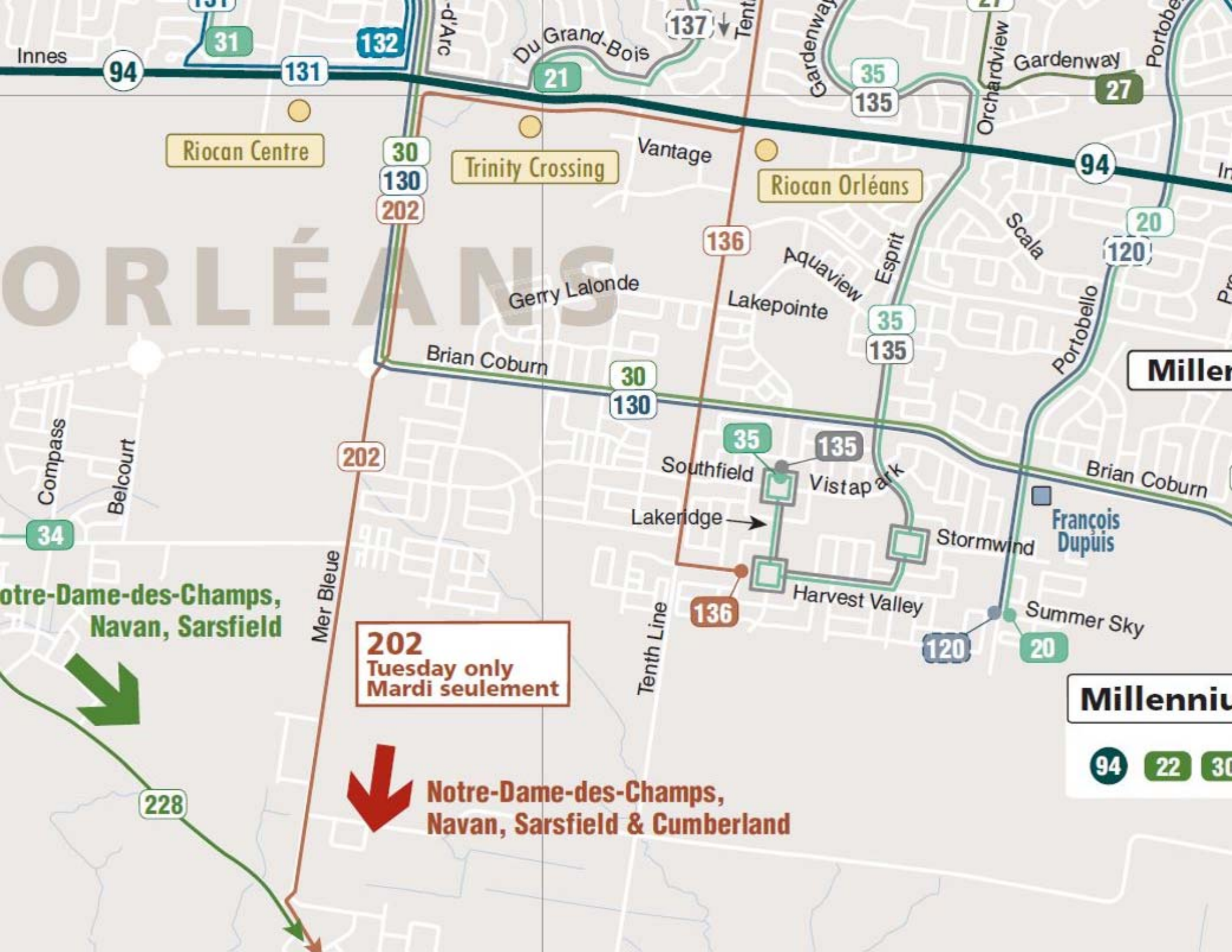
– Appendix A –

OC Transpo Maps


Innes
94
31
131
132
Du Grand-Bois
21
137
Tenth Line
Gardenway
35
135
Orchardview
Gardenway
27
Portobello
Riocan Centre
30
130
202
Trinity Crossing
Vantage
Riocan Orléans
94
136
Aquaview
Esprit
Scala
20
120
Portobello
ORLÉANS
Gerry Lalonde
Lakepointe
35
135
Brian Coburn
30
130
Compass
Belcourt
202
35
135
Southfield
Vistapark
Brian Coburn
Lakeridge
Stormwind
François Dupuis
34
Harvest Valley
136
Summer Sky
120
20
Mer Bleue
Tenth Line
202
Tuesday only
Mardi seulement
Notre-Dame-des-Champs,
Navan, Sarsfield
228
Notre-Dame-des-Champs,
Navan, Sarsfield & Cumberland

OC Transpo

30 ALBERT / BAY

JEANNE D'ARC

Monday to Friday / Lundi au vendredi

Peak periods only
Périodes de pointe seulement

Legend • *Légende*

Transitway & Station

AM PM Station served in the AM or PM only
Station desservie le matin ou le soir seulement

Park & Ride / *Parc-o-bus*

2016.09

Information / Renseignement.....**613-741-4390**

Customer Relations
Service à la clientèle **613-842-3600**

Lost and Found / Objets perdus **613-563-4011**

Schedule / Horaire.....**613-560-1000**

Text / Texto **560560**

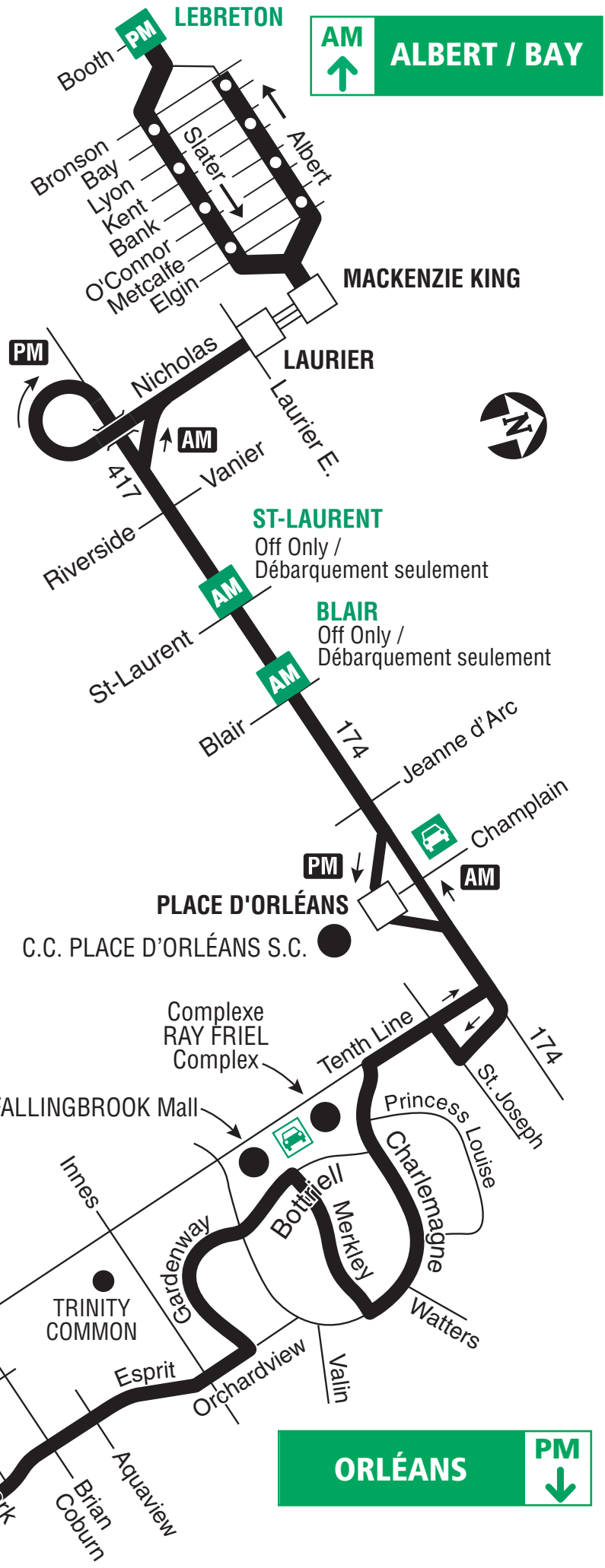
plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Effective / En vigueur Sept. 6 sept. 2016

613-741-4390 octranspo.com

35 ALBERT / BAY
ORLÉANS

Monday to Friday / Lundi au vendredi
Peak periods only
Périodes de pointe seulement



Legend • *Légende*

Transitway & Station

PM AM Station served in the AM or PM only
Station desservie le matin ou le soir seulement

Park & Ride / *Parc-o-bus*

2016.09

Information / Renseignement.....**613-741-4390**

Customer Relations
Service à la clientèle **613-842-3600**

Lost and Found / Objets perdus **613-563-4011**

Schedule / Horaire.....**613-560-1000**

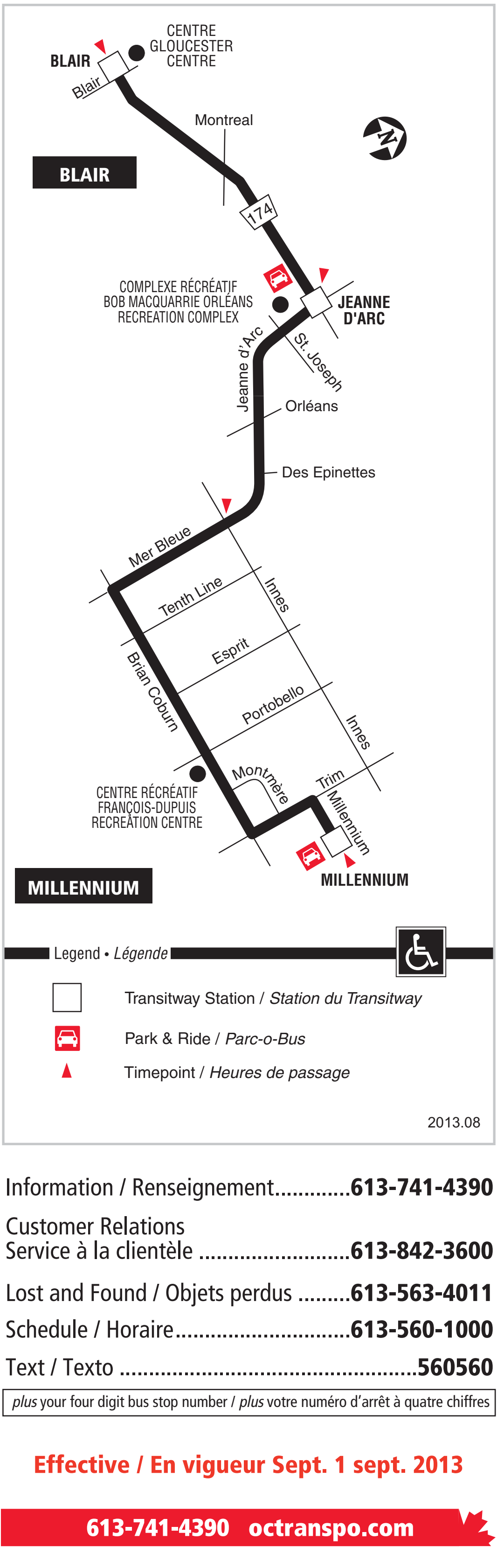
Text / Texto **560560**

plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Effective / En vigueur Sept. 6 sept. 2016

130 BLAIR / MILLENNIUM

7 days a week / 7 jours par semaine
All day service
Service toute la journée



Legend • *Légende*

- Transitway Station / *Station du Transitway*
- Park & Ride / *Parc-o-Bus*
- Timepoint / *Heures de passage*

2013.08

Information / Renseignement.....**613-741-4390**

Customer Relations
Service à la clientèle **613-842-3600**

Lost and Found / Objets perdus **613-563-4011**

Schedule / Horaire.....**613-560-1000**

Text / Texto **560560**

plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

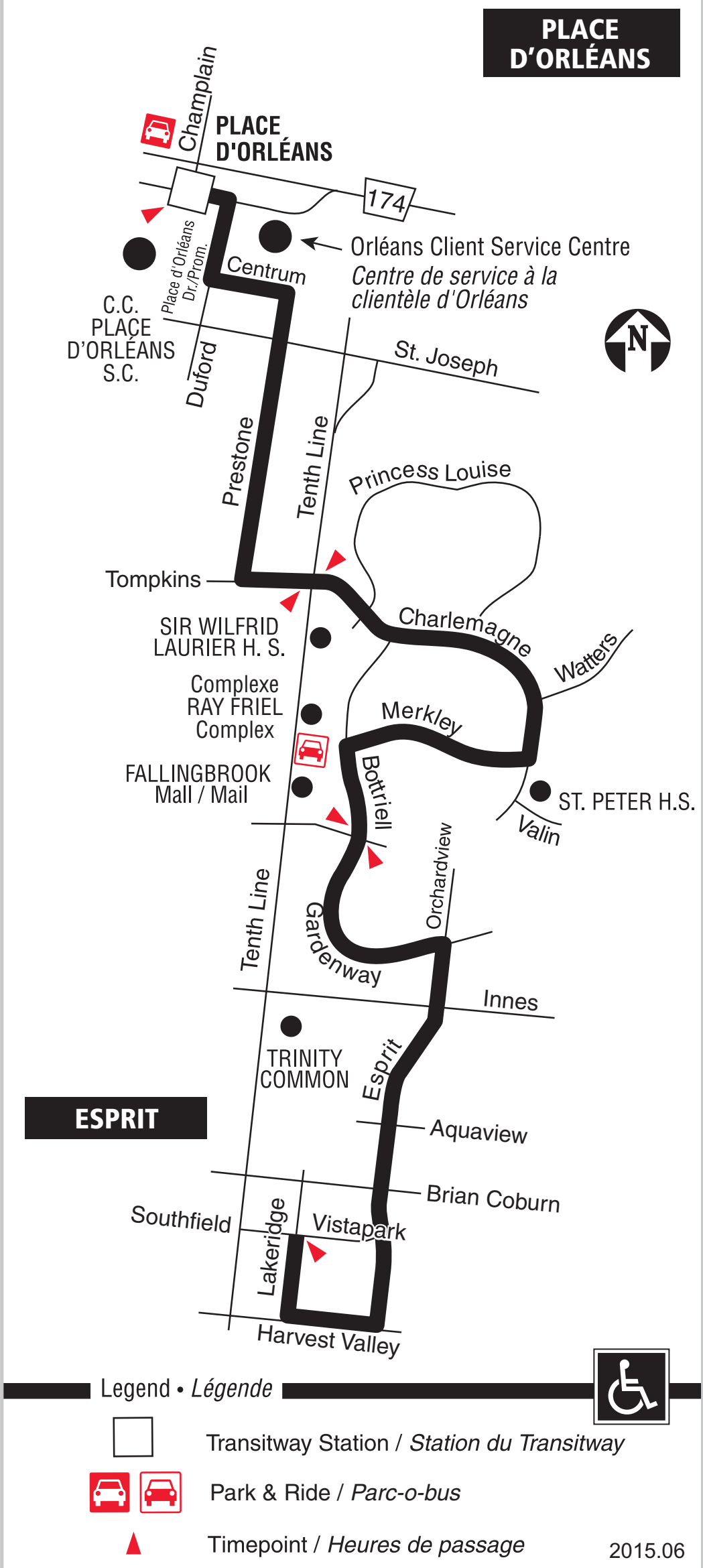
Effective / En vigueur Sept. 1 sept. 2013

613-741-4390 octranspo.com

Transpo

135 PLACE D'ORLÉANS / ESPRIT

7 days a week / 7 jours par semaine
All day service
Service toute la journée



Information / Renseignement.....**613-741-4390**

Customer Relations
Service à la clientèle **613-842-3600**

Lost and Found / Objets perdus **613-563-4011**

Schedule / Horaire.....**613-560-1000**

Text / Texto **560560**

plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

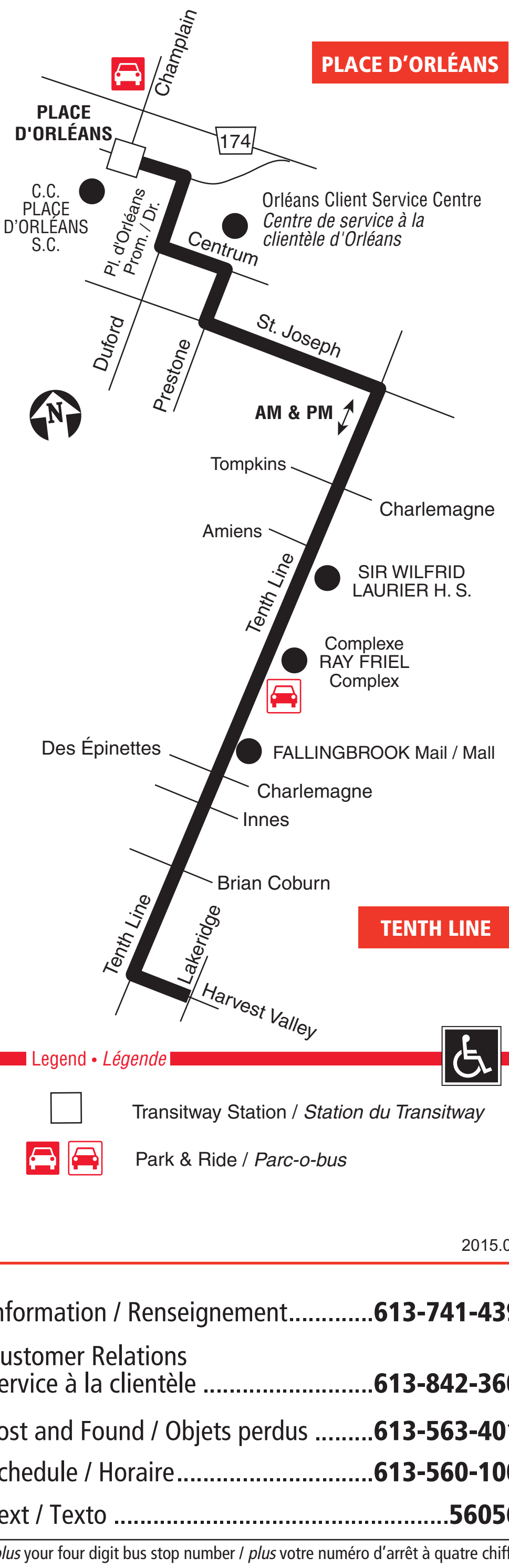
Effective / En vigueur June 28 juin 2015

613-741-4390 octranspo.com

136 PLACE D'ORLÉANS / TENTH LINE

Monday to Friday / Lundi au vendredi

Peak periods only
Périodes de pointes seulement



2015.06

Information / Renseignement.....**613-741-4390**

Customer Relations
Service à la clientèle **613-842-3600**

Lost and Found / Objets perdus **613-563-4011**

Schedule / Horaire.....**613-560-1000**

Text / Texto **560560**

plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Effective / En vigueur June 29 juin 2015

613-741-4390 octranspo.com

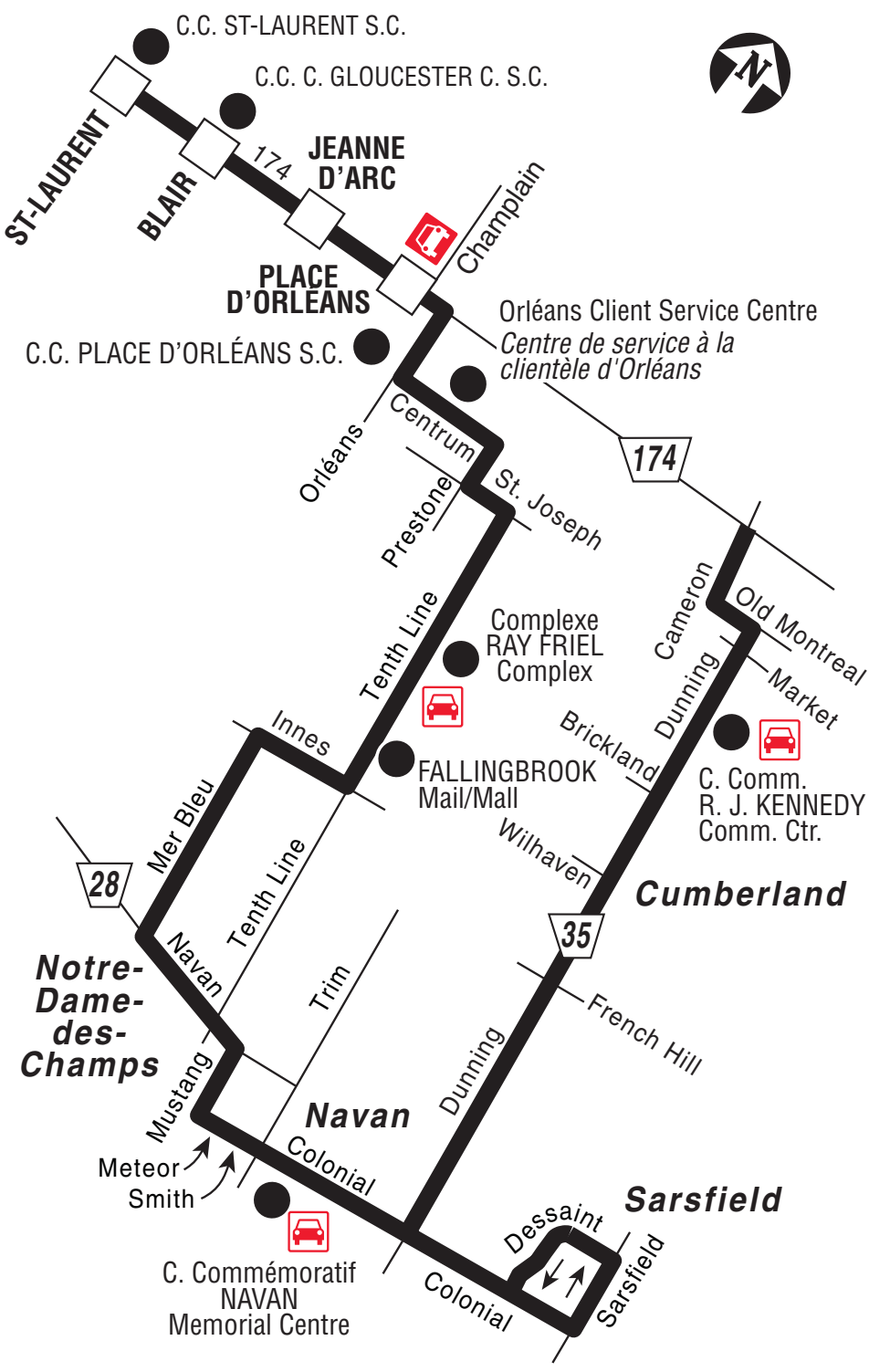
Transpo

202 ST-LAURENT

CUMBERLAND, SARSFIELD, NAVAN

Tuesday Only / Mardi seulement
Selected time periods
Périodes sélectionnées

ST-LAURENT AM ↑



CUMBERLAND PM ↓

Legend • *Légende*

Transitway & Stations

Park & Ride / *Parc-o-bus*

2015.06

Information / Renseignement.....**613-741-4390**

Customer Relations
Service à la clientèle **613-842-3600**

Lost and Found / Objets perdus **613-563-4011**

Schedule / Horaire.....**613-560-1000**

Text / Texto **560560**

plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Effective / En vigueur June 30 juin 2015

613-741-4390 octranspo.com

– Appendix B –

Traffic Data

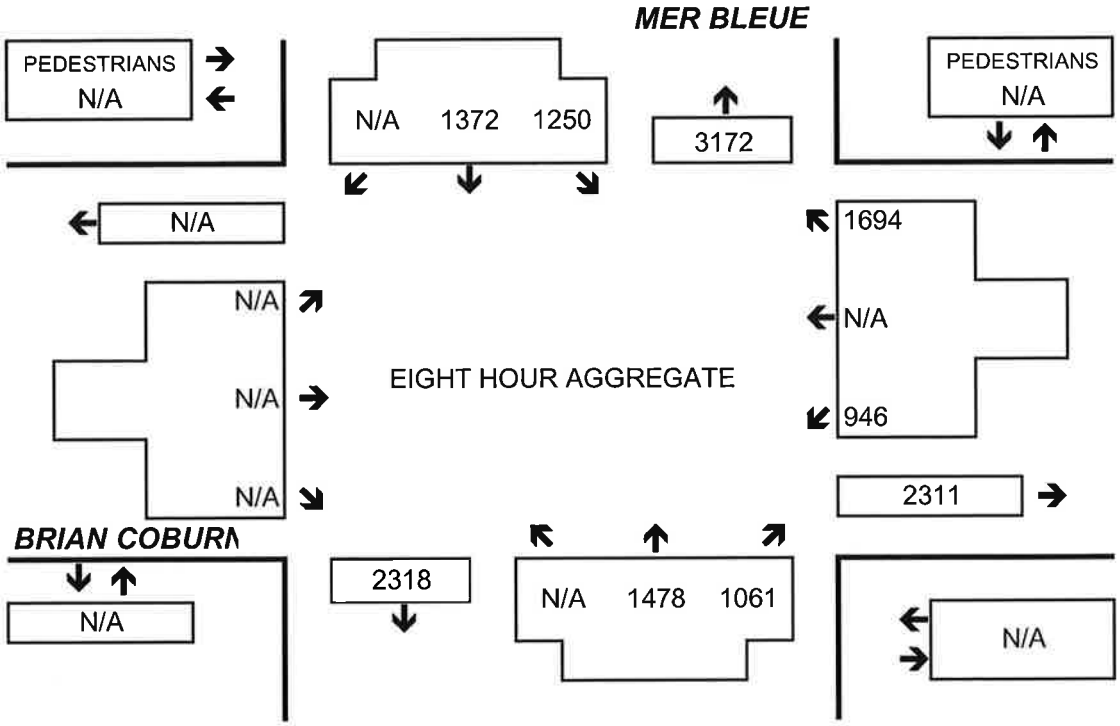
Geospace Research Associates

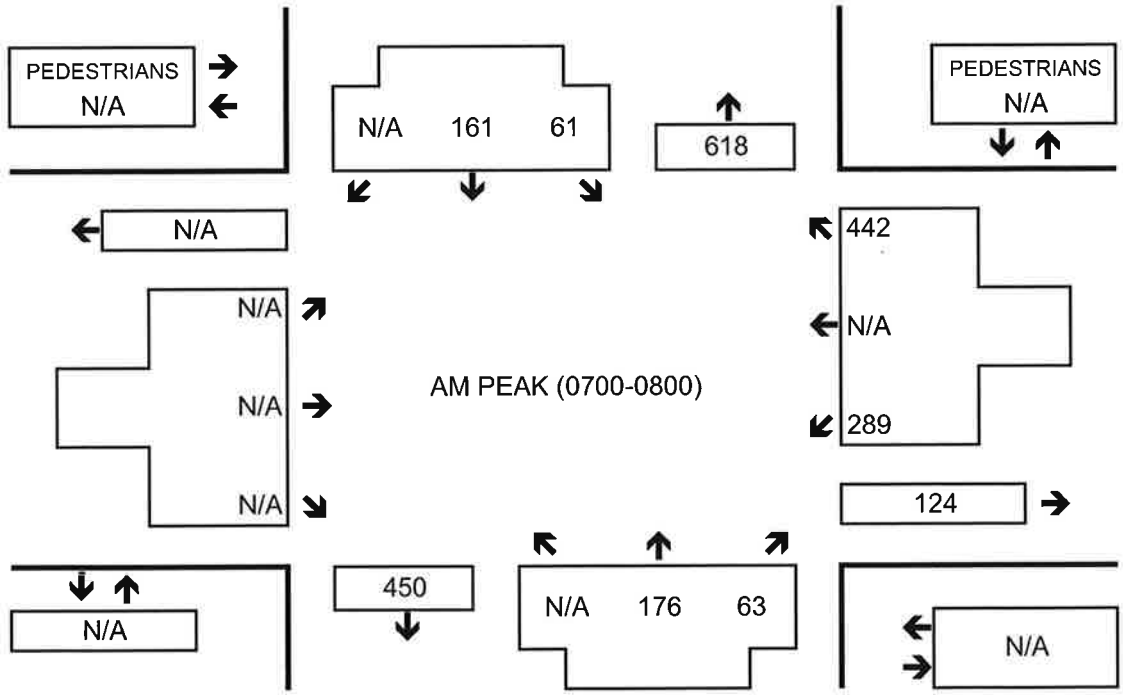
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

MER BLEUE RD. AND BRIAN COBURN BLVD

N

Turning Movement Survey Date: 10/10/13 **Conditions:** dry **Start Time:** 0700 **Duration**





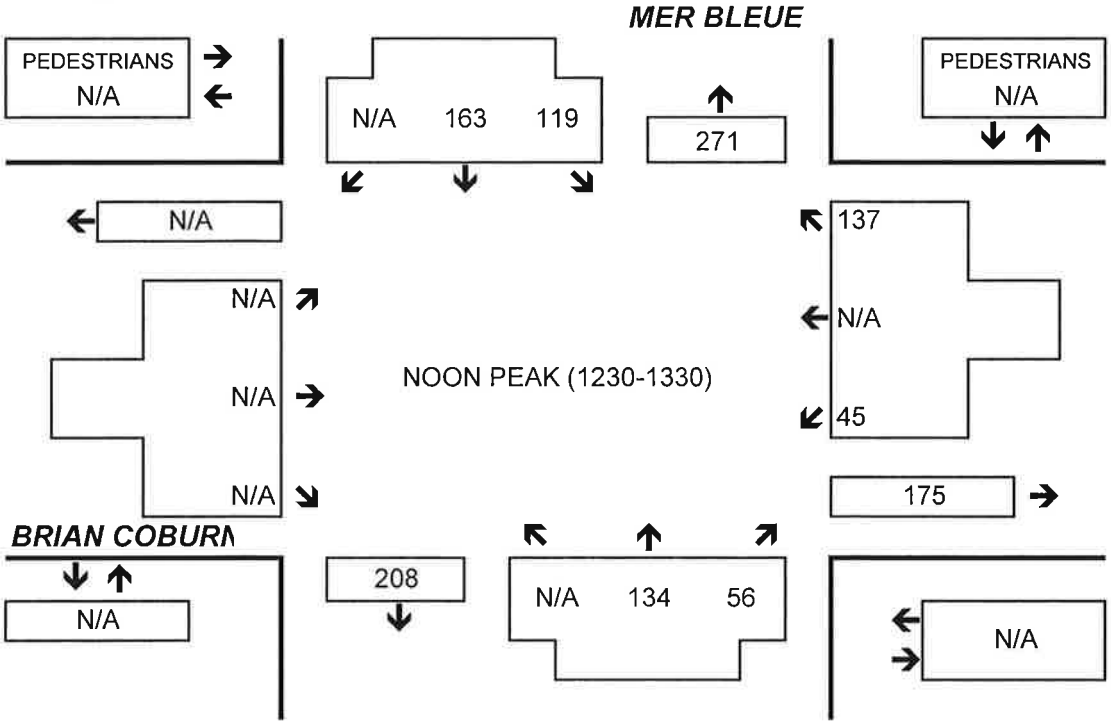
Geospace Research Associates

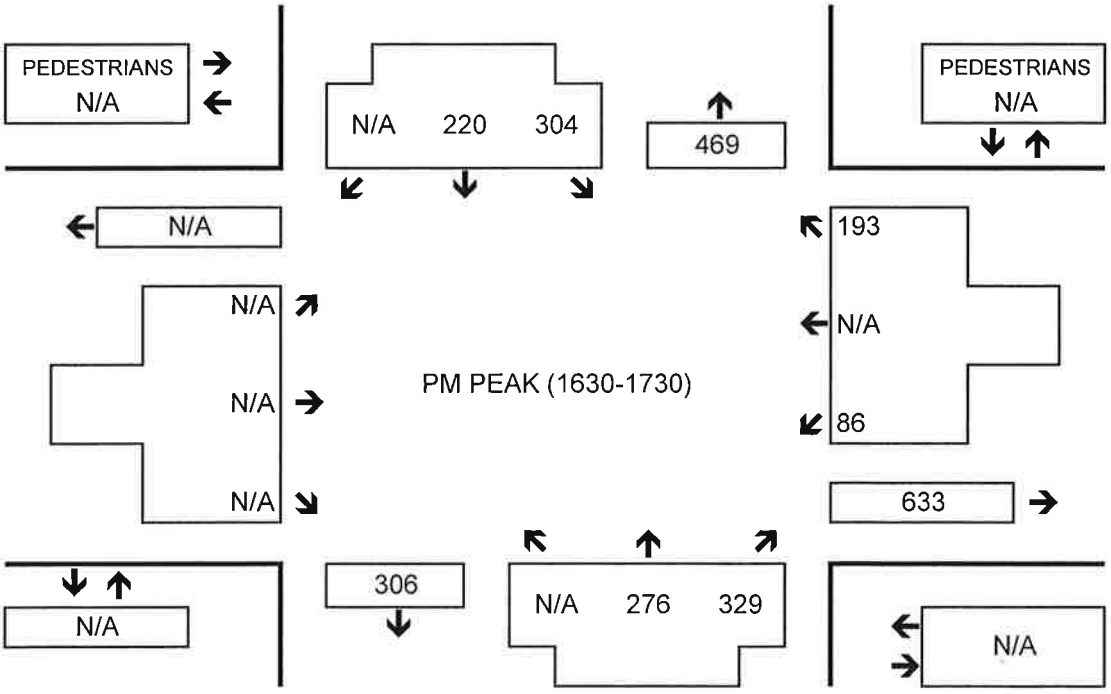
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

MER BLEUE RD. AND BRIAN COBURN BLVD

N

Turning Movement Survey Date: 10/10/13 **Conditions:** dry **Start Time:** 0700 **Duration**





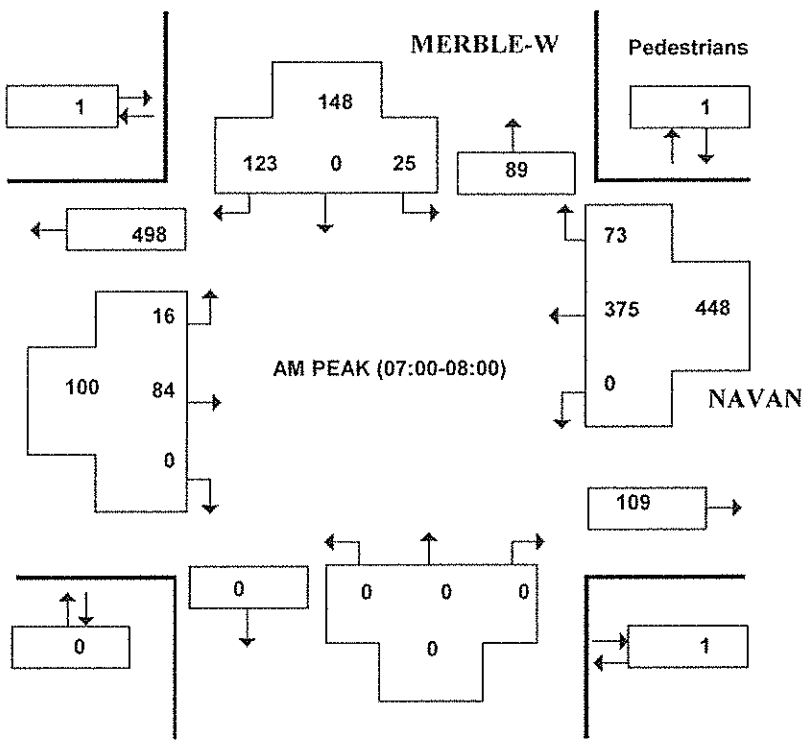
MER BLEUE WEST and NAVAN RD

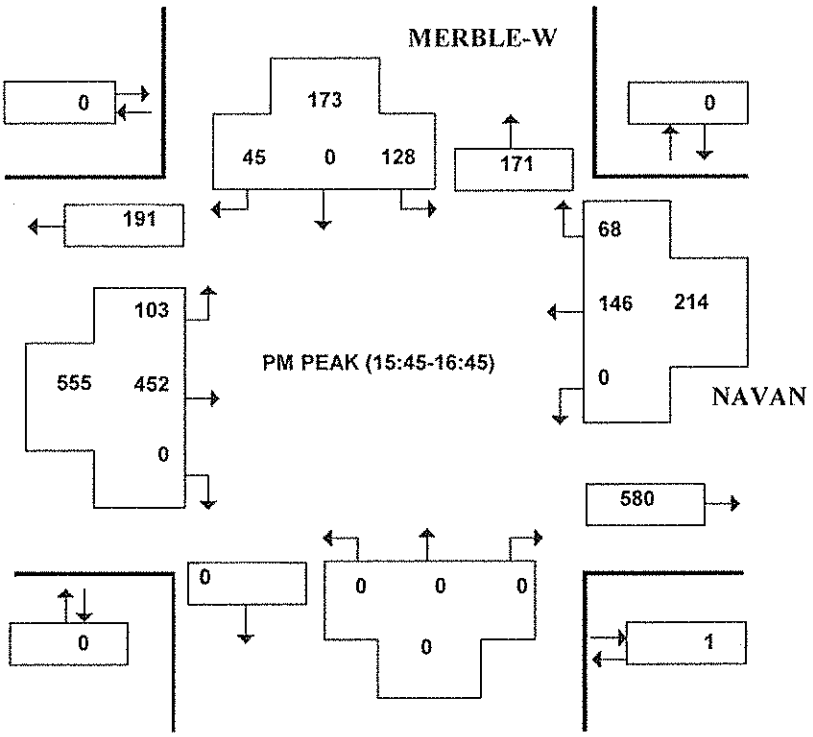
(ULRS Listing MERBLE-W & NAVAN)

Survey Date: Thursday 4 July 2013
Conditions: DRY
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Thursday in July is 0.9





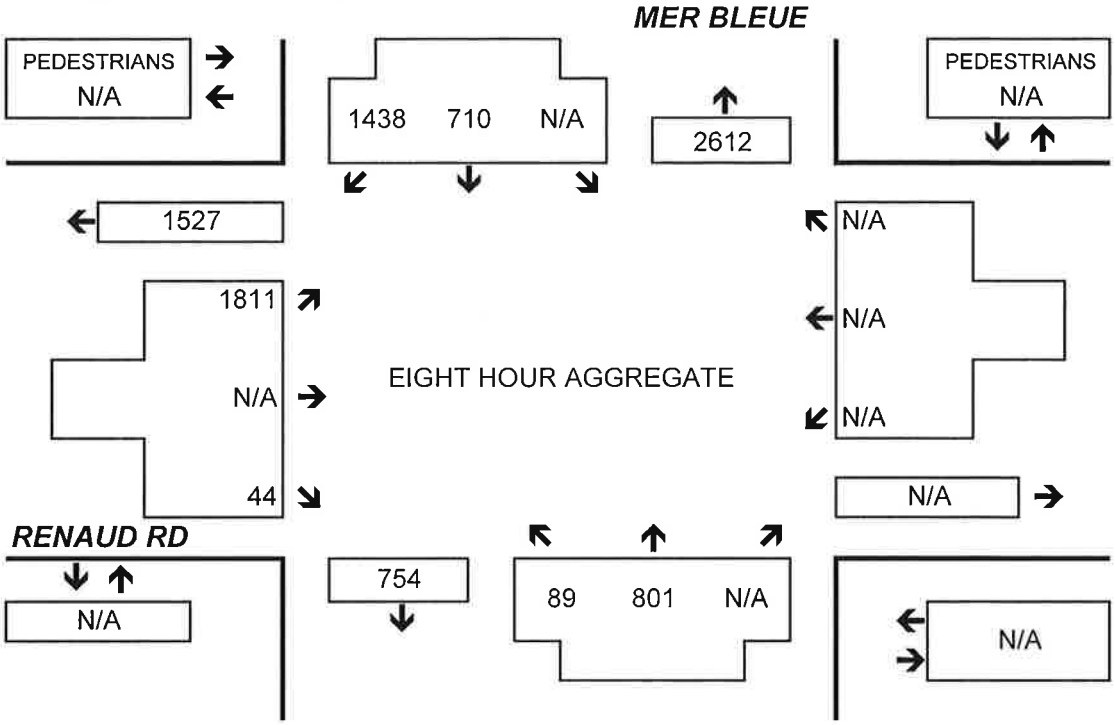
Geospace Research Associates

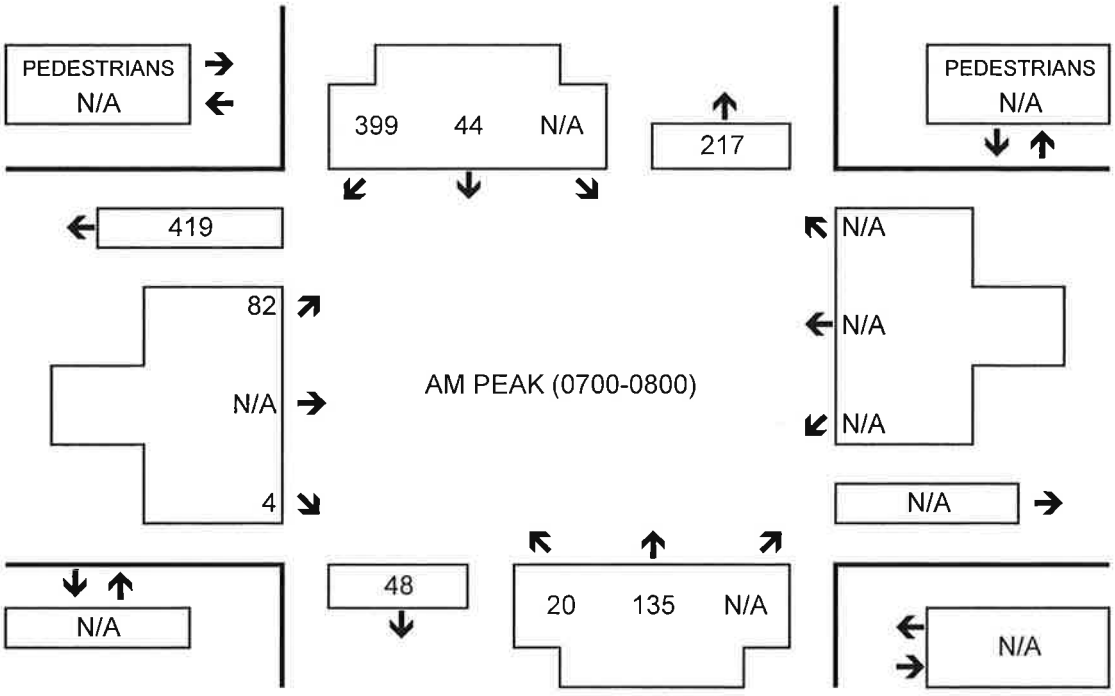
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

MER BLEUE RD. AND RENAUD RD.

N

Turning Movement Survey Date: 09/10/13 **Conditions:** dry **Start Time:** 0700 **Duration**





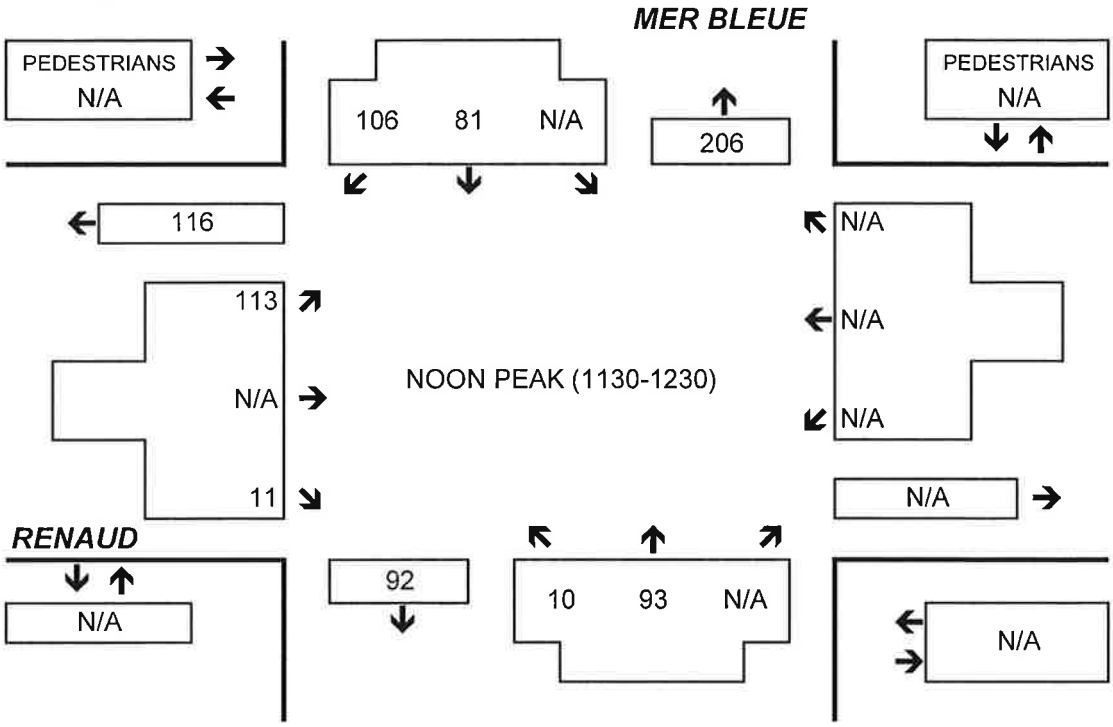
Geospace Research Associates

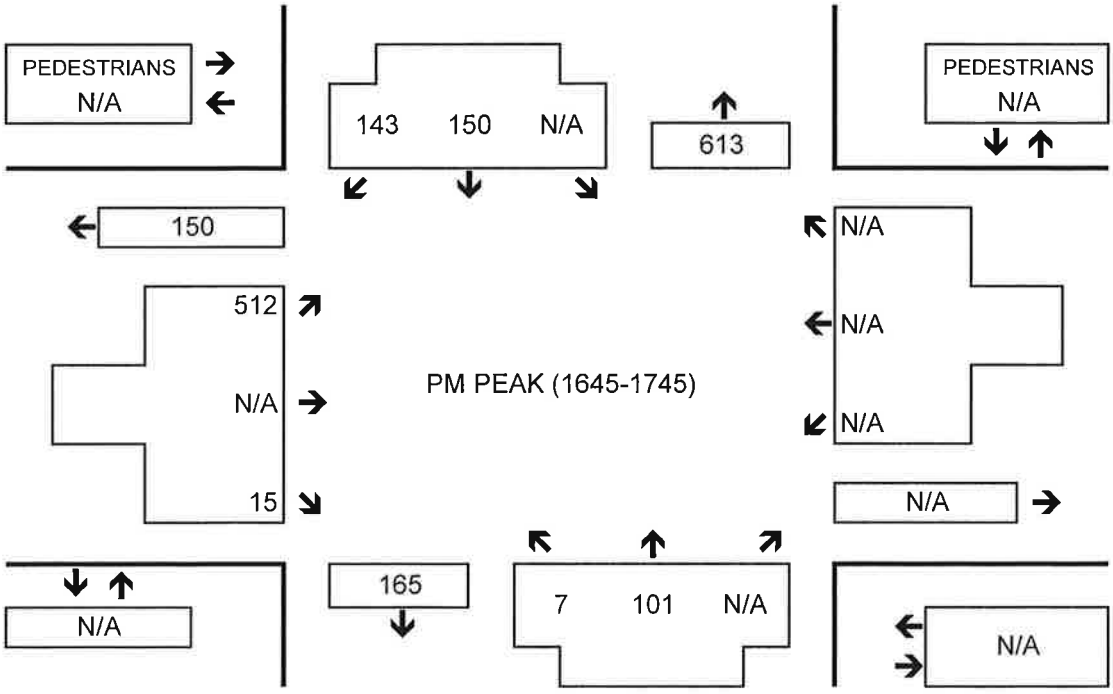
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

MER BLEUE RD. AND RENAUD RD.

N

Turning Movement Survey Date: 09/10/13 **Conditions:** dry **Start Time:** 0700 **Duration**





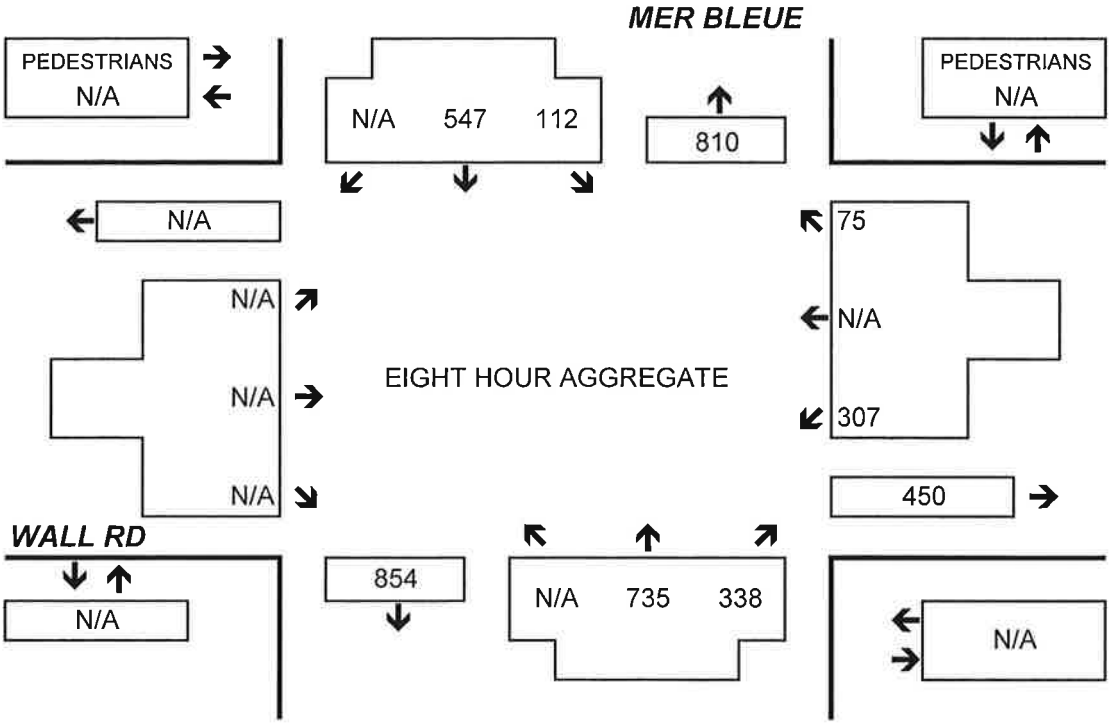
Geospace Research Associates

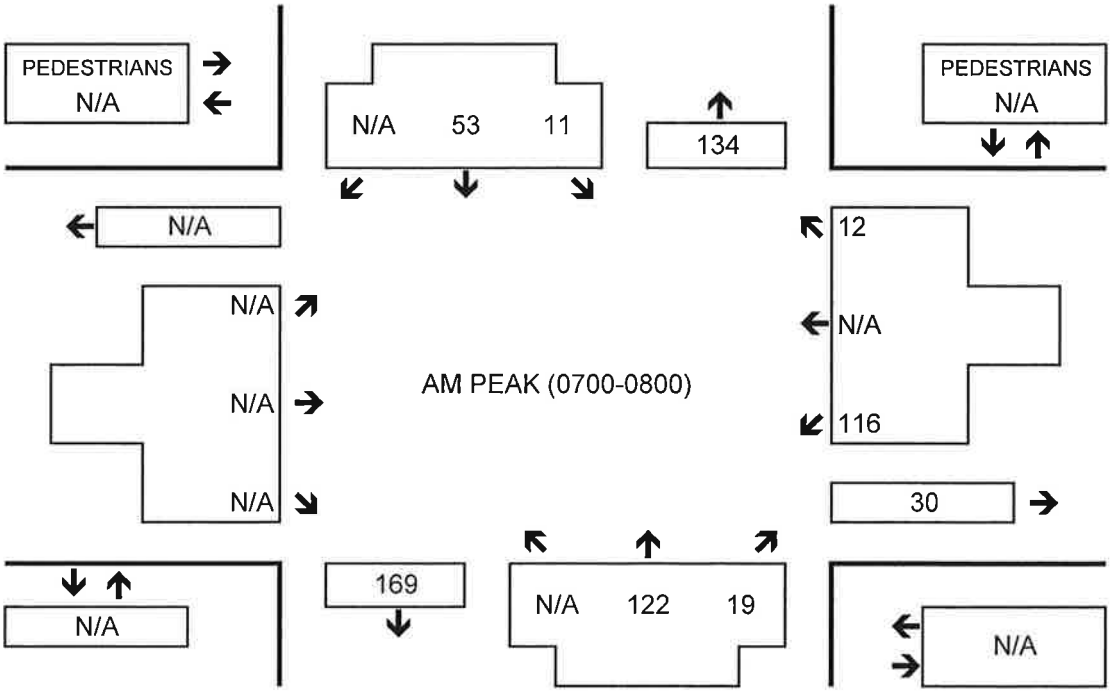
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

MER BLEUE RD. AND WALL RD.

N

Turning Movement Survey Date: 09/10/13 **Conditions:** dry **Start Time:** 0700 **Duration**





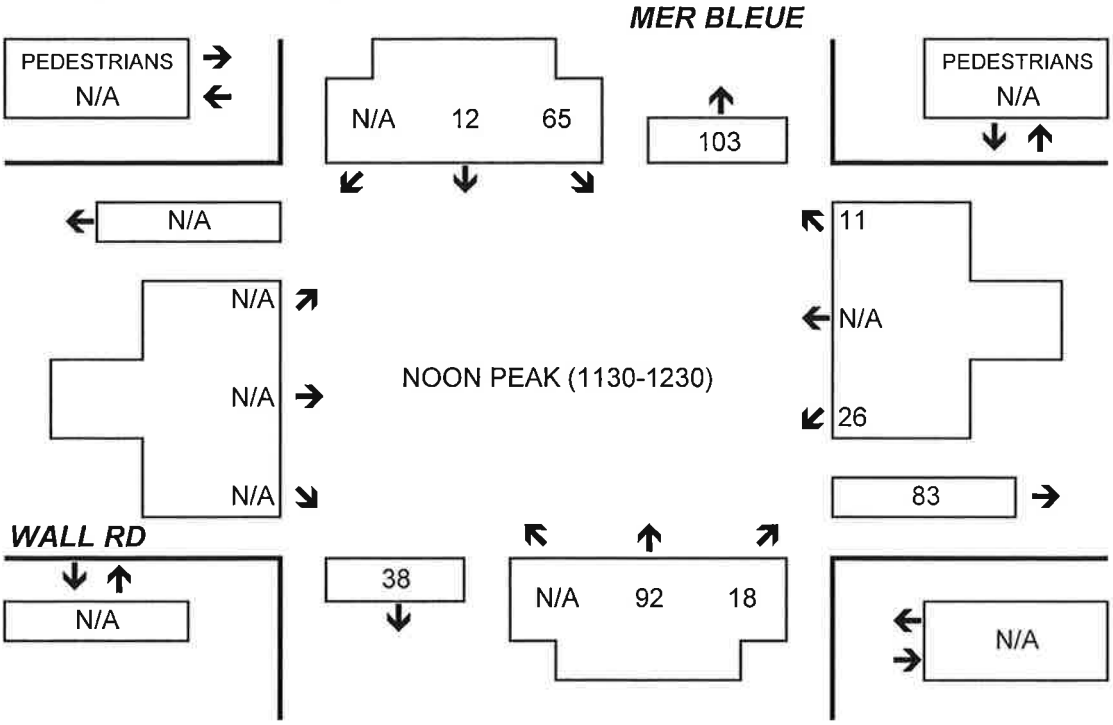
Geospace Research Associates

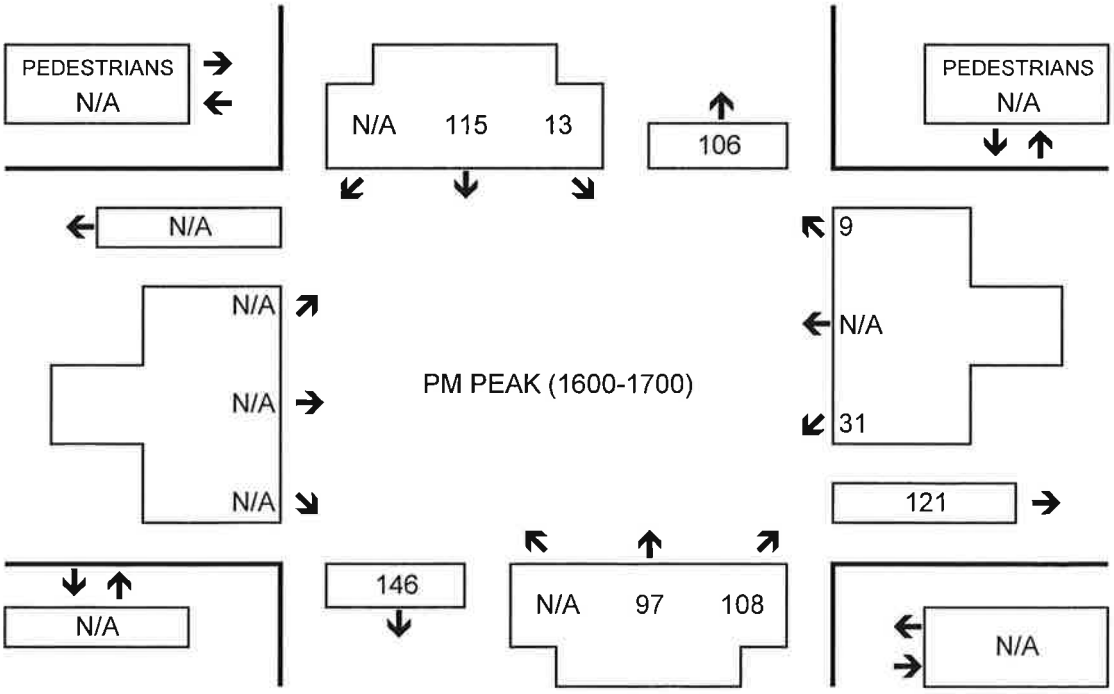
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

MER BLEUE RD. AND WALL RD.

