Choice Properties

TRANSPORTATION IMPACT STUDY

Proposed Retail Development

455 McNeely Ave
Town of Carleton Place

December 2025
26155

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December 19, 2025 Reference Number: 26155

Loblaw Companies Limited
Tara Park
1 President's Choice Circle
Brampton, ON
L6Y 5S5

Dear Tara Park:

RE: Transportation Impact Study
Proposed Commercial Retail Development
455 McNeely Avenue, Carleton Place

LEA Consulting Ltd. is pleased to present the findings of our Transportation Impact Study (TIS) for the proposed commercial retail development located at 455 McNeely Avenue in the Town of Carleton Place. This TIS has been prepared for Loblaw Companies Limited. in support of the Site Plan Application (SPA) for the development proposal. This report concludes that the traffic associated with the proposed development will have an acceptable impact on the surrounding road network.

Please do not hesitate to contact the undersigned should you have any additional questions or concerns at KChan@lea.ca or egilmour@lea.ca.

Yours truly,

LEA CONSULTING LTD.

Kenneth Chan, P. Eng., PTOE, PMP
Senior Vice President,
Transportation Engineering and Planning

Eric Gilmour, B. Eng
Project Coordinator,
Transportation Systems

Encl. LEA Transportation – 455 McNeely Ave Transportation Impact Study (2025)

Disclaimer

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1 INTRODUCTION

LEA Consulting Ltd. (LEA) has been retained by Choice Properties Limited Partnership to undertake a Transportation Impact Study (TIS) for the proposed retail development located at 455 McNeely Avenue in the Town of Carleton Place (herein referred to as the "subject site"). The following TIS has been prepared in support of the Site Plan Application (SPA) for the proposed development. The subject site is currently occupied by a surface parking lot. The site location is illustrated in Figure 1-1.

Figure 1-1: Site Location



Source: Google Maps, Accessed August 2025

The purpose of this assessment is to review the existing transportation infrastructure in the surrounding area, including the road network, transit network and active transportation network, and assess the traffic impact of the proposed development on the surrounding network. The study scope is consistent with the Ministry of Transportation, Ontario (MTO) General Guidelines for the preparation of Traffic Impact Studies (2023).

1.1 PROPOSED DEVELOPMENT

The proposed development will consist of an additional retail space, 37 additional parking spaces (including two (2) barrier free) and two (2) additional loading spaces. The additional retail space ("Proposed Retail C") consists of 1,589m^2 of retail GFA; with the addition the total retail GFA on-site will be 13,081m^2.

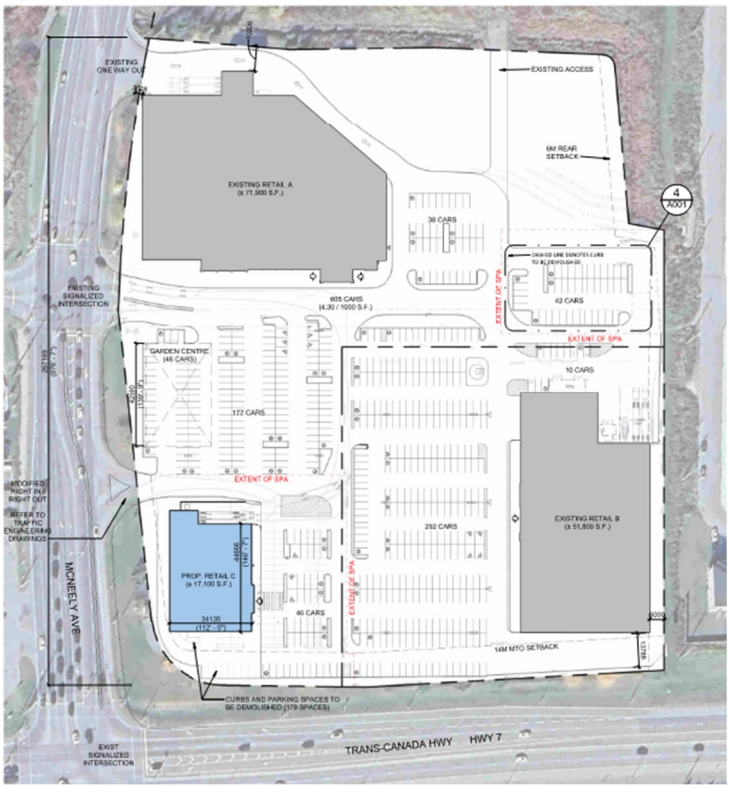
The proposed site statistics are summarized in Table 1-1.

Table 1-1: Site Statistics

Land Use	GFA
Existing Retail A (Supermarket)	6,680m^2
Existing Retail B (Canadian Tire)	4,812m^2
Total Existing GFA	**11,492m^2**
Proposed Retail C	1,589m^2
Total GFA	**13,081m^2**

The site shares vehicular accesses with other adjacent retail uses. The shared site accesses consist of two driveway connections to McNeely Avenue: a signalized full-movement access and an unsignalized right-in/right-out access. No changes are proposed to the existing site access configuration. The proposed site plan is illustrated in Figure 1-2.

Figure 1-2: Proposed Site Plan



Source: Turner Fleischer Architects, December 2025

2 EXISTING TRAFFIC CONDITIONS

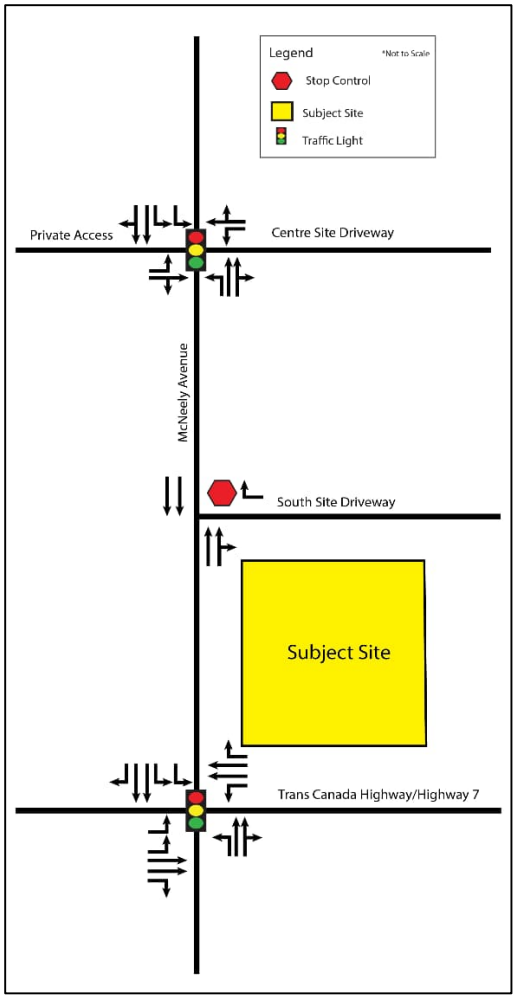
This section identifies the existing traffic conditions present in the study area, including the road, transit, cyclist, and pedestrian networks. The study area was determined by assessing the size of the proposed development and its anticipated traffic impact. The study area includes the following intersections:

- Highway 7 (Trans Canada Highway) & McNeely Avenue (Signalized);
- North Site Driveway & McNeely Avenue (Signalized);
- South Site Driveway & McNeely Avenue (Unsignalized);

2.1 EXISTING ROAD NETWORK

This section describes the road network within the above-mentioned study area. The existing intersection controls and lane configuration are illustrated in Figure 2-1.

Figure 2-1: Existing Lane Configuration



McNeely Avenue is a north-south arterial road that operates with a four (4) lane cross-section, consisting of two lanes in each direction. McNeely Avenue extends from Flegg Way in the south to Townline Road East in the north. The roadway operates with a posted speed limit of 60 km/hr.

Highway 7 (Trans Canada Highway) is an east-west provincial road that generally operates with a four (4) lane cross-section, consisting of two lanes in each direction. The roadway operates with a posted speed limit of 60 km/h in the study area. The roadway then transitions into a two carriageway divided highway with a posted speed limit of 100 km/h east of McNeely Avenue.

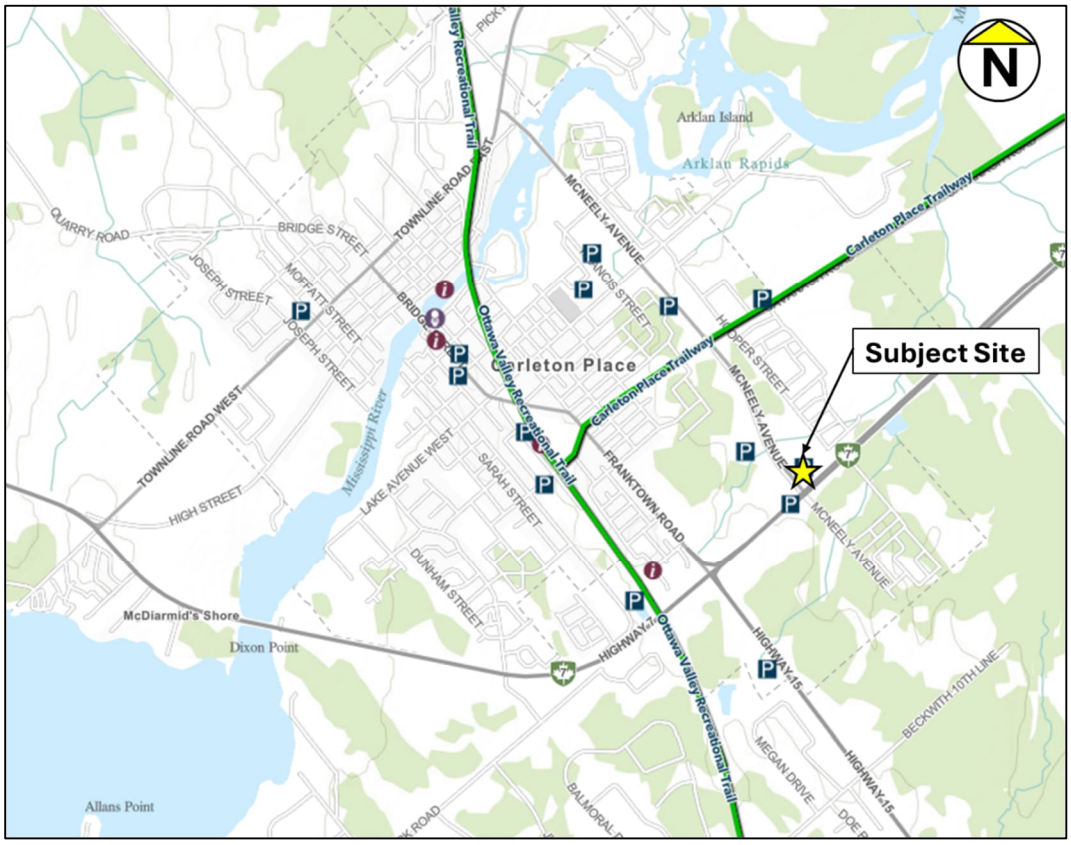
2.2 EXISTING TRANSIT NETWORK

The immediate surrounding area is predominantly car-oriented, the subject site is not located within close proximity to a transit route offered by any government agency.

2.3 EXISTING CYCLING NETWORK

There are limited cycling facilities surrounding the subject site as the area is predominantly car-oriented. North of the subject site is the Carleton Place Trailway which connects to the Ottawa Valley Recreational Trail to the west and extends to Ottawa in the east. Carleton Place Trailway is a multi-use trail apart of the Trans Canada Trail which is a network of multi-use trails across Canada. Figure 2-2 shows the multi-use trails surrounding the site.

Figure 2-2: Existing Multi-Use Trails Network



Source: Trans Canada Trail, September 2025

2.4 EXISTING PEDESTRIAN NETWORK

The surrounding area has limited pedestrian connectivity, with most roadways providing a gravel shoulder and no sidewalk facilities. There are pedestrian crosswalks available at the two signalized intersections on each leg of the intersections.

2.5 TRAFFIC DATA COLLECTION

Turning movement counts (TMCs) were used as the source of traffic data for the intersection capacity analysis. Traffic counts were collected by LEA on Thursday August 7, 2025, between 7:00 to 9:30 AM and 4:00 to 9:00 PM and on Saturday August 9, 2025, between 10:00 AM to 6:00 PM. The signal timing plans (STP) for the signalized intersection of Highway 7 and McNeely Avenue was based on the STP received from the MTO and the signalized intersection of the north site access and McNeely Avenue was based on video footage collected during the survey period.

A summary of the TMC data collected is outlined in Table 2-1, with detailed traffic counts and estimated signal timing available in Appendix A.

Table 2-1: Traffic Data Summary

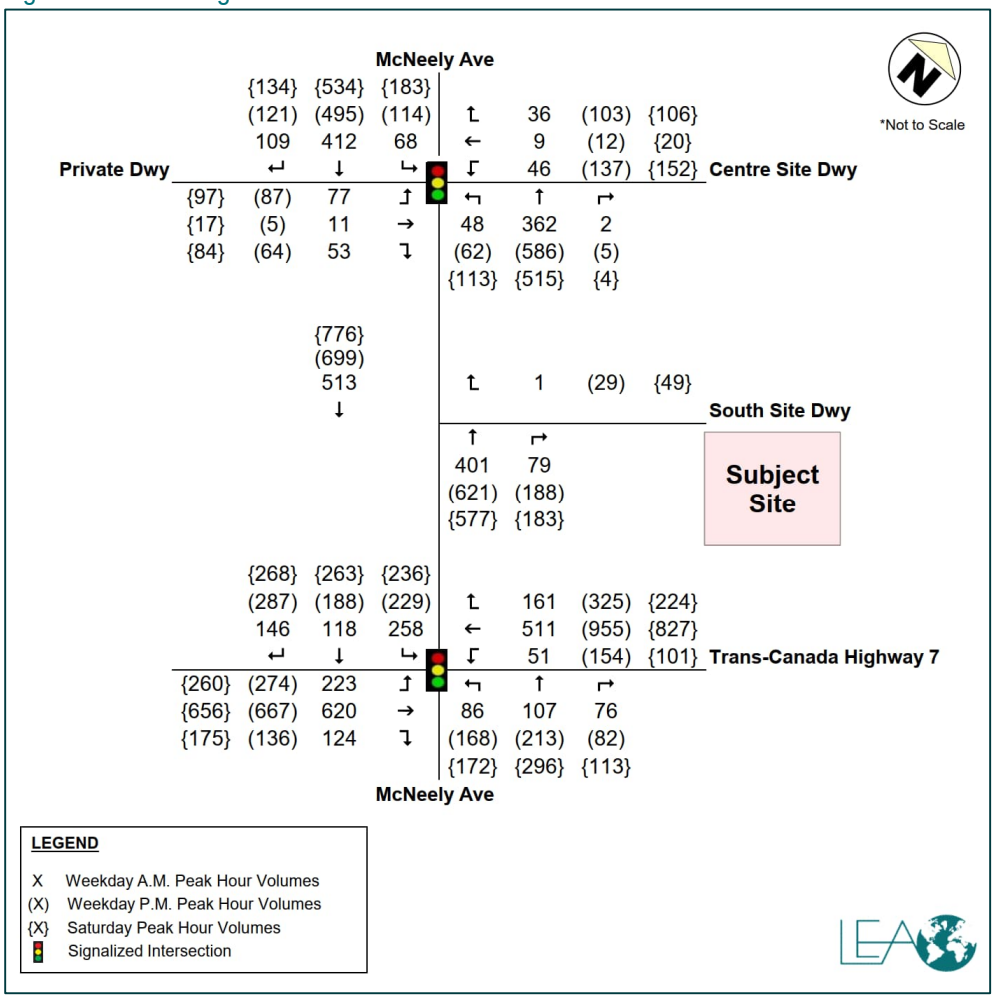
Intersection	TMC Date	Source
McNeely Avenue & Trans-Canada Highway 7	Thursday, August 7, 2025 & Saturday, August 9, 2025	LEA Consulting LTD.
McNeely Avenue & South Site Access		
McNeely Avenue & Site North Access		

2.6 EXISTING TRAFFIC VOLUMES

The existing traffic volumes during the weekday AM/PM and Saturday peak hours are illustrated in Figure 2-3.

Note: Given that traffic counts were obtained in August 2025, seasonal AADT volumes were checked along Highway 7 and it is confirmed that the roadway is busier in the summer than the fall or winter.

Figure 2-3: Existing Traffic Volumes



3 FUTURE BACKGROUND TRAFFIC CONDITIONS

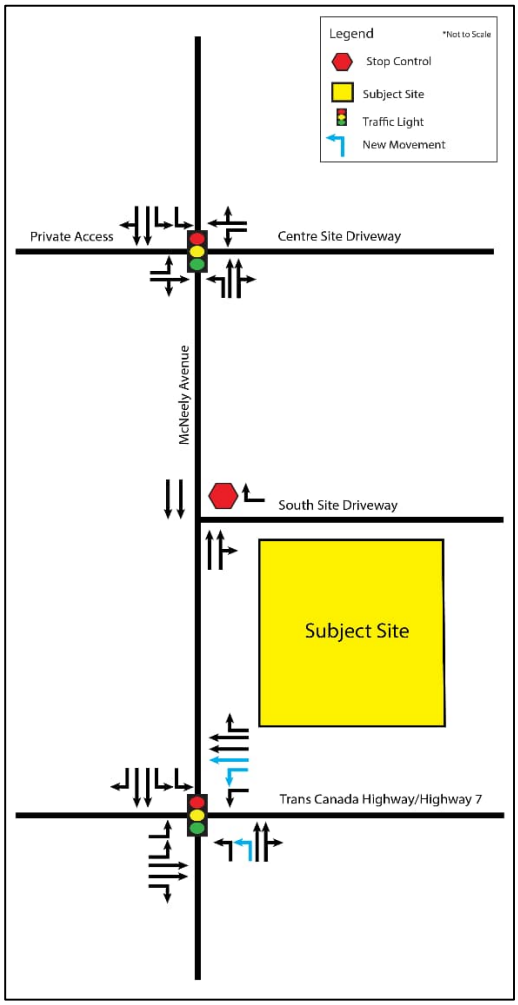
For the analysis of future background traffic conditions, this study considers a full buildout in 2026, followed by horizon years at five (5) and ten (10) years after buildout, representing future years 2031 and 2036. Future background conditions consist of applying corridor growth to observed traffic volumes. The future background conditions were used as the baseline for evaluating the impact of the proposed development.

3.1 FUTURE ROAD NETWORK IMPROVEMENTS

It is understood that there will be an additional northbound left turn lane and westbound left turn lane according to the *Highway 7 and Highway 15 Intersection Environmental Study Report, dated July 8, 2020 (EA report)*. This is estimated to be completed by the winter in 2027. These changes will be implemented in the future background and future total 2031 and 2036 horizons.

A more recent addendum to the report sourced above states that in addition to the second westbound left lane there will be an additional westbound through lane resulting in three through lanes in total. The updated lane configuration figure can be seen in Figure 3-1.

Figure 3-1: Future Lane Configuration



3.2 CORRIDOR GROWTH

A 1% growth rate was applied to McNeely Avenue for all peak hours to derive future background traffic volumes. Along Highway 7, consistent with the *Highway 7 and Highway 15 Intersection Environmental Study Report*, a growth rate of 1.5% was applied. Growth rates applied to the roadways outlined in Table 3-1.

Table 3-1: Corridor Growth Rates

Corridor	Growth
McNeely Avenue	1.00%
Trans-Canada Highway 7	1.50%

3.3 BACKGROUND DEVELOPMENTS

There are three (3) background development identified within the study area. Table 3-2 lists the background developments in the area. Excerpts from the studies providing details of the background development trips are provided in Appendix B.

Table 3-2: Background Developments

#	Location	Proposed Development	Source of Traffic Volumes
1	320 Coleman St	Commercial unit 725 m2	IBI Group August 19, 2022 Exhibit 5
2	Carleton Place Subdivision Block 213 (Meadow Ridge Condominiums)	88 Single unit residential Homes	Egis Canada Ltd., April 7, 2025 Figure 5-1
3	Food basics McNeely Ave	Food store (3252 m2 [35,000ft2])	R.J Burnside March 2025 Figure 8

3.4 FUTURE BACKGROUND TRAFFIC VOLUMES

Future background traffic volumes under the 2026, 2031, and 2036 horizon years are illustrated in Figure 3-2, Figure 3-3, and Figure 3-4, respectively.

