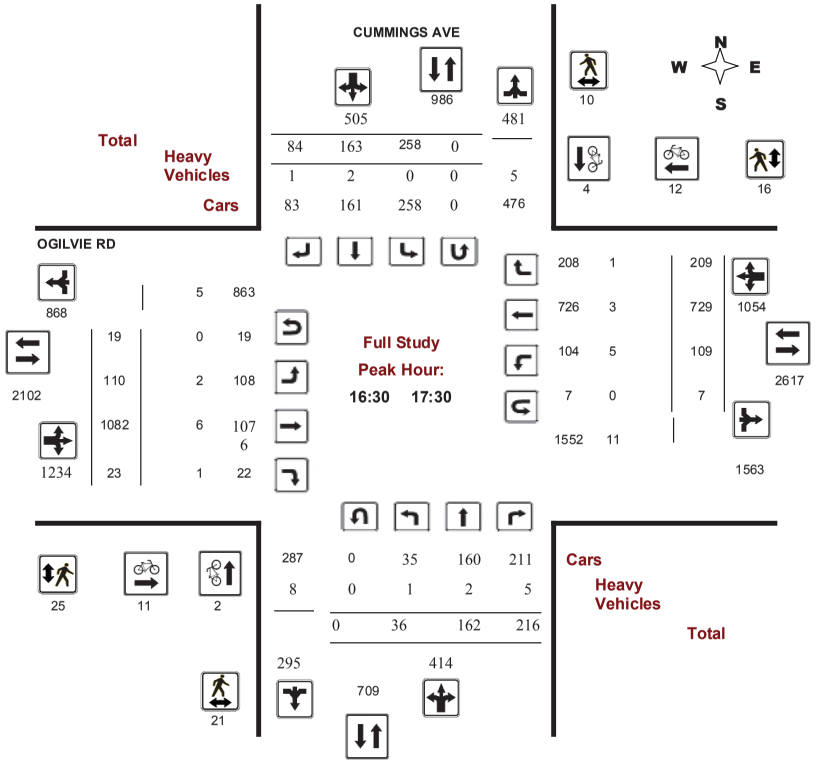
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37738

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



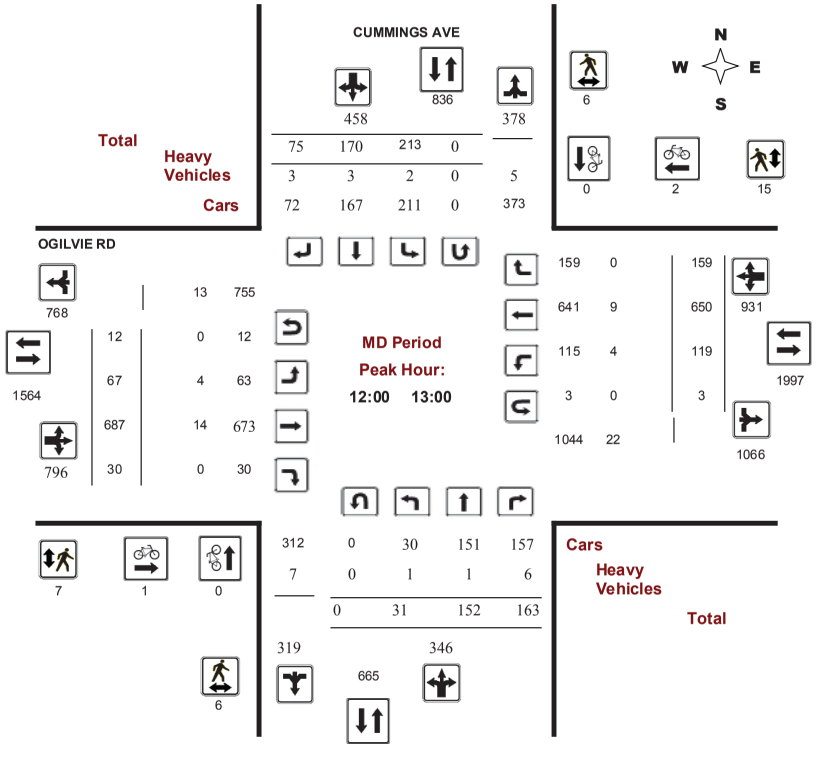
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37738

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



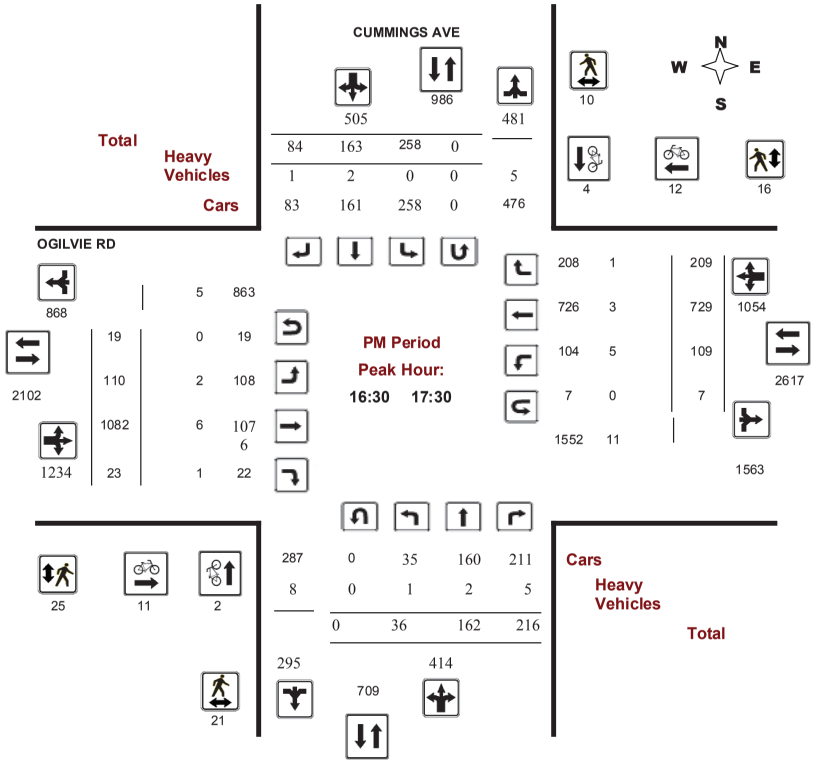
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37738

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



Transportation Services - Traffic Services

Work Order 37738

Turning Movement Count - 15 Min U-Turn Total Report

CUMMINGS AVE @ OGILVIE RD

Survey Date: Wednesday, April 11, 2018

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	1	0	1
07:30	07:45	0	0	2	0	2
07:45	08:00	0	0	0	1	1
08:00	08:15	0	0	0	1	1
08:15	08:30	0	0	0	1	1
08:30	08:45	0	0	3	1	4
08:45	09:00	0	0	2	0	2
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	1	1	2
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	2	0	2
11:30	11:45	0	0	1	0	1
11:45	12:00	0	0	3	0	3
12:00	12:15	0	0	3	2	5
12:15	12:30	0	0	2	0	2
12:30	12:45	0	0	3	0	3
12:45	13:00	0	0	4	1	5
13:00	13:15	0	0	3	0	3
13:15	13:30	0	0	9	0	9
15:00	15:15	0	0	5	1	6
15:15	15:30	0	0	2	0	2
15:30	15:45	0	0	2	1	3
15:45	16:00	0	0	2	1	3
16:00	16:15	1	0	3	0	4
16:15	16:30	1	0	1	2	4
16:30	16:45	0	0	4	1	5
16:45	17:00	0	0	1	3	4
17:00	17:15	0	0	4	0	4
17:15	17:30	0	0	10	3	13
17:30	17:45	0	0	2	0	2
17:45	18:00	0	0	1	0	1
Total		2	0	76	20	98

Transportation Services - Traffic Services

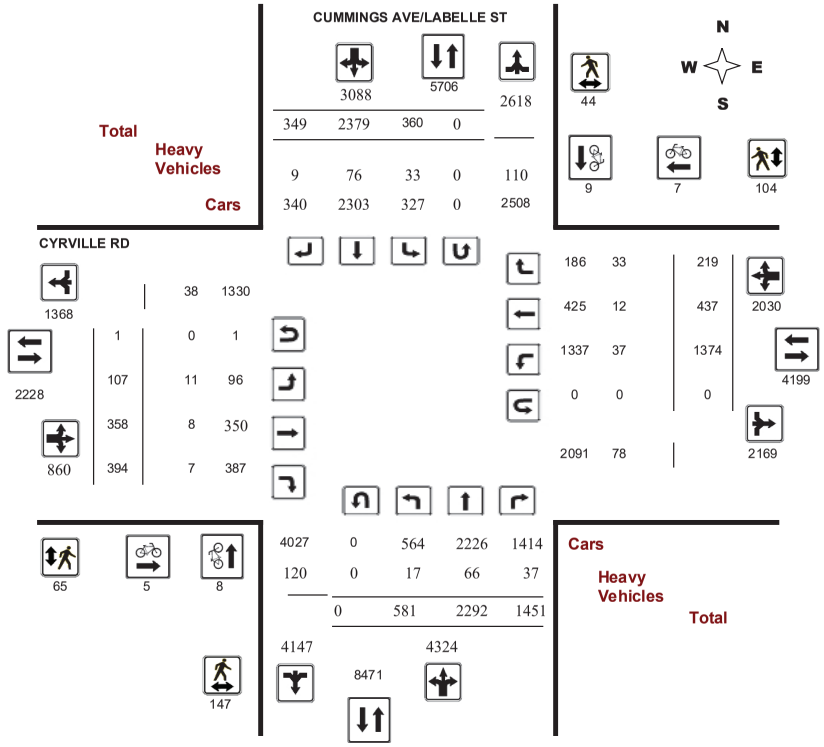
Turning Movement Count - Study Results

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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

Full Study Diagram



Transportation Services - Traffic Services

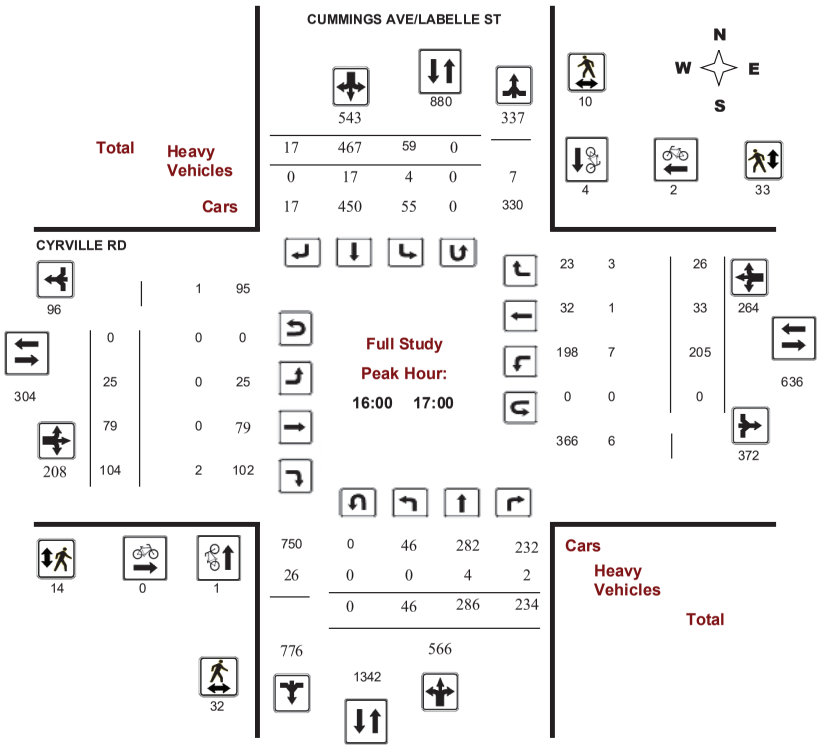
Turning Movement Count - Study Results

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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

Full Study Peak Hour Diagram



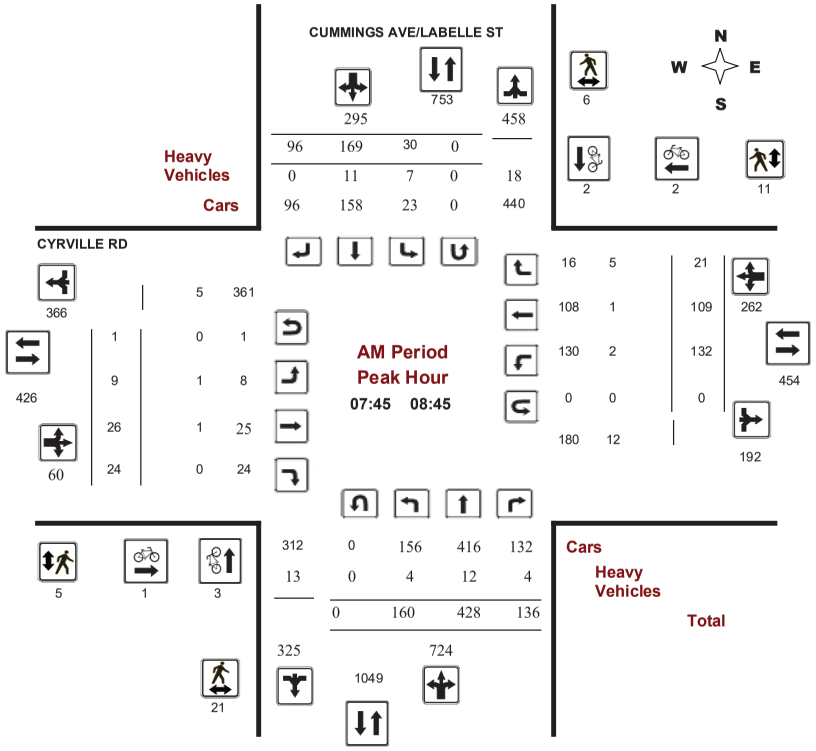
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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



Comments

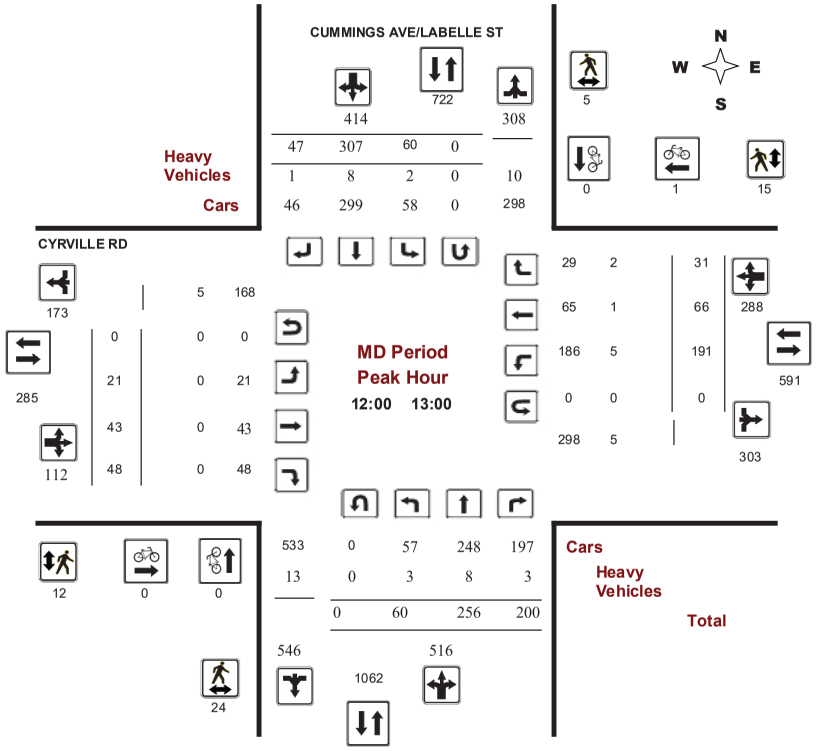
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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



Comments

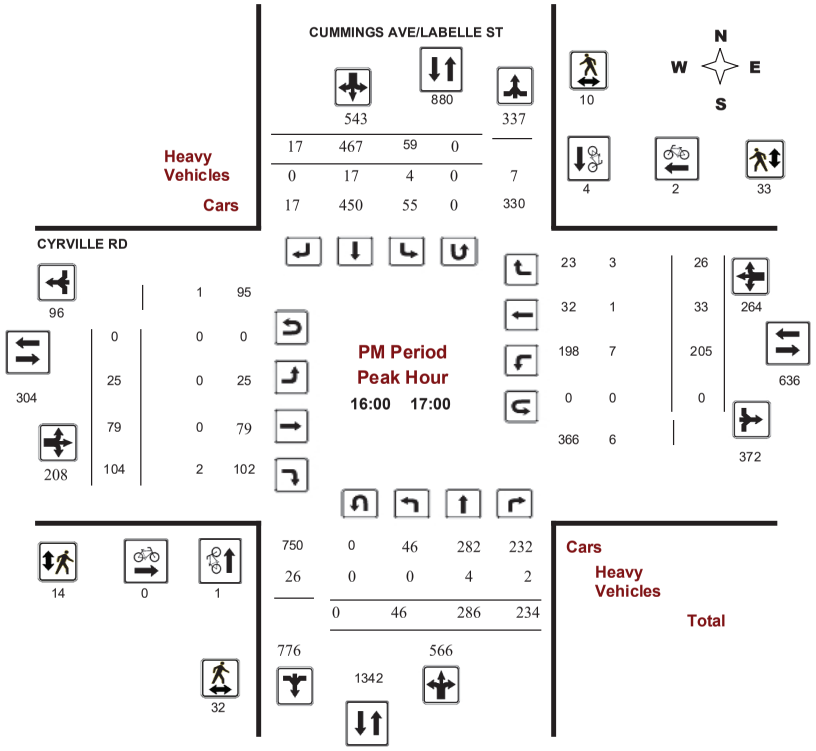
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, April 11, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 1 Westbound: 0

AADT Factor .90

	CUMMINGS AVE/LABELLE ST									CYRVILLE 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	146	347	127	**620**	20	168	94	**282**	**902**	4	13	31	**48**	133	86	16	**235**	**283**	**1185**
08:00 09:00	137	414	146	**697**	28	194	77	**299**	**996**	12	26	23	**61**	120	95	26	**241**	**302**	**1298**
09:00 10:00	58	229	164	**451**	32	222	33	**287**	**738**	4	16	23	**43**	148	34	18	**200**	**243**	**981**
11:30 12:30	43	250	191	**484**	53	290	41	**384**	**868**	15	55	47	**117**	212	38	36	**286**	**403**	**1271**
12:30 13:30	66	248	195	**509**	58	304	54	**416**	**925**	19	33	29	**81**	176	80	37	**293**	**374**	**1299**
15:00 16:00	48	238	205	**491**	52	399	19	**470**	**961**	21	90	87	**198**	204	37	29	**270**	**468**	**1429**
16:00 17:00	46	286	234	**566**	59	467	17	**543**	**1109**	25	79	104	**208**	205	33	26	**264**	**472**	**1581**
17:00 18:00	37	280	189	**506**	58	335	14	**407**	**913**	7	46	50	**103**	176	34	31	**241**	**344**	**1257**
Sub Total	581	2292	1451	**4324**	360	2379	349	**3088**	**7412**	107	358	394	**859**	1374	437	219	**2030**	**2889**	**10301**
U Turns				**0**				**0**	**0**				**1**				**0**	**1**	**1**
Total	581	2292	1451	**4324**	360	2379	349	**3088**	**7412**	107	358	394	**860**	1374	437	219	**2030**	**2890**	**10302**
EQ 12Hr	808	3186	2017	**6010**	500	3307	485	**4292**	**10303**	149	498	548	**1195**	1910	607	304	**2822**	**4017**	**14320**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	685	2702	1711	**5098**	424	2805	411	**3641**	**9273**	126	422	465	**1014**	1620	515	258	**2393**	**3615**	**12888**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**0.9**					
AVG 24Hr	897	3540	2241	**6678**	556	3674	539	**4769**	**11447**	165	553	609	**1328**	2122	675	338	**3135**	**4463**	**15910**
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

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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

Full Study 15 Minute Increments

		CUMMINGS AVE/LABELLE ST									CYRVILLE 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	33	67	29	129	3	43	18	64	14	1	4	6	11	25	9	3	37	14	241
07:15	07:30	30	98	38	166	5	33	21	59	11	0	2	10	12	32	25	6	63	11	300
07:30	07:45	33	82	29	144	5	53	25	83	11	1	4	6	11	33	24	4	61	11	299
07:45	08:00	50	100	31	181	7	39	30	76	7	2	3	9	14	43	28	3	74	7	345
08:00	08:15	48	93	37	178	6	40	20	66	11	0	5	3	9	34	25	4	63	11	316
08:15	08:30	39	122	38	199	12	39	29	80	8	4	5	8	17	30	25	6	61	8	357
08:30	08:45	23	113	30	166	5	51	17	73	12	3	13	4	20	25	31	8	64	12	323
08:45	09:00	27	86	41	154	5	64	11	80	8	5	3	8	16	31	14	8	53	8	303
09:00	09:15	19	68	35	122	12	57	12	81	13	1	1	5	7	31	9	8	48	13	258
09:15	09:30	12	59	53	124	6	48	8	62	11	1	2	7	10	33	6	4	43	11	239
09:30	09:45	12	46	36	94	7	66	8	81	9	1	7	3	11	46	7	3	56	9	242
09:45	10:00	15	56	40	111	7	51	5	63	13	1	6	8	15	38	12	3	53	13	242
11:30	11:45	9	71	40	120	14	66	10	90	4	1	10	8	19	54	11	12	77	4	306
11:45	12:00	9	62	50	121	10	75	14	99	8	5	18	7	30	55	7	9	71	8	321
12:00	12:15	10	52	46	108	14	76	10	100	5	4	18	20	42	52	12	8	72	5	322
12:15	12:30	15	65	55	135	15	73	7	95	7	5	9	12	26	51	8	7	66	7	322
12:30	12:45	21	58	47	126	14	65	13	92	6	6	6	8	20	48	16	9	73	6	311
12:45	13:00	14	81	52	147	17	93	17	127	7	6	10	8	24	40	30	7	77	7	375
13:00	13:15	22	55	46	123	12	69	15	96	10	5	7	5	17	54	19	8	81	10	317
13:15	13:30	9	54	50	113	15	77	9	101	3	2	10	8	20	34	15	13	62	3	296
15:00	15:15	17	70	48	135	13	114	6	133	6	6	26	18	50	40	13	2	55	6	373
15:15	15:30	9	61	58	128	14	85	2	101	5	3	18	22	43	52	5	10	67	5	339
15:30	15:45	10	45	52	107	12	97	3	112	6	7	24	28	59	59	9	3	71	6	349
15:45	16:00	12	62	47	121	13	103	8	124	5	5	22	19	46	53	10	14	77	5	368
16:00	16:15	18	78	52	148	19	112	4	135	5	8	22	40	70	46	10	7	63	5	416
16:15	16:30	7	68	55	130	13	121	3	137	6	4	20	25	49	53	3	4	60	6	376
16:30	16:45	7	59	67	133	16	124	9	149	9	7	19	24	50	52	11	9	72	9	404
16:45	17:00	14	81	60	155	11	110	1	122	7	6	18	15	39	54	9	6	69	7	385
17:00	17:15	12	82	53	147	17	107	3	127	7	2	10	17	29	47	13	10	70	7	373
17:15	17:30	6	58	52	116	16	97	3	116	1	1	17	9	27	62	12	8	82	1	341
17:30	17:45	13	83	42	138	11	68	6	85	1	3	14	11	28	33	5	5	43	1	294
17:45	18:00	6	57	42	105	14	63	2	79	2	1	5	13	19	34	4	8	46	2	249
Total:		581	2292	1451	4324	360	2379	349	3088	238	107	358	394	860	1374	437	219	2030	238	10,302