N

Turning Movement Survey Date: 09/10/13 **Conditions:** dry **Start Time:** 0700 **Duration**





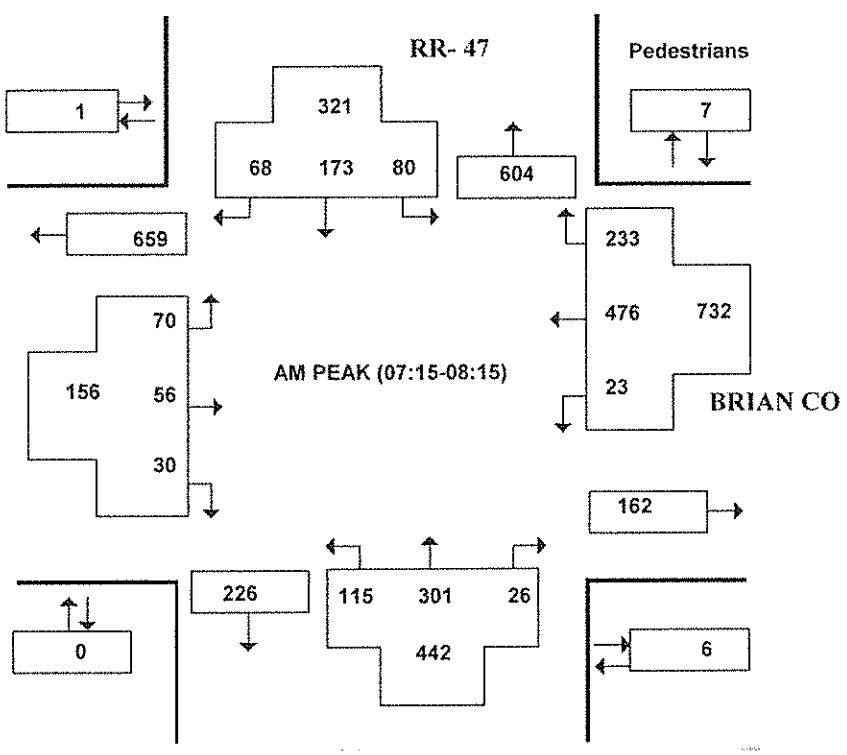
TENTH LINE ROAD and BRIAN COBURN BLVD

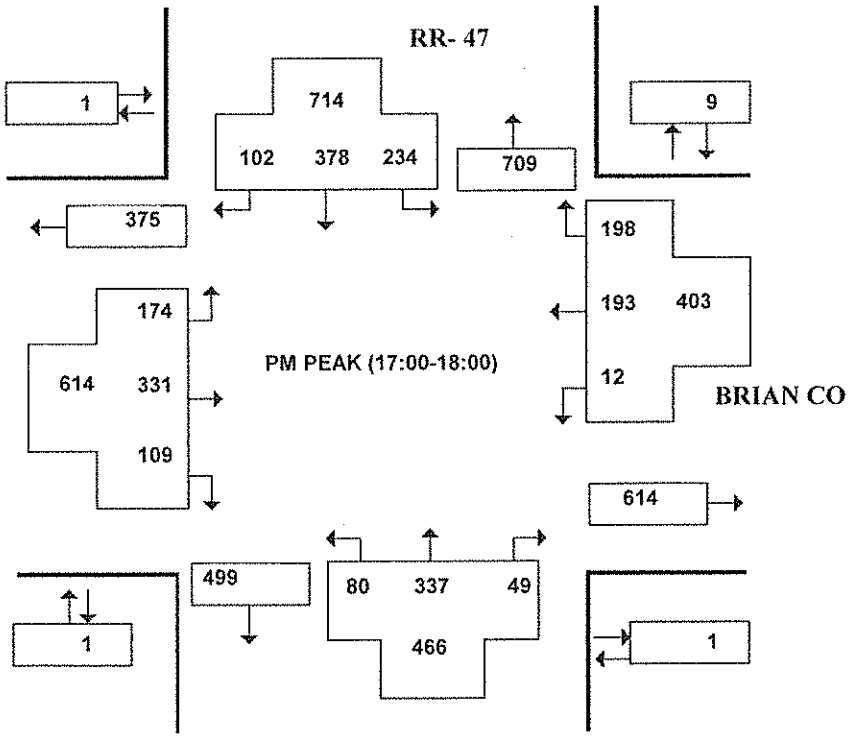
(ULRS Listing RR- 47 & BRIAN CO)

Survey Date: Thursday 4 July 2013
Conditions: DRY
Start Time: 0700

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
Thursday in July is 0.9





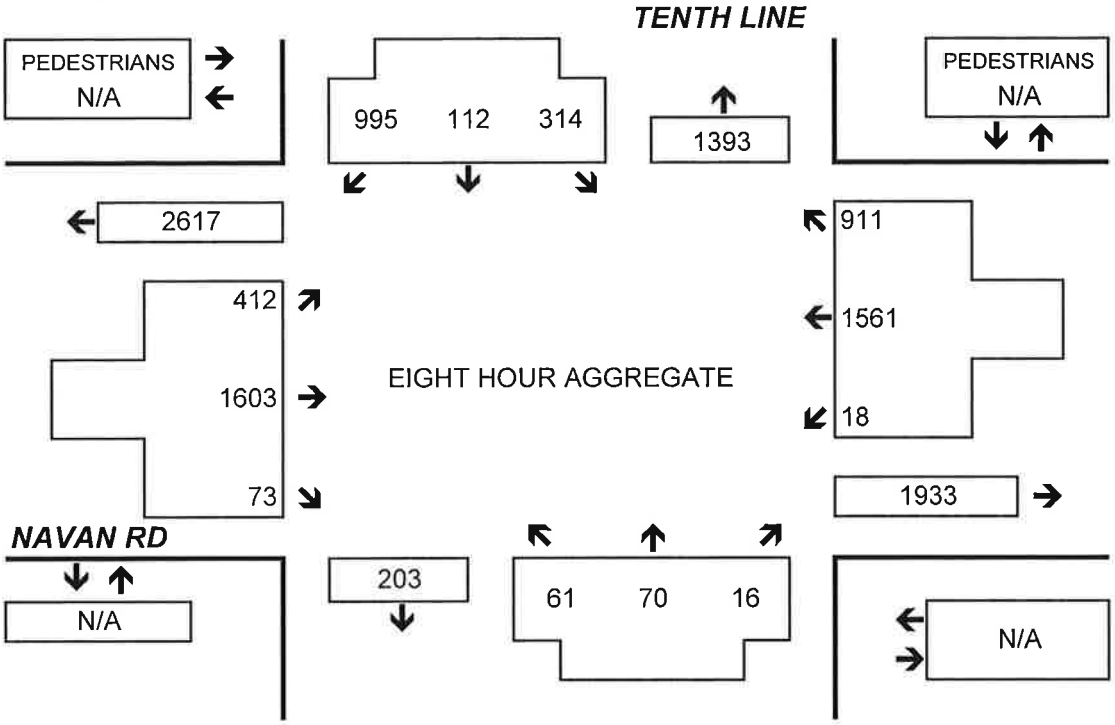
Geospace Research Associates

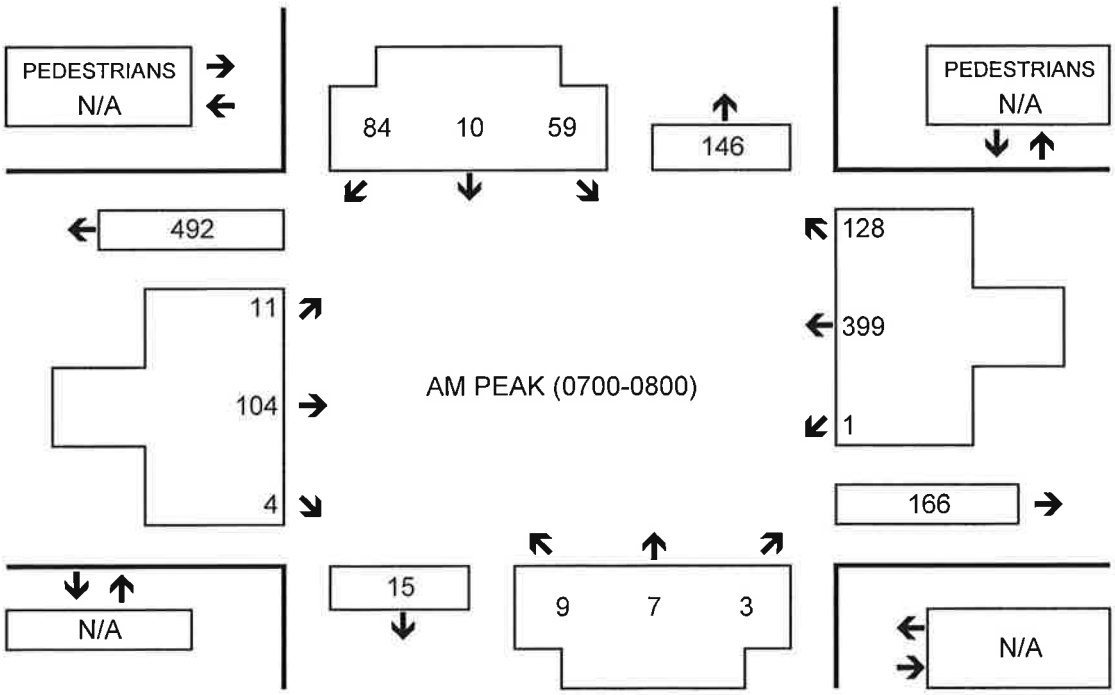
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

TENTH LINE RD. AND NAVAN RD.

N

Turning Movement Survey Date: 10/10/13 **Conditions:** dry **Start Time:** 0700 **Duration:**





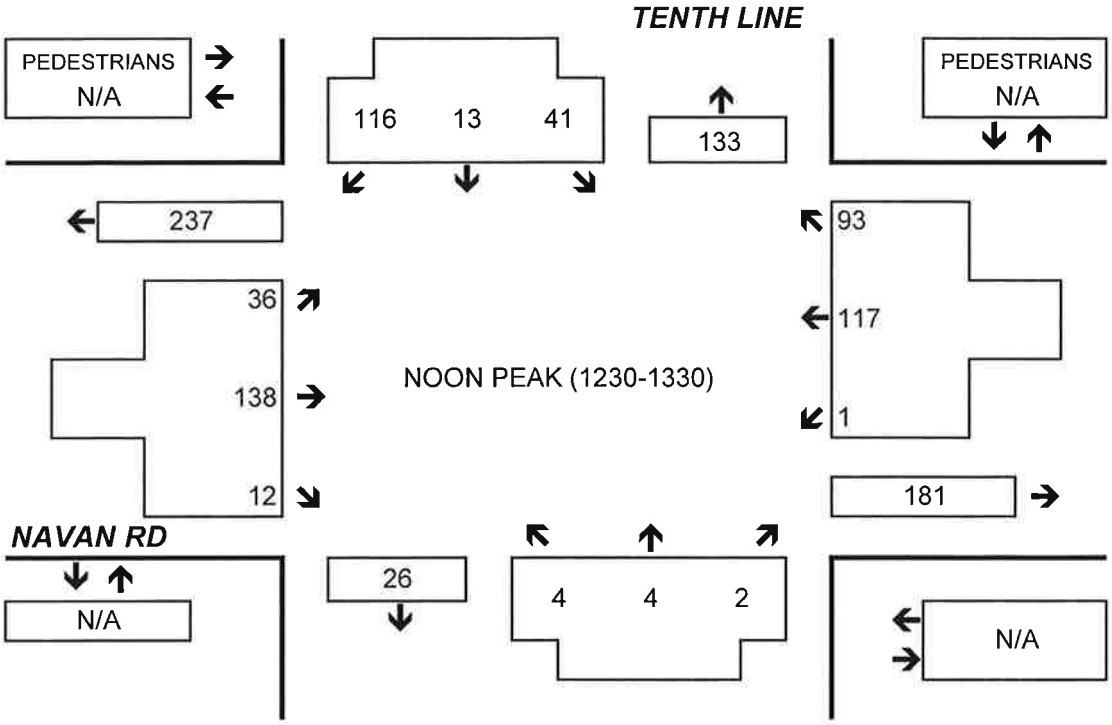
Geospace Research Associates

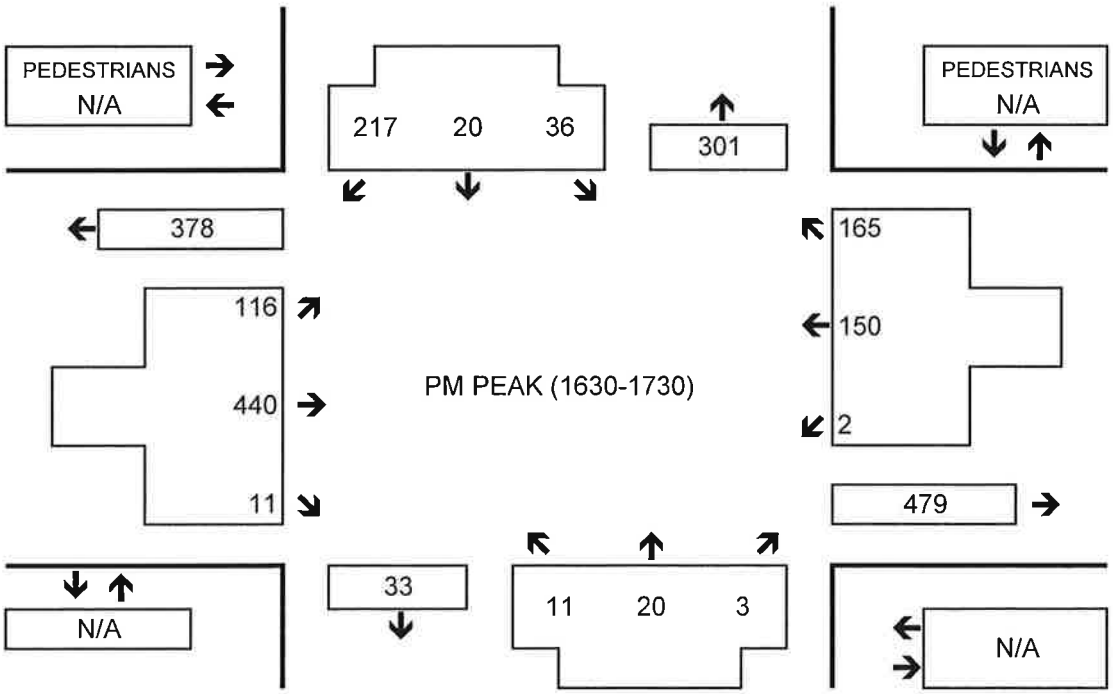
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

TENTH LINE RD. AND NAVAN RD.

N

Turning Movement Survey Date: 10/10/13 **Conditions:** dry **Start Time:** 0700 **Duration:**





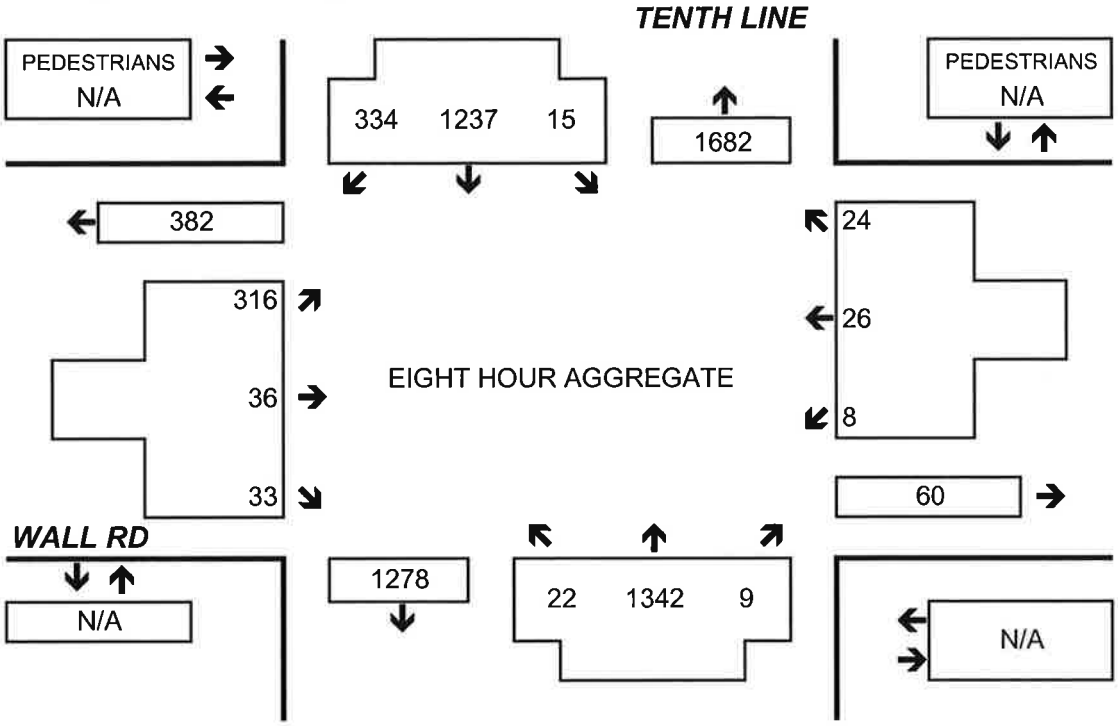
Geospace Research Associates

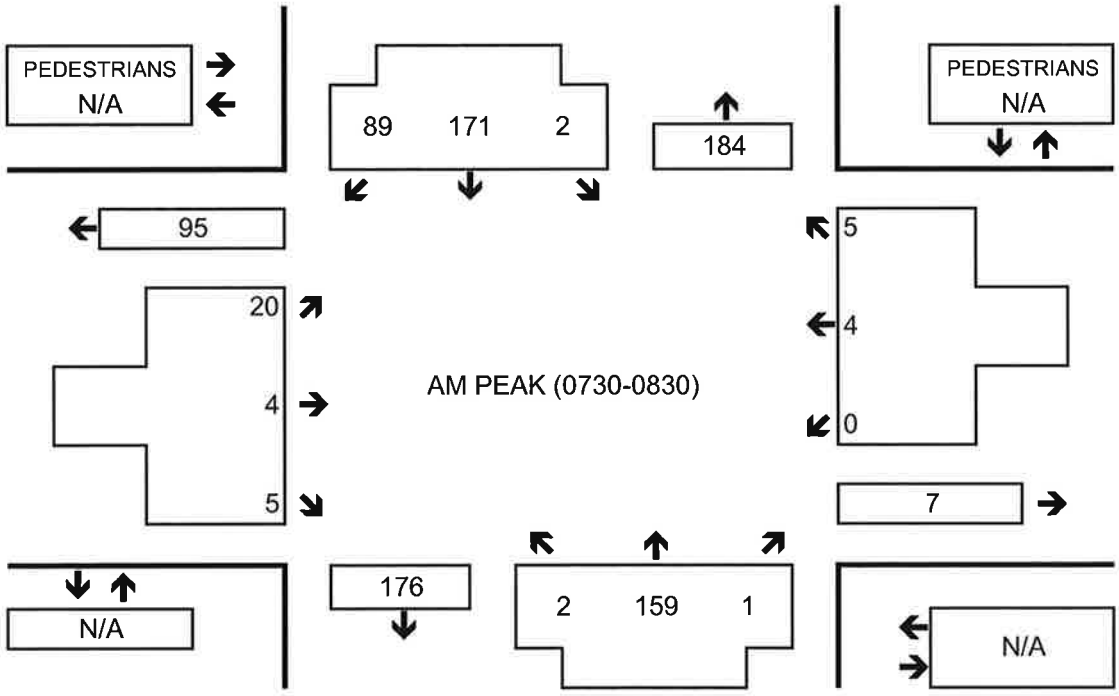
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

TENTH LINE RD. AND WALL RD.

N

Turning Movement Survey Date: 09/10/13 **Conditions:** dry **Start Time:** 0700 **Duration**





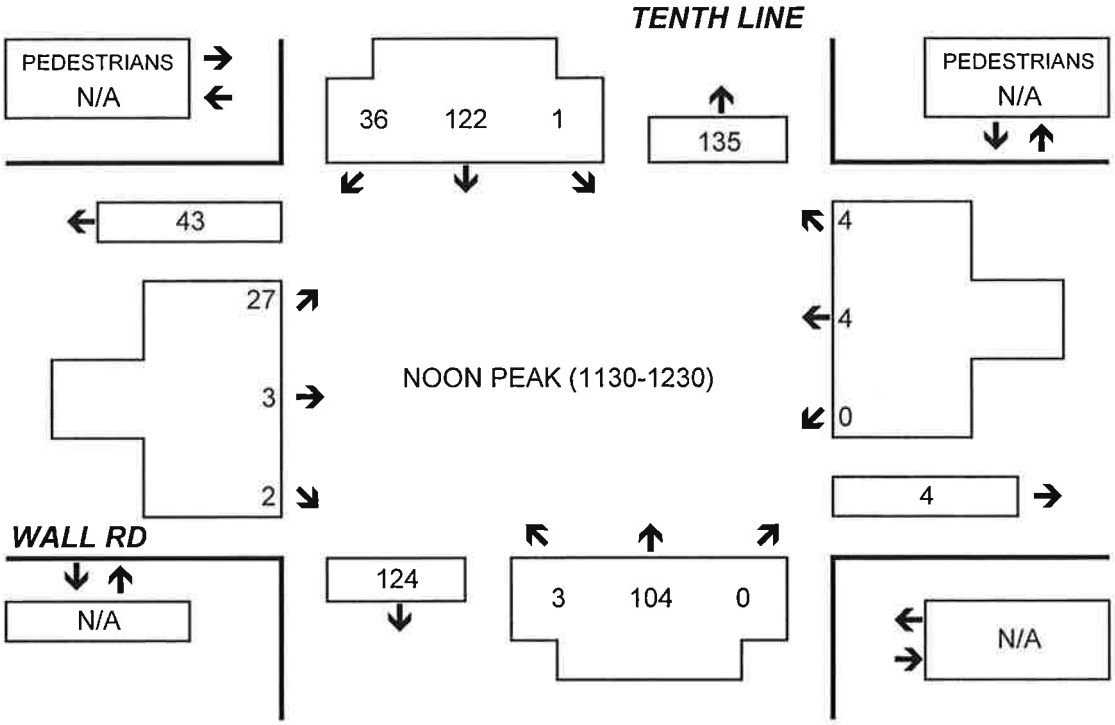
Geospace Research Associates

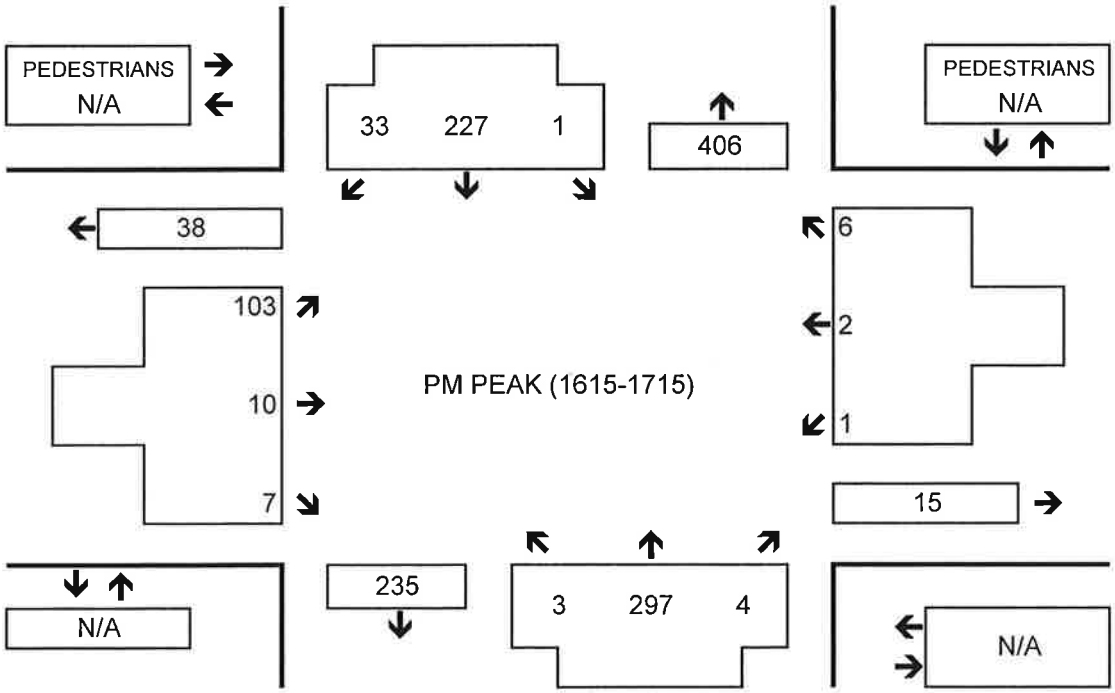
Urban and Regional Geographers. 491 Edgeworth Avenue, Ottawa, Ontario. K2B 5L2

TENTH LINE RD. AND WALL RD.

N

Turning Movement Survey Date: 09/10/13 **Conditions:** dry **Start Time:** 0700 **Duration**





– Appendix C –

Collision Data

Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2008/01/01 TO: 2013/01/01

MER BLEUE RD, DU PALAIS ST to RENAUD RD

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **5**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
1	2008/05/22	Thu	16:09	Rain	Daylight	Rear end	P.D. only	V1 S	Wet	Going ahead	Automobile, station	Other motor vehicle		0
								V2 S	Wet	Slowing or	Pick-up truck	Other motor vehicle		
2	2008/06/20	Frid	08:39	Clear	Daylight	Other	P.D. only	V1 N	Dry	Reversing	Off-road 2 wheels	Other motor vehicle		0
								V2 S	Dry	Stopped	Automobile, station	Other motor vehicle		
3	2011/04/27	We	20:30	Clear	Dark	Single vehicle	P.D. only	V1 N	Dry	Going ahead	Passenger van	Animal - wild		0
4	2011/07/25	Mo	00:19	Clear	Dark	Single vehicle	P.D. only	V1 U	Dry	Unknown	Automobile, station	Ran off road		0
5	2011/11/30	We	19:50	Clear	Dark	Single vehicle	P.D. only	V1 N	Dry	Going ahead	Automobile, station	Animal - wild		0

MER BLEUE RD & NAVAN RD W

Former Municipality: **Gloucester** Traffic Control: **Stop sign** Number of Collisions: **4**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
6	2011/01/15	Sat	19:38	Clear	Dark	Turning	P.D. only	V1 W	Loose snow	Going ahead	Pick-up truck	Other motor vehicle		0
7	2011/07/27	We	17:58	Clear	Daylight	Turning	P.D. only	V1 E	Dry	Turning left	Automobile, station	Other motor vehicle		0
8	2012/06/25	Mo	15:45	Rain	Daylight	Turning	P.D. only	V1 E	Wet	Turning left	Automobile, station	Other motor vehicle		0
9	2012/09/14	Frid	12:20	Clear	Daylight	Angle	P.D. only	V1 S	Wet	Turning left	Automobile, station	Other motor vehicle		0
								V2 W	Wet	Going ahead	Automobile, station	Other motor vehicle		

MER BLEUE RD & RENAUD RD

Former Municipality: **Cumberland** Traffic Control: **Stop sign** Number of Collisions: **2**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
10	2011/08/09	Tue	18:00	Clear	Daylight	Rear end	P.D. only	V1 E	Dry	Slowing or	Pick-up truck	Other motor vehicle		0
								V2 E	Dry	Stopped	Automobile, station	Other motor vehicle		
11	2012/02/08	We	17:07	Clear	Dark	Rear end	Non-fatal	V1 E	Dry	Going ahead	Pick-up truck	Other motor vehicle		0
								V2 E	Dry	Slowing or	Automobile, station	Other motor vehicle		

MER BLEUE RD, BRIAN COBURN to RENAUD RD

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **1**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
12	2009/09/20	Sun	19:02	Clear	Daylight	Approaching	Non-fatal	V1 S	Dry	Going ahead	Pick-up truck	Other motor vehicle		0
								V2 N	Dry	Going ahead	Pick-up truck	Other motor vehicle		

MER BLEUE RD, NAVAN RD W to SAPHIR AVE

Former Municipality: **Gloucester** Traffic Control: **No control** Number of Collisions: **1**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
13	2008/08/13	We	15:45	Clear	Daylight	Rear end	P.D. only	V1 S	Dry	Going ahead	Automobile, station	Other motor vehicle		0
								V2 S	Dry	Turning right	Automobile, station	Other motor vehicle		

MER BLEUE RD, SAPHIR to SAPHIR AVE

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **2**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
14	2010/06/20	Sun	02:48	Clear	Dark	Single vehicle	P.D. only	V1 W	Dry	Reversing	Passenger van	Unattended vehicle		0
15	2011/06/28	Tue	21:26	Rain	Dark	Single vehicle	P.D. only	V1 S	Wet	Going ahead	Automobile, station	Building or wall		0

MER BLEUE RD & SAPHIR AVE

Former Municipality: **Cumberland** Traffic Control: **Stop sign** Number of Collisions: **1**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
16	2012/06/04	Mo	16:59	Clear	Daylight	Turning	Non-fatal	V1 S	Dry	Turning left	Automobile, station	Other motor vehicle		0
								V2 N	Dry	Going ahead	Motorcycle	Other motor vehicle		

MER BLEUE RD & WALL RD

Former Municipality: **Cumberland** Traffic Control: **Stop sign** Number of Collisions: **2**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
17	2008/02/07	Thu	08:20	Snow	Daylight	Angle	P.D. only	V1 W	Loose snow	Slowing or	Automobile, station	Other motor vehicle		0
								V2 S	Loose snow	Stopped	Passenger van	Other motor vehicle		
18	2011/12/16	Frid	23:45	Clear	Dark	Single vehicle	P.D. only	V1 S	Ice	Turning right	Passenger van	Curb		0

MER BLEUE RD, DU DOMAINE ST to DU PALAIS ST

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **1**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
19	2008/03/05	We	08:45	Snow	Daylight	Other	P.D. only	V1 E	Loose snow	Reversing	Automobile, station	Other motor vehicle		0
								V2 S	Loose snow	Going ahead	Automobile, station	Other motor vehicle		

Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2010/01/01 TO: 2013/01/01

NAVAN RD, DIAMOND WAY to TENTH LINE RD

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **7**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
1	2008/11/25	Tue	22:10	Snow	Dark	Single vehicle	P.D. only	V1 W	Loose snow	Going ahead	Passenger van	Animal - wild		0
2	2009/01/14	We	18:36	Fog,	Dark	Angle	P.D. only	V1 S	Ice	Turning left	Automobile, station	Other motor vehicle		0
								V2 W	Ice	Going ahead	Automobile, station	Other motor vehicle		
3	2009/09/09	We	07:55	Clear	Daylight	Rear end	Non-fatal	V1 W	Dry	Going ahead	Automobile, station	Other motor vehicle		0
								V2 W	Dry	Slowing or	Automobile, station	Other motor vehicle		
4	2010/07/05	Mo	15:01	Clear	Daylight	Angle	P.D. only	V1 S	Dry	Turning right	Automobile, station	Other motor vehicle		0
								V2 E	Dry	Turning left	Passenger van	Other motor vehicle		
5	2010/07/09	Frid	15:21	Clear	Daylight	Angle	P.D. only	V1 N	Wet	Reversing	Pick-up truck	Other motor vehicle		0
								V2 E	Wet	Going ahead	Passenger van	Other motor vehicle		
6	2011/09/15	Thu	10:14	Clear	Daylight	Single vehicle	P.D. only	V1 W	Dry	Going ahead	Automobile, station	Ditch		0
7	2012/06/22	Frid	18:01	Clear	Daylight	Rear end	P.D. only	V1 E	Dry	Slowing or	Automobile, station	Other motor vehicle		0
								V2 E	Dry	Slowing or	Automobile, station	Other motor vehicle		

NAVAN RD & TENTH LINE RD

Former Municipality: **Cumberland** Traffic Control: **Traffic signal** Number of Collisions: **5**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
8	2008/03/14	Frid	16:18	Clear	Daylight	Turning	P.D. only	V1 N	Dry	Going ahead	Automobile, station	Other motor vehicle		0
								V2 S	Dry	Turning left	Automobile, station	Other motor vehicle		
9	2008/03/15	Sat	08:10	Clear	Daylight	Angle	P.D. only	V1 N	Slush	Slowing or	Pick-up truck	Other motor vehicle		0
								V2 E	Slush	Turning right	Pick-up truck	Other motor vehicle		
10	2011/03/16	We	21:15	Clear	Dark	Rear end	P.D. only	V1 S	Wet	Going ahead	Automobile, station	Skidding/Sliding		0
								V2 S	Wet	Stopped	Automobile, station	Other motor vehicle		
11	2012/02/10	Frid	15:01	Clear	Daylight	Angle	Non-fatal	V1 E	Dry	Going ahead	Passenger van	Other motor vehicle		0
								V2 N	Dry	Going ahead	Automobile, station	Other motor vehicle		
12	2012/11/22	Thu	18:23	Clear	Dark	Sideswipe	P.D. only	V1 E	Dry	Overtaking	Automobile, station	Other motor vehicle		0
								V2 E	Dry	Stopped	Automobile, station	Other motor vehicle		

BRIAN COBURN & TENTH LINE ROAD

Former Municipality: **Cumberland** Traffic Control: **Signal** Number of Collisions: **10**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
13	2011/01/15	Sat	18:04	Snow	Dark	Rear end	P.D. only	V1 N	Loose snow	Slowing or	Automobile, station	Skidding/Sliding		0
								V2 N	Loose snow	Stopped	Automobile, station	Other motor vehicle		
14	2010/09/18	Sat	12:20	Clear	Daylight	Rear end	Non-fatal	V1 S	Dry	Slowing or	Automobile, station	Other motor vehicle		0
								V2 S	Dry	Stopped	Automobile, station	Other motor vehicle		
15	2011/03/21	Mo	16:18	Snow	Daylight	Rear end	Non-fatal	V1 S	Slush	Slowing or	Pick-up truck	Other motor vehicle		0
								V2 S	Slush	Going ahead	Pick-up truck	Other motor vehicle		
16	2011/10/11	Tue	12:57	Clear	Daylight	Turning	Non-fatal	V1 S	Dry	Turning left	Pick-up truck	Other motor vehicle		0
								V2 N	Dry	Going ahead	Pick-up truck	Other motor vehicle		
17	2012/09/21	Frid	17:04	Rain	Daylight	Turning	P.D. only	V1 E	Wet	Turning left	Automobile, station	Other motor vehicle		0
								V2 W	Wet	Going ahead	Automobile, station	Other motor vehicle		
18	2012/06/02	Sat	14:55	Rain	Daylight	Turning	Non-fatal	V1 S	Wet	Turning left	Automobile, station	Other motor vehicle		0
								V2 N	Wet	Going ahead	Car and trailer	Other motor vehicle		
								V3 N	Wet	Going ahead	Automobile, station	Other motor vehicle		
								V4 S	Wet	Stopped	Automobile, station	Other motor vehicle		
19	2009/12/10	Thu	15:29	Freezing	Daylight	Angle	Non	V1 S	Ice	Going ahead	Automobile, station	Other motor vehicle		0
								V2 E	Loose snow	Turning left	Pick-up truck	Other motor vehicle		
20	2008/03/10	Mo	16:21	Clear	Daylight	Angle	P.D. only	V1 W	Wet	Turning left	Automobile, station	Other motor vehicle		0
								V2 S	Wet	Going ahead	Police vehicle	Other motor vehicle		
21	2009/02/02	Mo	18:38	Clear	Dark	Approaching	Non-fatal	V1 N	Packed snow	Going ahead	Automobile, station	Other motor vehicle		0
								V2 S	Packed snow	Going ahead	Pick-up truck	Other motor vehicle		
22	2008/01/11	Frid	07:26	Freezing	Dawn	Single vehicle	Non-fatal	V1 S	Loose snow	Going ahead	Pick-up truck	Roll over		0

WALL RD, DENISE AVE to MONIQUE AVE

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **1**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
23	2008/06/06	Frid	19:30	Clear	Daylight	Single vehicle	P.D. only	V1 W	Dry	Going ahead	Automobile, station	Unattended vehicle		0

WALL RD, MONIQUE AVE to TENTH LINE RD

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **5**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
24	2009/04/07	Tue	22:43	Clear	Dark	Approaching	Non-fatal	V1 W	Ice	Going ahead	Passenger van	Other motor vehicle		0
								V2 E	Ice	Going ahead	Passenger van	Other motor vehicle		
25	2010/01/18	Mo	05:40	Freezing	Dark	Single vehicle	P.D. only	V1 W	Ice	Going ahead	Pick-up truck	Skidding/Sliding		0
26	2010/06/19	Sat	14:00	Clear	Daylight	Single vehicle	P.D. only	V1 W	Wet	Going ahead	Passenger van	Skidding/Sliding		0
27	2010/07/22	Thu	07:23	Clear	Daylight	Single vehicle	P.D. only	V1 W	Dry	Changing lanes	Pick-up truck	Ran off road		0
28	2012/06/17	Sun	04:39	Clear	Dark	Single vehicle	P.D. only	V1 E	Dry	Going ahead	Automobile, station	Ran off road		0

Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2010/01/01 TO: 2013/01/01

TENTH LINE RD, HARVEST VALLEY to SOUTHFIELD WAY

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **2**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
1	2011/01/01	Sat	18:15	Rain	Dark	Single vehicle	P.D. only	V1 S	Wet	Going ahead	Automobile, station	Ran off road		0
2	2012/01/12	Thu	14:05	Snow	Daylight	Single vehicle	Non-fatal	V1 N	Slush	Going ahead	Automobile, station	Ran off road		0

TENTH LINE RD, HARVEST VALLEY to WALL RD

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **5**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
3	2010/05/22	Sat	11:38	Rain	Daylight	Single vehicle	Non-fatal	V1 N	Wet	Going ahead	Pick-up truck	Skidding/Sliding		0
4	2010/06/12	Sat	18:04	Clear	Daylight	Rear end	P.D. only	V1 S	Dry	Going ahead	Automobile, station	Other motor vehicle		0
								V2 S	Dry	Stopped	Automobile, station	Other motor vehicle		
5	2010/07/29	Thu	23:56	Clear	Dark	Single vehicle	P.D. only	V1 S	Dry	Reversing	Automobile, station	Ditch		0
6	2012/08/03	Frid	06:30	Clear	Daylight	Single vehicle	P.D. only	V1 N	Dry	Going ahead	Truck and trailer	Other Fixed Objects		0
7	2012/12/09	Sun	21:57	Drifting	Dark	Single vehicle	P.D. only	V1 S	Ice	Going ahead	Automobile, station	Skidding/Sliding		0

HARVEST VALLEY & TENTH LINE ROAD

Former Municipality: **Cumberland** Traffic Control: **Traffic signal** Number of Collisions: **1**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
8	2012/07/09	Mo	16:54	Clear	Daylight	Single vehicle	P.D. only	V1 N	Dry	Turning right	Automobile, station	Ditch		0

TENTH LINE RD, HARVEST VALLEY to SOUTHFIELD

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **4**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR	SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
9	2010/07/09	Frid	13:06	Rain	Daylight	Rear end	Non-fatal	V1 N	Wet	Going ahead	Automobile, station	Other motor vehicle		0
								V2 N	Wet	Stopped	Automobile, station	Other motor vehicle		
								V3 N	Wet	Stopped	Pick-up truck	Other motor vehicle		
								V4 N	Wet	Stopped	Pick-up truck	Other motor vehicle		
10	2011/01/01	Sat	18:15	Rain	Dark	Single vehicle	P.D. only	V1 S	Wet	Going ahead	Automobile, station	Ran off road		0
11	2011/05/24	Tue	07:45	Clear	Daylight	Rear end	P.D. only	V1 N	Dry	Going ahead	Pick-up truck	Other motor vehicle		0
								V2 N	Dry	Stopped	Pick-up truck	Other motor vehicle		
12	2012/01/12	Thu	14:05	Snow	Daylight	Single vehicle	Non-fatal	V1 N	Slush	Going ahead	Automobile, station	Ran off road		0

Collision Main Detail Summary

OnTRAC Reporting System

FROM: 2010/01/01 TO: 2013/01/01

TENTH LINE RD, HARVEST VALLEY to WALL

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **13**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR		SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
1	2008/08/06	We	23:48	Clear	Dark	Single vehicle	P.D. only	V1	S	Mud	Going ahead	Automobile, station	Ran off road		0
2	2008/09/03	We	14:59	Clear	Daylight	Turning	Non-fatal	V1	S	Dry	Turning left	Delivery van	Other motor vehicle		0
								V2	N	Dry	Going ahead	Automobile, station	Other motor vehicle		
3	2008/09/08	Mo	18:43	Clear	Daylight	Single vehicle	Non-fatal	V1	S	Dry	Going ahead	Pick-up truck	Pole (utility, tower)		0
4	2008/12/02	Tue	12:45	Clear	Daylight	Turning	P.D. only	V1	S	Mud	Going ahead	Automobile, station	Other motor vehicle		0
								V2	S	Mud	Turning left	Pick-up truck	Other motor vehicle		
5	2009/02/18	We	16:03	Snow	Daylight	Approaching	P.D. only	V1	S	Packed snow	Going ahead	Pick-up truck	Other motor vehicle		0
								V2	N	Packed snow	Going ahead	Automobile, station	Other motor vehicle		
6	2009/02/25	We	07:07	Clear	Dawn	Single vehicle	P.D. only	V1	S	Dry	Going ahead	Automobile, station	Roll over		0
7	2009/11/28	Sat	01:53	Rain	Dark	Single vehicle	Non-fatal	V1	S	Wet	Going ahead	Pick-up truck	Ran off road		0
8	2010/05/22	Sat	11:38	Rain	Daylight	Single vehicle	Non-fatal	V1	N	Wet	Going ahead	Pick-up truck	Skidding/Sliding		0
9	2010/06/12	Sat	18:04	Clear	Daylight	Rear end	P.D. only	V1	S	Dry	Going ahead	Automobile, station	Other motor vehicle		0
								V2	S	Dry	Stopped	Automobile, station	Other motor vehicle		
10	2010/07/29	Thu	23:56	Clear	Dark	Single vehicle	P.D. only	V1	S	Dry	Reversing	Automobile, station	Ditch		0
11	2012/08/03	Frid	06:30	Clear	Daylight	Single vehicle	P.D. only	V1	N	Dry	Going ahead	Truck and trailer	Other Fixed Objects		0
12	2012/12/09	Sun	21:57	Drifting	Dark	Single vehicle	P.D. only	V1	S	Ice	Going ahead	Automobile, station	Skidding/Sliding		0
13	2009/11/10	Tue	13:50	Clear	Daylight	Rear end	Non-fatal	V1	S	Dry	Going ahead	Pick-up truck	Other motor vehicle		0
								V2	S	Dry	Turning right	Automobile, station	Other motor vehicle		

TENTH LINE RD, NAVAN RD to WALL RD

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **2**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR		SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
14	2009/06/14	Sun	14:12	Clear	Daylight	Rear end	P.D. only	V1	N	Dry	Overtaking	Motorcycle	Other motor vehicle		0
								V2	N	Dry	Going ahead	Pick-up truck	Other motor vehicle		
15	2009/06/17	We	19:50	Clear	Daylight	Single vehicle	P.D. only	V1	N	Dry	Going ahead	Automobile, station	Animal - wild		0

TENTH LINE RD, HARVEST VALLEY to SOUTHFIELD

Former Municipality: **Cumberland** Traffic Control: **No control** Number of Collisions: **2**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR		SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
16	2009/02/02	Mo	18:38	Clear	Dark	Approaching	Non-fatal	V1	N	Packed snow	Going ahead	Automobile, station	Other motor vehicle		0
								V2	S	Packed snow	Going ahead	Pick-up truck	Other motor vehicle		
17	2009/04/18	Sat	02:43	Clear	Dark	Single vehicle	P.D. only	V1	N	Dry	Going ahead	Automobile, station	Skidding/Sliding		0

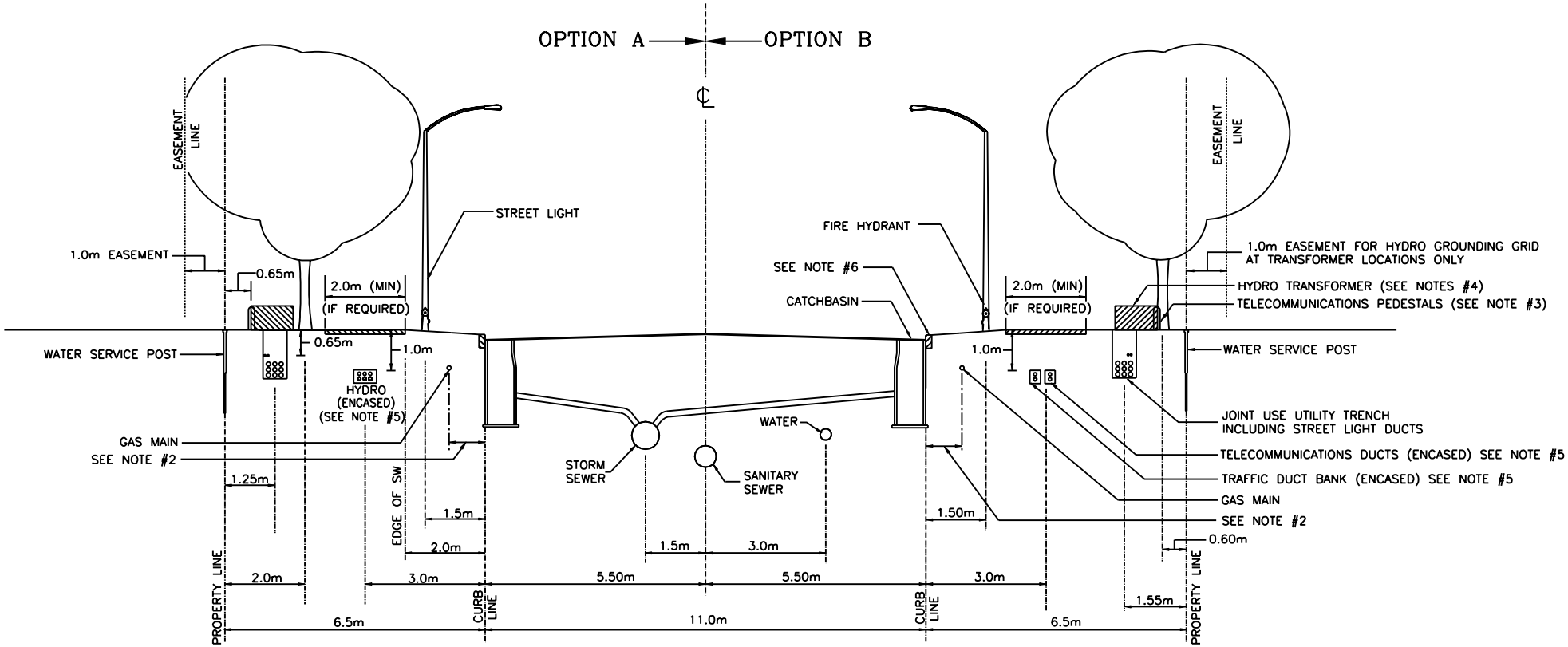
TENTH LINE RD & WALL RD

Former Municipality: **Cumberland** Traffic Control: **Stop sign** Number of Collisions: **6**

COLLISION ID	DATE	DAY	TIME	ENV	LIGHT	IMPACT TYPE	CLASS	DIR		SURFACE COND'N	VEHICLE MANOEUVRE	VEHICLE TYPE	FIRST EVENT	DRIVER ACTION	No. PED
18	2010/02/17	We	09:19	Snow	Daylight	Single vehicle	P.D. only	V1	N	Slush	Going ahead	Automobile, station	Ran off road		0
19	2010/09/29	We	16:40	Clear	Daylight	Approaching	Non-fatal	V1	N	Dry	Going ahead	Truck - closed	Other motor vehicle		0
								V2	S	Dry	Going ahead	Pick-up truck	Other motor vehicle		
20	2010/11/01	Mo	11:59	Clear	Daylight	Angle	Non-fatal	V1	W	Dry	Going ahead	Pick-up truck	Other motor vehicle		0
								V2	S	Loose sand or	Going ahead	Automobile, station	Other motor vehicle		
21	2011/11/14	Mo	08:19	Clear	Daylight	Angle	P.D. only	V1	W	Dry	Going ahead	Truck - dump	Other motor vehicle		0
								V2	S	Dry	Going ahead	Automobile, station	Other motor vehicle		
22	2012/05/08	Tue	12:31	Rain	Daylight	Single vehicle	P.D. only	V1	S	Wet	Going ahead	Automobile, station	Ran off road		0
23	2012/08/06	Mo	12:33	Clear	Daylight	Angle	Non-fatal	V1	E	Dry	Going ahead	Pick-up truck	Other motor vehicle		0
								V2	N	Dry	Going ahead	Motorcycle	Other motor vehicle		

– Appendix D –

Standard Residential Road Cross-Sections



SECTION

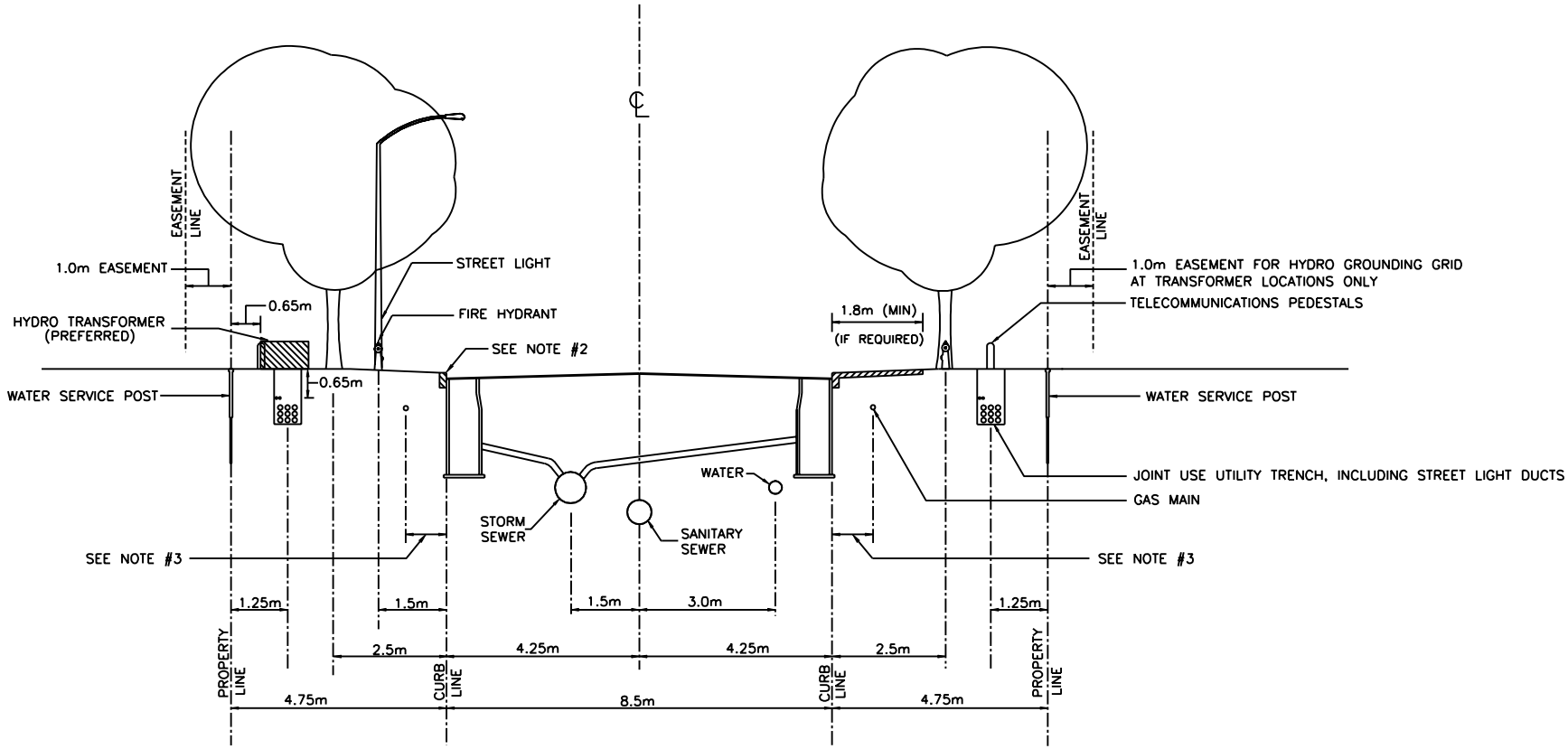
NOTES:

1. REFERENCE STANDARD NOTES ROAD ALLOWANCE (DGN: ROW-NOTES)
2. AT CATCH BASIN LOCATIONS THE GAS MAIN SHALL HAVE A MINIMUM 0.6m CLEARANCE FROM STRUCTURES.
3. ALL PEDESTALS TO BE INSTALLED IN LINE WITH HYDRO TRANSFORMERS OR ON SIDE OF TRENCH AWAY FROM ROAD.
4. REQUIREMENT FOR PROTECTIVE BOLLARDS AT TRANSFORMERS SHALL BE DETERMINED BY HYDRO ON A CASE BY CASE BASIS.
5. HYDRO DUCTS & COMMUNICATION DUCTS (ENCASED) TYPICALLY REQUIRED ON ONE SIDE OF ROW ONLY. PROVIDE 1.0m COVER ON ALL CONCRETE ENCASED DUCTS.
6. CONCRETE CURBS MAY BE BARRIER TYPE OR MOUNTABLE TYPE, CATCH BASIN TYPE WILL SUIT CURB DESIGN. SEE SEWER DESIGN GUIDELINES FOR CATCH BASIN PREFERENCE.

Ottawa

RESIDENTIAL ROAD 24.0m ROAD ALLOWANCE SIDEWALK OPTIONS

DATE:	-
REV. DATE:	MARCH 2009
DWG. No.:	ROW-24



SECTION

NOTES:

1. REFERENCE STANDARD NOTES ROAD ALLOWANCE (DGN:ROW-NOTES)
2. CONCRETE CURBS MAY BE BARRIER TYPE OR MOUNTABLE TYPE, CATCH BASIN TYPE WILL SUIT CURB DESIGN. SEE SEWER DESIGN GUIDELINES FOR CATCH BASIN PREFERENCE.
3. AT CATCH BASIN AND HYDRANT LOCATIONS THE GAS MAIN SHALL HAVE A MINIMUM 0.6m CLEARANCE FROM STRUCTURES.
4. HYDRO TRANSFORMERS AND SIDEWALKS ARE TO BE LOCATED ON OPPOSITE SIDE OF THE ROW WHENEVER POSSIBLE. REQUIREMENT FOR PROTECTIVE BOLLARDS AT TRANSFORMERS SHALL BE DETERMINED BY HYDRO ON A CASE BY CASE BASIS.
5. STREET LIGHTS AND SIDEWALKS ARE TO BE LOCATED ON OPPOSITE SIDES OF THE ROW.