Figure 3-2: Future Background (2026) Traffic Volumes

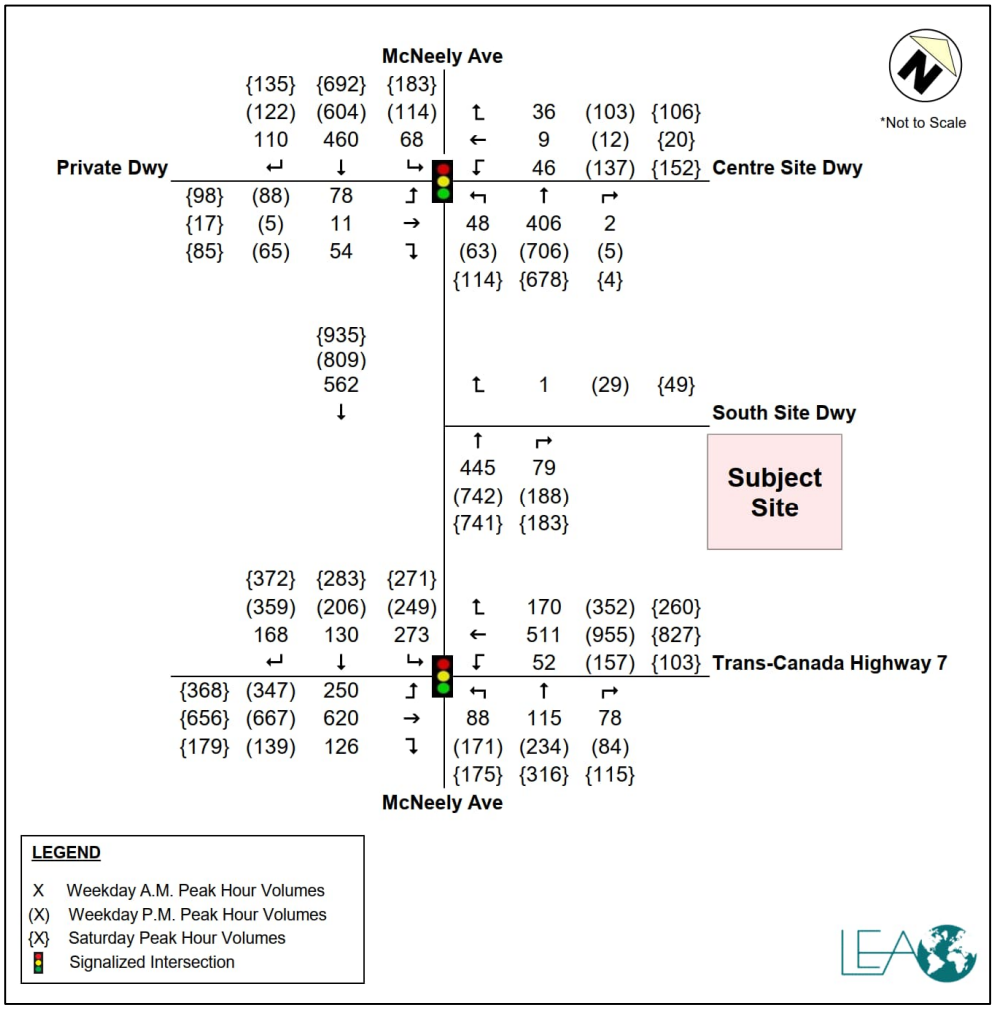


Figure 3-3: Future Background (2031) Traffic Volumes

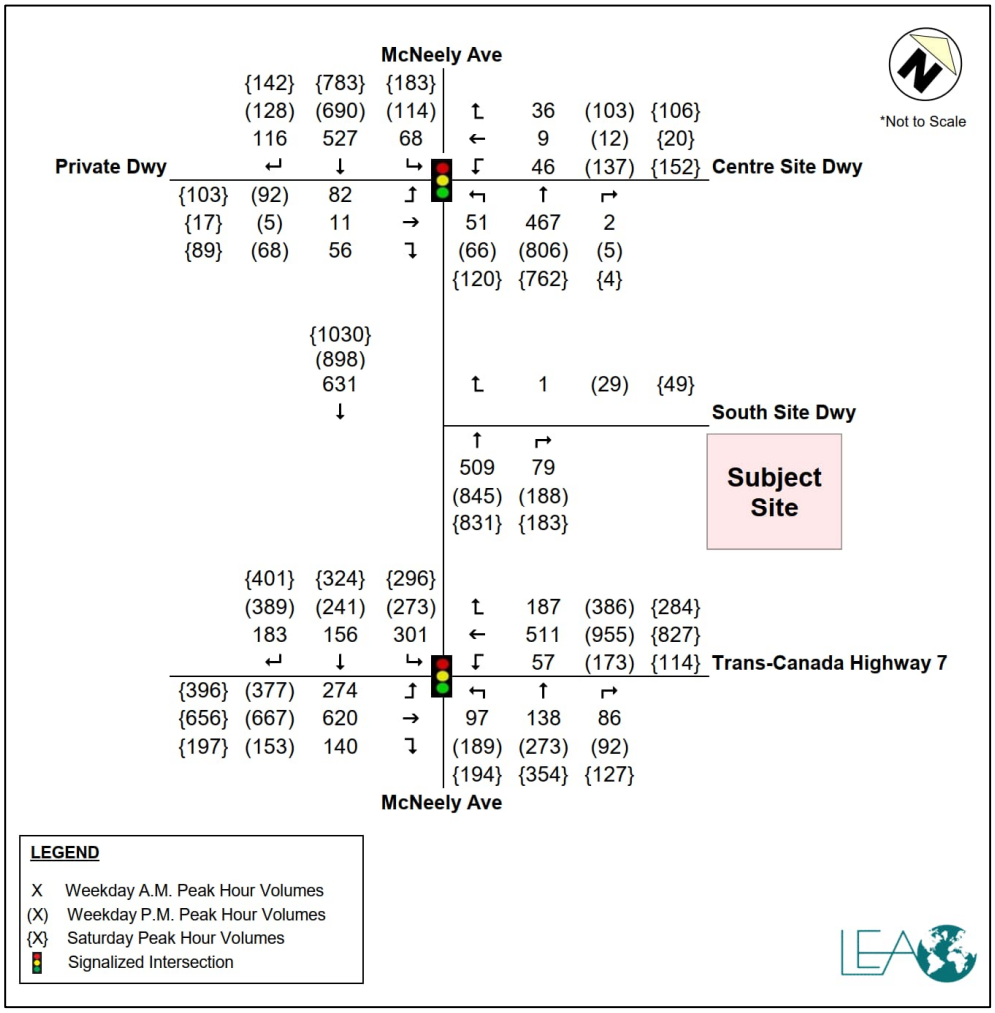
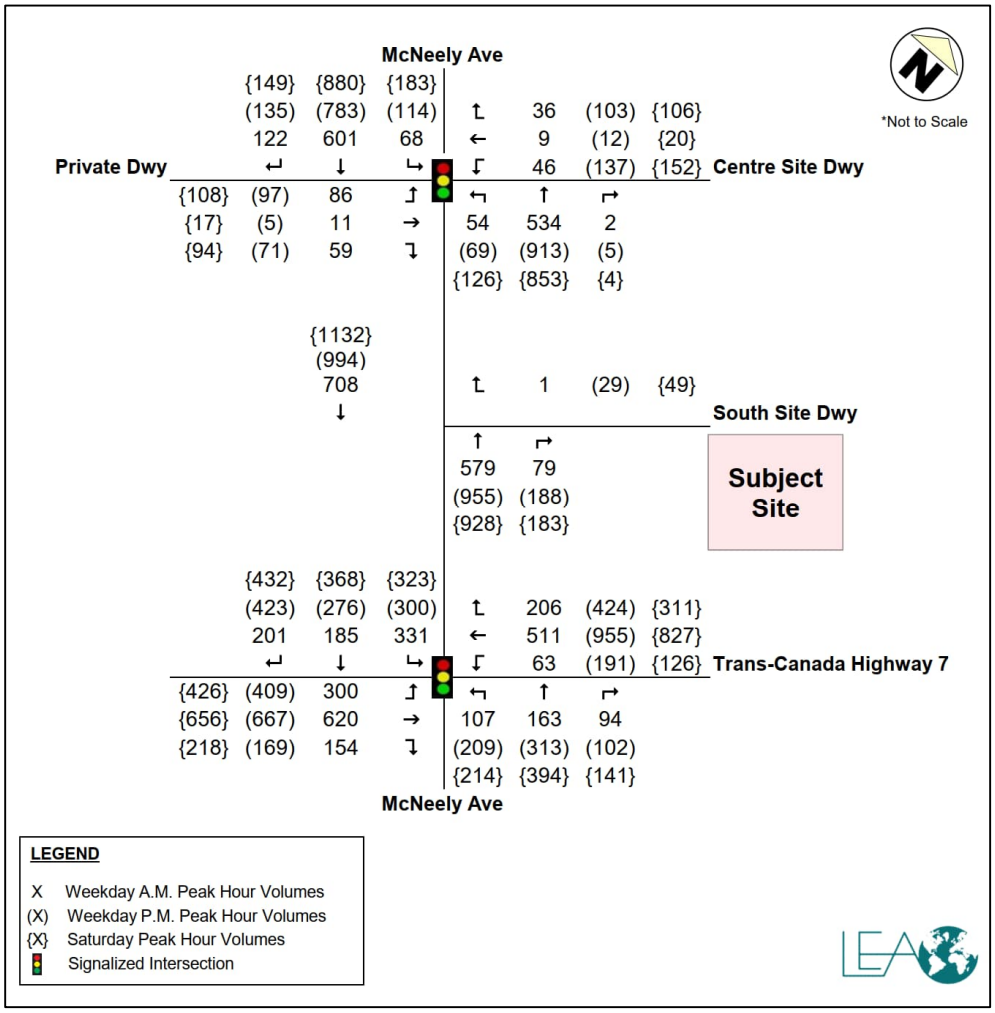


Figure 3-4: Future Background (2036) Traffic Volumes



4 SITE GENERATED TRAFFIC

The proposed development will consist of the addition of one retail building containing 17,104 ft^2 (1,589 m^2) of GFA. It is understood that the future tenant for this building will be a pharmacy/drugstore.

4.1 MODE SPLIT

Given the limited transit and active transportation infrastructure surrounding the site, it is assumed that site trips will typically be vehicle-based.

4.2 TRIP GENERATION

Trip generation was estimated using trip rates from the ITE Trip Generation Manual 11th Edition. The trip rates were derived using ITE LUC 880 – Pharmacy/Drugstore without Drive Through Window in a General Urban/Suburban setting. Pass-by trips were calculated based on the rates provided in the ITE Trip Generation Handbook 3rd Edition. The site vehicle trip generation is provided in Table 4-1.

Table 4-1: Site Vehicle Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday MD Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
ITE LUC 880 – Pharmacy/ Drugstore 17,104 ft^2	ITE Auto Trip Rate (/1000 ft^2)	1.91	1.03	2.94	4.17	4.34	8.51	5.23	5.45	10.68
	ITE Auto Trips	33	17	50	71	75	146	89	94	183
	Pass-By Trips (0/53%/53%)[1]	0	0	0	38	40	78	49	49	98
	Primary External Auto Trips	**33**	**17**	**50**	**32**	**36**	**68**	**40**	**45**	**85**

1 Note that the average pass-by trips were used in the analysis.

The proposed development is anticipated to generate 50 two-way vehicle trips during the weekday AM peak hour (33 inbound, 17 outbound), 68 two-way vehicle trips during the weekday PM peak hour (32 inbound, 36 outbound), and 85 two-way vehicle trips during the Saturday mid-day peak hour (40 inbound, 45 outbound).

4.3 TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution of site traffic was derived based on existing traffic patterns within the study area. Site traffic was assigned to the road network based on observed traffic patterns, applicable turn restrictions, and logical routing.

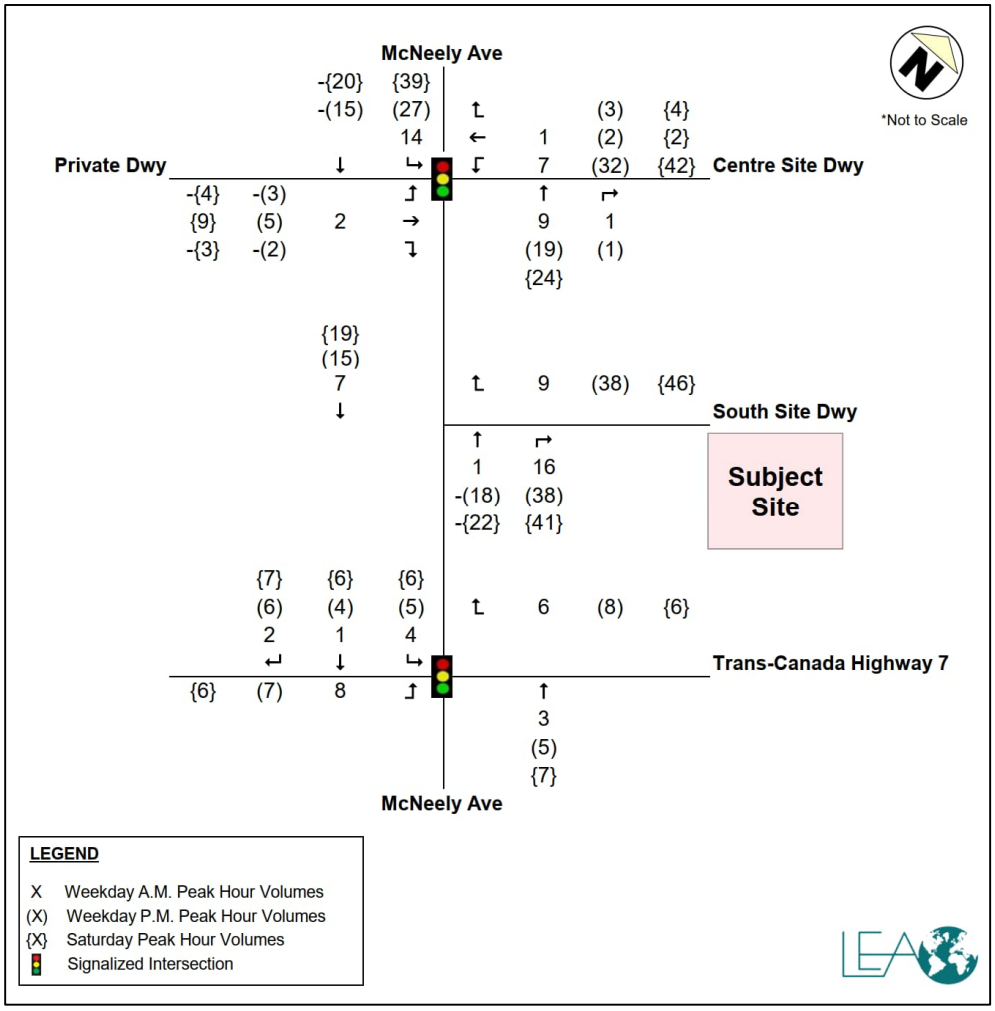
The assumed trip distribution for site traffic is outlined in Table 4-2. Detailed calculations are provided in Appendix C.

Table 4-2: Site Trip Distribution

Assigned Route	Weekday AM		Weekday PM		Saturday MD	
	In	Out	In	Out	In	Out
McNeely Avenue North	43%	50%	37%	53%	47%	53%
McNeely Avenue North	11%	10%	16%	11%	18%	14%
Trans-Canada Highway West	23%	12%	21%	18%	16%	15%
Trans-Canada Highway East	17%	21%	25%	14%	14%	13%
Private Driveway	6%	7%	1%	4%	5%	5%
Total	100%	100%	100%	100%	100%	100%

The proposed net site traffic is illustrated in Figure 4-1.

Figure 4-1: Net New Traffic Volumes



5 FUTURE TOTAL TRAFFIC CONDITIONS

Future total traffic volumes under the 2026 (Full Build Out), 2031 (5-year post Full Build Out), and 2036 (10-year post Full Build Out) horizon years are shown in Figure 5-1, Figure 5-2, and Figure 5-3.

Figure 5-1: Future Total (2026) Traffic Volumes

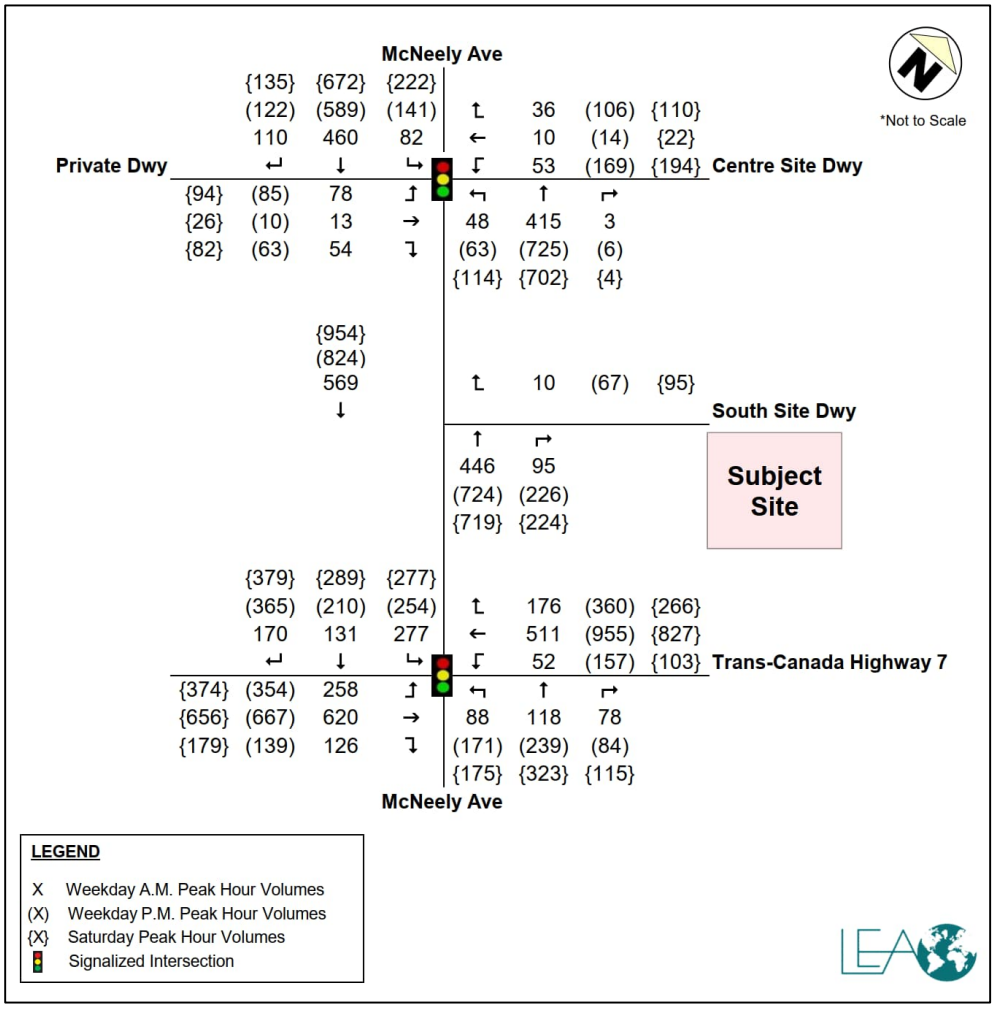


Figure 5-2: Future Total (2031) Traffic Volumes

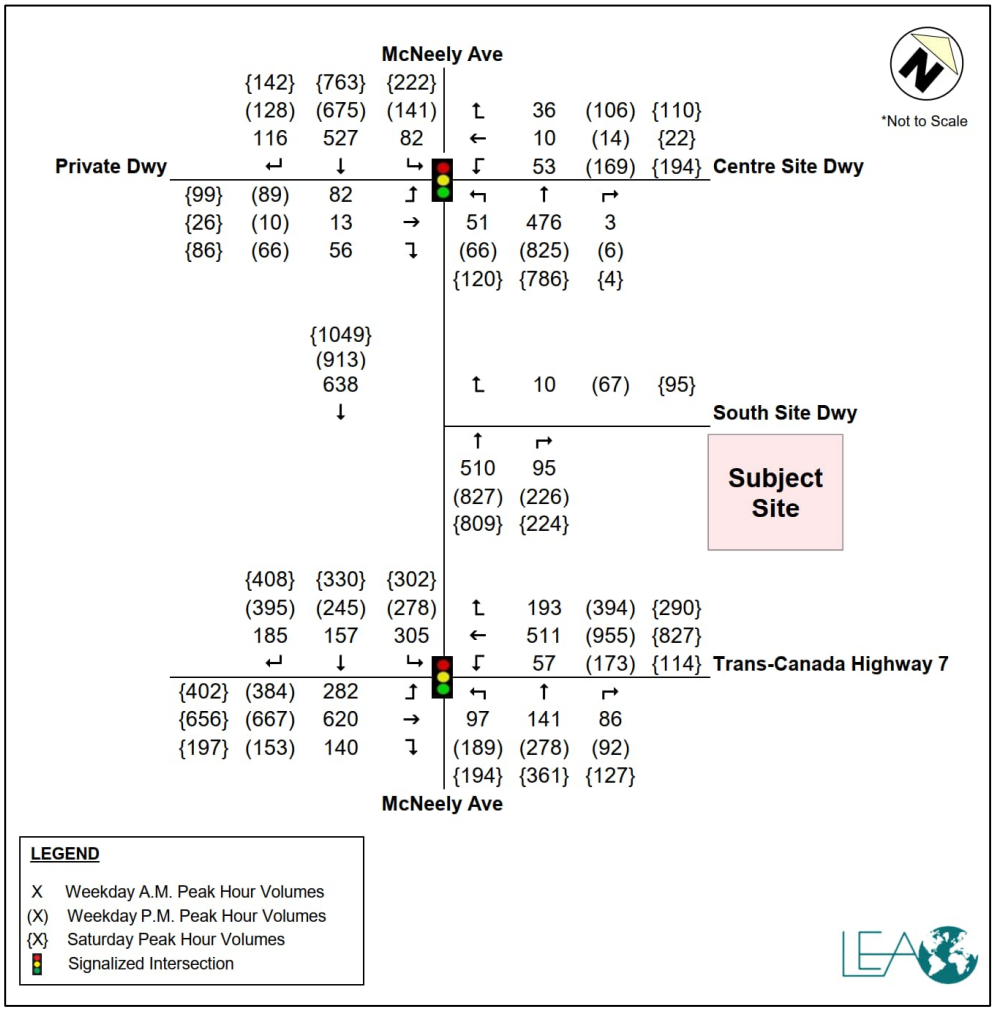
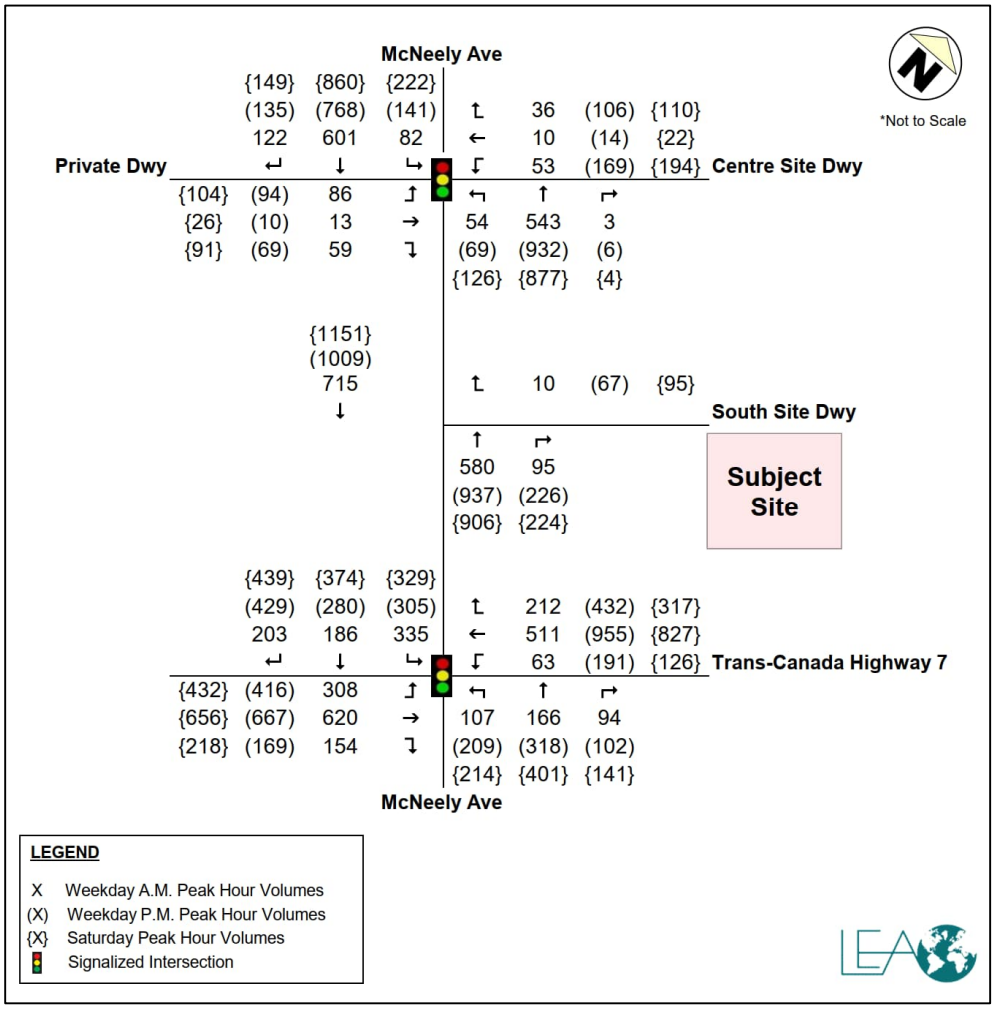


Figure 5-3: Future Total (2036) Traffic Volumes



6 INTERSECTION CAPACITY ANALYSIS

The intersection capacity analysis was undertaken using Synchro version 12.0, which is based on the Highway Capacity Manual 6th edition methodology. Key movements of interest were highlighted and are defined as those with a volume/capacity (v/c) ratio greater than 0.85 at signalized intersections.