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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

Full Study Cyclist Volume

		CUMMINGS AVE/LABELLE ST			CYRVILLE 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	1	0	1	0	0	0	1
07:30	07:45	1	0	1	0	1	1	2
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	2	1	3	0	0	0	3
08:15	08:30	0	1	1	0	1	1	2
08:30	08:45	1	0	1	1	1	2	3
08:45	09:00	0	0	0	2	0	2	2
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	1	1	1
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	1	1	1
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	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	1	0	1	0	0	0	1
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	1	1	2	0	0	0	2
16:45	17:00	0	2	2	0	1	1	3
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	1	1	1	0	1	2
17:30	17:45	0	2	2	0	0	0	2
17:45	18:00	0	0	0	0	0	0	0
Total		8	9	**17**	5	7	12	29

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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

Full Study Pedestrian Volume

Time Period	CUMMINGS AVE/LABELLE ST NB Approach (E or W Crossing)	CUMMINGS AVE/LABELLE ST SB Approach (E or W Crossing)	Total	CYRVILLE RD EB Approach (N or S Crossing)	CYRVILLE RD WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	4	2	**6**	2	0	**2**	**8**
07:15 07:30	1	1	**2**	1	4	**5**	**7**
07:30 07:45	4	1	**5**	4	3	**7**	**12**
07:45 08:00	4	1	**5**	1	3	**4**	**9**
08:00 08:15	8	1	**9**	0	7	**7**	**16**
08:15 08:30	4	4	**8**	4	1	**5**	**13**
08:30 08:45	5	0	**5**	0	0	**0**	**5**
08:45 09:00	2	0	**2**	2	1	**3**	**5**
09:00 09:15	2	0	**2**	0	2	**2**	**4**
09:15 09:30	3	3	**6**	1	2	**3**	**9**
09:30 09:45	0	0	**0**	1	0	**1**	**1**
09:45 10:00	0	0	**0**	0	2	**2**	**2**
11:30 11:45	2	1	**3**	2	2	**4**	**7**
11:45 12:00	2	0	**2**	1	1	**2**	**4**
12:00 12:15	9	0	**9**	5	3	**8**	**17**
12:15 12:30	6	1	**7**	2	1	**3**	**10**
12:30 12:45	4	2	**6**	3	3	**6**	**12**
12:45 13:00	5	2	**7**	2	8	**10**	**17**
13:00 13:15	10	2	**12**	4	1	**5**	**17**
13:15 13:30	5	1	**6**	1	3	**4**	**10**
15:00 15:15	3	2	**5**	3	1	**4**	**9**
15:15 15:30	2	0	**2**	0	3	**3**	**5**
15:30 15:45	7	2	**9**	2	2	**4**	**13**
15:45 16:00	2	2	**4**	2	5	**7**	**11**
16:00 16:15	9	4	**13**	7	12	**19**	**32**
16:15 16:30	2	2	**4**	1	5	**6**	**10**
16:30 16:45	13	4	**17**	2	6	**8**	**25**
16:45 17:00	8	0	**8**	4	10	**14**	**22**
17:00 17:15	4	4	**8**	2	8	**10**	**18**
17:15 17:30	8	0	**8**	4	0	**4**	**12**
17:30 17:45	6	2	**8**	2	4	**6**	**14**
17:45 18:00	3	0	**3**	0	1	**1**	**4**
Total	147	44	**191**	65	104	**169**	**360**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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

Full Study Heavy Vehicles

Time Period		CUMMINGS AVE/LABELLE ST Northbound LT	ST	RT	N TOT	Southbound LT	ST	RT	S TOT	STR TOT	CYRVILLE RD Eastbound LT	ST	RT	E TOT	Westbound LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	3	3	4	**10**	1	2	1	**4**	**14**	0	0	0	**0**	1	0	1	**2**	**2**	**16**
07:15	07:30	0	6	3	**9**	1	1	0	**2**	**11**	0	0	0	**0**	0	0	1	**1**	**1**	**12**
07:30	07:45	1	6	2	**9**	2	0	0	**2**	**11**	0	1	1	**2**	0	1	1	**2**	**4**	**15**
07:45	08:00	2	3	1	**6**	1	0	0	**1**	**7**	1	0	0	**1**	0	0	1	**1**	**2**	**9**
08:00	08:15	1	5	0	**6**	2	3	0	**5**	**11**	0	0	0	**0**	1	0	2	**3**	**3**	**14**
08:15	08:30	1	2	1	**4**	1	3	0	**4**	**8**	0	0	0	**0**	0	0	1	**1**	**1**	**9**
08:30	08:45	0	2	2	**4**	3	5	0	**8**	**12**	0	1	0	**1**	1	1	1	**3**	**4**	**16**
08:45	09:00	0	1	2	**3**	2	3	0	**5**	**8**	2	0	1	**3**	0	0	2	**2**	**5**	**13**
09:00	09:15	1	3	1	**5**	2	6	0	**8**	**13**	0	0	0	**0**	2	2	0	**4**	**4**	**17**
09:15	09:30	1	3	3	**7**	0	3	1	**4**	**11**	0	0	0	**0**	4	0	1	**5**	**5**	**16**
09:30	09:45	0	2	2	**4**	2	3	0	**5**	**9**	1	1	0	**2**	2	1	1	**4**	**6**	**15**
09:45	10:00	1	6	2	**9**	0	4	0	**4**	**13**	1	0	0	**1**	2	0	2	**4**	**5**	**18**
11:30	11:45	1	2	0	**3**	1	0	0	**1**	**4**	0	0	0	**0**	2	1	0	**3**	**3**	**7**
11:45	12:00	1	2	2	**5**	0	1	2	**3**	**8**	2	1	0	**3**	2	0	1	**3**	**6**	**14**
12:00	12:15	2	2	0	**4**	1	0	0	**1**	**5**	0	0	0	**0**	1	0	0	**1**	**1**	**6**
12:15	12:30	0	2	3	**5**	0	2	0	**2**	**7**	0	0	0	**0**	1	0	1	**2**	**2**	**9**
12:30	12:45	0	1	0	**1**	1	3	1	**5**	**6**	0	0	0	**0**	1	1	0	**2**	**2**	**8**
12:45	13:00	1	3	0	**4**	0	3	0	**3**	**7**	0	0	0	**0**	2	0	1	**3**	**3**	**10**
13:00	13:15	0	4	3	**7**	1	1	1	**3**	**10**	1	0	1	**2**	0	1	0	**1**	**3**	**13**
13:15	13:30	0	2	0	**2**	0	1	0	**1**	**3**	1	1	0	**2**	0	0	1	**1**	**3**	**6**
15:00	15:15	1	1	0	**2**	2	1	1	**4**	**6**	0	1	0	**1**	3	1	0	**4**	**5**	**11**
15:15	15:30	0	0	1	**1**	0	4	0	**4**	**5**	1	0	1	**2**	1	1	1	**3**	**5**	**10**
15:30	15:45	0	0	3	**3**	1	2	0	**3**	**6**	0	2	0	**2**	3	0	1	**4**	**6**	**12**
15:45	16:00	0	1	0	**1**	1	2	1	**4**	**5**	0	0	0	**0**	1	0	6	**7**	**7**	**12**
16:00	16:15	0	3	0	**3**	1	1	0	**2**	**5**	0	0	1	**1**	1	1	1	**3**	**4**	**9**
16:15	16:30	0	0	0	**0**	1	5	0	**6**	**6**	0	0	1	**1**	4	0	0	**4**	**5**	**11**
16:30	16:45	0	1	2	**3**	1	5	0	**6**	**9**	0	0	0	**0**	1	0	1	**2**	**2**	**11**
16:45	17:00	0	0	0	**0**	1	6	0	**7**	**7**	0	0	0	**0**	1	0	1	**2**	**2**	**9**
17:00	17:15	0	0	0	**0**	2	5	0	**7**	**7**	0	0	0	**0**	0	0	1	**1**	**1**	**8**
17:15	17:30	0	0	0	**0**	1	0	0	**1**	**1**	0	0	0	**0**	0	0	1	**1**	**1**	**2**
17:30	17:45	0	0	0	**0**	0	0	1	**1**	**1**	1	0	1	**2**	0	1	1	**2**	**4**	**5**
17:45	18:00	0	0	0	**0**	1	1	0	**2**	**2**	0	0	0	**0**	0	0	1	**1**	**1**	**3**
Total:	None	17	66	37	**120**	33	76	9	**118**	**238**	11	8	7	**26**	37	12	33	**82**	**108**	**346**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CUMMINGS AVE/LABELLE ST @ CYRVILLE RD

Survey Date: Wednesday, April 11, 2018 **WO No:** 37718

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

Full Study 15 Minute U-Turn Total

		CUMMINGS AVE/LABELLE ST		CYRVILLE 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	1	0	1
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	0	0	0	0
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	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	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
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	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	1	0	1

Appendix C

Synchro Intersection Worksheets – Existing Conditions

CGH TRANSPORTATION

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	8	0	0	289	3	931	23	191	924	1
Future Volume (vph)	0	1	8	0	0	289	3	931	23	191	924	1
Satd. Flow (prot)	0	1375	0	0	0	1510	0	4736	0	1658	4764	0
Flt Permitted								0.938		0.257		
Satd. Flow (perm)	0	1375	0	0	0	1510	0	4442	0	442	4764	0
Satd. Flow (RTOR)		9				191		3				
Lane Group Flow (vph)	0	10	0	0	0	321	0	1063	0	212	1028	0
Turn Type		NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	14.9	14.9				35.1	53.0	53.0		27.0	80.0	
Total Split (%)	11.5%	11.5%				27.0%	40.8%	40.8%		20.8%	61.5%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		6.1				43.4		71.9		37.3	93.6	
Actuated g/C Ratio		0.05				0.33		0.55		0.29	0.72	
v/c Ratio		0.14				0.51		0.43		0.78	0.30	
Control Delay		35.8				26.3		6.0		65.3	8.3	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		35.8				26.3		6.0		65.3	8.3	
LOS		D				C		A		E	A	
Approach Delay		35.8			26.3			6.0			18.0	
Approach LOS		D			C			A			B	
Queue Length 50th (m)		0.3				37.5		13.3		38.9	35.4	
Queue Length 95th (m)		6.0				18.5		62.3		53.1	58.4	
Internal Link Dist (m)		6.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		103				634		2457		341	3428	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.10				0.51		0.43		0.62	0.30	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 62.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd

Scenario 1 TCU 1155 Joseph Cyr AM Peak Hour 2020 Existing

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	194	58	625	594	24	141	771	507	33	783	132
Future Volume (vph)	67	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)	3198	3316	1351	3096	3316	1432	1624	3316	1483	1639	4764	1362
Satd. Flow (RTOR)			195			140			380			196
Lane Group Flow (vph)	74	216	64	694	660	27	157	857	563	37	870	147
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	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		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		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		21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	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
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
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
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
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	21.6	26.8	26.8	29.0	36.8	36.8	14.6	44.7	0.0	8.4	33.4	33.4
Actuated g/C Ratio	0.17	0.21	0.21	0.22	0.28	0.28	0.11	0.34	0.00	0.06	0.26	0.26
v/c Ratio	0.14	0.32	0.15	0.97	0.70	0.05	0.85	0.75	1.48	0.35	0.71	0.30
Control Delay	45.7	43.8	0.7	77.2	32.8	0.2	109.5	37.5	254.3	82.8	41.2	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	43.8	0.7	77.2	32.8	0.2	109.5	37.5	254.3	82.8	41.2	5.0
LOS	D	D	A	E	C	A	F	D	F	F	D	A
Approach Delay		36.4			54.5			122.1			37.6	
Approach LOS		D			D			F			D	
Queue Length 50th (m)	7.9	23.8	0.0	96.6	81.6	0.0	42.5	114.1	~132.2	7.3	78.2	8.0
Queue Length 95th (m)	15.7	35.2	0.0	#133.6	86.6	m0.0	#77.4	#159.6	#205.6	22.1	94.5	5.5
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	545	790	470	718	1313	651	193	1139	380	193	1222	495
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	0.14	0.27	0.14	0.97	0.50	0.04	0.81	0.75	1.48	0.19	0.71	0.30

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: 1.48

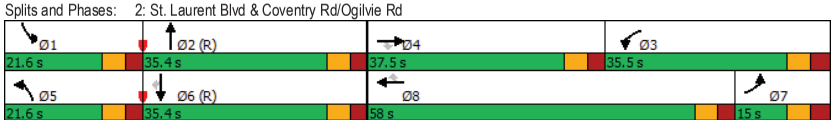
Intersection Signal Delay: 73.3	Intersection LOS: E
Intersection Capacity Utilization 94.3%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	589	153	1163	228	7	1369
Future Volume (vph)	589	153	1163	228	7	1369
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.178	
Satd. Flow (perm)	3216	1418	4764	1444	310	4764
Satd. Flow (RTOR)		52		253		
Lane Group Flow (vph)	654	170	1292	253	8	1521
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	50.0	50.0	80.0	80.0	80.0	80.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%	61.5%	61.5%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	32.4	32.4	86.0	86.0	86.0	86.0
Actuated g/C Ratio	0.25	0.25	0.66	0.66	0.66	0.66
v/c Ratio	0.82	0.43	0.41	0.24	0.04	0.48
Control Delay	54.5	30.5	11.2	1.8	8.7	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	30.5	11.2	1.8	8.7	11.4
LOS	D	C	B	A	A	B
Approach Delay	49.6		9.7			11.4
Approach LOS	D		A			B
Queue Length 50th (m)	81.6	25.2	52.4	0.0	0.7	67.8
Queue Length 95th (m)	95.9	43.3	72.2	10.1	m1.3	m73.1
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	1086	513	3151	1040	205	3151
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	0.60	0.33	0.41	0.24	0.04	0.48

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 124 (95%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 18.8	Intersection LOS: B
Intersection Capacity Utilization 59.4%	ICU Level of Service B
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	532	227	27	984	166	165	234	12	47	152	45
Future Volume (vph)	0	532	227	27	984	166	165	234	12	47	152	45
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1731	0	1658	1676	0
Flt Permitted				0.414			0.484			0.382		
Satd. Flow (perm)	0	3316	1391	713	3316	1327	840	1731	0	665	1676	0
Satd. Flow (RTOR)			252			184		2			12	
Lane Group Flow (vph)	0	591	252	30	1093	184	183	273	0	52	219	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		80.0	80.0	80.0	80.0	80.0	50.0	50.0		50.0	50.0	
Total Split (%)		61.5%	61.5%	61.5%	61.5%	61.5%	38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		86.4	86.4	86.4	86.4	86.4	30.3	30.3		30.3	30.3	
Actuated g/C Ratio		0.66	0.66	0.66	0.66	0.66	0.23	0.23		0.23	0.23	
v/c Ratio		0.27	0.25	0.06	0.50	0.20	0.93	0.67		0.34	0.55	
Control Delay		7.4	0.5	2.7	3.8	0.5	97.0	52.2		28.5	24.1	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		7.4	0.5	2.7	3.8	0.5	97.0	52.2		28.5	24.1	
LOS		A	A	A	A	A	F	D		C	C	
Approach Delay		5.3			3.3			70.2			25.0	
Approach LOS		A			A			E			C	
Queue Length 50th (m)		24.3	0.0	0.3	6.2	0.1	46.1	63.4		4.9	20.2	
Queue Length 95th (m)		m25.4	m0.1	m1.3	55.6	m1.8	68.8	82.0		m13.0	46.2	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2202	1008	473	2202	943	277	572		219	561	
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	0.25	0.06	0.50	0.20	0.66	0.48		0.24	0.39	

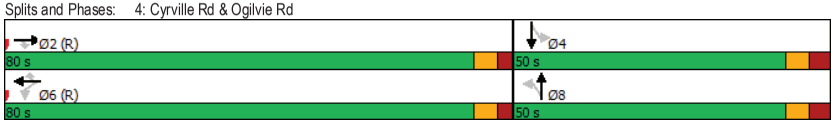
Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 72.0%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 4: Cyrville Rd & Ogilvie Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	556	11	167	1076	170	18	111	63	138	116	112
Future Volume (vph)	51	556	11	167	1076	170	18	111	63	138	116	112
Satd. Flow (prot)	1658	3301	0	1658	3196	0	1658	1577	0	1658	1599	0
Flt Permitted	0.100			0.356			0.602			0.426		
Satd. Flow (perm)	175	3301	0	611	3196	0	1046	1577	0	711	1599	0
Satd. Flow (RTOR)		2			19			20			39	
Lane Group Flow (vph)	57	630	0	186	1385	0	20	193	0	153	253	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.3	36.6	
Total Split (s)	11.0	71.0		11.0	71.0		36.6	36.6		11.4	48.0	
Total Split (%)	8.5%	54.6%		8.5%	54.6%		28.2%	28.2%		8.8%	36.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	75.8	68.7		77.2	71.1		26.4	26.4		40.1	37.8	
Actuated g/C Ratio	0.58	0.53		0.59	0.55		0.20	0.20		0.31	0.29	
v/c Ratio	0.33	0.36		0.45	0.79		0.09	0.57		0.57	0.51	
Control Delay	23.7	22.1		16.2	29.3		40.7	47.8		42.6	35.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.7	22.1		16.2	29.3		40.7	47.8		42.6	35.3	
LOS	C	C		B	C		D	D		D	D	
Approach Delay		22.2			27.8			47.2			38.0	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	7.3	51.0		20.7	157.0		4.0	38.9		28.6	43.7	
Queue Length 95th (m)	19.7	62.3		32.4	190.3		11.1	63.0		46.2	69.4	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	174	1745		414	1756		241	379		270	535	
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	0.33	0.36		0.45	0.79		0.08	0.51		0.57	0.47	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 110 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 90.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Cummings Ave & Ogilvie Rd

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	169	96	160	428	136	10	26	24	132	109	21
Future Volume (vph)	30	169	96	160	428	136	10	26	24	132	109	21
Satd. Flow (prot)	1658	1620	0	1658	1658	0	1658	1526	0	1658	1695	0
Flt Permitted	0.233			0.580			0.665			0.720		
Satd. Flow (perm)	395	1620	0	997	1658	0	1154	1526	0	1140	1695	0
Satd. Flow (RTOR)		60			23			27			11	
Lane Group Flow (vph)	33	295	0	178	627	0	11	56	0	147	144	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	42.0		42.0	42.0		28.0	28.0		28.0	28.0	
Total Split (%)	17.6%	49.4%		49.4%	49.4%		32.9%	32.9%		32.9%	32.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	46.8	46.8		39.5	39.5		17.0	17.0		17.0	17.0	
Actuated g/C Ratio	0.62	0.62		0.52	0.52		0.22	0.22		0.22	0.22	
v/c Ratio	0.09	0.29		0.34	0.72		0.04	0.15		0.58	0.37	
Control Delay	7.6	6.9		17.0	23.5		23.3	15.6		35.7	25.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.6	6.9		17.0	23.5		23.3	15.6		35.7	25.5	
LOS	A	A		B	C		C	B		D	C	
Approach Delay		7.0			22.1			16.8			30.6	
Approach LOS		A			C			B			C	
Queue Length 50th (m)	2.0	16.2		18.5	82.7		1.3	3.4		19.3	16.5	
Queue Length 95th (m)	5.4	29.3		36.7	#150.2		5.1	11.9		37.5	32.2	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	391	1122		518	873		348	480		344	520	
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	0.08	0.26		0.34	0.72		0.03	0.12		0.43	0.28	

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 75.9
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.72

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Intersection Signal Delay: 20.2 — Intersection LOS: C
Intersection Capacity Utilization 69.0% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	9	0	0	324	3	1257	86	295	993	4
Future Volume (vph)	1	0	9	0	0	324	3	1257	86	295	993	4
Satd. Flow (prot)	0	1422	0	0	0	1510	0	4680	0	1658	4757	0
Flt Permitted		0.995						0.938		0.219		
Satd. Flow (perm)	0	1422	0	0	0	1488	0	4390	0	382	4757	0
Satd. Flow (RTOR)		137				237		9			1	
Lane Group Flow (vph)	0	11	0	0	0	360	0	1496	0	328	1107	0
Turn Type	Perm	NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	15.0	15.0				37.0	38.0	38.0		30.0	68.0	
Total Split (%)	12.5%	12.5%				30.8%	31.7%	31.7%		25.0%	56.7%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		5.5				43.5		56.2		43.5	87.4	
Actuated g/C Ratio		0.05				0.36		0.47		0.36	0.73	
v/c Ratio		0.06				0.52		0.73		0.81	0.32	
Control Delay		0.6				28.3		15.6		55.4	7.7	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		0.6				28.3		15.6		55.4	7.7	
LOS		A				C		B		E	A	
Approach Delay		0.6			28.3			15.6			18.6	
Approach LOS		A			C			B			B	
Queue Length 50th (m)		0.0				60.3		43.0		58.4	21.7	
Queue Length 95th (m)		0.0				35.3		#187.5		75.8	61.8	
Internal Link Dist (m)		5.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		234				741		2059		419	3466	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.05				0.49		0.73		0.78	0.32	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

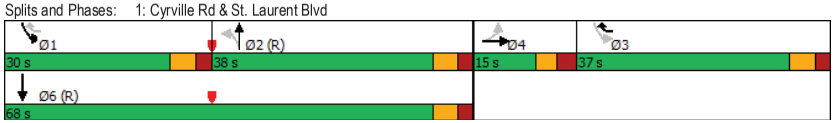
08-20-2020

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 68.6%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd



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)	3078	3316	1369	3144	3316	1311	1575	3316	1407	1641	4764	1230
Satd. Flow (RTOR)			212			210			374			213
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	23.6	44.0	44.0	15.0	35.4	35.4
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.7%	36.7%	36.7%	12.5%	29.5%	29.5%
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)	19.8	29.2	29.2	18.4	27.8	27.8	16.7	37.9	37.9	8.3	29.5	29.5
Actuated g/C Ratio	0.16	0.24	0.24	0.15	0.23	0.23	0.14	0.32	0.32	0.07	0.25	0.25
v/c Ratio	0.63	0.79	0.46	1.05	0.53	0.07	0.88	0.90	0.97	0.69	0.72	0.46
Control Delay	54.2	50.3	9.3	102.1	47.9	0.3	100.8	41.1	35.1	87.7	38.2	11.9
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	54.2	50.3	9.3	102.1	47.9	0.3	100.8	41.1	35.1	87.7	38.2	11.9
LOS	D	D	A	F	D	A	F	D	D	F	D	B
Approach Delay		43.6			75.5			45.6			36.7	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	39.7	72.8	2.8	~72.8	53.3	0.0	48.0	112.9	88.3	18.4	67.2	11.1
Queue Length 95th (m)	#56.5	93.9	23.2	#106.2	69.9	m0.0	#89.4	#148.8	#74.5	#38.2	82.4	44.7
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	530	856	510	492	856	494	237	1047	700	118	1172	463
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.75	0.45	1.05	0.48	0.07	0.86	0.90	0.97	0.67	0.72	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: 1.05