Ottawa

RESIDENTIAL ROAD 18.0m ROAD ALLOWANCE SIDEWALK OPTIONS

DATE:	-
REV. DATE:	MARCH 2009
DWG. No.:	ROW-18A

– Appendix E –

Trip Generation Data

Single-Family Detached Housing
(210)

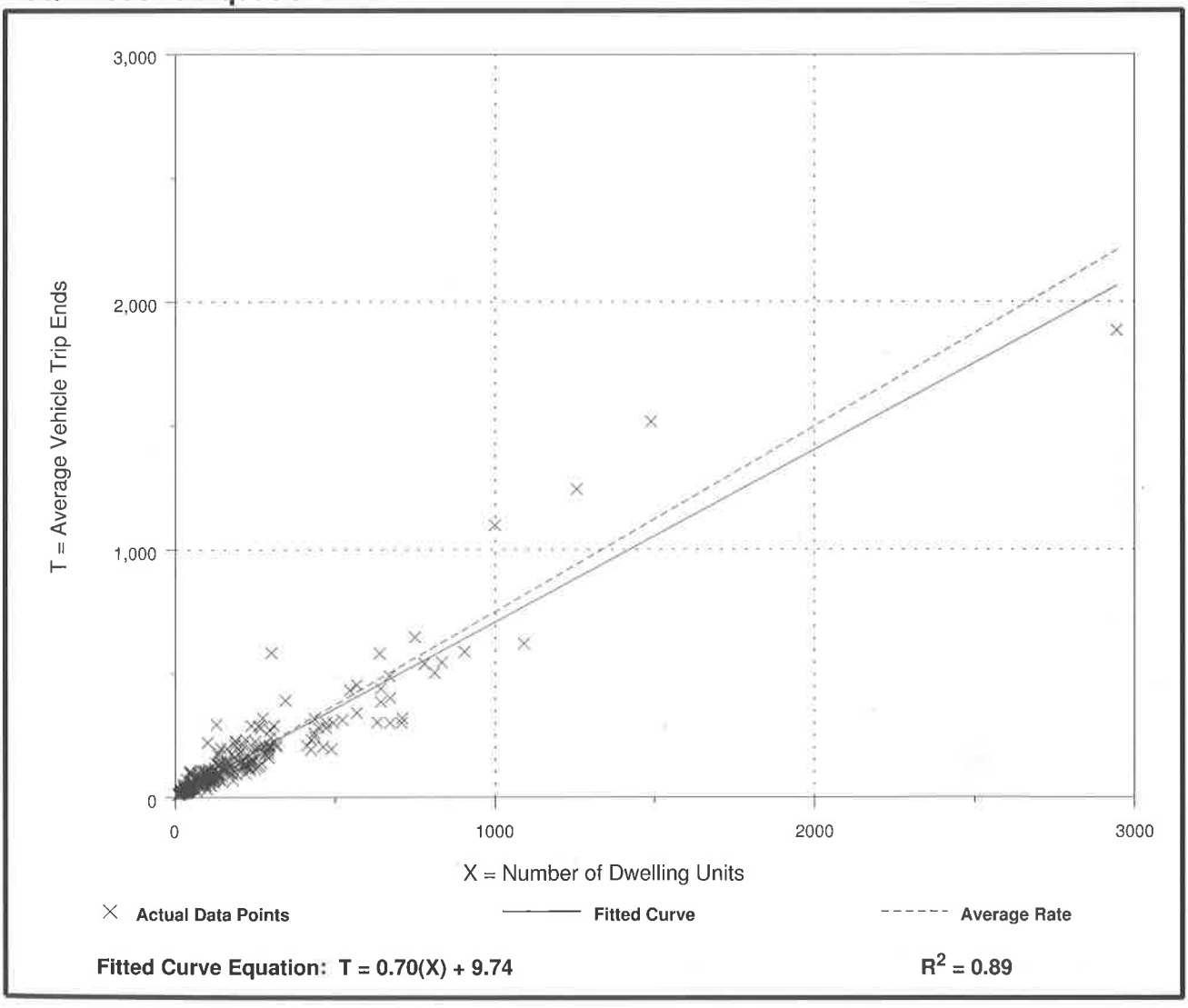
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 292
Avg. Number of Dwelling Units: 194
Directional Distribution: 25% entering, 75% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.75	0.33 - 2.27	0.90

Data Plot and Equation



Fitted Curve Equation: T = 0.70(X) + 9.74

R^2 = 0.89

Single-Family Detached Housing
(210)

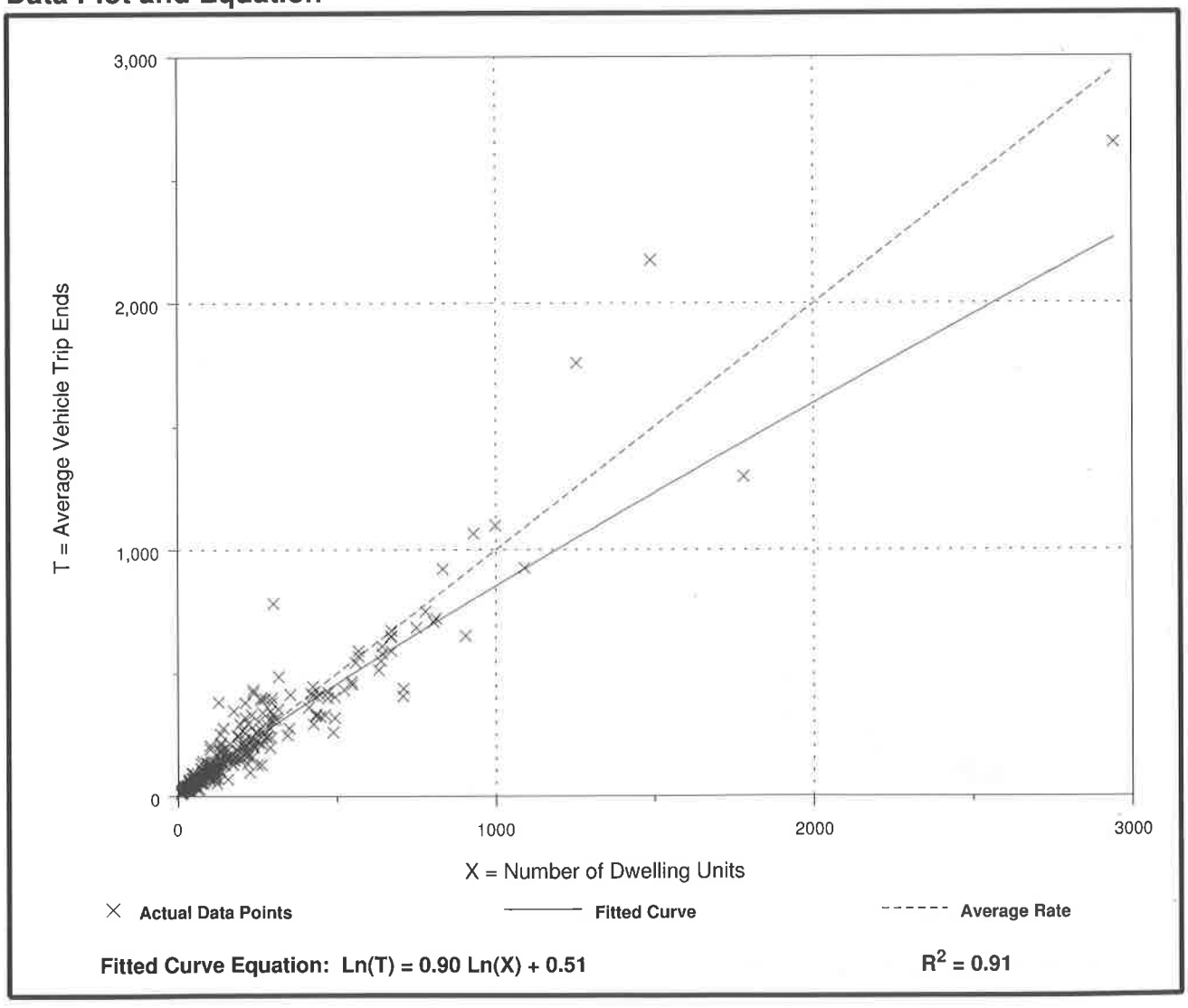
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 321
Avg. Number of Dwelling Units: 207
Directional Distribution: 63% entering, 37% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.00	0.42 - 2.98	1.05

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.90 Ln(X) + 0.51

R^2 = 0.91

Apartment
(220)

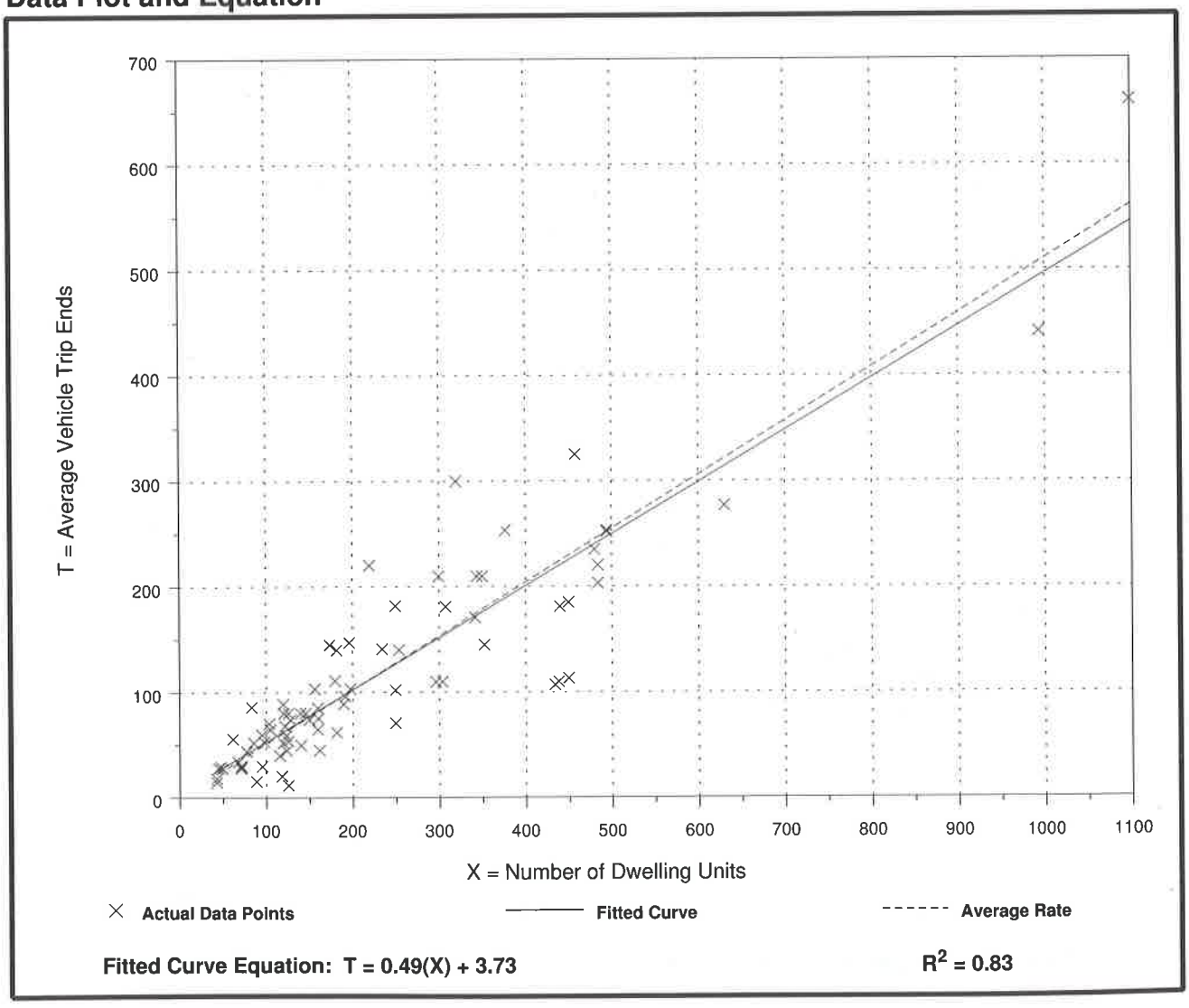
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 78
Avg. Number of Dwelling Units: 235
Directional Distribution: 20% entering, 80% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.10 - 1.02	0.73

Data Plot and Equation



Fitted Curve Equation: T = 0.49(X) + 3.73

R^2 = 0.83

Apartment
(220)

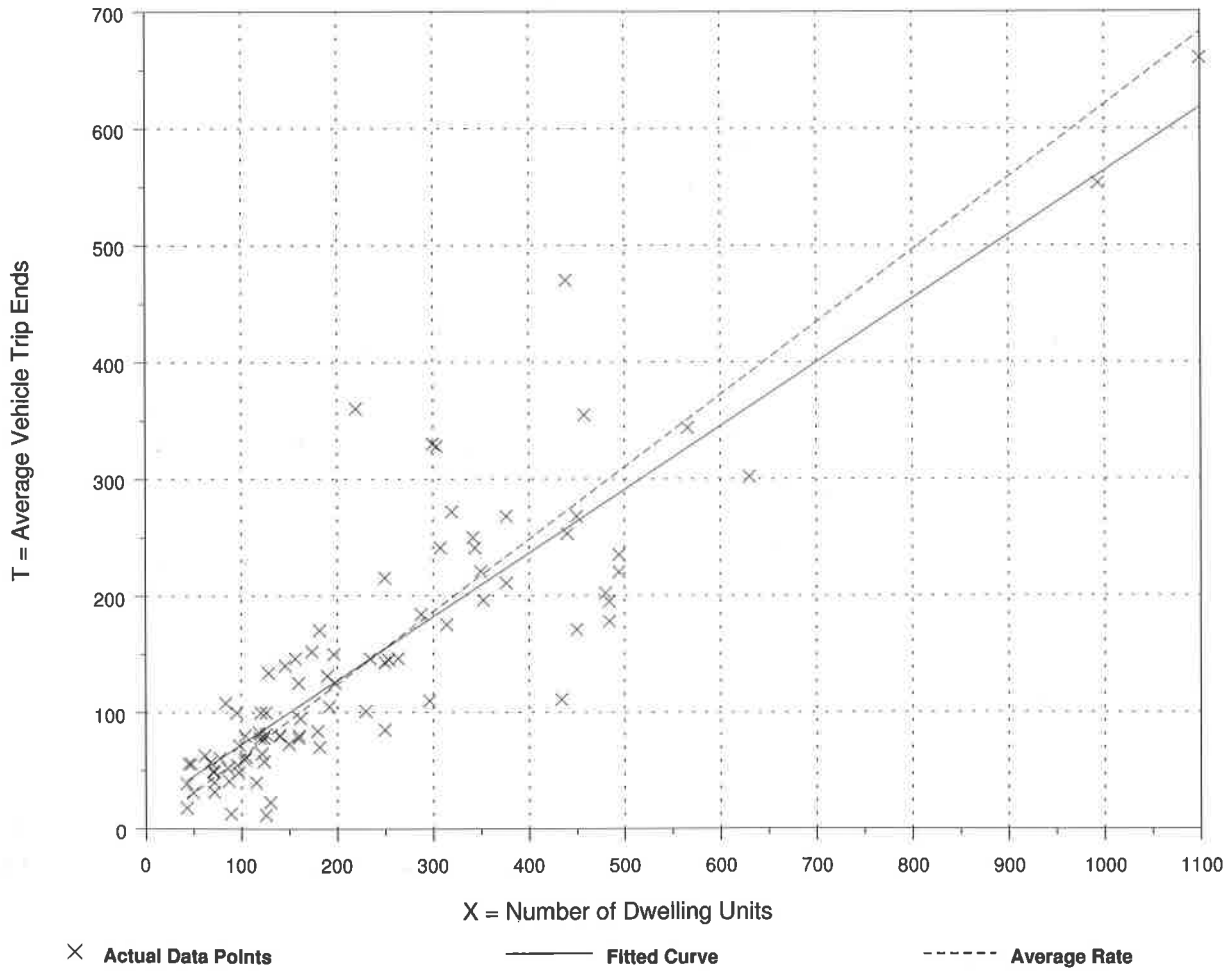
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 90
Avg. Number of Dwelling Units: 233
Directional Distribution: 65% entering, 35% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.62	0.10 - 1.64	0.82

Data Plot and Equation



Fitted Curve Equation: T = 0.55(X) + 17.65

R^2 = 0.77

Residential Condominium/Townhouse
(230)

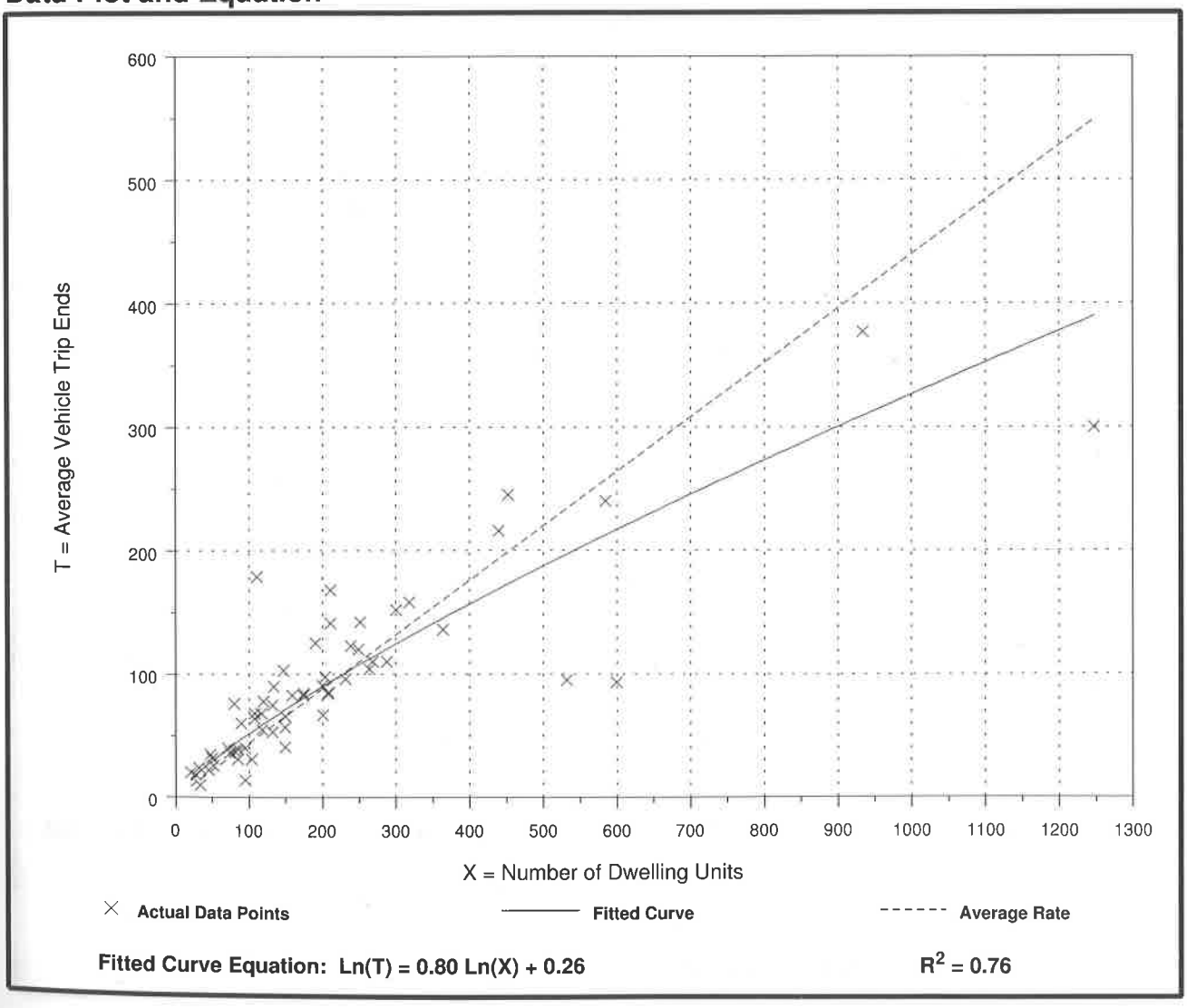
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 59
Avg. Number of Dwelling Units: 213
Directional Distribution: 17% entering, 83% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.61	0.69

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.80 Ln(X) + 0.26

R^2 = 0.76

Residential Condominium/Townhouse
(230)

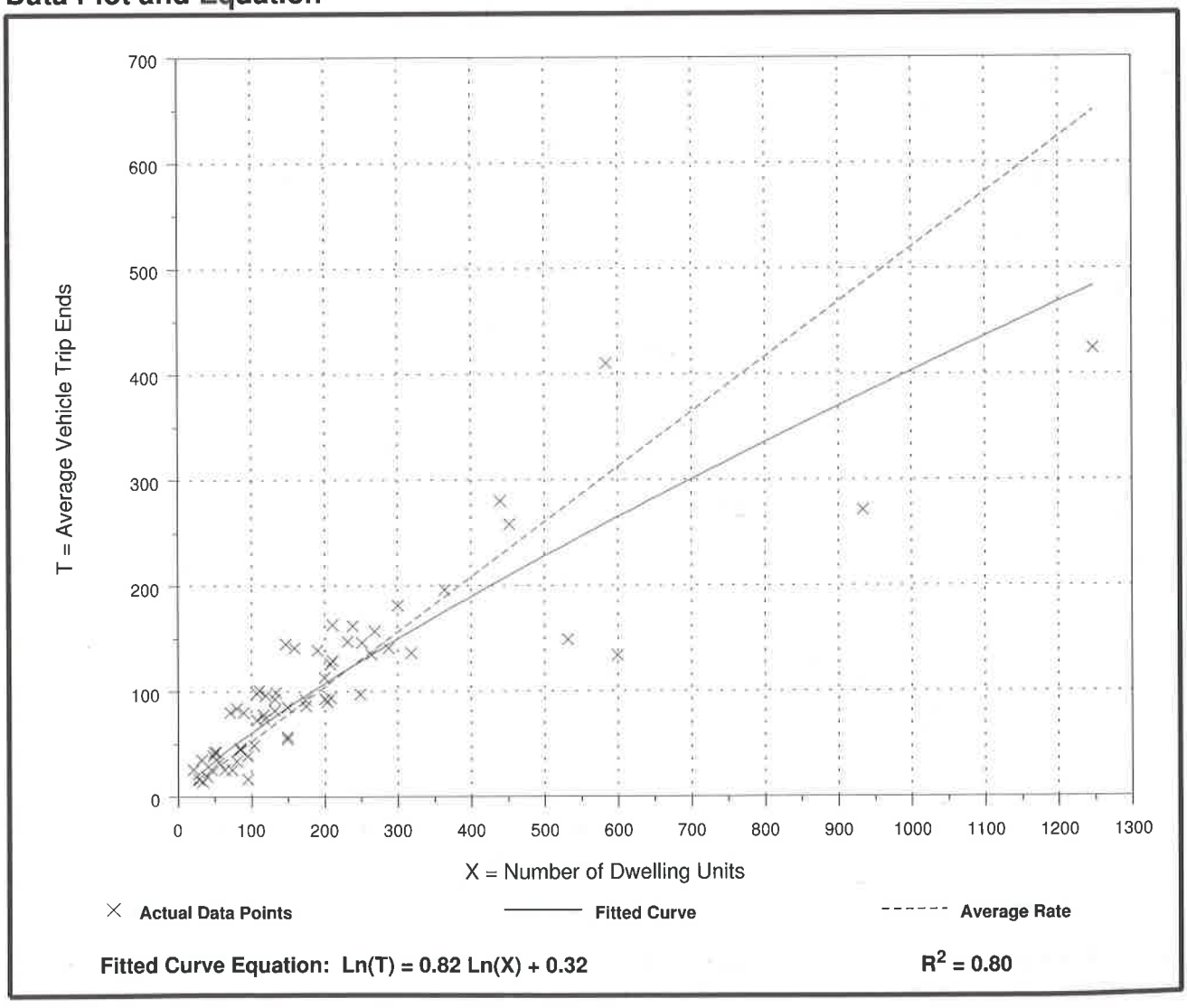
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 62
Avg. Number of Dwelling Units: 205
Directional Distribution: 67% entering, 33% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.52	0.18 - 1.24	0.75

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.82 Ln(X) + 0.32

R^2 = 0.80

CONNERCIAL SITE GENERATION RATES

Blended Retail Centre Trip Generation:

	AM Peak			PM Peak			Saturday Peak			Average Pass-By Trips
AVERAGE (trip/hectare)	**102**	57%	43%	**226**	51%	49%	**277**	50%	50%	**40%**

Average Rate

	AM			PM			SATURDAY			
LAND USES	RATE/1000 sqft	%IN	%OUT	RATE/1000 sqft	%IN	%OUT	RATE/1000 sqft	%IN	%OUT	ITE Pass-By %
Pharmacy	2.94	65%	35%	8.4	49%	51%	10.68	49%	51%	49%
Supermarket	3.4	62%	38%	9.48	51%	49%	10.65	51%	49%	30%
Quality Restaurant	0.81	50%	50%	7.49	67%	33%	10.82	59%	41%	44%
Specialty Retail	0	50%	50%	2.71	44%	56%	2.71	44%	56%	40%
Coffee Shop	100.58	51%	49%	42.8	50%	50%	84.52	50%	50%	40%
High-Turnover Restaurant	10.81	55%	45%	9.85	60%	40%	14.07	53%	47%	50%
Gas Station	11.84	51%	49%	13.86	51%	49%	19.46	50%	50%	47%
Apparel Store	0	50%	50%	3.83	50%	50%	3.83	50%	50%	44%
Office Supply Superstore	0	50%	50%	3.4	53%	47%	3.4	50%	50%	40%

Site #1 (2.90ha) 1465 Merivale Rd.	AM Trips	IN	OUT	PM Trips	IN	OUT	Saturday Trips	IN	OUT	
Pharmacy	51			145			184			
Supermarket	117			327			367			
Quality Restaurant	5			48			70			
Specialty Retail	0			58			58			
TOTAL	**173**			**578**			**679**			
Generation per Hectare	**60**	62%		**199**	51%		**234**	50%		38%

Site #2 (4.43ha) 1675 Tenth Line Rd	AM Trips	IN	OUT	PM Trips	IN	OUT	Saturday Trips	IN	OUT	
Supermarket	110			306			344			
Pharmacy	101			290			368			
Coffee Shop	216			92			182			
High-Turnover Restaurant	88			80			114			
Specialty Retail	0			100			100			
Gas Station	95			111			156			
TOTAL	**610**			**979**			**1264**			
Generation per Hectare	**138**	56%		**221**	50%		**285**	50%		40%

Site #3 (3.62ha) 1811 Robertson Rd.	AM Trips	IN	OUT	PM Trips	IN	OUT	Saturday Trips	IN	OUT	
Supermarket	114			318			357			
Apparel Store	0			192			192			
Pharmacy	38			109			139			
Office Supply Superstore	0			54			54			
Coffee Shop	211			90			177			
Specialty Retail	0			91			91			
High-Turnover Restaurant	23			21			30			
Quality Restaurant	7			64			93			
TOTAL	**393**			**938**			**1132**			
Generation per Hectare	**109**	56%		**259**	51%		**313**	50%		40%

High School
(530)

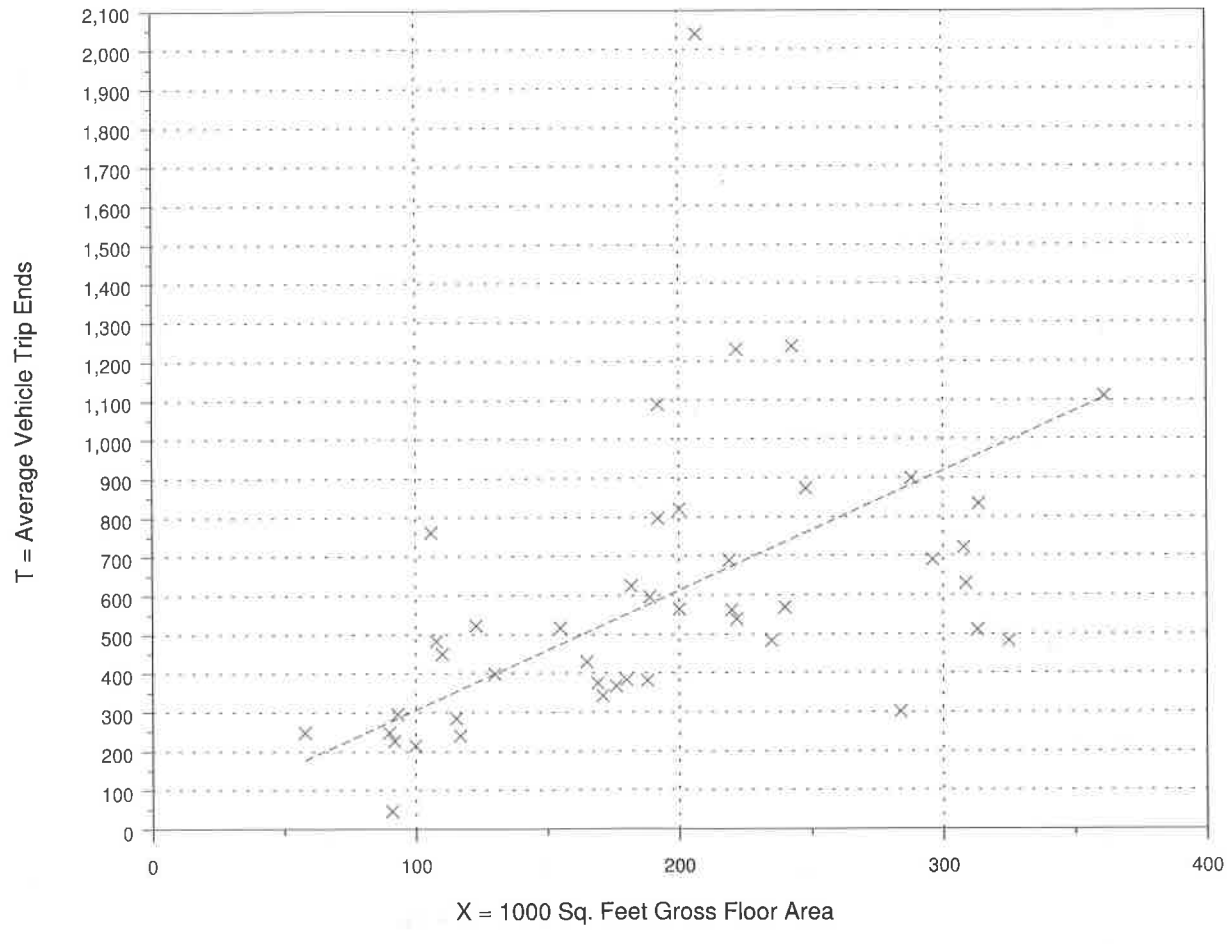
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
A.M. Peak Hour

Number of Studies: 44
Average 1000 Sq. Feet GFA: 194
Directional Distribution: 71% entering, 29% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
3.06	0.51 - 9.86	2.36

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

High School
(530)

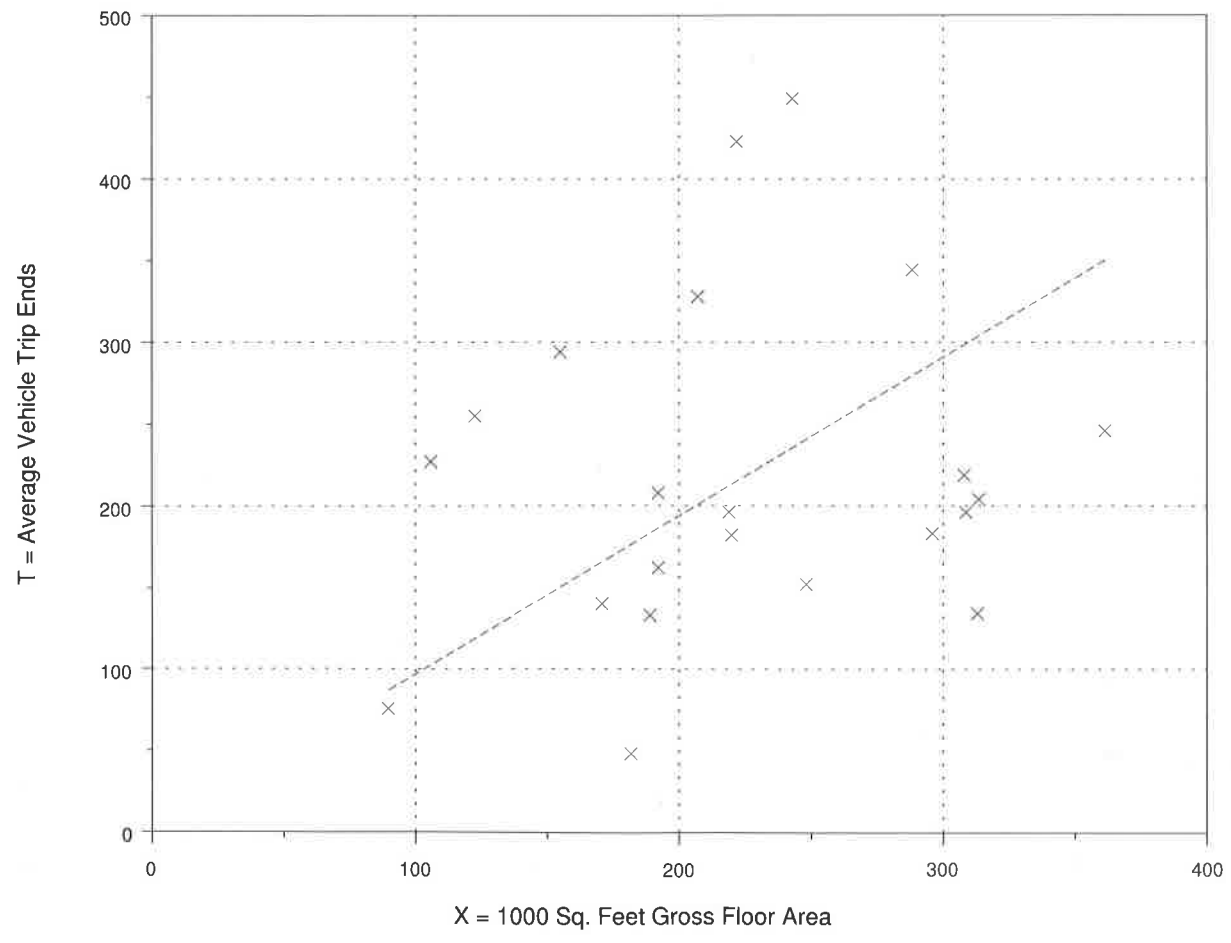
Average Vehicle Trip Ends vs: **1000 Sq. Feet Gross Floor Area**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 22
Average 1000 Sq. Feet GFA: 225
Directional Distribution: 54% entering, 46% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.97	0.27 - 2.14	1.11

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

– Appendix F –

Intersection Capacity Analysis

Existing (2013) Traffic

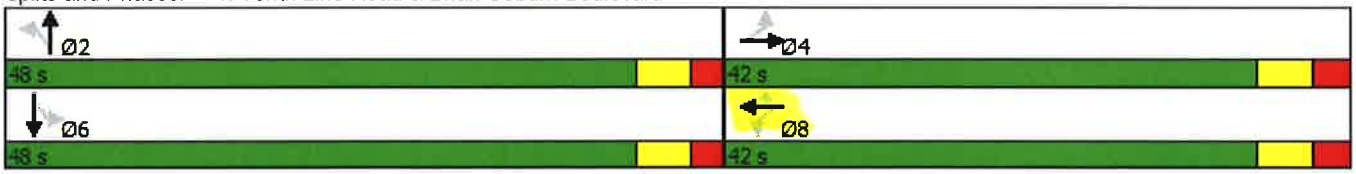
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	56	30	23	476	233	115	301	26	80	173	68
Future Volume (vph)	70	56	30	23	476	233	115	301	26	80	173	68
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	55.0		55.0	100.0		0.0	100.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	20.0			20.0			20.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.947				0.850		0.988			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1690	0	1695	1784	1517	1695	3350	0	1695	3244	0
Flt Permitted	0.230			0.698			0.595			0.545		
Satd. Flow (perm)	410	1690	0	1245	1784	1517	1062	3350	0	972	3244	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32				245		13			72	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1433.8			622.5			183.3			310.4	
Travel Time (s)		86.0			37.4			11.0			18.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	59	32	24	501	245	121	317	27	84	182	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	91	0	24	501	245	121	344	0	84	254	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
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)	31.4	31.4		31.4	31.4	31.4	29.0	29.0		29.0	29.0	
Total Split (s)	42.0	42.0		42.0	42.0	42.0	48.0	48.0		48.0	48.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%	46.7%	53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	35.6	35.6		35.6	35.6	35.6	42.0	42.0		42.0	42.0	
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)	2.7	2.7		2.7	2.7	2.7	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0	18.0	16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	28.2	28.2		28.2	28.2	28.2	42.3	42.3		42.3	42.3	
Actuated g/C Ratio	0.34	0.34		0.34	0.34	0.34	0.51	0.51		0.51	0.51	
v/c Ratio	0.53	0.15		0.06	0.83	0.36	0.22	0.20		0.17	0.15	
Control Delay	37.0	13.1		17.7	37.2	4.2	14.6	12.2		14.2	9.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	37.0	13.1		17.7	37.2	4.2	14.6	12.2		14.2	9.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B		B	D	A	B	B		B	A	
Approach Delay		23.8			26.1			12.8			10.3	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	9.2	6.3		2.5	71.2	0.0	10.4	14.7		7.0	7.7	
Queue Length 95th (m)	23.5	15.5		7.4	107.4	13.6	23.5	25.5		17.1	15.7	
Internal Link Dist (m)		1409.8			598.5			159.3			286.4	
Turn Bay Length (m)	40.0			55.0		55.0	100.0			100.0		
Base Capacity (vph)	177	747		537	770	794	541	1712		495	1687	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.42	0.12		0.04	0.65	0.31	0.22	0.20		0.17	0.15	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 83
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 19.3 — Intersection LOS: B
Intersection Capacity Utilization 73.4% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Tenth Line Road & Brian Coburn Boulevard

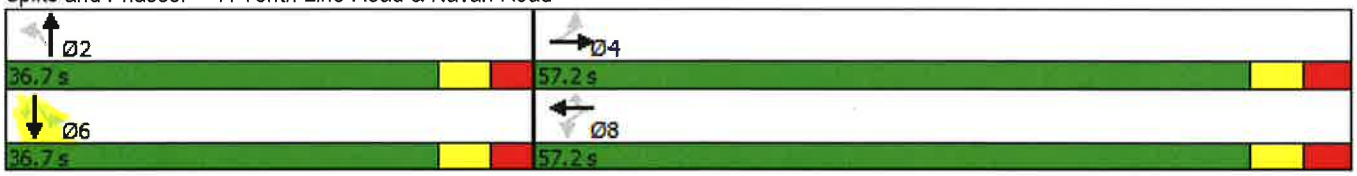


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	104	4	1	399	128	9	7	3	59	10	84
Future Volume (vph)	11	104	4	1	399	128	9	7	3	59	10	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		0.0	70.0		100.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	20.0			20.0			20.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995				0.850		0.979				0.850
Flt Protected	0.950			0.950				0.977			0.959	
Satd. Flow (prot)	1695	1775	0	1695	1784	1517	0	1707	0	0	1711	1517
Flt Permitted	0.517			0.684				0.813			0.745	
Satd. Flow (perm)	922	1775	0	1220	1784	1517	0	1420	0	0	1329	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				135		3				88
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1579.7			237.6			368.7			1615.8	
Travel Time (s)		94.8			14.3			22.1			96.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	12	109	4	1	420	135	9	7	3	62	11	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	113	0	1	420	135	0	19	0	0	73	88
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	57.2	57.2		57.2	57.2	57.2	36.7	36.7		36.7	36.7	36.7
Total Split (%)	60.9%	60.9%		60.9%	60.9%	60.9%	39.1%	39.1%		39.1%	39.1%	39.1%
Maximum Green (s)	50.0	50.0		50.0	50.0	50.0	30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	56.3	56.3		56.3	56.3	56.3		10.8			10.8	10.8
Actuated g/C Ratio	0.74	0.74		0.74	0.74	0.74		0.14			0.14	0.14
v/c Ratio	0.02	0.09		0.00	0.32	0.12		0.09			0.39	0.30
Control Delay	4.6	4.5		5.0	5.7	1.2		25.8			36.0	10.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	4.6	4.5		5.0	5.7	1.2		25.8			36.0	10.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A		A	A	A		C			D	B
Approach Delay		4.5			4.6			25.8			21.8	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	0.5	4.4		0.0	20.8	0.0		2.0			9.5	0.0
Queue Length 95th (m)	2.2	10.4		0.5	38.8	5.0		7.4			21.0	11.3
Internal Link Dist (m)		1555.7			213.6			344.7			1591.8	
Turn Bay Length (m)	110.0			70.0		100.0						40.0
Base Capacity (vph)	683	1316		904	1322	1159		563			525	653
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	0.02	0.09		0.00	0.32	0.12		0.03			0.14	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 93.9			
Actuated Cycle Length: 76			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 8.3		Intersection LOS: A	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Tenth Line Road & Navan Road



Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Traffic Vol, veh/h	0	289	442	0	176	63	0	61	161
Future Vol, veh/h	0	289	442	0	176	63	0	61	161
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	304	465	0	185	66	0	64	169
Number of Lanes	0	1	1	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	17.8	13	13.2
HCM LOS	C	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	27%
Vol Thru, %	74%	0%	0%	73%
Vol Right, %	26%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	239	289	442	222
LT Vol	0	289	0	61
Through Vol	176	0	0	161
RT Vol	63	0	442	0
Lane Flow Rate	252	304	465	234
Geometry Grp	2	7	7	2
Degree of Util (X)	0.411	0.548	0.681	0.397
Departure Headway (Hd)	5.887	6.483	5.268	6.12
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	611	557	684	589
Service Time	3.925	4.215	3	4.159
HCM Lane V/C Ratio	0.412	0.546	0.68	0.397
HCM Control Delay	13	16.8	18.5	13.2
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	2	3.3	5.3	1.9

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Traffic Vol, veh/h	0	82	4	0	20	135	0	44	399
Future Vol, veh/h	0	82	4	0	20	135	0	44	399
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	86	4	0	21	142	0	46	420
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.2	8.9	10.6
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	13%	95%	0%
Vol Thru, %	87%	0%	10%
Vol Right, %	0%	5%	90%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	155	86	443
LT Vol	20	82	0
Through Vol	135	0	44
RT Vol	0	4	399
Lane Flow Rate	163	91	466
Geometry Grp	1	1	1
Degree of Util (X)	0.21	0.135	0.496
Departure Headway (Hd)	4.639	5.359	3.828
Convergence, Y/N	Yes	Yes	Yes
Cap	773	667	942
Service Time	2.668	3.407	1.844
HCM Lane V/C Ratio	0.211	0.136	0.495
HCM Control Delay	8.9	9.2	10.6
HCM Lane LOS	A	A	B
HCM 95th-tile Q	0.8	0.5	2.8

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	116	12	122	19	11	53
Future Vol, veh/h	116	12	122	19	11	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	13	128	20	12	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	217	138	0	0	148	0
Stage 1	138	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	771	910	-	-	1434	-
Stage 1	889	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	764	910	-	-	1434	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	936	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	776	1434	-
HCM Lane V/C Ratio	-	-	0.174	0.008	-
HCM Control Delay (s)	-	-	10.6	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	20	4	5	0	4	5	2	159	1	2	171	89
Future Vol, veh/h	20	4	5	0	4	5	2	159	1	2	171	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	4	5	0	4	5	2	167	1	2	180	94

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	408	404	227	408	450	168	274	0	0	168	0	0
Stage 1	231	231	-	172	172	-	-	-	-	-	-	-
Stage 2	177	173	-	236	278	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	554	536	812	554	504	876	1289	-	-	1410	-	-
Stage 1	772	713	-	830	756	-	-	-	-	-	-	-
Stage 2	825	756	-	767	680	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	545	534	812	545	502	876	1289	-	-	1410	-	-
Mov Cap-2 Maneuver	545	534	-	545	502	-	-	-	-	-	-	-
Stage 1	770	712	-	828	754	-	-	-	-	-	-	-
Stage 2	814	754	-	756	679	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	10.6	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1289	-	-	576	658	1410	-	-
HCM Lane V/C Ratio	0.002	-	-	0.053	0.014	0.001	-	-
HCM Control Delay (s)	7.8	0	-	11.6	10.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	16	84	375	73	25	123
Future Vol, veh/h	16	84	375	73	25	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	88	395	77	26	129

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	472	0	-	0	555	433
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1090	-	-	-	493	623
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1090	-	-	-	485	623
Mov Cap-2 Maneuver	-	-	-	-	485	-
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	889	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1090	-	-	-	594
HCM Lane V/C Ratio	0.015	-	-	-	0.262
HCM Control Delay (s)	8.4	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2013 - Existing - AM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	126	3.0	1015	0.124	100	4.7	LOS A	0.4	3.5	Full	500	0.0	0.0
Lane 2[d]	126	3.0	1015	0.124	100	4.7	LOS A	0.4	3.5	Full	500	0.0	0.0
Approach	252	3.0		0.124		4.7	LOS A	0.4	3.5				
East: Brian Coburn Road													
Lane 1[d]	769	3.0	959	0.803	100	21.1	LOS C	7.4	57.6	Full	500	0.0	0.0
Approach	769	3.0		0.803		21.1	LOS C	7.4	57.6				
North: Mer Bleue Road													
Lane 1	117	3.0	795	0.147	100	6.0	LOS A	0.5	4.0	Full	500	0.0	0.0
Lane 2[d]	117	3.0	795	0.147	100	6.0	LOS A	0.5	4.0	Full	500	0.0	0.0
Approach	234	3.0		0.147		6.0	LOS A	0.5	4.0				
Intersection	1255	3.0		0.803		15.0	LOS B	7.4	57.6				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

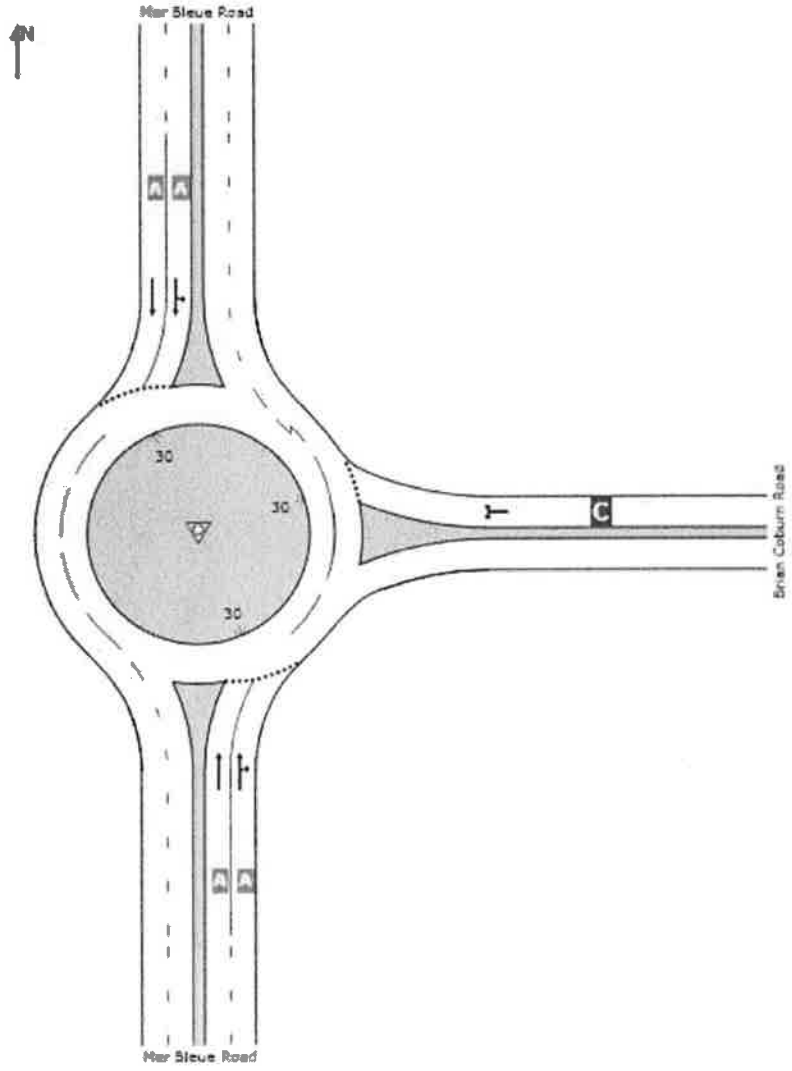
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2013 - Existing - AM

New Site
Roundabout

All Movement Classes

	South	East	North	Intersection
LOS	A	C	A	B



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LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

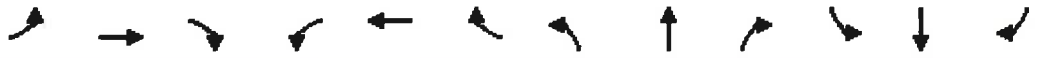
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	331	109	12	193	198	80	337	49	234	378	102
Future Volume (vph)	174	331	109	12	193	198	80	337	49	234	378	102
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	55.0		55.0	100.0		0.0	100.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	20.0			20.0			20.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.963				0.850		0.981			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1718	0	1695	1784	1517	1695	3326	0	1695	3282	0
Flt Permitted	0.617			0.258			0.459			0.513		
Satd. Flow (perm)	1101	1718	0	460	1784	1517	819	3326	0	915	3282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22				208		24			50	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1433.8			622.5			205.7			310.4	
Travel Time (s)		86.0			37.4			12.3			18.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	183	348	115	13	203	208	84	355	52	246	398	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	463	0	13	203	208	84	407	0	246	505	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
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)	31.4	31.4		31.4	31.4	31.4	29.0	29.0		29.0	29.0	
Total Split (s)	42.0	42.0		42.0	42.0	42.0	48.0	48.0		48.0	48.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%	46.7%	53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	35.6	35.6		35.6	35.6	35.6	42.0	42.0		42.0	42.0	
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)	2.7	2.7		2.7	2.7	2.7	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0	18.0	16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	26.1	26.1		26.1	26.1	26.1	42.3	42.3		42.3	42.3	
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32	0.52	0.52		0.52	0.52	
v/c Ratio	0.52	0.81		0.09	0.35	0.33	0.20	0.23		0.51	0.29	
Control Delay	27.3	35.8		19.3	22.1	4.3	14.1	11.4		19.4	11.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	27.3	35.8		19.3	22.1	4.3	14.1	11.4		19.4	11.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D		B	C	A	B	B		B	B	
Approach Delay		33.4			13.3			11.9			14.0	
Approach LOS		C			B			B			B	
Queue Length 50th (m)	22.4	61.4		1.4	23.4	0.0	6.5	15.7		23.3	19.2	
Queue Length 95th (m)	40.7	94.7		5.2	39.3	12.6	17.8	29.5		54.6	35.5	
Internal Link Dist (m)		1409.8			598.5			181.7			286.4	
Turn Bay Length (m)	40.0			55.0		55.0	100.0			100.0		
Base Capacity (vph)	488	774		203	791	788	428	1751		478	1740	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.38	0.60		0.06	0.26	0.26	0.20	0.23		0.51	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 80.9
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 18.8 — Intersection LOS: B
Intersection Capacity Utilization 79.6% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Tenth Line Road & Brian Coburn Boulevard



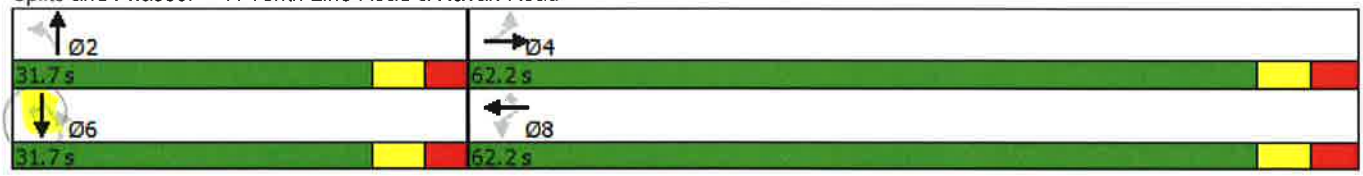
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	440	11	2	150	165	11	20	3	36	20	217
Future Volume (vph)	116	440	11	2	150	165	11	20	3	36	20	217
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		0.0	70.0		100.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	20.0			20.0			20.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996				0.850		0.989				0.850
Flt Protected	0.950			0.950				0.984			0.969	
Satd. Flow (prot)	1695	1777	0	1695	1784	1517	0	1736	0	0	1729	1517
Flt Permitted	0.657			0.478				0.873			0.783	
Satd. Flow (perm)	1172	1777	0	853	1784	1517	0	1541	0	0	1397	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				174		3				228
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1579.7			237.6			368.7			1615.8	
Travel Time (s)		94.8			14.3			22.1			96.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	122	463	12	2	158	174	12	21	3	38	21	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	475	0	2	158	174	0	36	0	0	59	228
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	62.2	62.2		62.2	62.2	62.2	31.7	31.7		31.7	31.7	31.7
Total Split (%)	66.2%	66.2%		66.2%	66.2%	66.2%	33.8%	33.8%		33.8%	33.8%	33.8%
Maximum Green (s)	55.0	55.0		55.0	55.0	55.0	25.0	25.0		25.0	25.0	25.0
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	56.7	56.7		56.7	56.7	56.7		10.6			10.6	10.6
Actuated g/C Ratio	0.70	0.70		0.70	0.70	0.70		0.13			0.13	0.13
v/c Ratio	0.15	0.38		0.00	0.13	0.16		0.18			0.32	0.58
Control Delay	4.9	6.3		4.0	4.5	1.1		30.8			36.4	11.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	4.9	6.3		4.0	4.5	1.1		30.8			36.4	11.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A		A	A	A		C			D	B
Approach Delay		6.0			2.7			30.8			16.3	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	5.1	24.3		0.1	6.6	0.0		4.5			8.2	0.0
Queue Length 95th (m)	11.8	43.7		0.7	13.7	5.3		12.6			18.9	18.3
Internal Link Dist (m)		1555.7			213.6			344.7			1591.8	
Turn Bay Length (m)	110.0			70.0		100.0						40.0
Base Capacity (vph)	818	1241		595	1245	1112		477			430	625
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.15	0.38		0.00	0.13	0.16		0.08			0.14	0.36

Intersection Summary

Area Type: Other
Cycle Length: 93.9
Actuated Cycle Length: 81.2
Natural Cycle: 55
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 8.2 — Intersection LOS: A
Intersection Capacity Utilization 59.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 7: Tenth Line Road & Navan Road



Intersection	
Intersection Delay, s/veh	41.3
Intersection LOS	E

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Traffic Vol, veh/h	0	86	193	0	276	329	0	304	220
Future Vol, veh/h	0	86	193	0	276	329	0	304	220
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	91	203	0	291	346	0	320	232
Number of Lanes	0	1	1	0	1	0	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	13.7	51.7	43.9
HCM LOS	B	F	E

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	58%
Vol Thru, %	46%	0%	0%	42%
Vol Right, %	54%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	605	86	193	524
LT Vol	0	86	0	304
Through Vol	276	0	0	220
RT Vol	329	0	193	0
Lane Flow Rate	637	91	203	552
Geometry Grp	2	7	7	2
Degree of Util (X)	0.97	0.205	0.39	0.917
Departure Headway (Hd)	5.583	8.145	6.909	6.091
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	656	444	524	601
Service Time	3.583	5.845	4.609	4.091
HCM Lane V/C Ratio	0.971	0.205	0.387	0.918
HCM Control Delay	51.7	12.9	14	43.9
HCM Lane LOS	F	B	B	E
HCM 95th-tile Q	14.2	0.8	1.8	11.5

Intersection	
Intersection Delay, s/veh	21
Intersection LOS	C

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Traffic Vol, veh/h	0	512	15	0	7	101	0	150	143
Future Vol, veh/h	0	512	15	0	7	101	0	150	143
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	539	16	0	7	106	0	158	151
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	27.6	10.5	13.1
HCM LOS	D	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	6%	97%	0%
Vol Thru, %	94%	0%	51%
Vol Right, %	0%	3%	49%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	108	527	293
LT Vol	7	512	0
Through Vol	101	0	150
RT Vol	0	15	143
Lane Flow Rate	114	555	308
Geometry Grp	1	1	1
Degree of Util (X)	0.191	0.817	0.465
Departure Headway (Hd)	6.053	5.304	5.429
Convergence, Y/N	Yes	Yes	Yes
Cap	591	682	663
Service Time	4.109	3.334	3.473
HCM Lane V/C Ratio	0.193	0.814	0.465
HCM Control Delay	10.5	27.6	13.1
HCM Lane LOS	B	D	B
HCM 95th-tile Q	0.7	8.6	2.5

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	31	9	97	108	13	115
Future Vol, veh/h	31	9	97	108	13	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	9	102	114	14	121

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	307	159	0	0	216	0
Stage 1	159	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	685	886	-	-	1354	-
Stage 1	870	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	677	886	-	-	1354	-
Mov Cap-2 Maneuver	677	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	870	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	715	1354	-
HCM Lane V/C Ratio	-	-	0.059	0.01	-
HCM Control Delay (s)	-	-	10.4	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	103	10	7	1	2	6	3	297	4	1	227	33
Future Vol, veh/h	103	10	7	1	2	6	3	297	4	1	227	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	108	11	7	1	2	6	3	313	4	1	239	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	583	581	256	588	597	315	274	0	0	317	0	0
Stage 1	258	258	-	321	321	-	-	-	-	-	-	-
Stage 2	325	323	-	267	276	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	424	425	783	421	416	725	1289	-	-	1243	-	-
Stage 1	747	694	-	691	652	-	-	-	-	-	-	-
Stage 2	687	650	-	738	682	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	417	423	783	408	414	725	1289	-	-	1243	-	-
Mov Cap-2 Maneuver	417	423	-	408	414	-	-	-	-	-	-	-
Stage 1	745	693	-	689	650	-	-	-	-	-	-	-
Stage 2	677	648	-	719	681	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	11.3	0.1	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1289	-	-	429	578	1243	-	-
HCM Lane V/C Ratio	0.002	-	-	0.294	0.016	0.001	-	-
HCM Control Delay (s)	7.8	0	-	16.9	11.3	7.9	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	103	452	146	68	128	45
Future Vol, veh/h	103	452	146	68	128	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	108	476	154	72	135	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	225	0	-	0	882	189
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	693	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1344	-	-	-	317	853
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	496	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1344	-	-	-	282	853
Mov Cap-2 Maneuver	-	-	-	-	282	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	442	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	27
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	341
HCM Lane V/C Ratio	0.081	-	-	-	0.534
HCM Control Delay (s)	7.9	0	-	-	27
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.3	-	-	-	3

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2013 - Existing - PM

New Site
Roundabout

Lane Use and Performance	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	291	3.0	782	0.371	84[5]	9.2	LOS A	1.6	12.3	Full	500	0.0	0.0
Lane 2[d]	346	3.0	782	0.443	100	10.4	LOS B	2.1	16.3	Full	500	0.0	0.0
Approach	637	3.0		0.443		9.8	LOS A	2.1	16.3				
East: Brian Coburn Road													
Lane 1[d]	294	3.0	888	0.331	100	7.7	LOS A	1.0	8.1	Full	500	0.0	0.0
Approach	294	3.0		0.331		7.7	LOS A	1.0	8.1				
North: Mer Bleue Road													
Lane 1[d]	320	3.0	988	0.324	100	7.0	LOS A	1.5	11.3	Full	500	0.0	0.0
Lane 2	232	3.0	988	0.234	72[5]	5.9	LOS A	0.9	7.4	Full	500	0.0	0.0
Approach	552	3.0		0.324		6.5	LOS A	1.5	11.3				
Intersection	1482	3.0		0.443		8.2	LOS A	2.1	16.3				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
d Dominant lane on roundabout approach

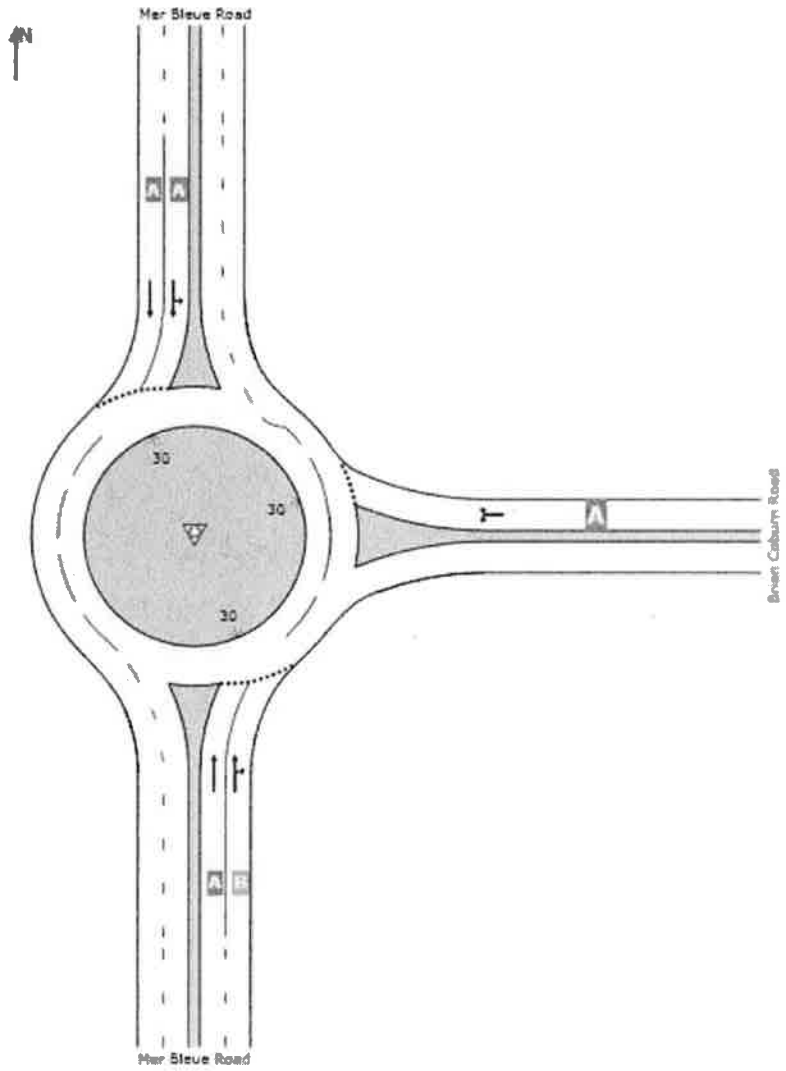
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2013 - Existing - PM

New Site
Roundabout

All Movement Classes

	South	East	North	Intersection
LOS	A	A	A	A



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HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Future (2025) Background Traffic

(No Intersection Modifications)

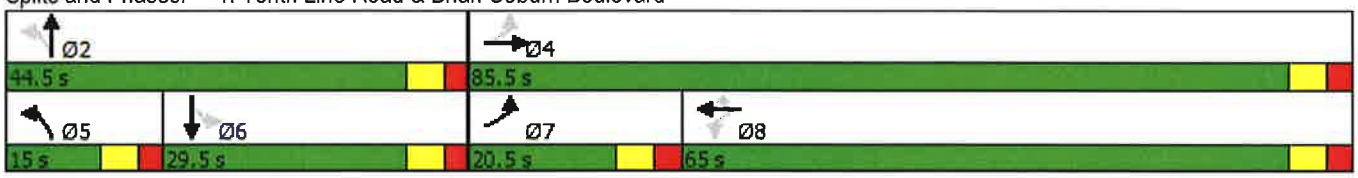
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	140	61	26	766	257	198	491	32	101	238	192
Future Volume (vph)	229	140	61	26	766	257	198	491	32	101	238	192
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	55.0		55.0	100.0		0.0	100.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	20.0			20.0			20.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.955				0.850		0.991			0.933	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1704	0	1695	1784	1517	1695	3360	0	1695	3163	0
Flt Permitted	0.062			0.626			0.220			0.446		
Satd. Flow (perm)	111	1704	0	1117	1784	1517	393	3360	0	796	3163	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31				129		5			137	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1433.8			622.5			183.3			310.4	
Travel Time (s)		86.0			37.4			11.0			18.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	241	147	64	27	806	271	208	517	34	106	251	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	241	211	0	27	806	271	208	551	0	106	453	0
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		8	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0		10.0	10.0	10.0	4.0	10.0		10.0	10.0	
Minimum Split (s)	10.4	31.4		31.4	31.4	31.4	10.0	29.0		29.0	29.0	
Total Split (s)	20.5	85.5		65.0	65.0	65.0	15.0	44.5		29.5	29.5	
Total Split (%)	15.8%	65.8%		50.0%	50.0%	50.0%	11.5%	34.2%		22.7%	22.7%	
Maximum Green (s)	14.1	79.1		58.6	58.6	58.6	9.0	38.5		23.5	23.5	
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)	2.7	2.7		2.7	2.7	2.7	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4	6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0	7.0		7.0		7.0	7.0	
Flash Dont Walk (s)		18.0		18.0	18.0	18.0		16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0		0	0	0		0		0	0	
Act Effct Green (s)	79.1	79.1		58.6	58.6	58.6	38.5	38.5		23.5	23.5	
Actuated g/C Ratio	0.61	0.61		0.45	0.45	0.45	0.30	0.30		0.18	0.18	
v/c Ratio	1.01	0.20		0.05	1.00	0.36	1.01	0.55		0.74	0.66	
Control Delay	97.0	10.1		20.6	68.2	13.2	105.9	40.6		80.5	39.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	97.0	10.1		20.6	68.2	13.2	105.9	40.6		80.5	39.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	F	B		C	E	B	F	D		F	D	
Approach Delay		56.5			53.6			58.5			47.2	
Approach LOS		E			D			E			D	
Queue Length 50th (m)	~48.0	19.1		3.8	~204.1	21.9	~43.3	62.0		26.0	40.1	
Queue Length 95th (m)	#101.8	30.9		9.5	#290.0	42.6	#80.2	80.2		#55.4	58.3	
Internal Link Dist (m)		1409.8			598.5			159.3			286.4	
Turn Bay Length (m)	40.0			55.0		55.0	100.0			100.0		
Base Capacity (vph)	239	1048		503	804	754	206	998		143	684	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	1.01	0.20		0.05	1.00	0.36	1.01	0.55		0.74	0.66	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Natural Cycle: 115
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 54.1 Intersection LOS: D
Intersection Capacity Utilization 101.6% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Tenth Line Road & Brian Coburn Boulevard