Detailed capacity analysis results are provided in Appendix C.

6.1 SYNCHRO MODEL INPUTS AND ASSUMPTIONS

The following sub-sections outline the network assumptions and changes applied to the Synchro models in the existing, future background and future total scenarios.

6.1.1 Synchro Calibrations/Parameters

6.1.1.1 Existing Conditions Synchro Model Inputs

Existing traffic operations were assessed to provide a baseline for future traffic operations. The existing analysis incorporates the most recent signal timing plans for the study intersections. The applied Peak Hour Factor (PHF) values were calculated based on the surveyed counts and saturation flow values set at 1900 vphpl.

6.1.1.2 Future Background and Future Total Synchro Model Inputs

Input parameters from the existing conditions were maintained with the corresponding future background and future total volumes.

6.1.2 Signal Timing Modifications

Due to critical movements identified during both the weekday PM and Saturday peak hours under future background and future total scenarios the following signal timing optimization is recommended to provide adequate service to all movements under future conditions.

The optimized signal timing plans compared to the existing signal timing plans are shown in Table 6-1, Table 6-2, Table 6-3 for the intersection of McNeely Avenue and Trans-Canada Highway 7.

Table 6-1: Signal Timing Optimization AM Peak – McNeely Avenue and Trans-Canada Highway 7

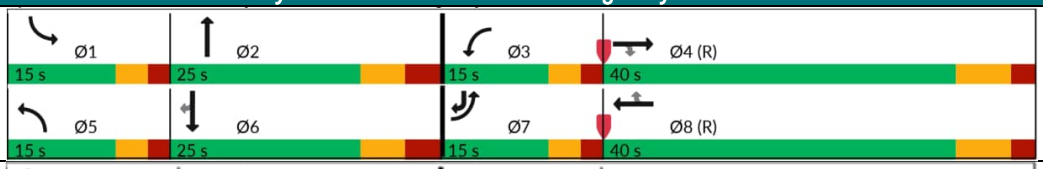
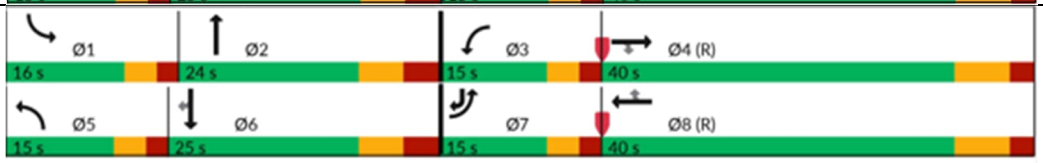
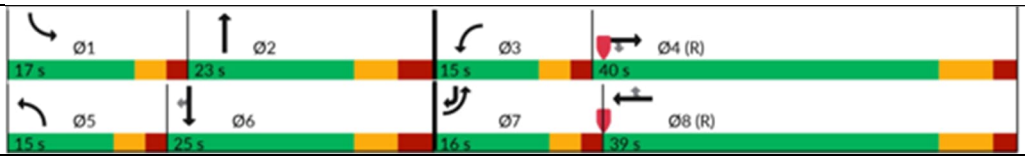
McNeely Avenue and Trans-Canada Highway 7	
Existing – AM Peak	
2031 Future Optimized – AM Peak	
2036 Future Optimized – PM Peak	

Table 6-2: Signal Timing Optimization PM Peak – McNeely Avenue and Trans-Canada Highway 7

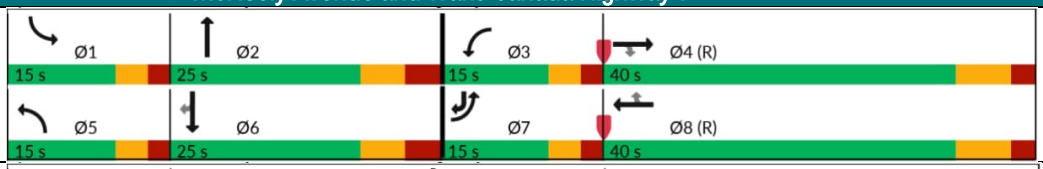
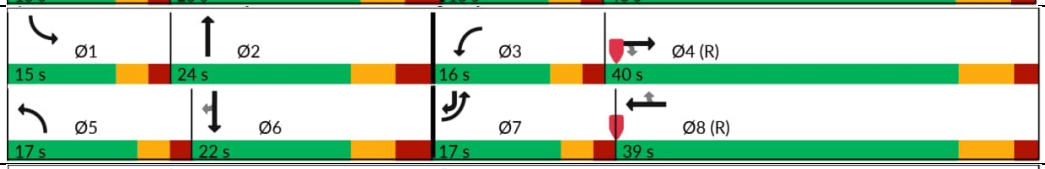
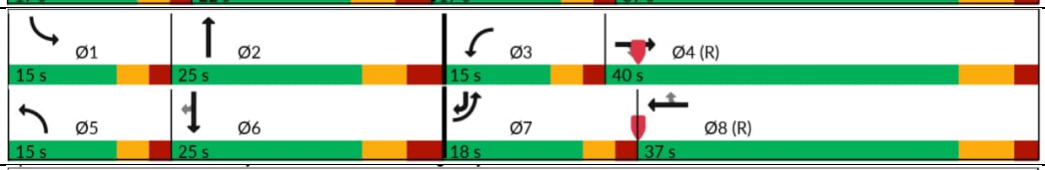
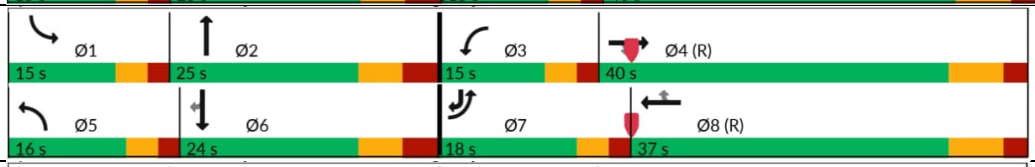
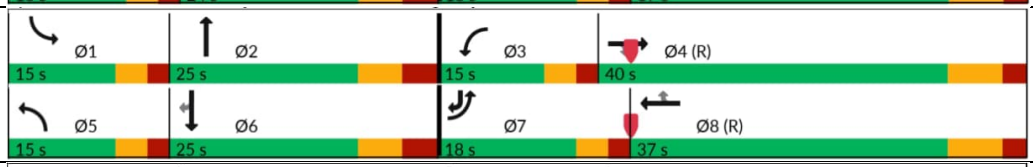
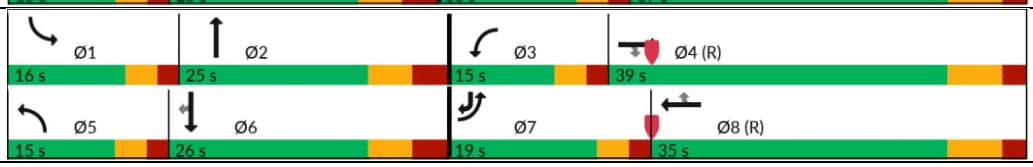
McNeely Avenue and Trans-Canada Highway 7	
Existing – PM Peak	
2026 Future Optimized – PM Peak	
2031 Future Optimized – PM Peak	
2036 Future Optimized – PM Peak	

Table 6-3: Signal Timing Optimization Sat Peak – McNeely Avenue and Trans-Canada Highway 7

McNeely Avenue and Trans-Canada Highway 7	
Existing – Sat Peak	
2026 Future Optimized – Sat Peak	
2031 Future Optimized – Sat Peak	
2036 Future Optimized – Sat Peak	

6.2 SIGNALIZED INTERSECTIONS

The results for the signalized intersections are summarized in the sections below.

6.2.1 Trans-Canada Highway 7 & McNeely Avenue

The intersection capacity analysis results at Trans-Canada Highway 7 and McNeely Avenue are summarized in Table 6-4, Table 6-5, and Table 6-6.

Table 6-4: Intersection Capacity Analysis 2026 - Trans-Canada Highway 7 & McNeely Avenue

AM	Existing (2025)				Future Background (2026)				Future Total 2026 (2026)			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	C (34)	-/-	-	-	C (35)	-/-	-	-	D (35)	-/-
EBL	223	0.66	D (50)	22/36	250	0.74	D (54)	25/43	258	0.77	E (56)	26/45
EBT	620	0.55	C (27)	51/69	620	0.55	C (27)	51/69	620	0.55	C (27)	51/69
EBR	124	0.24	C (23)	0/7	126	0.25	C (23)	0/8	126	0.25	C (23)	0/8
WBL	51	0.31	D (44)	9/21	52	0.31	D (44)	10/21	52	0.31	D (44)	10/21
WBT	511	0.47	C (26)	41/56	511	0.47	C (26)	41/56	511	0.47	C (26)	41/56
WBR	161	0.34	C (25)	1/14	170	0.35	C (25)	1/15	176	0.36	C (25)	1/15
NBL	86	0.49	D (49)	16/31	88	0.50	D (49)	17/32	88	0.50	D (49)	17/32
NBTR	183	0.33	D (37)	9/19	193	0.35	D (37)	10/20	196	0.35	D (37)	10/20
SBL	258	0.76	E (55)	26/44	273	0.80	E (59)	27/48	277	0.82	E (60)	28/49
SBT	118	0.19	C (33)	10/18	130	0.21	C (33)	11/20	131	0.21	C (33)	11/20
SBR	146	0.34	C (29)	0/12	168	0.39	C (29)	0/13	170	0.40	C (30)	0/13
PM	**Existing (2025)**				**Future Background (2026)**				**Future Total 2026 (2026)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	D (41)	-/-	-	-	D (42)	-/-	-	-	D (42)	-/-
EBL	274	0.79	E (58)	27/48	346	0.84	E (58)	35/58	353	0.85	E (59)	36/60
EBT	667	0.60	C (28)	56/75	667	0.59	C (28)	56/75	667	0.59	C (28)	56/75
EBR	136	0.27	C (24)	0/10	138	0.27	C (24)	0/10	138	0.27	C (24)	0/10
WBL	154	**0.88**	**F (83)**	30/68	156	0.80	E (68)	30/65	156	0.80	E (68)	30/65
WBT	955	0.83	D (35)	90/115	955	**0.86**	**D (38)**	91/126	955	**0.86**	**D (38)**	91/126
WBR	325	0.64	C (32)	23/50	350	0.70	D (35)	27/55	358	0.72	D (36)	27/57
NBL	168	**0.95**	**F (95)**	33/74	171	0.80	E (65)	33/68	171	0.80	E (65)	33/68
NBTR	295	0.49	D (40)	22/35	317	0.55	D (43)	26/39	322	0.56	D (43)	26/40
SBL	229	0.68	D (51)	23/37	247	0.73	D (53)	25/41	252	0.74	D (54)	25/43
SBT	188	0.30	C (35)	17/27	206	0.39	D (38)	19/30	210	0.40	D (38)	20/31
SBR	287	0.66	D (37)	27/51	357	0.84	D (49)	40/71	363	**0.86**	**D (51)**	42/73
Sat	**Existing (2025)**				**Future Background (2026)**				**Future Total 2026 (2026)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	D (38)	-/-	-	-	D (40)	-/-	-	-	D (40)	-/-
EBL	260	0.72	D (53)	25/41	367	0.78	D (51)	35/56	373	0.79	D (52)	36/57
EBT	656	0.55	C (27)	52/69	656	0.54	C (27)	52/69	656	0.54	C (27)	52/69
EBR	175	0.33	C (25)	2/15	178	0.33	C (25)	2/16	178	0.33	C (25)	2/16
WBL	101	0.54	D (51)	18/35	103	0.55	D (51)	19/37	103	0.55	D (51)	19/37
WBT	827	0.68	C (30)	69/90	827	0.75	C (34)	73/95	827	0.75	C (34)	73/95
WBR	224	0.42	C (26)	8/25	259	0.53	C (31)	13/34	265	0.54	C (31)	14/35
NBL	172	**0.92**	**F (90)**	33/72	175	0.85	E (75)	33/70	175	0.85	E (75)	33/70
NBTR	409	0.65	D (46)	33/48	431	0.68	D (47)	35/51	438	0.69	D (48)	36/52
SBL	236	0.65	D (50)	22/34	270	0.75	D (54)	26/44	276	0.76	E (55)	26/45
SBT	263	0.40	D (36)	23/35	283	0.46	D (37)	25/38	289	0.46	D (38)	26/38
SBR	268	0.58	C (34)	21/43	371	0.75	D (39)	38/66	378	0.77	D (40)	39/69

Table 6-5: Intersection Capacity Analysis 2031 – Trans-Canada Highway 7 & McNeely Avenue

AM	Existing (2025)				Future Background (2031)				Future Total 2026 (2031)			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	C (34)	-/-	-	-	C (35)	-/-	-	-	C (35)	-/-
EBL	223	0.66	D (50)	22/36	267	0.79	E (58)	27/47	275	0.82	E (60)	28/49
EBT	620	0.55	C (27)	51/69	620	0.55	C (27)	51/69	620	0.55	C (27)	51/69
EBR	124	0.24	C (23)	0/7	136	0.27	C (24)	0/10	136	0.27	C (24)	0/10
WBL	51	0.31	D (44)	9/21	56	0.17	D (40)	5/11	56	0.17	D (40)	5/11
WBT	511	0.47	C (26)	41/56	511	0.32	C (24)	27/36	511	0.32	C (24)	27/36
WBR	161	0.34	C (25)	1/14	182	0.38	C (26)	0/14	188	0.39	C (26)	0/14
NBL	86	0.49	D (49)	16/31	94	0.27	D (41)	9/16	94	0.27	D (41)	9/16
NBTR	183	0.33	D (37)	9/19	221	0.42	D (39)	12/23	224	0.42	D (39)	13/23
SBL	258	0.76	E (55)	26/44	292	0.78	E (55)	29/49	296	0.79	E (56)	30/50
SBT	118	0.19	C (33)	10/18	156	0.25	C (34)	14/23	157	0.25	C (34)	14/23
SBR	146	0.34	C (29)	0/12	179	0.42	C (30)	2/15	181	0.42	C (30)	2/15
PM	**Existing (2025)**				**Future Background (2031)**				**Future Total 2026 (2031)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	D (41)	-/-	-	-	D (38)	-/-	-	-	D (39)	-/-
EBL	274	0.79	E (58)	27/48	368	0.82	D (55)	37/60	375	0.84	E (56)	37/62
EBT	667	0.60	C (28)	56/75	667	0.59	C (28)	56/75	667	0.59	C (28)	56/75
EBR	136	0.27	C (24)	0/10	149	0.29	C (24)	0/12	149	0.29	C (24)	0/12
WBL	154	**0.88**	**F (83)**	30/68	168	0.49	D (45)	16/27	168	0.49	D (45)	16/27
WBT	955	0.83	D (35)	90/115	955	0.64	C (30)	58/73	955	0.64	C (30)	58/73
WBR	325	0.64	C (32)	23/50	375	0.81	D (43)	17/45	383	0.82	D (45)	7/30
NBL	168	**0.95**	**F (95)**	33/74	184	0.53	D (46)	18/29	184	0.53	D (46)	18/29
NBTR	295	0.49	D (40)	22/35	363	0.59	D (43)	30/45	368	0.60	D (44)	31/46
SBL	229	0.68	D (51)	23/37	265	0.78	E (57)	26/46	270	0.80	E (58)	27/47
SBT	188	0.30	C (35)	17/27	241	0.38	D (36)	22/33	245	0.39	D (36)	22/34
SBR	287	0.66	D (37)	27/51	380	0.78	D (40)	42/72	386	0.79	D (41)	43/74
Sat	**Existing (2025)**				**Future Background (2031)**				**Future Total 2026 (2031)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	D (38)	-/-	-	-	D (38)	-/-	-	-	D (39)	-/-
EBL	260	0.72	D (53)	25/41	387	0.82	D (55)	37/60	393	0.83	E (56)	38/62
EBT	656	0.55	C (27)	52/69	656	0.54	C (27)	52/69	656	0.54	C (27)	52/69
EBR	175	0.33	C (25)	2/15	191	0.36	C (25)	4/18	191	0.36	C (25)	4/18
WBL	101	0.54	D (51)	18/35	110	0.30	D (41)	10/18	110	0.30	D (41)	10/18
WBT	827	0.68	C (30)	69/90	827	0.52	C (28)	46/59	827	0.52	C (28)	46/59
WBR	224	0.42	C (26)	8/25	277	0.57	C (32)	6/25	283	0.58	C (32)	0/17
NBL	172	**0.92**	**F (90)**	33/72	188	0.52	D (45)	17/28	188	0.52	D (45)	17/28
NBTR	409	0.65	D (46)	33/48	478	0.75	D (52)	40/57	485	0.76	D (52)	41/58
SBL	236	0.65	D (50)	22/34	288	0.80	E (58)	28/48	294	0.81	E (59)	28/49
SBT	263	0.40	D (36)	23/35	324	0.49	D (37)	29/42	330	0.50	D (37)	29/43
SBR	268	0.58	C (34)	21/43	392	0.77	D (40)	41/71	399	0.78	D (40)	42/73

Table 6-6: Intersection Capacity Analysis 2036 – Trans-Canada Highway 7 & McNeely Avenue

AM	Existing (2025)				Future Background (2036)				Future Total 2026 (2036)			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	C (34)	-/-	-	-	C (35)	-/-	-	-	D (35)	-/-
EBL	223	0.66	D (50)	22/36	286	0.77	D (54)	28/48	294	0.79	E (56)	29/50
EBT	620	0.55	C (27)	51/69	620	0.55	C (27)	51/69	620	0.55	C (27)	51/69
EBR	124	0.24	C (23)	0/7	146	0.28	C (24)	0/11	146	0.28	C (24)	0/11
WBL	51	0.31	D (44)	9/21	60	0.19	D (40)	6/12	60	0.19	D (40)	6/12
WBT	511	0.47	C (26)	41/56	511	0.34	C (24)	27/37	511	0.34	C (24)	27/37
WBR	161	0.34	C (25)	1/14	196	0.42	C (27)	0/15	202	0.43	C (27)	0/15
NBL	86	0.49	D (49)	16/31	101	0.29	D (41)	9/17	101	0.29	D (41)	9/17
NBTR	183	0.33	D (37)	9/19	253	0.50	D (43)	15/27	256	0.51	D (43)	16/28
SBL	258	0.76	E (55)	26/44	314	0.77	D (53)	31/51	318	0.78	D (53)	31/52
SBT	118	0.19	C (33)	10/18	185	0.30	C (34)	17/26	186	0.30	C (34)	17/27
SBR	146	0.34	C (29)	0/12	191	0.43	C (29)	5/18	193	0.43	C (30)	5/19
PM	**Existing (2025)**				**Future Background (2036)**				**Future Total 2026 (2036)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	D (41)	-/-	-	-	D (38)	-/-	-	-	D (38)	-/-
EBL	274	0.79	E (58)	27/48	391	0.81	D (52)	39/62	398	0.82	D (53)	40/64
EBT	667	0.60	C (28)	56/75	667	0.59	C (28)	56/75	667	0.59	C (28)	56/75
EBR	136	0.27	C (24)	0/10	160	0.31	C (24)	1/14	160	0.31	C (24)	1/14
WBL	154	0.88	F (83)	30/68	181	0.53	D (46)	18/29	181	0.53	D (46)	18/29
WBT	955	0.83	D (35)	90/115	955	0.66	C (31)	59/74	955	0.66	C (31)	59/74
WBR	325	0.64	C (32)	23/50	403	0.65	C (27)	37/63	411	0.66	C (27)	39/65
NBL	168	**0.95**	**F (95)**	33/74	198	0.57	D (47)	19/31	198	0.57	D (47)	19/31
NBTR	295	0.49	D (40)	22/35	410	0.71	D (50)	36/52	415	0.71	D (50)	37/53
SBL	229	0.68	D (51)	23/37	285	0.76	D (54)	28/47	290	0.78	D (55)	29/49
SBT	188	0.30	C (35)	17/27	276	0.44	D (36)	25/38	280	0.44	D (36)	26/38
SBR	287	0.66	D (37)	27/51	404	0.80	D (41)	46/78	410	0.81	D (42)	47/79
Sat	**Existing (2025)**				**Future Background (2036)**				**Future Total 2026 (2036)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	D (38)	-/-	-	-	D (39)	-/-	-	-	D (40)	-/-
EBL	260	0.72	D (53)	25/41	409	0.81	D (52)	39/62	415	0.82	D (53)	39/63
EBT	656	0.55	C (27)	52/69	656	0.56	C (28)	53/70	656	0.56	C (28)	53/70
EBR	175	0.33	C (25)	2/15	206	0.40	C (27)	6/21	206	0.40	C (27)	6/21
WBL	101	0.54	D (51)	18/35	119	0.33	D (42)	11/19	119	0.33	D (42)	11/19
WBT	827	0.68	C (30)	69/90	827	0.56	C (30)	48/61	827	0.56	C (30)	48/61
WBR	224	0.42	C (26)	8/25	296	0.65	D (36)	8/29	302	0.67	D (37)	8/29
NBL	172	**0.92**	**F (90)**	33/72	203	0.56	D (46)	19/30	203	0.56	D (46)	19/30
NBTR	409	0.65	D (46)	33/48	527	0.83	E (58)	46/64	534	0.84	E (59)	47/66
SBL	236	0.65	D (50)	22/34	308	0.77	D (54)	29/49	314	0.79	E (55)	30/50
SBT	263	0.40	D (36)	23/35	368	0.53	D (37)	33/47	374	0.54	D (37)	33/48
SBR	268	0.58	C (34)	21/43	415	0.76	D (37)	43/74	422	0.78	D (38)	45/76

Existing Conditions: Under existing conditions, the intersection of McNeely Avenue and Trans-Canada Highway 7 operates well during all peak hours. All movements operate with residual capacity and acceptable

delays. All existing 95th percentile queues can be accommodated by their available storage lanes. No critical movements have been identified. The southbound right movement 50th queues length for the Weekday PM and Saturday peak hours minimally exceeds its available storage length. However, the queues are contained with the taper leger and is does not impede the southbound through movement.

Future Background Conditions 2026: Under future background conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. Optimization is required to improve the capacity of the intersection. After optimization, the intersection is expected to present acceptable levels of service, The PM peak hour westbound through movement and Saturday peak hour northbound left has a v/c ratio at or just above the 0.85 threshold and can be considered critical. The same conclusion occurs with the southbound right movement for the PM peak hour.

Future Total Conditions 2026: Overall, similar level of service occurs as the future background conditions. The southbound right movement can be judged as critical during the PM peak hour. The proposed future intersection modifications are expected to allow for better level of service where all movements operate under acceptable conditions.

Future Background Conditions 2031: Under future background conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. After optimization, the intersection operates within capacity and has acceptable delay with no movements considered critical.

Future Total Conditions 2031: Under future total conditions, the addition of site traffic is expected to have a similar operations as with future background conditions. The proposed future intersection modifications are expected to allow for better level of service where all movements operate under acceptable conditions.

Future Background Conditions 2036: Under 2036 future background conditions, the intersection continues to operate generally well. The EBL and SBL movements operate under critical conditions for all peak hours. After optimization, the intersection operates within capacity and has acceptable delay with no movements considered critical.

Future Total Conditions 2036: Under future total conditions, the addition of site traffic is expected to have a similar operations as with future background conditions. The proposed future intersection modifications are expected to allow for better level of service where all movements operate under acceptable conditions.