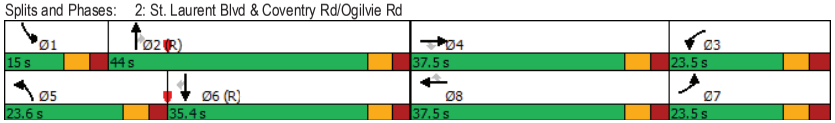
Intersection Signal Delay: 48.8	Intersection LOS: D
Intersection Capacity Utilization 94.7%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	496	156	1528	246	13	1700
Future Volume (vph)	496	156	1528	246	13	1700
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.106	
Satd. Flow (perm)	3216	1380	4764	1433	185	4764
Satd. Flow (RTOR)		29		273		
Lane Group Flow (vph)	551	173	1698	273	14	1889
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	38.0	38.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	28.3	28.3	80.1	80.1	80.1	80.1
Actuated g/C Ratio	0.24	0.24	0.67	0.67	0.67	0.67
v/c Ratio	0.73	0.50	0.53	0.26	0.11	0.59
Control Delay	48.0	37.3	11.5	1.6	6.2	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	37.3	11.5	1.6	6.2	7.5
LOS	D	D	B	A	A	A
Approach Delay	45.4		10.1			7.5
Approach LOS	D		B			A
Queue Length 50th (m)	60.8	28.8	72.6	0.0	0.7	70.2
Queue Length 95th (m)	77.8	49.7	88.7	9.2	m1.8	m75.4
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	854	388	3179	1046	123	3179
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	0.65	0.45	0.53	0.26	0.11	0.59

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 99 (83%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 14.6	Intersection LOS: B
Intersection Capacity Utilization 67.4%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	984	257	42	641	124	117	210	32	134	213	80
Future Volume (vph)	0	984	257	42	641	124	117	210	32	134	213	80
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1706	0	1658	1665	0
Flt Permitted				0.216			0.305			0.408		
Satd. Flow (perm)	0	3316	1375	374	3316	1340	530	1706	0	709	1665	0
Satd. Flow (RTOR)			286			138		7			18	
Lane Group Flow (vph)	0	1093	286	47	712	138	130	269	0	149	326	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		70.0	70.0	70.0	70.0	70.0	50.0	50.0		50.0	50.0	
Total Split (%)		58.3%	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%		41.7%	41.7%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		78.1	78.1	78.1	78.1	78.1	28.6	28.6		28.6	28.6	
Actuated g/C Ratio		0.65	0.65	0.65	0.65	0.65	0.24	0.24		0.24	0.24	
v/c Ratio		0.51	0.29	0.19	0.33	0.15	1.03	0.65		0.88	0.79	
Control Delay		5.1	0.6	22.3	18.6	9.6	132.9	46.6		60.4	33.1	
Queue Delay		0.2	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		5.3	0.6	22.3	18.6	9.6	132.9	46.6		60.4	33.1	
LOS		A	A	C	B	A	F	D		E	C	
Approach Delay		4.4			17.4			74.7			41.7	
Approach LOS		A			B			E			D	
Queue Length 50th (m)		27.6	0.0	6.3	53.0	8.4	~33.2	56.3		36.4	75.6	
Queue Length 95th (m)		m54.3	m1.1	m8.5	m61.7	m11.2	#59.6	73.6		m23.8	m46.5	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2157	994	243	2157	920	189	614		253	606	
Starvation Cap Reductn		352	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		0.61	0.29	0.19	0.33	0.15	0.69	0.44		0.59	0.54	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 22.6	Intersection LOS: C
Intersection Capacity Utilization 83.2%	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: 4: Cyrville Rd & Ogilvie Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	1082	23	116	729	209	36	162	216	258	163	84
Future Volume (vph)	129	1082	23	116	729	209	36	162	216	258	163	84
Satd. Flow (prot)	1658	3299	0	1658	3161	0	1658	1564	0	1658	1632	0
Flt Permitted	0.095			0.096			0.591			0.161		
Satd. Flow (perm)	166	3299	0	168	3161	0	1031	1564	0	281	1632	0
Satd. Flow (RTOR)		2			33			55			28	
Lane Group Flow (vph)	143	1228	0	129	1042	0	40	420	0	287	274	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.5	36.6	
Total Split (s)	15.0	45.0		15.0	45.0		40.0	40.0		20.0	60.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		33.3%	33.3%		16.7%	50.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	52.9	42.0		52.2	41.7		31.5	31.5		53.8	51.5	
Actuated g/C Ratio	0.44	0.35		0.44	0.35		0.26	0.26		0.45	0.43	
v/c Ratio	0.73	1.06		0.68	0.93		0.15	0.93		0.94	0.38	
Control Delay	50.1	71.0		40.8	52.3		34.5	66.1		64.4	22.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.1	71.0		40.8	52.3		34.5	66.1		64.4	22.2	
LOS	D	E		D	D		C	E		E	C	
Approach Delay		68.8			51.0			63.4			43.8	
Approach LOS		E			D			E			D	
Queue Length 50th (m)	18.5	~171.6		17.3	124.6		7.1	84.0		43.4	37.4	
Queue Length 95th (m)	#46.2	#215.9		#39.0	#170.7		16.2	#141.2		#94.9	58.4	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	202	1155		201	1119		286	475		305	741	
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	0.71	1.06		0.64	0.93		0.14	0.88		0.94	0.37	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

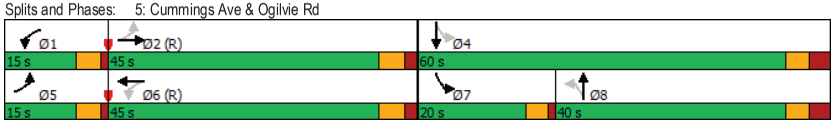
Maximum v/c Ratio: 1.06

Intersection Signal Delay: 58.3	Intersection LOS: E
Intersection Capacity Utilization 96.3%	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: 5: Cummings Ave & Ogilvie Rd



Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	467	17	46	286	234	25	79	104	205	33	26
Future Volume (vph)	59	467	17	46	286	234	25	79	104	205	33	26
Satd. Flow (prot)	1658	1732	0	1658	1599	0	1658	1511	0	1658	1590	0
Flt Permitted	0.215			0.464			0.714			0.568		
Satd. Flow (perm)	370	1732	0	788	1599	0	1236	1511	0	939	1590	0
Satd. Flow (RTOR)		3			46			75			29	
Lane Group Flow (vph)	66	538	0	51	578	0	28	204	0	228	66	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	43.0		43.0	43.0		42.0	42.0		42.0	42.0	
Total Split (%)	15.0%	43.0%		43.0%	43.0%		42.0%	42.0%		42.0%	42.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	48.5	48.5		37.8	37.8		24.4	24.4		24.4	24.4	
Actuated g/C Ratio	0.57	0.57		0.44	0.44		0.29	0.29		0.29	0.29	
v/c Ratio	0.20	0.54		0.15	0.78		0.08	0.42		0.85	0.14	
Control Delay	11.8	15.5		20.6	31.7		22.3	17.9		56.5	14.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	11.8	15.5		20.6	31.7		22.3	17.9		56.5	14.7	
LOS	B	B		C	C		C	B		E	B	
Approach Delay		15.1			30.8			18.5			47.1	
Approach LOS		B			C			B			D	
Queue Length 50th (m)	4.5	51.2		5.2	78.4		3.4	16.8		35.9	4.5	
Queue Length 95th (m)	12.7	102.0		15.3	#167.6		9.3	34.9		64.4	13.2	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	346	1087		350	737		547	710		415	720	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.49		0.15	0.78		0.05	0.29		0.55	0.09	

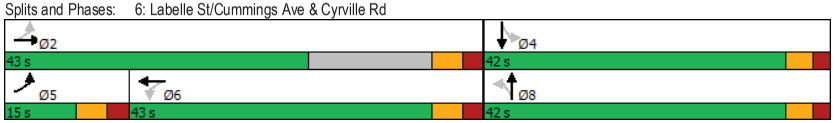
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 85
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.85

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Intersection Signal Delay: 26.5 — Intersection LOS: C
Intersection Capacity Utilization 83.7% — 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: 6: Labelle St/Cummings Ave & Cyrville Rd



Appendix D

Collision Data

CGH TRANSPORTATION

Accident Date	Accident Year	Accident Time	Location	Environment Condition	Light	Traffic Control	Traffic Control Condition	Classification Of Accident	Initial Impact Type	Road Surface Condition
2014-01-11	2014	8:33	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	06 - Ice
2014-11-08	2014	16:36	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	05 - Dusk	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2015-01-02	2015	8:36	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	07 - SMV other	01 - Dry
2015-02-17	2015	11:47	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-06-17	2015	14:12	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	07 - SMV other	01 - Dry
2015-09-03	2015	12:08	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2015-10-02	2015	18:41	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	05 - Dusk	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-10-07	2015	9:35	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-11-02	2015	19:02	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	99 - Other	01 - Dry
2016-04-21	2016	15:17	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2017-06-28	2017	18:42	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2017-11-10	2017	8:30	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2018-07-27	2018	12:06	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD (0008791)	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2018-10-23	2018	16:32	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD (0008791)	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2018-11-10	2018	17:29	CUMMINGS AVE/LABELLE ST @ CYRVILLE RD (0008791)	01 - Clear	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	07 - SMV other	01 - Dry
2014-03-30	2014	21:33	CYRVILLE RD @ OGILVIE RD	01 - Clear	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	05 - Turning movement	02 - Wet
2014-05-10	2014	9:45	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-05-26	2014	7:15	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	02 - Wet
2014-06-02	2014	8:45	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2014-07-12	2014	19:17	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-08-25	2014	11:30	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	99 - Other	01 - Dry
2014-11-03	2014	6:41	CYRVILLE RD @ OGILVIE RD	01 - Clear	03 - Dawn	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2014-11-14	2014	14:00	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2014-11-28	2014	16:38	CYRVILLE RD @ OGILVIE RD	01 - Clear	05 - Dusk	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2014-12-04	2014	6:55	CYRVILLE RD @ OGILVIE RD	01 - Clear	03 - Dawn	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2014-12-12	2014	8:10	CYRVILLE RD @ OGILVIE RD	03 - Snow	01 - Daylight	01 - Traffic signal		03 - P.D. only	02 - Angle	03 - Loose snow
2015-03-14	2015	1:04	CYRVILLE RD @ OGILVIE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2015-05-08	2015	15:25	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-07-25	2015	21:44	CYRVILLE RD @ OGILVIE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	05 - Turning movement	02 - Wet
2015-07-29	2015	9:55	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-10-02	2015	19:19	CYRVILLE RD @ OGILVIE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2015-12-19	2015	8:51	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	02 - Angle	06 - Ice
2016-02-18	2016	9:07	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	06 - Ice
2016-03-26	2016	10:20	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	02 - Wet
2016-06-03	2016	18:59	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2016-07-25	2016	9:28	CYRVILLE RD @ OGILVIE RD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	99 - Other	02 - Wet
2016-08-22	2016	19:34	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	07 - SMV other	01 - Dry
2016-10-24	2016	16:10	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2016-12-13	2016	16:40	CYRVILLE RD @ OGILVIE RD	01 - Clear	05 - Dusk	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2017-02-09	2017	16:58	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2017-03-03	2017	19:15	CYRVILLE RD @ OGILVIE RD	01 - Clear	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	07 - SMV other	01 - Dry
2017-03-14	2017	13:30	CYRVILLE RD @ OGILVIE RD	03 - Snow	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	04 - Slush
2017-03-25	2017	12:48	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2017-06-28	2017	8:43	CYRVILLE RD @ OGILVIE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2017-12-21	2017	17:22	CYRVILLE RD @ OGILVIE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2018-02-28	2018	8:56	CYRVILLE RD @ OGILVIE RD (0003554)	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	02 - Wet
2018-03-20	2018	13:37	CYRVILLE RD @ OGILVIE RD (0003554)	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2018-03-24	2018	5:51	CYRVILLE RD @ OGILVIE RD (0003554)	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2018-03-29	2018	15:59	CYRVILLE RD @ OGILVIE RD (0003554)	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	02 - Wet
2018-04-25	2018	21:35	CYRVILLE RD @ OGILVIE RD (0003554)	02 - Rain	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	07 - SMV other	02 - Wet
2018-08-20	2018	18:01	CYRVILLE RD @ OGILVIE RD (0003554)	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2018-10-04	2018	21:21	CYRVILLE RD @ OGILVIE RD (0003554)	01 - Clear	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	05 - Turning movement	01 - Dry
2018-10-16	2018	4:16	CYRVILLE RD @ OGILVIE RD (0003554)	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	07 - SMV other	01 - Dry
2018-11-03	2018	16:53	CYRVILLE RD @ OGILVIE RD (0003554)	02 - Rain	05 - Dusk	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2018-11-13	2018	14:42	CYRVILLE RD @ OGILVIE RD (0003554)	03 - Snow	01 - Daylight	01 - Traffic signal		03 - P.D. only	99 - Other	02 - Wet
2018-12-22	2018	13:54	CYRVILLE RD @ OGILVIE RD (0003554)	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2014-01-22	2014	21:11	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	07 - SMV other	01 - Dry
2014-02-14	2014	11:50	CYRVILLE RD @ ST. LAURENT BLVD	03 - Snow	01 - Daylight	01 - Traffic signal		03 - P.D. only	01 - Approaching	03 - Loose snow
2014-04-08	2014	12:20	CYRVILLE RD @ ST. LAURENT BLVD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2014-05-12	2014	19:55	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2014-05-27	2014	17:00	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2014-06-26	2014	12:10	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2014-06-30	2014	13:15	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	07 - SMV other	01 - Dry
2014-08-18	2014	12:58	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2014-09-04	2014	8:00	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2014-12-03	2014	14:53	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2014-12-10	2014	16:50	CYRVILLE RD @ ST. LAURENT BLVD	03 - Snow	07 - Dark	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	03 - Loose snow
2014-12-15	2014	9:00	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2014-12-15	2014	9:50	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-08-28	2015	8:27	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-09-04	2015	15:11	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	05 - Turning movement	01 - Dry
2015-10-04	2015	10:50	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-10-15	2015	16:48	CYRVILLE RD @ ST. LAURENT BLVD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2015-10-17	2015	12:55	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2015-12-12	2015	13:09	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-12-12	2015	15:57	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	05 - Dusk	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2016-01-13	2016	16:41	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	05 - Dusk	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2016-03-19	2016	11:56	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	07 - SMV other	01 - Dry
2016-06-17	2016	15:47	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2016-07-06	2016	18:11	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	05 - Turning movement	01 - Dry
2016-08-01	2016	9:21	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-10-21	2016	16:15	CYRVILLE RD @ ST. LAURENT BLVD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2016-10-21	2016	16:42	CYRVILLE RD @ ST. LAURENT BLVD	02 - Rain	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	04 - Sideswipe	02 - Wet
2016-11-23	2016	9:40	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2016-12-04	2016	11:54	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2016-12-22	2016	19:39	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	03 - Loose snow
2017-03-06	2017	14:15	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2017-05-17	2017	15:30	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2017-06-15	2017	10:30	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	99 - Other	01 - Dry
2017-08-02	2017	7:40	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2017-10-29	2017	18:19	CYRVILLE RD @ ST. LAURENT BLVD	02 - Rain	07 - Dark	01 - Traffic signal		03 - P.D. only	99 - Other	02 - Wet
2017-11-11	2017	14:05	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2017-11-26	2017	19:26	CYRVILLE RD @ ST. LAURENT BLVD	03 - Snow	07 - Dark	01 - Traffic signal		03 - P.D. only	05 - Turning movement	04 - Slush
2017-12-06	2017	17:05	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2017-12-09	2017	11:08	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry

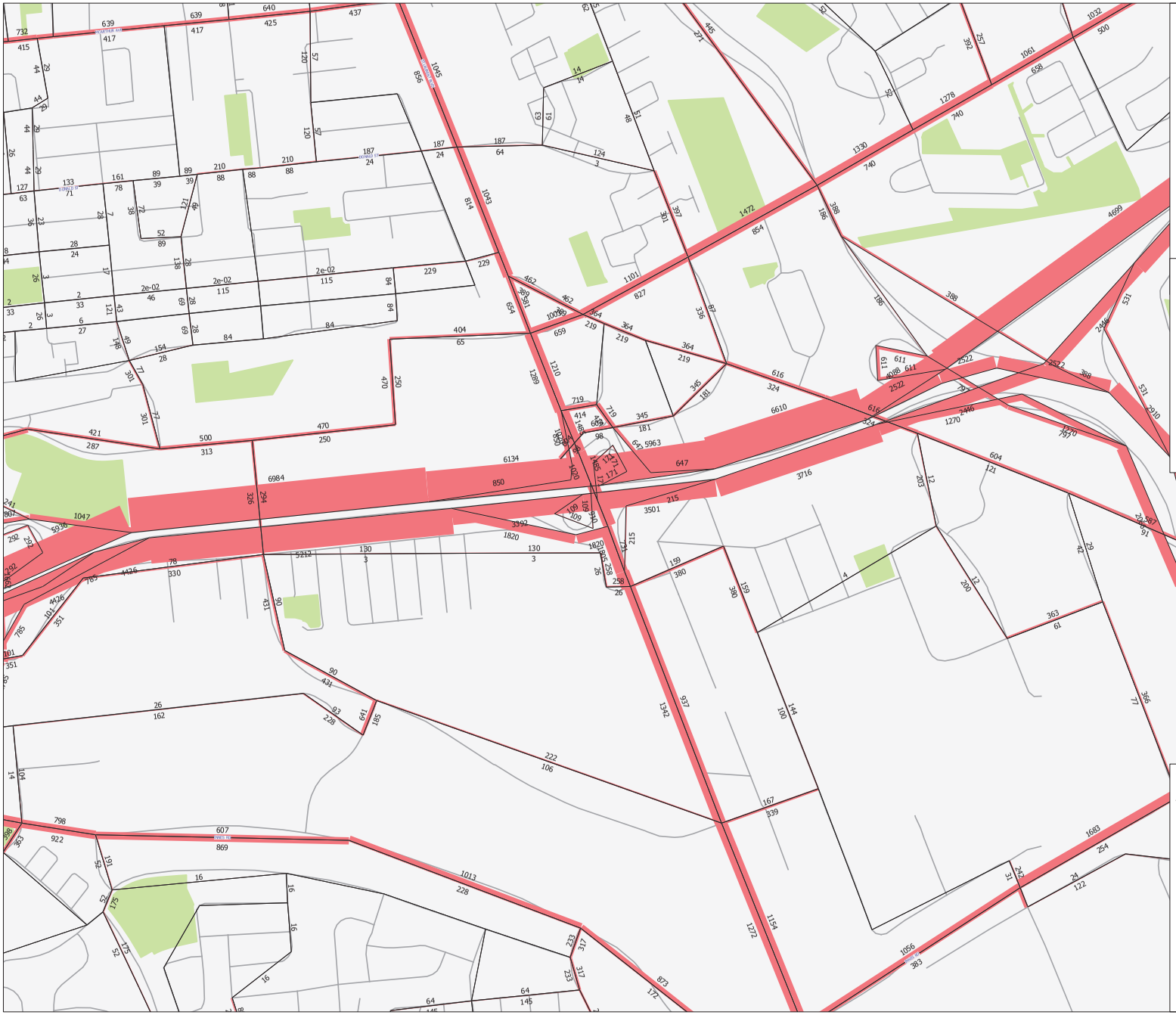
2017-12-18	2017	8:02	CYRVILLE RD @ ST. LAURENT BLVD	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	07 - SMV other	03 - Loose snow
2017-12-31	2017	15:47	CYRVILLE RD @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-02-27	2018	7:08	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	01 - Clear	03 - Dawn	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-03-09	2018	11:15	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-03-23	2018	8:30	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2018-04-04	2018	14:04	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2018-04-28	2018	15:29	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-05-31	2018	2:31	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2018-06-20	2018	8:48	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	99 - Other	01 - Dry
2018-09-21	2018	22:22	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	07 - SMV other	01 - Dry
2018-11-10	2018	17:10	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	06 - Strong wind	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	07 - SMV other	01 - Dry
2018-12-21	2018	23:06	CYRVILLE RD @ ST. LAURENT BLVD (0002647)	02 - Rain	07 - Dark	01 - Traffic signal	03 - P.D. only	99 - Other	02 - Wet
2016-02-17	2016	20:29	CYRVILLE RD btwn CYRVILLE RD & OGILVIE RD	01 - Clear	07 - Dark	10 - No control	03 - P.D. only	02 - Angle	06 - Ice
2018-03-03	2018	9:43	CYRVILLE RD btwn CYRVILLE RD & OGILVIE RD (__3ZA2CD)	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	02 - Wet
2018-11-10	2018	13:30	CYRVILLE RD btwn CYRVILLE RD & OGILVIE RD (__3ZA2CD)	03 - Snow	01 - Daylight	10 - No control	03 - P.D. only	02 - Angle	02 - Wet
2014-11-28	2014	15:47	CYRVILLE RD btwn OGILVIE RD & JOSEPH CYR ST	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	02 - Angle	01 - Dry
2015-02-06	2015	10:15	CYRVILLE RD btwn OGILVIE RD & JOSEPH CYR ST	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	07 - SMV other	04 - Slush
2016-02-16	2016	19:23	CYRVILLE RD btwn ST. LAURENT BLVD & CYRVILLE RD	03 - Snow	07 - Dark	10 - No control	03 - P.D. only	03 - Rear end	03 - Loose snow
2014-09-17	2014	14:30	JOSEPH CYR ST @ CYRVILLE RD	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-07-15	2014	18:45	JOSEPH CYR ST @ LEMIEUX ST	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-07-28	2014	16:49	JOSEPH CYR ST @ LEMIEUX ST	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-05-01	2016	18:28	JOSEPH CYR ST @ LEMIEUX ST	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	07 - SMV other	01 - Dry
2016-11-04	2016	17:01	JOSEPH CYR ST @ LEMIEUX ST	01 - Clear	05 - Dusk	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-12-10	2016	12:49	JOSEPH CYR ST @ LEMIEUX ST	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	99 - Other	01 - Dry
2017-04-11	2017	13:45	JOSEPH CYR ST @ LEMIEUX ST	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	05 - Turning movement	01 - Dry
2017-05-30	2017	18:30	JOSEPH CYR ST @ LEMIEUX ST	02 - Rain	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2017-10-14	2017	15:20	JOSEPH CYR ST @ LEMIEUX ST	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-05-02	2015	10:00	JOSEPH CYR ST btwn LEMIEUX ST & CYRVILLE RD	01 - Clear	01 - Daylight	10 - No control	02 - Non-fatal injury	07 - SMV other	01 - Dry
2018-02-07	2018	9:30	JOSEPH CYR ST btwn LEMIEUX ST & CYRVILLE RD (__3ZA7RH)	03 - Snow	01 - Daylight	10 - No control	03 - P.D. only	02 - Angle	05 - Packed snow
2014-02-08	2014	12:44	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	02 - Angle	01 - Dry
2014-02-20	2014	8:26	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2014-03-14	2014	6:59	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	05 - Turning movement	01 - Dry
2014-03-14	2014	13:56	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2014-04-30	2014	8:19	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	02 - Rain	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	02 - Angle	02 - Wet
2014-06-06	2014	16:16	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2014-06-24	2014	14:50	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	02 - Rain	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2014-07-06	2014	14:00	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2014-09-10	2014	17:27	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	05 - Turning movement	01 - Dry
2014-09-12	2014	13:13	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	02 - Angle	01 - Dry
2014-09-20	2014	12:30	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	03 - Rear end	01 - Dry
2014-10-08	2014	9:00	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	02 - Angle	02 - Wet
2014-10-22	2014	8:31	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2015-01-02	2015	11:05	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-02-06	2015	13:36	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	03 - Loose snow
2015-02-17	2015	8:00	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	03 - Rear end	06 - Ice
2015-03-05	2015	8:02	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2015-06-18	2015	8:23	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	02 - Angle	01 - Dry
2015-07-15	2015	6:15	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-07-21	2015	20:35	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	05 - Dusk	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-01-14	2016	16:35	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	05 - Dusk	02 - Stop sign	02 - Non-fatal injury	02 - Angle	02 - Wet
2016-01-22	2016	13:15	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-02-23	2016	16:15	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-02-26	2016	22:20	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	07 - Dark	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-06-03	2016	15:30	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	99 - Other	01 - Dry
2016-06-09	2016	8:00	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-08-11	2016	17:47	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-09-29	2016	8:57	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-02-23	2017	11:04	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2017-03-24	2017	12:40	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	03 - Snow	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2017-04-01	2017	17:00	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2017-04-07	2017	17:21	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	02 - Rain	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2017-05-10	2017	18:38	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	05 - Turning movement	01 - Dry
2017-06-06	2017	9:31	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2017-09-29	2017	8:56	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2018-02-27	2018	12:53	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP (0012538|	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2018-04-05	2018	8:58	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP (0012538|	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	04 - Sideswipe	01 - Dry
2018-05-03	2018	17:07	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP (0012538|	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2018-05-24	2018	16:38	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP (0012538|	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2018-06-27	2018	15:15	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP (0012538|	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	03 - Rear end	01 - Dry
2018-09-21	2018	11:40	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP (0012538|	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2018-10-04	2018	17:19	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP (0012538|	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2018-11-29	2018	16:46	LABELLE ST/RAMP @ LEMIEUX ST/HWY417 IC115 RAMP (0012538|	01 - Clear	05 - Dusk	02 - Stop sign	03 - P.D. only	04 - Sideswipe	02 - Wet
2014-01-16	2014	20:17	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2014-01-20	2014	14:41	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2014-01-28	2014	11:31	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2014-04-29	2014	21:07	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-06-09	2014	13:43	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-06-11	2014	8:27	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-06-16	2014	14:21	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-06-17	2014	17:23	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	05 - Turning movement	01 - Dry
2014-06-24	2014	12:07	LEMIEUX ST @ ST. LAURENT BLVD	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2014-06-27	2014	14:02	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-07-30	2014	16:15	LEMIEUX ST @ ST. LAURENT BLVD	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	02 - Wet
2014-08-19	2014	8:25	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-10-07	2014	13:26	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-11-17	2014	17:45	LEMIEUX ST @ ST. LAURENT BLVD	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	04 - Slush
2014-12-19	2014	12:28	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2015-01-21	2015	9:15	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-01-31	2015	13:38	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-01-31	2015	14:32	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-02-17	2015	7:20	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	99 - Other	01 - Dry
2015-02-24	2015	7:31	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2015-03-01	2015	19:41	LEMIEUX ST @ ST. LAURENT BLVD	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	04 - Slush
2015-03-11	2015	7:50	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-04-06	2015	6:23	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-06-10	2015	12:50	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	05 - Turning movement	01 - Dry