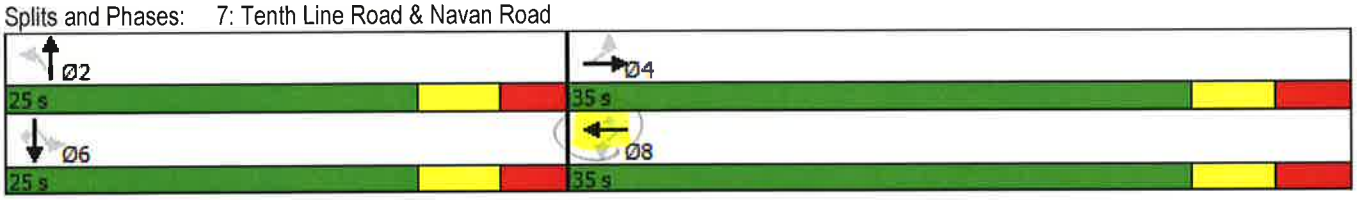


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	165	4	1	498	162	10	8	3	77	11	122
Future Volume (vph)	24	165	4	1	498	162	10	8	3	77	11	122
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		0.0	70.0		100.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	20.0			20.0			20.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.982				0.850
Flt Protected	0.950			0.950				0.976			0.958	
Satd. Flow (prot)	1695	1779	0	1695	1784	1517	0	1710	0	0	1709	1517
Flt Permitted	0.440			0.645				0.794			0.738	
Satd. Flow (perm)	785	1779	0	1151	1784	1517	0	1391	0	0	1317	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				171		3				128
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1579.7			237.6			368.7			1615.8	
Travel Time (s)		94.8			14.3			22.1			96.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	25	174	4	1	524	171	11	8	3	81	12	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	178	0	1	524	171	0	22	0	0	93	128
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	35.0	35.0		35.0	35.0	35.0	25.0	25.0		25.0	25.0	25.0
Total Split (%)	58.3%	58.3%		58.3%	58.3%	58.3%	41.7%	41.7%		41.7%	41.7%	41.7%
Maximum Green (s)	27.8	27.8		27.8	27.8	27.8	18.3	18.3		18.3	18.3	18.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	33.1	33.1		33.1	33.1	33.1		10.6			10.6	10.6
Actuated g/C Ratio	0.63	0.63		0.63	0.63	0.63		0.20			0.20	0.20
v/c Ratio	0.05	0.16		0.00	0.47	0.17		0.08			0.35	0.31
Control Delay	6.8	6.8		6.0	9.5	1.9		16.1			22.1	6.5
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	6.8	6.8		6.0	9.5	1.9		16.1			22.1	6.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A		A	A	A		B			C	A
Approach Delay		6.8			7.6			16.1			13.1	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	1.0	7.4		0.0	28.1	0.0		1.5			7.5	0.0
Queue Length 95th (m)	4.1	17.0		0.6	56.5	6.8		5.9			17.8	10.1
Internal Link Dist (m)		1555.7			213.6			344.7			1591.8	
Turn Bay Length (m)	110.0			70.0		100.0						40.0
Base Capacity (vph)	493	1119		724	1121	1017		486			458	611
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	0.05	0.16		0.00	0.47	0.17		0.05			0.20	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.6			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 61.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Tenth Line Road & Navan Road



Intersection	
Intersection Delay, s/veh	16.3
Intersection LOS	C

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Traffic Vol, veh/h	0	270	4	0	22	231	0	117	389
Future Vol, veh/h	0	270	4	0	22	231	0	117	389
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	284	4	0	23	243	0	123	409
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.8	12.6	18.9
HCM LOS	B	B	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	9%	99%	0%
Vol Thru, %	91%	0%	23%
Vol Right, %	0%	1%	77%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	253	274	506
LT Vol	22	270	0
Through Vol	231	0	117
RT Vol	0	4	389
Lane Flow Rate	266	288	533
Geometry Grp	1	1	1
Degree of Util (X)	0.414	0.487	0.712
Departure Headway (Hd)	5.602	6.079	4.815
Convergence, Y/N	Yes	Yes	Yes
Cap	642	591	751
Service Time	3.653	4.124	2.858
HCM Lane V/C Ratio	0.414	0.487	0.71
HCM Control Delay	12.6	14.8	18.9
HCM Lane LOS	B	B	C
HCM 95th-tile Q	2	2.7	6

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	123	13	224	20	12	90
Future Vol, veh/h	123	13	224	20	12	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	14	236	21	13	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	366	246	0	0	257	0
Stage 1	246	-	-	-	-	-
Stage 2	120	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	634	793	-	-	1308	-
Stage 1	795	-	-	-	-	-
Stage 2	905	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	793	-	-	1308	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	641	1308	-
HCM Lane V/C Ratio	-	-	0.223	0.01	-
HCM Control Delay (s)	-	-	12.2	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	24	4	6	10	4	6	2	201	1	2	224	105
Future Vol, veh/h	24	4	6	10	4	6	2	201	1	2	224	105
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	4	6	11	4	6	2	212	1	2	236	111

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	517	512	291	517	567	212	346	0	0	213	0	0
Stage 1	295	295	-	216	216	-	-	-	-	-	-	-
Stage 2	222	217	-	301	351	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	469	465	748	469	433	828	1213	-	-	1357	-	-
Stage 1	713	669	-	786	724	-	-	-	-	-	-	-
Stage 2	780	723	-	708	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	461	463	748	460	431	828	1213	-	-	1357	-	-
Mov Cap-2 Maneuver	461	463	-	460	431	-	-	-	-	-	-	-
Stage 1	712	668	-	784	723	-	-	-	-	-	-	-
Stage 2	768	722	-	696	631	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	12.2	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	495	523	1357	-	-
HCM Lane V/C Ratio	0.002	-	-	0.072	0.04	0.002	-	-
HCM Control Delay (s)	8	0	-	12.8	12.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	91	146	469	95	33	157
Future Vol, veh/h	91	146	469	95	33	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	154	494	100	35	165

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	594	0	-	0	889	544
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	345	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	982	-	-	-	314	539
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	982	-	-	-	280	539
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	982	-	-	-	464
HCM Lane V/C Ratio	0.098	-	-	-	0.431
HCM Control Delay (s)	9.1	0	-	-	18.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.1

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BG - AM - No Mods

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	324	3.0	580	0.560	100	16.6	LOS C	2.9	23.0	Full	500	0.0	0.0
Lane 2[d]	324	3.0	580	0.560	100	16.6	LOS C	2.9	23.0	Full	500	0.0	0.0
Approach	649	3.0		0.560		16.6	LOS C	2.9	23.0				
East: Brian Coburn Road													
Lane 1[d]	1488	3.0	659	2.258	100	586.1	LOS F	272.5	2123.0	Full	500	0.0	100.0
Approach	1488	3.0		2.258		586.1	LOS F	272.5	2123.0				
North: Mer Bleue Road													
Lane 1	269	3.0	670	0.402	100	10.9	LOS B	1.8	13.6	Full	500	0.0	0.0
Lane 2[d]	269	3.0	670	0.402	100	10.9	LOS B	1.8	13.6	Full	500	0.0	0.0
Approach	539	3.0		0.402		10.9	LOS B	1.8	13.6				
West: Brian Coburn Extension													
Lane 1[d]	489	3.0	750	0.652	100	16.6	LOS C	3.4	26.5	Full	500	0.0	0.0
Approach	489	3.0		0.652		16.6	LOS C	3.4	26.5				
Intersection	3165	3.0		2.258		283.4	LOS F	272.5	2123.0				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

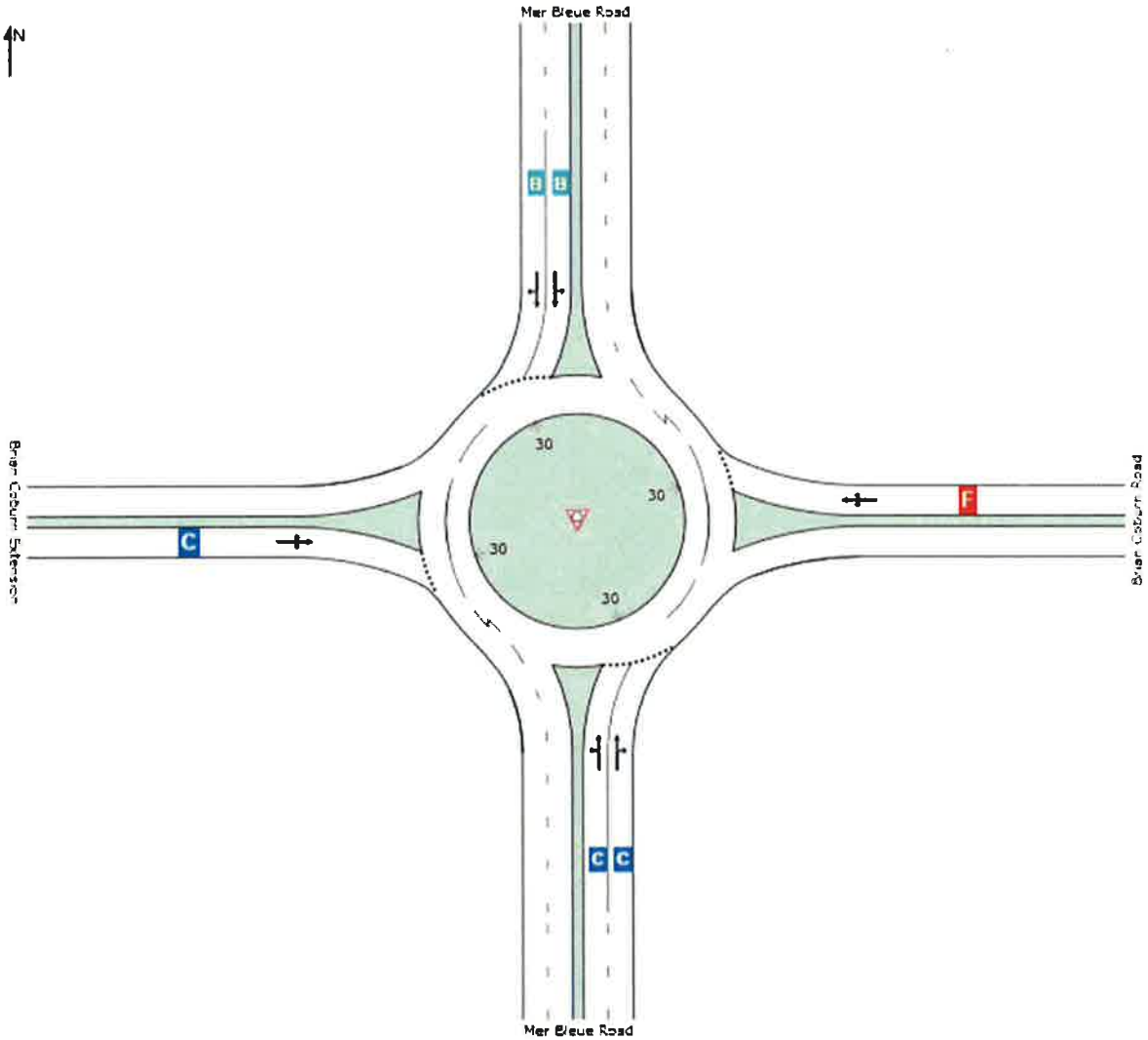
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BG - AM - No Mods

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	C	F	B	C	F



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HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

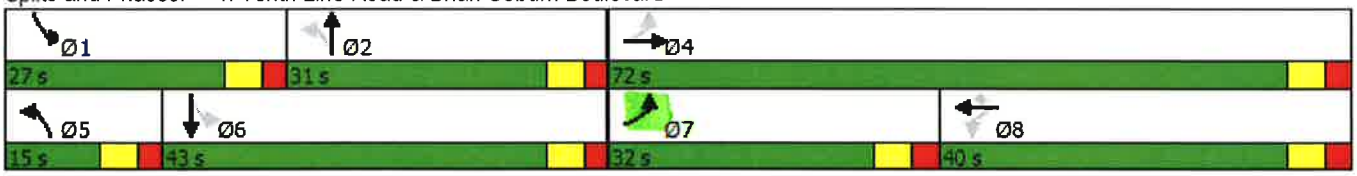
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	394	560	205	13	334	243	140	494	52	291	554	295
Future Volume (vph)	394	560	205	13	334	243	140	494	52	291	554	295
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	55.0		55.0	100.0		0.0	100.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	20.0			20.0			20.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.960				0.850		0.986			0.948	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1713	0	1695	1784	1517	1695	3343	0	1695	3214	0
Flt Permitted	0.197			0.182			0.154			0.162		
Satd. Flow (perm)	352	1713	0	325	1784	1517	275	3343	0	289	3214	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				224		8			75	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1433.8			622.5			205.7			310.4	
Travel Time (s)		86.0			37.4			12.3			18.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	415	589	216	14	352	256	147	520	55	306	583	311
Shared Lane Traffic (%)												
Lane Group Flow (vph)	415	805	0	14	352	256	147	575	0	306	894	0
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	10.0		10.0	10.0	10.0	4.0	10.0		4.0	10.0	
Minimum Split (s)	10.4	31.4		31.4	31.4	31.4	10.0	29.0		10.0	29.0	
Total Split (s)	32.0	72.0		40.0	40.0	40.0	15.0	31.0		27.0	43.0	
Total Split (%)	24.6%	55.4%		30.8%	30.8%	30.8%	11.5%	23.8%		20.8%	33.1%	
Maximum Green (s)	25.6	65.6		33.6	33.6	33.6	9.0	25.0		21.0	37.0	
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)	2.7	2.7		2.7	2.7	2.7	2.3	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4	6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	Max		None	Max	
Walk Time (s)		7.0		7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		18.0		18.0	18.0	18.0		16.0			16.0	
Pedestrian Calls (#/hr)		0		0	0	0		0			0	
Act Effct Green (s)	60.9	60.9		29.8	29.8	29.8	35.0	26.0		52.2	37.1	
Actuated g/C Ratio	0.49	0.49		0.24	0.24	0.24	0.28	0.21		0.42	0.30	
v/c Ratio	0.95	0.96		0.18	0.83	0.48	0.82	0.82		0.89	0.89	
Control Delay	61.0	52.7		44.5	63.1	10.7	64.3	58.9		57.9	51.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	61.0	52.7		44.5	63.1	10.7	64.3	58.9		57.9	51.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	D		D	E	B	E	E		E	D	
Approach Delay		55.5			41.1			60.0			53.1	
Approach LOS		E			D			E			D	
Queue Length 50th (m)	74.9	182.0		2.8	83.6	6.2	24.5	75.3		58.1	109.0	
Queue Length 95th (m)	#136.5	#268.4		9.0	#120.1	29.2	#60.5	#105.8		#109.2	#147.6	
Internal Link Dist (m)		1409.8			598.5			181.7			286.4	
Turn Bay Length (m)	40.0			55.0		55.0	100.0			100.0		
Base Capacity (vph)	445	908		87	479	571	179	698		356	1003	
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	0.93	0.89		0.16	0.73	0.45	0.82	0.82		0.86	0.89	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 125.5
Natural Cycle: 105
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 53.2 Intersection LOS: D
Intersection Capacity Utilization 107.6% ICU Level of Service G
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Tenth Line Road & Brian Coburn Boulevard



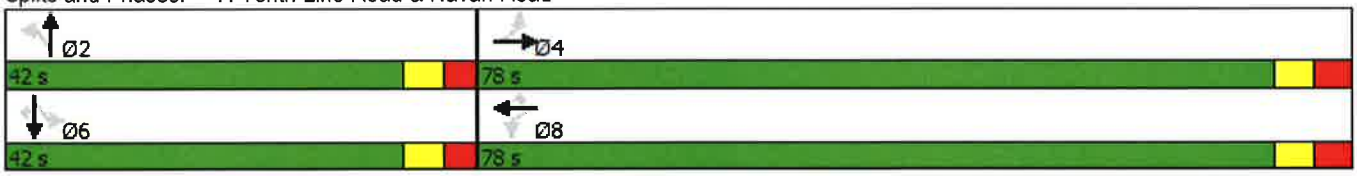
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	567	12	2	261	197	12	22	3	66	22	262
Future Volume (vph)	162	567	12	2	261	197	12	22	3	66	22	262
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		0.0	70.0		100.0	0.0		0.0	0.0		40.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	20.0			20.0			20.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.990				0.850
Flt Protected	0.950			0.950				0.984			0.964	
Satd. Flow (prot)	1695	1779	0	1695	1784	1517	0	1738	0	0	1720	1517
Flt Permitted	0.590			0.325				0.876			0.754	
Satd. Flow (perm)	1053	1779	0	580	1784	1517	0	1547	0	0	1345	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				207		3				276
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1579.7			237.6			368.7			1615.8	
Travel Time (s)		94.8			14.3			22.1			96.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	171	597	13	2	275	207	13	23	3	69	23	276
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	610	0	2	275	207	0	39	0	0	92	276
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	78.0	78.0		78.0	78.0	78.0	42.0	42.0		42.0	42.0	42.0
Total Split (%)	65.0%	65.0%		65.0%	65.0%	65.0%	35.0%	35.0%		35.0%	35.0%	35.0%
Maximum Green (s)	70.8	70.8		70.8	70.8	70.8	35.3	35.3		35.3	35.3	35.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	22.9	22.9		22.9	22.9	22.9		11.3			11.3	11.3
Actuated g/C Ratio	0.47	0.47		0.47	0.47	0.47		0.23			0.23	0.23
v/c Ratio	0.35	0.73		0.01	0.33	0.25		0.11			0.29	0.49
Control Delay	9.9	15.8		6.5	8.8	2.1		17.6			21.0	6.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	9.9	15.8		6.5	8.8	2.1		17.6			21.0	6.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	B		A	A	A		B			C	A
Approach Delay		14.5			6.0			17.6			10.2	
Approach LOS		B			A			B			B	
Queue Length 50th (m)	7.8	35.0		0.1	12.3	0.0		2.3			6.3	0.0
Queue Length 95th (m)	20.3	74.1		0.9	27.6	7.4		10.1			20.4	16.1
Internal Link Dist (m)		1555.7			213.6			344.7			1591.8	
Turn Bay Length (m)	110.0			70.0		100.0						40.0
Base Capacity (vph)	1053	1779		580	1784	1517		1164			1011	1209
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	0.34		0.00	0.15	0.14		0.03			0.09	0.23

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 48.6
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 68.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Tenth Line Road & Navan Road



Intersection	
Intersection Delay, s/veh	54.8
Intersection LOS	F

Movement	EBU	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Traffic Vol, veh/h	0	541	17	0	8	237	0	286	306
Future Vol, veh/h	0	541	17	0	8	237	0	286	306
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	569	18	0	8	249	0	301	322
Number of Lanes	0	1	0	0	0	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	64.1	17	61.6
HCM LOS	F	C	F

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	3%	97%	0%
Vol Thru, %	97%	0%	48%
Vol Right, %	0%	3%	52%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	245	558	592
LT Vol	8	541	0
Through Vol	237	0	286
RT Vol	0	17	306
Lane Flow Rate	258	587	623
Geometry Grp	1	1	1
Degree of Util (X)	0.504	1	1
Departure Headway (Hd)	7.038	6.584	6.099
Convergence, Y/N	Yes	Yes	Yes
Cap	516	552	598
Service Time	5.038	4.609	4.123
HCM Lane V/C Ratio	0.5	1.063	1.042
HCM Control Delay	17	64.1	61.6
HCM Lane LOS	C	F	F
HCM 95th-tile Q	2.8	14.3	14.8

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	35	10	130	121	15	136
Future Vol, veh/h	35	10	130	121	15	136
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	11	137	127	16	143

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	376	201	0	0	264	0
Stage 1	201	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	625	840	-	-	1300	-
Stage 1	833	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	617	840	-	-	1300	-
Mov Cap-2 Maneuver	617	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	844	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	656	1300	-
HCM Lane V/C Ratio	-	-	0.072	0.012	-
HCM Control Delay (s)	-	-	10.9	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	125	11	8	1	2	7	3	377	4	1	299	42
Future Vol, veh/h	125	11	8	1	2	7	3	377	4	1	299	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	132	12	8	1	2	7	3	397	4	1	315	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	749	746	337	754	766	399	359	0	0	401	0	0
Stage 1	339	339	-	405	405	-	-	-	-	-	-	-
Stage 2	410	407	-	349	361	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	328	342	705	326	333	651	1200	-	-	1158	-	-
Stage 1	676	640	-	622	598	-	-	-	-	-	-	-
Stage 2	619	597	-	667	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	322	341	705	313	332	651	1200	-	-	1158	-	-
Mov Cap-2 Maneuver	322	341	-	313	332	-	-	-	-	-	-	-
Stage 1	674	639	-	620	596	-	-	-	-	-	-	-
Stage 2	608	595	-	646	625	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.5	12.3	0.1	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1200	-	-	333	501	1158	-	-
HCM Lane V/C Ratio	0.003	-	-	0.455	0.021	0.001	-	-
HCM Control Delay (s)	8	0	-	24.5	12.3	8.1	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	57.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	178	597	248	104	159	129
Future Vol, veh/h	178	597	248	104	159	129
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	628	261	109	167	136

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	371	0	-	0	1319	316
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	1003	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1188	-	-	-	173	724
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	355	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1188	-	-	-	~ 131	724
Mov Cap-2 Maneuver	-	-	-	-	~ 131	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	269	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	276.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1188	-	-	-	207
HCM Lane V/C Ratio	0.158	-	-	-	1.465
HCM Control Delay (s)	8.6	0	-	-	276.5
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	18.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BG - PM - No Mods

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	435	3.0	436	0.998	100	73.8	LOS F	14.0	108.8	Full	500	0.0	0.0
Lane 2[d]	435	3.0	436	0.998	100	73.8	LOS F	14.0	108.8	Full	500	0.0	0.0
Approach	870	3.0		0.998		73.8	LOS F	14.0	108.8				
East: Brian Coburn Road													
Lane 1[d]	867	3.0	710	1.222	100	132.6	LOS F	60.4	470.9	Full	500	0.0	3.3
Approach	867	3.0		1.222		132.6	LOS F	60.4	470.9				
North: Mer Bleue Road													
Lane 1	599	3.0	637	0.941	100	47.8	LOS E	13.8	107.9	Full	500	0.0	0.0
Lane 2[d]	599	3.0	637	0.941	100	47.8	LOS E	13.8	107.9	Full	500	0.0	0.0
Approach	1198	3.0		0.941		47.8	LOS E	13.8	107.9				
West: Brian Coburn Extension													
Lane 1[d]	912	3.0	472	1.933	100	447.6	LOS F	146.0	1138.0	Full	500	0.0	41.3
Approach	912	3.0		1.933		447.6	LOS F	146.0	1138.0				
Intersection	3847	3.0		1.933		167.6	LOS F	146.0	1138.0				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

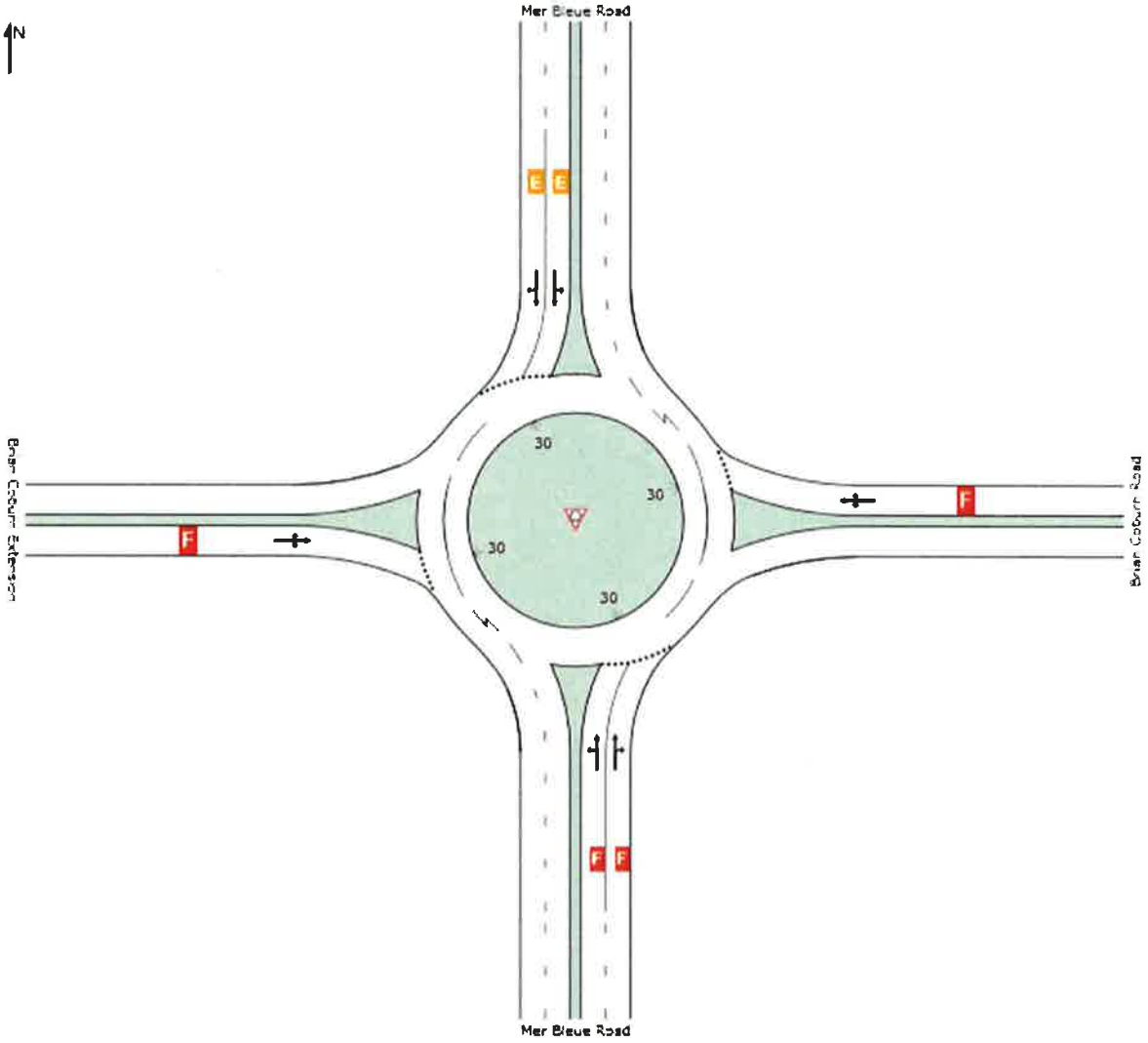
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BG - PM - No Mods

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	F	F	E	F	F



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LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Future (2025) Background Traffic

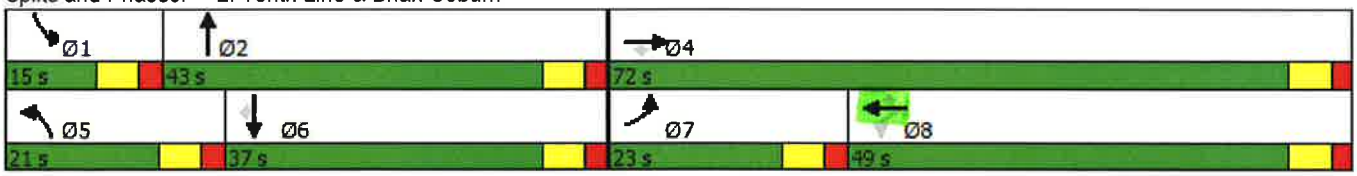
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	140	61	26	766	257	198	491	32	101	238	192
Future Volume (vph)	229	140	61	26	766	257	198	491	32	101	238	192
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	115.0		80.0	40.0		50.0	105.0		0.0	100.0		65.0
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	1695	3390	1517	3288	3360	0	3288	3390	1517
Flt Permitted	0.950			0.659			0.950			0.950		
Satd. Flow (perm)	3288	3390	1517	1176	3390	1517	3288	3360	0	3288	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81			215		5				202
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1402.3			938.8			686.6			623.5	
Travel Time (s)		84.1			56.3			41.2			37.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	241	147	64	27	806	271	208	517	34	106	251	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	241	147	64	27	806	271	208	551	0	106	251	202
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8						6
Detector Phase	7	4	4	8	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.3	35.0	35.0	35.0	35.0	35.0	13.3	35.0		13.3	35.0	35.0
Total Split (s)	23.0	72.0	72.0	49.0	49.0	49.0	21.0	43.0		15.0	37.0	37.0
Total Split (%)	17.7%	55.4%	55.4%	37.7%	37.7%	37.7%	16.2%	33.1%		11.5%	28.5%	28.5%
Maximum Green (s)	16.7	65.7	65.7	42.7	42.7	42.7	14.7	36.7		8.7	30.7	30.7
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	Min	Min	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		21.7	21.7	21.7	21.7	21.7		21.7			21.7	21.7
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	0
Act Effct Green (s)	13.1	52.2	52.2	32.6	32.6	32.6	11.9	23.3		8.2	19.5	19.5
Actuated g/C Ratio	0.13	0.51	0.51	0.32	0.32	0.32	0.12	0.23		0.08	0.19	0.19
v/c Ratio	0.58	0.09	0.08	0.07	0.75	0.43	0.55	0.72		0.41	0.39	0.45
Control Delay	51.0	13.9	2.3	27.4	37.3	9.5	51.8	43.6		54.9	40.3	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	51.0	13.9	2.3	27.4	37.3	9.5	51.8	43.6		54.9	40.3	9.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B	A	C	D	A	D	D		D	D	A
Approach Delay		32.0			30.2			45.8			31.8	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	22.1	7.1	0.0	3.5	70.3	7.4	19.1	49.6		9.7	21.6	0.0
Queue Length 95th (m)	39.1	13.6	4.4	10.5	104.7	28.6	35.1	75.7		20.7	37.3	17.8
Internal Link Dist (m)		1378.3			914.8			662.6			599.5	
Turn Bay Length (m)	115.0		80.0	40.0		50.0	105.0			100.0		65.0
Base Capacity (vph)	549	2229	1025	502	1448	771	483	1237		286	1041	605
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.44	0.07	0.06	0.05	0.56	0.35	0.43	0.45		0.37	0.24	0.33

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 103.1
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 34.9 — Intersection LOS: C
Intersection Capacity Utilization 69.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Tenth Line & Brian Coburn



Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	24	4	6	10	4	6	2	201	1	2	224	105
Future Vol, veh/h	24	4	6	10	4	6	2	201	1	2	224	105
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	4	6	11	4	6	2	212	1	2	236	111

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	517	512	291	517	567	212	346	0	0	213	0	0
Stage 1	295	295	-	216	216	-	-	-	-	-	-	-
Stage 2	222	217	-	301	351	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	469	465	748	469	433	828	1213	-	-	1357	-	-
Stage 1	713	669	-	786	724	-	-	-	-	-	-	-
Stage 2	780	723	-	708	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	461	463	748	460	431	828	1213	-	-	1357	-	-
Mov Cap-2 Maneuver	461	463	-	460	431	-	-	-	-	-	-	-
Stage 1	712	668	-	784	723	-	-	-	-	-	-	-
Stage 2	768	722	-	696	631	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	12.2	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	495	523	1357	-	-
HCM Lane V/C Ratio	0.002	-	-	0.072	0.04	0.002	-	-
HCM Control Delay (s)	8	0	-	12.8	12.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

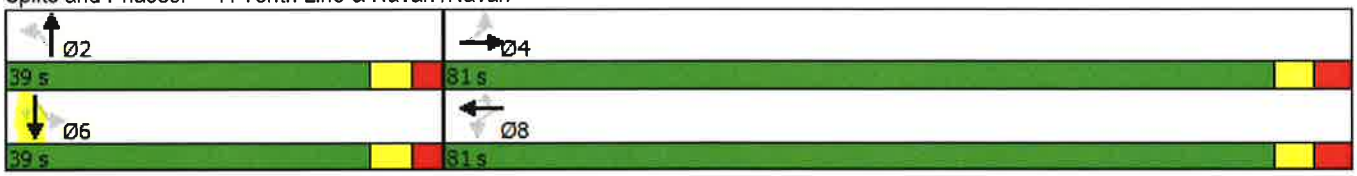
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	165	4	1	498	162	10	8	3	77	11	122
Future Volume (vph)	24	165	4	1	498	162	10	8	3	77	11	122
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		0.0	65.0		40.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.982				0.850
Flt Protected	0.950			0.950				0.976			0.958	
Satd. Flow (prot)	1695	1779	0	1695	1784	1517	0	1710	0	0	1709	1517
Flt Permitted	0.446			0.645				0.824			0.738	
Satd. Flow (perm)	796	1779	0	1151	1784	1517	0	1444	0	0	1317	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				171		3				128
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1757.1			855.5			456.3			1290.5	
Travel Time (s)		105.4			51.3			27.4			77.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	25	174	4	1	524	171	11	8	3	81	12	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	178	0	1	524	171	0	22	0	0	93	128
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	81.0	81.0		81.0	81.0	81.0	39.0	39.0		39.0	39.0	39.0
Total Split (%)	67.5%	67.5%		67.5%	67.5%	67.5%	32.5%	32.5%		32.5%	32.5%	32.5%
Maximum Green (s)	73.8	73.8		73.8	73.8	73.8	32.3	32.3		32.3	32.3	32.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	76.7	76.7		76.7	76.7	76.7		13.0			13.0	13.0
Actuated g/C Ratio	0.74	0.74		0.74	0.74	0.74		0.13			0.13	0.13
v/c Ratio	0.04	0.14		0.00	0.40	0.15		0.12			0.56	0.42
Control Delay	4.6	4.5		4.0	6.4	1.1		35.9			55.0	11.5
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	4.6	4.5		4.0	6.4	1.1		35.9			55.0	11.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A		A	A	A		D			D	B
Approach Delay		4.5			5.1			35.9			29.8	
Approach LOS		A			A			D			C	
Queue Length 50th (m)	1.0	7.7		0.1	29.1	0.0		3.1			15.9	0.0
Queue Length 95th (m)	3.6	16.2		0.5	54.1	5.2		9.4			30.4	14.3
Internal Link Dist (m)		1733.1			831.5			432.3			1266.5	
Turn Bay Length (m)	120.0			65.0		40.0						30.0
Base Capacity (vph)	589	1316		851	1320	1167		452			411	561
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	0.04	0.14		0.00	0.40	0.15		0.05			0.23	0.23

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 103.7
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 10.4 — Intersection LOS: B
Intersection Capacity Utilization 61.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 7: Tenth Line & Navan /Navan

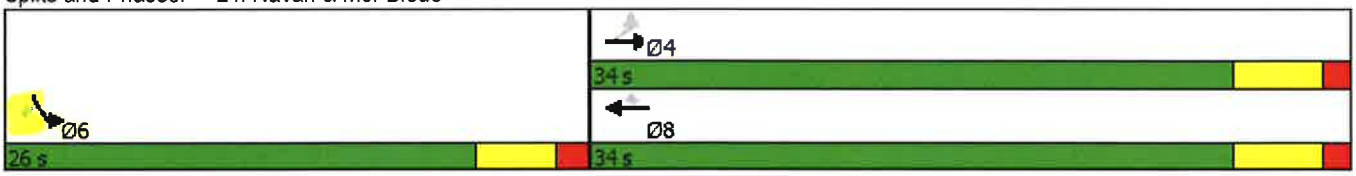


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	91	146	469	95	33	157
Future Volume (vph)	91	146	469	95	33	157
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			40.0	40.0	20.0
Storage Lanes	1			1	1	0
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1784	1784	1517	1695	1517
Flt Permitted	0.460				0.950	
Satd. Flow (perm)	821	1784	1784	1517	1695	1517
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				100		165
Link Speed (k/h)		60	60		50	
Link Distance (m)		1840.8	1757.1		403.0	
Travel Time (s)		110.4	105.4		29.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	96	154	494	100	35	165
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	154	494	100	35	165
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	25.9	25.9	25.9	25.9	25.3	25.3
Total Split (s)	34.0	34.0	34.0	34.0	26.0	26.0
Total Split (%)	56.7%	56.7%	56.7%	56.7%	43.3%	43.3%
Maximum Green (s)	28.6	28.6	28.6	28.6	20.9	20.9
Yellow Time (s)	4.1	4.1	4.1	4.1	3.6	3.6
All-Red Time (s)	1.3	1.3	1.3	1.3	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.1	5.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	34.3	34.3	34.3	34.3	10.0	10.0
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.20	0.20
v/c Ratio	0.17	0.13	0.41	0.09	0.10	0.38
Control Delay	5.9	4.9	6.7	1.6	17.1	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.9	4.9	6.7	1.6	17.1	6.6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	A	A	A	A	B	A
Approach Delay		5.3	5.8		8.5	
Approach LOS		A	A		A	
Queue Length 50th (m)	3.1	4.8	19.3	0.0	2.3	0.0
Queue Length 95th (m)	8.0	10.0	34.5	3.6	7.3	10.4
Internal Link Dist (m)		1816.8	1733.1		379.0	
Turn Bay Length (m)	40.0			40.0	40.0	20.0
Base Capacity (vph)	556	1208	1208	1059	702	725
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.13	0.41	0.09	0.05	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 50.6			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 24: Navan & Mer Bleue

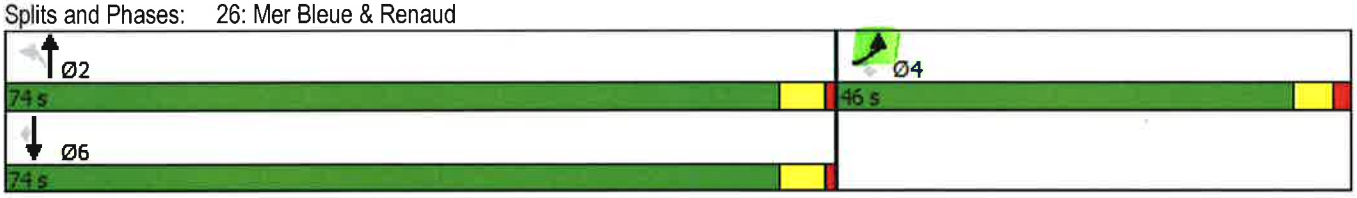


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	270	4	22	231	117	389
Future Volume (vph)	270	4	22	231	117	389
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	90.0	40.0	40.0			40.0
Storage Lanes	2	0	1			1
Taper Length (m)	30.0		30.0			
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3288	1517	1695	1784	1784	1517
Flt Permitted	0.950		0.678			
Satd. Flow (perm)	3288	1517	1210	1784	1784	1517
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		4				409
Link Speed (k/h)	50			50	60	
Link Distance (m)	994.9			1179.9	394.2	
Travel Time (s)	71.6			85.0	23.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	284	4	23	243	123	409
Shared Lane Traffic (%)						
Lane Group Flow (vph)	284	4	23	243	123	409
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	25.9	25.9	28.8	28.8
Total Split (s)	46.0	46.0	74.0	74.0	74.0	74.0
Total Split (%)	38.3%	38.3%	61.7%	61.7%	61.7%	61.7%
Maximum Green (s)	40.6	40.6	68.7	68.7	68.7	68.7
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	1.8	1.8	1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.3	5.3	5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	13.2	13.2	69.2	69.2	69.2	69.2
Actuated g/C Ratio	0.14	0.14	0.74	0.74	0.74	0.74
v/c Ratio	0.61	0.02	0.03	0.18	0.09	0.33
Control Delay	43.2	21.8	3.8	4.2	3.8	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	21.8	3.8	4.2	3.8	1.2

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D	C	A	A	A	A
Approach Delay	42.9			4.2	1.8	
Approach LOS	D			A	A	
Queue Length 50th (m)	22.8	0.0	0.8	9.8	4.6	0.0
Queue Length 95th (m)	34.2	2.6	2.9	18.9	10.1	6.6
Internal Link Dist (m)	970.9			1155.9	370.2	
Turn Bay Length (m)	90.0	40.0	40.0			40.0
Base Capacity (vph)	1434	664	898	1324	1324	1232
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	0.20	0.01	0.03	0.18	0.09	0.33

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 93.1			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 42.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 26: Mer Bleue & Renaud



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	120	281	223	59	169	126
Future Volume (vph)	120	281	223	59	169	126
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	50.0	0.0		40.0	40.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1517	3390	1517	1695	3390
Flt Permitted	0.950				0.605	
Satd. Flow (perm)	1695	1517	3390	1517	1080	3390
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		296		62		
Link Speed (k/h)	50		60			60
Link Distance (m)	221.8		343.7			686.6
Travel Time (s)	16.0		20.6			41.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	296	235	62	178	133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	296	235	62	178	133
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)	34.8	34.8	28.6	28.6	28.6	28.6
Total Split (s)	56.0	56.0	64.0	64.0	64.0	64.0
Total Split (%)	46.7%	46.7%	53.3%	53.3%	53.3%	53.3%
Maximum Green (s)	50.1	50.1	58.4	58.4	58.4	58.4
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	2.3	2.3	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	5.9	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	17.9	17.9	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	14.7	14.7	93.8	93.8	93.8	93.8
Actuated g/C Ratio	0.12	0.12	0.78	0.78	0.78	0.78
v/c Ratio	0.61	0.67	0.09	0.05	0.21	0.05
Control Delay	61.9	13.0	3.2	0.8	4.6	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.9	13.0	3.2	0.8	4.6	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	E	B	A	A	A	A
Approach Delay	27.6		2.7			4.1
Approach LOS	C		A			A
Queue Length 50th (m)	26.4	0.0	5.2	0.0	8.3	2.8
Queue Length 95th (m)	42.3	22.7	8.9	1.3	17.9	6.0
Internal Link Dist (m)	197.8		319.7			662.6
Turn Bay Length (m)	50.0			40.0	40.0	
Base Capacity (vph)	707	805	2650	1199	844	2650
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.37	0.09	0.05	0.21	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 72 (60%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 40.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 33: Tenth Line & Harvest Valley

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	66	216	3	17	229
Future Volume (vph)	10	66	216	3	17	229
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0	0.0		0.0	20.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1517	3383	0	1695	3390
Flt Permitted	0.950				0.608	
Satd. Flow (perm)	1695	1517	3383	0	1085	3390
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		69	3			
Link Speed (k/h)	50		60			60
Link Distance (m)	213.4		714.8			343.7
Travel Time (s)	15.4		42.9			20.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	69	227	3	18	241
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	69	230	0	18	241
Turn Type	Perm	Perm	NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	28.0	28.0	32.0		32.0	32.0
Total Split (%)	46.7%	46.7%	53.3%		53.3%	53.3%
Maximum Green (s)	23.5	23.5	27.5		27.5	27.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	10.0	10.0	48.6		48.6	48.6
Actuated g/C Ratio	0.17	0.17	0.81		0.81	0.81
v/c Ratio	0.04	0.22	0.08		0.02	0.09
Control Delay	21.5	8.7	2.6		1.6	1.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	21.5	8.7	2.6		1.6	1.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C	A	A		A	A
Approach Delay	10.5		2.6			1.3
Approach LOS	B		A			A
Queue Length 50th (m)	1.0	0.0	3.2		0.2	1.7
Queue Length 95th (m)	4.2	8.1	5.6		0.7	2.4
Internal Link Dist (m)	189.4		690.8			319.7
Turn Bay Length (m)	20.0				20.0	
Base Capacity (vph)	663	636	2740		879	2746
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	0.02	0.11	0.08		0.02	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.22			
Intersection Signal Delay: 3.1		Intersection LOS: A	
Intersection Capacity Utilization 30.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 35: Tenth Line & Avalon South

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	123	13	224	20	12	90
Future Vol, veh/h	123	13	224	20	12	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	14	236	21	13	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	366	246	0	0	257	0
Stage 1	246	-	-	-	-	-
Stage 2	120	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	634	793	-	-	1308	-
Stage 1	795	-	-	-	-	-
Stage 2	905	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	793	-	-	1308	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	641	1308	-
HCM Lane V/C Ratio	-	-	0.223	0.01	-
HCM Control Delay (s)	-	-	12.2	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BG - AM

New Site
Roundabout

Lane Use and Performance	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	254	3.0	687	0.371	100	10.1	LOS B	1.3	9.8	Full	500	0.0	0.0
Lane 2[d]	262	3.0	708	0.371	100	9.9	LOS A	1.2	9.3	Full	420	0.0	0.0
Lane 3	129	3.0	687	0.189	100	7.4	LOS A	0.5	4.1	Two Seg[9]	50	0.0	0.0
Approach	646	3.0		0.371		9.5	LOS A	1.3	9.8				
East: Brian Coburn Road													
Lane 1	432	3.0	638	0.677	100	20.0	LOS C	3.5	27.6	Full	500	0.0	0.0
Lane 2	432	3.0	638	0.677	100	20.0	LOS C	3.5	27.6	Full	500	0.0	0.0
Lane 3[d]	604	3.0	661	0.913	100	41.7	LOS E	8.8	68.9	Two Seg[9]	50	0.0	15.4
Approach	1468	3.0		0.913		28.9	LOS D	8.8	68.9				
North: Mer Bleue Road													
Lane 1	197	3.0	530	0.372	100	12.6	LOS B	1.2	9.5	Full	500	0.0	0.0
Lane 2[d]	207	3.0	556	0.372	100	12.1	LOS B	1.2	9.1	Full	500	0.0	0.0
Lane 3	131	3.0	530	0.246	100	10.2	LOS B	0.7	5.4	Two Seg[9]	50	0.0	0.0
Approach	535	3.0		0.372		11.8	LOS B	1.2	9.5				
West: Brian Coburn Road Extension													
Lane 1	219	3.0	645	0.340	100	10.1	LOS B	1.1	8.5	Full	500	0.0	0.0
Lane 2[d]	227	3.0	668	0.340	100	9.8	LOS A	1.0	8.2	Full	500	0.0	0.0
Lane 3	27	3.0	645	0.042	100	6.0	LOS A	0.1	0.8	Two Seg[9]	50	0.0	0.0
Approach	474	3.0		0.340		9.7	LOS A	1.1	8.5				
Intersection	3123	3.0		0.913		19.1	LOS C	8.8	68.9				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

9 All Movement Classes allocated to Segment 1 are also allocated to Segment 2. This Two-Segment Lane has been modelled as a full-length lane.
d Dominant lane on roundabout approach

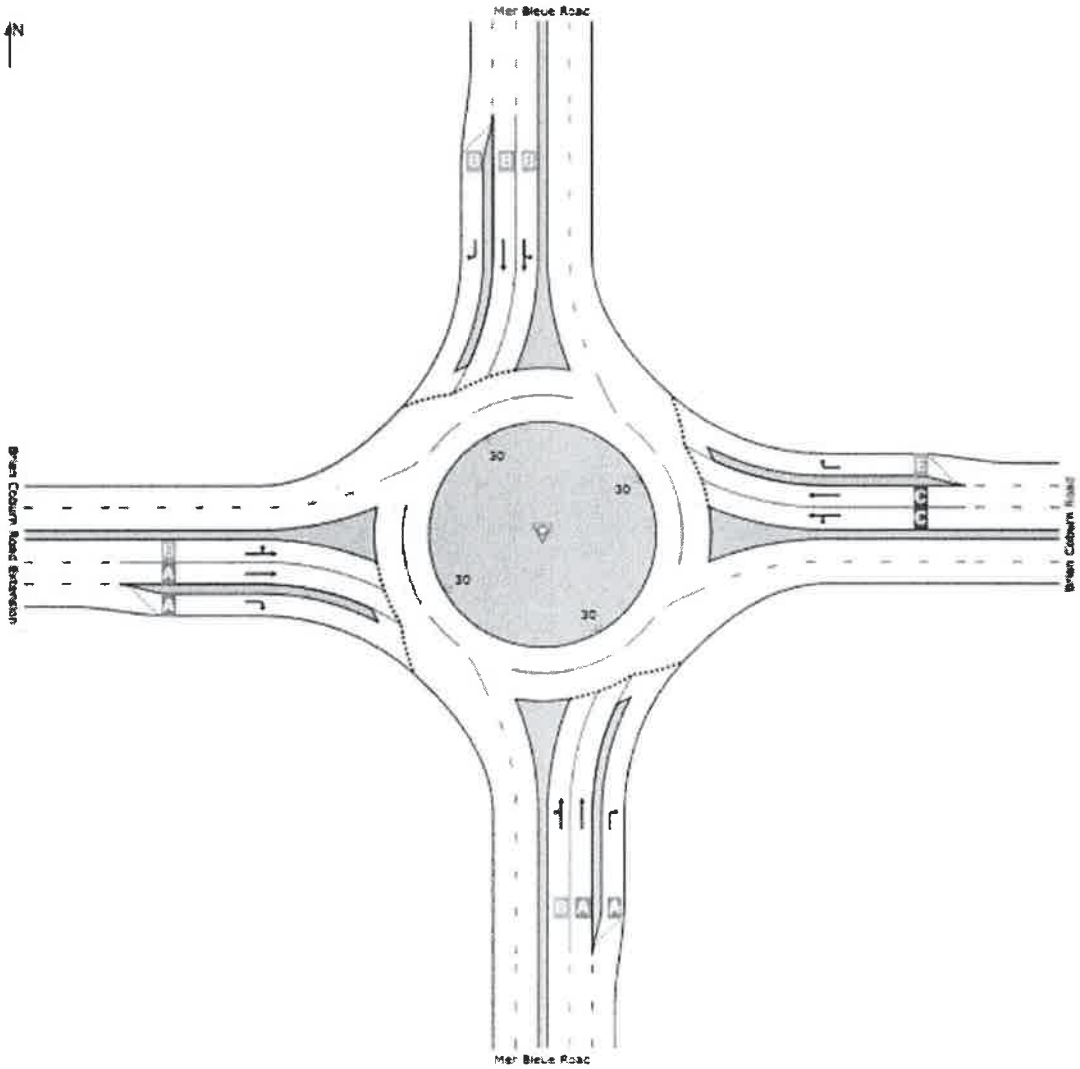
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BG - AM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	D	B	A	C



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

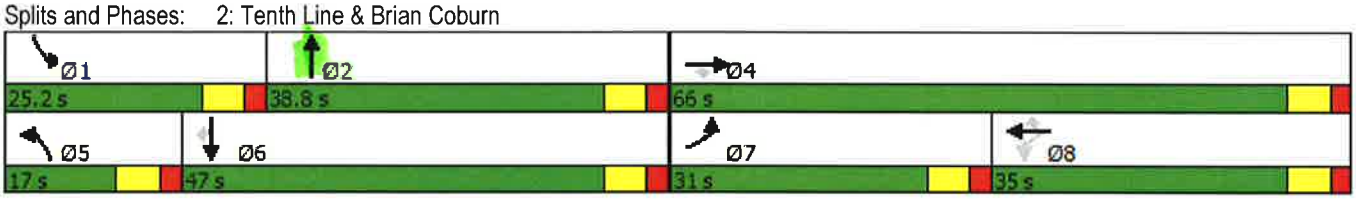
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	394	560	205	13	334	243	140	494	52	291	554	295
Future Volume (vph)	394	560	205	13	334	243	140	494	52	291	554	295
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	115.0		80.0	40.0		50.0	105.0		0.0	100.0		65.0
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	1695	3390	1517	3288	3343	0	3288	3390	1517
Flt Permitted	0.950			0.430			0.950			0.950		
Satd. Flow (perm)	3288	3390	1517	767	3390	1517	3288	3343	0	3288	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			249		8				311
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1402.3			938.8			686.6			623.5	
Travel Time (s)		84.1			56.3			41.2			37.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	415	589	216	14	352	256	147	520	55	306	583	311
Shared Lane Traffic (%)												
Lane Group Flow (vph)	415	589	216	14	352	256	147	575	0	306	583	311
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8						6
Detector Phase	7	4	4	8	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.3	35.0	35.0	35.0	35.0	35.0	13.3	35.0		13.3	35.0	35.0
Total Split (s)	31.0	66.0	66.0	35.0	35.0	35.0	17.0	38.8		25.2	47.0	47.0
Total Split (%)	23.8%	50.8%	50.8%	26.9%	26.9%	26.9%	13.1%	29.8%		19.4%	36.2%	36.2%
Maximum Green (s)	24.7	59.7	59.7	28.7	28.7	28.7	10.7	32.5		18.9	40.7	40.7
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	Min	Min	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		21.7	21.7	21.7	21.7	21.7		21.7			21.7	21.7
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	0
Act Effct Green (s)	18.3	42.2	42.2	17.3	17.3	17.3	9.6	23.3		14.8	28.5	28.5
Actuated g/C Ratio	0.18	0.42	0.42	0.17	0.17	0.17	0.10	0.23		0.15	0.29	0.29
v/c Ratio	0.69	0.41	0.28	0.11	0.60	0.55	0.47	0.73		0.63	0.60	0.47
Control Delay	46.5	21.8	3.7	41.6	44.4	10.6	52.2	42.3		48.7	34.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	46.5	21.8	3.7	41.6	44.4	10.6	52.2	42.3		48.7	34.3	6.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	C	A	D	D	B	D	D		D	C	A
Approach Delay		27.0			30.4			44.3			30.7	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	35.7	37.6	0.0	2.1	30.7	1.0	12.8	49.0		26.5	46.9	0.0
Queue Length 95th (m)	61.5	60.4	12.7	8.2	52.4	22.2	27.0	80.1		48.2	74.4	18.2
Internal Link Dist (m)		1378.3			914.8			662.6			599.5	
Turn Bay Length (m)	115.0		80.0	40.0		50.0	105.0			100.0		65.0
Base Capacity (vph)	845	2105	1024	228	1012	627	365	1135		646	1435	821
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.49	0.28	0.21	0.06	0.35	0.41	0.40	0.51		0.47	0.41	0.38

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 99.9
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 32.0 — Intersection LOS: C
Intersection Capacity Utilization 70.6% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Tenth Line & Brian Coburn



Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	125	11	8	1	2	7	3	377	4	1	299	42
Future Vol, veh/h	125	11	8	1	2	7	3	377	4	1	299	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	132	12	8	1	2	7	3	397	4	1	315	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	749	746	337	754	766	399	359	0	0	401	0	0
Stage 1	339	339	-	405	405	-	-	-	-	-	-	-
Stage 2	410	407	-	349	361	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	328	342	705	326	333	651	1200	-	-	1158	-	-
Stage 1	676	640	-	622	598	-	-	-	-	-	-	-
Stage 2	619	597	-	667	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	322	341	705	313	332	651	1200	-	-	1158	-	-
Mov Cap-2 Maneuver	322	341	-	313	332	-	-	-	-	-	-	-
Stage 1	674	639	-	620	596	-	-	-	-	-	-	-
Stage 2	608	595	-	646	625	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.5	12.3	0.1	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1200	-	-	333	501	1158	-	-
HCM Lane V/C Ratio	0.003	-	-	0.455	0.021	0.001	-	-
HCM Control Delay (s)	8	0	-	24.5	12.3	8.1	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.3	0.1	0	-	-

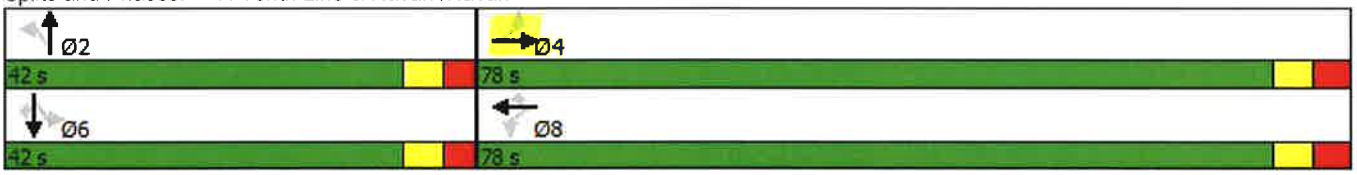
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	567	12	2	261	197	12	22	3	66	22	262
Future Volume (vph)	162	567	12	2	261	197	12	22	3	66	22	262
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		0.0	65.0		40.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.990				0.850
Flt Protected	0.950			0.950				0.984			0.964	
Satd. Flow (prot)	1695	1779	0	1695	1784	1517	0	1738	0	0	1720	1517
Flt Permitted	0.590			0.325				0.876			0.754	
Satd. Flow (perm)	1053	1779	0	580	1784	1517	0	1547	0	0	1345	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				207		3				276
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1757.1			855.5			456.3			1290.5	
Travel Time (s)		105.4			51.3			27.4			77.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	171	597	13	2	275	207	13	23	3	69	23	276
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	610	0	2	275	207	0	39	0	0	92	276
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	78.0	78.0		78.0	78.0	78.0	42.0	42.0		42.0	42.0	42.0
Total Split (%)	65.0%	65.0%		65.0%	65.0%	65.0%	35.0%	35.0%		35.0%	35.0%	35.0%
Maximum Green (s)	70.8	70.8		70.8	70.8	70.8	35.3	35.3		35.3	35.3	35.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	22.9	22.9		22.9	22.9	22.9		11.3			11.3	11.3
Actuated g/C Ratio	0.47	0.47		0.47	0.47	0.47		0.23			0.23	0.23
v/c Ratio	0.35	0.73		0.01	0.33	0.25		0.11			0.29	0.49
Control Delay	9.9	15.8		6.5	8.8	2.1		17.6			21.0	6.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	9.9	15.8		6.5	8.8	2.1		17.6			21.0	6.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	B		A	A	A		B			C	A
Approach Delay		14.5			6.0			17.6			10.2	
Approach LOS		B			A			B			B	
Queue Length 50th (m)	7.1	32.2		0.1	11.3	0.0		2.2			5.8	0.0
Queue Length 95th (m)	18.7	68.2		0.8	25.4	6.8		9.3			18.8	14.9
Internal Link Dist (m)		1733.1			831.5			432.3			1266.5	
Turn Bay Length (m)	120.0			65.0		40.0						30.0
Base Capacity (vph)	1053	1779		580	1784	1517		1164			1011	1209
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	0.34		0.00	0.15	0.14		0.03			0.09	0.23

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 48.6
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 68.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Tenth Line & Navan /Navan