6.2.2 McNeely Avenue & Centre Site Driveway/Private Access

The intersection capacity analysis results at McNeely Avenue and Centre Site Driveway/Private Access are summarized in Table 6-7, Table 6-8 and

Table 6-9.

Table 6-7: Intersection Capacity Analysis 2026 – McNeely Avenue & Centre Site Driveway/Private Access

AM	Existing (2025)				Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	B (15)	-/-	-	-	B (14)	-/-	-	-	B (15)	-/-
EBL	77	0.36	C (34)	11/23	78	0.36	C (34)	12/23	78	0.36	C (34)	12/23
EBTR	64	0.41	C (32)	2/11	65	0.41	C (32)	2/11	67	0.42	C (32)	2/12
WBL	46	0.25	C (34)	7/15	46	0.25	C (34)	7/15	53	0.29	C (34)	8/17
WBTR	45	0.25	C (30)	1/9	45	0.25	C (30)	1/9	46	0.25	C (30)	1/10
NBL	48	0.69	D (46)	7/16	48	0.69	D (46)	7/16	48	0.69	D (46)	7/16
NBTR	364	0.18	A (7)	13/24	408	0.20	A (7)	15/27	418	0.21	A (7)	15/28
SBL	68	0.41	D (36)	5/11	68	0.41	D (36)	5/11	82	0.46	D (37)	6/12
SBTR	521	0.27	A (7)	18/34	570	0.29	A (7)	21/37	570	0.29	A (7)	21/38
PM	**Existing (2025)**				**Future Background (2026)**				**Future Total (2026)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	B (18)	-/-	-	-	B (18)	-/-	-	-	B (19)	-/-
EBL	87	0.39	C (35)	13/24	88	0.40	C (35)	13/24	85	0.34	C (33)	12/23
EBTR	69	0.24	C (28)	1/10	70	0.25	C (28)	1/10	73	0.23	C (27)	1/11
WBL	137	0.51	C (34)	21/35	137	0.51	C (34)	21/35	169	0.57	C (33)	25/43
WBTR	115	0.40	C (30)	2/13	115	0.40	C (30)	2/13	120	0.37	C (28)	2/14
NBL	62	0.76	D (51)	10/20	63	0.76	D (50)	10/20	63	0.76	D (50)	10/20
NBTR	591	0.30	A (10)	27/48	708	0.36	B (10)	33/59	728	0.39	B (12)	38/62
SBL	114	0.59	D (39)	9/16	114	0.59	D (39)	9/16	141	0.61	D (39)	11/19
SBTR	616	0.33	A (10)	26/48	722	0.38	B (10)	33/59	707	0.39	B (11)	34/57
Sat	**Existing (2025)**				**Future Background (2026)**				**Future Total (2026)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	C (21)	-/-	-	-	C (21)	-/-	-	-	C (23)	-/-
EBL	97	0.37	C (33)	14/25	98	0.38	C (33)	14/26	94	0.32	C (30)	13/25
EBTR	101	0.30	C (27)	2/13	102	0.30	C (27)	2/13	108	0.28	C (25)	3/15
WBL	152	0.54	C (34)	23/38	152	0.54	C (34)	23/38	194	0.61	C (34)	29/49
WBTR	126	0.38	C (27)	3/15	126	0.38	C (27)	3/15	132	0.35	C (25)	3/15
NBL	113	0.78	D (49)	17/37	114	0.78	D (49)	17/37	114	0.78	D (49)	17/37

NBTR	519	0.29	B (12)	25/41	680	0.38	B (13)	35/55	704	0.43	B (15)	40/57
SBL	183	0.69	D (39)	14/25	183	0.69	D (39)	14/25	222	0.73	D (41)	17/29
SBTR	668	0.39	B (13)	32/51	825	0.48	B (15)	43/67	805	0.50	B (16)	45/64

Table 6-8: Intersection Capacity Analysis 2031 – McNeely Avenue & Centre Site Driveway/Private Access

AM	Existing (2025)				Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	B (15)	-/-	-	-	B (14)	-/-	-	-	B (15)	-/-
EBL	77	0.36	C (34)	11/23	82	0.37	C (33)	12/24	82	0.37	C (33)	12/24
EBTR	64	0.41	C (32)	2/11	67	0.42	C (32)	2/11	69	0.42	C (32)	2/12
WBL	46	0.25	C (34)	7/15	46	0.24	C (34)	7/15	53	0.28	C (34)	8/17
WBTR	45	0.25	C (30)	1/9	45	0.24	C (30)	1/9	46	0.24	C (30)	1/10
NBL	48	0.69	D (46)	7/16	51	0.71	D (47)	8/17	51	0.71	D (47)	8/17
NBTR	364	0.18	A (7)	13/24	457	0.23	A (7)	17/31	467	0.24	A (7)	18/32
SBL	68	0.41	D (36)	5/11	68	0.41	D (36)	5/11	82	0.46	D (37)	6/12
SBTR	521	0.27	A (7)	18/34	630	0.32	A (8)	24/43	630	0.32	A (8)	24/43
PM	**Existing (2025)**				**Future Background (2031)**				**Future Total (2031)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	B (18)	-/-	-	-	B (18)	-/-	-	-	B (19)	-/-
EBL	87	0.39	C (35)	13/24	92	0.41	C (35)	14/25	89	0.36	C (33)	13/24
EBTR	69	0.24	C (28)	1/10	73	0.26	C (28)	1/10	76	0.24	C (27)	1/11
WBL	137	0.51	C (34)	21/35	137	0.51	C (34)	21/35	169	0.57	C (33)	26/43
WBTR	115	0.40	C (30)	2/13	115	0.40	C (29)	2/13	120	0.37	C (28)	2/14
NBL	62	0.76	D (51)	10/20	66	0.76	D (50)	10/21	66	0.76	D (50)	10/21
NBTR	591	0.30	A (10)	27/48	791	0.40	B (11)	39/67	811	0.44	B (13)	43/70
SBL	114	0.59	D (39)	9/16	114	0.59	D (39)	9/16	141	0.61	D (39)	11/19
SBTR	616	0.33	A (10)	26/48	801	0.42	B (11)	38/68	786	0.43	B (12)	39/66
Sat	**Existing (2025)**				**Future Background (2031)**				**Future Total (2031)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	C (21)	-/-	-	-	C (21)	-/-	-	-	C (23)	-/-
EBL	97	0.37	C (33)	14/25	103	0.39	C (33)	15/27	99	0.33	C (30)	14/26
EBTR	101	0.30	C (27)	2/13	106	0.31	C (27)	2/13	112	0.29	C (25)	3/15
WBL	152	0.54	C (34)	23/38	152	0.54	C (34)	23/38	194	0.61	C (34)	29/49
WBTR	126	0.38	C (27)	3/15	126	0.37	C (27)	3/15	132	0.34	C (25)	3/15
NBL	113	0.78	D (49)	17/37	120	0.79	D (51)	18/40	120	0.79	D (51)	18/40
NBTR	519	0.29	B (12)	25/41	750	0.42	B (14)	40/62	774	0.47	B (16)	46/64
SBL	183	0.69	D (39)	14/25	183	0.69	D (39)	14/25	222	0.73	D (41)	17/29
SBTR	668	0.39	B (13)	32/51	908	0.53	B (16)	50/75	888	0.55	B (18)	52/73

Table 6-9: Intersection Capacity Analysis 2036 – McNeely Avenue & Centre Site Driveway/Private Access

AM	Existing (2025)				Future Background (2036)				Future Total (2036)			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	**B (15)**	**-/-**	-	-	B (14)	-/-	-	-	B (15)	-/-
EBL	77	0.36	C (34)	11/23	86	0.38	C (33)	13/24	86	0.38	C (33)	13/24
EBTR	64	0.41	C (32)	2/11	70	0.42	C (32)	2/12	72	0.43	C (32)	2/12
WBL	46	0.25	C (34)	7/15	46	0.24	C (34)	7/15	53	0.28	C (34)	8/17
WBTR	45	0.25	C (30)	1/9	45	0.23	C (30)	1/9	46	0.24	C (30)	1/10
NBL	48	0.69	D (46)	7/16	54	0.73	D (48)	8/18	54	0.73	D (48)	8/18
NBTR	364	0.18	A (7)	13/24	512	0.26	A (7)	20/35	522	0.26	A (8)	20/36
SBL	68	0.41	D (36)	5/11	68	0.41	D (36)	5/11	82	0.46	D (37)	6/12
SBTR	521	0.27	A (7)	18/34	696	0.36	A (8)	28/50	696	0.36	A (8)	28/50
PM	**Existing (2025)**				**Future Background (2036)**				**Future Total (2036)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	**B (18)**	**-/-**	-	-	B (18)	-/-	-	-	B (19)	-/-
EBL	87	0.39	C (35)	13/24	97	0.42	C (35)	14/26	94	0.37	C (33)	13/25
EBTR	69	0.24	C (28)	1/10	76	0.27	C (28)	1/10	79	0.24	C (27)	1/11
WBL	137	0.51	C (34)	21/35	137	0.51	C (34)	21/35	169	0.57	C (34)	26/43
WBTR	115	0.40	C (30)	2/13	115	0.40	C (29)	2/13	120	0.37	C (28)	2/14
NBL	62	0.76	D (51)	10/20	69	0.76	D (49)	11/22	69	0.76	D (49)	11/22
NBTR	591	0.30	A (10)	27/48	879	0.45	B (12)	45/76	899	0.49	B (14)	50/80
SBL	114	0.59	D (39)	9/16	114	0.59	D (39)	9/16	141	0.61	D (39)	11/19
SBTR	616	0.33	A (10)	26/48	884	0.47	B (12)	44/77	869	0.48	B (13)	45/75
Sat	**Existing (2025)**				**Future Background (2036)**				**Future Total (2036)**			
Mvmt	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)	Vol	V/C	Delay (s)	Queue (50/95)
Overall	-	-	**C (21)**	**-/-**	-	-	C (22)	-/-	-	-	C (24)	-/-
EBL	97	0.37	C (33)	14/25	108	0.40	C (33)	16/28	104	0.35	C (30)	14/27
EBTR	101	0.30	C (27)	2/13	111	0.32	C (27)	2/14	117	0.30	C (25)	3/15
WBL	152	0.54	C (34)	23/38	152	0.54	C (34)	23/38	194	0.62	C (34)	29/49
WBTR	126	0.38	C (27)	3/15	126	0.37	C (27)	3/15	132	0.34	C (25)	3/15
NBL	113	0.78	D (49)	17/37	126	0.79	D (52)	19/43	126	0.79	D (52)	19/43
NBTR	519	0.29	B (12)	25/41	825	0.46	B (14)	45/70	849	0.52	B (17)	52/72
SBL	183	0.69	D (39)	14/25	183	0.69	D (39)	14/25	222	0.73	D (41)	17/29
SBTR	668	0.39	B (13)	32/51	997	0.59	B (17)	58/86	977	0.62	B (19)	61/83

Existing Conditions: Under existing conditions, the intersection of McNeely Avenue and Centre Site Driveway/Private Access operates well during all peak hours. All movements operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes. No critical movements have been identified.

Future Background Conditions: Under future background conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. No major constraints are noted.

Future Total Conditions: Under future total conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. No intersection modifications are recommended.

6.3 UNSIGNALIZED INTERSECTIONS

The results for the unsignalized intersections under each traffic scenario during the weekday AM and PM peak hours are summarized in the sections below.

6.3.1 McNeely Avenue and South Site Driveway

The intersection capacity analysis results at McNeely Avenue and South Site Driveway are summarized in Table 6-10, Table 6-11 and Table 6-12.

Table 6-10: Intersection Capacity Analysis 2026 – McNeely Avenue & South Site Driveway

AM	Existing (2025)				Future Background (2026)				Future Total (2026)			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-	-	-	- (0)	-	-	-	- (0)	-
NBT	401	0.00	(0)	0	445	0.00	(0)	0	446	0.00	(0)	0
NBR	79	0.00	(0)	0	79	0.00	(0)	0	95	0.00	(0)	0
WBR	1	0.00	A (10)	0	1	0.00	B (10)	0	10	0.02	B (10)	0
SBT	513	0.00	(0)	0	562	0.00	(0)	0	569	0.00	(0)	0
PM	**Existing (2025)**				**Future Background (2026)**				**Future Total (2026)**			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-/-	-	-	- (0)	-	-	-	- (1)	-
NBT	621	0.00	(0)	0	739	0.00	(0)	0	721	0.00	(0)	0
NBR	188	0.00	(0)	0	188	0.00	(0)	0	226	0.00	(0)	0
WBR	29	0.05	B (12)	1	29	0.06	B (12)	0	67	0.14	B (13)	0
SBT	699	0.00	(0)	0	805	0.00	(0)	0	820	0.00	(0)	0
Sat	**Existing (2025)**				**Future Background (2026)**				**Future Total (2026)**			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-	-	-	- (0)	-	-	-	- (1)	-
NBT	577	0.00	(0)	0	739	0.00	(0)	0	717	0.00	(0)	0
NBR	183	0.00	(0)	0	183	0.00	(0)	0	224	0.00	(0)	0
WBR	49	0.08	B (11)	2	49	0.09	B (12)	0	95	0.18	B (13)	1
SBT	776	0.00	(0)	0	933	0.00	(0)	0	952	0.00	(0)	0

Table 6-11: Intersection Capacity Analysis 2031 – McNeely Avenue & South Site Driveway

AM	Existing (2025)				Future Background (2031)				Future Total (2031)			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-	-	-	- (0)	-	-	-	- (0)	-
NBT	401	0.00	(0)	0	497	0.00	(0)	0	498	0.00	(0)	0
NBR	79	0.00	(0)	0	79	0.00	(0)	0	95	0.00	(0)	0
WBR	1	0.00	A (10)	0	1	0.00	B (10)	0	10	0.02	B (11)	0
SBT	513	0.00	(0)	0	618	0.00	(0)	0	625	0.00	(0)	0
PM	**Existing (2025)**				**Future Background (2031)**				**Future Total (2031)**			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-	-	-	- (0)	-	-	-	- (1)	-
NBT	621	0.00	(0)	0	825	0.00	(0)	0	807	0.00	(0)	0
NBR	188	0.00	(0)	0	188	0.00	(0)	0	226	0.00	(0)	0
WBR	29	0.05	B (12)	1	29	0.06	B (13)	0	67	0.15	B (14)	1
SBT	699	0.00	(0)	0	881	0.00	(0)	0	896	0.00	(0)	0
Sat	**Existing (2025)**				**Future Background (2031)**				**Future Total (2031)**			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-	-	-	- (0)	-	-	-	- (1)	-
NBT	577	0.00	(0)	0	815	0.00	(0)	0	793	0.00	(0)	0
NBR	183	0.00	(0)	0	183	0.00	(0)	0	224	0.00	(0)	0
WBR	49	0.08	B (11)	2	49	0.10	B (13)	0	95	0.20	B (14)	1
SBT	776	0.00	(0)	0	1013	0.00	(0)	0	1032	0.00	(0)	0

Table 6-12: Intersection Capacity Analysis 2036 – McNeely Avenue & South Site Driveway

AM	Existing (2025)				Future Background (2036)				Future Total (2036)			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-	-	-	- (0)	-	-	-	- (0)	-
NBT	401	0.00	(0)	0	555	0.00	(0)	0	556	0.00	(0)	0
NBR	79	0.00	(0)	0	79	0.00	(0)	0	95	0.00	(0)	0
WBR	1	0.00	A (10)	0	1	0.00	B (11)	0	10	0.02	B (11)	0
SBT	513	0.00	(0)	0	681	0.00	(0)	0	688	0.00	(0)	0
PM	**Existing (2025)**				**Future Background (2036)**				**Future Total (2036)**			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-	-	-	- (0)	-	-	-	- (1)	-
NBT	621	0.00	(0)	0	916	0.00	(0)	0	898	0.00	(0)	0
NBR	188	0.00	(0)	0	188	0.00	(0)	0	226	0.00	(0)	0
WBR	29	0.05	B (12)	1	29	0.07	B (14)	0	67	0.16	B (15)	1
SBT	699	0.00	(0)	0	960	0.00	(0)	0	975	0.00	(0)	0
Sat	**Existing (2025)**				**Future Background (2036)**				**Future Total (2036)**			
Mvmt	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)	Vol	V/C	LOS Delay (s)	95th Queue (m)
Overall	-	-	- (0)	-	-	-	- (0)	-	-	-	- (1)	-
NBT	577	0.00	(0)	0	896	0.00	(0)	0	874	0.00	(0)	0
NBR	183	0.00	(0)	0	183	0.00	(0)	0	224	0.00	(0)	0
WBR	49	0.08	B (11)	2	49	0.11	B (13)	0	95	0.21	B (15)	1
SBT	776	0.00	(0)	0	1100	0.00	(0)	0	1119	0.00	(0)	0

Existing Conditions: Under existing conditions, the intersection of McNeely Avenue and South Site Driveway operates well for all peak hours. All movements operate with residual capacity and minimal delay times.

Future Background Conditions: Under future background conditions, this intersection is expected to operate similar to existing conditions with good levels of service and minimal outbound movement delay times. No major constraints are noted.

Future Total Conditions: Under future total condition, good levels of service is maintained with no critical moments. No intersection modifications are recommended.

7 PARKING ASSESSMENT

This section reviews the vehicular and based on the zoning by-law requirements applicable to the subject site.

7.1 ZONING BY-LAW REQUIREMENTS – VEHICLE PARKING

The vehicle parking requirements for the subject site are governed by the parking standards set out in the Town of Carleton Place Development Permit By-law 53-2025. Table 7-1 details the applicable parking requirements for the proposed development, including the existing retail.

Table 7-1: Development Permit By-law 53-2025 Vehicular Parking Standards

Use	GFA	Town of Carleton Place DPBL 53-2025			Proposed Supply
		Min. Parking Required	Maximum Parking Rate	Maximum Required Parking	
Existing Retail A	6,680m^2	5 Spaces	1 space per 20m^2	334	605
Existing Retail B	4,812m^2	5 Spaces	1 space per 20m^2	241	
Proposed Retail C	1,589m^2	5 Spaces	1 space per 20m^2	79	
	TOTAL	**15 spaces**	**-**	**654**	**605**

As per the Town of Carleton Place Development Permit By-law 53-2025, the site requires a minimum of 15 spaces, and permits a maximum of 654 parking spaces. The proposed vehicle parking supply of 605 spaces meets the applicable zoning requirements.

7.2 ACCESSIBLE VEHICLE PARKING REQUIREMENTS

The Town of Carleton Place By-law 53-2025 provides parking requirements to calculate the required accessible parking supply. The by-law requirements and proposed supply for the proposed building “C” are illustrated below in Table 7-2.

Table 7-2: Accessible Parking Requirements

Parking Spaces Provided	Town of Carleton Place DPBL 53-2025		Proposed Supply
	Parking Rate	Minimum Required Parking	
79	4% of the required parking spaces	3	2

The proposed development is required to provide a minimum of 3 accessible parking spaces. 3 accessible parking spaces are proposed which meets the minimum by-law requirements.

8 LOADING ASSESSMENT

The Town of Carleton By-law 53-2025 was reviewed to determine the loading requirements for the proposed development. Table 8-1 summarizes the loading requirements according to the Town's by-law and the proposed supply.

Table 8-1: Zoning By-law Loading Requirements

Retail Gross Floor Area	Minimum Number of Loading Spaces required	Loading Spaces Provided
Exceeding 1,000 m^2 but not more than 7,500 m^2	2 loading spaces	2 loading spaces

The site will provide two (2) loading spaces, meeting the minimum by-law requirements. A review of the functionality and accessibility of the proposed loading spaces indicates that the proposed loading spaces can be safely accessed and egressed by loading vehicles. Swept path diagrams are provided in Appendix D.

9 TRANSPORTATION DEMAND MANAGEMENT PLAN

Transportation Demand Management (TDM) is a set of strategies that strive towards a more efficient transportation network by influencing travel behaviour. Effective TDM measures can reduce vehicle usage and encourage people to engage in more sustainable methods of travel. There are several opportunities to incorporate TDM measures that support alternative modes of transportation. The recommendations should enhance non-single occupant auto vehicle trips for future users of the subject site.

9.1 ACTIVE TRANSPORTATION-BASED STRATEGIES

- On-site Bicycle Parking can be implemented as part of the development to encourage cycling as an alternative to vehicular transportation.
- On-site Pedestrian Infrastructure can provide a pleasant and safe pedestrian experience through enhanced landscaping and direct pedestrian connections to the building entrances. To further improve the pedestrian realm and consider persons with mobility difficulties, the internal pedestrian network should be well lit with enhanced landscaping and minimal barriers.

10 CONCLUSIONS AND RECOMMENDATIONS

- Proposed Development: LEA has been retained by Choice Properties Limited Partnership to undertake a Transportation Impact Study (TIS) for the proposed retail development located at 455 McNeely Avenue in the Town of Carleton Place. The proposed development involves the addition of a retail space to the existing retail uses on-site. Vehicular access is proposed via the existing driveway connections to McNeely Avenue.
- Site Trip Generation: The proposed development is anticipated to generate 50 two-way vehicle trips during the weekday AM peak hour (33 inbound, 17 outbound), 68 two-way vehicle trips during the weekday PM peak hour (32 inbound, 36 outbound) and 85 two-way vehicle trips during the Saturday mid-day peak hour (40 inbound, 45 outbound).
- Intersection Capacity Analysis: The traffic analysis was undertaken based on a future horizon of 2026, 2031, and 2036. The analysis results confirm that the proposed development will have an acceptable impact on the surrounding road network, with all intersections operating similar to background conditions. Due to critical movements identified during both the weekday PM and SAT peak hours under the future background scenarios for the intersection of McNeely Avenue and Trans-Canada Highway 7, signal timing adjustments were made.
- Vehicle Parking: The proposed retail parking supply of 605 vehicle parking spaces complies with the minimum parking requirements outlined in Town of Carleton Place By-law 53-2025.
- Loading: The site will provide three (2) loading spaces, meeting the minimum by-law requirements.