2015-06-25	2015	8:30	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2015-07-15	2015	17:35	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-07-17	2015	15:43	LEMIEUX ST @ ST. LAURENT BLVD	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	02 - Wet
2015-07-29	2015	11:10	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-08-13	2015	23:48	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-09-08	2015	21:27	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	02 - Angle	01 - Dry
2015-09-17	2015	17:04	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-09-30	2015	20:15	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-10-21	2015	18:32	LEMIEUX ST @ ST. LAURENT BLVD	02 - Rain	05 - Dusk	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	02 - Wet
2015-11-27	2015	17:40	LEMIEUX ST @ ST. LAURENT BLVD	02 - Rain	07 - Dark	01 - Traffic signal	03 - P.D. only	05 - Turning movement	02 - Wet
2015-12-19	2015	17:17	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2016-02-14	2016	14:31	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-02-16	2016	19:18	LEMIEUX ST @ ST. LAURENT BLVD	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	02 - Angle	04 - Slush
2016-02-25	2016	14:29	LEMIEUX ST @ ST. LAURENT BLVD	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	03 - Loose snow
2016-03-17	2016	12:05	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-03-18	2016	15:45	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-04-02	2016	12:46	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-04-16	2016	9:45	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-04-16	2016	13:03	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-06-13	2016	20:43	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	05 - Dusk	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2016-06-28	2016	0:11	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-07-24	2016	16:45	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2016-09-11	2016	13:18	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2016-10-06	2016	10:18	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	05 - Turning movement	01 - Dry
2016-10-21	2016	21:55	LEMIEUX ST @ ST. LAURENT BLVD	02 - Rain	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2016-11-09	2016	18:23	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-11-10	2016	17:35	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-11-23	2016	11:53	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	02 - Angle	01 - Dry
2016-11-23	2016	16:43	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	05 - Dusk	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2016-12-01	2016	18:05	LEMIEUX ST @ ST. LAURENT BLVD	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	04 - Slush
2016-12-09	2016	17:49	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2016-12-14	2016	9:29	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	02 - Angle	01 - Dry
2017-01-31	2017	11:00	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-02-15	2017	8:17	LEMIEUX ST @ ST. LAURENT BLVD	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	05 - Packed snow
2017-04-10	2017	18:32	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-05-05	2017	8:30	LEMIEUX ST @ ST. LAURENT BLVD	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2017-05-09	2017	20:47	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-05-26	2017	13:22	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-08-14	2017	17:42	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-09-05	2017	16:40	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2017-10-28	2017	18:45	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	05 - Dusk	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-11-04	2017	17:15	LEMIEUX ST @ ST. LAURENT BLVD	03 - Snow	05 - Dusk	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2017-12-15	2017	17:00	LEMIEUX ST @ ST. LAURENT BLVD	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2017-12-18	2017	12:10	LEMIEUX ST @ ST. LAURENT BLVD	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	04 - Slush
2018-01-05	2018	19:13	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2018-01-06	2018	18:56	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2018-01-06	2018	19:06	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2018-01-08	2018	8:27	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	01 - Approaching	03 - Loose snow
2018-03-01	2018	23:06	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2018-03-28	2018	15:44	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	05 - Turning movement	01 - Dry
2018-04-09	2018	9:28	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-04-25	2018	10:17	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2018-05-17	2018	7:47	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-06-01	2018	14:57	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2018-06-26	2018	20:29	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	05 - Dusk	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-07-28	2018	17:58	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-08-22	2018	16:45	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-10-01	2018	12:00	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	00 - Unknown
2018-11-07	2018	14:14	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2018-11-07	2018	14:15	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2018-11-23	2018	15:01	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-12-14	2018	21:20	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	04 - Freezing Rain	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	06 - Ice
2018-12-18	2018	Unknown	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	00 - Unknown	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-12-25	2018	21:43	LEMIEUX ST @ ST. LAURENT BLVD (0002021)	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-08-08	2014	12:09	LEMIEUX ST btwn JOSEPH CYR ST & RAMP	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	01 - Dry
2016-03-05	2016	10:02	LEMIEUX ST btwn JOSEPH CYR ST & RAMP	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2016-09-22	2016	14:45	LEMIEUX ST btwn JOSEPH CYR ST & RAMP	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-11-02	2017	9:23	LEMIEUX ST btwn JOSEPH CYR ST & RAMP	02 - Rain	01 - Daylight	10 - No control	03 - P.D. only	02 - Angle	02 - Wet
2018-11-01	2018	9:43	LEMIEUX ST btwn ST. LAURENT BLVD & LEMIEUX ST (__3ZA2PF)	01 - Clear	01 - Daylight	10 - No control	02 - Non-fatal injury	02 - Angle	01 - Dry
2014-07-28	2014	22:49	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT	01 - Clear	07 - Dark	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-08-01	2014	15:11	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-01-20	2015	17:04	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT	01 - Clear	05 - Dusk	10 - No control	03 - P.D. only	02 - Angle	02 - Wet
2015-11-10	2015	9:30	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT	01 - Clear	01 - Daylight	10 - No control	02 - Non-fatal injury	04 - Sideswipe	01 - Dry
2016-05-08	2016	20:47	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT	01 - Clear	07 - Dark	10 - No control	03 - P.D. only	02 - Angle	01 - Dry
2016-05-19	2016	19:00	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	02 - Angle	01 - Dry
2016-07-08	2016	14:19	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT	01 - Clear	01 - Daylight	10 - No control	02 - Non-fatal injury	05 - Turning movement	01 - Dry
2016-08-30	2016	9:52	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT	01 - Clear	01 - Daylight	10 - No control	01 - Fatal injury	04 - Sideswipe	01 - Dry
2018-12-19	2018	17:21	OGILVIE RD btwn CYRVILLE RD & MURDOCK GT (__3ZA13S)	01 - Clear	07 - Dark	10 - No control	03 - P.D. only	03 - Rear end	01 - Dry

Appendix E

TRANS Model Plots

CGH TRANSPORTATION



TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Cyrville - St. Laurent Area Growth

2011 Model - Basecase

N/A

User Initials: TIMW
Plot Prepared: August 10, 2020
EMME Scenario: 21711

Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

Distance (m)

100 200 300 400 500

N

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

Cyrville - St. Laurent Area Growth

2031 Model - Basecase

N/A

User Initials: TIMW
Plot Prepared: August 10, 2020
EMME Scenario: 21711

Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

Distance (m)

100 200 300 400 500

N

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.

Appendix F

Synchro Intersection Worksheets – 2023 Future Background Conditions

CGH TRANSPORTATION

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	8	0	0	293	3	959	23	195	945	1
Future Volume (vph)	0	1	8	0	0	293	3	959	23	195	945	1
Satd. Flow (prot)	0	1380	0	0	0	1510	0	4736	0	1658	4764	0
Flt Permitted								0.938		0.279		
Satd. Flow (perm)	0	1380	0	0	0	1510	0	4442	0	479	4764	0
Satd. Flow (RTOR)		8				196		3				
Lane Group Flow (vph)	0	9	0	0	0	293	0	985	0	195	946	0
Turn Type		NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	14.9	14.9				35.1	53.0	53.0		27.0	80.0	
Total Split (%)	11.5%	11.5%				27.0%	40.8%	40.8%		20.8%	61.5%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		6.0				41.4		73.9		35.3	93.9	
Actuated g/C Ratio		0.05				0.32		0.57		0.27	0.72	
v/c Ratio		0.12				0.48		0.39		0.76	0.27	
Control Delay		36.2				25.7		5.2		64.7	8.0	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		36.2				25.7		5.2		64.7	8.0	
LOS		D				C		A		E	A	
Approach Delay		36.2			25.7			5.2			17.7	
Approach LOS		D			C			A			B	
Queue Length 50th (m)		0.3				34.3		11.9		36.3	31.9	
Queue Length 95th (m)		6.0				14.5		16.3		50.4	52.8	
Internal Link Dist (m)		6.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		102				620		2526		345	3442	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.09				0.47		0.39		0.57	0.27	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 13.7	Intersection LOS: B
Intersection Capacity Utilization 62.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	226	58	646	600	24	141	794	536	33	801	132
Future Volume (vph)	67	226	58	646	600	24	141	794	536	33	801	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)	3197	3316	1351	3098	3316	1432	1620	3316	1483	1637	4764	1362
Satd. Flow (RTOR)			195			140			391			196
Lane Group Flow (vph)	67	226	58	646	600	24	141	794	536	33	801	132
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	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		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		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		21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	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
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
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
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
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	23.6	26.8	26.8	28.1	33.9	33.9	14.1	45.8	0.0	8.1	34.8	34.8
Actuated g/C Ratio	0.18	0.21	0.21	0.22	0.26	0.26	0.11	0.35	0.00	0.06	0.27	0.27
v/c Ratio	0.11	0.33	0.13	0.93	0.69	0.05	0.79	0.68	1.37	0.32	0.63	0.26
Control Delay	43.4	44.0	0.6	73.7	35.8	0.2	104.0	35.4	207.1	82.1	38.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	44.0	0.6	73.7	35.8	0.2	104.0	35.4	207.1	82.1	38.7	4.4
LOS	D	D	A	E	D	A	F	D	F	F	D	A
Approach Delay		36.7			54.4			104.5			35.5	
Approach LOS		D			D			F			D	
Queue Length 50th (m)	7.0	25.0	0.0	89.0	79.6	0.0	38.2	102.9	~102.6	6.4	70.6	6.0
Queue Length 95th (m)	14.2	36.6	0.0	#119.1	84.9	m0.0	#67.1	#143.5	#185.8	20.6	86.2	5.7
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	594	790	470	707	1313	651	193	1168	391	193	1274	508
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	0.11	0.29	0.12	0.91	0.46	0.04	0.73	0.68	1.37	0.17	0.63	0.26

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: 1.37

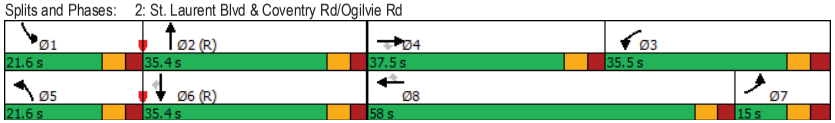
Intersection Signal Delay: 66.5	Intersection LOS: E
Intersection Capacity Utilization 94.9%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	620	153	1212	235	7	1416
Future Volume (vph)	620	153	1212	235	7	1416
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.199	
Satd. Flow (perm)	3216	1418	4764	1444	347	4764
Satd. Flow (RTOR)		64		235		
Lane Group Flow (vph)	620	153	1212	235	7	1416
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	50.0	50.0	80.0	80.0	80.0	80.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%	61.5%	61.5%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	30.8	30.8	87.6	87.6	87.6	87.6
Actuated g/C Ratio	0.24	0.24	0.67	0.67	0.67	0.67
v/c Ratio	0.81	0.40	0.38	0.22	0.03	0.44
Control Delay	55.7	25.8	10.2	1.7	8.0	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	25.8	10.2	1.7	8.0	10.7
LOS	E	C	B	A	A	B
Approach Delay	49.8		8.8			10.7
Approach LOS	D		A			B
Queue Length 50th (m)	78.5	18.9	44.7	0.0	0.6	63.4
Queue Length 95th (m)	91.8	36.0	64.2	9.5	m1.2	m70.2
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	1086	521	3210	1049	233	3210
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	0.57	0.29	0.38	0.22	0.03	0.44

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 124 (95%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 60.8%	ICU Level of Service B
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	551	229	27	1009	166	167	238	12	47	160	45
Future Volume (vph)	0	551	229	27	1009	166	167	238	12	47	160	45
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1731	0	1658	1678	0
Flt Permitted				0.438			0.492			0.399		
Satd. Flow (perm)	0	3316	1391	754	3316	1327	854	1731	0	695	1678	0
Satd. Flow (RTOR)			229			166		2			12	
Lane Group Flow (vph)	0	551	229	27	1009	166	167	250	0	47	205	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		80.0	80.0	80.0	80.0	80.0	50.0	50.0		50.0	50.0	
Total Split (%)		61.5%	61.5%	61.5%	61.5%	61.5%	38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		89.0	89.0	89.0	89.0	89.0	27.7	27.7		27.7	27.7	
Actuated g/C Ratio		0.68	0.68	0.68	0.68	0.68	0.21	0.21		0.21	0.21	
v/c Ratio		0.24	0.22	0.05	0.44	0.17	0.92	0.67		0.32	0.56	
Control Delay		6.2	0.4	2.9	3.6	0.4	96.9	54.6		31.4	27.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		6.2	0.4	2.9	3.6	0.4	96.9	54.6		31.4	27.3	
LOS		A	A	A	A	A	F	D		C	C	
Approach Delay		4.5			3.1			71.5			28.1	
Approach LOS		A			A			E			C	
Queue Length 50th (m)		19.7	0.0	0.3	7.0	0.1	42.3	59.0		5.5	24.2	
Queue Length 95th (m)		m22.6	m0.0	m1.0	42.6	m0.6	63.0	76.8		m13.0	45.7	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2269	1024	515	2269	960	281	572		229	561	
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		0.24	0.22	0.05	0.44	0.17	0.59	0.44		0.21	0.37	

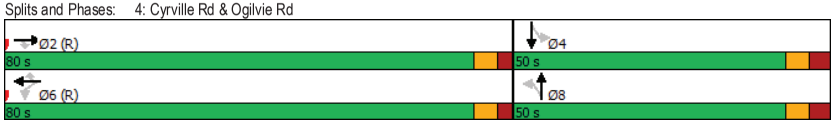
Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 73.2%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 4: Cyrville Rd & Ogilvie Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	568	11	172	1084	171	36	117	65	142	123	112
Future Volume (vph)	51	568	11	172	1084	171	36	117	65	142	123	112
Satd. Flow (prot)	1658	3301	0	1658	3196	0	1658	1579	0	1658	1604	0
Flt Permitted	0.134			0.383			0.612			0.446		
Satd. Flow (perm)	234	3301	0	656	3196	0	1063	1579	0	744	1604	0
Satd. Flow (RTOR)		2			19			20			37	
Lane Group Flow (vph)	51	579	0	172	1255	0	36	182	0	142	235	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.3	36.6	
Total Split (s)	11.0	71.0		11.0	71.0		36.6	36.6		11.4	48.0	
Total Split (%)	8.5%	54.6%		8.5%	54.6%		28.2%	28.2%		8.8%	36.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	76.0	68.8		77.3	71.2		26.3	26.3		40.0	37.7	
Actuated g/C Ratio	0.58	0.53		0.59	0.55		0.20	0.20		0.31	0.29	
v/c Ratio	0.25	0.33		0.39	0.71		0.17	0.54		0.51	0.48	
Control Delay	18.3	22.7		14.9	26.3		42.3	46.5		40.2	34.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.3	22.7		14.9	26.3		42.3	46.5		40.2	34.3	
LOS	B	C		B	C		D	D		D	C	
Approach Delay		22.3			24.9			45.8			36.5	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	6.8	48.7		18.9	132.5		7.4	36.0		26.3	39.9	
Queue Length 95th (m)	14.8	59.4		30.0	161.4		17.0	59.3		43.2	64.1	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	205	1749		439	1759		245	379		278	536	
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	0.25	0.33		0.39	0.71		0.15	0.48		0.51	0.44	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 110 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 27.7	Intersection LOS: C
Intersection Capacity Utilization 90.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Cummings Ave & Ogilvie Rd

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	178	101	162	434	137	12	32	29	134	116	21
Future Volume (vph)	30	178	101	162	434	137	12	32	29	134	116	21
Satd. Flow (prot)	1658	1620	0	1658	1659	0	1658	1529	0	1658	1697	0
Flt Permitted	0.278			0.588			0.669			0.717		
Satd. Flow (perm)	472	1620	0	1010	1659	0	1161	1529	0	1136	1697	0
Satd. Flow (RTOR)		60			23			29			10	
Lane Group Flow (vph)	30	279	0	162	571	0	12	61	0	134	137	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	42.0		42.0	42.0		28.0	28.0		28.0	28.0	
Total Split (%)	17.6%	49.4%		49.4%	49.4%		32.9%	32.9%		32.9%	32.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	44.2	44.2		39.4	39.4		16.9	16.9		16.9	16.9	
Actuated g/C Ratio	0.60	0.60		0.54	0.54		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.28		0.30	0.63		0.04	0.16		0.51	0.34	
Control Delay	7.6	6.9		14.9	19.0		22.4	14.9		31.7	23.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.6	6.9		14.9	19.0		22.4	14.9		31.7	23.9	
LOS	A	A		B	B		C	B		C	C	
Approach Delay		7.0			18.1			16.2			27.8	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	1.8	14.9		11.3	48.7		1.1	2.9		13.3	12.0	
Queue Length 95th (m)	4.9	26.8		32.4	#127.1		5.4	12.8		34.4	30.8	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	428	1161		543	904		363	499		356	538	
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	0.07	0.24		0.30	0.63		0.03	0.12		0.38	0.25	

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 73.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.63

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 69.7% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	9	0	0	372	3	1334	86	319	1075	4
Future Volume (vph)	1	0	9	0	0	372	3	1334	86	319	1075	4
Satd. Flow (prot)	0	1425	0	0	0	1510	0	4687	0	1658	4757	0
Flt Permitted		0.995						0.938		0.215		
Satd. Flow (perm)	0	1425	0	0	0	1488	0	4396	0	375	4757	0
Satd. Flow (RTOR)		137				237		8			1	
Lane Group Flow (vph)	0	10	0	0	0	372	0	1423	0	319	1079	0
Turn Type	Perm	NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	15.0	15.0				37.0	38.0	38.0		30.0	68.0	
Total Split (%)	12.5%	12.5%				30.8%	31.7%	31.7%		25.0%	56.7%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		5.5				42.9		56.8		42.9	87.1	
Actuated g/C Ratio		0.05				0.36		0.47		0.36	0.73	
v/c Ratio		0.05				0.54		0.68		0.81	0.31	
Control Delay		0.5				30.0		14.4		56.5	7.7	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		0.5				30.0		14.4		56.5	7.7	
LOS		A				C		B		E	A	
Approach Delay		0.5			30.0			14.4			18.9	
Approach LOS		A			C			B			B	
Queue Length 50th (m)		0.0				63.4		39.6		56.7	22.0	
Queue Length 95th (m)		0.0				39.1		#173.9		73.3	60.0	
Internal Link Dist (m)		5.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		234				735		2083		412	3452	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.04				0.51		0.68		0.77	0.31	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

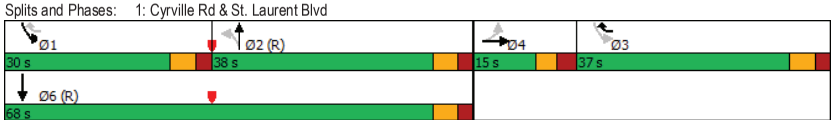
08-20-2020

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 73.1%	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.