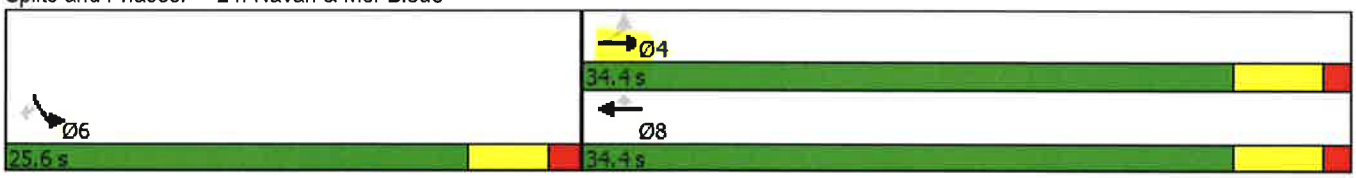


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	178	597	248	104	159	129
Future Volume (vph)	178	597	248	104	159	129
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			40.0	40.0	20.0
Storage Lanes	1			1	1	0
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1784	1784	1517	1695	1517
Flt Permitted	0.598				0.950	
Satd. Flow (perm)	1067	1784	1784	1517	1695	1517
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				109		136
Link Speed (k/h)		60	60		50	
Link Distance (m)		1840.8	1757.1		403.0	
Travel Time (s)		110.4	105.4		29.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	187	628	261	109	167	136
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	628	261	109	167	136
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	25.9	25.9	25.9	25.9	25.3	25.3
Total Split (s)	34.4	34.4	34.4	34.4	25.6	25.6
Total Split (%)	57.3%	57.3%	57.3%	57.3%	42.7%	42.7%
Maximum Green (s)	29.0	29.0	29.0	29.0	20.5	20.5
Yellow Time (s)	4.1	4.1	4.1	4.1	3.6	3.6
All-Red Time (s)	1.3	1.3	1.3	1.3	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.1	5.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	25.1	25.1	25.1	25.1	9.8	9.8
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.24	0.24
v/c Ratio	0.29	0.58	0.24	0.11	0.42	0.29
Control Delay	8.0	10.4	6.7	1.9	18.3	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	10.4	6.7	1.9	18.3	5.7

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	A	B	A	A	B	A
Approach Delay		9.8	5.3		12.6	
Approach LOS		A	A		B	
Queue Length 50th (m)	6.3	26.8	8.5	0.0	8.9	0.0
Queue Length 95th (m)	17.8	62.1	20.7	4.6	24.5	9.1
Internal Link Dist (m)		1816.8	1733.1		379.0	
Turn Bay Length (m)	40.0			40.0	40.0	20.0
Base Capacity (vph)	783	1309	1309	1142	879	852
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	0.24	0.48	0.20	0.10	0.19	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 41.3			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 51.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 24: Navan & Mer Bleue



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	541	17	8	237	286	306
Future Volume (vph)	541	17	8	237	286	306
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0	40.0	40.0			40.0
Storage Lanes	2	0	1			1
Taper Length (m)	30.0		30.0			
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3288	1517	1695	1784	1784	1517
Flt Permitted	0.950		0.567			
Satd. Flow (perm)	3288	1517	1012	1784	1784	1517
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		18				322
Link Speed (k/h)	50			50	60	
Link Distance (m)	994.9			1179.9	394.2	
Travel Time (s)	71.6			85.0	23.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	569	18	8	249	301	322
Shared Lane Traffic (%)						
Lane Group Flow (vph)	569	18	8	249	301	322
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	25.9	25.9	28.8	28.8
Total Split (s)	57.0	57.0	63.0	63.0	63.0	63.0
Total Split (%)	47.5%	47.5%	52.5%	52.5%	52.5%	52.5%
Maximum Green (s)	51.6	51.6	57.7	57.7	57.7	57.7
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	1.8	1.8	1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.3	5.3	5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	20.5	20.5	57.8	57.8	57.8	57.8
Actuated g/C Ratio	0.23	0.23	0.65	0.65	0.65	0.65
v/c Ratio	0.75	0.05	0.01	0.22	0.26	0.29
Control Delay	38.6	11.6	6.9	7.6	7.9	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	11.6	6.9	7.6	7.9	1.7

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D	B	A	A	A	A
Approach Delay	37.8			7.5	4.7	
Approach LOS	D			A	A	
Queue Length 50th (m)	43.0	0.0	0.4	14.1	17.6	0.0
Queue Length 95th (m)	58.5	4.6	2.1	28.5	34.6	8.8
Internal Link Dist (m)	970.9			1155.9	370.2	
Turn Bay Length (m)	40.0	40.0	40.0			40.0
Base Capacity (vph)	1909	888	657	1158	1158	1097
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.02	0.01	0.22	0.26	0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 89			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 41.1%		ICU Level of Service A	
Analysis Period (min) 15			

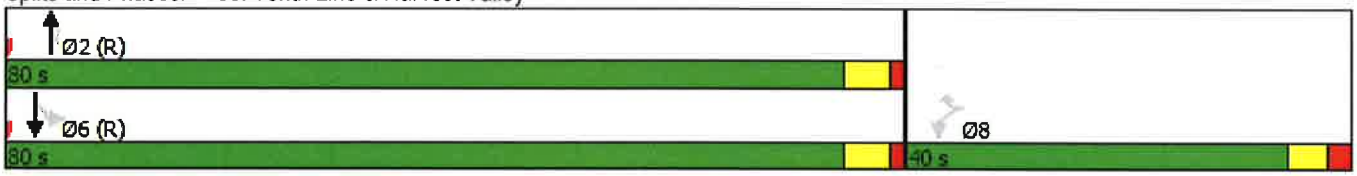
Splits and Phases: 26: Mer Bleue & Renaud

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	99	472	59	189	333
Future Volume (vph)	30	99	472	59	189	333
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	50.0	0.0		40.0	40.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1517	3390	1517	1695	3390
Flt Permitted	0.950				0.470	
Satd. Flow (perm)	1695	1517	3390	1517	839	3390
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		104		62		
Link Speed (k/h)	50		60			60
Link Distance (m)	221.8		343.7			686.6
Travel Time (s)	16.0		20.6			41.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	104	497	62	199	351
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	104	497	62	199	351
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)	34.8	34.8	28.6	28.6	28.6	28.6
Total Split (s)	40.0	40.0	80.0	80.0	80.0	80.0
Total Split (%)	33.3%	33.3%	66.7%	66.7%	66.7%	66.7%
Maximum Green (s)	34.1	34.1	74.4	74.4	74.4	74.4
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	2.3	2.3	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	5.9	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	17.9	17.9	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	10.3	10.3	98.2	98.2	98.2	98.2
Actuated g/C Ratio	0.09	0.09	0.82	0.82	0.82	0.82
v/c Ratio	0.22	0.46	0.18	0.05	0.29	0.13
Control Delay	54.9	16.7	2.5	0.6	3.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.9	16.7	2.5	0.6	3.8	2.3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	D	B	A	A	A	A
Approach Delay	25.7		2.2			2.9
Approach LOS	C		A			A
Queue Length 50th (m)	6.6	0.0	9.2	0.0	7.9	6.2
Queue Length 95th (m)	15.7	15.1	12.7	1.8	14.9	9.4
Internal Link Dist (m)	197.8		319.7			662.6
Turn Bay Length (m)	50.0			40.0	40.0	
Base Capacity (vph)	481	505	2774	1252	686	2774
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	0.07	0.21	0.18	0.05	0.29	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 44 (37%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 5.1		Intersection LOS: A	
Intersection Capacity Utilization 47.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 33: Tenth Line & Harvest Valley



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	37	494	10	68	295
Future Volume (vph)	5	37	494	10	68	295
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0	0.0		0.0	20.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1526	1365	3042	0	1526	3051
Flt Permitted	0.950				0.455	
Satd. Flow (perm)	1526	1365	3042	0	731	3051
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		39	5			
Link Speed (k/h)	50		60			60
Link Distance (m)	213.4		714.8			343.7
Travel Time (s)	15.4		42.9			20.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	39	520	11	72	311
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	39	531	0	72	311
Turn Type	Perm	Perm	NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	25.0	25.0	35.0		35.0	35.0
Total Split (%)	41.7%	41.7%	58.3%		58.3%	58.3%
Maximum Green (s)	20.5	20.5	30.5		30.5	30.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Min		C-Min	C-Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	10.0	10.0	52.4		52.4	52.4
Actuated g/C Ratio	0.17	0.17	0.87		0.87	0.87
v/c Ratio	0.02	0.15	0.20		0.11	0.12
Control Delay	21.2	9.9	2.2		2.3	1.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	21.2	9.9	2.2		2.3	1.6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C	A	A		A	A
Approach Delay	11.2		2.2			1.7
Approach LOS	B		A			A
Queue Length 50th (m)	0.4	0.0	0.0		0.0	0.0
Queue Length 95th (m)	2.6	6.1	12.9		3.7	5.9
Internal Link Dist (m)	189.4		690.8			319.7
Turn Bay Length (m)	20.0				20.0	
Base Capacity (vph)	521	492	2657		638	2664
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	0.01	0.08	0.20		0.11	0.12

Intersection Summary			
Area Type:	CBD		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.20			
Intersection Signal Delay: 2.4		Intersection LOS: A	
Intersection Capacity Utilization 44.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 35: Tenth Line & Avalon South

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	35	10	130	121	15	136
Future Vol, veh/h	35	10	130	121	15	136
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	11	137	127	16	143

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	376	201	0	0	264	0
Stage 1	201	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	625	840	-	-	1300	-
Stage 1	833	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	617	840	-	-	1300	-
Mov Cap-2 Maneuver	617	-	-	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	844	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	656	1300	-
HCM Lane V/C Ratio	-	-	0.072	0.012	-
HCM Control Delay (s)	-	-	10.9	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BG - PM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	238	3.0	411	0.579	100	23.0	LOS C	2.2	16.9	Full	500	0.0	0.0
Lane 2	238	3.0	411	0.579	100	23.0	LOS C	2.2	16.9	Full	420	0.0	0.0
Lane 3[d]	393	3.0	439	0.894	100	51.1	LOS F	5.9	46.0	Two Seg[9]	50	0.0	2.6
Approach	868	3.0		0.894		35.7	LOS E	5.9	46.0				
East: Brian Coburn Road													
Lane 1	281	3.0	632	0.444	100	12.4	LOS B	1.6	12.8	Full	500	0.0	0.0
Lane 2	281	3.0	632	0.444	100	12.4	LOS B	1.6	12.8	Full	500	0.0	0.0
Lane 3[d]	294	3.0	1626	0.181	100	0.0	LOS A	0.0	0.0	Two Seg[9]	50	0.0	0.0
Approach	855	3.0		0.444		8.1	LOS A	1.6	12.8				
North: Mer Bleue Road													
Lane 1	500	3.0	682	0.733	100	22.0	LOS C	4.5	34.8	Full	500	0.0	0.0
Lane 2[d]	516	3.0	703	0.733	100	21.5	LOS C	4.3	33.5	Full	500	0.0	0.0
Lane 3	177	3.0	682	0.259	100	8.4	LOS A	0.8	6.0	Two Seg[9]	50	0.0	0.0
Approach	1193	3.0		0.733		19.8	LOS C	4.5	34.8				
West: Brian Coburn Road Extension													
Lane 1	390	3.0	433	0.900	100	52.5	LOS F	6.3	49.4	Full	500	0.0	0.0
Lane 2[d]	415	3.0	461	0.900	100	50.3	LOS F	6.2	48.6	Full	500	0.0	0.0
Lane 3	79	3.0	433	0.182	100	11.1	LOS B	0.5	3.8	Two Seg[9]	50	0.0	0.0
Approach	883	3.0		0.900		47.8	LOS E	6.3	49.4				
Intersection	3799	3.0		0.900		27.3	LOS D	6.3	49.4				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

9 All Movement Classes allocated to Segment 1 are also allocated to Segment 2. This Two-Segment Lane has been modelled as a full-length lane.
d Dominant lane on roundabout approach

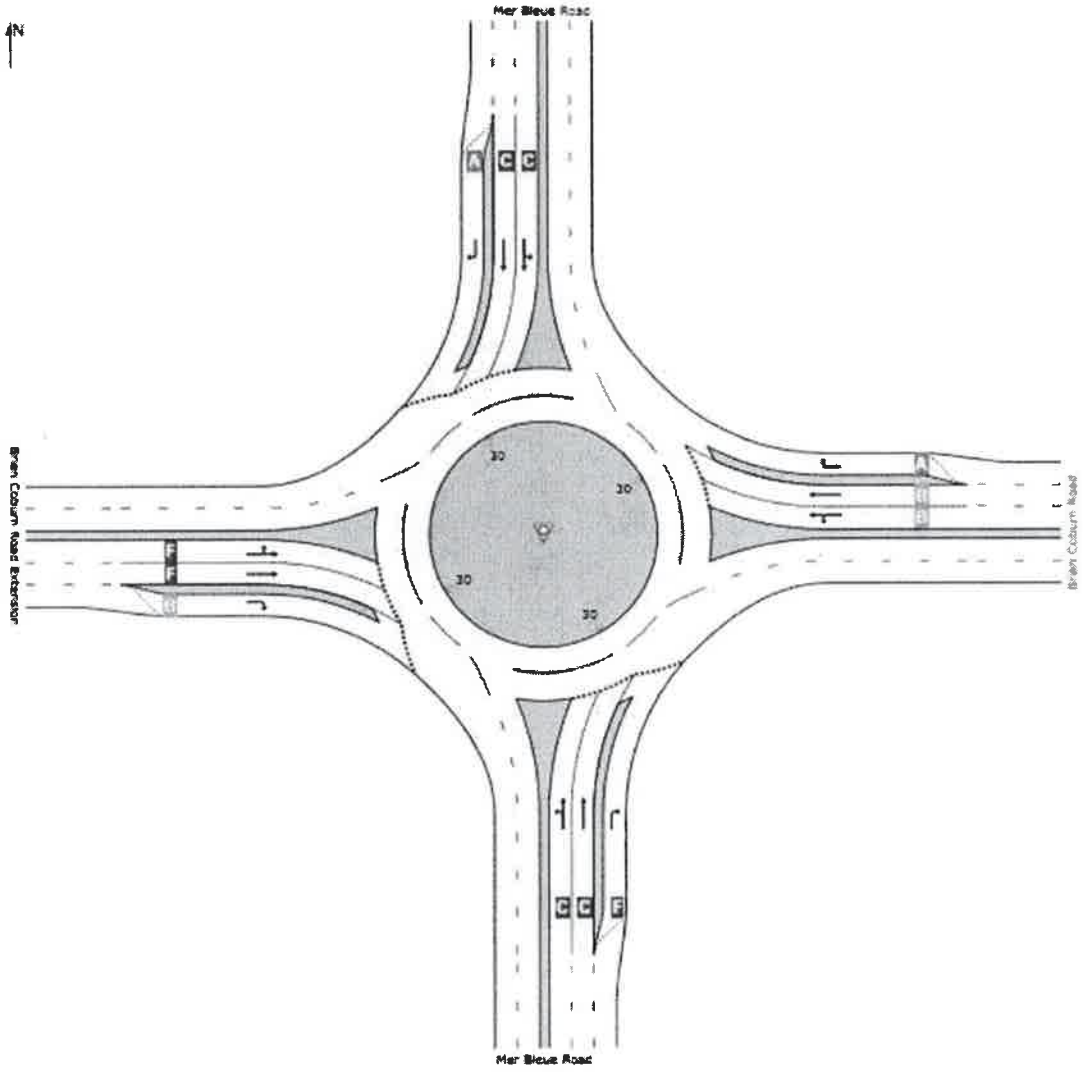
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BG - PM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	E	A	C	E	D



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Future (2031) Background Traffic

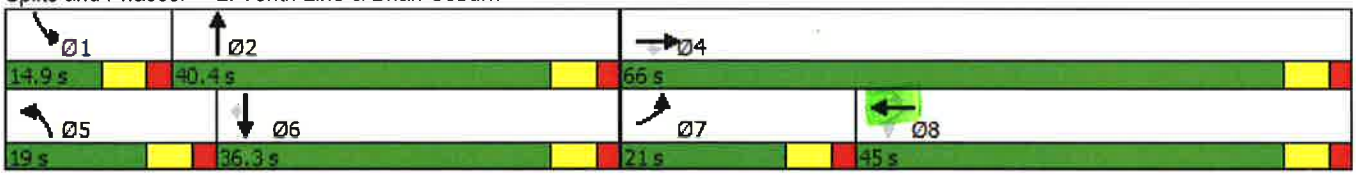
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	148	63	27	808	269	206	508	34	106	249	216
Future Volume (vph)	252	148	63	27	808	269	206	508	34	106	249	216
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	115.0		80.0	40.0		50.0	105.0		0.0	100.0		65.0
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	1695	3390	1517	3288	3360	0	3288	3390	1517
Flt Permitted	0.950			0.653			0.950			0.950		
Satd. Flow (perm)	3288	3390	1517	1165	3390	1517	3288	3360	0	3288	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			86			224		6				227
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1402.3			938.8			686.6			623.5	
Travel Time (s)		84.1			56.3			41.2			37.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	265	156	66	28	851	283	217	535	36	112	262	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	265	156	66	28	851	283	217	571	0	112	262	227
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8						6
Detector Phase	7	4	4	8	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.3	35.0	35.0	35.0	35.0	35.0	13.3	35.0		13.3	35.0	35.0
Total Split (s)	21.0	66.0	66.0	45.0	45.0	45.0	19.0	40.4		14.9	36.3	36.3
Total Split (%)	17.3%	54.4%	54.4%	37.1%	37.1%	37.1%	15.7%	33.3%		12.3%	29.9%	29.9%
Maximum Green (s)	14.7	59.7	59.7	38.7	38.7	38.7	12.7	34.1		8.6	30.0	30.0
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	Min	Min	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		21.7	21.7	21.7	21.7	21.7		21.7			21.7	21.7
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	0
Act Effct Green (s)	12.9	52.2	52.2	32.8	32.8	32.8	11.4	23.6		8.1	20.2	20.2
Actuated g/C Ratio	0.12	0.51	0.51	0.32	0.32	0.32	0.11	0.23		0.08	0.20	0.20
v/c Ratio	0.64	0.09	0.08	0.08	0.79	0.45	0.60	0.74		0.44	0.40	0.47
Control Delay	52.9	14.1	2.1	27.3	38.8	9.6	53.6	43.7		54.8	39.1	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	52.9	14.1	2.1	27.3	38.8	9.6	53.6	43.7		54.8	39.1	8.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B	A	C	D	A	D	D		D	D	A
Approach Delay		33.6			31.4			46.4			30.5	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	25.5	7.7	0.0	3.7	77.4	8.0	20.9	54.1		10.9	23.7	0.0
Queue Length 95th (m)	41.4	14.4	4.2	10.5	109.3	29.5	35.3	73.8		20.7	35.9	17.8
Internal Link Dist (m)		1378.3			914.8			662.6			599.5	
Turn Bay Length (m)	115.0		80.0	40.0		50.0	105.0			100.0		65.0
Base Capacity (vph)	479	2007	933	446	1301	720	414	1140		280	1008	610
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.55	0.08	0.07	0.06	0.65	0.39	0.52	0.50		0.40	0.26	0.37

Intersection Summary

Area Type: Other
Cycle Length: 121.3
Actuated Cycle Length: 103.2
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 35.5 — Intersection LOS: D
Intersection Capacity Utilization 72.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Tenth Line & Brian Coburn



Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	25	5	6	10	5	6	2	210	1	2	234	110
Future Vol, veh/h	25	5	6	10	5	6	2	210	1	2	234	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	5	6	11	5	6	2	221	1	2	246	116

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	540	534	304	540	592	222	362	0	0	222	0	0
Stage 1	308	308	-	226	226	-	-	-	-	-	-	-
Stage 2	232	226	-	314	366	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	453	452	736	453	419	818	1197	-	-	1347	-	-
Stage 1	702	660	-	777	717	-	-	-	-	-	-	-
Stage 2	771	717	-	697	623	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	444	450	736	444	417	818	1197	-	-	1347	-	-
Mov Cap-2 Maneuver	444	450	-	444	417	-	-	-	-	-	-	-
Stage 1	701	659	-	775	716	-	-	-	-	-	-	-
Stage 2	758	716	-	684	622	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	12.5	0.1	0
HCM LOS	B	B		

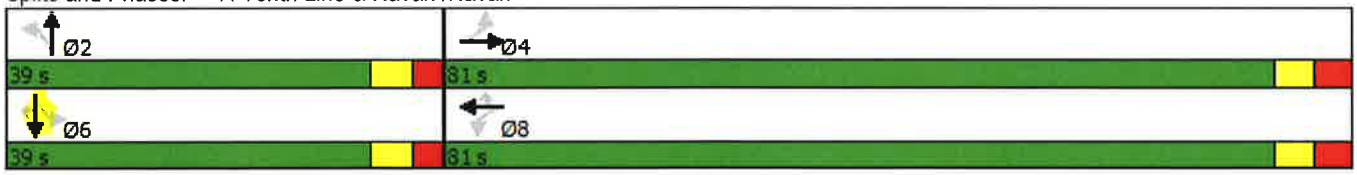
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1197	-	-	476	502	1347	-	-
HCM Lane V/C Ratio	0.002	-	-	0.08	0.044	0.002	-	-
HCM Control Delay (s)	8	0	-	13.2	12.5	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	188	5	1	535	170	11	8	4	81	12	126
Future Volume (vph)	25	188	5	1	535	170	11	8	4	81	12	126
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		0.0	65.0		40.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996				0.850		0.977				0.850
Flt Protected	0.950			0.950				0.976			0.958	
Satd. Flow (prot)	1695	1777	0	1695	1784	1517	0	1701	0	0	1709	1517
Flt Permitted	0.422			0.630				0.821			0.737	
Satd. Flow (perm)	753	1777	0	1124	1784	1517	0	1431	0	0	1315	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				166		4				133
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1757.1			855.5			456.3			1290.5	
Travel Time (s)		105.4			51.3			27.4			77.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	198	5	1	563	179	12	8	4	85	13	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	203	0	1	563	179	0	24	0	0	98	133
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	81.0	81.0		81.0	81.0	81.0	39.0	39.0		39.0	39.0	39.0
Total Split (%)	67.5%	67.5%		67.5%	67.5%	67.5%	32.5%	32.5%		32.5%	32.5%	32.5%
Maximum Green (s)	73.8	73.8		73.8	73.8	73.8	32.3	32.3		32.3	32.3	32.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	76.8	76.8		76.8	76.8	76.8		13.4			13.4	13.4
Actuated g/C Ratio	0.74	0.74		0.74	0.74	0.74		0.13			0.13	0.13
v/c Ratio	0.05	0.15		0.00	0.43	0.15		0.13			0.58	0.43
Control Delay	4.8	4.8		5.0	6.9	1.3		34.9			55.5	11.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	4.8	4.8		5.0	6.9	1.3		34.9			55.5	11.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A		A	A	A		C			E	B
Approach Delay		4.8			5.5			34.9			30.1	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	1.1	9.1		0.1	33.0	0.5		3.2			16.8	0.0
Queue Length 95th (m)	3.9	19.0		0.5	61.2	6.1		9.9			31.9	14.5
Internal Link Dist (m)		1733.1			831.5			432.3			1266.5	
Turn Bay Length (m)	120.0			65.0		40.0						30.0
Base Capacity (vph)	555	1310		828	1315	1162		447			409	563
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.05	0.15		0.00	0.43	0.15		0.05			0.24	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 104.1			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 63.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Tenth Line & Navan /Navan

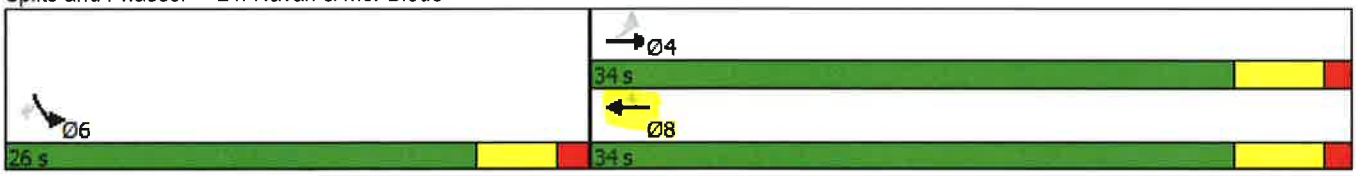


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	92	165	503	99	35	164
Future Volume (vph)	92	165	503	99	35	164
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			40.0	40.0	20.0
Storage Lanes	1			1	1	0
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1784	1784	1517	1695	1517
Flt Permitted	0.435				0.950	
Satd. Flow (perm)	776	1784	1784	1517	1695	1517
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				104		173
Link Speed (k/h)		60	60		50	
Link Distance (m)		1840.8	1757.1		403.0	
Travel Time (s)		110.4	105.4		29.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	97	174	529	104	37	173
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	174	529	104	37	173
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	25.9	25.9	25.9	25.9	25.3	25.3
Total Split (s)	34.0	34.0	34.0	34.0	26.0	26.0
Total Split (%)	56.7%	56.7%	56.7%	56.7%	43.3%	43.3%
Maximum Green (s)	28.6	28.6	28.6	28.6	20.9	20.9
Yellow Time (s)	4.1	4.1	4.1	4.1	3.6	3.6
All-Red Time (s)	1.3	1.3	1.3	1.3	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.1	5.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	34.0	34.0	34.0	34.0	10.0	10.0
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.20	0.20
v/c Ratio	0.19	0.14	0.44	0.10	0.11	0.39
Control Delay	6.0	5.0	7.0	1.5	17.1	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.0	5.0	7.0	1.5	17.1	6.6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	A	A	A	A	B	A
Approach Delay		5.3	6.1		8.5	
Approach LOS		A	A		A	
Queue Length 50th (m)	3.1	5.5	21.3	0.0	2.4	0.0
Queue Length 95th (m)	8.3	11.2	38.0	3.7	7.7	10.7
Internal Link Dist (m)		1816.8	1733.1		379.0	
Turn Bay Length (m)	40.0			40.0	40.0	20.0
Base Capacity (vph)	524	1205	1205	1058	705	732
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	0.19	0.14	0.44	0.10	0.05	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 50.3			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 6.4		Intersection LOS: A	
Intersection Capacity Utilization 57.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 24: Navan & Mer Bleue

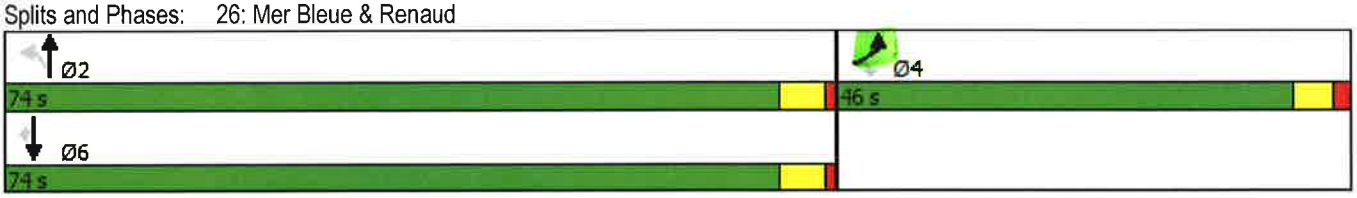


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	316	5	24	262	140	434
Future Volume (vph)	316	5	24	262	140	434
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	90.0	40.0	40.0			40.0
Storage Lanes	2	0	1			1
Taper Length (m)	30.0		30.0			
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3288	1517	1695	1784	1784	1517
Flt Permitted	0.950		0.663			
Satd. Flow (perm)	3288	1517	1183	1784	1784	1517
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				457
Link Speed (k/h)	50			50	60	
Link Distance (m)	994.9			1179.9	394.2	
Travel Time (s)	71.6			85.0	23.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	333	5	25	276	147	457
Shared Lane Traffic (%)						
Lane Group Flow (vph)	333	5	25	276	147	457
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	25.9	25.9	28.8	28.8
Total Split (s)	46.0	46.0	74.0	74.0	74.0	74.0
Total Split (%)	38.3%	38.3%	61.7%	61.7%	61.7%	61.7%
Maximum Green (s)	40.6	40.6	68.7	68.7	68.7	68.7
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	1.8	1.8	1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.3	5.3	5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	14.7	14.7	68.8	68.8	68.8	68.8
Actuated g/C Ratio	0.16	0.16	0.73	0.73	0.73	0.73
v/c Ratio	0.65	0.02	0.03	0.21	0.11	0.37
Control Delay	43.6	20.2	4.2	4.8	4.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	20.2	4.2	4.8	4.4	1.4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D	C	A	A	A	A
Approach Delay	43.2			4.8	2.1	
Approach LOS	D			A	A	
Queue Length 50th (m)	27.2	0.0	1.0	12.3	6.1	0.0
Queue Length 95th (m)	39.7	2.8	3.3	23.4	12.8	7.4
Internal Link Dist (m)	970.9			1155.9	370.2	
Turn Bay Length (m)	90.0	40.0	40.0			40.0
Base Capacity (vph)	1418	657	863	1302	1302	1230
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.01	0.03	0.21	0.11	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 94.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 26: Mer Bleue & Renaud



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	120	281	250	59	169	140
Future Volume (vph)	120	281	250	59	169	140
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	50.0	0.0		40.0	40.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1517	3390	1517	1695	3390
Flt Permitted	0.950				0.589	
Satd. Flow (perm)	1695	1517	3390	1517	1051	3390
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		296		62		
Link Speed (k/h)	50		60			60
Link Distance (m)	221.8		343.7			686.6
Travel Time (s)	16.0		20.6			41.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	296	263	62	178	147
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	296	263	62	178	147
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)	34.8	34.8	28.6	28.6	28.6	28.6
Total Split (s)	55.0	55.0	65.0	65.0	65.0	65.0
Total Split (%)	45.8%	45.8%	54.2%	54.2%	54.2%	54.2%
Maximum Green (s)	49.1	49.1	59.4	59.4	59.4	59.4
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	2.3	2.3	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	5.9	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	17.9	17.9	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	14.7	14.7	93.8	93.8	93.8	93.8
Actuated g/C Ratio	0.12	0.12	0.78	0.78	0.78	0.78
v/c Ratio	0.61	0.67	0.10	0.05	0.22	0.06
Control Delay	61.9	13.0	3.2	0.8	4.6	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.9	13.0	3.2	0.8	4.6	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	E	B	A	A	A	A
Approach Delay	27.6		2.7			4.1
Approach LOS	C		A			A
Queue Length 50th (m)	26.4	0.0	5.8	0.0	8.3	3.1
Queue Length 95th (m)	42.3	22.7	9.4	1.3	18.0	6.5
Internal Link Dist (m)	197.8		319.7			662.6
Turn Bay Length (m)	50.0			40.0	40.0	
Base Capacity (vph)	693	795	2650	1199	821	2650
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.37	0.10	0.05	0.22	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 72 (60%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 40.8%		ICU Level of Service A	
Analysis Period (min) 15			

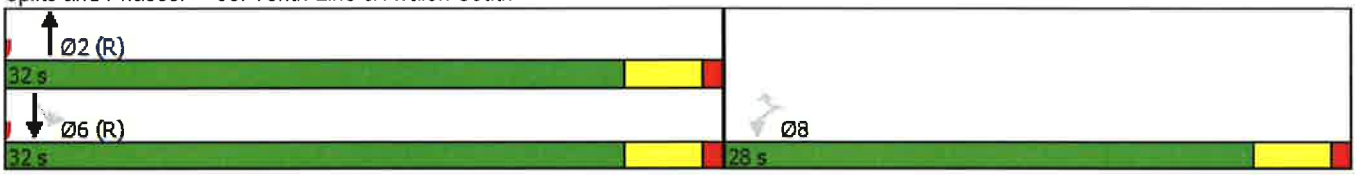
Splits and Phases: 33: Tenth Line & Harvest Valley

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	66	243	3	17	243
Future Volume (vph)	10	66	243	3	17	243
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0	0.0		0.0	20.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.998			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1517	3383	0	1695	3390
Flt Permitted	0.950				0.592	
Satd. Flow (perm)	1695	1517	3383	0	1056	3390
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		69	2			
Link Speed (k/h)	50		60			60
Link Distance (m)	213.4		714.8			343.7
Travel Time (s)	15.4		42.9			20.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	11	69	256	3	18	256
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	69	259	0	18	256
Turn Type	Perm	Perm	NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	28.0	28.0	32.0		32.0	32.0
Total Split (%)	46.7%	46.7%	53.3%		53.3%	53.3%
Maximum Green (s)	23.5	23.5	27.5		27.5	27.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	10.0	10.0	48.6		48.6	48.6
Actuated g/C Ratio	0.17	0.17	0.81		0.81	0.81
v/c Ratio	0.04	0.22	0.09		0.02	0.09
Control Delay	21.5	8.7	2.6		1.6	1.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	21.5	8.7	2.6		1.6	1.3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C	A	A		A	A
Approach Delay	10.5		2.6			1.3
Approach LOS	B		A			A
Queue Length 50th (m)	1.0	0.0	3.6		0.3	1.9
Queue Length 95th (m)	4.2	8.1	6.3		0.7	2.7
Internal Link Dist (m)	189.4		690.8			319.7
Turn Bay Length (m)	20.0				20.0	
Base Capacity (vph)	663	636	2740		855	2746
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	0.02	0.11	0.09		0.02	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.22			
Intersection Signal Delay: 3.1		Intersection LOS: A	
Intersection Capacity Utilization 30.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 35: Tenth Line & Avalon South



Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	130	14	231	21	13	94
Future Vol, veh/h	130	14	231	21	13	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	15	243	22	14	99

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	380	254	0	0	265	0
Stage 1	254	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	622	785	-	-	1299	-
Stage 1	788	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	615	785	-	-	1299	-
Mov Cap-2 Maneuver	615	-	-	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	890	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	628	1299	-
HCM Lane V/C Ratio	-	-	0.241	0.011	-
HCM Control Delay (s)	-	-	12.5	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2031 - BG - AM

New Site
Roundabout

Lane Use and Performance	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	289	3.0	657	0.440	100	11.9	LOS B	1.6	12.7	Full	500	0.0	0.0
Lane 2[d]	299	3.0	680	0.440	100	11.6	LOS B	1.6	12.2	Full	420	0.0	0.0
Lane 3	149	3.0	657	0.227	52[5]	8.2	LOS A	0.7	5.1	Two Seg[9]	50	0.0	0.0
Approach	738	3.0		0.440		11.0	LOS B	1.6	12.7				
East: Brian Coburn Road													
Lane 1	460	3.0	585	0.787	100	29.1	LOS D	4.9	37.9	Full	500	0.0	0.0
Lane 2	460	3.0	585	0.787	100	29.1	LOS D	4.9	37.9	Full	500	0.0	0.0
Lane 3[d]	632	3.0	610	1.036	100	72.1	LOS F	19.5	152.3	Two Seg[9]	50	0.0	100.0
Approach	1552	3.0		1.036		46.6	LOS E	19.5	152.3				
North: Mer Bleue Road													
Lane 1	219	3.0	508	0.431	100	14.5	LOS B	1.5	11.6	Full	500	0.0	0.0
Lane 2[d]	231	3.0	534	0.431	100	13.9	LOS B	1.4	11.2	Full	500	0.0	0.0
Lane 3	161	3.0	508	0.317	74[5]	11.9	LOS B	1.0	7.5	Two Seg[9]	50	0.0	0.0
Approach	611	3.0		0.431		13.6	LOS B	1.5	11.6				
West: Brian Coburn Road Extension													
Lane 1	224	3.0	606	0.370	84[5]	11.2	LOS B	1.2	9.6	Full	500	0.0	0.0
Lane 2[d]	277	3.0	631	0.439	100	12.3	LOS B	1.5	11.9	Full	500	0.0	0.0
Lane 3	27	3.0	606	0.045	10[5]	6.4	LOS A	0.1	0.9	Two Seg[9]	50	0.0	0.0
Approach	528	3.0		0.439		11.5	LOS B	1.5	11.9				
Intersection	3428	3.0		1.036		27.7	LOS D	19.5	152.3				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

5 Lane under-utilisation found by the program
9 All Movement Classes allocated to Segment 1 are also allocated to Segment 2. This Two-Segment Lane has been modelled as a full-length lane.
d Dominant lane on roundabout approach

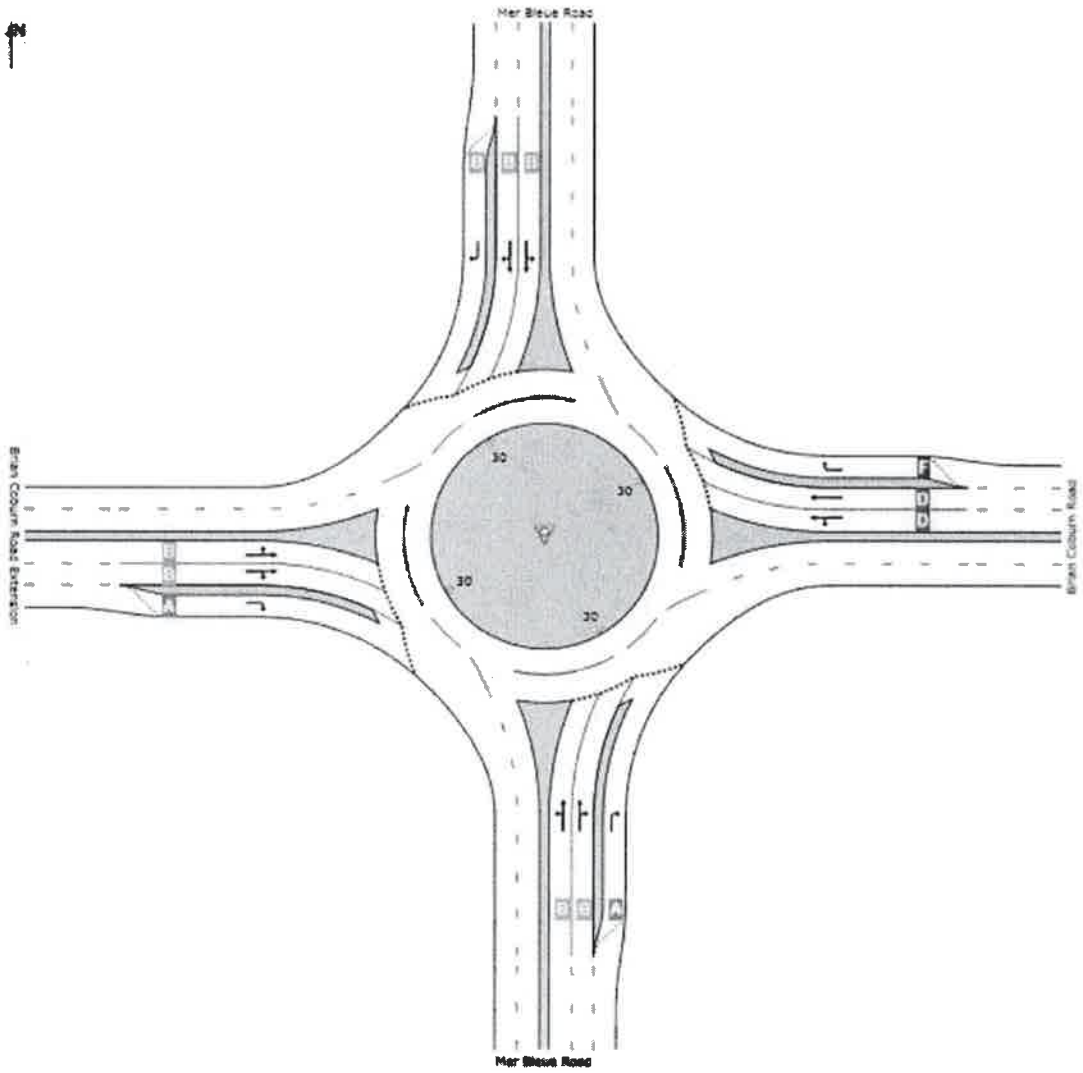
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2031 - BG - AM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	B	E	B	B	D



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

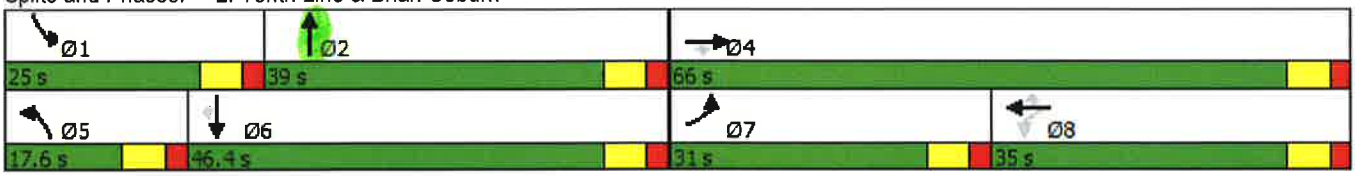
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	597	213	14	353	254	146	513	54	304	575	325
Future Volume (vph)	434	597	213	14	353	254	146	513	54	304	575	325
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	115.0		80.0	40.0		50.0	105.0		0.0	100.0		65.0
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	1695	3390	1517	3288	3343	0	3288	3390	1517
Flt Permitted	0.950			0.414			0.950			0.950		
Satd. Flow (perm)	3288	3390	1517	739	3390	1517	3288	3343	0	3288	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			224			238		8				342
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1402.3			938.8			686.6			623.5	
Travel Time (s)		84.1			56.3			41.2			37.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	457	628	224	15	372	267	154	540	57	320	605	342
Shared Lane Traffic (%)												
Lane Group Flow (vph)	457	628	224	15	372	267	154	597	0	320	605	342
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8						6
Detector Phase	7	4	4	8	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.3	35.0	35.0	35.0	35.0	35.0	13.3	35.0		13.3	35.0	35.0
Total Split (s)	31.0	66.0	66.0	35.0	35.0	35.0	17.6	39.0		25.0	46.4	46.4
Total Split (%)	23.8%	50.8%	50.8%	26.9%	26.9%	26.9%	13.5%	30.0%		19.2%	35.7%	35.7%
Maximum Green (s)	24.7	59.7	59.7	28.7	28.7	28.7	11.3	32.7		18.7	40.1	40.1
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	Min	Min	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		21.7	21.7	21.7	21.7	21.7		21.7			21.7	21.7
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	0
Act Effct Green (s)	19.8	44.7	44.7	18.5	18.5	18.5	9.9	24.6		15.4	30.0	30.0
Actuated g/C Ratio	0.19	0.43	0.43	0.18	0.18	0.18	0.09	0.24		0.15	0.29	0.29
v/c Ratio	0.73	0.43	0.29	0.12	0.62	0.58	0.49	0.75		0.66	0.62	0.50
Control Delay	49.3	22.5	3.7	42.5	46.0	13.3	54.3	44.3		51.4	36.0	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	49.3	22.5	3.7	42.5	46.0	13.3	54.3	44.3		51.4	36.0	6.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	C	A	D	D	B	D	D		D	D	A
Approach Delay		28.6			32.6			46.4			31.8	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	41.8	42.6	0.0	2.4	34.5	4.6	14.3	54.2		29.5	51.6	0.0
Queue Length 95th (m)	68.5	64.6	12.8	8.7	55.3	28.4	28.1	84.0		50.8	78.8	19.5
Internal Link Dist (m)		1378.3			914.8			662.6			599.5	
Turn Bay Length (m)	115.0		80.0	40.0		50.0	105.0			100.0		65.0
Base Capacity (vph)	806	2008	990	210	965	602	368	1090		610	1349	809
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.57	0.31	0.23	0.07	0.39	0.44	0.42	0.55		0.52	0.45	0.42

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 104.3
Natural Cycle: 110
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 33.7 — Intersection LOS: C
Intersection Capacity Utilization 72.7% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Tenth Line & Brian Coburn



Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	132	12	8	1	2	7	4	394	5	1	313	44
Future Vol, veh/h	132	12	8	1	2	7	4	394	5	1	313	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	139	13	8	1	2	7	4	415	5	1	329	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	786	783	353	791	804	417	376	0	0	420	0	0
Stage 1	355	355	-	426	426	-	-	-	-	-	-	-
Stage 2	431	428	-	365	378	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	310	325	691	307	316	636	1182	-	-	1139	-	-
Stage 1	662	630	-	606	586	-	-	-	-	-	-	-
Stage 2	603	585	-	654	615	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	304	323	691	293	314	636	1182	-	-	1139	-	-
Mov Cap-2 Maneuver	304	323	-	293	314	-	-	-	-	-	-	-
Stage 1	659	629	-	604	584	-	-	-	-	-	-	-
Stage 2	591	583	-	632	614	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.7	12.7	0.1	0
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1182	-	-	315	481	1139	-	-
HCM Lane V/C Ratio	0.004	-	-	0.508	0.022	0.001	-	-
HCM Control Delay (s)	8.1	0	-	27.7	12.7	8.2	0	-
HCM Lane LOS	A	A	-	D	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.7	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	613	13	2	292	207	13	24	4	68	24	275
Future Volume (vph)	169	613	13	2	292	207	13	24	4	68	24	275
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		0.0	65.0		40.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.987				0.850
Flt Protected	0.950			0.950				0.984			0.964	
Satd. Flow (prot)	1695	1779	0	1695	1784	1517	0	1733	0	0	1720	1517
Flt Permitted	0.573			0.293				0.877			0.754	
Satd. Flow (perm)	1022	1779	0	523	1784	1517	0	1545	0	0	1345	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				218		4				289
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1757.1			855.5			456.3			1290.5	
Travel Time (s)		105.4			51.3			27.4			77.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	178	645	14	2	307	218	14	25	4	72	25	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	659	0	2	307	218	0	43	0	0	97	289
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	78.0	78.0		78.0	78.0	78.0	42.0	42.0		42.0	42.0	42.0
Total Split (%)	65.0%	65.0%		65.0%	65.0%	65.0%	35.0%	35.0%		35.0%	35.0%	35.0%
Maximum Green (s)	70.8	70.8		70.8	70.8	70.8	35.3	35.3		35.3	35.3	35.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	25.8	25.8		25.8	25.8	25.8		11.7			11.7	11.7
Actuated g/C Ratio	0.50	0.50		0.50	0.50	0.50		0.22			0.22	0.22
v/c Ratio	0.35	0.75		0.01	0.35	0.25		0.12			0.32	0.51
Control Delay	9.9	16.2		6.5	8.9	2.0		18.9			23.0	7.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	9.9	16.2		6.5	8.9	2.0		18.9			23.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	B		A	A	A		B			C	A
Approach Delay		14.8			6.0			18.9			11.0	
Approach LOS		B			A			B			B	
Queue Length 50th (m)	7.5	36.4		0.1	12.9	0.0		2.5			6.5	0.0
Queue Length 95th (m)	20.3	79.3		0.8	29.5	7.0		10.6			21.3	15.9
Internal Link Dist (m)		1733.1			831.5			432.3			1266.5	
Turn Bay Length (m)	120.0			65.0		40.0						30.0
Base Capacity (vph)	1018	1772		521	1777	1512		1094			952	1158
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	0.17	0.37		0.00	0.17	0.14		0.04			0.10	0.25

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 52
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 11.5 — Intersection LOS: B
Intersection Capacity Utilization 71.9% — ICU Level of Service C
Analysis Period (min) 15

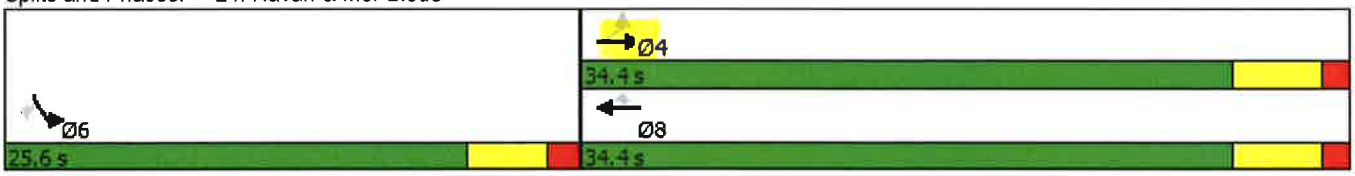
Splits and Phases: 7: Tenth Line & Navan /Navan

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	185	643	278	108	167	132
Future Volume (vph)	185	643	278	108	167	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			40.0	40.0	20.0
Storage Lanes	1			1	1	0
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1784	1784	1517	1695	1517
Flt Permitted	0.581				0.950	
Satd. Flow (perm)	1037	1784	1784	1517	1695	1517
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				114		139
Link Speed (k/h)		60	60		50	
Link Distance (m)		1840.8	1757.1		403.0	
Travel Time (s)		110.4	105.4		29.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	195	677	293	114	176	139
Shared Lane Traffic (%)						
Lane Group Flow (vph)	195	677	293	114	176	139
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	25.9	25.9	25.9	25.9	25.3	25.3
Total Split (s)	34.4	34.4	34.4	34.4	25.6	25.6
Total Split (%)	57.3%	57.3%	57.3%	57.3%	42.7%	42.7%
Maximum Green (s)	29.0	29.0	29.0	29.0	20.5	20.5
Yellow Time (s)	4.1	4.1	4.1	4.1	3.6	3.6
All-Red Time (s)	1.3	1.3	1.3	1.3	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.1	5.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	25.4	25.4	25.4	25.4	10.3	10.3
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.22	0.22
v/c Ratio	0.34	0.69	0.30	0.13	0.47	0.31
Control Delay	8.6	12.9	7.2	2.0	20.4	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	12.9	7.2	2.0	20.4	5.9

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	A	B	A	A	C	A
Approach Delay		11.9	5.7		14.0	
Approach LOS		B	A		B	
Queue Length 50th (m)	6.9	31.5	10.1	0.0	10.8	0.0
Queue Length 95th (m)	19.4	71.9	24.0	4.8	25.6	9.1
Internal Link Dist (m)		1816.8	1733.1		379.0	
Turn Bay Length (m)	40.0			40.0	40.0	20.0
Base Capacity (vph)	658	1133	1133	1005	761	758
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.60	0.26	0.11	0.23	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 46.4			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 24: Navan & Mer Bleue



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	609	18	8	273	327	370
Future Volume (vph)	609	18	8	273	327	370
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0	40.0	40.0			40.0
Storage Lanes	2	0	1			1
Taper Length (m)	30.0		30.0			
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3288	1517	1695	1784	1784	1517
Flt Permitted	0.950		0.528			
Satd. Flow (perm)	3288	1517	942	1784	1784	1517
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		19				389
Link Speed (k/h)	50			50	60	
Link Distance (m)	994.9			1179.9	394.2	
Travel Time (s)	71.6			85.0	23.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	641	19	8	287	344	389
Shared Lane Traffic (%)						
Lane Group Flow (vph)	641	19	8	287	344	389
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	25.9	25.9	28.8	28.8
Total Split (s)	56.0	56.0	64.0	64.0	64.0	64.0
Total Split (%)	46.7%	46.7%	53.3%	53.3%	53.3%	53.3%
Maximum Green (s)	50.6	50.6	58.7	58.7	58.7	58.7
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	1.8	1.8	1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.3	5.3	5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	23.3	23.3	58.9	58.9	58.9	58.9
Actuated g/C Ratio	0.25	0.25	0.63	0.63	0.63	0.63
v/c Ratio	0.78	0.05	0.01	0.25	0.30	0.35
Control Delay	39.4	11.1	7.9	8.9	9.3	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	11.1	7.9	8.9	9.3	1.9

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D	B	A	A	A	A
Approach Delay	38.6			8.8	5.4	
Approach LOS	D			A	A	
Queue Length 50th (m)	50.6	0.0	0.4	18.4	22.9	0.0
Queue Length 95th (m)	67.4	4.7	2.3	36.1	43.9	10.3
Internal Link Dist (m)	970.9			1155.9	370.2	
Turn Bay Length (m)	40.0	40.0	40.0			40.0
Base Capacity (vph)	1795	837	597	1130	1130	1103
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.02	0.01	0.25	0.30	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 92.9			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 45.4%		ICU Level of Service A	
Analysis Period (min) 15			

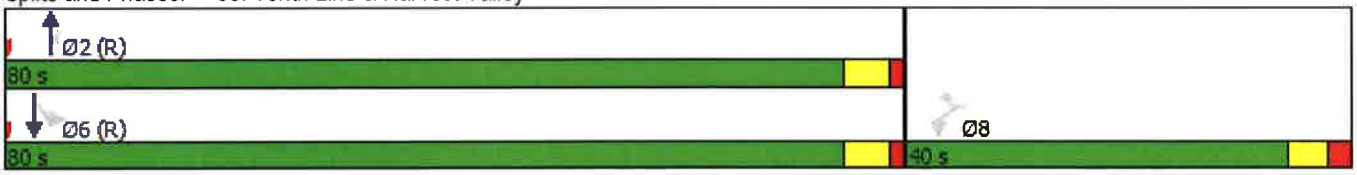
Splits and Phases: 26: Mer Bleue & Renaud

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	99	500	59	189	362
Future Volume (vph)	30	99	500	59	189	362
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	50.0	0.0		40.0	40.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1517	3390	1517	1695	3390
Flt Permitted	0.950				0.457	
Satd. Flow (perm)	1695	1517	3390	1517	815	3390
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		104		62		
Link Speed (k/h)	50		60			60
Link Distance (m)	221.8		343.7			686.6
Travel Time (s)	16.0		20.6			41.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	104	526	62	199	381
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	104	526	62	199	381
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)	34.8	34.8	28.6	28.6	28.6	28.6
Total Split (s)	40.0	40.0	80.0	80.0	80.0	80.0
Total Split (%)	33.3%	33.3%	66.7%	66.7%	66.7%	66.7%
Maximum Green (s)	34.1	34.1	74.4	74.4	74.4	74.4
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	2.3	2.3	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	5.9	5.6	5.6	5.6	5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	17.9	17.9	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	10.3	10.3	98.2	98.2	98.2	98.2
Actuated g/C Ratio	0.09	0.09	0.82	0.82	0.82	0.82
v/c Ratio	0.22	0.46	0.19	0.05	0.30	0.14
Control Delay	54.9	16.7	2.5	0.6	4.0	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.9	16.7	2.5	0.6	4.0	2.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	D	B	A	A	A	A
Approach Delay	25.7		2.3			2.9
Approach LOS	C		A			A
Queue Length 50th (m)	6.6	0.0	9.8	0.0	8.0	6.8
Queue Length 95th (m)	15.7	15.1	13.6	1.8	15.2	10.2
Internal Link Dist (m)	197.8		319.7			662.6
Turn Bay Length (m)	50.0			40.0	40.0	
Base Capacity (vph)	481	505	2774	1252	666	2774
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	0.07	0.21	0.19	0.05	0.30	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 44 (37%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 5.0		Intersection LOS: A	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 33: Tenth Line & Harvest Valley



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	37	522	10	68	324
Future Volume (vph)	5	37	522	10	68	324
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0	0.0		0.0	20.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1526	1365	3042	0	1526	3051
Flt Permitted	0.950				0.442	
Satd. Flow (perm)	1526	1365	3042	0	710	3051
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		39	5			
Link Speed (k/h)	50		60			60
Link Distance (m)	213.4		714.8			343.7
Travel Time (s)	15.4		42.9			20.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	5	39	549	11	72	341
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	39	560	0	72	341
Turn Type	Perm	Perm	NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	25.0	25.0	35.0		35.0	35.0
Total Split (%)	41.7%	41.7%	58.3%		58.3%	58.3%
Maximum Green (s)	20.5	20.5	30.5		30.5	30.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Min		C-Min	C-Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	10.0	10.0	52.4		52.4	52.4
Actuated g/C Ratio	0.17	0.17	0.87		0.87	0.87
v/c Ratio	0.02	0.15	0.21		0.12	0.13
Control Delay	21.2	9.9	2.2		2.3	1.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	21.2	9.9	2.2		2.3	1.6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	C	A	A		A	A
Approach Delay	11.2		2.2			1.7
Approach LOS	B		A			A
Queue Length 50th (m)	0.4	0.0	0.0		0.0	0.0
Queue Length 95th (m)	2.6	6.1	13.7		3.8	6.5
Internal Link Dist (m)	189.4		690.8			319.7
Turn Bay Length (m)	20.0				20.0	
Base Capacity (vph)	521	492	2657		620	2664
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	0.01	0.08	0.21		0.12	0.13

Intersection Summary			
Area Type:	CBD		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.21			
Intersection Signal Delay: 2.4		Intersection LOS: A	
Intersection Capacity Utilization 45.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 35: Tenth Line & Avalon South

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	37	11	135	127	15	143
Future Vol, veh/h	37	11	135	127	15	143
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	12	142	134	16	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	391	209	0	0	276	0
Stage 1	209	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	613	831	-	-	1287	-
Stage 1	826	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	604	831	-	-	1287	-
Mov Cap-2 Maneuver	604	-	-	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	644	1287	-
HCM Lane V/C Ratio	-	-	0.078	0.012	-
HCM Control Delay (s)	-	-	11.1	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2031 - BG - PM

New Site
Roundabout

Lane Use and Performance	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	274	3.0	406	0.675	100	28.8	LOS D	2.8	22.0	Full	500	0.0	0.0
Lane 2	274	3.0	406	0.675	100	28.8	LOS D	2.8	22.0	Full	420	0.0	0.0
Lane 3[d]	444	3.0	434	1.024	100	80.8	LOS F	13.3	103.4	Two Seg[9]	50	0.0	34.4
Approach	993	3.0		1.024		52.1	LOS F	13.3	103.4				
East: Brian Coburn Road													
Lane 1	301	3.0	589	0.510	100	14.9	LOS B	2.0	15.7	Full	500	0.0	0.0
Lane 2	301	3.0	589	0.510	100	14.9	LOS B	2.0	15.7	Full	500	0.0	0.0
Lane 3[d]	305	3.0	614	0.497	100	14.0	LOS B	1.9	14.5	Two Seg[9]	50	0.0	0.0
Approach	906	3.0		0.510		14.6	LOS B	2.0	15.7				
North: Mer Bleue Road													
Lane 1	558	3.0	661	0.844	100	32.0	LOS D	6.7	52.0	Full	500	0.0	0.0
Lane 2[d]	577	3.0	683	0.844	100	31.3	LOS D	6.4	50.2	Full	500	0.0	0.0
Lane 3	222	3.0	661	0.336	100	9.9	LOS A	1.1	8.4	Two Seg[9]	50	0.0	0.0
Approach	1357	3.0		0.844		28.1	LOS D	6.7	52.0				
West: Brian Coburn Road Extension													
Lane 1	418	3.0	387	1.079	100	101.6	LOS F	17.7	137.7	Full	500	0.0	0.0
Lane 2[d]	448	3.0	415	1.079	100	98.8	LOS F	18.3	142.7	Full	500	0.0	0.0
Lane 3	80	3.0	387	0.206	100	12.7	LOS B	0.5	4.3	Two Seg[9]	50	0.0	0.0
Approach	946	3.0		1.079		92.8	LOS F	18.3	142.7				
Intersection	4202	3.0		1.079		45.4	LOS E	18.3	142.7				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

9 All Movement Classes allocated to Segment 1 are also allocated to Segment 2. This Two-Segment Lane has been modelled as a full-length lane.
d Dominant lane on roundabout approach