APPENDIX A

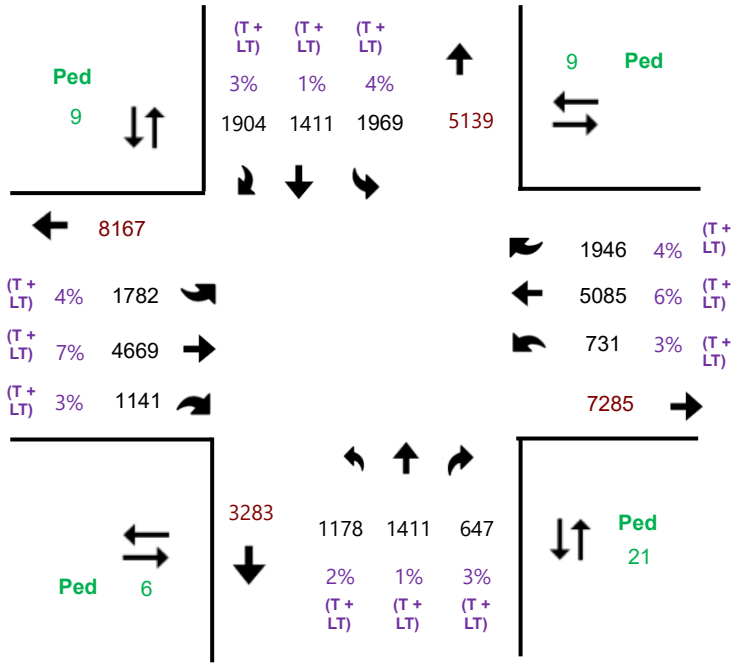
Traffic Data and Signal Timings

Ontario

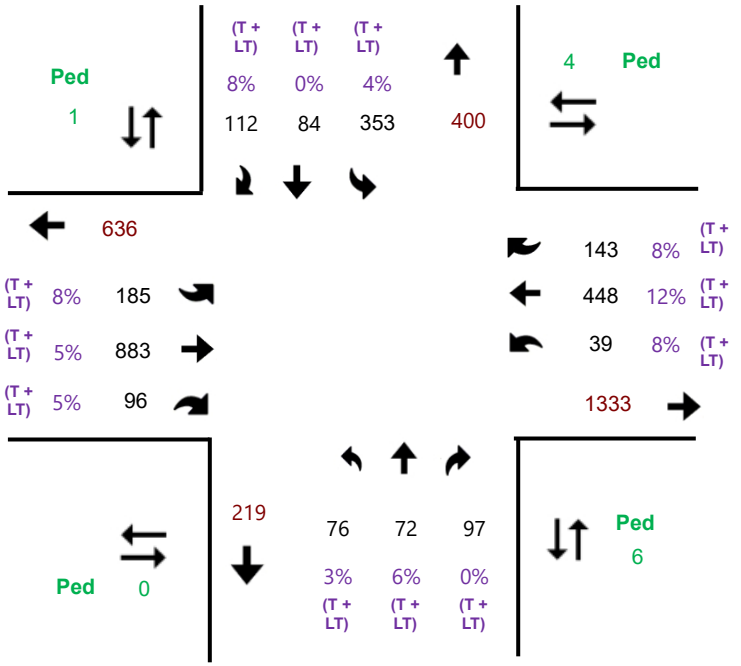
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 7 @ MCNEELY AVE_HWY 7
Region EAST
Hwy #: HWY 7
LHRS_Offset: 14038_0000
Int. Type: Cross
Count Date: Wednesday, 14 May, 2025

Full Study Wed, 14 May, 2025 07:00 AM - 06:00 PM



AM Period Wed, 14 May, 2025 07:15 AM - 08:15 AM

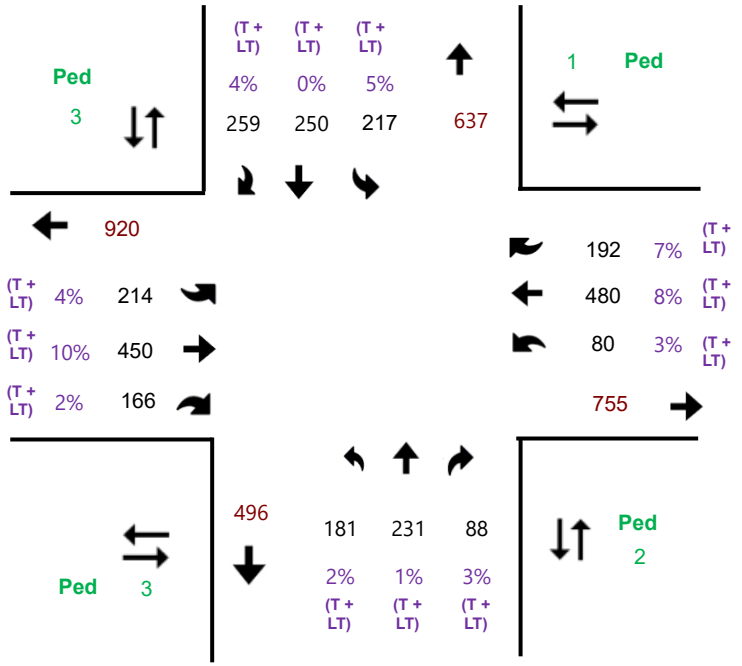


Ontario

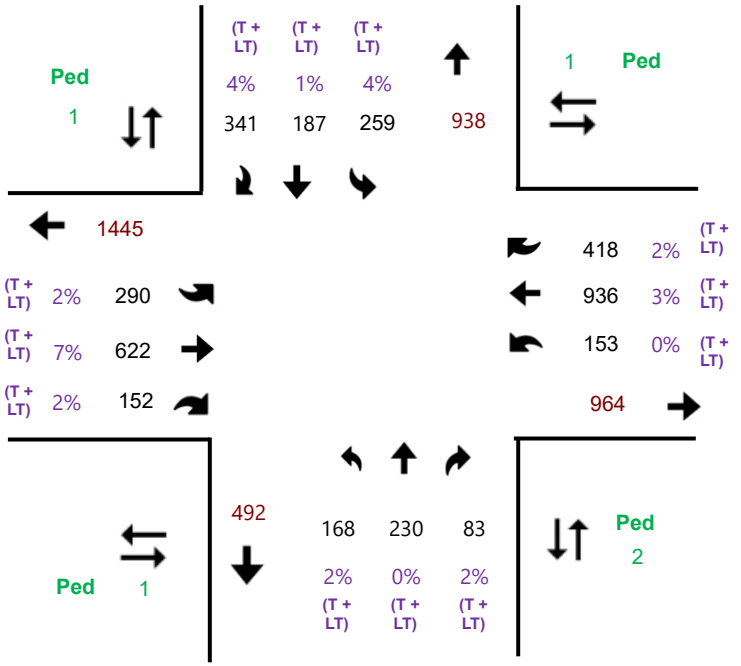
TES - Traffic Engineering System
Turning Movement Total Count and Peak Summary Report

Description: HWY 7 @ MCNEELY AVE_HWY 7
Region EAST
Hwy #: HWY 7
LHRS_Offset: 14038_0000
Int. Type: Cross
Count Date: Wednesday, 14 May, 2025

MD Period Wed, 14 May, 2025 12:00 PM - 01:00 PM

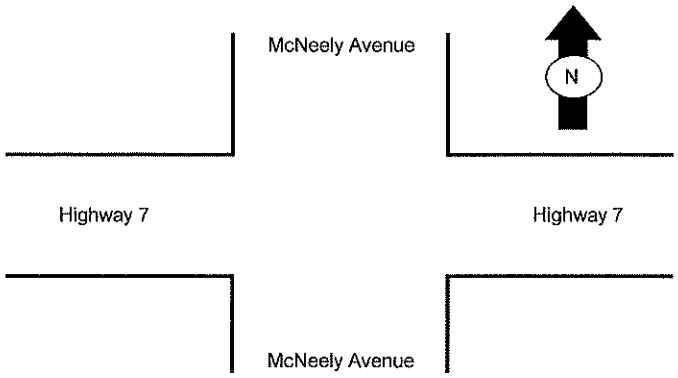


PM Period Wed, 14 May, 2025 04:00 PM - 05:00 PM

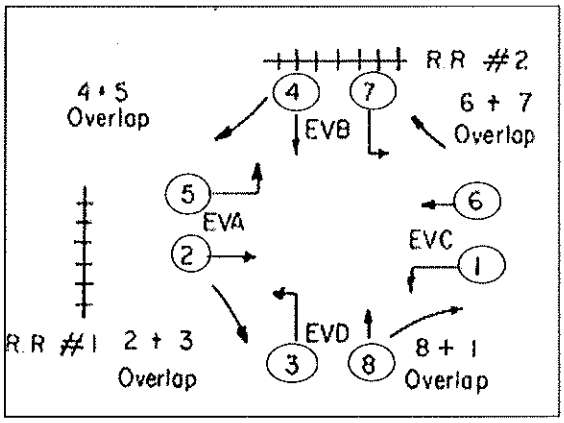


Cover Sheet

Location:	Highway 7 at McNeely Avenue	**Area/District:**	Ottawa
Timing Based On T.M. Dated:		**Traffic Signal #**	235
Timing Developed By:	Paul Webster / Derek Thielman	**Approved By:**	Paul Webster
Installed By:	Paul Webster	**Installation Date:**	February 28, 2019



Fully Protected Left Turn Phases NB/SB and EB/WB



Circle Movements and Operations

COMMUNICATIONS ADDRESSING

COMM ADDRESS (C/0 + 0 + 0) =	1	CELL # :	416-819-8142
ZONE ADDRESS (C/0 + 0 + 1) =	1	UDP PORT:	8033
AREA NUMBER (C/0 + 0 + 2) =	4	IP ADDRESS:	10.151.192.15
AREA ADDRESS (C/0 + 0 + 3) =	235	AMPIFIER:	
		PROGRAM:	233ON1.C

DISABLE ALARM REPORTING

Column F

		1	2	3	4	5	6	7	8
0	OMIT ALARMS					X			

< C + 0 + C = 5 >

1 = STOP TIME
2 = FLASH SENSE
3 = KEYBOARD ENTRY
4 = MANUAL PLAN SELECT
5 = ENABLE POLICE CNTRL (Not Used)
6 = EXTERNAL ALARM (Door Alarm)
7 = DETECTOR FAILURE

ACTUATED INTERVAL TIMING AND FAZE FUNCTIONS

		PHASE 1	2	3	4	5	6	7	8
0	WALK		7		7		7		7
1	DON'T WALK		33		35		33		35
2	MIN INITIAL	7	20	7	10	7	20	7	10
3	TYPE 3 LIMIT								
4	ADD PER VEH		1.0				1.0		
5	VEH EXT	3.0	4.6	3.0	3.5	3.0	4.6	3.0	3.5
6	MAX GAP	3.0	4.6	3.0	3.5	3.0	4.6	3.0	3.5
7	MIN GAP	3.0	4.6	3.0	3.5	3.0	4.6	3.0	3.5
8	MAX LIMIT	15	40	15	25	15	40	15	25
9	MAXIMUM 2								
A	ADV /DLY WALK								
B	SEQUENCE TO								
C	COND SRV MIN								
D	REDUCE EVERY								
E	YELLOW	3.0	5.0	3.0	4.1	3.0	5.0	3.0	4.1
F	RED CLEAR	2.0	2.3	2.0	3.2	2.0	2.3	2.0	3.2

PHASE BANK # 1 < C + O + F = 1 >

		9	A	B	C	D	E
0							RR1 DLY
1	PHASE 1	-					RR1 CLR
2	PHASE 2	33					EVA DLY
3	PHASE 3	-					EVA CLR
4	PHASE 4						EVB DLY
5	PHASE 5	-					EVB CLR
6	PHASE 6	33					EVC DLY
7	PHASE 7	-					EVC CLR
8	PHASE 8	-					EVD DLY
		MAX INT	ALT WALK	ALT FLH D/W	ALT INT	ALT EXT	EVD CLR
							RR2 DLY
							RR2 CLR
							EV CLR
							EV DLY
							RR CLR
							RR DLY

ALL RED START
(F/1 + C +O) = **5.0**
RED REVERT
(F/1 + O + F) = **5.0**

		COLUMN F PHASES 1	2	3	4	5	6	7	8
0	PERMIT	X	X	X	X	X	X	X	X
1	RED LOCK								
2	YELLOW LOCK								
3	VEH MIN CALL		X				X		
4	PED RECALL								
5	PEDESTRIANS								
6	YIELD AT FLSH D/W								
7	RED REST								
8	DOUBLE ENTRY		X		X		X		X
9	VEH MAX CALL								
A	SOFT RECALL								
B	MAXIMUM 2								
C	COND SERVICE								
D	MAN CONT CALL								
E	YELLOW START		X				X		
F	FIRST PHASES			X				X	

< C + O + F = 1 >

Date: Jun 15, 2018

LOCATION

Hwy: 7

At: McNeely Avenue

		A RR1-2 SPEV1	B SP EV2	C EMER VEH
PREEMPT MINIMUMS				
A	WLK (DFLT)	4	4	4
B	FD WALK			
C	INITAL			

< C + O + F = 1 >

Column E Phases / Bits

		1	2	3	4	5	6	7	8
0	EXCLUSIVE								
1	RR1 CLEAR								
2	RR2 CLEAR								
3	RR2 LTD SRV								
4	PROT/PERM								
5	FLH TO PREMT								
6	FLASH ENTRY								
7	DISABL MIN YEL								
8	DISABL OVP YEL								
9	OVP FLH YEL								
A	EM VEH A								
B	EM VEH B								
C	EM VEH C								
D	EM VEH D								
E	EXTRA 1	X		X		X			
F	IC SELECT		X						

< C + O + E = 125 >

Column F Phases / Bits

		1	2	3	4	5	6	7	8
0									
1	EXT PERMIT 1								
2	EXT PERMIT 2								
3	EXCLU PED								
4									
5	PED 2P OUT		X						
6	PED 6P OUT						X		
7	PED 4P OUT				X				
8	PED 8P OUT								X
9	FLH YELLOW								
A									
B									
C									
D									
E	RESTRICTED								
F	EXTRA 2								

Column F Phases / Bits

		1	2	3	4	5	6	7	8
0	ADV GRN FLH								
1	PHASE FLASH								
2	FLASH WALK								
3	GUAR PASS								
4	SIMUL GAP		X		X		X		X
5	SEQ TIMING								
6	ADV WALK								
7	DELAY WALK								
8	EXT RECALL								
9									
A	MAX EXTEN								
B	INH PED RSRV								
C	SEMI ACTUATED								
D									
E	STRT VEH CALL	X	X	X	X	X	X	X	X
F	STRT PED CALL		X		X		X		X

SPECIALS < C + O + F = 2 >

MANUAL PLAN
< C/0 + A + 1 >

MANUAL OFFSET
< C/0 + B + 1 >

MANUAL SELECTION

MANUAL PLAN
0 = Automatic (Master)
9 = Control Plan 1 - 9
14 (E) = Free (Isolated)
15 (F) = Software Flash

MANUAL OFFSET
0 = Automatic (Master)
1 = Offset A
2 = Offset B
3 = Offset C

FLASH TO PREEMPT

1 = EVA
2 = EVB
3 = EVC
4 = EVD
5 = RR1
6 = RR2
7 = SE1
8 = SE2

EXTRA 1

1 = TBC TYPE 1
2 = NEMA EXT. COORD.
3 = DAYLIGHT SAVINGS
4 =
5 = EXPANDED STATUS REPORTING
6 = INTERNATIONAL PED
7 = CLEAR OUTPUTS DURING FLASH
8 = SPLIT RING

EXTRA 2

1 = AWR ON DURING PHASE INITAL
2 = LMU INSTALLED

IC SELECT

2 = 2 WAY MODEM
3 = 7 WIRE SLAVE
4 = FLASH / FREE
5 = SIMPLEX MASTER
7 = 7 WIRE MASTER
8 = OFFSET INTURP

Pretimed

PHASE

	1	2	3	4	5	6	7	8
WALK		7		7		7		7
DON'T WALK		33		35		33		35
MIN INTIAL	7	20	7	10	7	20	7	10
TYPE 3 LIMIT								
ADD PER VEH		1.0				1.0		
VEH EXT	3.0	4.5	3.0	3.5	3.0	4.5	3.0	3.5
MAX GAP	3.0	4.5	3.0	3.5	3.0	4.5	3.0	3.5
MIN GAP	3.0	4.5	3.0	3.5	3.0	4.5	3.0	3.5
MAX LIMIT	10	35	10	20	10	35	10	20
MAXIMUM 2								
ADV / DLY WALK								
SEQUENCE TO								
COND SRV MIN								
REDUCE EVERY								
YELLOW	3.0	5.0	3.0	4.1	3.0	5.0	3.0	4.1
RED CLEAR	2.0	2.3	2.0	2.3	2.0	2.3	2.0	2.3

PHASE BANK # < C + O + F = 1 >

Column F

PHASES

		1	2	3	4	5	6	7	8
0	PERMIT	X	X	X	X	X	X	X	X
1	RED LOCK								
2	YELLOW LOCK								
3	VEH MIN CALL		X		X		X		X
4	PED RECALL								
5	PEDESTRIANS								
6	REST IN WALK								
7	RED REST								
8	DOUBLE ENTRY		X		X		X		X
9	VEH MAX CALL	X	X	X	X	X	X	X	X
A	SOFT RECALL								
B	MAXIMUM 2								
C	CORD SERVICE								
D	MAN CONT CALL								
E	YELLOW START		X				X		
F	FIRST PHASES			X				X	

< C + O + F = 1 >

LOCATION: Highway 7 at McNeely Avenue

Issued Date:

Installed Date: June 15, 2018

Time of Day

Actuated

T.O.D FUNCTIONS

	TIME HH MM FUN	DAY OF WEEK S	M	T	W	T	F	S
		1	2	3	4	5	6	7
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
A								
B								
C								
D								
E								
F								

< C + O + 7 = 1 >

Column 4 PHASE / BITS

1	2	3	4	5	6	7	8

< C + O + E = 27 >

T.O.D FUNCTIONS

A = VEH SOFT RECALL
B = MAXIMUM 2
C = CONDITIONAL SERVICE
D = LAG PHASES
E= BIT 1- LOCAL OVERIDE
BIT 4- DISABLE DET OFF MONITOR
BIT 7- DET COUNT MONITOR
BIT 8- REAL TIME SPLIT MONITOR
F = OUTPUT BITS 1 THRU 4

0 = PERMIT PHASES
1 = RED LOCK
2 = YELLOW LOCK
3 = VEH MIN RECALL
4 = PED RECALL
5 -
6 - REST IN WALK
7 = RED REST
8 = DOUBLE ENTRY
9 = VEH MAX RECALL

LOCATION:

Issued Date:

Installed Date:

Pretimed

T.O.D FUNCTIONS

	TIME HH MM FUN	DAY OF WEEK S	M	T	W	T	F	S
		1	2	3	4	5	6	7
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
A								
B								
C								
D								
E								
F								

< C + O + 7 = 1 >

Column 4 PHASE / BITS

1	2	3	4	5	6	7	8

< C + O + E = 27 >

T.O.D FUNCTIONS

A = VEH SOFT RECALL
B = MAXIMUM 2
C = CONDITIONAL SERVICE
D = LAG PHASES
E = BIT 1- LOCAL OVERIDE
BIT 4- DISABLE DET OFF MONITOR
BIT 7- DET COUNT MONITOR
BIT 8- REAL TIME SPLIT MONITOR
F = OUTPUT BITS 1 THRU 4

0 = PERMIT PHASES
1 = RED LOCK
2 = YELLOW LOCK
3 = VEH MIN RECALL
4 = PED RECALL
5 -
6 - REST IN WALK
7 = RED REST
8 = DOUBLE ENTRY
9 = VEH MAX RECALL

LOCATION:

Issued Date:

Installed Date:

DETECTOR ASSIGNMENTS

STANDARD 332 CABINET LOCATION	column	1	3
		delay	carry over
I-2 U	0		
J-2 U	1		
I-6 U	2		
J-6 U	3		
1-2 L	4		
J-2 L	5		
1-6 L	6		
J-6 L	7		
I-4	8		
J-4	9		
I-8	A	5.0	
J-8	B	5.0	
J-1	C		
I-1	D		
J-5	E		
I-5	F		
	< C + O + D = 0 >		

Column 0		Column 1								Column 2								Column 3							
	C1 Pin #	ATTRIBUTES								PHASE(S)								ASSIGNMENTS							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
0	39				X	X		X			X							X	X	X					X
1	40				X	X		X							X			X	X	X					X
2	41																								
3	42																								
4	43				X	X		X			X							X	X	X					X
5	44				X	X		X							X			X	X	X					X
6	45																								
7	46																								
8	47																								
9	48																								
A	49				X	X		X					X					X	X	X					X
B	50				X	X		X									X	X	X	X					X
C	55																								
D	56																								
E	57																								
F	58																								
DETECTOR ASSIGNMENTS < C + O + E = 126>																									

STANDARD 332 CABINET LOCATION	column	2	4
		delay	carry over
J-9 U	0	5.0	
I-9 U	1	5.0	
I-9 L	2	5.0	
J-9 L	3	5.0	
I-3 U	4		
J-3 U	5		
I-7 U	6		
J-7 U	7		
I-12 U	8		
I-13 U	9		
I-12 L	A		
I-13 L	B		
I-3 L	C		
J-3 L	D		
I-7 L	E		
J-7 L	F		
	< C + O + D = 0 >		

Column 4		Column 5								Column 6								Column 7							
	C1 Pin #	ATTRIBUTES								PHASE(S)								ASSIGNMENTS							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
0	59				X	X		X						X				X	X	X					X
1	60				X	X		X		X								X	X	X					X
2	61				X	X		X								X		X	X	X					X
3	62				X	X		X				X						X	X	X					X
4	63																								
5	64																								
6	65																								
7	66																								
8	67		X								X							X	X	X					
9	68		X												X			X	X	X					
A	69		X										X					X	X	X					
B	70		X														X	X	X	X					
C	76																								
D	77																								
E	78																								
F	79																								
DETECTOR ASSIGNMENTS < C + O + E = 126 >																									

DETECTOR ASSIGNMENT SHEET
ONTARIO 233 PROGRAM

LOCATION:
Hwy 7
at McNeely Avenue

Issued Date:
Installed Date: Jun 15, 2018

DETECTOR ATTRIBUTES
1 = FULL TIME DELAY
2 = PEDESTRIAN CALL
3 =
4 = COUNT
5 = EXTENSION
6 = TYPE 3
7 = CALLING
8 = ALTERNATE

DETECTOR ASSIGNMENTS
1 = DET. SET # 1
2 = DET. SET # 2
3 = DET. SET # 3
4 =
5 =
6 = MIN RECALL ON FAILURE
7 = MAX RECALL ON FAILURE
8 - REPORT ON FAILURE

DETECTOR MONITOR
MAX OFF: D/0+0+1=120
MAX ON: D/0+0+2=60

ADVANCE WARNING BEACONS
SIGN #1 SIGN #2
PHASE NUMBER
(F/1+C+F)= (F/1+D+F)=
TIME BEFORE YELLOW
(F/1+C+E)= (F/1+D+E)=
OUTPUT PIN NUMBER
(E/127+E+8)= (E/127+E+9)=

Input File Layout

Input File Slot No. →	1	2	3	4	5	6	7	8	9	10	11	12	13	14
"I" FILE	1 Ext, Cnt, Call <C1-56>	2 Ext, Cnt, Call <C1-39> 2 Ext, Cnt, Call <C1-43>	2 Ext, Cnt, Call <C1-63> 2 Ext, Cnt, Call <C1-76>	2 Type 3, Call <C1-47>	3 Ext, Cnt, Call <C1-58>	4 Ext, Cnt, Call <C1-41> 4 Ext, Cnt, Call <C1-45>	4 Ext, Cnt, Call <C1-65> 4 Ext, Cnt, Call <C1-78>	4 Ext, Cnt, Call <C1-49>	1 Ext, Cnt, Call <C1-60> 3 Ext, Cnt, Call <C1-62>	NOT WIRED	Door Alarm <C1-80> Not Assigned <C1-53>	2 Ped Call <C1-67> 4 Ped Call <C1-69>	6 Ped Call <C1-68> 8 Ped Call <C1-70>	Flash Sense <C1-81> Stop Time <C1-82>
"J" FILE	5 Ext, Cnt, Call <C1-55>	6 Ext, Cnt, Call <C1-40> 6 Ext, Cnt, Call <C1-44>	6 Ext, Cnt, Call <C1-64> 6 Ext, Cnt, Call <C1-77>	6 Type 3, Call <C1-48>	7 Ext, Cnt, Call <C1-57>	8 Ext, Cnt, Call <C1-42> 8 Ext, Cnt, Call <C1-46>	8 Ext, Cnt, Call <C1-66> 8 Ext, Cnt, Call <C1-79>	8 Ext, Cnt, Call <C1-50>	5 Ext, Cnt, Call <C1-59> 7 Ext, Cnt, Call <C1-61>	NOT WIRED	Not Assigned <C1-54> Not Assigned <C1-75>	EV A Preempt <C1-71> EV C Preempt <C1-73>	EV B Preempt <C1-72> EV D Preempt <C1-74>	Railroad 1 <C1-51> Railroad 2 <C1-52>