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	787	205	485	375	30	183	898	666	71	821	192
Future Volume (vph)	302	787	205	485	375	30	183	898	666	71	821	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)	3071	3316	1369	3157	3316	1311	1567	3316	1407	1640	4764	1230
Satd. Flow (RTOR)			210			210			373			211
Lane Group Flow (vph)	302	787	205	485	375	30	183	898	666	71	821	192
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	23.6	44.0	44.0	15.0	35.4	35.4
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.7%	36.7%	36.7%	12.5%	29.5%	29.5%
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)	20.0	30.6	30.6	17.0	27.6	27.6	16.1	40.6	40.6	8.2	30.1	30.1
Actuated g/C Ratio	0.17	0.26	0.26	0.14	0.23	0.23	0.13	0.34	0.34	0.07	0.25	0.25
v/c Ratio	0.56	0.93	0.41	1.07	0.49	0.06	0.82	0.80	0.92	0.63	0.69	0.41
Control Delay	52.1	62.2	7.0	108.0	48.7	0.3	97.2	33.2	26.9	83.0	36.8	10.7
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	52.1	62.2	7.0	108.0	48.7	0.3	97.2	33.2	26.9	83.0	36.8	10.7
LOS	D	E	A	F	D	A	F	C	C	F	D	B
Approach Delay		51.1			79.4			37.5			35.2	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	35.3	95.2	0.0	~64.0	49.1	0.0	43.1	106.1	83.8	16.7	65.3	4.8
Queue Length 95th (m)	50.2	#130.9	17.1	#97.6	65.1	m0.0	#77.7	#133.4	#72.0	#32.7	80.1	39.9
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	535	856	509	455	856	494	237	1122	722	118	1195	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.92	0.40	1.07	0.44	0.06	0.77	0.80	0.92	0.60	0.69	0.41

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: 110
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

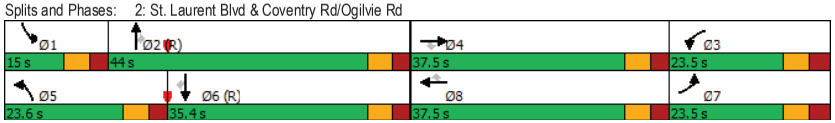
Intersection Signal Delay: 48.0	Intersection LOS: D
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	631	156	1641	261	13	1851
Future Volume (vph)	631	156	1641	261	13	1851
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.113	
Satd. Flow (perm)	3216	1380	4764	1433	197	4764
Satd. Flow (RTOR)		33		261		
Lane Group Flow (vph)	631	156	1641	261	13	1851
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	38.0	38.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	29.2	29.2	79.2	79.2	79.2	79.2
Actuated g/C Ratio	0.24	0.24	0.66	0.66	0.66	0.66
v/c Ratio	0.81	0.43	0.52	0.25	0.10	0.59
Control Delay	51.3	33.3	11.7	1.6	5.9	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	33.3	11.7	1.6	5.9	7.5
LOS	D	C	B	A	A	A
Approach Delay	47.8		10.3			7.4
Approach LOS	D		B			A
Queue Length 50th (m)	71.8	24.1	68.9	0.0	0.6	67.9
Queue Length 95th (m)	90.5	43.4	84.3	9.0	m1.6	m71.8
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	854	391	3144	1034	129	3144
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	0.74	0.40	0.52	0.25	0.10	0.59

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 99 (83%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 71.2%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1024	262	42	666	124	134	241	32	134	222	80
Future Volume (vph)	0	1024	262	42	666	124	134	241	32	134	222	80
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1710	0	1658	1667	0
Flt Permitted				0.241			0.331			0.386		
Satd. Flow (perm)	0	3316	1375	417	3316	1340	575	1710	0	671	1667	0
Satd. Flow (RTOR)			262			124		6			17	
Lane Group Flow (vph)	0	1024	262	42	666	124	134	273	0	134	302	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		70.0	70.0	70.0	70.0	70.0	50.0	50.0		50.0	50.0	
Total Split (%)		58.3%	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%		41.7%	41.7%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		79.4	79.4	79.4	79.4	79.4	27.3	27.3		27.3	27.3	
Actuated g/C Ratio		0.66	0.66	0.66	0.66	0.66	0.23	0.23		0.23	0.23	
v/c Ratio		0.47	0.26	0.15	0.30	0.13	1.03	0.69		0.88	0.77	
Control Delay		3.9	0.4	20.5	16.9	9.0	130.9	49.8		60.1	30.2	
Queue Delay		0.2	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		4.2	0.4	20.5	16.9	9.0	130.9	49.8		60.1	30.2	
LOS		A	A	C	B	A	F	D		E	C	
Approach Delay		3.4			15.9			76.5			39.4	
Approach LOS		A			B			E			D	
Queue Length 50th (m)		18.4	0.0	5.1	43.5	5.9	~34.7	58.7		33.1	69.8	
Queue Length 95th (m)		m41.3	m0.0	m8.3	m63.3	m11.4	#57.9	75.0		m19.7	m38.6	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2193	998	275	2193	928	205	615		239	606	
Starvation Cap Reductn		477	0	0	0	0	0	0		0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0		0	0	
Storage Cap Reductn		0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio		0.60	0.26	0.15	0.30	0.13	0.65	0.44		0.56	0.50	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 22.3	Intersection LOS: C
Intersection Capacity Utilization 83.5%	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: 4: Cyrville Rd & Ogilvie Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	1110	23	123	744	213	48	179	236	263	171	84
Future Volume (vph)	129	1110	23	123	744	213	48	179	236	263	171	84
Satd. Flow (prot)	1658	3299	0	1658	3161	0	1658	1566	0	1658	1636	0
Flt Permitted	0.126			0.095			0.601			0.164		
Satd. Flow (perm)	220	3299	0	166	3161	0	1049	1566	0	286	1636	0
Satd. Flow (RTOR)		2			33			55			27	
Lane Group Flow (vph)	129	1133	0	123	957	0	48	415	0	263	255	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.5	36.6	
Total Split (s)	15.0	45.0		15.0	45.0		40.0	40.0		20.0	60.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		33.3%	33.3%		16.7%	50.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	52.9	42.4		52.7	42.3		31.2	31.2		53.5	51.2	
Actuated g/C Ratio	0.44	0.35		0.44	0.35		0.26	0.26		0.45	0.43	
v/c Ratio	0.61	0.97		0.65	0.84		0.18	0.93		0.86	0.36	
Control Delay	36.3	49.8		38.5	43.4		35.1	65.4		50.0	21.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.3	49.8		38.5	43.4		35.1	65.4		50.0	21.8	
LOS	D	D		D	D		D	E		D	C	
Approach Delay		48.4			42.8			62.3			36.1	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	15.8	~148.1		16.5	109.6		8.6	82.4		38.5	34.1	
Queue Length 95th (m)	30.1	#189.9		#34.9	#147.6		18.6	#138.1		#80.1	54.0	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	222	1166		202	1136		291	475		307	743	
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	0.97		0.61	0.84		0.16	0.87		0.86	0.34	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

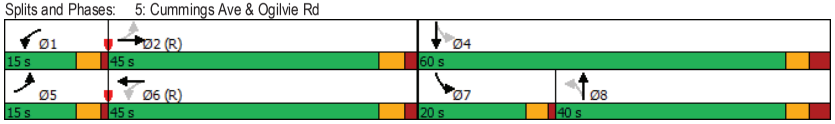
Maximum v/c Ratio: 0.97

Intersection Signal Delay: 46.6	Intersection LOS: D
Intersection Capacity Utilization 99.6%	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: 5: Cummings Ave & Ogilvie Rd



Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	486	18	53	329	236	25	79	104	206	37	26
Future Volume (vph)	59	486	18	53	329	236	25	79	104	206	37	26
Satd. Flow (prot)	1658	1732	0	1658	1608	0	1658	1511	0	1658	1600	0
Flt Permitted	0.239			0.478			0.716			0.598		
Satd. Flow (perm)	411	1732	0	810	1608	0	1238	1511	0	985	1600	0
Satd. Flow (RTOR)		3			41			75			26	
Lane Group Flow (vph)	59	504	0	53	565	0	25	183	0	206	63	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	43.0		43.0	43.0		42.0	42.0		42.0	42.0	
Total Split (%)	15.0%	43.0%		43.0%	43.0%		42.0%	42.0%		42.0%	42.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	48.5	48.5		38.0	38.0		21.9	21.9		21.9	21.9	
Actuated g/C Ratio	0.59	0.59		0.46	0.46		0.27	0.27		0.27	0.27	
v/c Ratio	0.17	0.49		0.14	0.74		0.08	0.40		0.79	0.14	
Control Delay	10.5	13.5		19.2	28.1		22.8	17.4		50.2	15.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.5	13.5		19.2	28.1		22.8	17.4		50.2	15.6	
LOS	B	B		B	C		C	B		D	B	
Approach Delay		13.2			27.3			18.0			42.1	
Approach LOS		B			C			B			D	
Queue Length 50th (m)	3.6	41.5		5.0	69.7		3.0	13.8		30.8	4.5	
Queue Length 95th (m)	11.5	91.5		15.6	#160.3		8.7	30.2		55.8	13.2	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	376	1117		373	763		562	728		448	741	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.16	0.45		0.14	0.74		0.04	0.25		0.46	0.09	

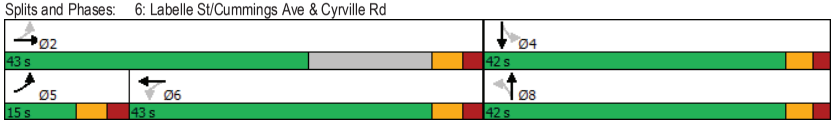
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 82.5
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Intersection Signal Delay: 23.8 Intersection LOS: C
Intersection Capacity Utilization 86.3% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd



Appendix G

Synchro Intersection Worksheets – 2028 Future Background Conditions

CGH TRANSPORTATION

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	8	0	0	301	3	1008	23	203	981	1
Future Volume (vph)	0	1	8	0	0	301	3	1008	23	203	981	1
Satd. Flow (prot)	0	1380	0	0	0	1510	0	4741	0	1658	4764	0
Flt Permitted								0.938		0.265		
Satd. Flow (perm)	0	1380	0	0	0	1510	0	4447	0	456	4764	0
Satd. Flow (RTOR)		8				192		3				
Lane Group Flow (vph)	0	9	0	0	0	301	0	1034	0	203	982	0
Turn Type		NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	14.9	14.9				35.1	53.0	53.0		27.0	80.0	
Total Split (%)	11.5%	11.5%				27.0%	40.8%	40.8%		20.8%	61.5%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		6.0				42.4		73.0		36.3	93.9	
Actuated g/C Ratio		0.05				0.33		0.56		0.28	0.72	
v/c Ratio		0.12				0.48		0.41		0.77	0.29	
Control Delay		36.2				25.8		5.5		65.1	8.1	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		36.2				25.8		5.5		65.1	8.1	
LOS		D				C		A		E	A	
Approach Delay		36.2			25.8			5.5			17.9	
Approach LOS		D			C			A			B	
Queue Length 50th (m)		0.3				34.4		12.4		37.5	33.5	
Queue Length 95th (m)		6.0				15.7		25.7		51.4	55.2	
Internal Link Dist (m)		6.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		102				626		2497		341	3441	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.09				0.48		0.41		0.60	0.29	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 13.8	Intersection LOS: B
Intersection Capacity Utilization 62.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd

Scenario 1 TCU 1155 Joseph Cyr AM Peak Hour 2028 Future Background
Synchro 11 Report

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	288	58	654	608	24	141	835	563	33	831	132
Future Volume (vph)	67	288	58	654	608	24	141	835	563	33	831	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)	3197	3316	1351	3108	3316	1432	1622	3316	1483	1638	4764	1362
Satd. Flow (RTOR)			195			140			391			196
Lane Group Flow (vph)	67	288	58	654	608	24	141	835	563	33	831	132
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	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		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		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		21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	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
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
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
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
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	23.3	27.2	27.2	28.2	34.6	34.6	14.1	45.3	0.0	8.1	34.3	34.3
Actuated g/C Ratio	0.18	0.21	0.21	0.22	0.27	0.27	0.11	0.35	0.00	0.06	0.26	0.26
v/c Ratio	0.12	0.41	0.13	0.94	0.69	0.05	0.79	0.72	1.44	0.32	0.66	0.26
Control Delay	43.6	45.4	0.6	74.9	35.0	0.2	103.7	36.0	236.7	82.4	39.5	4.3
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	43.6	45.4	0.6	74.9	35.0	0.2	103.7	36.0	236.7	82.4	39.5	4.3
LOS	D	D	A	E	D	A	F	D	F	F	D	A
Approach Delay		38.8			54.6			115.6			36.3	
Approach LOS		D			D			F			D	
Queue Length 50th (m)	7.0	32.5	0.0	90.6	80.2	0.0	38.1	109.8	~128.9	6.4	73.9	6.2
Queue Length 95th (m)	14.2	45.9	0.0	#121.9	85.0	m0.0	#67.1	#151.3	#201.9	20.6	89.9	5.2
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	587	790	470	707	1313	651	193	1155	391	193	1256	503
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	0.11	0.36	0.12	0.93	0.46	0.04	0.73	0.72	1.44	0.17	0.66	0.26

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: 1.44

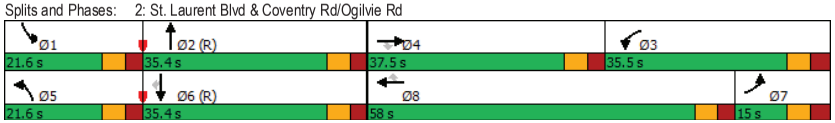
Intersection Signal Delay: 70.9	Intersection LOS: E
Intersection Capacity Utilization 95.2%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	668	153	1273	247	7	1469
Future Volume (vph)	668	153	1273	247	7	1469
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.182	
Satd. Flow (perm)	3216	1418	4764	1444	317	4764
Satd. Flow (RTOR)		55		247		
Lane Group Flow (vph)	668	153	1273	247	7	1469
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	50.0	50.0	80.0	80.0	80.0	80.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%	61.5%	61.5%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	33.0	33.0	85.4	85.4	85.4	85.4
Actuated g/C Ratio	0.25	0.25	0.66	0.66	0.66	0.66
v/c Ratio	0.82	0.38	0.41	0.24	0.03	0.47
Control Delay	54.2	26.9	11.4	1.8	8.9	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	26.9	11.4	1.8	8.9	11.9
LOS	D	C	B	A	A	B
Approach Delay	49.1		9.9			11.9
Approach LOS	D		A			B
Queue Length 50th (m)	83.1	20.3	52.3	0.0	0.7	64.9
Queue Length 95th (m)	97.8	37.2	71.6	10.1	m1.1	m71.5
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	1086	515	3130	1033	208	3130
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	0.62	0.30	0.41	0.24	0.03	0.47

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 124 (95%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 19.1	Intersection LOS: B
Intersection Capacity Utilization 62.5%	ICU Level of Service B
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lanes, Volumes, Timings
4: Cyrville Rd & Ogilvie Rd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	558	232	27	1022	166	172	244	12	47	175	45
Future Volume (vph)	0	558	232	27	1022	166	172	244	12	47	175	45
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1731	0	1658	1682	0
Flt Permitted				0.433			0.471			0.400		
Satd. Flow (perm)	0	3316	1391	745	3316	1327	818	1731	0	696	1682	0
Satd. Flow (RTOR)			232			166		2			11	
Lane Group Flow (vph)	0	558	232	27	1022	166	172	256	0	47	220	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		80.0	80.0	80.0	80.0	80.0	50.0	50.0		50.0	50.0	
Total Split (%)		61.5%	61.5%	61.5%	61.5%	61.5%	38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		87.8	87.8	87.8	87.8	87.8	28.9	28.9		28.9	28.9	
Actuated g/C Ratio		0.68	0.68	0.68	0.68	0.68	0.22	0.22		0.22	0.22	
v/c Ratio		0.25	0.23	0.05	0.46	0.17	0.95	0.66		0.31	0.58	
Control Delay		6.1	0.3	3.0	3.8	0.5	103.0	53.0		30.3	27.5	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		6.1	0.3	3.0	3.8	0.5	103.0	53.0		30.3	27.5	
LOS		A	A	A	A	A	F	D		C	C	
Approach Delay		4.4			3.4			73.1			28.0	
Approach LOS		A			A			E			C	
Queue Length 50th (m)		19.5	0.0	0.3	7.3	0.1	43.6	59.7		5.0	23.9	
Queue Length 95th (m)		m21.5	m0.0	m1.1	45.0	m0.8	#67.5	78.7		m12.8	51.1	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2239	1014	503	2239	950	269	572		229	562	
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		0.25	0.23	0.05	0.46	0.17	0.64	0.45		0.21	0.39	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
4: Cyrville Rd & Ogilvie Rd

08-20-2020

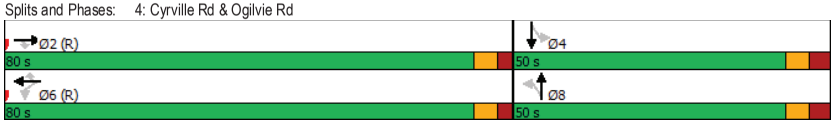
Maximum v/c Ratio: 0.95

Intersection Signal Delay: 17.1	Intersection LOS: B
Intersection Capacity Utilization 74.5%	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: 4: Cyrville Rd & Ogilvie Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	575	11	174	1098	173	36	118	66	149	129	112
Future Volume (vph)	51	575	11	174	1098	173	36	118	66	149	129	112
Satd. Flow (prot)	1658	3301	0	1658	3196	0	1658	1578	0	1658	1606	0
Flt Permitted	0.129			0.379			0.609			0.442		
Satd. Flow (perm)	225	3301	0	649	3196	0	1058	1578	0	737	1606	0
Satd. Flow (RTOR)		2			19			20			35	
Lane Group Flow (vph)	51	586	0	174	1271	0	36	184	0	149	241	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.3	36.6	
Total Split (s)	11.0	71.0		11.0	71.0		36.6	36.6		11.4	48.0	
Total Split (%)	8.5%	54.6%		8.5%	54.6%		28.2%	28.2%		8.8%	36.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	76.0	68.8		77.3	71.2		26.3	26.3		40.0	37.7	
Actuated g/C Ratio	0.58	0.53		0.59	0.55		0.20	0.20		0.31	0.29	
v/c Ratio	0.26	0.34		0.40	0.72		0.17	0.55		0.54	0.49	
Control Delay	18.8	23.6		15.0	26.6		42.3	46.7		41.4	35.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.8	23.6		15.0	26.6		42.3	46.7		41.4	35.1	
LOS	B	C		B	C		D	D		D	D	
Approach Delay		23.2			25.2			46.0			37.5	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	7.1	50.9		19.2	135.4		7.4	36.5		27.8	41.8	
Queue Length 95th (m)	15.3	63.1		30.3	164.6		17.0	59.9		45.3	66.3	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	201	1748		436	1759		244	379		277	535	
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	0.25	0.34		0.40	0.72		0.15	0.49		0.54	0.45	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 110 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 28.2	Intersection LOS: C
Intersection Capacity Utilization 91.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Cummings Ave & Ogilvie Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	194	110	167	445	137	17	44	40	134	122	21
Future Volume (vph)	30	194	110	167	445	137	17	44	40	134	122	21
Satd. Flow (prot)	1658	1620	0	1658	1661	0	1658	1529	0	1658	1699	0
Flt Permitted	0.270			0.575			0.666			0.702		
Satd. Flow (perm)	458	1620	0	988	1661	0	1156	1529	0	1116	1699	0
Satd. Flow (RTOR)		60			22			40			10	
Lane Group Flow (vph)	30	304	0	167	582	0	17	84	0	134	143	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	42.0		42.0	42.0		28.0	28.0		28.0	28.0	
Total Split (%)	17.6%	49.4%		49.4%	49.4%		32.9%	32.9%		32.9%	32.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	44.2	44.2		39.4	39.4		16.9	16.9		16.9	16.9	
Actuated g/C Ratio	0.60	0.60		0.54	0.54		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.30		0.31	0.64		0.06	0.22		0.52	0.36	
Control Delay	7.6	7.2		15.2	19.4		22.6	15.1		32.2	24.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.6	7.2		15.2	19.4		22.6	15.1		32.2	24.2	
LOS	A	A		B	B		C	B		C	C	
Approach Delay		7.3			18.5			16.3			28.1	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	1.8	16.9		11.8	50.2		1.5	4.0		13.3	12.7	
Queue Length 95th (m)	4.9	29.9		33.8	#131.7		6.9	16.0		34.5	32.0	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	422	1161		532	904		362	506		349	539	
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	0.07	0.26		0.31	0.64		0.05	0.17		0.38	0.27	

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 73.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.64

Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 71.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	9	0	0	372	3	1334	86	319	1075	4
Future Volume (vph)	1	0	9	0	0	372	3	1334	86	319	1075	4
Satd. Flow (prot)	0	1425	0	0	0	1510	0	4687	0	1658	4757	0
Flt Permitted		0.995						0.938		0.215		
Satd. Flow (perm)	0	1425	0	0	0	1488	0	4396	0	375	4757	0
Satd. Flow (RTOR)		137				237		8			1	
Lane Group Flow (vph)	0	10	0	0	0	372	0	1423	0	319	1079	0
Turn Type	Perm	NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	15.0	15.0				37.0	38.0	38.0		30.0	68.0	
Total Split (%)	12.5%	12.5%				30.8%	31.7%	31.7%		25.0%	56.7%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		5.5				42.9		56.8		42.9	87.1	
Actuated g/C Ratio		0.05				0.36		0.47		0.36	0.73	
v/c Ratio		0.05				0.54		0.68		0.81	0.31	
Control Delay		0.5				30.0		14.4		56.5	7.7	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		0.5				30.0		14.4		56.5	7.7	
LOS		A				C		B		E	A	
Approach Delay		0.5			30.0			14.4			18.9	
Approach LOS		A			C			B			B	
Queue Length 50th (m)		0.0				63.4		39.6		56.7	22.0	
Queue Length 95th (m)		0.0				39.1		#173.9		73.3	60.0	
Internal Link Dist (m)		5.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		234				735		2083		412	3452	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.04				0.51		0.68		0.77	0.31	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

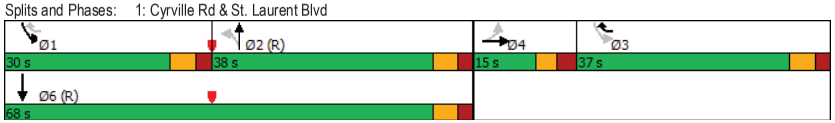
08-20-2020

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 73.1%	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.