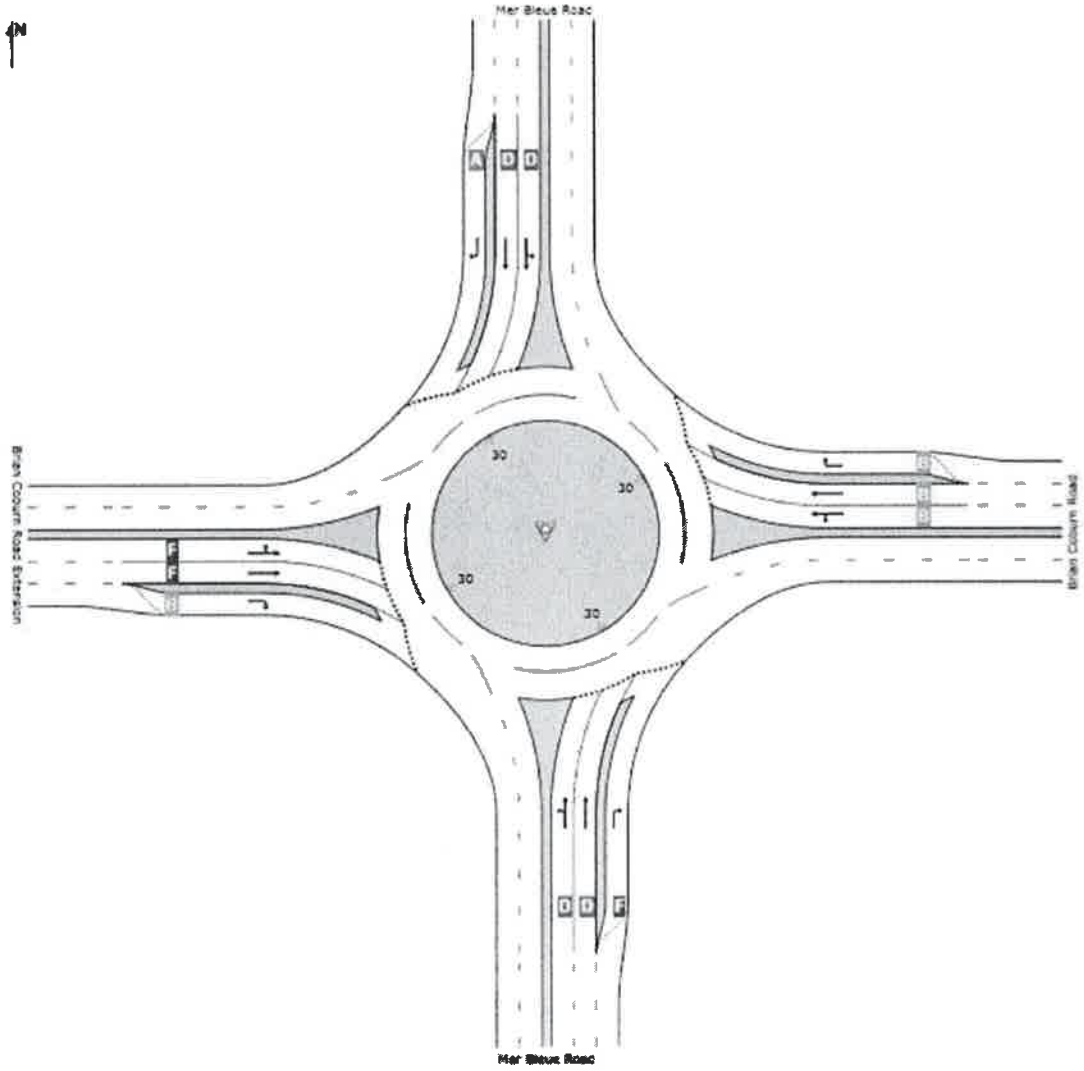
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2031 - BG - PM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	F	B	D	F	E



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
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Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Future (2025) Total Traffic

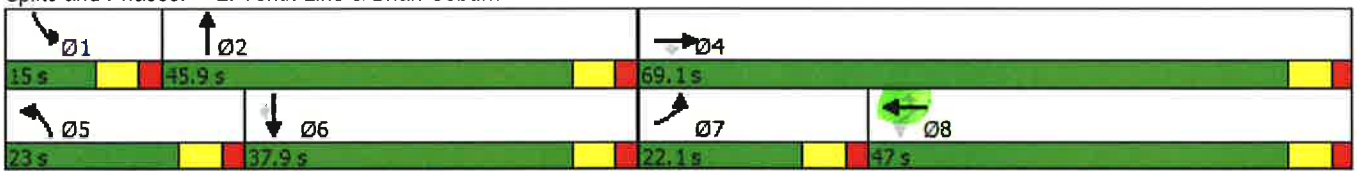
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	140	75	26	766	257	249	572	32	101	252	192
Future Volume (vph)	229	140	75	26	766	257	249	572	32	101	252	192
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	115.0		80.0	40.0		50.0	105.0		0.0	100.0		65.0
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	1695	3390	1517	3288	3363	0	3288	3390	1517
Flt Permitted	0.950			0.659			0.950			0.950		
Satd. Flow (perm)	3288	3390	1517	1176	3390	1517	3288	3363	0	3288	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133			210		4				202
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1402.3			938.8			686.6			623.5	
Travel Time (s)		84.1			56.3			41.2			37.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	241	147	79	27	806	271	262	602	34	106	265	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	241	147	79	27	806	271	262	636	0	106	265	202
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8						6
Detector Phase	7	4	4	8	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.3	35.0	35.0	35.0	35.0	35.0	13.3	35.0		13.3	35.0	35.0
Total Split (s)	22.1	69.1	69.1	47.0	47.0	47.0	23.0	45.9		15.0	37.9	37.9
Total Split (%)	17.0%	53.2%	53.2%	36.2%	36.2%	36.2%	17.7%	35.3%		11.5%	29.2%	29.2%
Maximum Green (s)	15.8	62.8	62.8	40.7	40.7	40.7	16.7	39.6		8.7	31.6	31.6
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	Min	Min	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		21.7	21.7	21.7	21.7	21.7		21.7			21.7	21.7
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	0
Act Effct Green (s)	13.1	52.4	52.4	32.9	32.9	32.9	13.7	26.8		8.2	21.2	21.2
Actuated g/C Ratio	0.12	0.49	0.49	0.31	0.31	0.31	0.13	0.25		0.08	0.20	0.20
v/c Ratio	0.60	0.09	0.10	0.07	0.77	0.44	0.62	0.75		0.42	0.39	0.44
Control Delay	53.7	15.4	0.5	29.2	40.1	10.6	53.3	43.7		57.0	40.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	53.7	15.4	0.5	29.2	40.1	10.6	53.3	43.7		57.0	40.7	8.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B	A	C	D	B	D	D		E	D	A
Approach Delay		32.6			32.6			46.5			32.4	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	23.2	7.6	0.0	3.7	74.2	8.5	25.2	60.3		10.3	23.8	0.0
Queue Length 95th (m)	39.8	14.5	0.9	10.9	108.5	30.8	42.8	85.8		20.9	38.9	17.4
Internal Link Dist (m)		1378.3			914.8			662.6			599.5	
Turn Bay Length (m)	115.0		80.0	40.0		50.0	105.0			100.0		65.0
Base Capacity (vph)	500	2051	970	461	1329	722	529	1285		275	1032	602
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.48	0.07	0.08	0.06	0.61	0.38	0.50	0.49		0.39	0.26	0.34

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 106.8
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 36.7 — Intersection LOS: D
Intersection Capacity Utilization 72.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Tenth Line & Brian Coburn



Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	69	4	31	10	4	6	44	220	1	2	228	128
Future Vol, veh/h	69	4	31	10	4	6	44	220	1	2	228	128
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	4	33	11	4	6	46	232	1	2	240	135

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	642	637	307	655	704	232	375	0	0	233	0	0
Stage 1	312	312	-	325	325	-	-	-	-	-	-	-
Stage 2	330	325	-	330	379	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	387	395	733	379	361	807	1183	-	-	1335	-	-
Stage 1	699	658	-	687	649	-	-	-	-	-	-	-
Stage 2	683	649	-	683	615	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	367	376	733	346	344	807	1183	-	-	1335	-	-
Mov Cap-2 Maneuver	367	376	-	346	344	-	-	-	-	-	-	-
Stage 1	668	657	-	656	620	-	-	-	-	-	-	-
Stage 2	643	620	-	647	614	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	14.1	1.4	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1183	-	-	432	417	1335	-	-
HCM Lane V/C Ratio	0.039	-	-	0.253	0.05	0.002	-	-
HCM Control Delay (s)	8.2	0	-	16.1	14.1	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	69	4	31	0	10	4	6	0	44	220	1
Future Vol, veh/h	0	69	4	31	0	10	4	6	0	44	220	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	73	4	33	0	11	4	6	0	46	232	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.5	8.8	10.5
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	66%	50%	1%
Vol Thru, %	83%	4%	20%	64%
Vol Right, %	0%	30%	30%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	104	20	358
LT Vol	44	69	10	2
Through Vol	220	4	4	228
RT Vol	1	31	6	128
Lane Flow Rate	279	109	21	377
Geometry Grp	1	1	1	1
Degree of Util (X)	0.366	0.163	0.032	0.46
Departure Headway (Hd)	4.719	5.359	5.486	4.392
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	759	665	646	818
Service Time	2.768	3.434	3.577	2.436
HCM Lane V/C Ratio	0.368	0.164	0.033	0.461
HCM Control Delay	10.5	9.5	8.8	11.2
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.7	0.6	0.1	2.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	2	228	128
Future Vol, veh/h	0	2	228	128
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	240	135
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	11.2
HCM LOS	B

Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	165	4	1	498	200	10	8	3	93	11	141
Future Volume (vph)	31	165	4	1	498	200	10	8	3	93	11	141
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		0.0	65.0		40.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.982				0.850
Flt Protected	0.950			0.950				0.976			0.957	
Satd. Flow (prot)	1695	1779	0	1695	1784	1517	0	1710	0	0	1708	1517
Flt Permitted	0.443			0.645				0.826			0.733	
Satd. Flow (perm)	790	1779	0	1151	1784	1517	0	1447	0	0	1308	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				211		3				148
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1757.1			855.5			456.3			1290.5	
Travel Time (s)		105.4			51.3			27.4			77.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	174	4	1	524	211	11	8	3	98	12	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	178	0	1	524	211	0	22	0	0	110	148
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	81.0	81.0		81.0	81.0	81.0	39.0	39.0		39.0	39.0	39.0
Total Split (%)	67.5%	67.5%		67.5%	67.5%	67.5%	32.5%	32.5%		32.5%	32.5%	32.5%
Maximum Green (s)	73.8	73.8		73.8	73.8	73.8	32.3	32.3		32.3	32.3	32.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	75.9	75.9		75.9	75.9	75.9		14.3			14.3	14.3
Actuated g/C Ratio	0.73	0.73		0.73	0.73	0.73		0.14			0.14	0.14
v/c Ratio	0.06	0.14		0.00	0.40	0.18		0.11			0.61	0.44
Control Delay	5.2	5.0		5.0	7.0	1.1		35.0			56.5	10.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	5.2	5.0		5.0	7.0	1.1		35.0			56.5	10.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A		A	A	A		C			E	B
Approach Delay		5.0			5.3			35.0			30.3	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	1.5	8.2		0.1	31.1	0.0		3.1			19.1	0.0
Queue Length 95th (m)	4.8	17.6		0.6	58.4	6.1		9.4			35.1	15.2
Internal Link Dist (m)		1733.1			831.5			432.3			1266.5	
Turn Bay Length (m)	120.0			65.0		40.0						30.0
Base Capacity (vph)	575	1297		839	1300	1163		451			406	573
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	0.06	0.14		0.00	0.40	0.18		0.05			0.27	0.26

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104.1
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 11.1 — Intersection LOS: B
Intersection Capacity Utilization 62.4% — ICU Level of Service B
Analysis Period (min) 15

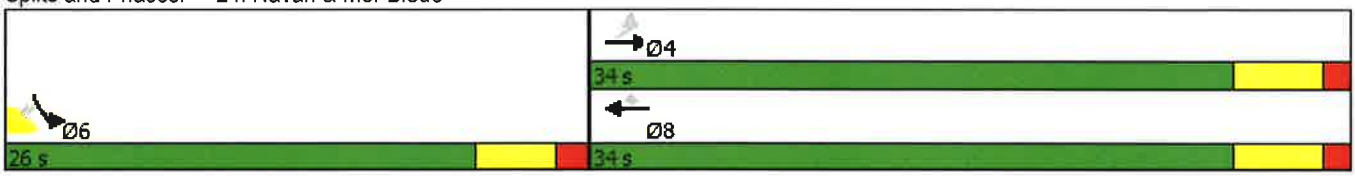
Splits and Phases: 7: Tenth Line & Navan /Navan

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	113	153	488	95	33	233
Future Volume (vph)	113	153	488	95	33	233
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			40.0	40.0	20.0
Storage Lanes	1			1	1	0
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1784	1784	1517	1695	1517
Flt Permitted	0.429				0.950	
Satd. Flow (perm)	765	1784	1784	1517	1695	1517
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				100		245
Link Speed (k/h)		60	60		50	
Link Distance (m)		1840.8	1757.1		403.0	
Travel Time (s)		110.4	105.4		29.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	161	514	100	35	245
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	161	514	100	35	245
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	25.9	25.9	25.9	25.9	25.3	25.3
Total Split (s)	34.0	34.0	34.0	34.0	26.0	26.0
Total Split (%)	56.7%	56.7%	56.7%	56.7%	43.3%	43.3%
Maximum Green (s)	28.6	28.6	28.6	28.6	20.9	20.9
Yellow Time (s)	4.1	4.1	4.1	4.1	3.6	3.6
All-Red Time (s)	1.3	1.3	1.3	1.3	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.1	5.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	31.4	31.4	31.4	31.4	10.4	10.4
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.20	0.20
v/c Ratio	0.26	0.15	0.48	0.11	0.10	0.49
Control Delay	7.1	5.3	8.0	1.7	16.7	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	5.3	8.0	1.7	16.7	6.8

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	A	A	A	A	B	A
Approach Delay		6.1	7.0		8.0	
Approach LOS		A	A		A	
Queue Length 50th (m)	4.0	5.0	20.3	0.0	2.3	0.0
Queue Length 95th (m)	10.9	11.2	39.3	3.8	7.2	12.5
Internal Link Dist (m)		1816.8	1733.1		379.0	
Turn Bay Length (m)	40.0			40.0	40.0	20.0
Base Capacity (vph)	458	1070	1070	950	683	757
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.15	0.48	0.11	0.05	0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 52.4			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 24: Navan & Mer Bleue

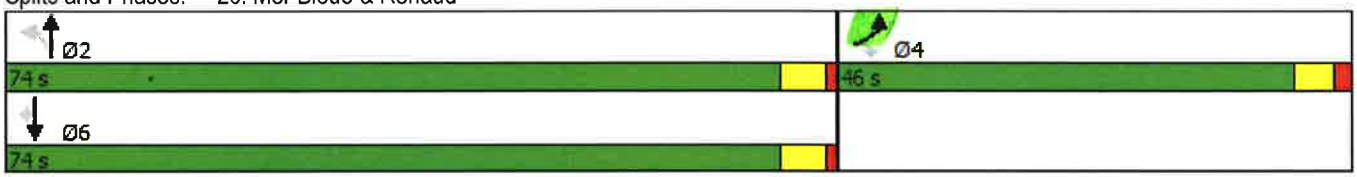


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	278	26	69	376	151	403
Future Volume (vph)	278	26	69	376	151	403
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	90.0	40.0	40.0			40.0
Storage Lanes	2	0	1			1
Taper Length (m)	30.0		30.0			
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3288	1517	1695	1784	1784	1517
Flt Permitted	0.950		0.656			
Satd. Flow (perm)	3288	1517	1171	1784	1784	1517
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		27				424
Link Speed (k/h)	50			50	60	
Link Distance (m)	994.9			521.8	394.2	
Travel Time (s)	71.6			37.6	23.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	293	27	73	396	159	424
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	27	73	396	159	424
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	25.9	25.9	28.8	28.8
Total Split (s)	46.0	46.0	74.0	74.0	74.0	74.0
Total Split (%)	38.3%	38.3%	61.7%	61.7%	61.7%	61.7%
Maximum Green (s)	40.6	40.6	68.7	68.7	68.7	68.7
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	1.8	1.8	1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.3	5.3	5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	13.5	13.5	69.1	69.1	69.1	69.1
Actuated g/C Ratio	0.14	0.14	0.74	0.74	0.74	0.74
v/c Ratio	0.62	0.11	0.08	0.30	0.12	0.34
Control Delay	43.2	14.0	4.1	5.0	4.0	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	14.0	4.1	5.0	4.0	1.2

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D	B	A	A	A	A
Approach Delay	40.8			4.9	2.0	
Approach LOS	D			A	A	
Queue Length 50th (m)	23.6	0.0	2.8	18.1	6.2	0.0
Queue Length 95th (m)	35.3	6.5	6.9	32.7	12.8	6.8
Internal Link Dist (m)	970.9			497.8	370.2	
Turn Bay Length (m)	90.0	40.0	40.0			40.0
Base Capacity (vph)	1431	675	866	1320	1320	1233
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	0.20	0.04	0.08	0.30	0.12	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 93.3			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 43.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 26: Mer Bleue & Renaud



Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	44	143	303	21	42	135
Future Vol, veh/h	44	143	303	21	42	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	400	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	151	319	22	44	142

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	550	319	0	0	319	0
Stage 1	319	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	496	722	-	-	1241	-
Stage 1	737	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	478	722	-	-	1241	-
Mov Cap-2 Maneuver	478	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	778	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	1.9
HCM LOS	B		

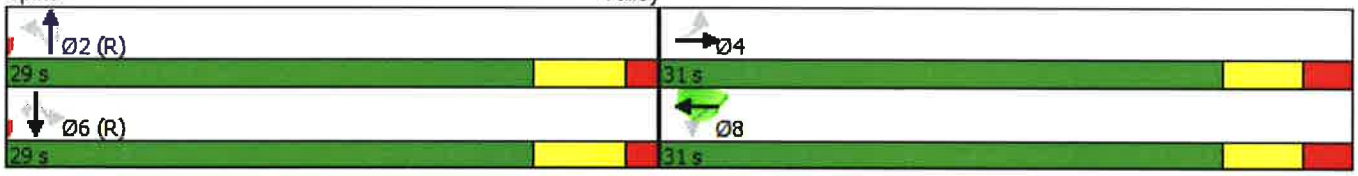
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	645	1241	-
HCM Lane V/C Ratio	-	-	0.305	0.036	-
HCM Control Delay (s)	-	-	13	8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	10	10	120	10	281	10	319	59	169	146	15
Future Volume (vph)	52	10	10	120	10	281	10	319	59	169	146	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		40.0	40.0		40.0	40.0		40.0	40.0		40.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925			0.855				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1650	0	1695	1526	0	1695	3390	1517	1695	3390	1517
Flt Permitted	0.396			0.743			0.654			0.549		
Satd. Flow (perm)	707	1650	0	1326	1526	0	1167	3390	1517	980	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			296				62			53
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		201.9			221.8			343.7			686.6	
Travel Time (s)		14.5			16.0			20.6			41.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	55	11	11	126	11	296	11	336	62	178	154	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	22	0	126	307	0	11	336	62	178	154	16
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.8	30.8		30.8	30.8		21.8	21.8	21.8	21.8	21.8	21.8
Total Split (s)	31.0	31.0		31.0	31.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%	48.3%	48.3%	48.3%	48.3%
Maximum Green (s)	25.1	25.1		25.1	25.1		23.4	23.4	23.4	23.4	23.4	23.4
Yellow Time (s)	3.6	3.6		3.6	3.6		4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.3	2.3		2.3	2.3		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	5.9		5.9	5.9		5.6	5.6	5.6	5.6	5.6	5.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	17.9	17.9		17.9	17.9		9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	12.5	12.5		12.5	12.5		36.0	36.0	36.0	36.0	36.0	36.0
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.60	0.60	0.60	0.60	0.60	0.60
v/c Ratio	0.37	0.06		0.45	0.56		0.02	0.17	0.07	0.30	0.08	0.02
Control Delay	26.8	12.6		25.4	7.2		5.3	5.2	1.6	8.7	5.9	0.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	12.6		25.4	7.2		5.3	5.2	1.6	8.7	5.9	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B		C	A		A	A	A	A	A	A
Approach Delay		22.7			12.5			4.6			7.1	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	5.0	0.9		11.7	0.9		0.3	5.5	0.0	7.0	2.7	0.0
Queue Length 95th (m)	11.7	4.6		20.9	14.5		1.8	11.2	2.5	20.8	7.3	0.3
Internal Link Dist (m)		177.9			197.8			319.7			662.6	
Turn Bay Length (m)	40.0			40.0			40.0		40.0	40.0		40.0
Base Capacity (vph)	295	696		554	810		699	2031	933	587	2031	930
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.03		0.23	0.38		0.02	0.17	0.07	0.30	0.08	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 9.1		Intersection LOS: A	
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 33: Tenth Line & Zone 3 North/Harvest Valley



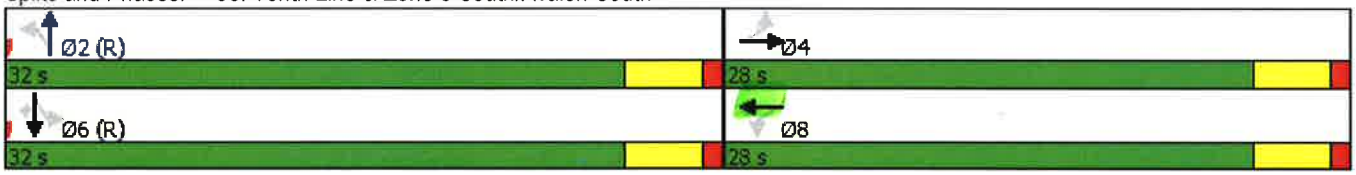
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	10	15	10	10	66	6	274	3	17	240	9
Future Volume (vph)	38	10	15	10	10	66	6	274	3	17	240	9
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0		0.0	20.0		0.0	20.0		0.0	20.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.911			0.871			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1626	0	1695	1554	0	1695	3383	0	1695	3390	1517
Flt Permitted	0.705			0.740			0.595			0.574		
Satd. Flow (perm)	1258	1626	0	1320	1554	0	1062	3383	0	1024	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			69			2				27
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		211.4			213.4			714.8			343.7	
Travel Time (s)		15.2			15.4			42.9			20.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	11	16	11	11	69	6	288	3	18	253	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	27	0	11	80	0	6	291	0	18	253	9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	22.5
Total Split (s)	28.0	28.0		28.0	28.0		32.0	32.0		32.0	32.0	32.0
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	53.3%
Maximum Green (s)	23.5	23.5		23.5	23.5		27.5	27.5		27.5	27.5	27.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
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)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	10.0	10.0		10.0	10.0		48.6	48.6		48.6	48.6	48.6
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.81	0.81		0.81	0.81	0.81
v/c Ratio	0.19	0.09		0.05	0.25		0.01	0.11		0.02	0.09	0.01
Control Delay	24.1	14.8		21.7	10.4		3.2	2.7		2.3	2.2	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	24.1	14.8		21.7	10.4		3.2	2.7		2.3	2.2	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B		C	B		A	A		A	A	A
Approach Delay		20.4			11.8			2.7			2.1	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	3.5	0.9		1.0	1.0		0.2	4.2		0.8	7.0	0.2
Queue Length 95th (m)	10.2	6.1		4.3	9.7		0.9	7.0		0.9	3.0	m0.1
Internal Link Dist (m)		187.4			189.4			690.8			319.7	
Turn Bay Length (m)	20.0			20.0			20.0			20.0		20.0
Base Capacity (vph)	492	646		517	650		859	2739		829	2744	1233
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	0.08	0.04		0.02	0.12		0.01	0.11		0.02	0.09	0.01

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.25
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 36.3% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 35: Tenth Line & Zone 3 South/Avalon South



Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	30	20	222	2	20	273
Future Vol, veh/h	30	20	222	2	20	273
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	21	234	2	21	287

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	564	235	0	0	236	0
Stage 1	235	-	-	-	-	-
Stage 2	329	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	487	804	-	-	1331	-
Stage 1	804	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	478	804	-	-	1331	-
Mov Cap-2 Maneuver	478	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	715	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 571	1331	-
HCM Lane V/C Ratio	-	- 0.092	0.016	-
HCM Control Delay (s)	-	- 11.9	7.7	0
HCM Lane LOS	-	- B	A	A
HCM 95th %tile Q(veh)	-	- 0.3	0	-

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	161	59	249	32	20	135
Future Vol, veh/h	161	59	249	32	20	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	169	62	262	34	21	142

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	463	279	0	0	296	0
Stage 1	279	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	557	760	-	-	1265	-
Stage 1	768	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	547	760	-	-	1265	-
Mov Cap-2 Maneuver	547	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	833	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	591	1265	-
HCM Lane V/C Ratio	-	-	0.392	0.017	-
HCM Control Delay (s)	-	-	15	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.9	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	19	10	3	246	255	4
Future Vol, veh/h	19	10	3	246	255	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	400	-	-	400
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	11	3	259	268	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	533	268	268	0	-	0
Stage 1	268	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	507	771	1296	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	506	771	1296	-	-	-
Mov Cap-2 Maneuver	506	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1296	-	574	-	-
HCM Lane V/C Ratio	0.002	-	0.053	-	-
HCM Control Delay (s)	7.8	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BGSG - AM

New Site
Roundabout

Lane Use and Performance	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	344	3.0	678	0.507	100	13.2	LOS B	2.1	16.3	Full	500	0.0	0.0
Lane 2[d]	355	3.0	700	0.507	100	12.8	LOS B	2.0	15.6	Full	420	0.0	0.0
Lane 3	132	3.0	678	0.194	100	7.5	LOS A	0.5	4.3	Two Seg[9]	50	0.0	0.0
Approach	831	3.0		0.507		12.1	LOS B	2.1	16.3				
East: Brian Coburn Road													
Lane 1	460	3.0	556	0.827	100	34.3	LOS D	5.5	42.6	Full	500	0.0	0.0
Lane 2	460	3.0	556	0.827	100	34.3	LOS D	5.5	42.6	Full	500	0.0	0.0
Lane 3[d]	604	3.0	582	1.038	100	74.2	LOS F	19.0	147.9	Two Seg[9]	50	0.0	100.0
Approach	1524	3.0		1.038		50.1	LOS F	19.0	147.9				
North: Mer Bleue Road													
Lane 1	202	3.0	476	0.423	100	15.1	LOS C	1.4	11.1	Full	500	0.0	0.0
Lane 2[d]	213	3.0	504	0.423	100	14.4	LOS B	1.4	10.7	Full	500	0.0	0.0
Lane 3	131	3.0	476	0.274	100	11.8	LOS B	0.8	6.2	Two Seg[9]	50	0.0	0.0
Approach	545	3.0		0.423		14.0	LOS B	1.4	11.1				
West: Brian Coburn Road Extension													
Lane 1	227	3.0	639	0.355	100	10.5	LOS B	1.2	9.1	Full	500	0.0	0.0
Lane 2[d]	235	3.0	662	0.355	100	10.2	LOS B	1.1	8.7	Full	500	0.0	0.0
Lane 3	53	3.0	639	0.082	100	6.5	LOS A	0.2	1.7	Two Seg[9]	50	0.0	0.0
Approach	515	3.0		0.355		9.9	LOS A	1.2	9.1				
Intersection	3415	3.0		1.038		29.1	LOS D	19.0	147.9				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

9 All Movement Classes allocated to Segment 1 are also allocated to Segment 2. This Two-Segment Lane has been modelled as a full-length lane.
d Dominant lane on roundabout approach

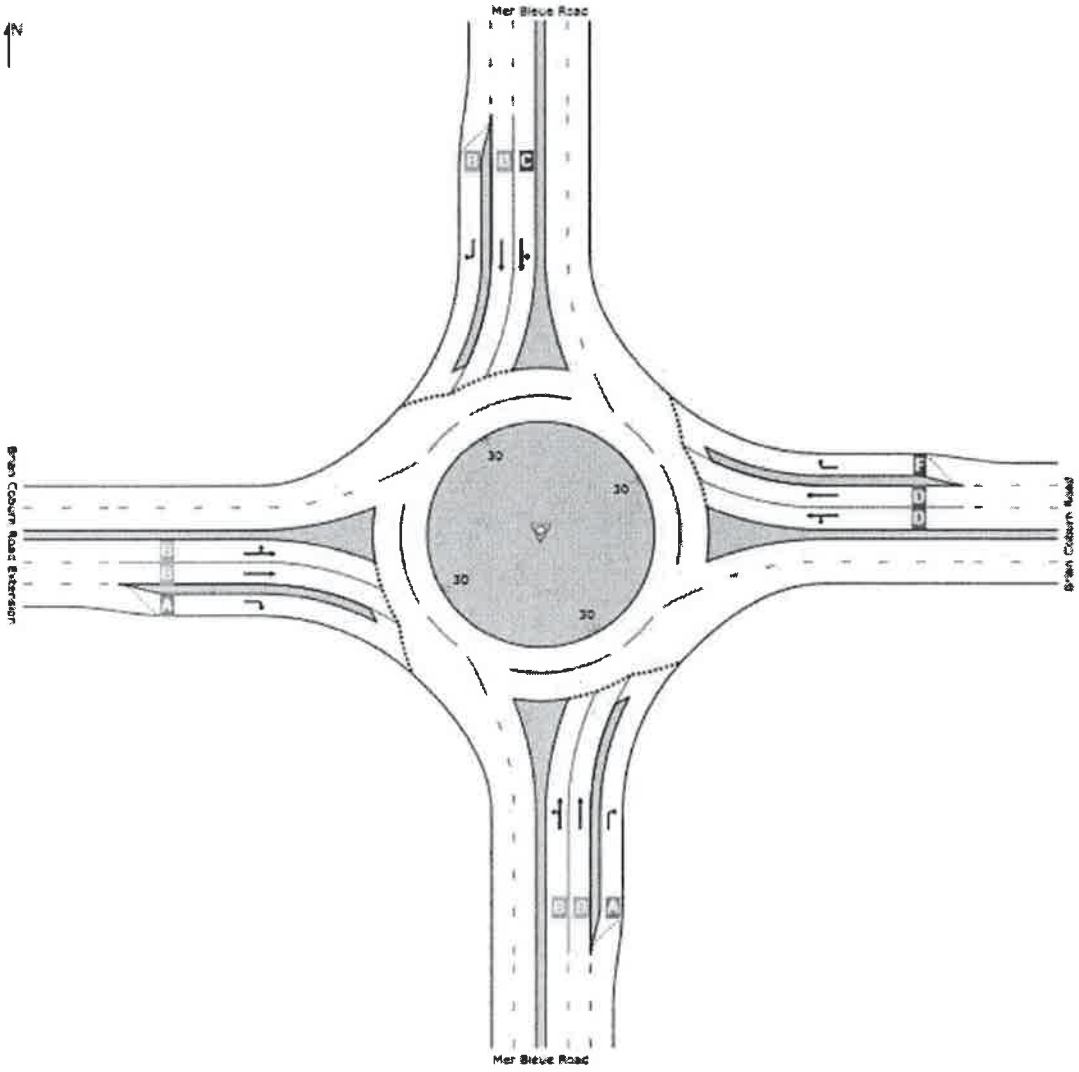
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BGSG - AM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	B	F	B	A	D



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Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

LANE SUMMARY

Site: Gerry Lalonde & Collector Road - 2025 BGSG - AM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Gerry Lalonde													
Lane 1[d]	75	3.0	989	0.076	100	4.3	LOS A	0.3	2.0	Full	500	0.0	0.0
Approach	75	3.0		0.076		4.3	LOS A	0.3	2.0				
East: Collector Road													
Lane 1[d]	188	3.0	984	0.191	100	5.5	LOS A	0.7	5.8	Full	500	0.0	0.0
Approach	188	3.0		0.191		5.5	LOS A	0.7	5.8				
North: Gerry Lalonde													
Lane 1[d]	135	3.0	958	0.141	100	5.1	LOS A	0.5	4.0	Full	500	0.0	0.0
Approach	135	3.0		0.141		5.1	LOS A	0.5	4.0				
West: Collector Road													
Lane 1[d]	67	3.0	1028	0.066	100	4.1	LOS A	0.2	1.8	Full	500	0.0	0.0
Approach	67	3.0		0.066		4.1	LOS A	0.2	1.8				
Intersection	465	3.0		0.191		5.0	LOS A	0.7	5.8				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

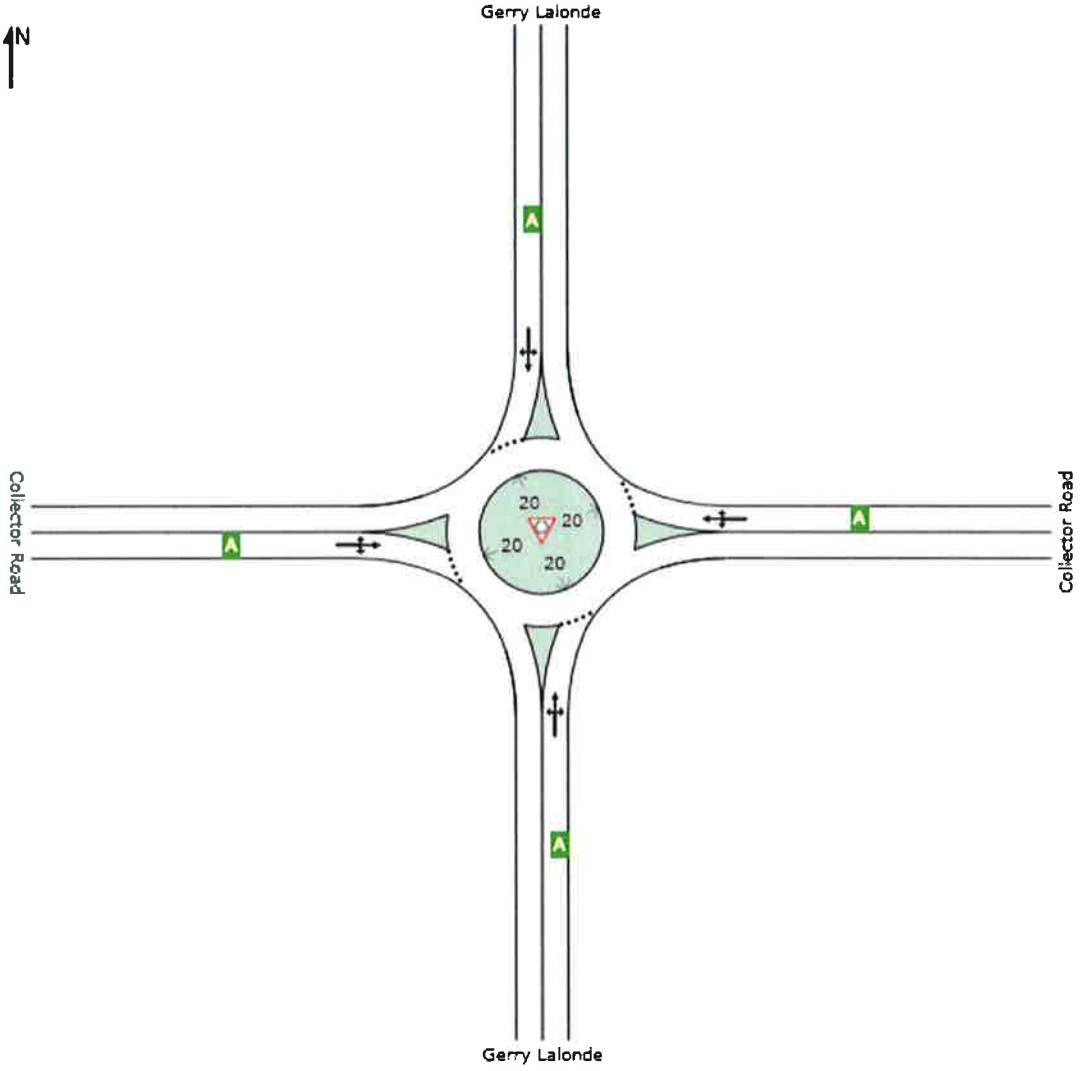
LEVEL OF SERVICE

Site: Gerry Lalonde & Collector Road - 2025 BGSG - AM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



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Roundabout LOS Method: Same as Sign Control.
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Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

LANE SUMMARY

Site: Wall Rd & Collector Road - 2025 BGSG - AM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Gerry Lalonde													
Lane 1[d]	96	3.0	998	0.096	100	4.5	LOS A	0.3	2.7	Full	500	0.0	0.0
Approach	96	3.0		0.096		4.5	LOS A	0.3	2.7				
East: Collector Road													
Lane 1[d]	185	3.0	1013	0.183	100	5.3	LOS A	0.7	5.5	Full	500	0.0	0.0
Approach	185	3.0		0.183		5.3	LOS A	0.7	5.5				
North: Gerry Lalonde													
Lane 1[d]	58	3.0	943	0.061	100	4.4	LOS A	0.2	1.6	Full	500	0.0	0.0
Approach	58	3.0		0.061		4.4	LOS A	0.2	1.6				
West: Collector Road													
Lane 1[d]	68	3.0	1035	0.066	100	4.1	LOS A	0.2	1.8	Full	500	0.0	0.0
Approach	68	3.0		0.066		4.1	LOS A	0.2	1.8				
Intersection	407	3.0		0.183		4.7	LOS A	0.7	5.5				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

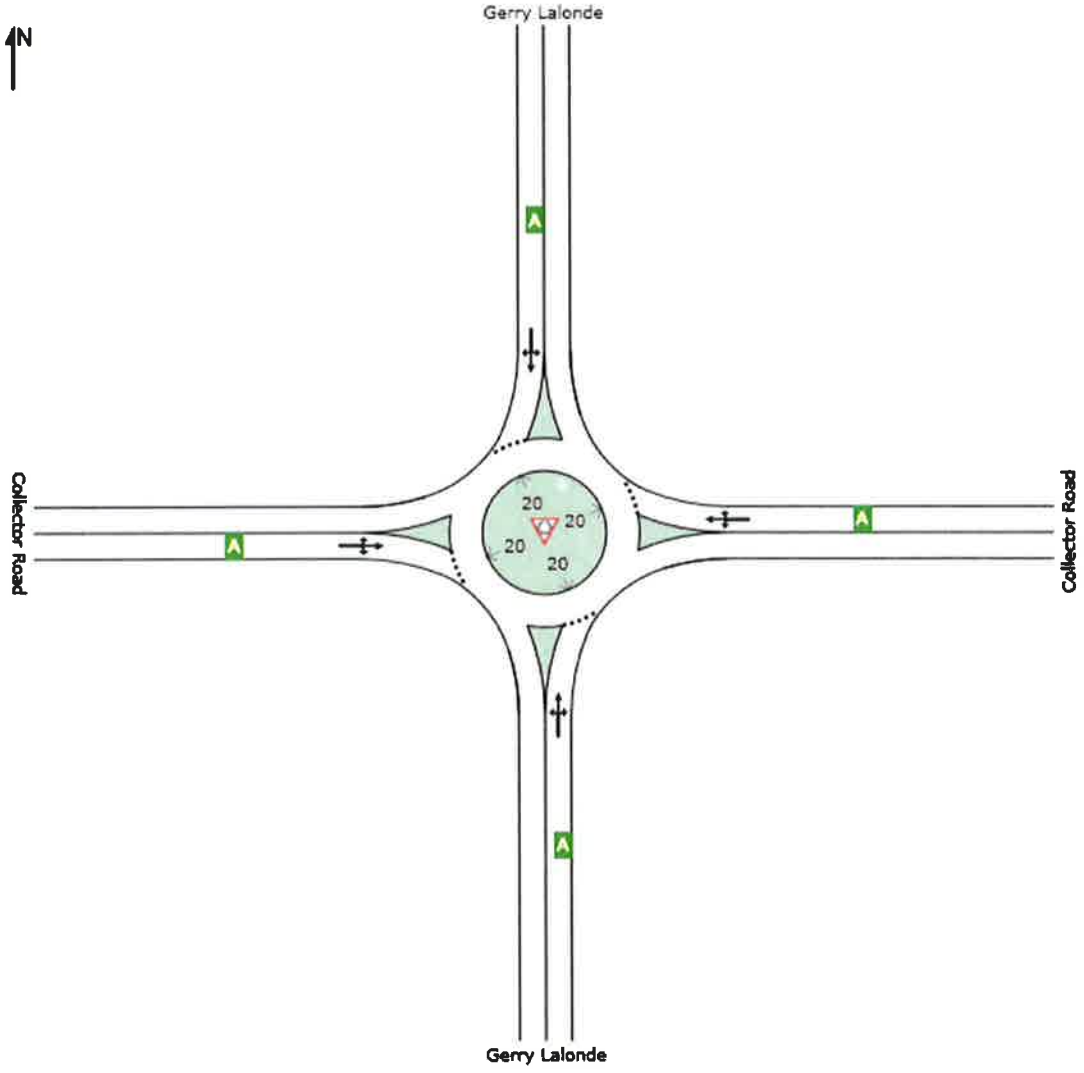
LEVEL OF SERVICE

Site: Wall Rd & Collector Road - 2025 BGSG - AM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



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Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

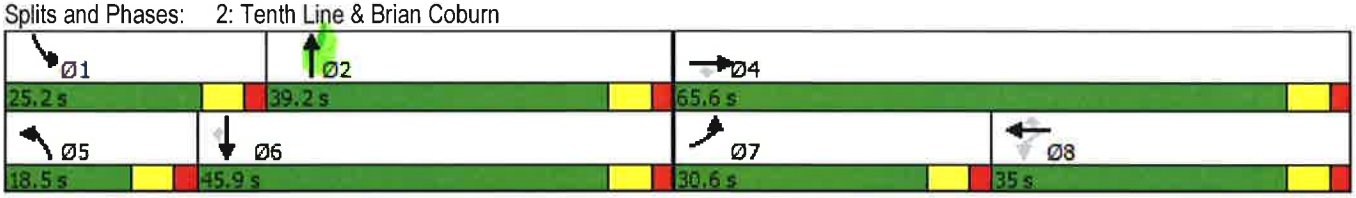
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	394	560	258	13	334	243	169	551	52	291	676	295
Future Volume (vph)	394	560	258	13	334	243	169	551	52	291	676	295
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	115.0		80.0	40.0		50.0	105.0		0.0	100.0		65.0
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	1695	3390	1517	3288	3346	0	3288	3390	1517
Flt Permitted	0.950			0.430			0.950			0.950		
Satd. Flow (perm)	3288	3390	1517	767	3390	1517	3288	3346	0	3288	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			272			240		7				311
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1402.3			938.8			686.6			623.5	
Travel Time (s)		84.1			56.3			41.2			37.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	415	589	272	14	352	256	178	580	55	306	712	311
Shared Lane Traffic (%)												
Lane Group Flow (vph)	415	589	272	14	352	256	178	635	0	306	712	311
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8						6
Detector Phase	7	4	4	8	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.3	35.0	35.0	35.0	35.0	35.0	13.3	35.0		13.3	35.0	35.0
Total Split (s)	30.6	65.6	65.6	35.0	35.0	35.0	18.5	39.2		25.2	45.9	45.9
Total Split (%)	23.5%	50.5%	50.5%	26.9%	26.9%	26.9%	14.2%	30.2%		19.4%	35.3%	35.3%
Maximum Green (s)	24.3	59.3	59.3	28.7	28.7	28.7	12.2	32.9		18.9	39.6	39.6
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	Min	Min	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		21.7	21.7	21.7	21.7	21.7		21.7			21.7	21.7
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	0
Act Effct Green (s)	18.5	42.6	42.6	17.5	17.5	17.5	10.6	25.8		15.0	30.1	30.1
Actuated g/C Ratio	0.18	0.41	0.41	0.17	0.17	0.17	0.10	0.25		0.15	0.29	0.29
v/c Ratio	0.70	0.42	0.35	0.11	0.61	0.56	0.53	0.75		0.64	0.72	0.47
Control Delay	48.4	23.0	3.8	42.5	46.0	12.0	53.3	42.9		50.4	38.0	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	48.4	23.0	3.8	42.5	46.0	12.0	53.3	42.9		50.4	38.0	6.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	C	A	D	D	B	D	D		D	D	A
Approach Delay		27.2			31.9			45.2			33.4	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	37.4	40.0	0.0	2.2	32.1	2.5	16.2	56.2		27.7	61.6	0.0
Queue Length 95th (m)	61.8	60.7	13.9	8.2	52.4	24.5	31.4	89.1		48.2	94.4	18.5
Internal Link Dist (m)		1378.3			914.8			662.6			599.5	
Turn Bay Length (m)	115.0		80.0	40.0		50.0	105.0			100.0		65.0
Base Capacity (vph)	803	2023	1015	221	979	608	403	1112		625	1351	791
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.52	0.29	0.27	0.06	0.36	0.42	0.44	0.57		0.49	0.53	0.39

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 102.9
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 33.6 — Intersection LOS: C
Intersection Capacity Utilization 72.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Tenth Line & Brian Coburn



Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	152	11	21	1	2	7	23	388	4	1	324	94
Future Vol, veh/h	152	11	21	1	2	7	23	388	4	1	324	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	160	12	22	1	2	7	24	408	4	1	341	99

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	857	854	391	868	901	411	440	0	0	413	0	0
Stage 1	393	393	-	459	459	-	-	-	-	-	-	-
Stage 2	464	461	-	409	442	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	277	296	658	273	278	641	1120	-	-	1146	-	-
Stage 1	632	606	-	582	566	-	-	-	-	-	-	-
Stage 2	578	565	-	619	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	266	287	658	250	270	641	1120	-	-	1146	-	-
Mov Cap-2 Maneuver	266	287	-	250	270	-	-	-	-	-	-	-
Stage 1	614	605	-	566	550	-	-	-	-	-	-	-
Stage 2	553	549	-	586	575	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	40.1	13.2	0.5	0
HCM LOS	E	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	287	448	1146	-	-
HCM Lane V/C Ratio	0.022	-	-	0.675	0.023	0.001	-	-
HCM Control Delay (s)	8.3	0	-	40.1	13.2	8.1	0	-
HCM Lane LOS	A	A	-	E	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	4.5	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	15.7
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	152	11	21	0	1	2	7	0	23	388	4
Future Vol, veh/h	0	152	11	21	0	1	2	7	0	23	388	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	160	12	22	0	1	2	7	0	24	408	4
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	12.4	9.4	16.8
HCM LOS	B	A	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	83%	10%	0%
Vol Thru, %	93%	6%	20%	77%
Vol Right, %	1%	11%	70%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	415	184	10	419
LT Vol	23	152	1	1
Through Vol	388	11	2	324
RT Vol	4	21	7	94
Lane Flow Rate	437	194	11	441
Geometry Grp	1	1	1	1
Degree of Util (X)	0.631	0.334	0.018	0.621
Departure Headway (Hd)	5.202	6.2	6.221	5.071
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	579	572	710
Service Time	3.242	4.249	4.294	3.11
HCM Lane V/C Ratio	0.629	0.335	0.019	0.621
HCM Control Delay	16.8	12.4	9.4	16.1
HCM Lane LOS	C	B	A	C
HCM 95th-tile Q	4.5	1.5	0.1	4.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	1	324	94
Future Vol, veh/h	0	1	324	94
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	341	99
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	16.1
HCM LOS	C

Lane

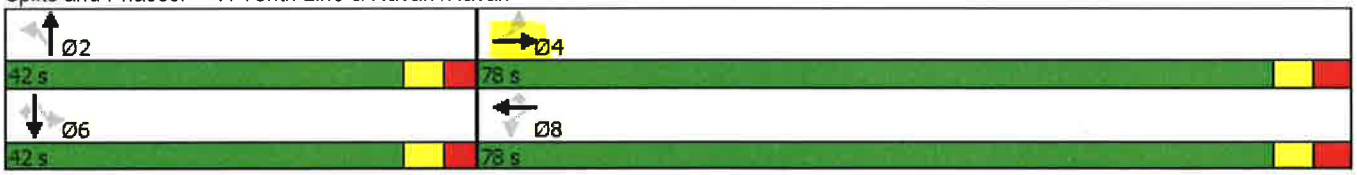
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	567	12	2	261	206	12	22	3	74	22	274
Future Volume (vph)	181	567	12	2	261	206	12	22	3	74	22	274
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		0.0	65.0		40.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.990				0.850
Flt Protected	0.950			0.950				0.984			0.963	
Satd. Flow (prot)	1695	1779	0	1695	1784	1517	0	1738	0	0	1718	1517
Flt Permitted	0.590			0.326				0.875			0.749	
Satd. Flow (perm)	1053	1779	0	582	1784	1517	0	1546	0	0	1336	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				217		3				288
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1757.1			855.5			456.3			1290.5	
Travel Time (s)		105.4			51.3			27.4			77.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	191	597	13	2	275	217	13	23	3	78	23	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	610	0	2	275	217	0	39	0	0	101	288
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	78.0	78.0		78.0	78.0	78.0	42.0	42.0		42.0	42.0	42.0
Total Split (%)	65.0%	65.0%		65.0%	65.0%	65.0%	35.0%	35.0%		35.0%	35.0%	35.0%
Maximum Green (s)	70.8	70.8		70.8	70.8	70.8	35.3	35.3		35.3	35.3	35.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	23.6	23.6		23.6	23.6	23.6		11.6			11.6	11.6
Actuated g/C Ratio	0.48	0.48		0.48	0.48	0.48		0.23			0.23	0.23
v/c Ratio	0.38	0.72		0.01	0.32	0.26		0.11			0.32	0.50
Control Delay	10.6	15.7		6.5	8.9	2.2		17.7			21.6	6.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	10.6	15.7		6.5	8.9	2.2		17.7			21.6	6.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	B		A	A	A		B			C	A
Approach Delay		14.5			5.9			17.7			10.5	
Approach LOS		B			A			B			B	
Queue Length 50th (m)	8.1	32.2		0.1	11.3	0.0		2.2			6.5	0.0
Queue Length 95th (m)	21.6	70.4		0.8	26.3	7.1		9.4			20.7	15.2
Internal Link Dist (m)		1733.1			831.5			432.3			1266.5	
Turn Bay Length (m)	120.0			65.0		40.0						30.0
Base Capacity (vph)	1053	1779		582	1784	1517		1192			1030	1235
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	0.18	0.34		0.00	0.15	0.14		0.03			0.10	0.23

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 49.6
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 11.2 — Intersection LOS: B
Intersection Capacity Utilization 69.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Tenth Line & Navan /Navan

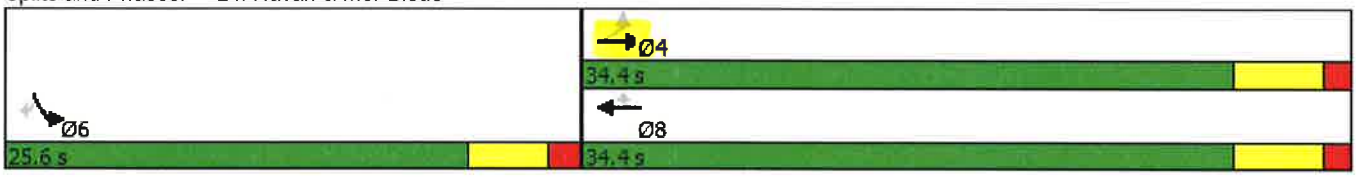


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	254	616	259	104	159	172
Future Volume (vph)	254	616	259	104	159	172
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			40.0	40.0	20.0
Storage Lanes	1			1	1	0
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1784	1784	1517	1695	1517
Flt Permitted	0.591				0.950	
Satd. Flow (perm)	1055	1784	1784	1517	1695	1517
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				109		181
Link Speed (k/h)		60	60		50	
Link Distance (m)		1840.8	1757.1		403.0	
Travel Time (s)		110.4	105.4		29.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	267	648	273	109	167	181
Shared Lane Traffic (%)						
Lane Group Flow (vph)	267	648	273	109	167	181
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	25.9	25.9	25.9	25.9	25.3	25.3
Total Split (s)	34.4	34.4	34.4	34.4	25.6	25.6
Total Split (%)	57.3%	57.3%	57.3%	57.3%	42.7%	42.7%
Maximum Green (s)	29.0	29.0	29.0	29.0	20.5	20.5
Yellow Time (s)	4.1	4.1	4.1	4.1	3.6	3.6
All-Red Time (s)	1.3	1.3	1.3	1.3	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.1	5.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	24.1	24.1	24.1	24.1	9.9	9.9
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.22	0.22
v/c Ratio	0.47	0.67	0.28	0.13	0.45	0.38
Control Delay	10.3	12.3	7.0	2.0	19.6	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	12.3	7.0	2.0	19.6	5.9

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	B	B	A	A	B	A
Approach Delay		11.7	5.6		12.5	
Approach LOS		B	A		B	
Queue Length 50th (m)	10.0	28.6	9.1	0.0	9.6	0.0
Queue Length 95th (m)	27.5	65.3	21.7	4.6	24.5	10.5
Internal Link Dist (m)		1816.8	1733.1		379.0	
Turn Bay Length (m)	40.0			40.0	40.0	20.0
Base Capacity (vph)	697	1178	1178	1039	791	805
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.55	0.23	0.10	0.21	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 44.8			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 24: Navan & Mer Bleue



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	555	69	40	327	456	314
Future Volume (vph)	555	69	40	327	456	314
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0	40.0	40.0			40.0
Storage Lanes	2	0	1			1
Taper Length (m)	30.0		30.0			
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3288	1517	1695	1784	1784	1517
Flt Permitted	0.950		0.438			
Satd. Flow (perm)	3288	1517	782	1784	1784	1517
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		73				307
Link Speed (k/h)	50			50	60	
Link Distance (m)	994.9			521.8	394.2	
Travel Time (s)	71.6			37.6	23.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	584	73	42	344	480	331
Shared Lane Traffic (%)						
Lane Group Flow (vph)	584	73	42	344	480	331
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	25.9	25.9	28.8	28.8
Total Split (s)	49.0	49.0	71.0	71.0	71.0	71.0
Total Split (%)	40.8%	40.8%	59.2%	59.2%	59.2%	59.2%
Maximum Green (s)	43.6	43.6	65.7	65.7	65.7	65.7
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	1.8	1.8	1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.3	5.3	5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	22.9	22.9	65.9	65.9	65.9	65.9
Actuated g/C Ratio	0.23	0.23	0.66	0.66	0.66	0.66
v/c Ratio	0.77	0.18	0.08	0.29	0.41	0.30
Control Delay	43.2	8.2	7.7	8.5	9.7	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	8.2	7.7	8.5	9.7	2.0

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D	A	A	A	A	A
Approach Delay	39.3			8.4	6.6	
Approach LOS	D			A	A	
Queue Length 50th (m)	50.1	0.0	2.4	22.6	34.8	1.3
Queue Length 95th (m)	66.7	9.6	7.2	43.0	64.1	11.0
Internal Link Dist (m)	970.9			497.8	370.2	
Turn Bay Length (m)	40.0	40.0	40.0			40.0
Base Capacity (vph)	1444	707	517	1180	1180	1107
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.10	0.08	0.29	0.41	0.30

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 99.5			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 26: Mer Bleue & Renaud

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	24	88	279	41	161	365
Future Vol, veh/h	24	88	279	41	161	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	400	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	93	294	43	169	384

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1017	294	0	0	294	0
Stage 1	294	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	263	745	-	-	1268	-
Stage 1	756	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	228	745	-	-	1268	-
Mov Cap-2 Maneuver	228	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	417	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	2.5
HCM LOS	B		

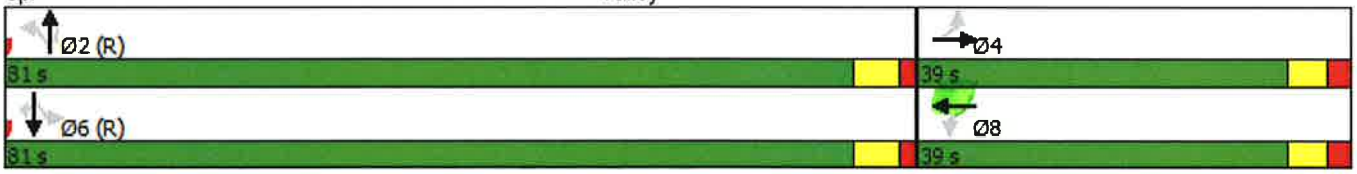
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	501	1268	-
HCM Lane V/C Ratio	-	-	0.235	0.134	-
HCM Control Delay (s)	-	-	14.4	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.5	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	10	10	30	10	99	10	534	59	189	457	55
Future Volume (vph)	31	10	10	30	10	99	10	534	59	189	457	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		40.0	40.0		40.0	40.0		40.0	40.0		40.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925			0.864				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1650	0	1695	1542	0	1695	3390	1517	1695	3390	1517
Flt Permitted	0.582			0.743			0.477			0.441		
Satd. Flow (perm)	1038	1650	0	1326	1542	0	851	3390	1517	787	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			104				62			58
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		201.9			221.8			343.7			686.6	
Travel Time (s)		14.5			16.0			20.6			41.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	11	11	32	11	104	11	562	62	199	481	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	22	0	32	115	0	11	562	62	199	481	58
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	34.8	34.8		34.8	34.8		28.6	28.6	28.6	28.6	28.6	28.6
Total Split (s)	39.0	39.0		39.0	39.0		81.0	81.0	81.0	81.0	81.0	81.0
Total Split (%)	32.5%	32.5%		32.5%	32.5%		67.5%	67.5%	67.5%	67.5%	67.5%	67.5%
Maximum Green (s)	33.1	33.1		33.1	33.1		75.4	75.4	75.4	75.4	75.4	75.4
Yellow Time (s)	3.6	3.6		3.6	3.6		4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.3	2.3		2.3	2.3		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	5.9		5.9	5.9		5.6	5.6	5.6	5.6	5.6	5.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	17.9	17.9		17.9	17.9		9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	10.6	10.6		10.6	10.6		97.9	97.9	97.9	97.9	97.9	97.9
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.82	0.82	0.82	0.82	0.82	0.82
v/c Ratio	0.36	0.14		0.28	0.50		0.02	0.20	0.05	0.31	0.17	0.05
Control Delay	62.8	34.6		57.1	20.0		2.2	2.5	0.5	4.2	2.6	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.8	34.6		57.1	20.0		2.2	2.5	0.5	4.2	2.6	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	C		E	B		A	A	A	A	A	A
Approach Delay		51.5			28.0			2.3			2.9	
Approach LOS		D			C			A			A	
Queue Length 50th (m)	6.9	2.2		6.6	2.3		0.3	10.0	0.0	8.0	8.8	0.0
Queue Length 95th (m)	16.4	9.5		15.7	18.2		1.3	14.6	1.7	16.5	13.7	2.1
Internal Link Dist (m)		177.9			197.8			319.7			662.6	
Turn Bay Length (m)	40.0			40.0			40.0		40.0	40.0		40.0
Base Capacity (vph)	286	463		365	500		694	2766	1249	641	2766	1248
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05		0.09	0.23		0.02	0.20	0.05	0.31	0.17	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 44 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 6.7		Intersection LOS: A	
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 33: Tenth Line & Zone 3 North/Harvest Valley