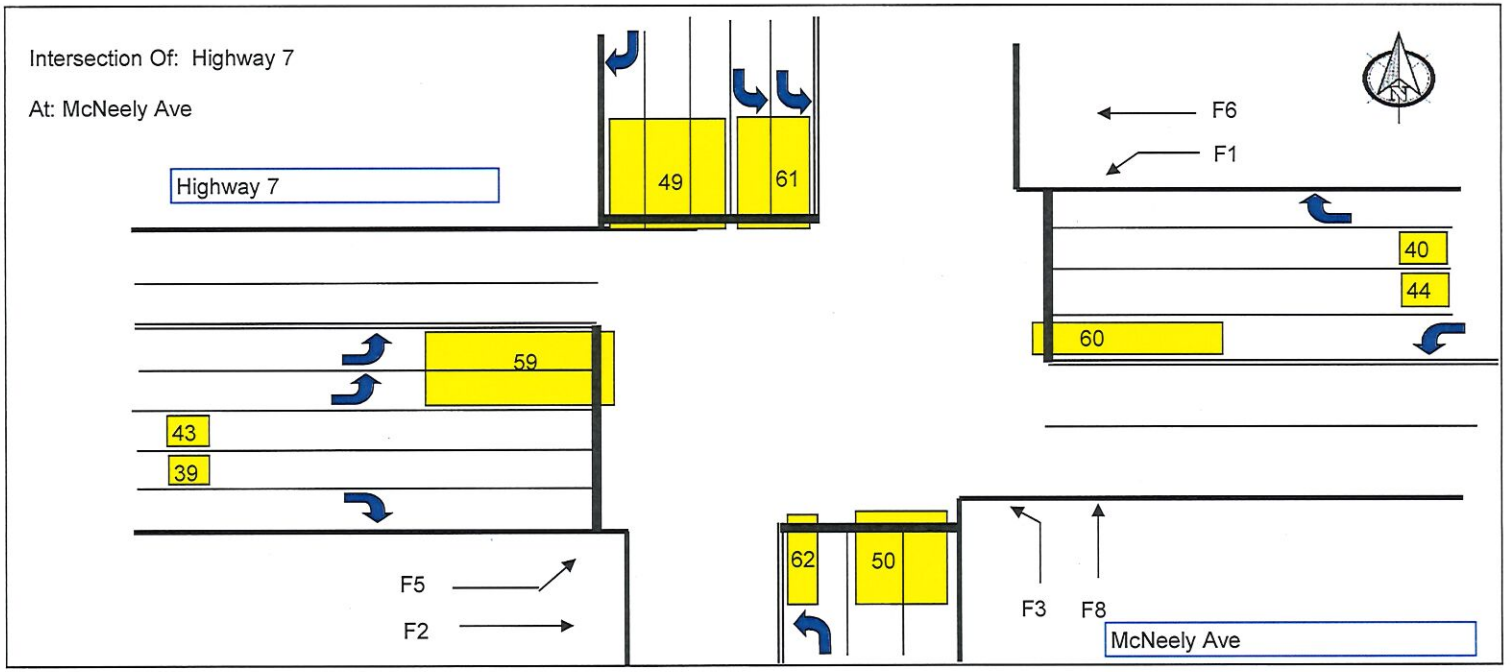
DETECTOR TYPES

Ext = Extension Detector
Detector is only active during the Phase's GREEN Intervals (ie, will NOT *Call* the Phase)

Cnt = Count Detector
Used in computing "Added Initial"

Call = Calling Detector
Detector is only active during the Phase's NON-GREEN Intervals (ie, will NOT *Extend* the Phase)

Type 3 = Type 3 Disconnect
Will allow a Calling Detector to Extend its Phase until the Call first drops or the "Type 3 Limit" is reached



Assignable Inputs&Outputs

	Column A		Column B		Column C		Column D		Column E		Column F		
0	NOT 3	0	MAX 2	0	PRETIME	0	WEEKDAY	0	DIAL 2	0		0	0
1	NOT 4	0	SYSDET 1	0	PLAN 1	0	X PERM 1	0	DIAL 3	0	EVA	71	1
2	OR 4	0	SYSDET 2	0	PLAN 2	0	X PERM 2	0	OFFSET 1	0	EVB	72	2
3	OR 4	0	SYSDET 3	0	PLAN 3	0	DIM	0	OFFSET 2	0	EVC	73	3
4	OR 5	0	SYSDET 4	0	PLAN 4	0	X CLOCK	0	OFFSET 3	0	EVD	74	4
5	OR 5	0	SYSDET 5	0	PLAN 5	0	STOP TIME	82	FREE	0	RR 1	51	5
6	OR 6	0	SYSDET 6	0	PLAN 6	0	FL SENSE	81	FLASH	0	RR 2	52	6
7	OR 6	0	SYSDET 7	0	PLAN 7	0	ENABLE	0	XPED OMIT	0	SP EVNT 1	0	7
8		0	SYSDET 8	0	PLAN 8	0	ADVANCE	0	NOT 1	0	SP EVNT 2	0	8
9		0	MAX INBT	0	PLAN 9	0	ALARM	80	NOT 2	0	EXT LAG	0	9
A	AND 4	0	FORCE A	0	DELAY A	0	PH BNK 2	0	OR 1	0	AND 1	0	A
B	AND 4	0	FORCE B	0	DELAY B	0	PH BNK 3	0	OR 1	0	AND 1	0	B
C	NAND 1	0	C NA	0	DELAY C	0	OLAP SET 2	0	OR 2	0	AND 2	0	C
D	NAND 1	0	HOLD	0	DELAY D	0	OLAP SET 3	0	OR 2	0	AND 2	0	D
E	NAND 2	0	VE CALL	0	DELAY E	0	DET SET 2	0	OR 3	0	AND 3	0	E
F	NAND 2	0	RECALL	0	DELAY F	0	DET SET 3	0	OR 3	0	AND 3	0	F

ASSIGNABLE INPUTS < C + O + E = 126>

	Column A		Column B		Column C		Column D		Column E		Column F		
0		0	FLASHER 0	0	FREE	0	NOT 1	0	TOD 1	0	DIAL 2	0	0
1	SP EV 1	0	FLASHER 1	0	PLAN 1	0	OR 1	0	TOD 2	0	DIAL 3	0	1
2	SP EV 2	0	FAST FLSHR	0	PLAN 2	0	OR 2	0	TOD 3	0	OFFSET 1	0	2
3	SP EV 3	0		0	PLAN 3	0	OR 3	0	TOD 4	0	OFFSET 2	0	3
4	SP EV 4	0		0	PLAN 4	0	AND 1	0	TOD 5	0	OFFSET 3	0	4
5	SP EV 5	0		0	PLAN 5	0	AND 2	0	TOD 6	0	FREE	0	5
6	SP EV 6	0		0	PLAN 6	0	AND 3	0	TOD 7	0	FLASH	0	6
7	SP EV 7	0		0	PLAN 7	0	NOT 2	0	TOD 8	0	PREEMPT	0	7
8	SP EV 8	0	NOT 3	0	PLAN 8	0	EVA	0	WARN 1	0		231	8
9		0	NOT 4	0	PLAN 9	0	EVB	0	WARN 2	0		232	9
A	DET FAIL	0	OR 4	0		0	EVC	0	DEALY A	0		233	A
B		0	OR 5	0		0	EVD	0	DELAY B	0		234	B
C		0	OR 6	0		0	RR1	0	DELAY C	0		235	C
D	CENT. CTRL	0	AND 4	0		0	RR2	0	DELAY D	0		236	D
E	EXCL FDW	0	NAND 1	0		0	SP EVNT 1	0	DELAY E	0		233	E
F	EXCL WALK	0	NAND 2	0		0	SP EVNT 2	0	DELAY F	0		238	F

ASSIGNABLE OUTPUTS < C + O + E = 127>

DEFAULT DETECTOR ASSIGNMENTS

Standard 332 Cabinet Location		Column 0 C1 PIN NUMBER	Column 1 ATTRIBUTES 1 2 3 4 5 6 7 8	Column 2 PHASE(S) 1 2 3 4 5 6 7 8	Column 3 ASSIGNMENTS 1 2 3 4 5 6 7 8
I-2 U	0	39	X X X	X	X X X X
J-2 U	1	40	X X X	X	X X X X
I-6 U	2	41	X X X	X	X X X X
J-6 U	3	42	X X X	X	X X X X
I-2 L	4	43	X X X	X	X X X X
J-2 L	5	44	X X X	X	X X X X
I-6 L	6	45	X X X	X	X X X X
J-6 L	7	46	X X X	X	X X X X
I-4	8	47	X X	X	X X X X
J-4	9	48	X X	X	X X X X
I-8	A	49	X X	X	X X X X
J-8	B	50	X X	X	X X X X
J-1	C	55	X X X	X	X X X X
I-1	D	56	X X X	X	X X X X
J-5	E	57	X X X	X	X X X X
I-5	F	58	X X X	X	X X X X

"INITIALIZED" DETECTOR ASSIGNMENTS
< C + 0 + E = 126 >

Standard 332 Cabinet Location		Column 4 C1 PIN NUMBER	Column 5 ATTRIBUTES 1 2 3 4 5 6 7 8	Column 6 PHASE(S) 1 2 3 4 5 6 7 8	Column 7 ASSIGNMENTS 1 2 3 4 5 6 7 8
J-9 U	0	59	X X X	X	X X X X
I-9 U	1	60	X X X	X	X X X X
J-9 L	2	61	X X X	X	X X X X
I-9 L	3	62	X X X	X	X X X X
I-3 U	4	63	X X X	X	X X X X
J-3 U	5	64	X X X	X	X X X X
I-7 U	6	65	X X X	X	X X X X
J-7 U	7	66	X X X	X	X X X X
I-12 U	8	67	X	X	X X X X
I-13 U	9	68	X	X	X X X X
I-12 L	A	69	X	X	X X X X
I-13 L	B	70	X	X	X X X X
I-3 L	C	76	X X X	X	X X X X
J-3 L	D	77	X X X	X	X X X X
I-7 L	E	78	X X X	X	X X X X
J-7 L	F	79	X X X	X	X X X X

"INITIALIZED" DETECTOR ASSIGNMENTS
< C + 0 + E = 126 >

DETECTOR ATTRIBUTES

1= Full time Delay
2 = Pedestrian call
3 =
4 = Count
5 = Extention
6 = Type 3
7 = Calling
8 = Alternate

DETECTOR ASSIGNMENTS

1 = Det. Set #1
2 = Det. Set #2
3 = Det. Set #3
4 =
5 =
6 = MIN Recall On Failure
7 = MAX Recall On Failure
8 = Report On Failure

Input File → 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14

"I" FILE	1 Ext, Cnt, Call <C1-56>	2 Ext, Cnt, Call <C1-39> / 2 Ext, Cnt, Call <C1-43>	2 Ext, Cnt, Call <C1-63> / 2 Ext, Cnt, Call <C1-76>	2 Type 3, Call <C1-47>	3 Ext, Cnt, Call <C1-58>	4 Ext, Cnt, Call <C1-41> / 4 Ext, Cnt, Call <C1-45>	4 Ext, Cnt, Call <C1-65> / 4 Ext, Cnt, Call <C1-78>	4 Type 3, Call <C1-49>	1 Ext, Cnt, Call <C1-60> / 3 Ext, Cnt,	NOT WIRED	Not Assigned <C1-80> / Not Assigned <C1-53>	2 Ped Call <C1-67> / 4 Ped Call <C1-69>	6 Ped Call <C1-68> / 8 Ped Call	Flash Sense <C1-81> / Stop Time <C1-82>
"J" FILE	5 Ext, Cnt, Call <C1-55>	6 Ext, Cnt, Call <C1-40> / 6 Ext, Cnt, Call <C1-44>	6 Ext, Cnt, Call <C1-64> / 6 Ext, Cnt, Call <C1-77>	6 Type 3, Call <C1-48>	7 Ext, Cnt, Call <C1-57>	8 Ext, Cnt, Call <C1-42> / 8 Ext, Cnt, Call <C1-46>	8 Ext, Cnt, Call <C1-66> / 8 Ext, Cnt, Call <C1-79>	8 Type 3, Call <C1-50>	5 Ext, Cnt, Call <C1-59> / 7 Ext, Cnt, Call <C1-61>	NOT WIRED	Not Assigned <C1-54> / Not Assigned <C1-75>	EV A Preempt <C1-71> / EV C Ped Call <C1-73>	EV B Preempt <C1-72> / EV D Preempt <C1-74>	Railroad 1 <C1-51> / Railroad 2 <C1-52>

DETECTOR TYPES

Ext = Extension Detector
Detector is only active during the Phase's GREEN Intervals (ie, will NOT *Call* the Phase)
Cnt = Count Detector
Used in computing "Added Initial"
Call = Calling Detector
Detector is only active during the Phase's NON-GREEN Intervals (ie, will NOT *Extend* the Phase)
Type 3 = Type 3 Disconnect
Will allow a Calling Detector to Extend its Phase until the Call first drops or the "Type 3 Limit" is reached

REFERENCE SHEET

Controller Intervals

0 = Walk	8 = Red Rest
1 = FDW	9 = Preemption
2 = Min. Green	A = Stop Time
3 =	B = Red Revert
4= Var. Initial	C = Yellow-Gap Termination
5 = Extension	D = Yellow-Max. Termination
6 =	E = Yellow-Forceoff Termination
7 = Reduce Gap	F = Red Clearance

Continuous Memory Error Monitoring

The controller's RAM and EPROM memories are continuously checked for errors. If an erro is found, the intersection will go into FLASH (via Watch Dog Timer), and one of the following will be shown on the controller's display:

bAd A = An error was detected in the CPU's RAM, or a new program has been installed on the memory module. Often caused by a bad controller "gel-cell" battery.

bAd b = An error was detected in the memory module's RAM. Often caused by a bad "lithium" battery on the memory module.

bAd E = An error was detected in the 233 Program EPROM.

bAd F = An error was detected in the Z-RAM (Dallas chip) on the memory module.

412/C Memory Module Lithium Battery Condition

To check the condition of the 3.6 volt Lithium Battery on the 412/C Memory Module:

If E/112 + 0 + A = 84 - the battery is BAD
If E/112 + 0 + A = 85 - the battery is O.K.

Monitor "Activate" Flags

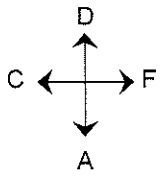
(Also Requires T.O.D. Function "E" Flag)

Detector Count Recording:
E/2 + 0 + 9 = Not Zero

Real Time Split Monitor:
E/2 + 0 + E = Not Zero

E Page Enable: F/1 + 9 + E = Not Zero

Display Movement Codes



A = Advance ROW
D = Decrement ROW
C = COLUMN Back
F = Forward COLUMN

Special Event Schedules

Special Event #1: C + 0 + E = 27
Special Event #2: C + 0 + E = 28

Current Interval = E + 5 + 0
Current Interval Timer = E + 5 + B
Current Interval Clearance Phases = E + 5 + C

Time of Day Function (7 Key)

Current T.O.D. "E Function" Control Bits = C/0 + E + E
Current T.O.D. "F Function" Output Bits = C/0 + E + F

Logic DELAY Gate Delay Timer Display

DELAY A Timer = C/0 + 9 +A
DELAY B Timer = C/0 + 9 + B
thru thru
DELAY F Timer = C/0 + 9 + F

Interval Timer Display

Ring A = F/0 + A + Interval Row
Ring B = F/0 + B + (Interval Row From PHASE BANK data)

Display Locations

	Plan Select	Offset Select
Manual	C/0 + A + 1	C/0 + B + 1
Master	C/0 + A + 2	C/0 + B + 2
Current	C/0 + A + 3	C/0 + B + 3
Next	C/0 + A + 4	C/0 + B + 4
TOD	C/0 + A +5	C/0 + B + 5

Master Cycle = C/0 + A + 0
Ring A Cycle = C/0 + B + 0
Ring B Cycle = C/0 + D + 0

MIN Cycle = C/0 + A + E
MAX Cycle = C/0 + B + E

Phase Hold = C/0 + F + D
Phase Next = C/0 + F + E
Force Off = C/0 + F + F (with Ring A Cycle Timer)

Current Calculated Cycle Length = C/0 + B + F
Current Permitted Phases = E/0 + 7 +8
Current Phase Bank = F/0 + C + E

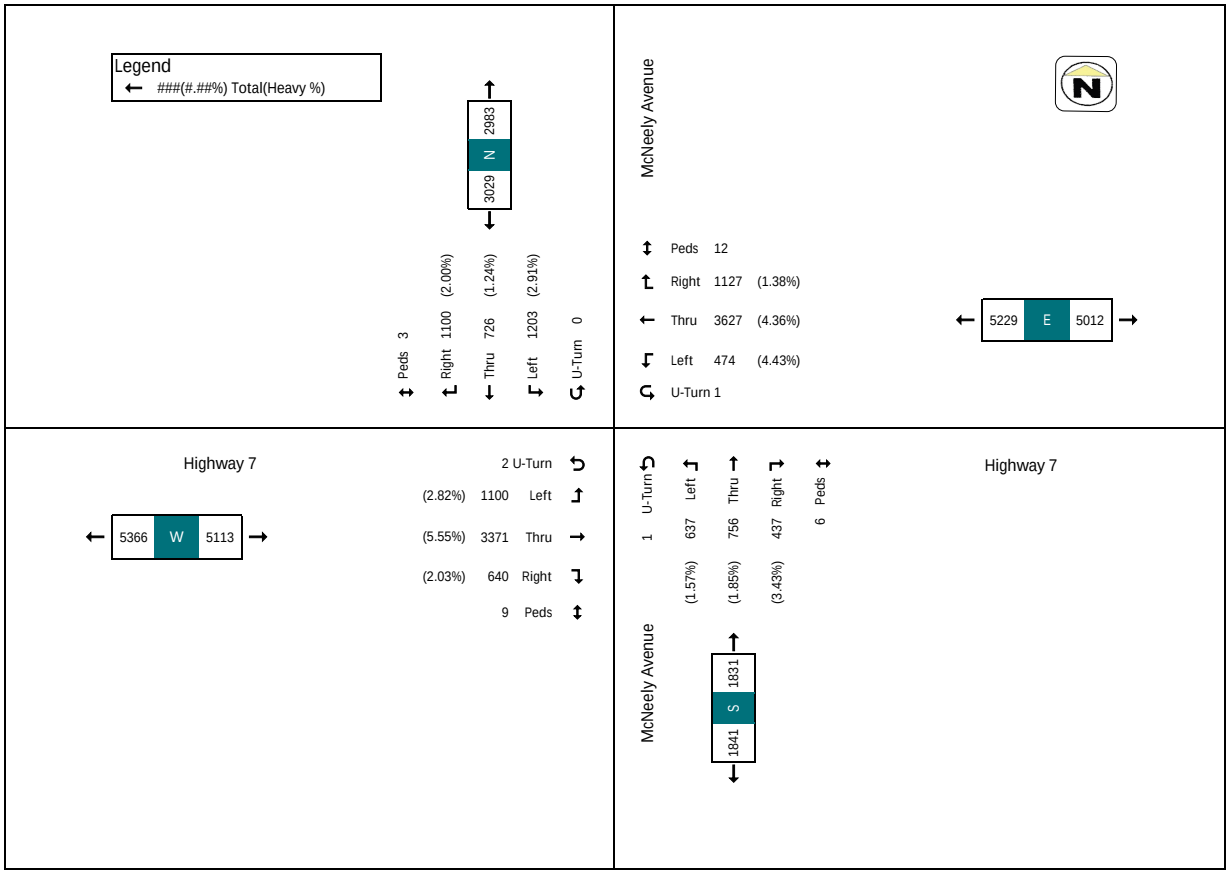
Last Power Failure:
(HR-MIN-DOW) = 8 + 4
(DOW-YR-MONTH) = 8 + 5
Last Cabinet Flash
(HR-MIN-DOW) = 8 + 6
(DOW-YR-MONTH) = 8 + 7
Power Fail Counts:
(Long Failures) = F/1 + 0 + C
(Short Failures) = F/1 + 0 + D
Current Time:
(HR-MIN-DOW) = 8 + 0
(DOW-YR-MONTH) = 8 + 1
(MIN-SEC-1/10SEC) = 8 + F

LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Highway 7
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25266