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	787	205	485	375	30	183	898	666	71	821	192
Future Volume (vph)	302	787	205	485	375	30	183	898	666	71	821	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)	3072	3316	1369	3157	3316	1311	1572	3316	1407	1640	4764	1230
Satd. Flow (RTOR)			210			210			373			211
Lane Group Flow (vph)	302	787	205	485	375	30	183	898	666	71	821	192
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	23.6	44.0	44.0	15.0	35.4	35.4
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.7%	36.7%	36.7%	12.5%	29.5%	29.5%
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)	20.0	30.6	30.6	17.0	27.6	27.6	16.1	40.6	40.6	8.2	30.1	30.1
Actuated g/C Ratio	0.17	0.26	0.26	0.14	0.23	0.23	0.13	0.34	0.34	0.07	0.25	0.25
v/c Ratio	0.56	0.93	0.41	1.07	0.49	0.06	0.82	0.80	0.92	0.63	0.69	0.41
Control Delay	52.1	62.2	7.0	108.0	48.7	0.3	97.2	33.2	26.9	83.0	36.8	10.7
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	52.1	62.2	7.0	108.0	48.7	0.3	97.2	33.2	26.9	83.0	36.8	10.7
LOS	D	E	A	F	D	A	F	C	C	F	D	B
Approach Delay		51.1			79.3			37.5			35.2	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	35.3	95.2	0.0	~64.1	49.1	0.0	43.1	106.1	83.8	16.7	65.3	4.8
Queue Length 95th (m)	50.2	#130.9	17.1	#97.5	65.1	m0.0	#77.7	#133.4	#72.0	#32.7	80.1	39.9
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	535	856	509	455	856	494	237	1122	722	118	1195	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.92	0.40	1.07	0.44	0.06	0.77	0.80	0.92	0.60	0.69	0.41

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: 110
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

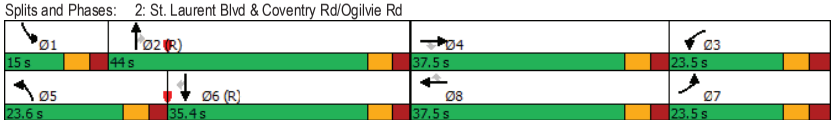
Intersection Signal Delay: 48.0	Intersection LOS: D
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	631	156	1641	261	13	1851
Future Volume (vph)	631	156	1641	261	13	1851
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.113	
Satd. Flow (perm)	3216	1380	4764	1433	197	4764
Satd. Flow (RTOR)		33		261		
Lane Group Flow (vph)	631	156	1641	261	13	1851
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	38.0	38.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	29.2	29.2	79.2	79.2	79.2	79.2
Actuated g/C Ratio	0.24	0.24	0.66	0.66	0.66	0.66
v/c Ratio	0.81	0.43	0.52	0.25	0.10	0.59
Control Delay	51.3	33.3	11.7	1.6	5.9	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	33.3	11.7	1.6	5.9	7.5
LOS	D	C	B	A	A	A
Approach Delay	47.8		10.3			7.4
Approach LOS	D		B			A
Queue Length 50th (m)	71.8	24.1	68.9	0.0	0.6	67.9
Queue Length 95th (m)	90.5	43.4	84.3	9.0	m1.6	m71.8
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	854	391	3144	1034	129	3144
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	0.74	0.40	0.52	0.25	0.10	0.59

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 99 (83%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 71.2%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1024	262	42	666	124	134	241	32	134	222	80
Future Volume (vph)	0	1024	262	42	666	124	134	241	32	134	222	80
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1710	0	1658	1667	0
Flt Permitted				0.240			0.333			0.387		
Satd. Flow (perm)	0	3316	1375	416	3316	1340	579	1710	0	672	1667	0
Satd. Flow (RTOR)			262			124		6			17	
Lane Group Flow (vph)	0	1024	262	42	666	124	134	273	0	134	302	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		70.0	70.0	70.0	70.0	70.0	50.0	50.0		50.0	50.0	
Total Split (%)		58.3%	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%		41.7%	41.7%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		79.3	79.3	79.3	79.3	79.3	27.4	27.4		27.4	27.4	
Actuated g/C Ratio		0.66	0.66	0.66	0.66	0.66	0.23	0.23		0.23	0.23	
v/c Ratio		0.47	0.26	0.15	0.30	0.13	1.02	0.69		0.88	0.77	
Control Delay		3.9	0.4	20.5	17.0	9.0	127.7	49.7		59.3	30.1	
Queue Delay		0.2	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		4.2	0.4	20.5	17.0	9.0	127.7	49.7		59.3	30.1	
LOS		A	A	C	B	A	F	D		E	C	
Approach Delay		3.4			16.0			75.4			39.1	
Approach LOS		A			B			E			D	
Queue Length 50th (m)		18.4	0.0	5.1	43.5	5.9	~34.5	58.7		33.1	69.8	
Queue Length 95th (m)		m41.3	m0.0	m8.3	m63.3	m11.4	#57.6	75.0		m19.7	m38.6	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2191	997	274	2191	927	206	615		240	606	
Starvation Cap Reductn		477	0	0	0	0	0	0		0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0		0	0	
Storage Cap Reductn		0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio		0.60	0.26	0.15	0.30	0.13	0.65	0.44		0.56	0.50	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 22.1	Intersection LOS: C
Intersection Capacity Utilization 83.5%	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: 4: Cyrville Rd & Ogilvie Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	1110	23	123	744	213	48	179	236	263	171	84
Future Volume (vph)	129	1110	23	123	744	213	48	179	236	263	171	84
Satd. Flow (prot)	1658	3299	0	1658	3161	0	1658	1566	0	1658	1636	0
Flt Permitted	0.126			0.095			0.601			0.164		
Satd. Flow (perm)	220	3299	0	166	3161	0	1049	1566	0	286	1636	0
Satd. Flow (RTOR)		2			33			55			27	
Lane Group Flow (vph)	129	1133	0	123	957	0	48	415	0	263	255	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.5	36.6	
Total Split (s)	15.0	45.0		15.0	45.0		40.0	40.0		20.0	60.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		33.3%	33.3%		16.7%	50.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	52.9	42.4		52.7	42.3		31.2	31.2		53.5	51.2	
Actuated g/C Ratio	0.44	0.35		0.44	0.35		0.26	0.26		0.45	0.43	
v/c Ratio	0.61	0.97		0.65	0.84		0.18	0.93		0.86	0.36	
Control Delay	36.2	49.8		38.6	43.5		35.1	65.4		50.0	21.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.2	49.8		38.6	43.5		35.1	65.4		50.0	21.8	
LOS	D	D		D	D		D	E		D	C	
Approach Delay		48.4			42.9			62.3			36.1	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	15.7	~148.0		16.5	109.6		8.6	82.4		38.5	34.1	
Queue Length 95th (m)	30.1	#189.9		#34.9	#147.6		18.6	#138.1		#80.1	54.0	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	222	1166		202	1135		291	475		307	743	
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	0.97		0.61	0.84		0.16	0.87		0.86	0.34	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

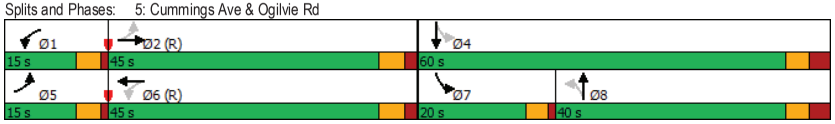
Maximum v/c Ratio: 0.97

Intersection Signal Delay: 46.6	Intersection LOS: D
Intersection Capacity Utilization 99.6%	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: 5: Cummings Ave & Ogilvie Rd



Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	486	18	53	329	236	25	79	104	206	37	26
Future Volume (vph)	59	486	18	53	329	236	25	79	104	206	37	26
Satd. Flow (prot)	1658	1732	0	1658	1608	0	1658	1511	0	1658	1600	0
Flt Permitted	0.239			0.478			0.716			0.598		
Satd. Flow (perm)	411	1732	0	810	1608	0	1238	1511	0	985	1600	0
Satd. Flow (RTOR)		3			41			75			26	
Lane Group Flow (vph)	59	504	0	53	565	0	25	183	0	206	63	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	43.0		43.0	43.0		42.0	42.0		42.0	42.0	
Total Split (%)	15.0%	43.0%		43.0%	43.0%		42.0%	42.0%		42.0%	42.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	48.5	48.5		38.0	38.0		21.9	21.9		21.9	21.9	
Actuated g/C Ratio	0.59	0.59		0.46	0.46		0.27	0.27		0.27	0.27	
v/c Ratio	0.17	0.49		0.14	0.74		0.08	0.40		0.79	0.14	
Control Delay	10.5	13.5		19.2	28.1		22.8	17.4		50.2	15.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.5	13.5		19.2	28.1		22.8	17.4		50.2	15.6	
LOS	B	B		B	C		C	B		D	B	
Approach Delay		13.2			27.3			18.0			42.1	
Approach LOS		B			C			B			D	
Queue Length 50th (m)	3.6	41.5		5.0	69.7		3.0	13.8		30.8	4.5	
Queue Length 95th (m)	11.5	91.5		15.6	#160.3		8.7	30.2		55.8	13.2	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	376	1117		373	763		562	728		448	741	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.16	0.45		0.14	0.74		0.04	0.25		0.46	0.09	

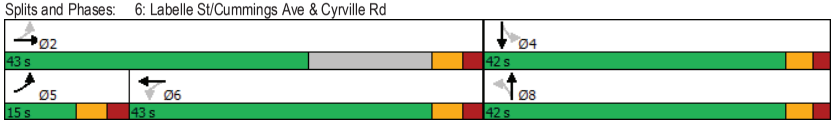
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 82.5
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

08-20-2020

Intersection Signal Delay: 23.8 — Intersection LOS: C
Intersection Capacity Utilization 86.3% — ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd



Appendix H

MMLOS Analysis

CGH TRANSPORTATION

Multi-Modal Level of Service - Intersections Form

Consultant	**CGH Transporation Inc.**	**Project**	**2020-45** **1155 Joseph Cyr**
Scenario	**Present/Future**	**Date**	**2020-09-01**
Comments			

INTERSECTIONS		**Cyrville & St. Laurent**				**Ogilvie/Coventry & St. Laurent**			
	Crossing Side	**NORTH**	**SOUTH**	**EAST**	**WEST**	**NORTH**	**SOUTH**	**EAST**	**WEST**
Pedestrian	Lanes		7	4		8	8	7	7
	Median		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
	Conflicting Left Turns		No left turn / Prohib.	Protected		Protected	Protected	Protected	Protected
	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
	Right Turns on Red (RToR) ?		RTOR allowed	RTOR allowed		RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?		No	No		No	No	No	No
	Right Turn Channel		No Channel	No Channel		Conv'tl without Receiving Lane	Conventional with Receiving Lane	Conventional with Receiving Lane	Conv'tl without Receiving Lane
	Corner Radius		0-3m	5-10m		15-25m	15-25m	15-25m	15-25m
	Crosswalk Type		Std transverse markings	Std transverse markings		Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score		**21**	**64**		**-2**	**-5**	**11**	**14**
	Ped. Exposure to Traffic LoS	**-**	**F**	**C**	**-**	**F**	**F**	**F**	**F**
	Cycle Length								
	Effective Walk Time								
	Average Pedestrian Delay								
	Pedestrian Delay LoS	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Level of Service	**-**	**F**	**C**	**-**	**F**	**F**	**F**	**F**
		F				**F**			
	Approach From	**NORTH**	**SOUTH**	**EAST**	**WEST**	**NORTH**	**SOUTH**	**EAST**	**WEST**
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic		Mixed Traffic	Mixed Traffic	Pocket Bike Lane	Pocket Bike Lane
	Right Turn Lane Configuration	≤ 50 m	> 50 m	> 50 m		≤ 50 m	> 50 m	≤ 50 m Introduced right turn lane	≤ 50 m Introduced right turn lane
	Right Turning Speed	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h		>25 km/h	>25 km/h	>25 to 30 km/h	>25 to 30 km/h
	Cyclist relative to RT motorists	**D**	**F**	**F**	**-**	**E**	**F**	**C**	**C**
	Separated or Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	**-**	**Mixed Traffic**	**Mixed Traffic**	**Separated**	**Separated**
	Left Turn Approach	≥ 2 lanes crossed				≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed
	Operating Speed	≥ 60 km/h				≥ 60 km/h	≥ 60 km/h	≥ 60 km/h	≥ 60 km/h
	Left Turning Cyclist	**F**	**A**	**A**	**-**	**F**	**F**	**F**	**F**
	Level of Service	**F**	**F**	**F**	**-**	**F**	**F**	**F**	**F**
		F				**F**			
Transit	Average Signal Delay	≤ 10 sec	≤ 20 sec			≤ 40 sec	≤ 40 sec		
	Level of Service	**B**	**C**	**-**	**-**	**E**	**E**	**-**	**-**
		C				**E**			
Truck	Effective Corner Radius		< 10 m	< 10 m		> 15 m	> 15 m	> 15 m	> 15 m
	Number of Receiving Lanes on Departure from Intersection		≥ 2	≥ 2		≥ 2	≥ 2	≥ 2	≥ 2
	Level of Service	**-**	**D**	**D**	**-**	**A**	**A**	**A**	**A**
		D				**A**			
Auto	Volume to Capacity Ratio	0.71 - 0.80				0.91 - 1.00			
	Level of Service	**C**				**E**			

Unlocked Rows for Replicating

Lemieux & St. Laurent				Ogilvie & Cyrville				Ogilvie & Cummings			
NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
8		4		5	6	10+	10+	5	4	7	7
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	No Median - 2.4 m	No Median - 2.4 m
No left turn / Prohib.		Permissive		No left turn / Prohib.	Permissive	Permissive	Permissive	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive	Permissive
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
RTOR allowed		RTOR allowed		RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
No		No		No	No	No	No	No	No	No	No
Conventional with Receiving Lane		Conventional with Receiving Lane		No Channel	No Channel	No Channel	Conventional with Receiving Lane	No Channel	No Channel	Conv'tl without Receiving Lane	No Channel
15-25m		15-25m		10-15m	15-25m	5-10m	5-10m	5-10m	10-15m	15-25m	5-10m
Std transverse markings		Std transverse markings		Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
-5		**52**		**45**	**18**	**-44**	**-43**	**38**	**53**	**6**	**5**
F	**-**	**D**	**-**	**D**	**F**	**F**	**F**	**E**	**D**	**F**	**F**
-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
F	**-**	**D**	**-**	**D**	**F**	**F**	**F**	**E**	**D**	**F**	**F**
F				**F**				**F**			
NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	Mixed Traffic	Mixed Traffic		Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Pocket Bike Lane	Pocket Bike Lane	Mixed Traffic	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP
	≤ 50 m	≤ 50 m		> 50 m	Not Applicable	> 50 m Introduced right turn lane	> 50 m Introduced right turn lane	≤ 50 m	> 50 m	Not Applicable	Not Applicable
	>25 km/h	>25 km/h		>25 km/h	Not Applicable	≤ 25 km/h	>25 to 30 km/h	>25 km/h	≤ 25 km/h	Not Applicable	Not Applicable
A	**E**	**E**	**-**	**F**	**Not Applicable**	**D**	**D**	**E**	**F**	**Not Applicable**	**Not Applicable**
-	**Mixed Traffic**	**Mixed Traffic**	**-**	**Mixed Traffic**	**Separated**	**Separated**	**Separated**	**Mixed Traffic**	**Mixed Traffic**	**Separated**	**Separated**
≥ 2 lanes crossed		One lane crossed		One lane crossed	1 lane crossed	≥ 2 lanes crossed		One lane crossed	One lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed
≥ 60 km/h		> 40 to ≤ 50 km/h		> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	≥ 60 km/h		> 40 to ≤ 50 km/h	≤ 40 km/h	≥ 60 km/h	≥ 60 km/h
F	**A**	**D**	**-**	**D**	**C**	**F**	**A**	**D**	**B**	**F**	**F**
F	**E**	**E**	**-**	**F**	**C**	**F**	**D**	**E**	**F**	**F**	**F**
F				**F**				**F**			
≤ 20 sec	> 40 sec					≤ 20 sec	≤ 10 sec		≤ 30 sec	> 40 sec	≤ 20 sec
C	**F**	**-**	**-**	**-**	**-**	**C**	**B**	**-**	**D**	**F**	**C**
F				**C**				**F**			
	> 15 m	> 15 m		< 10 m	< 10 m	10 - 15 m	> 15 m	< 10 m	> 15 m	< 10 m	< 10 m
	≥ 2	≥ 2		≥ 2	≥ 2	1	1	≥ 2	≥ 2	1	1
-	**A**	**A**	**-**	**D**	**D**	**E**	**C**	**D**	**A**	**F**	**F**
A				**E**				**F**			
0.61 - 0.70				0.61 - 0.70				0.91 - 1.00			
B				**B**				**E**			

Cummings/Labelle & Cyrville			
NORTH	SOUTH	EAST	WEST
6	7	5	4
No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
Protected/ 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	Yes	Yes
No Channel	No Channel	No Channel	No Channel
10-15m	5-10m	10-15m	5-10m
Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
20	**5**	**39**	**56**
F	**F**	**E**	**D**
-	**-**	**-**	**-**
F	**F**	**E**	**D**
F			
NORTH	SOUTH	EAST	WEST
Mixed Traffic	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP
> 50 m	> 50 m	Not Applicable	Not Applicable
≤ 25 km/h	≤ 25 km/h	Not Applicable	Not Applicable
F	**F**	**Not Applicable**	**Not Applicable**
Mixed Traffic	**Mixed Traffic**	**Separated**	**Separated**
One lane crossed	One lane crossed	1 lane crossed	1 lane crossed
≤ 40 km/h	≤ 40 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h
B	**B**	**C**	**C**
F	**F**	**C**	**C**
F			
≤ 30 sec		≤ 20 sec	
D	**-**	**C**	**-**
D			
10 - 15 m	< 10 m	10 - 15 m	< 10 m
1	1	1	1
E	**F**	**E**	**F**
F			
0.71 - 0.80			
C			

Multi-Modal Level of Service - Segments Form

Consultant	**CGH Transporation Inc.**	**Project**	**2020-45** **1155 Joseph Cyr**
Scenario	**Present/Future**	**Date**	**2020-09-01**
Comments			

SEGMENTS		**Street A**	Joseph Cyr	Cyrville	Section
			1	2	3
Pedestrian	Sidewalk Width Boulevard Width	**C**	≥ 2 m < 0.5	≥ 2 m < 0.5	
	Avg Daily Curb Lane Traffic Volume		≤ 3000	> 3000	
	Operating Speed On-Street Parking		> 30 to 50 km/h yes	> 30 to 50 km/h no	
	Exposure to Traffic PLoS		**B**	**C**	**-**
	Effective Sidewalk Width		2.0 m	2.0 m	
	Pedestrian Volume		250 ped/hr	500 ped /hr	
	Crowding PLoS		**B**	**B**	**-**
	Level of Service		**B**	**C**	**-**
Bicycle	Type of Cycling Facility	**B**	Mixed Traffic	Curbside Bike Lane	
	Number of Travel Lanes		≤ 2 (no centreline)	≤ 1 each direction	
	Operating Speed		>40 to <50 km/h	≤ 50 km/h	
	# of Lanes & Operating Speed LoS		**B**	**A**	**-**
	Bike Lane (+ Parking Lane) Width			≥1.5 to <1.8 m	
	Bike Lane Width LoS		**-**	**B**	**-**
	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		≤ 40 km/h	≤ 40 km/h	
	Unsignalized Crossing - Lowest LoS		**A**	**A**	**-**
	Level of Service		**B**	**B**	**-**
Transit	Facility Type	**D**		Mixed Traffic	
	Friction or Ratio Transit:Posted Speed			Vt/Vp ≥ 0.8	
	Level of Service		**-**	**D**	**-**
Truck	Truck Lane Width	**D**		≤ 3.3 m	
	Travel Lanes per Direction			1	
	Level of Service		**-**	**D**	**-**

Appendix I

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: *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 J

Synchro Intersection Worksheets – 2023 Future Total Conditions

CGH TRANSPORTATION

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	8	0	0	294	3	959	23	195	945	1
Future Volume (vph)	0	1	8	0	0	294	3	959	23	195	945	1
Satd. Flow (prot)	0	1380	0	0	0	1510	0	4736	0	1658	4764	0
Flt Permitted								0.938		0.279		
Satd. Flow (perm)	0	1380	0	0	0	1510	0	4442	0	479	4764	0
Satd. Flow (RTOR)		8				196		3				
Lane Group Flow (vph)	0	9	0	0	0	294	0	985	0	195	946	0
Turn Type		NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	14.9	14.9				35.1	53.0	53.0		27.0	80.0	
Total Split (%)	11.5%	11.5%				27.0%	40.8%	40.8%		20.8%	61.5%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		6.0				41.4		73.9		35.3	93.9	
Actuated g/C Ratio		0.05				0.32		0.57		0.27	0.72	
v/c Ratio		0.12				0.48		0.39		0.76	0.27	
Control Delay		36.2				25.9		5.2		64.7	8.0	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		36.2				25.9		5.2		64.7	8.0	
LOS		D				C		A		E	A	
Approach Delay		36.2			25.9			5.2			17.7	
Approach LOS		D			C			A			B	
Queue Length 50th (m)		0.3				34.6		11.9		36.3	31.9	
Queue Length 95th (m)		6.0				14.6		16.3		50.4	52.8	
Internal Link Dist (m)		6.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		102				620		2526		345	3442	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.09				0.47		0.39		0.57	0.27	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

09-02-2020

Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 13.7	Intersection LOS: B
Intersection Capacity Utilization 62.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	226	58	646	600	24	141	794	536	33	801	132
Future Volume (vph)	67	226	58	646	600	24	141	794	536	33	801	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)	3197	3316	1351	3098	3316	1432	1620	3316	1483	1637	4764	1362
Satd. Flow (RTOR)			195			140			391			196
Lane Group Flow (vph)	67	226	58	646	600	24	141	794	536	33	801	132
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	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		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		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		21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	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
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
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
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
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	23.6	26.8	26.8	28.1	33.9	33.9	14.1	45.8	0.0	8.1	34.8	34.8
Actuated g/C Ratio	0.18	0.21	0.21	0.22	0.26	0.26	0.11	0.35	0.00	0.06	0.27	0.27
v/c Ratio	0.11	0.33	0.13	0.93	0.69	0.05	0.79	0.68	1.37	0.32	0.63	0.26
Control Delay	43.4	44.0	0.6	73.7	35.8	0.2	104.0	35.3	207.1	82.1	38.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	44.0	0.6	73.7	35.8	0.2	104.0	35.3	207.1	82.1	38.7	4.4
LOS	D	D	A	E	D	A	F	D	F	F	D	A
Approach Delay		36.7			54.4			104.5			35.5	
Approach LOS		D			D			F			D	
Queue Length 50th (m)	7.0	25.0	0.0	89.0	79.7	0.0	38.2	102.8	~103.2	6.4	70.6	6.0
Queue Length 95th (m)	14.2	36.6	0.0	#119.2	84.9	m0.0	#67.2	#143.6	#185.9	20.6	86.2	5.7
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	594	790	470	707	1313	651	193	1168	391	193	1274	508
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	0.11	0.29	0.12	0.91	0.46	0.04	0.73	0.68	1.37	0.17	0.63	0.26