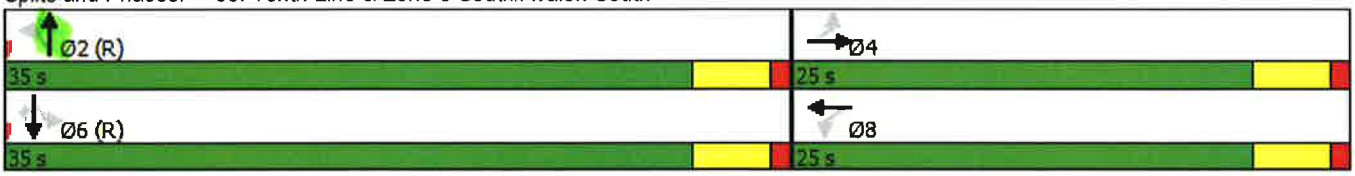
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	10	4	5	10	37	3	529	10	68	368	51
Future Volume (vph)	27	10	4	5	10	37	3	529	10	68	368	51
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0		0.0	20.0		0.0	20.0		0.0	20.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.960			0.883			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1526	1542	0	1526	1418	0	1526	3042	0	1526	3051	1365
Flt Permitted	0.724			0.748			0.523			0.439		
Satd. Flow (perm)	1163	1542	0	1201	1418	0	840	3042	0	705	3051	1365
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			39			5				54
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		211.4			213.4			714.8			343.7	
Travel Time (s)		15.2			15.4			42.9			20.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	28	11	4	5	11	39	3	557	11	72	387	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	15	0	5	50	0	3	568	0	72	387	54
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	22.5
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	58.3%
Maximum Green (s)	20.5	20.5		20.5	20.5		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
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)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	10.0	10.0		10.0	10.0		48.6	48.6		48.6	48.6	48.6
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.81	0.81		0.81	0.81	0.81
v/c Ratio	0.15	0.06		0.03	0.19		0.00	0.23		0.13	0.16	0.05
Control Delay	23.5	19.2		21.4	12.2		3.0	3.0		3.0	2.3	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	23.5	19.2		21.4	12.2		3.0	3.0		3.0	2.3	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B		C	B		A	A		A	A	A
Approach Delay		22.0			13.0			3.0			2.2	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	2.5	1.0		0.4	1.0		0.1	9.2		1.9	5.4	0.0
Queue Length 95th (m)	7.9	4.8		2.6	7.9		0.6	14.0		3.8	7.3	1.2
Internal Link Dist (m)		187.4			189.4			690.8			319.7	
Turn Bay Length (m)	20.0			20.0			20.0			20.0		20.0
Base Capacity (vph)	397	529		410	510		680	2465		571	2471	1115
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.07	0.03		0.01	0.10		0.00	0.23		0.13	0.16	0.05

Intersection Summary

Area Type: CBD
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.23
Intersection Signal Delay: 3.8 Intersection LOS: A
Intersection Capacity Utilization 45.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 35: Tenth Line & Zone 3 South/Avalon South



Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	56	34	178	159	65	167
Future Vol, veh/h	56	34	178	159	65	167
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	36	187	167	68	176

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	584	271	0	0	355	0
Stage 1	271	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	474	768	-	-	1204	-
Stage 1	775	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	444	768	-	-	1204	-
Mov Cap-2 Maneuver	444	-	-	-	-	-
Stage 1	775	-	-	-	-	-
Stage 2	694	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	2.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	528	1204	-
HCM Lane V/C Ratio	-	-	0.179	0.057	-
HCM Control Delay (s)	-	-	13.3	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	20	20	369	30	20	341
Future Vol, veh/h	20	20	369	30	20	341
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	21	388	32	21	359

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	805	404	0	0	420	0
Stage 1	404	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	352	647	-	-	1139	-
Stage 1	674	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	344	647	-	-	1139	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	674	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	449	1139	-
HCM Lane V/C Ratio	-	-	0.094	0.018	-
HCM Control Delay (s)	-	-	13.8	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	12	6	9	404	322	25
Future Vol, veh/h	12	6	9	404	322	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	400	-	-	400
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	6	9	425	339	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	783	339	339	0	-	0
Stage 1	339	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	362	703	1220	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	359	703	1220	-	-	-
Mov Cap-2 Maneuver	359	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	641	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1220	-	429	-	-
HCM Lane V/C Ratio	0.008	-	0.044	-	-
HCM Control Delay (s)	8	-	13.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BGSG - PM

New Site
Roundabout

Lane Use and Performance	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	288	3.0	407	0.709	100	31.2	LOS D	3.1	24.2	Full	420	0.0	0.0
Lane 2	288	3.0	407	0.709	100	31.2	LOS D	3.1	24.2	Full	420	0.0	0.0
Lane 3[d]	396	3.0	435	0.910	100	54.3	LOS F	6.3	49.5	Two Seg[9]	50	0.0	4.7
Approach	973	3.0		0.910		40.6	LOS E	6.3	49.5				
East: Brian Coburn Road													
Lane 1	292	3.0	591	0.495	100	14.4	LOS B	1.9	14.9	Full	500	0.0	0.0
Lane 2[d]	305	3.0	616	0.495	100	13.9	LOS B	1.8	14.4	Full	500	0.0	0.0
Lane 3	294	3.0	591	0.497	100	14.5	LOS B	1.9	15.0	Two Seg[9]	50	0.0	0.0
Approach	891	3.0		0.497		14.2	LOS B	1.9	15.0				
North: Mer Bleue Road													
Lane 1	556	3.0	639	0.869	100	36.0	LOS E	7.3	56.6	Full	500	0.0	0.0
Lane 2[d]	576	3.0	662	0.869	100	35.1	LOS E	7.0	54.8	Full	500	0.0	0.0
Lane 3	177	3.0	639	0.277	100	9.2	LOS A	0.8	6.4	Two Seg[9]	50	0.0	0.0
Approach	1308	3.0		0.869		32.0	LOS D	7.3	56.6				
West: Brian Coburn Road Extension													
Lane 1	415	3.0	395	1.052	100	92.6	LOS F	15.3	119.0	Full	500	0.0	0.0
Lane 2[d]	445	3.0	423	1.052	100	89.8	LOS F	15.7	122.3	Full	500	0.0	0.0
Lane 3	165	3.0	395	0.419	100	17.6	LOS C	1.3	10.4	Two Seg[9]	50	0.0	0.0
Approach	1025	3.0		1.052		79.3	LOS F	15.7	122.3				
Intersection	4197	3.0		1.052		41.8	LOS E	15.7	122.3				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

9 All Movement Classes allocated to Segment 1 are also allocated to Segment 2. This Two-Segment Lane has been modelled as a full-length lane.
d Dominant lane on roundabout approach

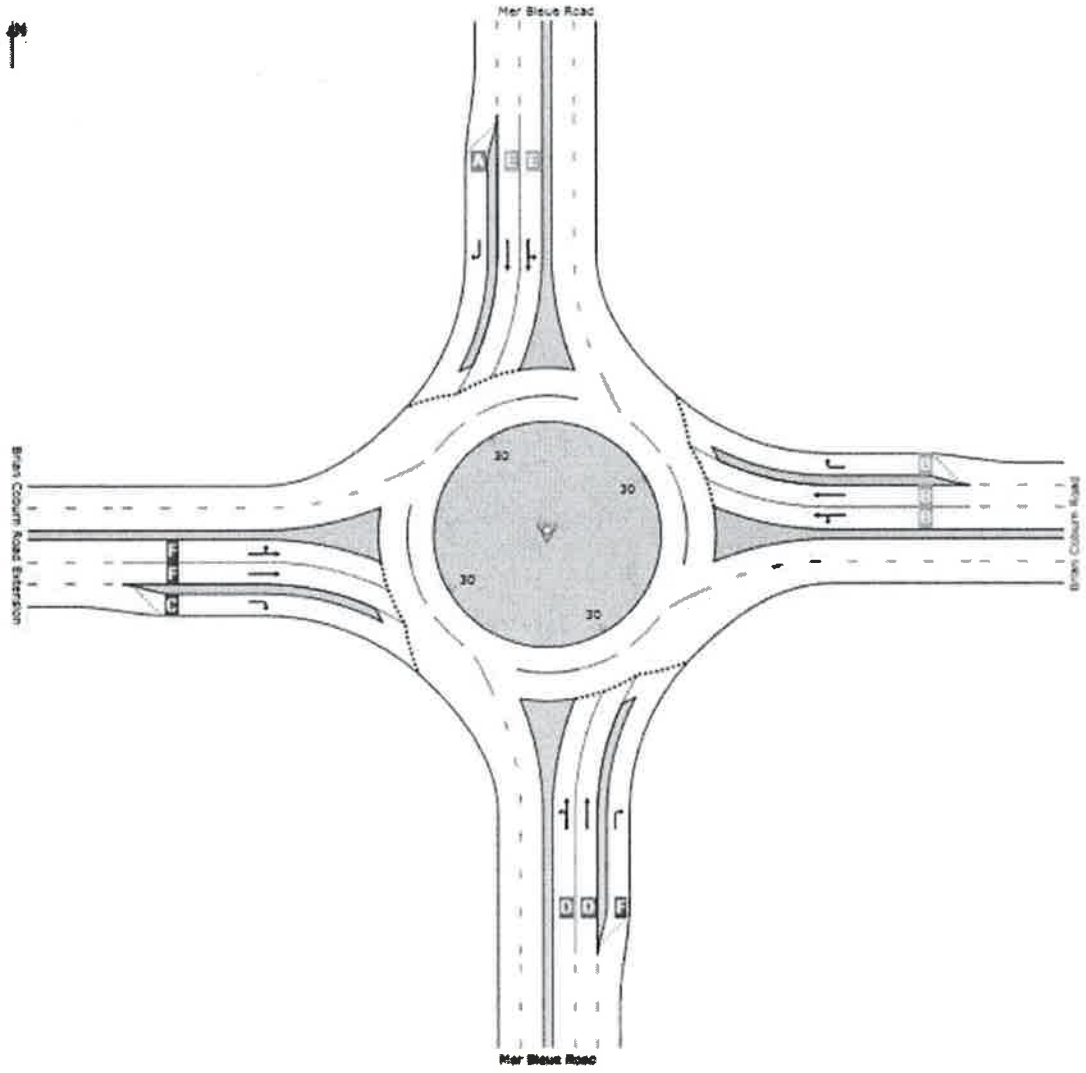
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2025 - BGSG - PM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	E	B	D	F	E



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Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

LANE SUMMARY

Site: Gerry Lalonde & Collector Road - 2025 BGSG - PM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Gerry Lalonde													
Lane 1[d]	48	3.0	896	0.054	100	4.5	LOS A	0.2	1.4	Full	500	0.0	0.0
Approach	48	3.0		0.054		4.5	LOS A	0.2	1.4				
East: Collector Road													
Lane 1[d]	94	3.0	972	0.096	100	4.6	LOS A	0.3	2.7	Full	500	0.0	0.0
Approach	94	3.0		0.096		4.6	LOS A	0.3	2.7				
North: Gerry Lalonde													
Lane 1[d]	82	3.0	995	0.083	100	4.4	LOS A	0.3	2.3	Full	500	0.0	0.0
Approach	82	3.0		0.083		4.4	LOS A	0.3	2.3				
West: Collector Road													
Lane 1[d]	220	3.0	1049	0.210	100	5.4	LOS A	0.8	6.6	Full	500	0.0	0.0
Approach	220	3.0		0.210		5.4	LOS A	0.8	6.6				
Intersection	444	3.0		0.210		4.9	LOS A	0.8	6.6				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

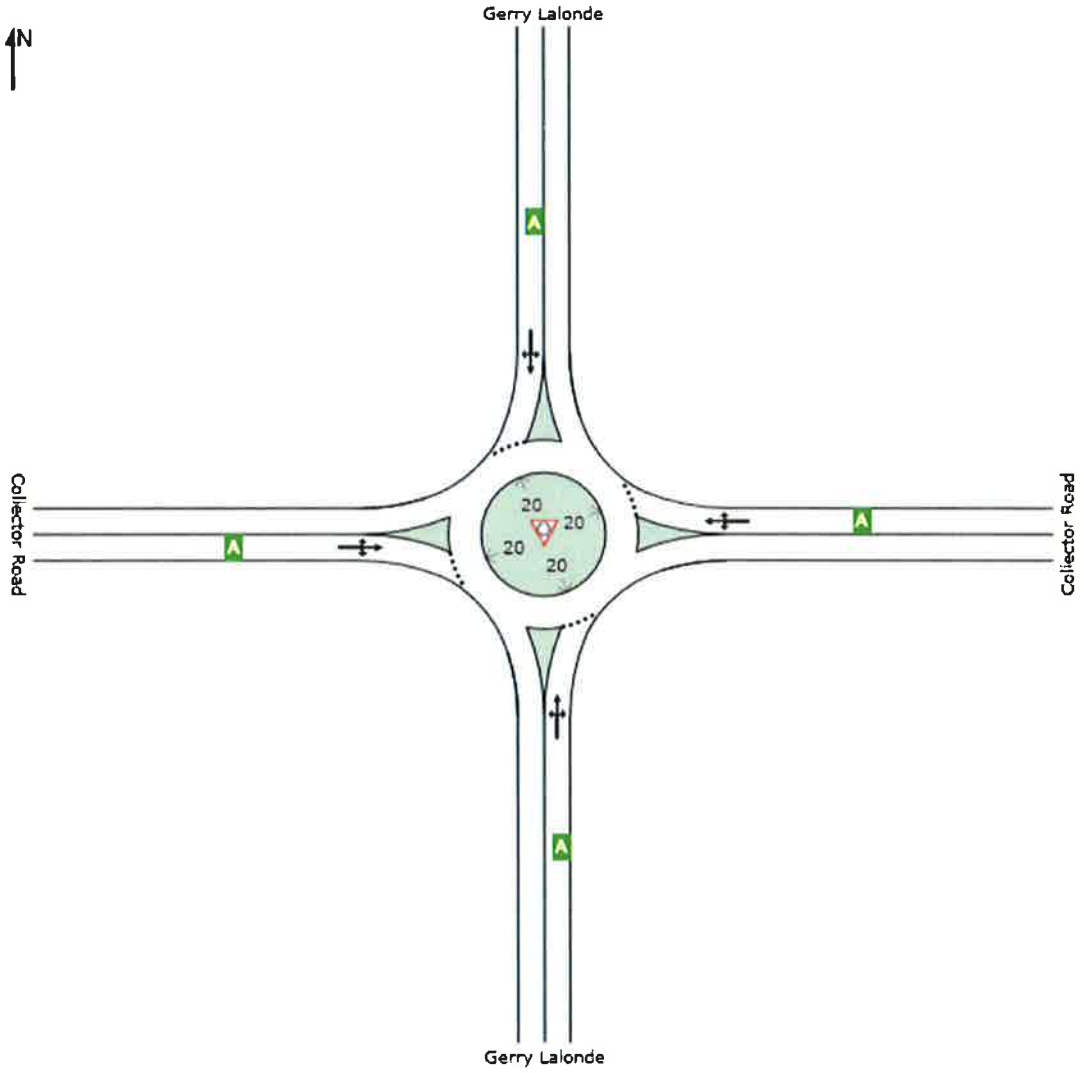
LEVEL OF SERVICE

Site: Gerry Lalonde & Collector Road - 2025 BGSG - PM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



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Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

LANE SUMMARY

Site: Wall Rd & Collector Road - 2025 BGSG - PM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Gerry Lalonde													
Lane 1[d]	60	3.0	905	0.066	100	4.6	LOS A	0.2	1.8	Full	500	0.0	0.0
Approach	60	3.0		0.066		4.6	LOS A	0.2	1.8				
East: Collector Road													
Lane 1[d]	126	3.0	1039	0.122	100	4.6	LOS A	0.4	3.5	Full	500	0.0	0.0
Approach	126	3.0		0.122		4.6	LOS A	0.4	3.5				
North: Gerry Lalonde													
Lane 1[d]	60	3.0	971	0.062	100	4.3	LOS A	0.2	1.6	Full	500	0.0	0.0
Approach	60	3.0		0.062		4.3	LOS A	0.2	1.6				
West: Collector Road													
Lane 1[d]	187	3.0	1000	0.187	100	5.4	LOS A	0.7	5.7	Full	500	0.0	0.0
Approach	187	3.0		0.187		5.4	LOS A	0.7	5.7				
Intersection	434	3.0		0.187		4.9	LOS A	0.7	5.7				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

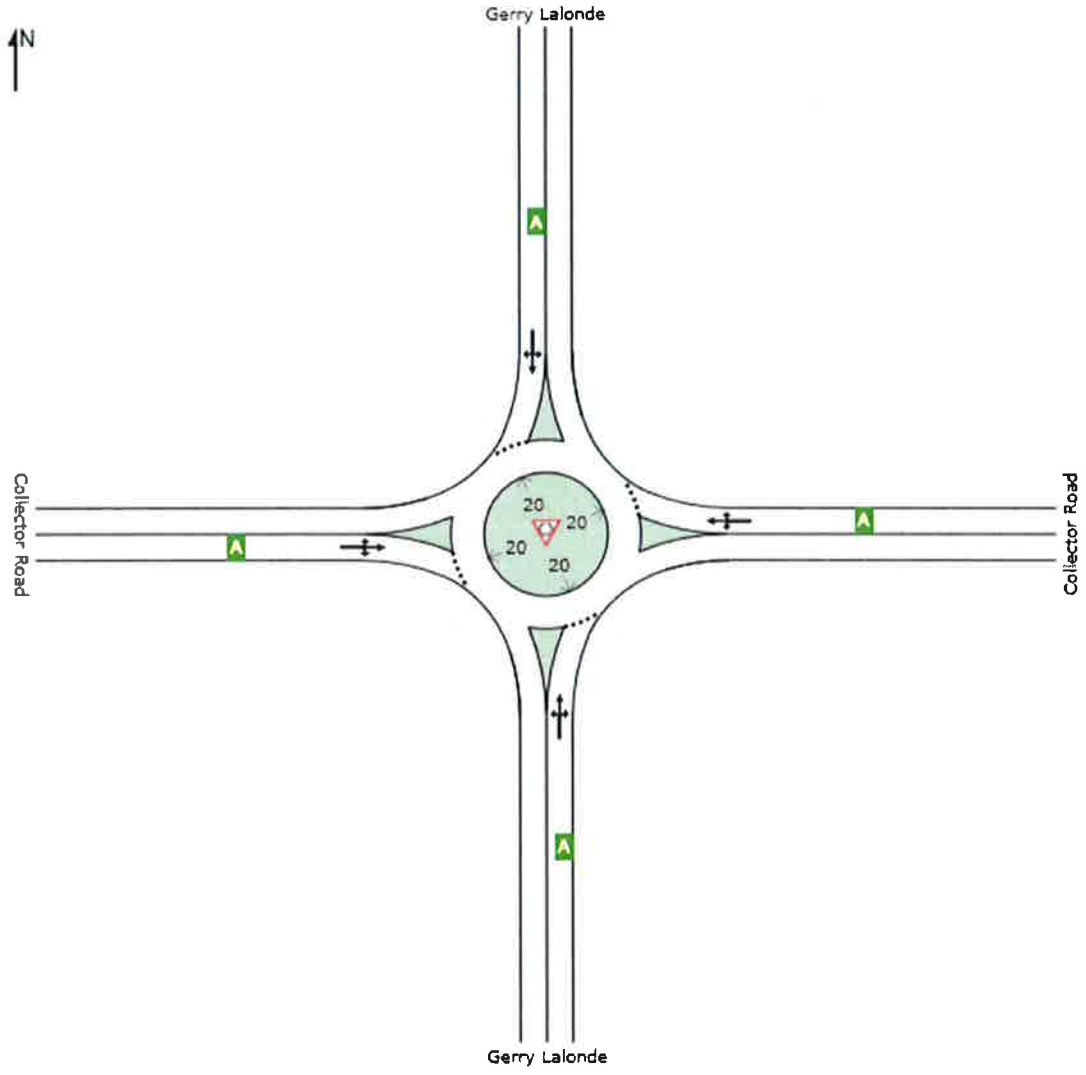
LEVEL OF SERVICE

Site: Wall Rd & Collector Road - 2025 BGSG - PM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
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Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Future (2031) Total Traffic

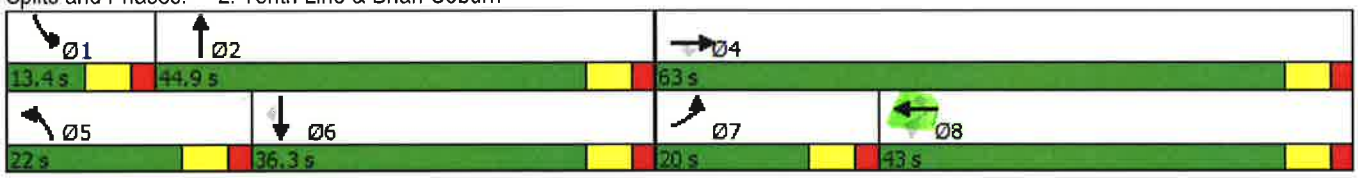
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	148	92	27	808	269	308	670	34	106	277	216
Future Volume (vph)	252	148	92	27	808	269	308	670	34	106	277	216
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	115.0		80.0	40.0		50.0	105.0		0.0	100.0		65.0
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	1695	3390	1517	3288	3366	0	3288	3390	1517
Flt Permitted	0.950			0.653			0.950			0.950		
Satd. Flow (perm)	3288	3390	1517	1165	3390	1517	3288	3366	0	3288	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			200		4				227
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1402.3			938.8			686.6			623.5	
Travel Time (s)		84.1			56.3			41.2			37.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	265	156	97	28	851	283	324	705	36	112	292	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	265	156	97	28	851	283	324	741	0	112	292	227
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8						6
Detector Phase	7	4	4	8	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.3	35.0	35.0	35.0	35.0	35.0	13.3	35.0		13.3	35.0	35.0
Total Split (s)	20.0	63.0	63.0	43.0	43.0	43.0	22.0	44.9		13.4	36.3	36.3
Total Split (%)	16.5%	51.9%	51.9%	35.4%	35.4%	35.4%	18.1%	37.0%		11.0%	29.9%	29.9%
Maximum Green (s)	13.7	56.7	56.7	36.7	36.7	36.7	15.7	38.6		7.1	30.0	30.0
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	Min	Min	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		21.7	21.7	21.7	21.7	21.7		21.7			21.7	21.7
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	0
Act Effct Green (s)	12.6	52.1	52.1	33.0	33.0	33.0	14.5	30.2		7.1	22.7	22.7
Actuated g/C Ratio	0.12	0.48	0.48	0.30	0.30	0.30	0.13	0.28		0.07	0.21	0.21
v/c Ratio	0.69	0.10	0.12	0.08	0.82	0.47	0.74	0.79		0.53	0.41	0.46
Control Delay	58.1	16.3	1.2	29.6	43.5	12.8	57.8	43.2		61.6	39.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	58.1	16.3	1.2	29.6	43.5	12.8	57.8	43.2		61.6	39.7	8.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	B	A	C	D	B	E	D		E	D	A
Approach Delay		34.9			35.7			47.6			32.2	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	27.3	8.5	0.0	4.0	83.0	12.2	33.2	74.1		11.7	27.8	0.0
Queue Length 95th (m)	42.4	15.5	2.8	11.0	114.2	36.3	#52.7	94.1		21.3	39.7	17.6
Internal Link Dist (m)		1378.3			914.8			662.6			599.5	
Turn Bay Length (m)	115.0		80.0	40.0		50.0	105.0			100.0		65.0
Base Capacity (vph)	421	1799	872	400	1164	652	483	1219		218	952	589
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.63	0.09	0.11	0.07	0.73	0.43	0.67	0.61		0.51	0.31	0.39

Intersection Summary

Area Type: Other
Cycle Length: 121.3
Actuated Cycle Length: 108.5
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 38.7 Intersection LOS: D
Intersection Capacity Utilization 77.0% 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: 2: Tenth Line & Brian Coburn



Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	115	5	56	10	5	6	85	248	1	2	241	155
Future Vol, veh/h	115	5	56	10	5	6	85	248	1	2	241	155
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	5	59	11	5	6	89	261	1	2	254	163

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	785	780	335	813	862	262	417	0	0	262	0	0
Stage 1	339	339	-	441	441	-	-	-	-	-	-	-
Stage 2	446	441	-	372	421	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	310	327	707	297	293	777	1142	-	-	1302	-	-
Stage 1	676	640	-	595	577	-	-	-	-	-	-	-
Stage 2	591	577	-	648	589	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	281	297	707	250	266	777	1142	-	-	1302	-	-
Mov Cap-2 Maneuver	281	297	-	250	266	-	-	-	-	-	-	-
Stage 1	614	639	-	541	524	-	-	-	-	-	-	-
Stage 2	528	524	-	588	588	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.5	17.2	2.1	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1142	-	-	348	316	1302	-	-
HCM Lane V/C Ratio	0.078	-	-	0.532	0.07	0.002	-	-
HCM Control Delay (s)	8.4	0	-	26.5	17.2	7.8	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	3	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	115	5	56	0	10	5	6	0	85	248	1
Future Vol, veh/h	0	115	5	56	0	10	5	6	0	85	248	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	121	5	59	0	11	5	6	0	89	261	1
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	11.3	9.4	13.3
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	65%	48%	1%
Vol Thru, %	74%	3%	24%	61%
Vol Right, %	0%	32%	29%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	334	176	21	398
LT Vol	85	115	10	2
Through Vol	248	5	5	241
RT Vol	1	56	6	155
Lane Flow Rate	352	185	22	419
Geometry Grp	1	1	1	1
Degree of Util (X)	0.504	0.298	0.038	0.55
Departure Headway (Hd)	5.162	5.789	6.166	4.849
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	700	622	581	750
Service Time	3.179	3.807	4.196	2.849
HCM Lane V/C Ratio	0.503	0.297	0.038	0.559
HCM Control Delay	13.3	11.3	9.4	13.6
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	2.9	1.2	0.1	3.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	2	241	155
Future Vol, veh/h	0	2	241	155
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	254	163
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	13.6
HCM LOS	B

Lane

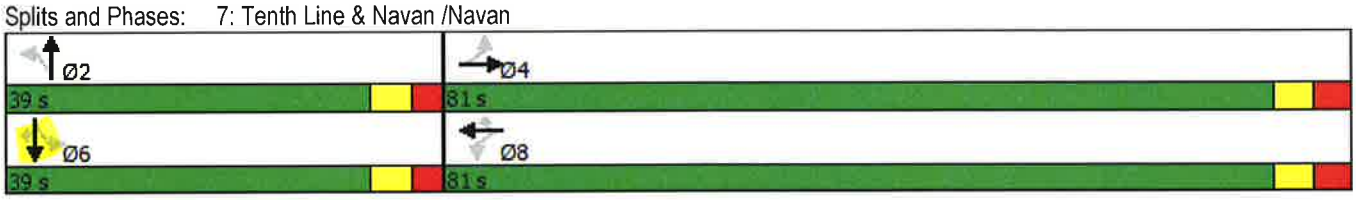
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	186	5	1	535	246	11	8	4	112	12	165
Future Volume (vph)	38	186	5	1	535	246	11	8	4	112	12	165
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		0.0	65.0		40.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996				0.850		0.977				0.850
Flt Protected	0.950			0.950				0.976			0.957	
Satd. Flow (prot)	1695	1777	0	1695	1784	1517	0	1701	0	0	1708	1517
Flt Permitted	0.415			0.632				0.824			0.730	
Satd. Flow (perm)	740	1777	0	1128	1784	1517	0	1436	0	0	1303	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				241		4				174
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1757.1			855.5			456.3			1290.5	
Travel Time (s)		105.4			51.3			27.4			77.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	196	5	1	563	259	12	8	4	118	13	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	201	0	1	563	259	0	24	0	0	131	174
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	81.0	81.0		81.0	81.0	81.0	39.0	39.0		39.0	39.0	39.0
Total Split (%)	67.5%	67.5%		67.5%	67.5%	67.5%	32.5%	32.5%		32.5%	32.5%	32.5%
Maximum Green (s)	73.8	73.8		73.8	73.8	73.8	32.3	32.3		32.3	32.3	32.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	74.7	74.7		74.7	74.7	74.7		15.8			15.8	15.8
Actuated g/C Ratio	0.72	0.72		0.72	0.72	0.72		0.15			0.15	0.15
v/c Ratio	0.08	0.16		0.00	0.44	0.22		0.11			0.67	0.46
Control Delay	5.9	5.7		6.0	8.1	1.5		33.3			58.2	9.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	5.9	5.7		6.0	8.1	1.5		33.3			58.2	9.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A		A	A	A		C			E	A
Approach Delay		5.7			6.0			33.3			30.6	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	1.9	10.3		0.1	37.5	0.8		3.2			23.1	0.0
Queue Length 95th (m)	6.1	21.5		0.5	70.2	8.4		9.8			40.7	15.9
Internal Link Dist (m)		1733.1			831.5			432.3			1266.5	
Turn Bay Length (m)	120.0			65.0		40.0						30.0
Base Capacity (vph)	529	1272		807	1276	1154		447			403	589
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	0.16		0.00	0.44	0.22		0.05			0.33	0.30

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 104.4
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 11.8 — Intersection LOS: B
Intersection Capacity Utilization 66.0% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Tenth Line & Navan /Navan

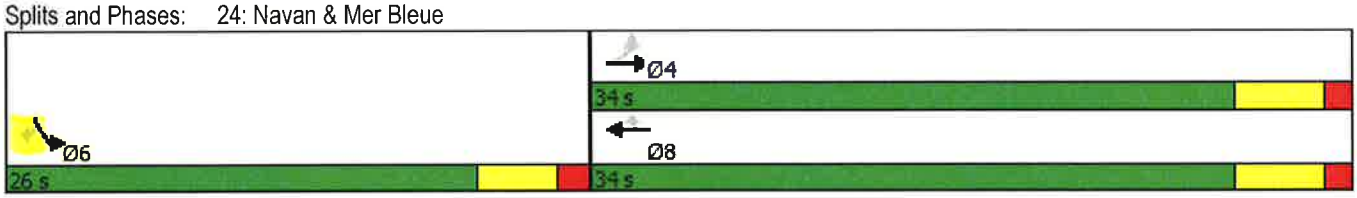


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	137	178	542	99	35	315
Future Volume (vph)	137	178	542	99	35	315
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			40.0	40.0	20.0
Storage Lanes	1			1	1	0
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1784	1784	1517	1695	1517
Flt Permitted	0.374				0.950	
Satd. Flow (perm)	667	1784	1784	1517	1695	1517
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				104		228
Link Speed (k/h)		60	60		50	
Link Distance (m)		1840.8	1757.1		403.0	
Travel Time (s)		110.4	105.4		29.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	144	187	571	104	37	332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	187	571	104	37	332
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	25.9	25.9	25.9	25.9	25.3	25.3
Total Split (s)	34.0	34.0	34.0	34.0	26.0	26.0
Total Split (%)	56.7%	56.7%	56.7%	56.7%	43.3%	43.3%
Maximum Green (s)	28.6	28.6	28.6	28.6	20.9	20.9
Yellow Time (s)	4.1	4.1	4.1	4.1	3.6	3.6
All-Red Time (s)	1.3	1.3	1.3	1.3	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.1	5.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	29.5	29.5	29.5	29.5	11.8	11.8
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.23	0.23
v/c Ratio	0.38	0.18	0.56	0.11	0.10	0.64
Control Delay	10.9	6.7	10.5	2.2	15.5	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	6.7	10.5	2.2	15.5	12.1

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	B	A	B	A	B	B
Approach Delay		8.5	9.2		12.5	
Approach LOS		A	A		B	
Queue Length 50th (m)	5.2	5.9	23.7	0.0	2.4	7.2
Queue Length 95th (m)	19.5	17.2	61.1	5.1	7.2	23.9
Internal Link Dist (m)		1816.8	1733.1		379.0	
Turn Bay Length (m)	40.0			40.0	40.0	20.0
Base Capacity (vph)	379	1014	1014	907	686	749
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.18	0.56	0.11	0.05	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 51.8			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 24: Navan & Mer Bleue

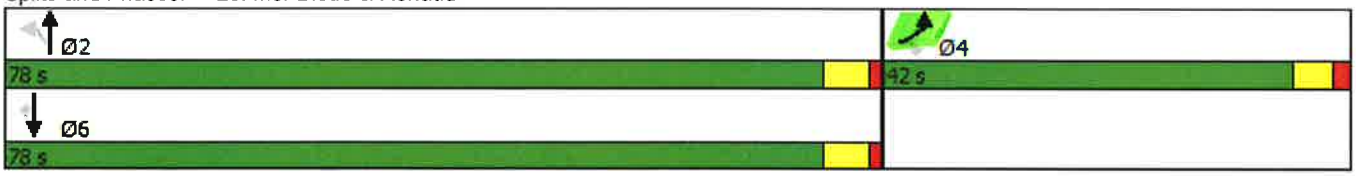


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	332	48	118	552	208	463
Future Volume (vph)	332	48	118	552	208	463
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	90.0	40.0	40.0			40.0
Storage Lanes	2	0	1			1
Taper Length (m)	30.0		30.0			
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3288	1517	1695	1784	1784	1517
Flt Permitted	0.950		0.621			
Satd. Flow (perm)	3288	1517	1108	1784	1784	1517
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		51				487
Link Speed (k/h)	50			50	60	
Link Distance (m)	994.9			521.8	394.2	
Travel Time (s)	71.6			37.6	23.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	349	51	124	581	219	487
Shared Lane Traffic (%)						
Lane Group Flow (vph)	349	51	124	581	219	487
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	25.9	25.9	28.8	28.8
Total Split (s)	42.0	42.0	78.0	78.0	78.0	78.0
Total Split (%)	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%
Maximum Green (s)	36.6	36.6	72.7	72.7	72.7	72.7
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	1.8	1.8	1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.3	5.3	5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	15.6	15.6	72.7	72.7	72.7	72.7
Actuated g/C Ratio	0.16	0.16	0.73	0.73	0.73	0.73
v/c Ratio	0.67	0.18	0.15	0.44	0.17	0.39
Control Delay	46.1	11.7	4.9	6.9	4.7	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	11.7	4.9	6.9	4.7	1.4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D	B	A	A	A	A
Approach Delay	41.8			6.5	2.4	
Approach LOS	D			A	A	
Queue Length 50th (m)	30.3	0.0	5.6	34.2	9.9	0.0
Queue Length 95th (m)	43.2	8.9	12.4	60.3	19.4	7.7
Internal Link Dist (m)	970.9			497.8	370.2	
Turn Bay Length (m)	90.0	40.0	40.0			40.0
Base Capacity (vph)	1215	592	813	1309	1309	1243
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	0.29	0.09	0.15	0.44	0.17	0.39

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 99.1			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 26: Mer Bleue & Renaud



Intersection	
Int Delay, s/veh	10.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	87	285	385	41	83	173
Future Vol, veh/h	87	285	385	41	83	173
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	400	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	300	405	43	87	182

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	762	405	0	0	405	0
Stage 1	405	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	373	646	-	-	1154	-
Stage 1	673	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	345	646	-	-	1154	-
Mov Cap-2 Maneuver	345	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	655	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.7	0	2.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	537	1154	-
HCM Lane V/C Ratio	-	-	0.729	0.076	-
HCM Control Delay (s)	-	-	27.7	8.4	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	6.1	0.2	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	87	285	385	41	83	173
Future Volume (vph)	87	285	385	41	83	173
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0	40.0		40.0	40.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1517	1784	1517	1695	1784
Flt Permitted	0.950				0.516	
Satd. Flow (perm)	1695	1517	1784	1517	921	1784
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		300		43		
Link Speed (k/h)	50		50			50
Link Distance (m)	353.9		417.0			521.8
Travel Time (s)	25.5		30.0			37.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	92	300	405	43	87	182
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	300	405	43	87	182
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	24.5	24.5	23.2	23.2	23.2	23.2
Total Split (s)	26.0	26.0	34.0	34.0	34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Maximum Green (s)	20.6	20.6	28.8	28.8	28.8	28.8
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.8	1.8	1.6	1.6	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.2	5.2	5.2	5.2
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	Min	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	8.1	8.1	14.1	14.1	14.1	14.1
Actuated g/C Ratio	0.24	0.24	0.43	0.43	0.43	0.43
v/c Ratio	0.22	0.50	0.53	0.06	0.22	0.24
Control Delay	12.1	5.4	10.2	2.8	7.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	5.4	10.2	2.8	7.9	7.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	B	A	B	A	A	A
Approach Delay	7.0		9.5			7.4
Approach LOS	A		A			A
Queue Length 50th (m)	3.1	0.0	11.9	0.0	2.2	4.6
Queue Length 95th (m)	11.9	11.6	31.6	2.9	8.4	13.7
Internal Link Dist (m)	329.9		393.0			497.8
Turn Bay Length (m)	40.0	40.0		40.0	40.0	
Base Capacity (vph)	1080	1075	1573	1342	812	1573
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	0.09	0.28	0.26	0.03	0.11	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 33.1			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 48.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 28: Mer Bleue & Collector

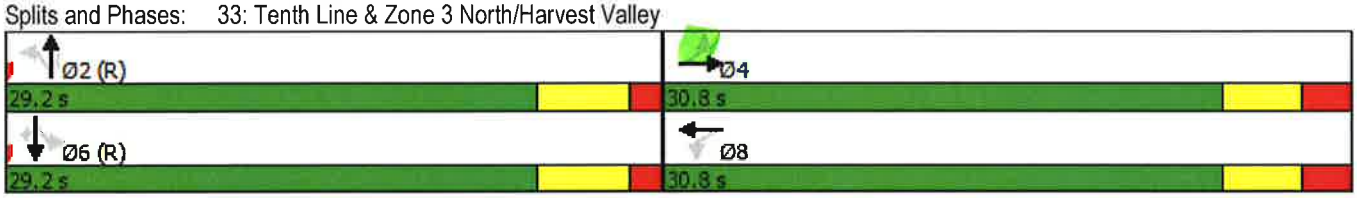
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	10	10	120	10	281	10	442	59	169	181	30
Future Volume (vph)	104	10	10	120	10	281	10	442	59	169	181	30
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		40.0	40.0		40.0	40.0		40.0	40.0		40.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925			0.855				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1650	0	1695	1526	0	1695	3390	1517	1695	3390	1517
Flt Permitted	0.407			0.743			0.632			0.485		
Satd. Flow (perm)	726	1650	0	1326	1526	0	1128	3390	1517	865	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			233				62			53
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		201.9			221.8			343.7			686.6	
Travel Time (s)		14.5			16.0			20.6			41.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	109	11	11	126	11	296	11	465	62	178	191	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	22	0	126	307	0	11	465	62	178	191	32
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.8	30.8		30.8	30.8		21.8	21.8	21.8	21.8	21.8	21.8
Total Split (s)	30.8	30.8		30.8	30.8		29.2	29.2	29.2	29.2	29.2	29.2
Total Split (%)	51.3%	51.3%		51.3%	51.3%		48.7%	48.7%	48.7%	48.7%	48.7%	48.7%
Maximum Green (s)	24.9	24.9		24.9	24.9		23.6	23.6	23.6	23.6	23.6	23.6
Yellow Time (s)	3.6	3.6		3.6	3.6		4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.3	2.3		2.3	2.3		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	5.9		5.9	5.9		5.6	5.6	5.6	5.6	5.6	5.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	17.9	17.9		17.9	17.9		9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	13.0	13.0		13.0	13.0		35.5	35.5	35.5	35.5	35.5	35.5
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.59	0.59	0.59	0.59	0.59	0.59
v/c Ratio	0.69	0.06		0.44	0.60		0.02	0.23	0.07	0.35	0.10	0.03
Control Delay	43.6	12.2		24.3	10.8		5.4	5.5	1.4	10.0	6.3	1.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	12.2		24.3	10.8		5.4	5.5	1.4	10.0	6.3	1.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B		C	B		A	A	A	A	A	A
Approach Delay		38.4			14.7			5.0			7.5	
Approach LOS		D			B			A			A	
Queue Length 50th (m)	10.5	0.9		11.4	6.3		0.3	8.0	0.0	7.7	3.6	0.0
Queue Length 95th (m)	21.6	4.5		20.5	20.6		1.8	13.2	2.0	22.9	8.9	2.0
Internal Link Dist (m)		177.9			197.8			319.7			662.6	
Turn Bay Length (m)	40.0			40.0			40.0		40.0	40.0		40.0
Base Capacity (vph)	301	691		550	769		666	2003	921	511	2003	918
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.03		0.23	0.40		0.02	0.23	0.07	0.35	0.10	0.03

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 11.4 Intersection LOS: B
Intersection Capacity Utilization 69.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 33: Tenth Line & Zone 3 North/Harvest Valley



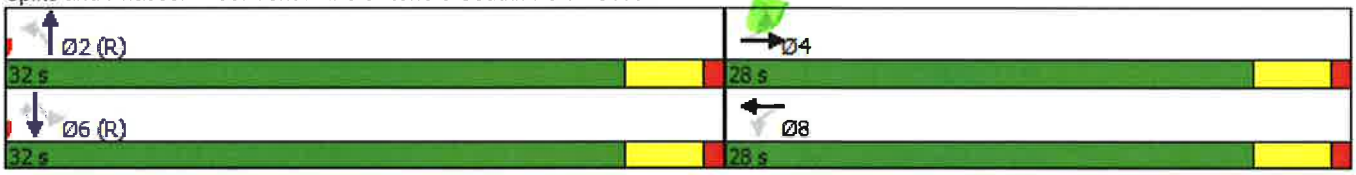
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	10	29	10	10	66	12	359	3	17	266	18
Future Volume (vph)	76	10	29	10	10	66	12	359	3	17	266	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0		0.0	20.0		0.0	20.0		0.0	20.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.889			0.871			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1586	0	1695	1554	0	1695	3387	0	1695	3390	1517
Flt Permitted	0.705			0.730			0.580			0.526		
Satd. Flow (perm)	1258	1586	0	1303	1554	0	1035	3387	0	939	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			69			2				27
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		211.4			213.4			714.8			343.7	
Travel Time (s)		15.2			15.4			42.9			20.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	80	11	31	11	11	69	13	378	3	18	280	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	42	0	11	80	0	13	381	0	18	280	19
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	22.5
Total Split (s)	28.0	28.0		28.0	28.0		32.0	32.0		32.0	32.0	32.0
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	53.3%
Maximum Green (s)	23.5	23.5		23.5	23.5		27.5	27.5		27.5	27.5	27.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
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)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	10.8	10.8		10.8	10.8		44.0	44.0		44.0	44.0	44.0
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.73	0.73		0.73	0.73	0.73
v/c Ratio	0.35	0.13		0.05	0.24		0.02	0.15		0.03	0.11	0.02
Control Delay	25.9	11.3		20.0	9.4		3.9	3.7		2.6	2.9	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	25.9	11.3		20.0	9.4		3.9	3.7		2.6	2.9	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B		B	A		A	A		A	A	A
Approach Delay		20.9			10.6			3.7			2.7	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	7.3	1.0		1.0	1.0		0.3	5.6		0.5	6.2	0.0
Queue Length 95th (m)	16.1	6.8		3.9	9.0		1.8	11.3		1.2	4.4	0.3
Internal Link Dist (m)		187.4			189.4			690.8			319.7	
Turn Bay Length (m)	20.0			20.0			20.0			20.0		20.0
Base Capacity (vph)	492	640		510	650		758	2482		688	2483	1118
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	0.16	0.07		0.02	0.12		0.02	0.15		0.03	0.11	0.02

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.35
Intersection Signal Delay: 6.3 — Intersection LOS: A
Intersection Capacity Utilization 36.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 35: Tenth Line & Zone 3 South/Avalon South



Intersection	
Int Delay, s/veh	8.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	205	105	281	44	28	184
Future Vol, veh/h	205	105	281	44	28	184
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	111	296	46	29	194

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	572	319	0	0	342	0
Stage 1	319	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	482	722	-	-	1217	-
Stage 1	737	-	-	-	-	-
Stage 2	789	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	469	722	-	-	1217	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.9	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	532	1217	-
HCM Lane V/C Ratio	-	-	0.613	0.024	-
HCM Control Delay (s)	-	-	21.9	8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	4.1	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	30	20	264	20	20	364
Future Vol, veh/h	30	20	264	20	20	364
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	21	278	21	21	383

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	713	288	0	0	299	0
Stage 1	288	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	398	751	-	-	1262	-
Stage 1	761	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	390	751	-	-	1262	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	645	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	483	1262	-
HCM Lane V/C Ratio	-	-	0.109	0.017	-
HCM Control Delay (s)	-	-	13.4	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	38	20	6	297	290	7
Future Vol, veh/h	38	20	6	297	290	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	400	-	-	400
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	21	6	313	305	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	630	305	305	0	-	0
Stage 1	305	-	-	-	-	-
Stage 2	325	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	446	735	1256	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	444	735	1256	-	-	-
Mov Cap-2 Maneuver	444	-	-	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	729	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1256	-	514	-	-
HCM Lane V/C Ratio	0.005	-	0.119	-	-
HCM Control Delay (s)	7.9	-	12.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2031 - BGSG - AM

New Site
Roundabout

Lane Use and Performance	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	468	3.0	642	0.729	100	22.8	LOS C	4.2	33.0	Full	500	0.0	0.0
Lane 2[d]	485	3.0	665	0.729	100	22.2	LOS C	4.1	31.8	Full	420	0.0	0.0
Lane 3	153	3.0	642	0.238	100	8.5	LOS A	0.7	5.3	Two Seg[9]	50	0.0	0.0
Approach	1106	3.0		0.729		20.6	LOS C	4.2	33.0				
East: Brian Coburn Road													
Lane 1	516	3.0	442	1.168	100	126.5	LOS F	30.9	240.5	Full	500	0.0	0.0
Lane 2	516	3.0	442	1.168	100	126.5	LOS F	30.9	240.5	Full	500	0.0	0.0
Lane 3[d]	632	3.0	469	1.346	100	194.0	LOS F	57.9	451.2	Two Seg[9]	50	0.0	100.0
Approach	1663	3.0		1.346		152.1	LOS F	57.9	451.2				
North: Mer Bleue Road													
Lane 1	229	3.0	460	0.498	100	17.8	LOS C	1.8	13.9	Full	500	0.0	0.0
Lane 2[d]	243	3.0	487	0.498	100	17.0	LOS C	1.7	13.5	Full	500	0.0	0.0
Lane 3	161	3.0	460	0.350	100	13.7	LOS B	1.1	8.5	Two Seg[9]	50	0.0	0.0
Approach	633	3.0		0.498		16.5	LOS C	1.8	13.9				
West: Brian Coburn Road Extension													
Lane 1	261	3.0	615	0.424	100	12.2	LOS B	1.5	11.8	Full	500	0.0	0.0
Lane 2[d]	271	3.0	640	0.424	100	11.8	LOS B	1.5	11.3	Full	500	0.0	0.0
Lane 3	78	3.0	615	0.127	100	7.3	LOS A	0.3	2.6	Two Seg[9]	50	0.0	0.0
Approach	609	3.0		0.424		11.4	LOS B	1.5	11.8				
Intersection	4012	3.0		1.346		73.1	LOS F	57.9	451.2				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

9 All Movement Classes allocated to Segment 1 are also allocated to Segment 2. This Two-Segment Lane has been modelled as a full-length lane.
d Dominant lane on roundabout approach

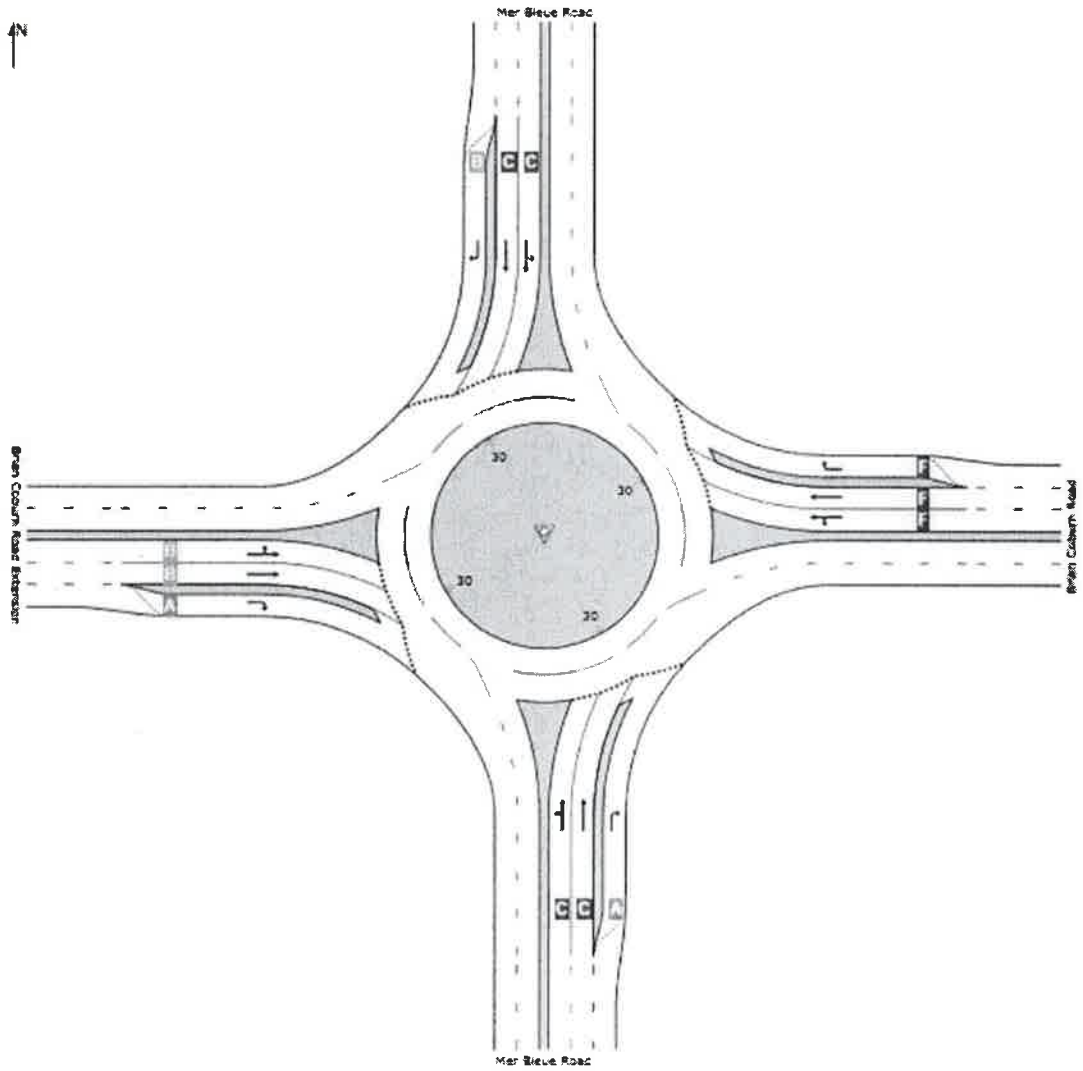
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2031 - BGSG - AM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	C	F	C	B	F



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

LANE SUMMARY

Site: Gerry Lalonde & Collector Road - 2031 BGSG - AM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Gerry Lalonde													
Lane 1[d]	75	3.0	989	0.076	100	4.3	LOS A	0.3	2.0	Full	500	0.0	0.0
Approach	75	3.0		0.076		4.3	LOS A	0.3	2.0				
East: Collector Road													
Lane 1[d]	188	3.0	984	0.191	100	5.5	LOS A	0.7	5.8	Full	500	0.0	0.0
Approach	188	3.0		0.191		5.5	LOS A	0.7	5.8				
North: Gerry Lalonde													
Lane 1[d]	135	3.0	958	0.141	100	5.1	LOS A	0.5	4.0	Full	500	0.0	0.0
Approach	135	3.0		0.141		5.1	LOS A	0.5	4.0				
West: Collector Road													
Lane 1[d]	67	3.0	1028	0.066	100	4.1	LOS A	0.2	1.8	Full	500	0.0	0.0
Approach	67	3.0		0.066		4.1	LOS A	0.2	1.8				
Intersection	465	3.0		0.191		5.0	LOS A	0.7	5.8				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

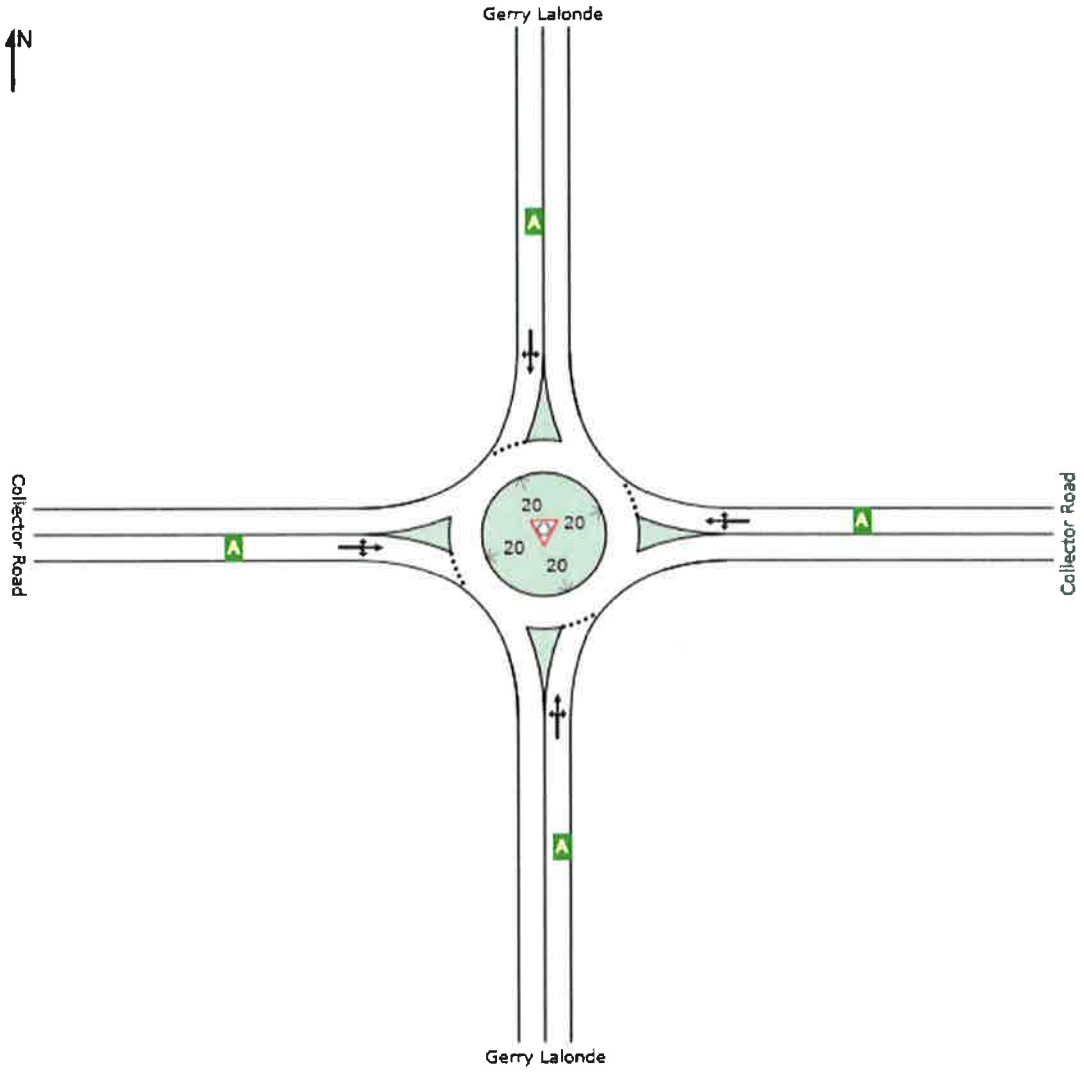
LEVEL OF SERVICE

Site: Gerry Lalonde & Collector Road - 2031 BGSG - AM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

LANE SUMMARY

Site: Wall Rd & Collector Road - 2031 BGSG - AM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Gerry Lalonde													
Lane 1[d]	96	3.0	998	0.096	100	4.5	LOS A	0.3	2.7	Full	500	0.0	0.0
Approach	96	3.0		0.096		4.5	LOS A	0.3	2.7				
East: Collector Road													
Lane 1[d]	185	3.0	1013	0.183	100	5.3	LOS A	0.7	5.5	Full	500	0.0	0.0
Approach	185	3.0		0.183		5.3	LOS A	0.7	5.5				
North: Gerry Lalonde													
Lane 1[d]	58	3.0	943	0.061	100	4.4	LOS A	0.2	1.6	Full	500	0.0	0.0
Approach	58	3.0		0.061		4.4	LOS A	0.2	1.6				
West: Collector Road													
Lane 1[d]	68	3.0	1035	0.066	100	4.1	LOS A	0.2	1.8	Full	500	0.0	0.0
Approach	68	3.0		0.066		4.1	LOS A	0.2	1.8				
Intersection	407	3.0		0.183		4.7	LOS A	0.7	5.5				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