Turning Movement Count - McNeely Avenue & Highway 7

	McNeely Avenue Southbound						Highway 7 Westbound						McNeely Avenue Northbound						Highway 7 Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:00	0	73	11	17	0	101	0	8	84	20	0	112	0	8	9	24	0	41	0	36	171	13	0	220	474
7:15	0	57	13	21	0	91	0	6	102	22	1	132	0	15	9	14	0	38	0	36	186	18	0	240	500
7:30	0	65	25	21	0	111	0	12	117	31	0	160	0	15	9	14	0	48	0	32	180	17	0	229	548
7:45	0	55	17	28	0	100	0	19	115	37	1	171	0	17	16	25	1	58	0	46	163	34	0	243	572
Hourly Total	0	250	66	87	0	403	0	47	418	110	2	575	0	55	43	84	1	182	0	152	700	82	0	934	2094
8:00	0	56	14	25	0	95	0	10	113	30	0	153	0	15	20	18	0	53	1	29	155	18	0	203	504
8:15	0	80	27	34	1	141	0	12	132	36	1	180	0	21	27	14	0	62	0	58	169	30	0	257	640
8:30	0	71	30	37	0	138	0	13	114	46	0	173	0	20	26	18	0	64	0	57	144	28	1	229	604
8:45	0	58	42	39	0	139	0	18	125	48	0	191	0	22	36	18	0	76	0	69	150	33	1	252	658
Hourly Total	0	265	113	135	1	513	0	53	484	160	1	697	0	78	109	68	0	255	1	213	618	109	2	941	2406
9:00	0	49	19	36	1	104	0	8	140	31	1	179	0	23	18	26	0	67	0	39	157	33	0	229	579
9:15	0	50	30	43	0	123	0	11	146	32	0	189	0	18	22	18	0	58	0	50	136	36	0	222	592
Hourly Total	0	99	49	79	1	227	0	19	286	63	1	368	0	41	40	44	0	125	0	89	293	69	0	451	1171
* Break *																									
16:00	0	61	54	72	0	187	0	43	222	80	0	345	0	48	51	15	0	114	0	62	183	28	0	273	919
16:15	0	50	43	76	0	169	0	38	265	101	0	404	0	39	53	20	0	112	1	81	168	45	1	295	980
16:30	0	56	44	75	0	175	0	40	222	73	0	335	0	37	46	24	0	107	0	69	150	30	0	249	866
16:45	0	62	47	64	0	173	0	32	245	73	1	350	0	34	42	24	4	100	0	61	163	30	2	254	877
Hourly Total	0	229	188	287	0	704	1	153	955	325	1	1434	0	168	213	82	4	463	1	273	667	136	3	1077	3678
17:00	0	56	47	78	0	181	0	40	222	83	1	345	0	44	55	30	0	129	0	51	170	43	0	264	919
17:15	0	63	41	76	1	180	0	35	245	77	3	357	0	41	58	18	0	117	0	41	185	36	0	262	916
17:30	0	60	50	76	0	186	0	30	201	80	1	311	1	36	41	25	0	105	0	40	127	26	0	193	795
17:45	0	40	29	54	0	123	0	31	183	58	0	272	0	36	49	28	0	113	0	56	139	37	0	232	740
Hourly Total	0	219	167	284	1	670	0	136	851	298	5	1285	1	159	203	101	0	464	0	188	621	142	0	951	3370
18:00	0	43	38	52	0	133	0	21	180	47	0	248	0	41	42	17	0	100	0	52	131	25	0	208	689
18:15	0	30	48	59	0	137	0	21	162	45	0	228	0	39	39	15	0	93	0	38	129	31	1	198	656
18:30	0	33	30	58	0	121	0	14	140	39	1	193	0	32	38	18	0	88	0	51	102	23	2	176	578
18:45	0	35	27	59	0	121	0	10	151	40	1	201	0	24	29	8	1	61	0	44	110	23	1	177	560
Hourly Total	0	141	143	228	0	512	0	66	633	171	2	870	0	136	148	58	1	342	0	185	472	102	4	759	2483
Grand Total	0	1203	726	1100	3	3029	1	474	3627	1127	12	5229	1	637	756	437	6	1831	2	1100	3371	640	9	5113	15202
Approach %	0.0%	39.7%	24.0%	36.3%	-	-	0.0%	9.1%	69.4%	21.6%	-	-	0.1%	34.8%	41.3%	23.9%	-	-	0.0%	21.5%	65.9%	12.5%			
Total %	0.0%	7.9%	4.8%	7.2%	-	19.9%	0.0%	3.1%	23.9%	7.4%	-	34.4%	0.0%	4.2%	5.0%	2.9%	-	12.0%	0.0%	7.2%	22.2%	4.2%	-	33.6%	
Lights	0	1168	717	1078	-	2963	1	453	3469	1077	-	5000	1	627	742	422	-	1792	2	1069	3184	627	-	4882	14637
% Lights	-	97.1%	98.8%	98.0%	-	97.8%	100.0%	95.6%	95.6%	95.6%	-	95.6%	100.0%	98.4%	98.1%	96.6%	-	97.9%	100.0%	97.2%	94.5%	98.0%	-	95.5%	96.3%
Buses	-	0	0	0	-	0	-	0	2	2	-	4	-	0	1	0	-	1	-	2	5	0	-	7	12
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.1%	0.2%	-	0.1%	-	0.0%	0.1%	0.0%	-	0.1%	-	0.2%	0.1%	0.0%	-	0.1%	0.1%
Trucks	-	35	9	22	-	66	-	21	156	48	-	225	-	10	13	15	-	38	-	29	182	13	-	224	553
% Trucks	-	2.9%	1.2%	-	-	2.2%	-	4.4%	4.3%	4.3%	-	4.3%	-	1.6%	1.7%	3.4%	-	2.1%	-	2.6%	5.4%	2.0%	-	4.4%	3.6%
Bicycles	-	-	-	-	0	0	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	6	6	8
Pedestrians	-	-	-	-	3	-	-	-	-	-	12	-	-	-	-	-	6	-	-	-	-	-	9	-	30

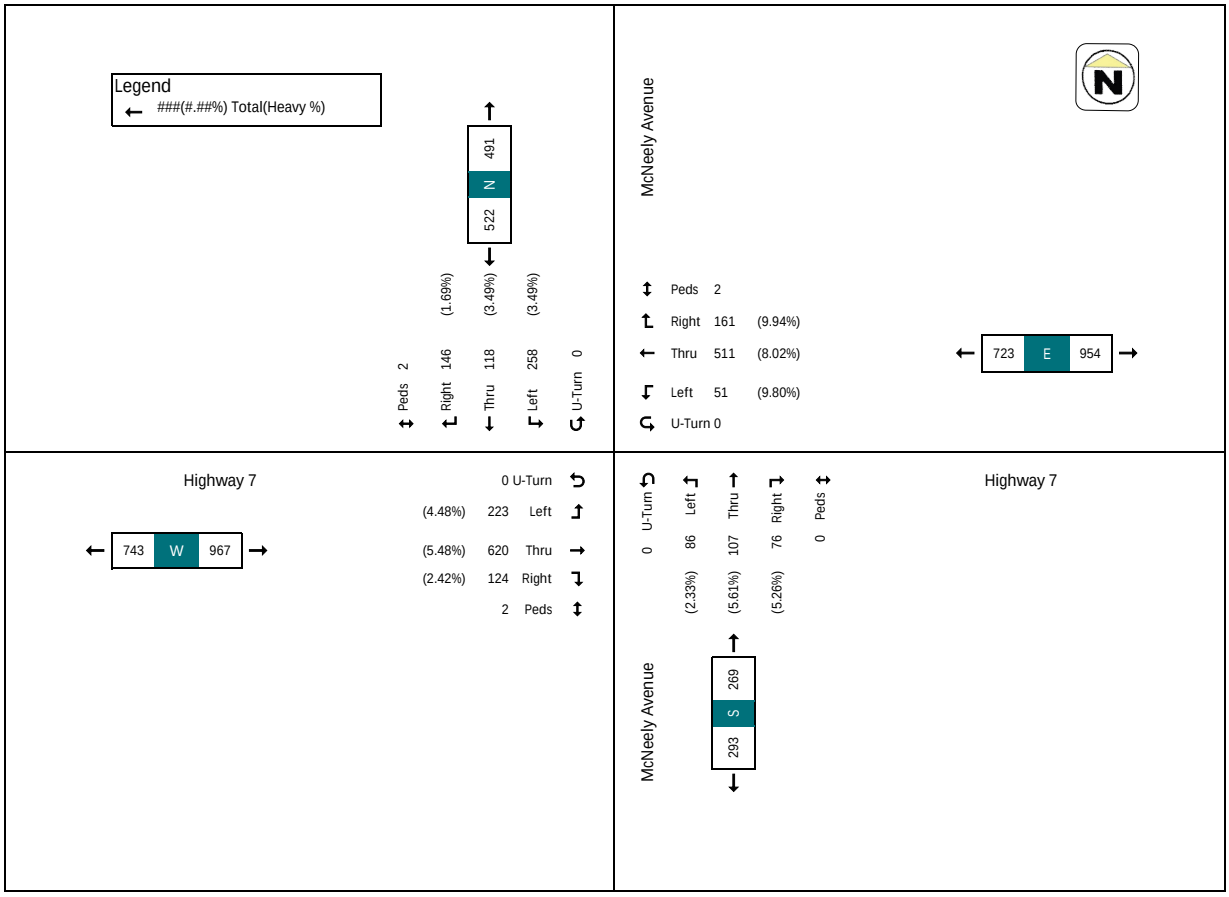


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Highway 7
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25266

AM Peak Hour - McNeely Avenue & Highway 7

	McNeely Avenue Southbound						Highway 7 Westbound						McNeely Avenue Northbound						Highway 7 Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
8:15	0	80	27	34	1	141	0	12	132	36	1	180	0	21	27	14	0	62	0	58	169	30	0	257	640
8:30	0	69	30	37	0	136	0	13	114	46	0	173	0	20	29	16	0	65	0	57	144	20	1	222	596
8:45	0	58	42	39	0	139	0	18	125	48	0	191	0	22	36	18	0	76	0	69	150	33	1	252	658
9:00	0	49	19	36	1	104	0	8	140	31	1	179	0	23	18	26	0	67	0	39	157	33	0	229	579
Hourly Total	0	258	118	146	2	522	0	51	511	161	2	723	0	86	107	76	0	269	0	223	620	124	2	967	2481
Approach %	0.0%	49.4%	22.6%	28.0%	-	-	0.0%	7.1%	70.7%	22.3%	-	-	0.0%	32.0%	39.8%	28.3%	-	-	0.0%	23.1%	64.1%	12.8%	-	-	-
Total %	0.0%	10.4%	4.8%	5.9%	-	21.0%	0.0%	2.1%	20.6%	6.5%	-	29.1%	0.0%	3.5%	4.3%	3.1%	-	10.8%	0.0%	9.0%	25.0%	5.0%	-	39.0%	-
PHF	0	0.81	0.7	0.94	-	0.93	0	0.71	0.91	0.84	-	0.95	0	0.93	0.74	0.73	-	0.88	0	0.81	0.92	0.94	-	0.94	0.94
Lights	0	249	116	141	-	506	0	46	470	145	-	661	0	84	101	72	-	257	0	213	586	121	-	920	2344
% Lights	-	96.5%	98.3%	96.6%	-	96.9%	-	90.2%	92.0%	90.1%	-	91.4%	-	97.7%	94.4%	94.7%	-	95.5%	-	95.5%	94.5%	97.6%	-	95.1%	94.5%
Buses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	1.2%	-	0.3%	-	0.0%	0.9%	0.0%	-	0.4%	-	0.9%	0.0%	0.0%	-	0.2%	0.2%
Trucks	-	9	2	5	-	16	-	5	41	14	-	60	-	2	5	4	-	11	-	8	34	3	-	45	132
% Trucks	-	3.5%	1.7%	3.4%	-	3.1%	-	9.8%	8.0%	8.7%	-	8.3%	-	2.3%	4.7%	5.3%	-	4.1%	-	3.6%	5.5%	2.4%	-	4.7%	5.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-	6

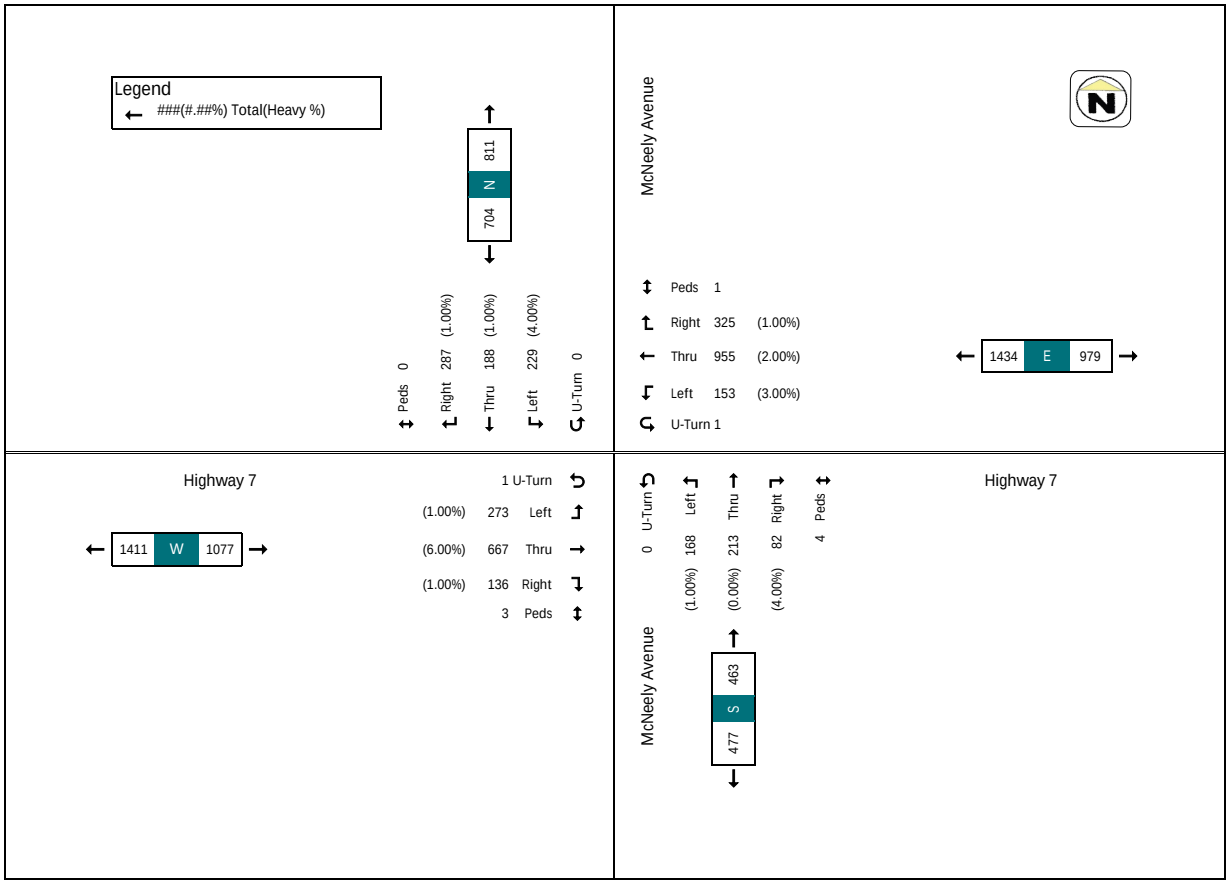


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Highway 7
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25266

PM Peak Hour - McNeely Avenue & Highway 7

	McNeely Avenue Southbound						Highway 7 Westbound						McNeely Avenue Northbound						Highway 7 Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
16:00	0	61	54	72	0	187	0	43	222	80	0	345	0	48	51	15	0	114	0	62	183	28	0	273	919
16:15	0	50	43	76	0	169	0	38	265	101	0	404	0	39	53	20	0	112	1	81	168	45	1	295	980
16:30	0	56	44	75	0	175	1	40	223	71	0	335	0	47	67	23	0	137	0	69	153	33	0	255	902
16:45	0	62	47	64	0	173	0	32	245	73	1	350	0	34	42	24	4	109	0	61	153	30	2	254	877
Hourly Total	0	229	188	287	0	704	1	153	955	325	1	1434	0	168	213	82	4	463	1	273	667	136	3	1077	3678
Approach %	0.0%	32.5%	26.7%	40.8%	-	-	0.1%	10.7%	66.6%	22.7%	-	-	0.0%	36.3%	46.0%	17.7%	-	-	0.1%	25.3%	61.9%	12.6%	-	-	
Total %	0.0%	6.2%	5.1%	7.8%	-	19.1%	0.0%	4.2%	26.0%	8.8%	-	39.0%	0.0%	4.6%	5.8%	2.2%	-	12.6%	0.0%	7.4%	18.1%	3.7%	-	29.3%	
PHF	0	0.92	0.87	0.94	-	0.94	0.25	0.89	0.9	0.8	-	0.89	0	0.88	0.79	0.85	-	0.84	0.25	0.84	0.91	0.76	-	0.91	0.94
Lights	0	220	187	285	-	692	1	149	934	322	-	1406	0	167	212	79	-	458	1	270	629	134	-	1034	3590
% Lights	-	96.1%	99.5%	99.3%	-	98.3%	-	97.4%	97.8%	99.1%	-	98.0%	-	99.4%	99.5%	96.3%	-	98.9%	-	98.9%	94.3%	98.5%	-	96.0%	97.6%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	4	0	-	4	4
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.6%	0.0%	-	0.4%	0.1%
Trucks	-	9	1	2	-	12	-	4	21	3	-	28	-	1	1	3	-	5	-	3	34	2	-	39	84
% Trucks	-	3.9%	0.5%	0.7%	-	1.7%	-	2.6%	2.2%	0.9%	-	2.0%	-	0.6%	0.5%	3.7%	-	1.1%	-	1.1%	5.1%	1.5%	-	3.6%	2.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	2	2	3
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	2

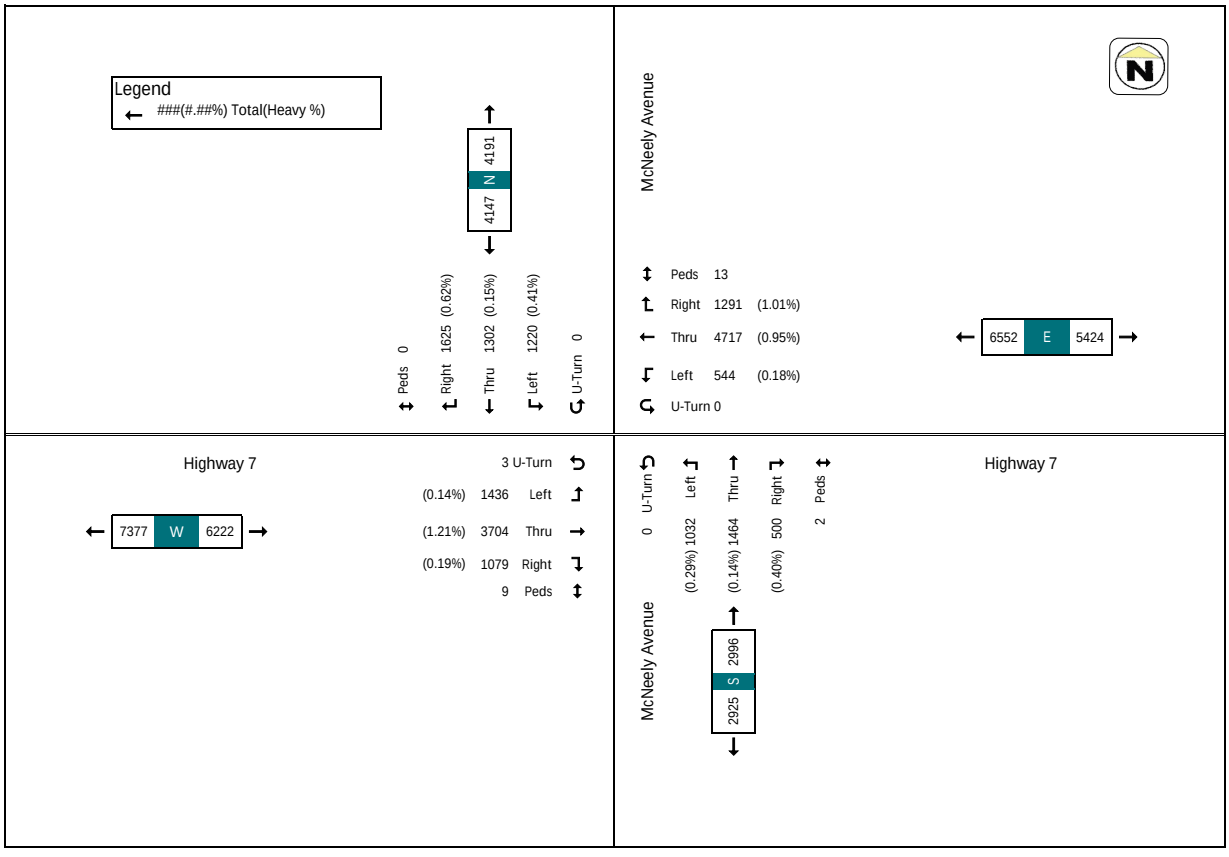


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Highway 7
Survey Date : August 9, 2025
Project No. : 26155
Count ID : 25266

Turning Movement Count - McNeely Avenue & Highway 7

	McNeely Avenue Southbound						Highway 7 Westbound						McNeely Avenue Northbound						Highway 7 Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
10:00	0	26	51	49	0	126	0	21	201	44	0	266	0	36	63	16	0	115	0	48	126	39	0	213	720
10:15	0	45	66	67	0	178	0	19	231	40	0	290	0	51	60	16	0	127	0	57	141	57	0	255	850
10:30	0	50	64	59	0	173	0	38	238	55	2	331	0	45	59	17	0	121	0	84	150	43	0	277	902
10:45	0	63	58	56	0	177	0	22	249	56	0	327	0	45	65	21	0	131	0	65	122	42	0	229	864
Hourly Total	0	184	239	231	0	654	0	100	919	195	2	1214	0	177	247	70	0	494	0	254	539	181	0	974	3336
11:00	0	56	50	65	0	171	0	21	241	57	3	319	39	39	47	22	0	147	0	73	139	42	0	254	891
11:15	0	54	61	69	0	184	0	20	215	51	0	286	43	43	72	29	0	187	0	67	173	47	0	287	944
11:30	0	51	76	69	0	196	0	16	206	63	0	285	46	46	74	32	0	198	0	60	154	43	0	257	936
11:45	0	55	67	52	0	174	0	34	207	54	1	295	39	39	70	27	0	175	1	70	156	51	0	278	922
Hourly Total	0	216	254	255	0	725	0	91	869	225	4	1185	0	167	263	110	0	540	1	270	622	183	0	1076	3526
12:00	0	76	59	78	0	213	0	31	199	56	0	286	0	44	80	25	0	149	1	61	173	34	0	269	917
12:15	0	64	59	83	0	196	0	22	206	56	0	284	0	46	74	18	0	138	0	96	156	44	0	296	890
12:30	0	65	50	80	0	195	0	20	195	51	0	266	0	52	63	18	0	133	0	59	177	45	0	281	875
12:45	0	40	57	63	0	160	0	29	173	61	2	263	0	43	52	26	0	121	0	57	137	48	2	242	786
Hourly Total	0	235	225	304	0	764	0	101	775	226	2	1102	0	185	272	85	0	542	1	243	645	171	2	1060	3468
13:00	0	33	48	65	0	146	0	26	189	64	1	279	0	48	52	26	2	126	0	50	141	55	2	246	797
13:15	0	58	49	72	0	179	0	24	207	59	0	290	0	43	69	15	0	127	0	57	176	49	0	282	878
13:30	0	64	54	78	0	196	0	16	173	48	0	237	0	40	76	28	0	144	0	76	133	47	2	256	833
13:45	0	44	50	90	0	184	0	19	202	58	0	279	0	41	58	24	0	123	0	44	149	51	0	244	830
Hourly Total	0	199	201	305	0	705	0	85	771	229	1	1085	0	172	255	93	2	520	0	227	599	202	4	1028	3338
14:00	0	46	62	76	0	184	0	18	195	48	2	261	0	38	53	18	0	109	0	59	154	51	0	264	818
14:15	0	57	58	53	0	168	0	29	175	57	2	261	0	41	65	27	0	133	1	60	167	41	0	269	831
14:30	0	49	39	63	0	147	0	24	194	61	0	279	1	41	57	17	0	116	0	53	154	45	1	252	794
14:45	0	56	55	57	0	168	0	24	185	54	0	263	0	43	63	27	0	133	0	59	156	36	0	251	815
Hourly Total	0	204	214	249	0	667	0	95	739	220	4	1054	0	163	238	89	0	490	1	231	631	173	1	1036	3247
15:00	0	39	47	75	0	161	0	17	157	49	0	223	0	43	56	12	0	111	0	53	142	49	1	244	739
15:15	0	58	39	60	0	157	0	20	183	58	0	261	0	40	43	10	0	93	0	55	197	36	0	288	799
15:30	0	41	40	70	0	151	0	20	170	45	0	235	0	45	48	17	0	110	0	35	175	52	1	262	758
15:45	0	44	43	76	0	163	0	15	134	44	0	193	0	40	42	14	0	96	0	68	154	32	0	254	706
Hourly Total	0	182	169	281	0	632	0	72	644	196	0	912	0	168	189	53	0	410	0	211	668	169	2	1048	3002
Grand Total	0	1220	1302	1625	0	4147	0	544	4717	1291	13	6552	0	1032	1464	500	2	2996	3	1436	3704	1079	9	6222	19917
Approach %	0.0%	29.4%	31.4%	39.2%	-	-	0.0%	8.3%	72.0%	19.7%	-	-	0.0%	34.4%	48.9%	16.7%	-	-	0.0%	23.1%	59.5%	17.3%	-	-	
Total %	0.0%	6.1%	6.5%	8.2%	-	20.8%	0.0%	2.7%	23.7%	6.5%	-	32.9%	0.0%	5.2%	7.4%	2.5%	-	15.0%	0.0%	7.2%	18.6%	5.4%	-	31.2%	
Lights	0	1215	1300	1615	-	4130	0	543	4672	1278	-	6493	1	1029	1462	498	-	2990	3	1434	3659	1077	-	6173	19786
% Lights	-	99.6%	99.8%	99.4%	-	99.6%	-	99.8%	99.0%	99.0%	-	99.1%	-	99.7%	99.9%	99.6%	-	99.8%	100.0%	99.9%	98.8%	99.8%	-	99.2%	99.3%
Buses	-	0	0	0	-	0	-	0	6	6	-	12	-	0	0	0	-	0	-	1	5	0	-	6	18
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.1%	0.5%	-	0.2%	-	0.0%	0.0%	0.2%	-	0.0%	-	0.1%	0.1%	0.0%	-	0.1%	0.1%
Trucks	-	5	2	10	-	17	-	1	39	7	-	47	-	3	2	1	-	6	-	1	40	2	-	43	113
% Trucks	-	0.4%	0.2%	0.6%	-	0.4%	-	0.2%	0.8%	0.5%	-	0.7%	-	0.3%	0.1%	0.2%	-	0.2%	-	0.1%	1.1%	0.2%	-	0.7%	0.6%
Bicycles	-	-	-	-	0	0	-	-	-	-	6	6	-	-	-	-	2	2	-	-	-	-	6	6	14
Pedestrians	-	-	-	-	0	-	-	-	-	-	13	-	-	-	-	-	2	-	-	-	-	-	9	-	24