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: 1.37

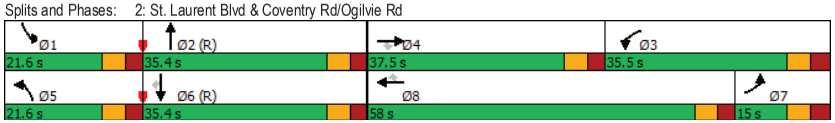
Intersection Signal Delay: 66.5	Intersection LOS: E
Intersection Capacity Utilization 94.9%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	625	153	1212	237	7	1416
Future Volume (vph)	625	153	1212	237	7	1416
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.199	
Satd. Flow (perm)	3216	1418	4764	1444	347	4764
Satd. Flow (RTOR)		64		237		
Lane Group Flow (vph)	625	153	1212	237	7	1416
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	50.0	50.0	80.0	80.0	80.0	80.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%	61.5%	61.5%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	31.0	31.0	87.4	87.4	87.4	87.4
Actuated g/C Ratio	0.24	0.24	0.67	0.67	0.67	0.67
v/c Ratio	0.82	0.40	0.38	0.23	0.03	0.44
Control Delay	55.7	25.7	10.3	1.7	8.0	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	25.7	10.3	1.7	8.0	10.8
LOS	E	C	B	A	A	B
Approach Delay	49.8		8.9			10.8
Approach LOS	D		A			B
Queue Length 50th (m)	79.2	18.9	45.0	0.0	0.6	63.4
Queue Length 95th (m)	92.4	35.9	64.6	9.5	m1.2	m70.2
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	1086	521	3203	1048	233	3203
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	0.58	0.29	0.38	0.23	0.03	0.44

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 124 (95%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 60.9%	ICU Level of Service B
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	551	229	27	1009	166	167	239	12	47	160	45
Future Volume (vph)	0	551	229	27	1009	166	167	239	12	47	160	45
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1731	0	1658	1678	0
Flt Permitted				0.437			0.493			0.398		
Satd. Flow (perm)	0	3316	1391	752	3316	1327	856	1731	0	693	1678	0
Satd. Flow (RTOR)			229			166		2			12	
Lane Group Flow (vph)	0	551	229	27	1009	166	167	251	0	47	205	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		80.0	80.0	80.0	80.0	80.0	50.0	50.0		50.0	50.0	
Total Split (%)		61.5%	61.5%	61.5%	61.5%	61.5%	38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		88.9	88.9	88.9	88.9	88.9	27.8	27.8		27.8	27.8	
Actuated g/C Ratio		0.68	0.68	0.68	0.68	0.68	0.21	0.21		0.21	0.21	
v/c Ratio		0.24	0.22	0.05	0.44	0.17	0.92	0.68		0.32	0.56	
Control Delay		6.2	0.4	2.9	3.6	0.4	96.2	54.6		31.4	27.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		6.2	0.4	2.9	3.6	0.4	96.2	54.6		31.4	27.3	
LOS		A	A	A	A	A	F	D		C	C	
Approach Delay		4.5			3.1			71.2			28.1	
Approach LOS		A			A			E			C	
Queue Length 50th (m)		19.6	0.0	0.3	7.0	0.1	42.3	59.3		5.5	24.2	
Queue Length 95th (m)		m22.6	m0.0	m1.0	42.6	m0.6	63.0	77.0		m13.0	45.7	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2268	1024	514	2268	960	282	572		228	561	
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		0.24	0.22	0.05	0.44	0.17	0.59	0.44		0.21	0.37	

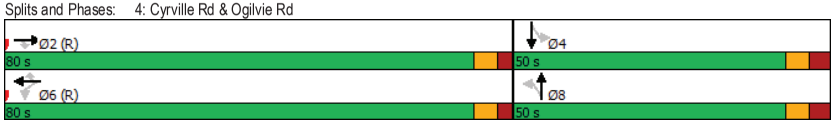
Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 73.2%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 4: Cyrville Rd & Ogilvie Rd



Lanes, Volumes, Timings
5: Cummings Ave & Ogilvie Rd

09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	568	11	172	1084	171	36	117	65	142	123	112
Future Volume (vph)	51	568	11	172	1084	171	36	117	65	142	123	112
Satd. Flow (prot)	1658	3301	0	1658	3196	0	1658	1579	0	1658	1604	0
Flt Permitted	0.134			0.383			0.612			0.446		
Satd. Flow (perm)	234	3301	0	656	3196	0	1063	1579	0	744	1604	0
Satd. Flow (RTOR)		2			19			20			37	
Lane Group Flow (vph)	51	579	0	172	1255	0	36	182	0	142	235	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.3	36.6	
Total Split (s)	11.0	71.0		11.0	71.0		36.6	36.6		11.4	48.0	
Total Split (%)	8.5%	54.6%		8.5%	54.6%		28.2%	28.2%		8.8%	36.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	76.0	68.8		77.3	71.2		26.3	26.3		40.0	37.7	
Actuated g/C Ratio	0.58	0.53		0.59	0.55		0.20	0.20		0.31	0.29	
v/c Ratio	0.25	0.33		0.39	0.71		0.17	0.54		0.51	0.48	
Control Delay	18.3	22.7		14.9	26.3		42.3	46.5		40.2	34.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.3	22.7		14.9	26.3		42.3	46.5		40.2	34.3	
LOS	B	C		B	C		D	D		D	C	
Approach Delay		22.3			24.9			45.8			36.5	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	6.8	48.6		18.9	132.5		7.4	36.0		26.3	39.9	
Queue Length 95th (m)	14.8	59.4		30.0	161.4		17.0	59.3		43.2	64.1	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	205	1749		439	1759		245	379		278	536	
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	0.25	0.33		0.39	0.71		0.15	0.48		0.51	0.44	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 110 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
5: Cummings Ave & Ogilvie Rd

09-02-2020

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 27.7	Intersection LOS: C
Intersection Capacity Utilization 90.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Cummings Ave & Ogilvie Rd

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	178	101	162	434	137	12	32	29	134	116	21
Future Volume (vph)	30	178	101	162	434	137	12	32	29	134	116	21
Satd. Flow (prot)	1658	1620	0	1658	1659	0	1658	1529	0	1658	1697	0
Flt Permitted	0.278			0.588			0.669			0.717		
Satd. Flow (perm)	472	1620	0	1010	1659	0	1161	1529	0	1136	1697	0
Satd. Flow (RTOR)		60			23			29			10	
Lane Group Flow (vph)	30	279	0	162	571	0	12	61	0	134	137	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	42.0		42.0	42.0		28.0	28.0		28.0	28.0	
Total Split (%)	17.6%	49.4%		49.4%	49.4%		32.9%	32.9%		32.9%	32.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	44.2	44.2		39.4	39.4		16.9	16.9		16.9	16.9	
Actuated g/C Ratio	0.60	0.60		0.54	0.54		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.28		0.30	0.63		0.04	0.16		0.51	0.34	
Control Delay	7.6	6.9		14.9	19.0		22.4	14.9		31.7	23.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.6	6.9		14.9	19.0		22.4	14.9		31.7	23.9	
LOS	A	A		B	B		C	B		C	C	
Approach Delay		7.0			18.1			16.2			27.8	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	1.8	14.9		11.3	48.7		1.1	2.9		13.3	12.0	
Queue Length 95th (m)	4.9	26.8		32.4	#127.1		5.4	12.8		34.4	30.8	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	428	1161		543	904		363	499		356	538	
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	0.07	0.24		0.30	0.63		0.03	0.12		0.38	0.25	

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 73.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.63

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

09-02-2020

Intersection Signal Delay: 17.4 — Intersection LOS: B
Intersection Capacity Utilization 69.7% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	9	0	0	341	3	1285	86	305	1023	4
Future Volume (vph)	1	0	9	0	0	341	3	1285	86	305	1023	4
Satd. Flow (prot)	0	1425	0	0	0	1510	0	4686	0	1658	4757	0
Flt Permitted		0.995						0.938		0.221		
Satd. Flow (perm)	0	1425	0	0	0	1488	0	4395	0	386	4757	0
Satd. Flow (RTOR)		137				238		8			1	
Lane Group Flow (vph)	0	10	0	0	0	341	0	1374	0	305	1027	0
Turn Type	Perm	NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	15.0	15.0				37.0	38.0	38.0		30.0	68.0	
Total Split (%)	12.5%	12.5%				30.8%	31.7%	31.7%		25.0%	56.7%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		5.5				41.3		58.3		41.3	87.7	
Actuated g/C Ratio		0.05				0.34		0.49		0.34	0.73	
v/c Ratio		0.05				0.51		0.64		0.81	0.30	
Control Delay		0.5				27.7		13.4		56.8	7.4	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		0.5				27.7		13.4		56.8	7.4	
LOS		A				C		B		E	A	
Approach Delay		0.5			27.7			13.4			18.7	
Approach LOS		A			C			B			B	
Queue Length 50th (m)		0.0				56.8		37.4		56.1	18.5	
Queue Length 95th (m)		0.0				31.3		#165.3		67.7	56.4	
Internal Link Dist (m)		5.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		234				719		2140		405	3475	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.04				0.47		0.64		0.75	0.30	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

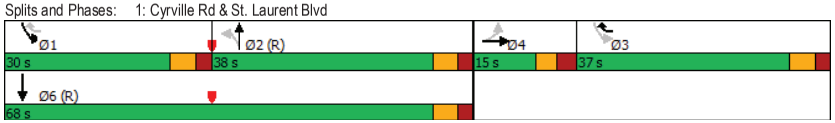
09-02-2020

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 70.2%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	647	205	480	371	30	183	865	642	71	781	192
Future Volume (vph)	302	647	205	480	371	30	183	865	642	71	781	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)	3072	3316	1369	3145	3316	1311	1572	3316	1407	1639	4764	1230
Satd. Flow (RTOR)			210			210			380			211
Lane Group Flow (vph)	302	647	205	480	371	30	183	865	642	71	781	192
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	23.6	44.0	44.0	15.0	35.4	35.4
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.7%	36.7%	36.7%	12.5%	29.5%	29.5%
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)	20.0	29.2	29.2	18.4	27.6	27.6	16.1	40.6	40.6	8.2	30.1	30.1
Actuated g/C Ratio	0.17	0.24	0.24	0.15	0.23	0.23	0.13	0.34	0.34	0.07	0.25	0.25
v/c Ratio	0.56	0.80	0.42	0.98	0.49	0.06	0.82	0.77	0.88	0.63	0.65	0.41
Control Delay	52.1	50.8	7.2	84.8	49.4	0.3	95.7	32.5	21.8	83.1	36.3	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.1	50.8	7.2	84.8	49.4	0.3	95.7	32.5	21.8	83.1	36.3	10.5
LOS	D	D	A	F	D	A	F	C	C	F	D	B
Approach Delay		43.4			67.0			35.3			34.8	
Approach LOS		D			E			D			C	
Queue Length 50th (m)	35.3	74.1	0.0	~62.8	48.4	0.0	43.1	100.9	76.7	16.4	61.4	2.1
Queue Length 95th (m)	50.2	95.3	17.1	#96.0	64.6	m0.0	#77.9	121.9	#61.3	#32.8	76.1	39.6
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	536	856	509	491	856	494	237	1122	727	118	1195	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.76	0.40	0.98	0.43	0.06	0.77	0.77	0.88	0.60	0.65	0.41

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: 110
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

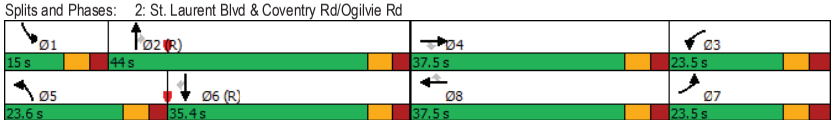
Intersection Signal Delay: 43.0	Intersection LOS: D
Intersection Capacity Utilization 95.5%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	547	156	1582	256	13	1762
Future Volume (vph)	547	156	1582	256	13	1762
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.124	
Satd. Flow (perm)	3216	1380	4764	1433	216	4764
Satd. Flow (RTOR)		37		256		
Lane Group Flow (vph)	547	156	1582	256	13	1762
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	38.0	38.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	28.3	28.3	80.1	80.1	80.1	80.1
Actuated g/C Ratio	0.24	0.24	0.67	0.67	0.67	0.67
v/c Ratio	0.72	0.44	0.50	0.25	0.09	0.55
Control Delay	47.8	32.9	11.0	1.6	5.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	32.9	11.0	1.6	5.5	7.1
LOS	D	C	B	A	A	A
Approach Delay	44.5		9.7			7.1
Approach LOS	D		A			A
Queue Length 50th (m)	60.2	23.3	65.2	0.0	0.7	65.3
Queue Length 95th (m)	77.3	42.5	80.0	8.9	m1.6	m70.6
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	854	394	3180	1041	144	3180
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	0.64	0.40	0.50	0.25	0.09	0.55

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 99 (83%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 14.3	Intersection LOS: B
Intersection Capacity Utilization 68.9%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1011	259	42	658	124	123	221	32	134	217	80
Future Volume (vph)	0	1011	259	42	658	124	123	221	32	134	217	80
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1708	0	1658	1666	0
Flt Permitted				0.245			0.337			0.421		
Satd. Flow (perm)	0	3316	1375	424	3316	1340	586	1708	0	731	1666	0
Satd. Flow (RTOR)			259			124		7			17	
Lane Group Flow (vph)	0	1011	259	42	658	124	123	253	0	134	297	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		70.0	70.0	70.0	70.0	70.0	50.0	50.0		50.0	50.0	
Total Split (%)		58.3%	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%		41.7%	41.7%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		79.7	79.7	79.7	79.7	79.7	27.0	27.0		27.0	27.0	
Actuated g/C Ratio		0.66	0.66	0.66	0.66	0.66	0.22	0.22		0.22	0.22	
v/c Ratio		0.46	0.26	0.15	0.30	0.13	0.93	0.65		0.82	0.77	
Control Delay		4.4	0.5	19.9	16.3	8.8	107.2	47.7		51.3	31.3	
Queue Delay		0.2	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		4.6	0.5	19.9	16.3	8.8	107.2	47.7		51.3	31.3	
LOS		A	A	B	B	A	F	D		D	C	
Approach Delay		3.8			15.3			67.2			37.5	
Approach LOS		A			B			E			D	
Queue Length 50th (m)		19.8	0.0	5.1	42.5	5.7	28.9	53.5		32.3	68.5	
Queue Length 95th (m)		m48.8	m0.9	m8.6	63.9	m12.0	#50.6	68.8		m20.9	m40.4	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2201	1000	281	2201	931	209	615		261	606	
Starvation Cap Reductn		420	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		0.57	0.26	0.15	0.30	0.13	0.59	0.41		0.51	0.49	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

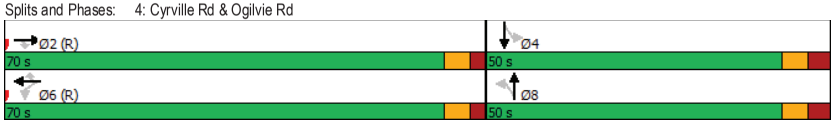
Maximum v/c Ratio: 0.93

Intersection Signal Delay: 20.3	Intersection LOS: C
Intersection Capacity Utilization 83.3%	ICU Level of Service E
Analysis Period (min) 15	

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

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

Splits and Phases: 4: Cyrville Rd & Ogilvie Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	1096	23	122	734	211	48	171	225	260	169	84
Future Volume (vph)	129	1096	23	122	734	211	48	171	225	260	169	84
Satd. Flow (prot)	1658	3299	0	1658	3160	0	1658	1566	0	1658	1635	0
Flt Permitted	0.137			0.093			0.602			0.177		
Satd. Flow (perm)	239	3299	0	162	3160	0	1051	1566	0	309	1635	0
Satd. Flow (RTOR)		2			33			55			27	
Lane Group Flow (vph)	129	1119	0	122	945	0	48	396	0	260	253	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.5	36.6	
Total Split (s)	15.0	45.0		15.0	45.0		40.0	40.0		20.0	60.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		33.3%	33.3%		16.7%	50.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	53.9	43.3		53.6	43.2		30.3	30.3		52.6	50.3	
Actuated g/C Ratio	0.45	0.36		0.45	0.36		0.25	0.25		0.44	0.42	
v/c Ratio	0.59	0.94		0.65	0.82		0.18	0.91		0.84	0.36	
Control Delay	32.3	41.0		38.5	41.4		35.5	62.8		46.2	22.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.3	41.0		38.5	41.4		35.5	62.8		46.2	22.2	
LOS	C	D		D	D		D	E		D	C	
Approach Delay		40.1			41.0			59.9			34.4	
Approach LOS		D			D			E			C	
Queue Length 50th (m)	13.5	~116.5		16.3	107.7		8.6	77.1		38.2	34.0	
Queue Length 95th (m)	28.5	#186.5		#35.1	#144.6		18.6	#127.6		#74.8	53.4	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	231	1192		202	1158		292	475		311	742	
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	0.56	0.94		0.60	0.82		0.16	0.83		0.84	0.34	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

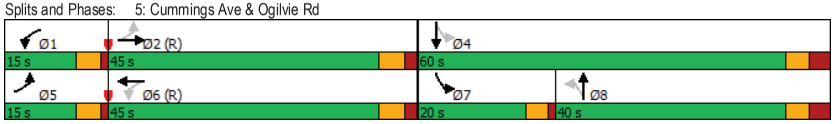
Maximum v/c Ratio: 0.94

Intersection Signal Delay: 42.2	Intersection LOS: D
Intersection Capacity Utilization 97.9%	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: 5: Cummings Ave & Ogilvie Rd



Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	474	17	48	301	236	25	79	104	206	36	26
Future Volume (vph)	59	474	17	48	301	236	25	79	104	206	36	26
Satd. Flow (prot)	1658	1732	0	1658	1602	0	1658	1511	0	1658	1597	0
Flt Permitted	0.261			0.484			0.717			0.598		
Satd. Flow (perm)	455	1732	0	820	1602	0	1215	1511	0	985	1597	0
Satd. Flow (RTOR)		3			45			75			26	
Lane Group Flow (vph)	59	491	0	48	537	0	25	183	0	206	62	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	43.0		43.0	43.0		42.0	42.0		42.0	42.0	
Total Split (%)	15.0%	43.0%		43.0%	43.0%		42.0%	42.0%		42.0%	42.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	48.5	48.5		38.0	38.0		21.9	21.9		21.9	21.9	
Actuated g/C Ratio	0.59	0.59		0.46	0.46		0.27	0.27		0.27	0.27	
v/c Ratio	0.16	0.48		0.13	0.70		0.08	0.40		0.79	0.14	
Control Delay	10.4	13.3		19.0	26.3		22.8	17.4		50.2	15.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.4	13.3		19.0	26.3		22.8	17.4		50.2	15.5	
LOS	B	B		B	C		C	B		D	B	
Approach Delay		12.9			25.7			18.0			42.2	
Approach LOS		B			C			B			D	
Queue Length 50th (m)	3.6	40.0		4.5	63.7		3.0	13.8		30.8	4.4	
Queue Length 95th (m)	11.5	88.3		14.3	#147.0		8.8	30.2		55.8	13.0	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	397	1116		377	762		552	727		447	740	
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	0.15	0.44		0.13	0.70		0.05	0.25		0.46	0.08	

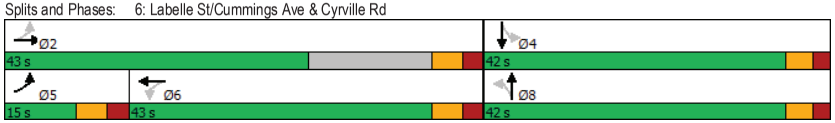
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 82.5
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

09-02-2020

Intersection Signal Delay: 23.1 — Intersection LOS: C
Intersection Capacity Utilization 84.8% — ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd



Appendix K

Synchro Intersection Worksheets – 2028 Future Total Conditions

CGH TRANSPORTATION

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	8	0	0	302	3	1008	23	203	981	1
Future Volume (vph)	0	1	8	0	0	302	3	1008	23	203	981	1
Satd. Flow (prot)	0	1380	0	0	0	1510	0	4741	0	1658	4764	0
Flt Permitted								0.938		0.265		
Satd. Flow (perm)	0	1380	0	0	0	1510	0	4447	0	456	4764	0
Satd. Flow (RTOR)		8				192		3				
Lane Group Flow (vph)	0	9	0	0	0	302	0	1034	0	203	982	0
Turn Type		NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	14.9	14.9				35.1	53.0	53.0		27.0	80.0	
Total Split (%)	11.5%	11.5%				27.0%	40.8%	40.8%		20.8%	61.5%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		6.0				42.4		72.9		36.3	93.9	
Actuated g/C Ratio		0.05				0.33		0.56		0.28	0.72	
v/c Ratio		0.12				0.49		0.41		0.77	0.29	
Control Delay		36.2				26.0		5.5		65.0	8.1	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		36.2				26.0		5.5		65.0	8.1	
LOS		D				C		A		E	A	
Approach Delay		36.2			26.0			5.5			17.9	
Approach LOS		D			C			A			B	
Queue Length 50th (m)		0.3				34.8		12.4		37.5	33.5	
Queue Length 95th (m)		6.0				15.7		25.7		51.4	55.2	
Internal Link Dist (m)		6.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		102				626		2496		341	3440	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.09				0.48		0.41		0.60	0.29	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

09-02-2020

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 13.8	Intersection LOS: B
Intersection Capacity Utilization 62.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	288	58	654	608	24	141	835	563	33	831	132
Future Volume (vph)	67	288	58	654	608	24	141	835	563	33	831	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)	3197	3316	1351	3108	3316	1432	1622	3316	1483	1638	4764	1362
Satd. Flow (RTOR)			195			140			391			196
Lane Group Flow (vph)	67	288	58	654	608	24	141	835	563	33	831	132
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	NA	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	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		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		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		21.6	35.4	35.4
Total Split (%)	11.5%	28.8%	28.8%	27.3%	44.6%	44.6%	16.6%	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
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
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
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
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	23.3	27.2	27.2	28.2	34.6	34.6	14.1	45.3	0.0	8.1	34.3	34.3
Actuated g/C Ratio	0.18	0.21	0.21	0.22	0.27	0.27	0.11	0.35	0.00	0.06	0.26	0.26
v/c Ratio	0.12	0.41	0.13	0.94	0.69	0.05	0.79	0.72	1.44	0.32	0.66	0.26
Control Delay	43.6	45.4	0.6	74.9	35.0	0.2	103.5	35.9	236.8	82.4	39.5	4.3
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	43.6	45.4	0.6	74.9	35.0	0.2	103.5	35.9	236.8	82.4	39.5	4.3
LOS	D	D	A	E	D	A	F	D	F	F	D	A
Approach Delay		38.8			54.6			115.6			36.3	
Approach LOS		D			D			F			D	
Queue Length 50th (m)	7.0	32.5	0.0	90.6	80.2	0.0	38.2	109.8	~130.3	6.4	73.9	6.2
Queue Length 95th (m)	14.2	45.9	0.0	#121.9	85.0	m0.0	#67.1	#150.7	#202.0	20.6	89.9	5.2
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	587	790	470	707	1313	651	193	1155	391	193	1256	503
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	0.11	0.36	0.12	0.93	0.46	0.04	0.73	0.72	1.44	0.17	0.66	0.26