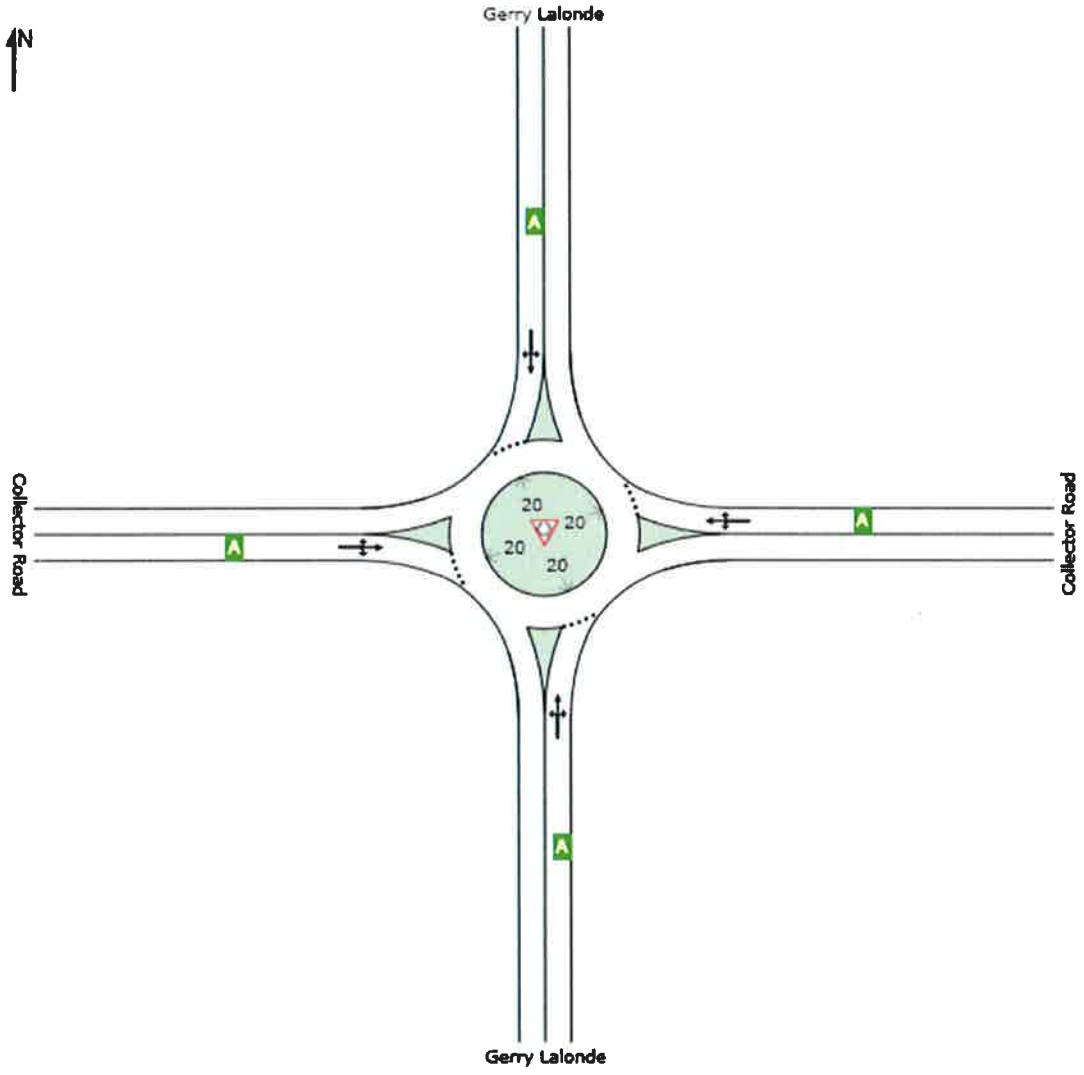
LEVEL OF SERVICE

Site: Wall Rd & Collector Road - 2031 BGSG - AM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	597	318	14	353	254	205	628	54	304	820	325
Future Volume (vph)	434	597	318	14	353	254	205	628	54	304	820	325
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	115.0		80.0	40.0		50.0	105.0		0.0	100.0		65.0
Storage Lanes	2		1	1		1	2		0	2		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	1695	3390	1517	3288	3350	0	3288	3390	1517
Flt Permitted	0.950			0.414			0.950			0.950		
Satd. Flow (perm)	3288	3390	1517	739	3390	1517	3288	3350	0	3288	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			285			214		7				316
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1402.3			938.8			686.6			623.5	
Travel Time (s)		84.1			56.3			41.2			37.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	457	628	335	15	372	267	216	661	57	320	863	342
Shared Lane Traffic (%)												
Lane Group Flow (vph)	457	628	335	15	372	267	216	718	0	320	863	342
Turn Type	Prot	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8						6
Detector Phase	7	4	4	8	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	13.3	35.0	35.0	35.0	35.0	35.0	13.3	35.0		13.3	35.0	35.0
Total Split (s)	29.0	64.0	64.0	35.0	35.0	35.0	18.0	43.0		23.0	48.0	48.0
Total Split (%)	22.3%	49.2%	49.2%	26.9%	26.9%	26.9%	13.8%	33.1%		17.7%	36.9%	36.9%
Maximum Green (s)	22.7	57.7	57.7	28.7	28.7	28.7	11.7	36.7		16.7	41.7	41.7
Yellow Time (s)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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		0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	Min	Min	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		21.7	21.7	21.7	21.7	21.7		21.7			21.7	21.7
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	0
Act Effct Green (s)	20.0	45.4	45.4	19.0	19.0	19.0	11.1	31.7		15.1	35.7	35.7
Actuated g/C Ratio	0.18	0.41	0.41	0.17	0.17	0.17	0.10	0.28		0.14	0.32	0.32
v/c Ratio	0.78	0.46	0.43	0.12	0.65	0.61	0.66	0.75		0.72	0.80	0.49
Control Delay	55.1	25.6	6.3	44.2	49.7	17.3	61.2	42.6		58.0	41.6	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	55.1	25.6	6.3	44.2	49.7	17.3	61.2	42.6		58.0	41.6	7.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	C	A	D	D	B	E	D		E	D	A
Approach Delay		30.5			36.4			46.9			37.3	
Approach LOS		C			D			D			D	
Queue Length 50th (m)	46.9	49.5	6.3	2.7	38.9	9.7	22.8	71.3		33.2	85.3	3.7
Queue Length 95th (m)	69.9	66.7	24.7	8.7	55.3	34.7	#39.5	99.4		51.8	117.4	25.2
Internal Link Dist (m)		1378.3			914.8			662.6			599.5	
Turn Bay Length (m)	115.0		80.0	40.0		50.0	105.0			100.0		65.0
Base Capacity (vph)	683	1790	935	194	890	556	352	1130		502	1294	774
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.67	0.35	0.36	0.08	0.42	0.48	0.61	0.64		0.64	0.67	0.44

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 111.5
Natural Cycle: 110
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 37.0 — Intersection LOS: D
Intersection Capacity Utilization 76.9% — 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: 2: Tenth Line & Brian Coburn

Intersection	
Int Delay, s/veh	23

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	185	12	35	1	2	7	44	417	5	1	363	148
Future Vol, veh/h	185	12	35	1	2	7	44	417	5	1	363	148
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	195	13	37	1	2	7	46	439	5	1	382	156

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1001	999	460	1021	1074	442	538	0	0	444	0	0
Stage 1	462	462	-	534	534	-	-	-	-	-	-	-
Stage 2	539	537	-	487	540	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	222	243	601	215	220	615	1030	-	-	1116	-	-
Stage 1	580	565	-	530	524	-	-	-	-	-	-	-
Stage 2	527	523	-	562	521	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	208	228	601	185	207	615	1030	-	-	1116	-	-
Mov Cap-2 Maneuver	208	228	-	185	207	-	-	-	-	-	-	-
Stage 1	546	564	-	499	493	-	-	-	-	-	-	-
Stage 2	488	492	-	515	520	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	118.9	14.8	0.8	0
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1030	-	-	232	378	1116	-	-
HCM Lane V/C Ratio	0.045	-	-	1.053	0.028	0.001	-	-
HCM Control Delay (s)	8.7	0	-	118.9	14.8	8.2	0	-
HCM Lane LOS	A	A	-	F	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	10.4	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	24.1
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	185	12	35	0	1	2	7	0	44	417	5
Future Vol, veh/h	0	185	12	35	0	1	2	7	0	44	417	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	195	13	37	0	1	2	7	0	46	439	5
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	15.1	10.3	25.1
HCM LOS	C	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	80%	10%	0%
Vol Thru, %	89%	5%	20%	71%
Vol Right, %	1%	15%	70%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	466	232	10	512
LT Vol	44	185	1	1
Through Vol	417	12	2	363
RT Vol	5	35	7	148
Lane Flow Rate	491	244	11	539
Geometry Grp	1	1	1	1
Degree of Util (X)	0.768	0.449	0.021	0.809
Departure Headway (Hd)	5.634	6.623	7.134	5.404
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	638	540	505	663
Service Time	3.709	4.712	5.134	3.477
HCM Lane V/C Ratio	0.77	0.452	0.022	0.813
HCM Control Delay	25.1	15.1	10.3	27.5
HCM Lane LOS	D	C	B	D
HCM 95th-tile Q	7.1	2.3	0.1	8.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	1	363	148
Future Vol, veh/h	0	1	363	148
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	382	156
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	27.5
HCM LOS	D

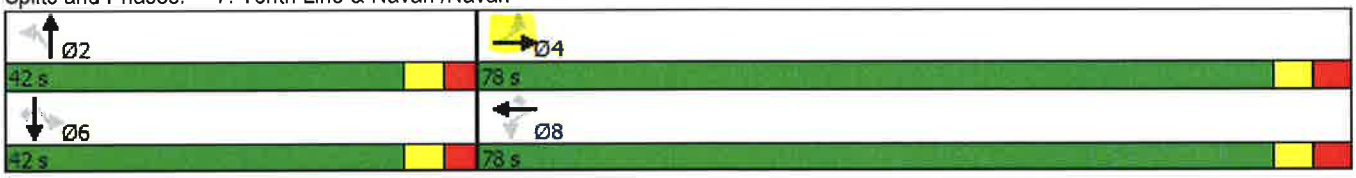
Lane

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	613	13	2	292	225	13	24	4	84	24	298
Future Volume (vph)	208	613	13	2	292	225	13	24	4	84	24	298
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		0.0	65.0		40.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.987				0.850
Flt Protected	0.950			0.950				0.984			0.963	
Satd. Flow (prot)	1695	1779	0	1695	1784	1517	0	1733	0	0	1718	1517
Flt Permitted	0.573			0.292				0.876			0.745	
Satd. Flow (perm)	1022	1779	0	521	1784	1517	0	1543	0	0	1329	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				237		4				314
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1757.1			855.5			456.3			1290.5	
Travel Time (s)		105.4			51.3			27.4			77.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	219	645	14	2	307	237	14	25	4	88	25	314
Shared Lane Traffic (%)												
Lane Group Flow (vph)	219	659	0	2	307	237	0	43	0	0	113	314
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Detector Phase	4	4		8	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	25.2	25.2		25.2	25.2	25.2	24.7	24.7		24.7	24.7	24.7
Total Split (s)	78.0	78.0		78.0	78.0	78.0	42.0	42.0		42.0	42.0	42.0
Total Split (%)	65.0%	65.0%		65.0%	65.0%	65.0%	35.0%	35.0%		35.0%	35.0%	35.0%
Maximum Green (s)	70.8	70.8		70.8	70.8	70.8	35.3	35.3		35.3	35.3	35.3
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	3.7
All-Red Time (s)	3.5	3.5		3.5	3.5	3.5	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	7.2	7.2		7.2	7.2	7.2		6.7			6.7	6.7
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0	10.0	9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	0
Act Effct Green (s)	27.1	27.1		27.1	27.1	27.1		12.4			12.4	12.4
Actuated g/C Ratio	0.50	0.50		0.50	0.50	0.50		0.23			0.23	0.23
v/c Ratio	0.43	0.74		0.01	0.34	0.27		0.12			0.37	0.53
Control Delay	11.4	16.3		7.0	9.1	2.0		19.4			24.5	6.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	11.4	16.3		7.0	9.1	2.0		19.4			24.5	6.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	B		A	A	A		B			C	A
Approach Delay		15.1			6.0			19.4			11.6	
Approach LOS		B			A			B			B	
Queue Length 50th (m)	10.0	37.5		0.1	13.4	0.0		2.6			8.2	0.0
Queue Length 95th (m)	27.2	84.4		0.9	31.4	7.5		10.8			25.0	16.7
Internal Link Dist (m)		1733.1			831.5			432.3			1266.5	
Turn Bay Length (m)	120.0			65.0		40.0						30.0
Base Capacity (vph)	1008	1755		514	1759	1499		1060			912	1139
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	0.22	0.38		0.00	0.17	0.16		0.04			0.12	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 54.1			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 11.8		Intersection LOS: B	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 7: Tenth Line & Navan /Navan



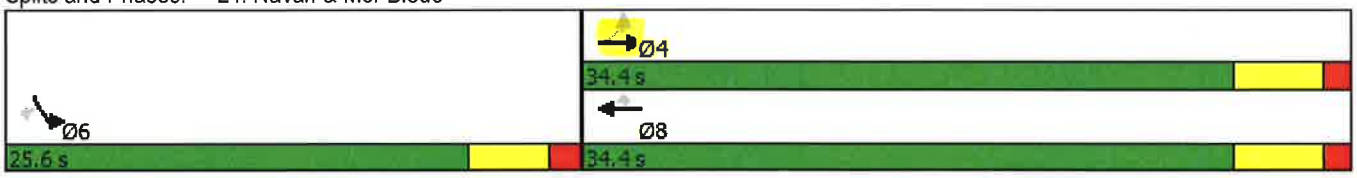
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	337	682	301	108	167	218
Future Volume (vph)	337	682	301	108	167	218
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			40.0	40.0	20.0
Storage Lanes	1			1	1	0
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1784	1784	1517	1695	1517
Flt Permitted	0.568				0.950	
Satd. Flow (perm)	1013	1784	1784	1517	1695	1517
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				114		229
Link Speed (k/h)		60	60		50	
Link Distance (m)		1840.8	1757.1		403.0	
Travel Time (s)		110.4	105.4		29.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	355	718	317	114	176	229
Shared Lane Traffic (%)						
Lane Group Flow (vph)	355	718	317	114	176	229
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Detector Phase	4	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	25.9	25.9	25.9	25.9	25.3	25.3
Total Split (s)	34.4	34.4	34.4	34.4	25.6	25.6
Total Split (%)	57.3%	57.3%	57.3%	57.3%	42.7%	42.7%
Maximum Green (s)	29.0	29.0	29.0	29.0	20.5	20.5
Yellow Time (s)	4.1	4.1	4.1	4.1	3.6	3.6
All-Red Time (s)	1.3	1.3	1.3	1.3	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.1	5.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	25.0	25.0	25.0	25.0	10.2	10.2
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.22	0.22
v/c Ratio	0.64	0.74	0.33	0.13	0.47	0.44
Control Delay	14.9	14.7	7.3	2.0	20.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	14.7	7.3	2.0	20.8	6.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
LOS	B	B	A	A	C	A
Approach Delay		14.8	5.9		12.5	
Approach LOS		B	A		B	
Queue Length 50th (m)	15.8	34.7	11.1	0.0	12.0	0.0
Queue Length 95th (m)	#45.5	#82.9	26.1	4.8	25.6	11.7
Internal Link Dist (m)		1816.8	1733.1		379.0	
Turn Bay Length (m)	40.0			40.0	40.0	20.0
Base Capacity (vph)	654	1151	1151	1020	773	816
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	0.54	0.62	0.28	0.11	0.23	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 46			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 59.4%		ICU Level of Service B	
Analysis Period (min) 15			

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

Splits and Phases: 24: Navan & Mer Bleue

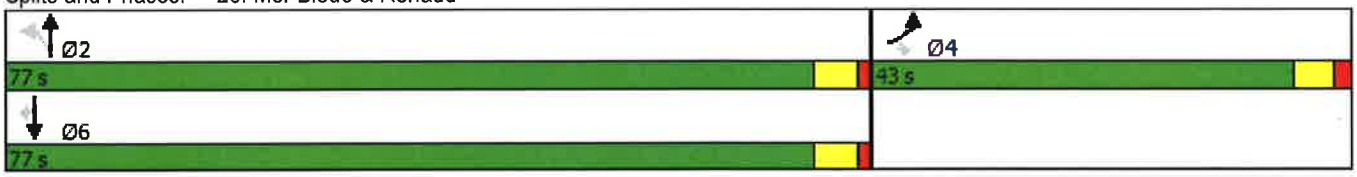


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	637	123	72	454	668	387
Future Volume (vph)	637	123	72	454	668	387
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0	40.0	40.0			40.0
Storage Lanes	2	0	1			1
Taper Length (m)	30.0		30.0			
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3288	1517	1695	1784	1784	1517
Flt Permitted	0.950		0.290			
Satd. Flow (perm)	3288	1517	517	1784	1784	1517
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		129				290
Link Speed (k/h)	50			50	60	
Link Distance (m)	994.9			521.8	394.2	
Travel Time (s)	71.6			37.6	23.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	671	129	76	478	703	407
Shared Lane Traffic (%)						
Lane Group Flow (vph)	671	129	76	478	703	407
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	36.1	36.1	25.9	25.9	28.8	28.8
Total Split (s)	43.0	43.0	77.0	77.0	77.0	77.0
Total Split (%)	35.8%	35.8%	64.2%	64.2%	64.2%	64.2%
Maximum Green (s)	37.6	37.6	71.7	71.7	71.7	71.7
Yellow Time (s)	3.6	3.6	4.1	4.1	4.1	4.1
All-Red Time (s)	1.8	1.8	1.2	1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.3	5.3	5.3	5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	28.0	28.0	71.9	71.9	71.9	71.9
Actuated g/C Ratio	0.25	0.25	0.65	0.65	0.65	0.65
v/c Ratio	0.81	0.27	0.23	0.41	0.61	0.37
Control Delay	46.8	6.8	11.6	11.5	15.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	6.8	11.6	11.5	15.1	3.9

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
LOS	D	A	B	B	B	A
Approach Delay	40.3			11.5	11.0	
Approach LOS	D			B	B	
Queue Length 50th (m)	64.5	0.0	5.7	41.8	74.2	8.1
Queue Length 95th (m)	83.0	12.6	15.6	75.2	131.7	24.9
Internal Link Dist (m)	970.9			497.8	370.2	
Turn Bay Length (m)	40.0	40.0	40.0			40.0
Base Capacity (vph)	1120	602	335	1159	1159	1087
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	0.21	0.23	0.41	0.61	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 110.7			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 78.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 26: Mer Bleue & Renaud



Intersection	
Int Delay, s/veh	10.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	47	176	350	81	321	470
Future Vol, veh/h	47	176	350	81	321	470
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	400	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	185	368	85	338	495

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1539	368	0	0	368	0
Stage 1	368	-	-	-	-	-
Stage 2	1171	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	127	677	-	-	1191	-
Stage 1	700	-	-	-	-	-
Stage 2	295	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	91	677	-	-	1191	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	211	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	55.9	0	3.7
HCM LOS	F		

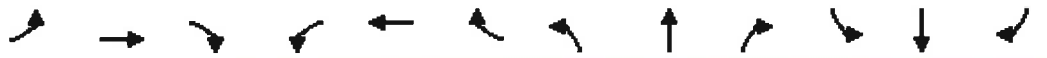
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	287	1191	-
HCM Lane V/C Ratio	-	-	0.818	0.284	-
HCM Control Delay (s)	-	-	55.9	9.2	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	6.7	1.2	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	47	176	350	81	321	470
Future Volume (vph)	47	176	350	81	321	470
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0	40.0		40.0	40.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1695	1517	1784	1517	1695	1784
Flt Permitted	0.950				0.542	
Satd. Flow (perm)	1695	1517	1784	1517	967	1784
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		185		85		
Link Speed (k/h)	50		50			50
Link Distance (m)	353.9		417.0			521.8
Travel Time (s)	25.5		30.0			37.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	185	368	85	338	495
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	185	368	85	338	495
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	24.5	24.5	23.2	23.2	23.2	23.2
Total Split (s)	24.5	24.5	35.5	35.5	35.5	35.5
Total Split (%)	40.8%	40.8%	59.2%	59.2%	59.2%	59.2%
Maximum Green (s)	19.1	19.1	30.3	30.3	30.3	30.3
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.8	1.8	1.6	1.6	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.2	5.2	5.2	5.2
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Min	Min	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	12.1	12.1	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	7.9	7.9	27.5	27.5	27.5	27.5
Actuated g/C Ratio	0.19	0.19	0.66	0.66	0.66	0.66
v/c Ratio	0.15	0.42	0.31	0.08	0.53	0.42
Control Delay	17.8	7.2	5.5	1.5	9.7	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	7.2	5.5	1.5	9.7	6.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
LOS	B	A	A	A	A	A
Approach Delay	9.4		4.8			7.8
Approach LOS	A		A			A
Queue Length 50th (m)	2.7	0.0	10.5	0.0	11.7	15.5
Queue Length 95th (m)	9.6	11.4	24.3	3.3	34.5	35.3
Internal Link Dist (m)	329.9		393.0			497.8
Turn Bay Length (m)	40.0	40.0		40.0	40.0	
Base Capacity (vph)	813	823	1341	1161	727	1341
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	0.06	0.22	0.27	0.07	0.46	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 41.4			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 7.1		Intersection LOS: A	
Intersection Capacity Utilization 57.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 28: Mer Bleue & Collector

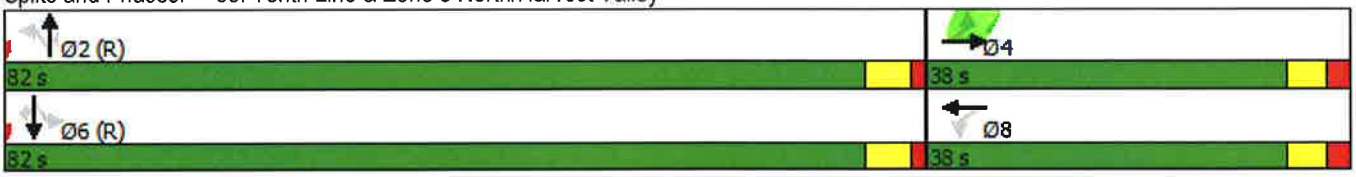


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	10	10	30	10	99	10	623	59	189	611	109
Future Volume (vph)	62	10	10	30	10	99	10	623	59	189	611	109
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		40.0	40.0		40.0	40.0		40.0	40.0		40.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925			0.864				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1650	0	1695	1542	0	1695	3390	1517	1695	3390	1517
Flt Permitted	0.605			0.743			0.408			0.402		
Satd. Flow (perm)	1080	1650	0	1326	1542	0	728	3390	1517	717	3390	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			104				62			115
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		201.9			221.8			343.7			686.6	
Travel Time (s)		14.5			16.0			20.6			41.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	11	11	32	11	104	11	656	62	199	643	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	22	0	32	115	0	11	656	62	199	643	115
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	34.8	34.8		34.8	34.8		28.6	28.6	28.6	28.6	28.6	28.6
Total Split (s)	38.0	38.0		38.0	38.0		82.0	82.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		68.3%	68.3%	68.3%	68.3%	68.3%	68.3%
Maximum Green (s)	32.1	32.1		32.1	32.1		76.4	76.4	76.4	76.4	76.4	76.4
Yellow Time (s)	3.6	3.6		3.6	3.6		4.1	4.1	4.1	4.1	4.1	4.1
All-Red Time (s)	2.3	2.3		2.3	2.3		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.9	5.9		5.9	5.9		5.6	5.6	5.6	5.6	5.6	5.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	17.9	17.9		17.9	17.9		9.2	9.2	9.2	9.2	9.2	9.2
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	12.6	12.6		12.6	12.6		95.9	95.9	95.9	95.9	95.9	95.9
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.80	0.80	0.80	0.80	0.80	0.80
v/c Ratio	0.57	0.12		0.23	0.45		0.02	0.24	0.05	0.35	0.24	0.09
Control Delay	70.0	31.6		51.9	17.1		2.8	2.9	0.6	5.7	3.4	0.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.0	31.6		51.9	17.1		2.8	2.9	0.6	5.7	3.4	0.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	C		D	B		A	A	A	A	A	A
Approach Delay		60.3			24.7			2.7			3.6	
Approach LOS		E			C			A			A	
Queue Length 50th (m)	13.7	2.2		6.5	2.2		0.3	12.9	0.0	9.3	14.0	0.0
Queue Length 95th (m)	26.3	9.1		14.9	17.3		1.4	18.1	1.1	22.1	23.8	3.6
Internal Link Dist (m)		177.9			197.8			319.7			662.6	
Turn Bay Length (m)	40.0			40.0			40.0		40.0	40.0		40.0
Base Capacity (vph)	288	449		354	488		581	2707	1224	572	2707	1234
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.05		0.09	0.24		0.02	0.24	0.05	0.35	0.24	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 44 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 7.4		Intersection LOS: A	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 33: Tenth Line & Zone 3 North/Harvest Valley



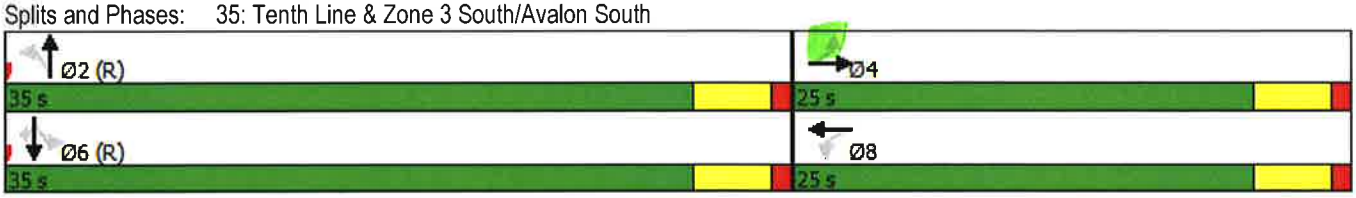
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	10	7	5	10	37	6	592	10	68	471	102
Future Volume (vph)	53	10	7	5	10	37	6	592	10	68	471	102
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0		0.0	20.0		0.0	20.0		0.0	20.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.942			0.883			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1526	1513	0	1526	1418	0	1526	3042	0	1526	3051	1365
Flt Permitted	0.724			0.746			0.470			0.411		
Satd. Flow (perm)	1163	1513	0	1198	1418	0	755	3042	0	660	3051	1365
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			39			4				107
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		211.4			213.4			714.8			343.7	
Travel Time (s)		15.2			15.4			42.9			20.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	56	11	7	5	11	39	6	623	11	72	496	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	18	0	5	50	0	6	634	0	72	496	107
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	22.5
Total Split (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	58.3%
Maximum Green (s)	20.5	20.5		20.5	20.5		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
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)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	10.4	10.4		10.4	10.4		48.2	48.2		48.2	48.2	48.2
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.80	0.80		0.80	0.80	0.80
v/c Ratio	0.28	0.07		0.02	0.18		0.01	0.26		0.14	0.20	0.10
Control Delay	25.3	16.9		20.4	11.6		3.5	3.4		3.8	2.8	0.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	25.3	16.9		20.4	11.6		3.5	3.4		3.8	2.8	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B		C	B		A	A		A	A	A
Approach Delay		23.3			12.4			3.4			2.6	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	5.0	1.0		0.4	1.0		0.2	10.6		2.0	7.3	0.0
Queue Length 95th (m)	12.6	5.0		2.5	7.6		1.0	18.3		5.6	13.8	3.1
Internal Link Dist (m)		187.4			189.4			690.8			319.7	
Turn Bay Length (m)	20.0			20.0			20.0			20.0		20.0
Base Capacity (vph)	397	521		409	510		606	2444		530	2451	1117
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	0.14	0.03		0.01	0.10		0.01	0.26		0.14	0.20	0.10

Intersection Summary

Area Type: CBD
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.28
Intersection Signal Delay: 4.4 — Intersection LOS: A
Intersection Capacity Utilization 49.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 35: Tenth Line & Zone 3 South/Avalon South



Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	23	12	17	443	349	50
Future Vol, veh/h	23	12	17	443	349	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	400	-	-	400
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	13	18	466	367	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	869	367	367	0	-	0
Stage 1	367	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	322	678	1192	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	317	678	1192	-	-	-
Mov Cap-2 Maneuver	317	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	599	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1192	-	388	-	-
HCM Lane V/C Ratio	0.015	-	0.095	-	-
HCM Control Delay (s)	8.1	-	15.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	80	58	232	203	116	205
Future Vol, veh/h	80	58	232	203	116	205
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	61	244	214	122	216

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	811	351	0	0	458	0
Stage 1	351	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	349	692	-	-	1103	-
Stage 1	713	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	305	692	-	-	1103	-
Mov Cap-2 Maneuver	305	-	-	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	556	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0	3.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	399	1103	-
HCM Lane V/C Ratio	-	-	0.364	0.111	-
HCM Control Delay (s)	-	-	19.1	8.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0.4	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	20	20	466	30	20	404
Future Vol, veh/h	20	20	466	30	20	404
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	21	491	32	21	425

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	973	506	0	0	522	0
Stage 1	506	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	280	566	-	-	1044	-
Stage 1	606	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	273	566	-	-	1044	-
Mov Cap-2 Maneuver	273	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	615	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	368	1044	-
HCM Lane V/C Ratio	-	-	0.114	0.02	-
HCM Control Delay (s)	-	-	16	8.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

LANE SUMMARY

Site: Mer Bleue and Brian Coburn Roundabout - 2031 - BGSG - PM

New Site
Roundabout

Lane Use and Performance	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Mer Bleue Road													
Lane 1	412	3.0	438	0.939	100	59.7	LOS F	7.9	61.6	Full	500	0.0	0.0
Lane 2[d]	438	3.0	466	0.939	100	57.5	LOS F	7.8	60.9	Full	420	0.0	0.0
Lane 3	252	3.0	438	0.574	100	21.6	LOS C	2.2	17.1	Two Seg[9]	50	0.0	0.0
Approach	1101	3.0		0.939		50.1	LOS F	7.9	61.6				
East: Brian Coburn Road													
Lane 1	327	3.0	482	0.678	100	25.2	LOS D	3.1	23.9	Full	500	0.0	0.0
Lane 2[d]	345	3.0	509	0.678	100	24.1	LOS C	3.0	23.3	Full	500	0.0	0.0
Lane 3	305	3.0	482	0.633	100	22.7	LOS C	2.7	21.1	Two Seg[9]	50	0.0	0.0
Approach	977	3.0		0.678		24.0	LOS C	3.1	23.9				
North: Mer Bleue Road													
Lane 1	669	3.0	582	1.149	100	110.5	LOS F	37.0	288.5	Full	500	0.0	0.0
Lane 2[d]	698	3.0	607	1.149	100	109.3	LOS F	38.0	296.1	Full	500	0.0	0.0
Lane 3	222	3.0	582	0.382	100	11.9	LOS B	1.3	10.0	Two Seg[9]	50	0.0	0.0
Approach	1588	3.0		1.149		96.2	LOS F	38.0	296.1				
West: Brian Coburn Road Extension													
Lane 1	471	3.0	369	1.275	100	173.7	LOS F	38.2	297.9	Full	500	0.0	0.0
Lane 2[d]	506	3.0	397	1.275	100	171.0	LOS F	40.6	316.0	Full	500	0.0	0.0
Lane 3	252	3.0	369	0.681	100	31.6	LOS D	2.8	21.6	Two Seg[9]	50	0.0	0.0
Approach	1228	3.0		1.275		143.5	LOS F	40.6	316.0				
Intersection	4895	3.0		1.275		83.3	LOS F	40.6	316.0				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

9 All Movement Classes allocated to Segment 1 are also allocated to Segment 2. This Two-Segment Lane has been modelled as a full-length lane.
d Dominant lane on roundabout approach

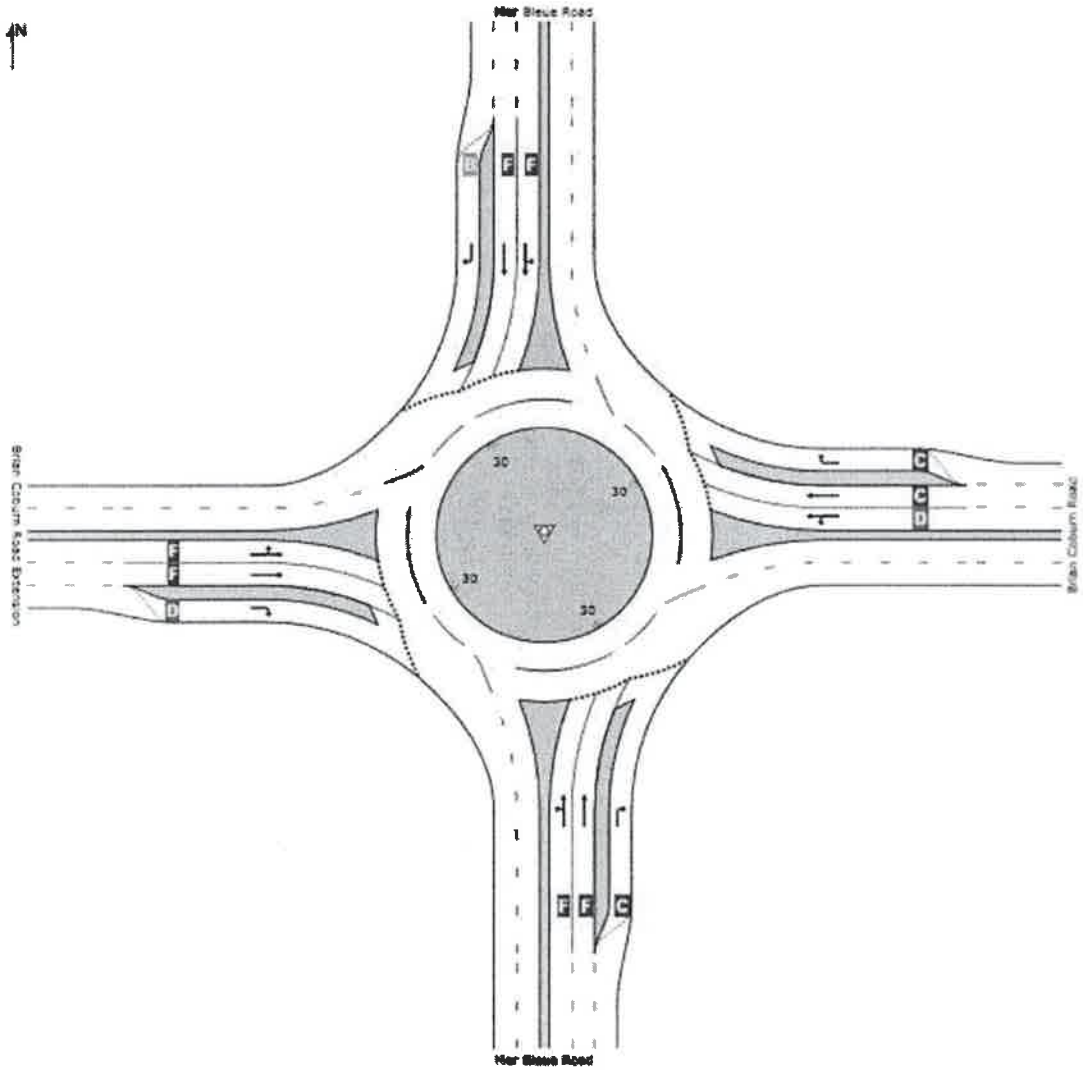
LEVEL OF SERVICE

Site: Mer Bleue and Brian Coburn Roundabout - 2031 - BGSG - PM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	F	C	F	F	F



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

LANE SUMMARY

Site: Gerry Lalonde & Collector Road - 2031 BGSG - PM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Gerry Lalonde													
Lane 1[d]	75	3.0	989	0.076	100	4.3	LOS A	0.3	2.0	Full	500	0.0	0.0
Approach	75	3.0		0.076		4.3	LOS A	0.3	2.0				
East: Collector Road													
Lane 1[d]	188	3.0	984	0.191	100	5.5	LOS A	0.7	5.8	Full	500	0.0	0.0
Approach	188	3.0		0.191		5.5	LOS A	0.7	5.8				
North: Gerry Lalonde													
Lane 1[d]	135	3.0	958	0.141	100	5.1	LOS A	0.5	4.0	Full	500	0.0	0.0
Approach	135	3.0		0.141		5.1	LOS A	0.5	4.0				
West: Collector Road													
Lane 1[d]	67	3.0	1028	0.066	100	4.1	LOS A	0.2	1.8	Full	500	0.0	0.0
Approach	67	3.0		0.066		4.1	LOS A	0.2	1.8				
Intersection	465	3.0		0.191		5.0	LOS A	0.7	5.8				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

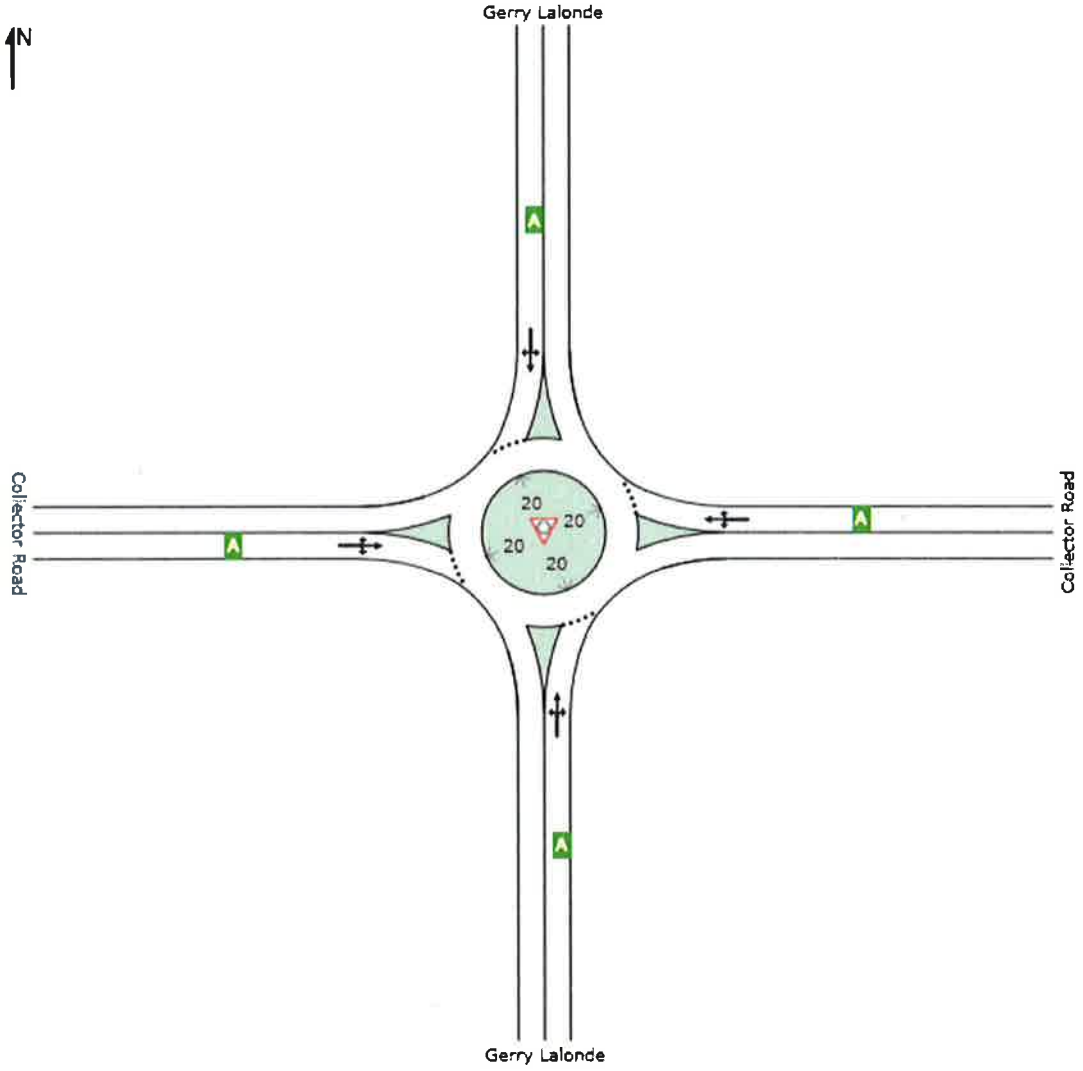
LEVEL OF SERVICE

Site: Gerry Lalonde & Collector Road - 2031 BGSG - PM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

LANE SUMMARY

Site: Wall Rd & Collector Road - 2031 BGSG - PM

New Site
Roundabout

Lane Use and Performance

	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Dist m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: Gerry Lalonde													
Lane 1[d]	60	3.0	905	0.066	100	4.6	LOS A	0.2	1.8	Full	500	0.0	0.0
Approach	60	3.0		0.066		4.6	LOS A	0.2	1.8				
East: Collector Road													
Lane 1[d]	126	3.0	1039	0.122	100	4.6	LOS A	0.4	3.5	Full	500	0.0	0.0
Approach	126	3.0		0.122		4.6	LOS A	0.4	3.5				
North: Gerry Lalonde													
Lane 1[d]	60	3.0	971	0.062	100	4.3	LOS A	0.2	1.6	Full	500	0.0	0.0
Approach	60	3.0		0.062		4.3	LOS A	0.2	1.6				
West: Collector Road													
Lane 1[d]	187	3.0	1000	0.187	100	5.4	LOS A	0.7	5.7	Full	500	0.0	0.0
Approach	187	3.0		0.187		5.4	LOS A	0.7	5.7				
Intersection	434	3.0		0.187		4.9	LOS A	0.7	5.7				

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

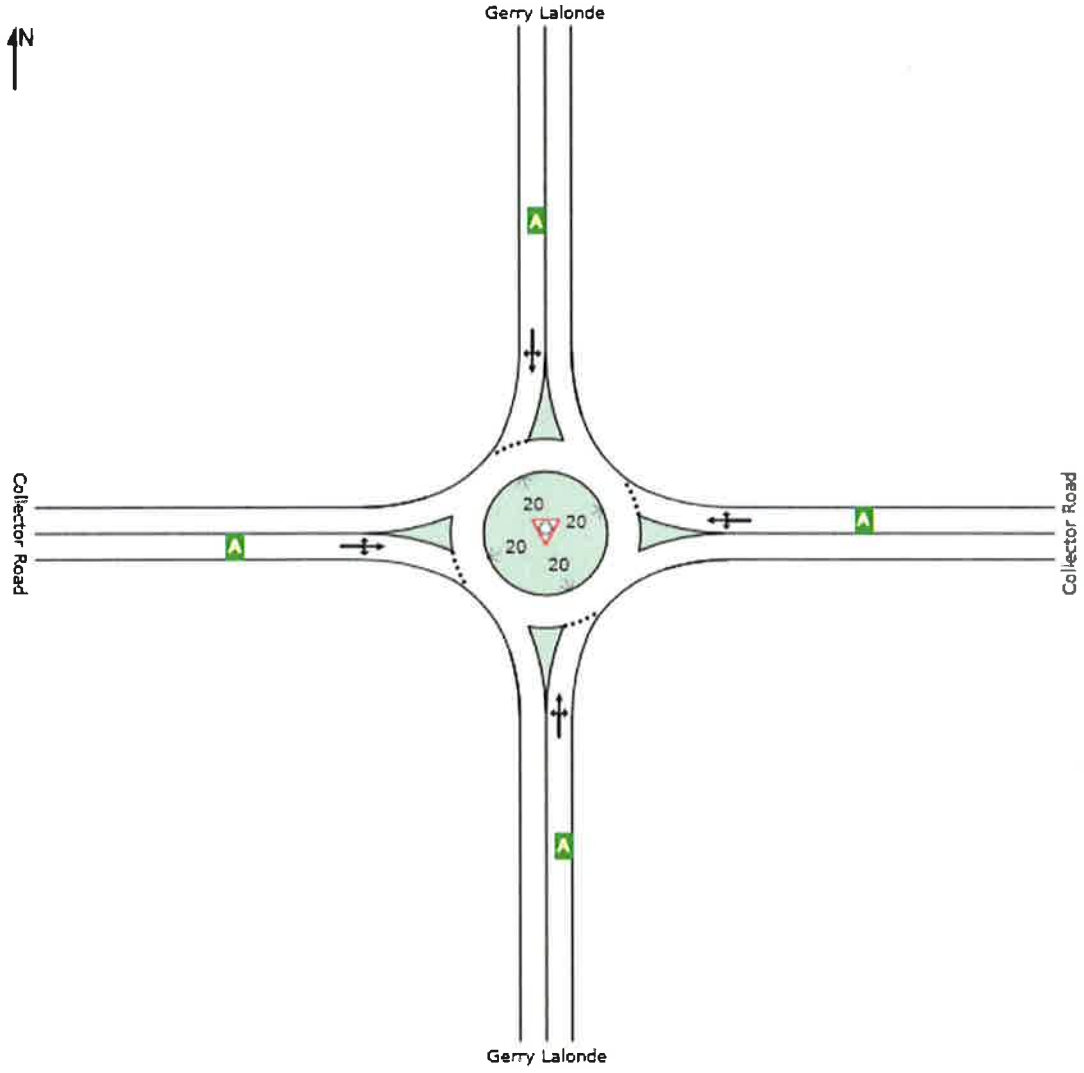
LEVEL OF SERVICE

Site: Wall Rd & Collector Road - 2031 BGSG - PM

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
LOS	A	A	A	A	A



Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

– Appendix G –

Traffic Signal Warrants Analysis

Input Data Sheet

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

What are the intersecting roadways? Mer Bleue Road & Navan Road

What is the direction of the Main Road street? East-West

When was the data collected? Future (2025) Background Traffic

Justification 1 - 4: Volume Warrants

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

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

c.- How many approaches? 3

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

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

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00	91	146						469	95	33		157	
9:00	135	372	0	0	0	0	0	359	100	96	0	143	
10:00	135	372	0	0	0	0	0	359	100	96	0	143	
12:30	135	372	0	0	0	0	0	359	100	96	0	143	
13:30	135	372	0	0	0	0	0	359	100	96	0	143	
16:00	135	372	0	0	0	0	0	359	100	96	0	143	
17:00	135	372	0	0	0	0	0	359	100	96	0	143	
18:00	178	597						248	104	159		129	
Total	**1,079**	**2,975**	**0**	**0**	**0**	**0**	**0**	**2,871**	**799**	**768**	**0**	**1,144**	**0**

Justification 5: Collision Experience

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

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

Justification 6: Pedestrian Volume

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

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	0%		0%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									0

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

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	0%		0%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Mer Bleue Road & Navan Road

Count Date: Future (2025) Background Traffic

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☑	☐
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	96	%		
3. Combination	A	Justificaton 1	100	%	☑	☐
	B	Justification 2	96	%		
4. 4-Hr Volume			100	%	☑	☐
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

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

What are the intersecting roadways? Mer Bleue Road & Renaud Road

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

When was the data collected? Future (2025) Background Traffic

Justification 1 - 4: Volume Warrants

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

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

c.- How many approaches? 3

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

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

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00	22	231		270		4		117	389				
9:00	15	234	0	406	0	11	0	202	348	0	0	0	
10:00	15	234	0	406	0	11	0	202	348	0	0	0	
12:30	15	234	0	406	0	11	0	202	348	0	0	0	
13:30	15	234	0	406	0	11	0	202	348	0	0	0	
16:00	15	234	0	406	0	11	0	202	348	0	0	0	
17:00	15	234	0	406	0	11	0	202	348	0	0	0	
18:00	8	237		541		17		286	306				
Total	**120**	**1,872**	**0**	**3,247**	**0**	**87**	**0**	**1,615**	**2,783**	**0**	**0**	**0**	**0**

Justification 5: Collision Experience

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

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

Justification 6: Pedestrian Volume

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

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	0%		0%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									0

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

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	0%		0%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Mer Bleue Road & Renaud Road

Count Date: Future (2025) Background Traffic

Summary Results

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

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Mer Bleue Road & Collector Road

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

When was the data collected? Future (2025) Total Traffic

Justification 1 - 4: Volume Warrants

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

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

c.- How many approaches? 3

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

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

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00		303	21				42	135		44	0	143	
9:00	0	291	31	0	0	0	102	250	0	34	0	116	
10:00	0	291	31	0	0	0	102	250	0	34	0	116	
12:30	0	291	31	0	0	0	102	250	0	34	0	116	
13:30	0	291	31	0	0	0	102	250	0	34	0	116	
16:00	0	291	31	0	0	0	102	250	0	34	0	116	
17:00	0	291	31	0	0	0	102	250	0	34	0	116	
18:00		279	41				161	365		24	0	88	
Total	**0**	**2,328**	**248**	**0**	**0**	**0**	**815**	**2,000**	**0**	**272**	**0**	**927**	**0**

Justification 5: Collision Experience

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

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

Justification 6: Pedestrian Volume

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

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	0%		0%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									0

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

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	0%		0%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Mer Bleue Road & Collector Road

Count Date: Future (2025) Total Traffic

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	99	%	☐	☑
	B	Crossing Volume	59	%		
2. Delay to Cross Traffic	A	Main Road	91	%	☐	☑
	B	Crossing Road	45	%		
3. Combination	A	Justificaton 1	59	%	☐	☑
	B	Justification 2	45	%		
4. 4-Hr Volume			79	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

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

What are the intersecting roadways? Mer Bleue Road & Collector Road

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

When was the data collected? Future (2031) Total Traffic

Justification 1 - 4: Volume Warrants

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

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

c.- How many approaches? 3

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

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

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
8:00		385	41				83	173		87		285	
9:00	0	368	61	0	0	0	202	322	0	67	0	231	
10:00	0	368	61	0	0	0	202	322	0	67	0	231	
12:30	0	368	61	0	0	0	202	322	0	67	0	231	
13:30	0	368	61	0	0	0	202	322	0	67	0	231	
16:00	0	368	61	0	0	0	202	322	0	67	0	231	
17:00	0	368	61	0	0	0	202	322	0	67	0	231	
18:00		350	81				321	470		47		176	
Total	**0**	**2,943**	**488**	**0**	**0**	**0**	**1,616**	**2,575**	**0**	**536**	**0**	**1,847**	**0**

Justification 5: Collision Experience

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

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

Justification 6: Pedestrian Volume

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

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	0%		0%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									0

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

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	0%		0%		0%		0%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

GO TO Justification:

Intersection: Mer Bleue Road & Collector Road

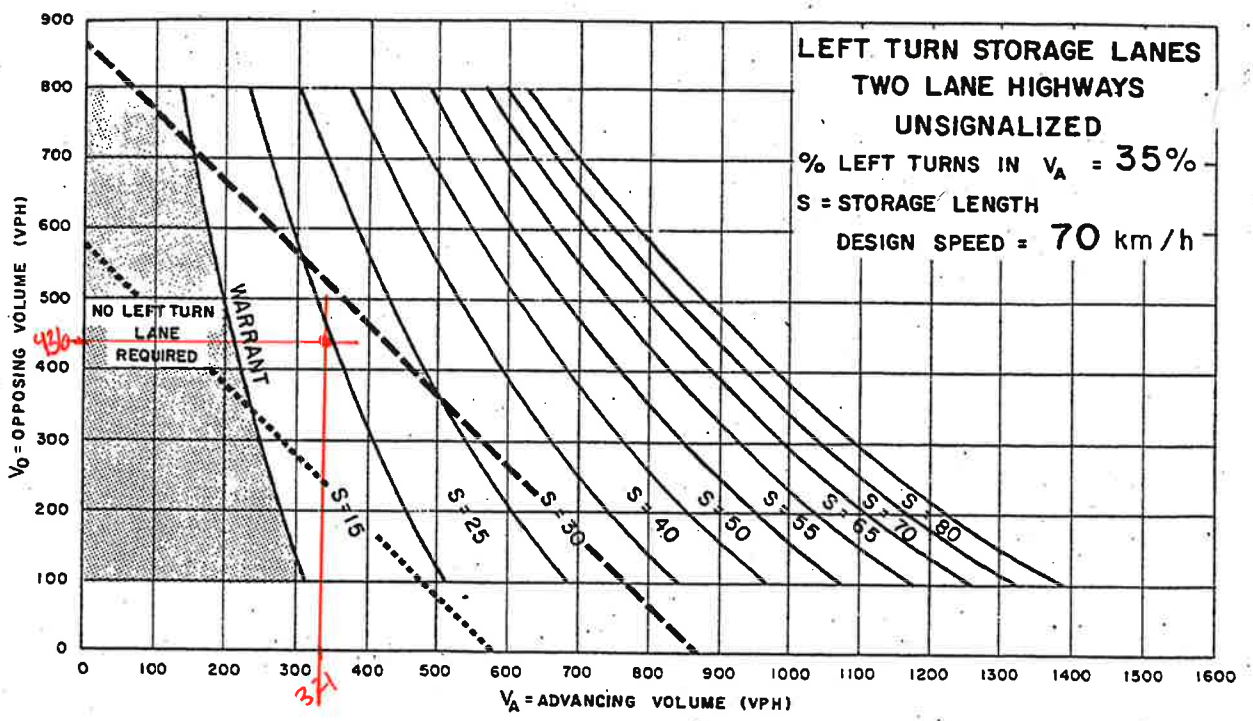
Count Date: Future (2031) Total Traffic

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	98	%		
2. Delay to Cross Traffic	A	Main Road	99	%	☐	☑
	B	Crossing Road	87	%		
3. Combination	A	Justificaton 1	98	%	☑	☐
	B	Justification 2	87	%		
4. 4-Hr Volume			100	%	☑	☐
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met		☐	☑
	B	Delay	Justification not met			

– Appendix H –

Auxiliary Lane Analysis



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

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

Mer Bleue/Realigned Wall Road.
V_A = 321, V_O = 436
∴ WARRANTED!
↓
20m STORAGE RECOMMENDED

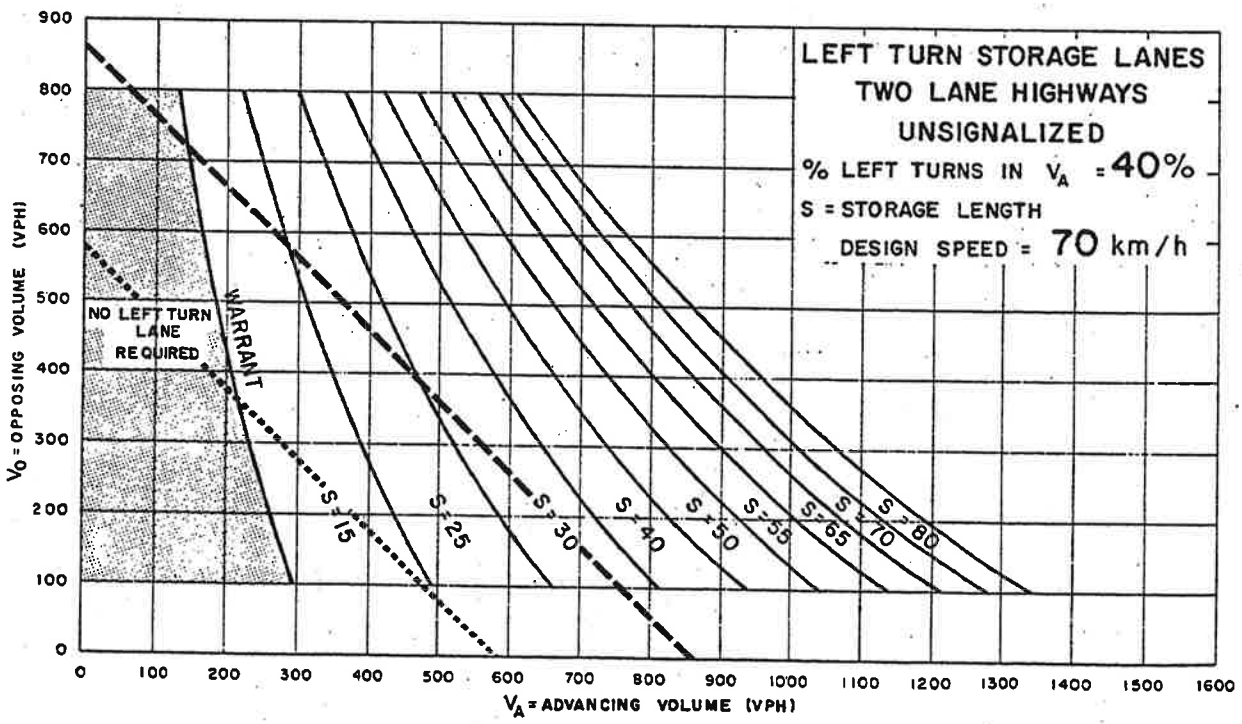
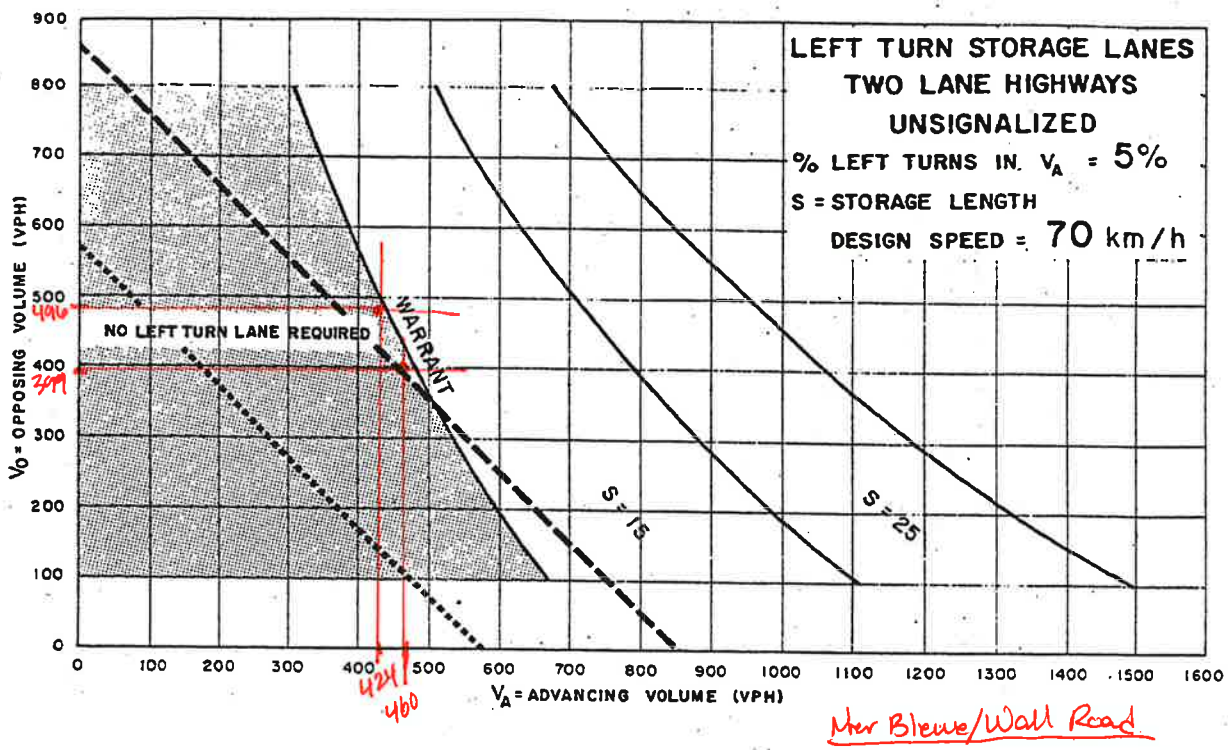


Figure EA-13



Mer Bleue/Wall Road
V_A=424, V_O=496 ∴ NOT WARRANTED

Tenth Line/Zone 6
V_A=460, V_O=399 ∴ NOT WARRANTED

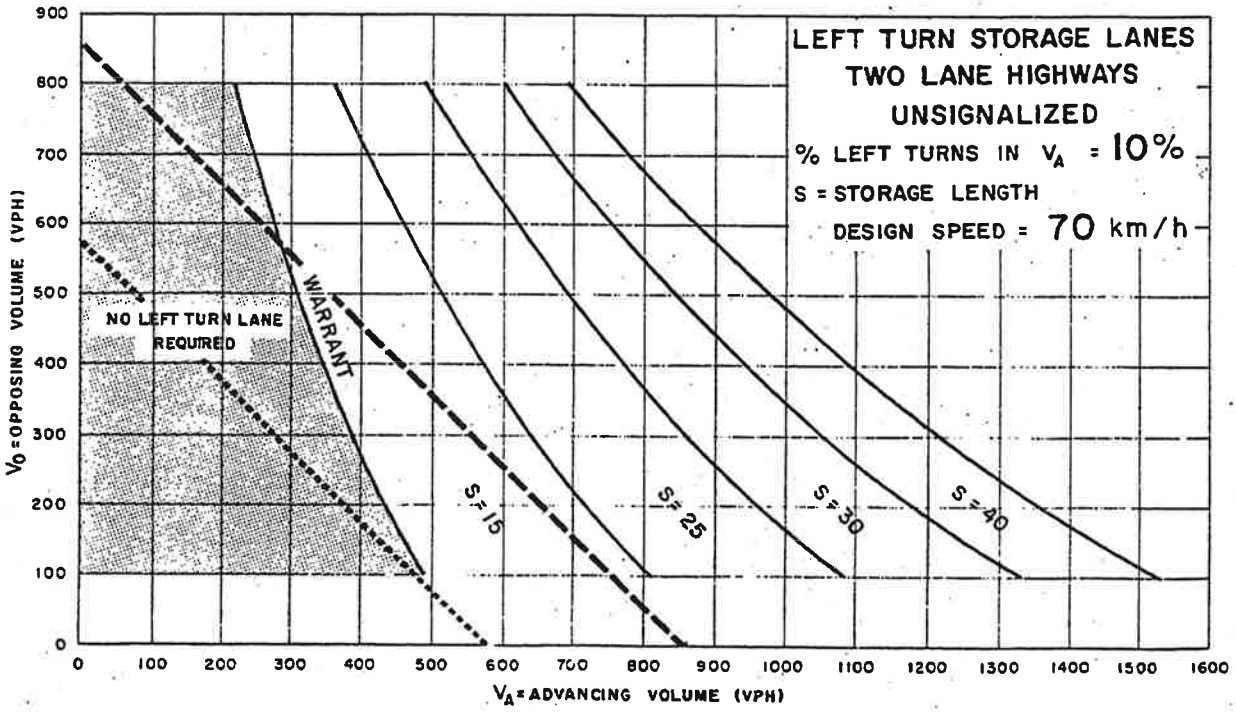


Figure EA-10