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: 1.44

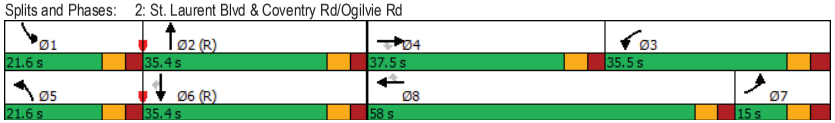
Intersection Signal Delay: 70.9	Intersection LOS: E
Intersection Capacity Utilization 95.2%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	673	153	1273	249	7	1469
Future Volume (vph)	673	153	1273	249	7	1469
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.182	
Satd. Flow (perm)	3216	1418	4764	1444	317	4764
Satd. Flow (RTOR)		55		249		
Lane Group Flow (vph)	673	153	1273	249	7	1469
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	50.0	50.0	80.0	80.0	80.0	80.0
Total Split (%)	38.5%	38.5%	61.5%	61.5%	61.5%	61.5%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	33.2	33.2	85.2	85.2	85.2	85.2
Actuated g/C Ratio	0.26	0.26	0.66	0.66	0.66	0.66
v/c Ratio	0.82	0.38	0.41	0.24	0.03	0.47
Control Delay	54.1	26.7	11.6	1.8	9.0	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	26.7	11.6	1.8	9.0	12.0
LOS	D	C	B	A	A	B
Approach Delay	49.0		10.0			12.0
Approach LOS	D		A			B
Queue Length 50th (m)	83.7	20.2	52.7	0.0	0.7	64.9
Queue Length 95th (m)	98.4	37.1	71.9	10.2	m1.1	m71.5
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	1086	515	3122	1032	207	3122
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	0.62	0.30	0.41	0.24	0.03	0.47

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 124 (95%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 19.2	Intersection LOS: B
Intersection Capacity Utilization 62.6%	ICU Level of Service B
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	558	232	27	1022	166	172	245	12	47	175	45
Future Volume (vph)	0	558	232	27	1022	166	172	245	12	47	175	45
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1731	0	1658	1682	0
Flt Permitted				0.433			0.471			0.398		
Satd. Flow (perm)	0	3316	1391	745	3316	1327	818	1731	0	693	1682	0
Satd. Flow (RTOR)			232			166		2			11	
Lane Group Flow (vph)	0	558	232	27	1022	166	172	257	0	47	220	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		80.0	80.0	80.0	80.0	80.0	50.0	50.0		50.0	50.0	
Total Split (%)		61.5%	61.5%	61.5%	61.5%	61.5%	38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		87.8	87.8	87.8	87.8	87.8	28.9	28.9		28.9	28.9	
Actuated g/C Ratio		0.68	0.68	0.68	0.68	0.68	0.22	0.22		0.22	0.22	
v/c Ratio		0.25	0.23	0.05	0.46	0.17	0.95	0.67		0.31	0.58	
Control Delay		6.1	0.3	3.0	3.8	0.5	103.0	53.1		30.3	27.5	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		6.1	0.3	3.0	3.8	0.5	103.0	53.1		30.3	27.5	
LOS		A	A	A	A	A	F	D		C	C	
Approach Delay		4.4			3.4			73.1			28.0	
Approach LOS		A			A			E			C	
Queue Length 50th (m)		19.5	0.0	0.3	7.3	0.1	43.6	60.0		5.0	23.9	
Queue Length 95th (m)		m21.5	m0.0	m1.1	45.0	m0.8	#67.5	78.7		m12.8	51.1	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2239	1014	503	2239	950	269	572		228	562	
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		0.25	0.23	0.05	0.46	0.17	0.64	0.45		0.21	0.39	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 10 (8%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

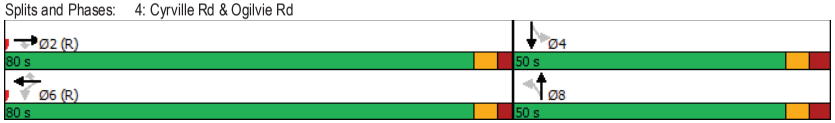
Maximum v/c Ratio: 0.95

Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 74.5%	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: 4: Cyrville Rd & Ogilvie Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	575	11	174	1098	173	36	118	66	149	129	112
Future Volume (vph)	51	575	11	174	1098	173	36	118	66	149	129	112
Satd. Flow (prot)	1658	3301	0	1658	3196	0	1658	1578	0	1658	1606	0
Flt Permitted	0.129			0.379			0.609			0.442		
Satd. Flow (perm)	225	3301	0	649	3196	0	1058	1578	0	737	1606	0
Satd. Flow (RTOR)		2			19			20			35	
Lane Group Flow (vph)	51	586	0	174	1271	0	36	184	0	149	241	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.3	36.6	
Total Split (s)	11.0	71.0		11.0	71.0		36.6	36.6		11.4	48.0	
Total Split (%)	8.5%	54.6%		8.5%	54.6%		28.2%	28.2%		8.8%	36.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	76.0	68.8		77.3	71.2		26.3	26.3		40.0	37.7	
Actuated g/C Ratio	0.58	0.53		0.59	0.55		0.20	0.20		0.31	0.29	
v/c Ratio	0.26	0.34		0.40	0.72		0.17	0.55		0.54	0.49	
Control Delay	18.7	23.6		15.0	26.6		42.3	46.7		41.4	35.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.7	23.6		15.0	26.6		42.3	46.7		41.4	35.1	
LOS	B	C		B	C		D	D		D	D	
Approach Delay		23.2			25.2			46.0			37.5	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	7.1	50.8		19.2	135.4		7.4	36.5		27.8	41.8	
Queue Length 95th (m)	15.3	63.1		30.3	164.6		17.0	59.9		45.3	66.3	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	201	1748		436	1759		244	379		277	535	
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	0.25	0.34		0.40	0.72		0.15	0.49		0.54	0.45	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 110 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 28.2	Intersection LOS: C
Intersection Capacity Utilization 91.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Cummings Ave & Ogilvie Rd

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	194	110	167	445	137	17	44	40	134	122	21
Future Volume (vph)	30	194	110	167	445	137	17	44	40	134	122	21
Satd. Flow (prot)	1658	1620	0	1658	1661	0	1658	1529	0	1658	1699	0
Flt Permitted	0.270			0.575			0.666			0.702		
Satd. Flow (perm)	467	1620	0	988	1661	0	1153	1529	0	1116	1699	0
Satd. Flow (RTOR)		60			22			40			10	
Lane Group Flow (vph)	30	304	0	167	582	0	17	84	0	134	143	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	42.0		42.0	42.0		28.0	28.0		28.0	28.0	
Total Split (%)	17.6%	49.4%		49.4%	49.4%		32.9%	32.9%		32.9%	32.9%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	44.2	44.2		39.4	39.4		16.9	16.9		16.9	16.9	
Actuated g/C Ratio	0.60	0.60		0.54	0.54		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.30		0.31	0.64		0.06	0.22		0.52	0.36	
Control Delay	7.6	7.2		15.2	19.4		22.7	15.1		32.2	24.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.6	7.2		15.2	19.4		22.7	15.1		32.2	24.2	
LOS	A	A		B	B		C	B		C	C	
Approach Delay		7.3			18.5			16.4			28.1	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	1.8	16.9		11.8	50.2		1.5	4.0		13.3	12.7	
Queue Length 95th (m)	4.9	29.9		33.8	#131.7		6.9	16.0		34.5	32.0	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	426	1161		532	904		361	506		349	539	
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	0.07	0.26		0.31	0.64		0.05	0.17		0.38	0.27	

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 73.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.64

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

09-02-2020

Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 71.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	9	0	0	372	3	1334	86	320	1075	4
Future Volume (vph)	1	0	9	0	0	372	3	1334	86	320	1075	4
Satd. Flow (prot)	0	1425	0	0	0	1510	0	4687	0	1658	4757	0
Flt Permitted		0.995						0.938		0.215		
Satd. Flow (perm)	0	1425	0	0	0	1488	0	4396	0	375	4757	0
Satd. Flow (RTOR)		137				237		8			1	
Lane Group Flow (vph)	0	10	0	0	0	372	0	1423	0	320	1079	0
Turn Type	Perm	NA				custom	Perm	NA		custom	NA	
Protected Phases		4				3		2		1	6	
Permitted Phases	4					1	2			3		
Detector Phase	4	4				3	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0				10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.9	10.9				35.1	31.9	31.9		11.1	31.9	
Total Split (s)	15.0	15.0				37.0	38.0	38.0		30.0	68.0	
Total Split (%)	12.5%	12.5%				30.8%	31.7%	31.7%		25.0%	56.7%	
Yellow Time (s)	3.0	3.0				3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	2.9	2.9				2.4	2.2	2.2		2.4	2.2	
Lost Time Adjust (s)		0.0				0.0		0.0		0.0	0.0	
Total Lost Time (s)		5.9				6.1		5.9		6.1	5.9	
Lead/Lag	Lead	Lead				Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes		Yes		
Recall Mode	None	None				None	C-Max	C-Max		None	C-Max	
Act Effct Green (s)		5.5				42.9		56.7		42.9	87.1	
Actuated g/C Ratio		0.05				0.36		0.47		0.36	0.73	
v/c Ratio		0.05				0.54		0.68		0.81	0.31	
Control Delay		0.5				29.9		14.4		56.7	7.7	
Queue Delay		0.0				0.0		0.0		0.0	0.0	
Total Delay		0.5				29.9		14.4		56.7	7.7	
LOS		A				C		B		E	A	
Approach Delay		0.5			29.9			14.4			18.9	
Approach LOS		A			C			B			B	
Queue Length 50th (m)		0.0				63.0		39.6		56.9	22.0	
Queue Length 95th (m)		0.0				39.1		#173.9		73.6	60.0	
Internal Link Dist (m)		5.9			210.5			150.5			144.5	
Turn Bay Length (m)										138.0		
Base Capacity (vph)		234				736		2082		412	3452	
Starvation Cap Reductn		0				0		0		0	0	
Spillback Cap Reductn		0				0		0		0	0	
Storage Cap Reductn		0				0		0		0	0	
Reduced v/c Ratio		0.04				0.51		0.68		0.78	0.31	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings
1: Cyrville Rd & St. Laurent Blvd

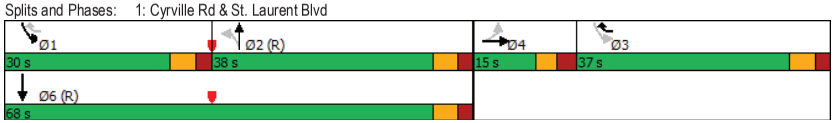
09-02-2020

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 73.1%	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.

Splits and Phases: 1: Cyrville Rd & St. Laurent Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	302	787	205	485	375	30	183	898	666	71	821	192
Future Volume (vph)	302	787	205	485	375	30	183	898	666	71	821	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)	3072	3316	1369	3157	3316	1311	1572	3316	1407	1640	4764	1230
Satd. Flow (RTOR)			210			210			373			211
Lane Group Flow (vph)	302	787	205	485	375	30	183	898	666	71	821	192
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	23.6	44.0	44.0	15.0	35.4	35.4
Total Split (%)	19.6%	31.3%	31.3%	19.6%	31.3%	31.3%	19.7%	36.7%	36.7%	12.5%	29.5%	29.5%
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)	20.0	30.6	30.6	17.0	27.6	27.6	16.1	40.6	40.6	8.2	30.1	30.1
Actuated g/C Ratio	0.17	0.26	0.26	0.14	0.23	0.23	0.13	0.34	0.34	0.07	0.25	0.25
v/c Ratio	0.56	0.93	0.41	1.07	0.49	0.06	0.82	0.80	0.92	0.63	0.69	0.41
Control Delay	52.1	62.2	7.0	108.0	48.6	0.3	97.2	33.2	26.9	83.0	36.8	10.7
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	52.1	62.2	7.0	108.0	48.6	0.3	97.2	33.2	26.9	83.0	36.8	10.7
LOS	D	E	A	F	D	A	F	C	C	F	D	B
Approach Delay		51.1			79.3			37.5			35.2	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	35.3	95.2	0.0	~64.0	49.1	0.0	43.1	106.1	83.8	16.7	65.3	4.8
Queue Length 95th (m)	50.2	#130.9	17.1	#97.6	65.2	m0.0	#77.7	#133.4	#72.0	#32.7	80.1	39.9
Internal Link Dist (m)		177.7			134.8			116.5			150.5	
Turn Bay Length (m)	115.0		70.0	108.0			63.0			80.0		56.0
Base Capacity (vph)	535	856	509	455	856	494	237	1122	722	118	1195	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.92	0.40	1.07	0.44	0.06	0.77	0.80	0.92	0.60	0.69	0.41

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: 110
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

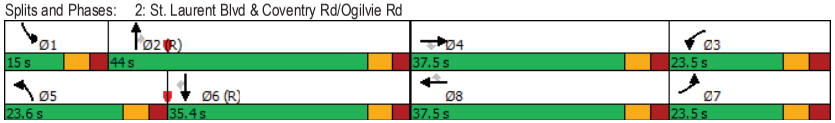
Intersection Signal Delay: 48.0	Intersection LOS: D
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min) 15	

~ 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: 2: St. Laurent Blvd & Coventry Rd/Ogilvie Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	633	156	1641	265	13	1851
Future Volume (vph)	633	156	1641	265	13	1851
Satd. Flow (prot)	3216	1483	4764	1483	1658	4764
Flt Permitted	0.950				0.113	
Satd. Flow (perm)	3216	1380	4764	1433	197	4764
Satd. Flow (RTOR)		33		265		
Lane Group Flow (vph)	633	156	1641	265	13	1851
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	37.5	37.5	23.5	23.5
Total Split (s)	38.0	38.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	2.8	2.8	1.8	1.8	1.8	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	29.2	29.2	79.2	79.2	79.2	79.2
Actuated g/C Ratio	0.24	0.24	0.66	0.66	0.66	0.66
v/c Ratio	0.81	0.43	0.52	0.26	0.10	0.59
Control Delay	51.4	33.3	11.7	1.6	5.9	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	33.3	11.7	1.6	5.9	7.5
LOS	D	C	B	A	A	A
Approach Delay	47.8		10.3			7.5
Approach LOS	D		B			A
Queue Length 50th (m)	72.0	24.1	68.9	0.0	0.6	67.9
Queue Length 95th (m)	91.0	43.4	84.3	9.1	m1.6	m71.8
Internal Link Dist (m)	79.9		176.0			61.7
Turn Bay Length (m)		58.0		60.0	121.0	
Base Capacity (vph)	854	391	3143	1035	129	3143
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	0.74	0.40	0.52	0.26	0.10	0.59

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 99 (83%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 71.3%	ICU Level of Service C
Analysis Period (min) 15	

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

Splits and Phases: 3: St. Laurent Blvd & Lemieux St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1024	262	42	666	124	134	241	32	134	223	80
Future Volume (vph)	0	1024	262	42	666	124	134	241	32	134	223	80
Satd. Flow (prot)	0	3316	1483	1658	3316	1483	1658	1710	0	1658	1667	0
Flt Permitted				0.240			0.332			0.388		
Satd. Flow (perm)	0	3316	1375	416	3316	1340	577	1710	0	674	1667	0
Satd. Flow (RTOR)			262			124		6			17	
Lane Group Flow (vph)	0	1024	262	42	666	124	134	273	0	134	303	0
Turn Type		NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases			2	6		6	8			4		
Detector Phase		2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)		10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)		32.2	32.2	32.2	32.2	32.2	47.1	47.1		47.1	47.1	
Total Split (s)		70.0	70.0	70.0	70.0	70.0	50.0	50.0		50.0	50.0	
Total Split (%)		58.3%	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%		41.7%	41.7%	
Yellow Time (s)		3.7	3.7	3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)		2.5	2.5	2.5	2.5	2.5	3.4	3.4		3.4	3.4	
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)		6.2	6.2	6.2	6.2	6.2	7.1	7.1		7.1	7.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)		79.2	79.2	79.2	79.2	79.2	27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.66	0.66	0.66	0.66	0.66	0.23	0.23		0.23	0.23	
v/c Ratio		0.47	0.26	0.15	0.30	0.13	1.02	0.69		0.87	0.77	
Control Delay		3.9	0.4	20.5	17.0	9.0	128.1	49.6		58.5	30.2	
Queue Delay		0.2	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		4.2	0.4	20.5	17.0	9.0	128.1	49.6		58.5	30.2	
LOS		A	A	C	B	A	F	D		E	C	
Approach Delay		3.4			16.0			75.4			38.9	
Approach LOS		A			B			E			D	
Queue Length 50th (m)		18.6	0.0	5.1	43.5	5.9	~34.5	58.6		33.1	70.0	
Queue Length 95th (m)		m41.3	m0.0	m8.3	m63.3	m11.4	#57.7	75.0		m19.7	m38.9	
Internal Link Dist (m)		134.8			313.9			39.7			210.5	
Turn Bay Length (m)				62.0		71.0				82.0		
Base Capacity (vph)		2189	996	274	2189	926	206	615		240	606	
Starvation Cap Reductn		475	0	0	0	0	0	0		0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0		0	0	
Storage Cap Reductn		0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio		0.60	0.26	0.15	0.30	0.13	0.65	0.44		0.56	0.50	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 22.1	Intersection LOS: C
Intersection Capacity Utilization 83.6%	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: 4: Cyrville Rd & Ogilvie Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	1110	23	123	744	213	48	179	236	263	171	84
Future Volume (vph)	129	1110	23	123	744	213	48	179	236	263	171	84
Satd. Flow (prot)	1658	3299	0	1658	3161	0	1658	1566	0	1658	1636	0
Flt Permitted	0.126			0.095			0.601			0.164		
Satd. Flow (perm)	220	3299	0	166	3161	0	1049	1566	0	286	1636	0
Satd. Flow (RTOR)		2			33			55			27	
Lane Group Flow (vph)	129	1133	0	123	957	0	48	415	0	263	255	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.7	24.7		9.7	24.7		36.6	36.6		9.5	36.6	
Total Split (s)	15.0	45.0		15.0	45.0		40.0	40.0		20.0	60.0	
Total Split (%)	12.5%	37.5%		12.5%	37.5%		33.3%	33.3%		16.7%	50.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	2.0		1.0	2.0		3.3	3.3		1.0	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	5.7		4.7	5.7		6.6	6.6		4.3	6.6	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	52.9	42.4		52.7	42.3		31.2	31.2		53.5	51.2	
Actuated g/C Ratio	0.44	0.35		0.44	0.35		0.26	0.26		0.45	0.43	
v/c Ratio	0.61	0.97		0.65	0.84		0.18	0.93		0.86	0.36	
Control Delay	36.1	49.8		38.6	43.5		35.1	65.4		50.0	21.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.1	49.8		38.6	43.5		35.1	65.4		50.0	21.8	
LOS	D	D		D	D		D	E		D	C	
Approach Delay		48.4			42.9			62.3			36.1	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	15.5	~148.0		16.5	109.6		8.6	82.4		38.5	34.1	
Queue Length 95th (m)	30.1	#189.9		#34.9	#147.6		18.6	#138.1		#80.1	54.0	
Internal Link Dist (m)		313.9			182.7			302.0			197.7	
Turn Bay Length (m)	80.0			100.0			34.0			153.0		
Base Capacity (vph)	222	1166		202	1135		291	475		307	743	
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	0.97		0.61	0.84		0.16	0.87		0.86	0.34	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

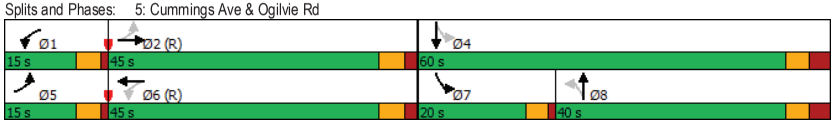
Maximum v/c Ratio: 0.97

Intersection Signal Delay: 46.6	Intersection LOS: D
Intersection Capacity Utilization 99.6%	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: 5: Cummings Ave & Ogilvie Rd



Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

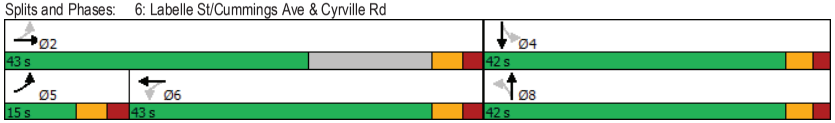
09-02-2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	486	18	53	329	236	25	79	104	206	37	26
Future Volume (vph)	59	486	18	53	329	236	25	79	104	206	37	26
Satd. Flow (prot)	1658	1732	0	1658	1608	0	1658	1511	0	1658	1600	0
Flt Permitted	0.239			0.478			0.716			0.598		
Satd. Flow (perm)	417	1732	0	810	1608	0	1213	1511	0	985	1600	0
Satd. Flow (RTOR)		3			41			75			26	
Lane Group Flow (vph)	59	504	0	53	565	0	25	183	0	206	63	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.3	34.3		34.3	34.3		27.5	27.5		27.5	27.5	
Total Split (s)	15.0	43.0		43.0	43.0		42.0	42.0		42.0	42.0	
Total Split (%)	15.0%	43.0%		43.0%	43.0%		42.0%	42.0%		42.0%	42.0%	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		5.5	5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	48.5	48.5		38.0	38.0		21.9	21.9		21.9	21.9	
Actuated g/C Ratio	0.59	0.59		0.46	0.46		0.27	0.27		0.27	0.27	
v/c Ratio	0.17	0.49		0.14	0.74		0.08	0.40		0.79	0.14	
Control Delay	10.5	13.5		19.2	28.1		22.8	17.4		50.2	15.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.5	13.5		19.2	28.1		22.8	17.4		50.2	15.6	
LOS	B	B		B	C		C	B		D	B	
Approach Delay		13.2			27.3			18.0			42.1	
Approach LOS		B			C			B			D	
Queue Length 50th (m)	3.6	41.5		5.0	69.7		3.0	13.8		30.8	4.5	
Queue Length 95th (m)	11.5	91.5		15.6	#160.3		8.8	30.2		55.8	13.2	
Internal Link Dist (m)		344.4			111.4			67.2			302.0	
Turn Bay Length (m)	98.0			67.0			35.0			38.0		
Base Capacity (vph)	379	1117		373	763		551	728		448	741	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.16	0.45		0.14	0.74		0.05	0.25		0.46	0.09	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 82.5
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79

Lanes, Volumes, Timings
6: Labelle St/Cummings Ave & Cyrville Rd

09-02-2020

Intersection Signal Delay: 23.8 Intersection LOS: C
Intersection Capacity Utilization 86.3% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Labelle St/Cummings Ave & Cyrville Rd