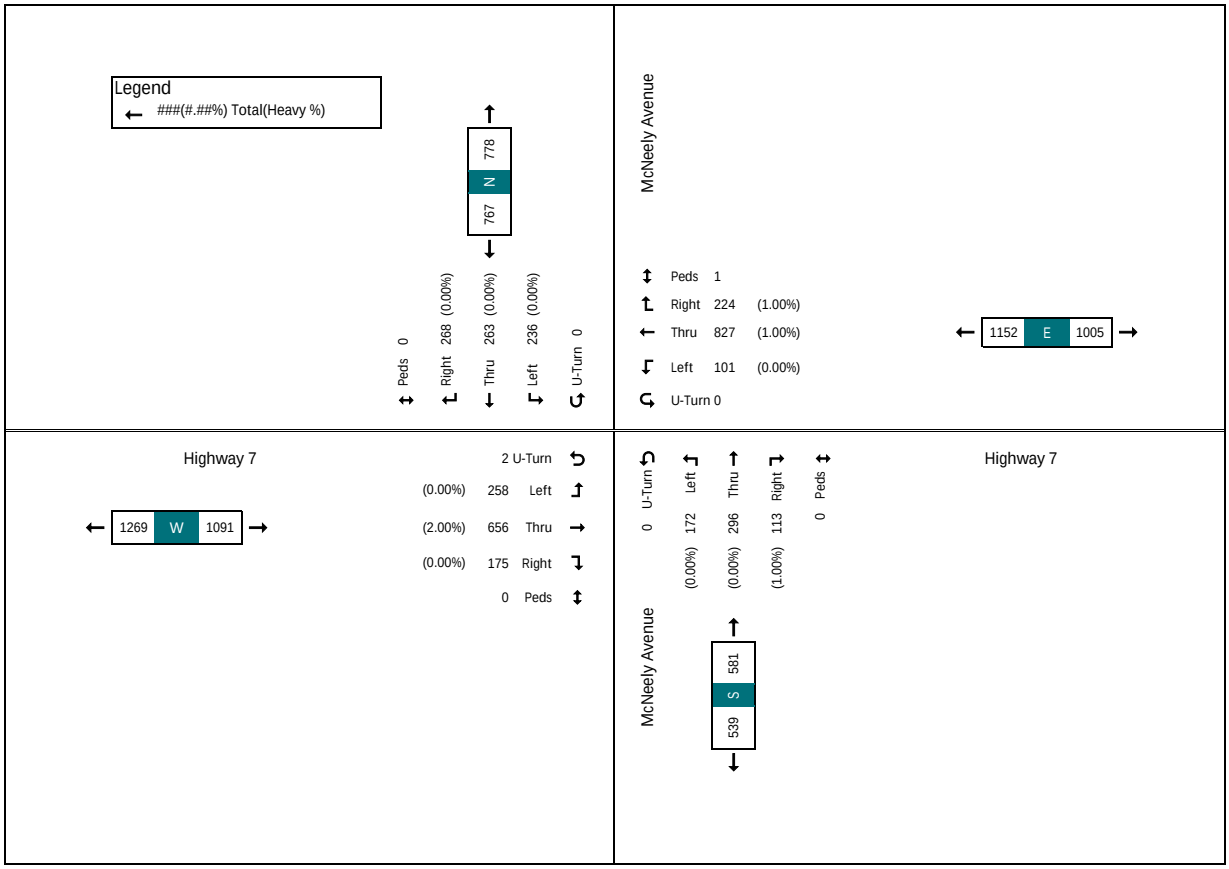


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Highway 7
Survey Date : August 9, 2025
Project No. : 26155
Count ID : 25266

SAT Peak Hour - McNeely Avenue & Highway 7

	McNeely Avenue Southbound						Highway 7 Westbound						McNeely Avenue Northbound						Highway 7 Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
11:15	0	54	61	69	0	184	0	20	215	51	0	286	0	43	72	29	0	144	0	67	173	47	0	287	901
11:30	0	51	76	69	0	196	0	16	206	63	0	285	0	46	74	32	0	152	0	60	154	43	0	257	890
11:45	0	55	67	52	0	174	0	34	207	54	1	295	0	39	70	27	0	136	1	70	156	51	0	278	883
12:00	0	76	59	78	0	213	0	31	199	56	0	286	0	44	80	25	0	149	1	61	173	34	0	269	917
Hourly Total	0	236	263	268	0	767	0	101	827	224	1	1152	0	172	296	113	0	581	2	258	656	175	0	1091	3591
Approach %	0.0%	30.8%	34.3%	34.9%	-	-	0.0%	8.8%	71.8%	19.4%	-	-	0.0%	29.6%	50.9%	19.4%	-	-	0.2%	23.6%	60.1%	16.0%	-	-	-
Total %	0.0%	6.6%	7.3%	7.5%	-	21.4%	0.0%	2.8%	23.0%	6.2%	-	32.1%	0.0%	4.8%	8.2%	3.1%	-	16.2%	0.1%	7.2%	18.3%	4.9%	-	30.4%	
PHF	0	0.79	0.87	0.86	-	0.9	0	0.74	0.96	0.88	-	0.96	0	0.93	0.93	0.86	-	0.96	0.5	0.92	0.95	0.86	-	0.95	0.98
HHP	0	236	263	267	-	766	0	101	818	222	-	1141	0	172	296	112	-	580	2	258	645	175	-	1080	2567
% Lights	-	100.0%	100.0%	99.6%	-	99.9%	-	100.0%	98.9%	99.1%	-	99.0%	-	100.0%	100.0%	99.1%	-	99.8%	-	100.0%	98.3%	100.0%	-	99.0%	99.3%
Buses	-	0	0	0	-	0	-	0	1	2	-	3	-	0	0	1	-	1	-	0	3	0	-	3	7
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.1%	0.9%	-	0.3%	-	0.0%	0.0%	0.9%	-	0.2%	-	0.0%	0.5%	0.0%	-	0.3%	0.2%
Trucks	-	0	0	1	-	1	-	0	8	0	-	8	-	0	0	0	-	0	-	0	8	0	-	8	17
% Trucks	-	0.0%	0.0%	0.4%	-	0.1%	-	0.0%	1.0%	0.0%	-	0.7%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	1.2%	0.0%	-	0.7%	0.5%
Bicycles	-	-	-	-	0	0	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	3	3	5
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	1

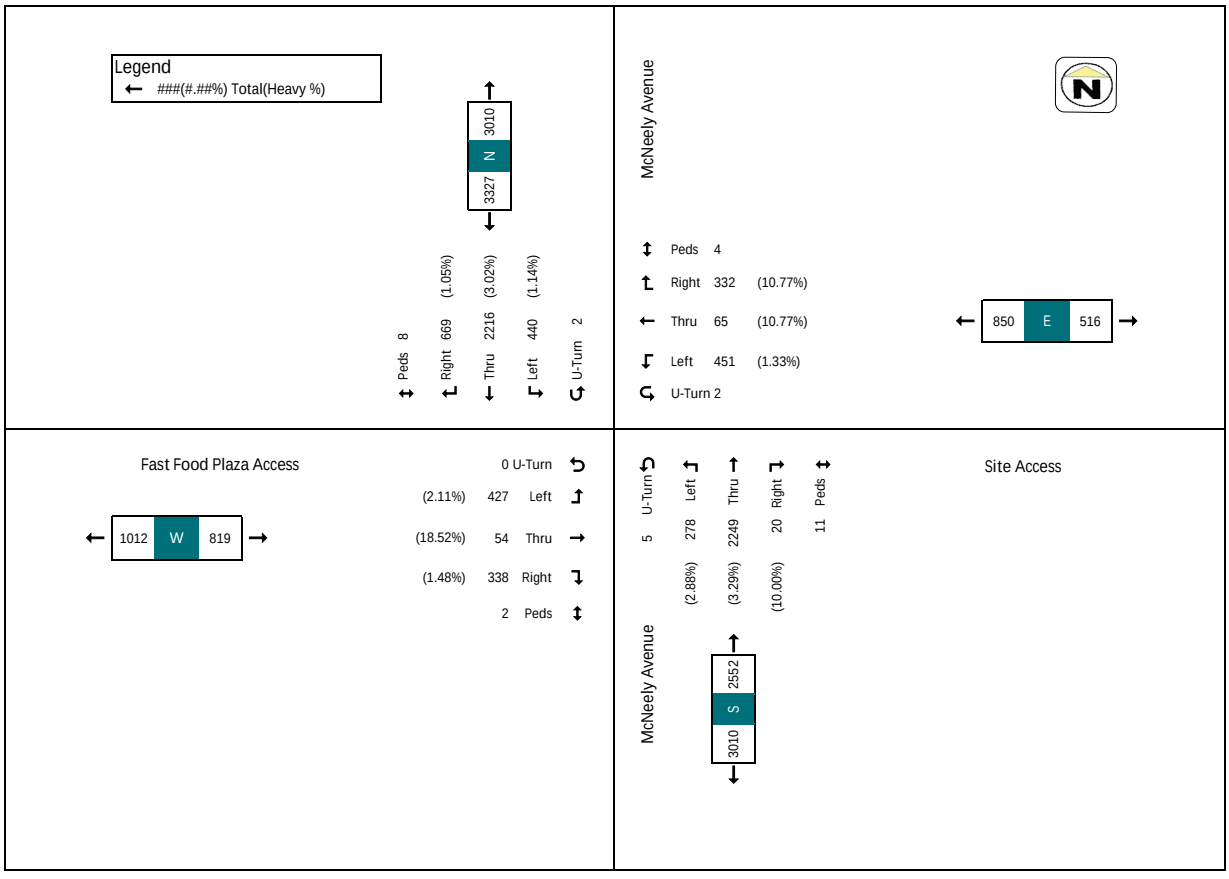


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Fast Food Plaza Access
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25267

Turning Movement Count - McNeely Avenue & Fast Food Plaza Access

	McNeely Avenue Southbound						Site Access Westbound						McNeely Avenue Northbound						Fast Food Plaza Access Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:00	0	1	66	21	0	88	0	1	1	2	0	4	0	6	53	0	2	59	0	9	4	19	0	32	183
7:15	0	6	81	23	0	110	0	3	0	2	0	5	0	7	54	0	0	61	0	10	6	13	0	29	205
7:30	0	6	80	27	0	113	0	2	6	4	1	12	0	2	64	0	0	66	0	10	6	13	0	29	220
7:45	0	16	66	33	0	115	0	2	0	5	1	7	0	8	71	0	2	79	0	24	2	16	0	42	243
Hourly Total	0	28	293	104	0	425	0	8	12	12	2	32	0	25	239	0	6	264	0	52	16	64	0	132	853
8:00	0	14	85	49	0	148	0	8	0	4	0	12	0	8	64	0	0	72	0	16	3	21	0	40	272
8:15	0	10	114	34	0	158	0	9	1	10	0	20	0	13	86	0	0	99	0	21	2	19	1	42	319
8:30	0	13	117	24	0	154	0	7	2	10	1	19	0	12	98	1	0	111	0	26	5	11	0	42	326
8:45	0	19	93	26	0	138	0	15	3	11	1	29	0	17	118	0	1	135	0	15	3	16	1	34	336
Hourly Total	0	56	409	133	0	598	0	39	6	35	2	80	0	50	366	1	1	417	0	78	13	67	2	158	1253
9:00	0	26	88	25	0	139	0	15	3	5	0	23	0	6	60	1	0	67	0	15	1	7	0	23	252
9:15	0	20	91	39	0	150	0	12	5	14	0	31	4	12	81	0	3	97	0	24	2	17	0	43	321
Hourly Total	0	46	179	64	0	289	0	27	8	19	0	54	0	18	141	1	3	160	0	39	3	24	0	66	569
* Break *																									
16:00	0	27	134	34	0	195	0	34	2	18	0	54	1	11	136	1	0	149	0	9	2	21	0	32	430
16:15	0	33	113	21	0	167	0	41	3	27	0	71	2	17	177	1	0	197	0	27	2	12	0	41	476
16:30	0	29	126	26	0	181	0	35	3	32	0	70	0	20	141	0	0	161	0	28	2	8	0	38	450
16:45	0	25	122	40	1	187	0	27	3	26	0	56	0	11	132	1	0	144	0	28	0	20	0	48	435
Hourly Total	0	114	495	121	2	730	0	137	12	103	0	252	3	59	586	5	0	653	0	87	5	64	0	156	1791
17:00	0	40	126	43	2	209	0	35	6	32	0	73	0	15	148	6	0	169	0	8	5	17	0	30	481
17:15	0	23	127	29	0	179	0	40	1	34	0	75	0	19	133	2	0	154	0	19	5	22	0	46	454
17:30	0	30	133	23	0	186	0	35	4	13	0	52	0	22	131	2	0	155	0	20	0	12	0	32	425
17:45	0	23	86	25	1	134	0	27	3	19	0	49	2	18	133	0	0	153	0	27	1	12	0	40	376
Hourly Total	0	116	472	120	3	708	0	137	14	98	0	249	2	74	545	10	0	631	0	74	11	63	0	148	1736
18:00	1	16	98	28	0	143	0	28	6	12	0	46	0	15	98	1	0	114	0	19	1	11	0	31	334
18:15	0	18	106	41	0	165	1	25	4	20	0	50	0	14	89	2	0	105	0	25	3	13	0	41	361
18:30	1	23	92	34	1	150	1	23	2	19	0	45	1	13	103	0	1	117	0	26	0	16	0	42	354
18:45	0	23	72	24	2	119	0	27	1	14	0	42	1	10	82	0	0	93	0	27	2	16	0	45	299
Hourly Total	2	80	368	127	3	577	2	103	13	65	0	183	0	52	372	3	1	427	0	97	6	56	0	159	1346
Grand Total	2	440	2216	669	8	3327	2	451	65	332	4	850	5	278	2249	20	11	2552	0	427	54	338	2	819	7548
Approach %	0.1%	13.2%	66.6%	20.1%	-	-	0.2%	53.1%	7.6%	39.1%	-	-	0.2%	10.9%	88.1%	0.8%	-	-	0.0%	52.1%	6.6%	41.3%			
Total %	0.0%	5.8%	29.4%	8.9%	-	44.1%	0.0%	6.0%	0.9%	4.4%	-	11.3%	0.1%	3.7%	29.8%	0.3%	-	33.8%	0.0%	5.7%	0.7%	4.5%	-	10.9%	
Lights	2	435	2149	662	-	3248	2	445	58	325	-	830	11	270	2175	18	-	2474	0	418	44	333	-	795	7347
% Lights	100.0%	98.9%	97.0%	99.0%	-	97.6%	100.0%	98.7%	89.2%	97.9%	-	97.6%	220.0%	97.1%	96.7%	90.0%	-	96.9%	-	97.9%	81.5%	98.5%	-	97.1%	97.3%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	0.0%
Trucks	-	5	67	7	-	79	-	6	7	7	-	20	-	8	74	2	-	84	-	9	10	5	-	24	207
% Trucks	-	1.1%	3.0%	-	-	2.4%	-	1.3%	10.8%	2.1%	-	2.4%	-	2.9%	3.3%	10.0%	-	3.3%	-	2.1%	18.5%	1.5%	-	2.9%	2.7%
Bicycles	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	8	8	11
Pedestrians	-	-	-	-	8	-	-	-	-	-	4	-	-	-	-	-	11	-	-	-	-	-	2	-	25

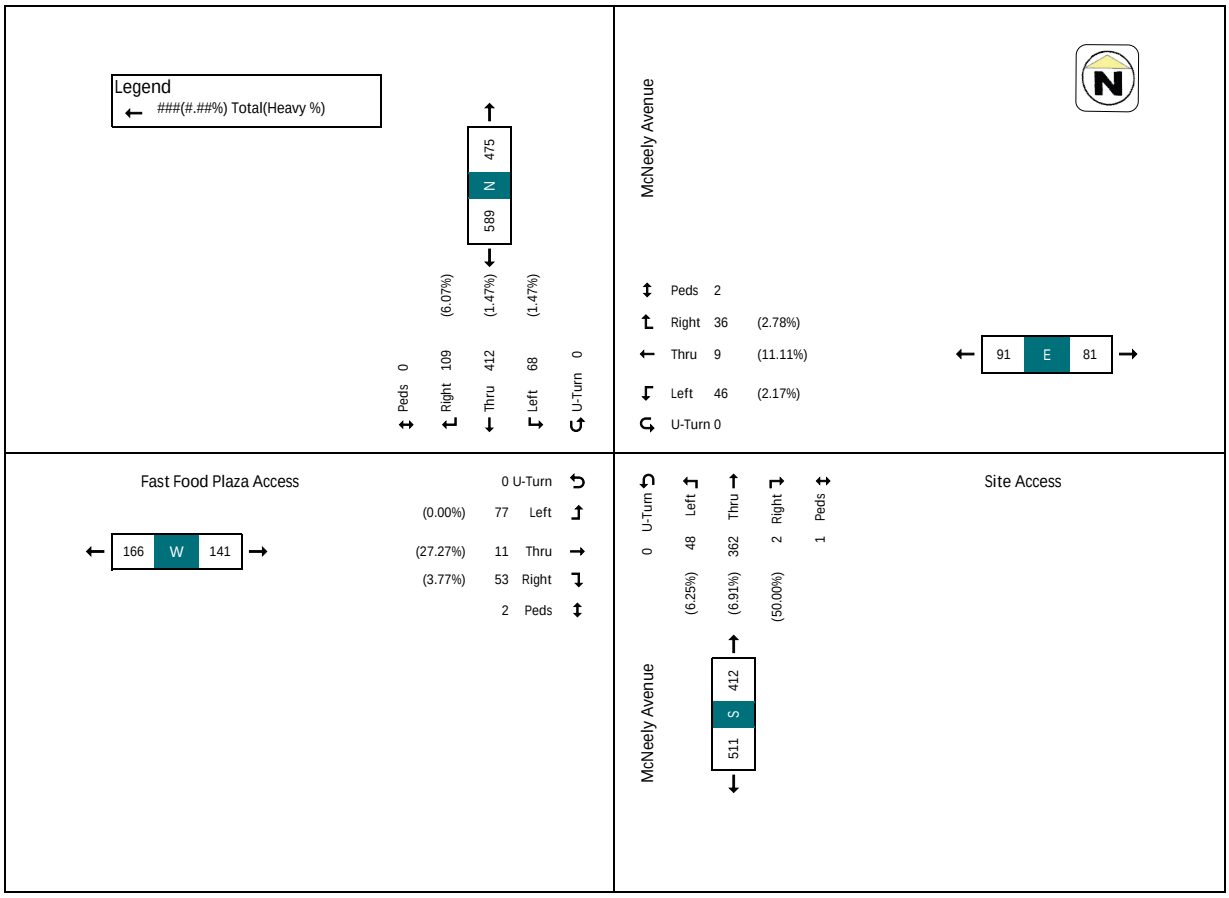


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Fast Food Plaza Access
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25267

AM Peak Hour - McNeely Avenue & Fast Food Plaza Access

	McNeely Avenue Southbound						Site Access Westbound						McNeely Avenue Northbound						Fast Food Plaza Access Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
8:15	0	10	114	34	0	158	0	9	1	10	0	20	0	13	86	0	0	99	0	21	2	19	1	43	319
8:30	0	19	93	24	0	154	0	15	3	10	1	29	0	12	93	0	0	105	0	26	2	11	0	39	327
8:45	0	19	83	26	0	128	0	15	3	11	1	30	0	17	118	1	1	135	0	15	3	16	1	34	336
9:00	0	26	88	25	0	139	0	15	3	5	0	23	0	6	60	1	0	67	0	15	1	7	0	23	252
Hourly Total	0	68	412	109	0	589	0	46	9	36	2	91	0	48	362	2	1	412	0	77	11	53	2	141	1233
Approach %	0.0%	11.5%	69.9%	18.5%	-	-	0.0%	50.5%	9.9%	39.6%	-	-	0.0%	11.7%	87.9%	0.5%	-	-	0.0%	54.6%	7.8%	37.6%	-	-	-
Total %	0.0%	5.5%	33.4%	8.8%	-	47.8%	0.0%	3.7%	0.7%	2.9%	-	7.4%	0.0%	3.9%	29.4%	0.2%	-	33.4%	0.0%	6.2%	0.9%	4.3%	-	11.4%	-
PHF	0	0.65	0.88	0.8	-	0.93	0	0.77	0.75	0.82	-	0.78	0	0.71	0.77	0.5	-	0.76	0	0.74	0.55	0.7	-	0.84	0.92
Lights	0	67	387	107	-	561	0	45	8	35	-	88	0	45	337	1	-	383	0	77	8	51	-	136	1168
% Lights	-	98.5%	93.9%	98.2%	-	95.2%	-	97.8%	88.9%	97.2%	-	96.7%	-	93.8%	93.1%	50.0%	-	93.0%	-	100.0%	72.7%	96.2%	-	96.5%	94.7%
Buses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	0.0%
Trucks	-	1	25	2	-	28	-	1	1	1	-	3	-	3	25	1	-	29	-	0	3	2	-	5	65
% Trucks	-	1.5%	6.1%	1.8%	-	4.8%	-	2.2%	11.1%	2.8%	-	3.3%	-	6.3%	6.9%	50.0%	-	7.0%	-	0.0%	27.3%	3.8%	-	3.5%	5.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-	4

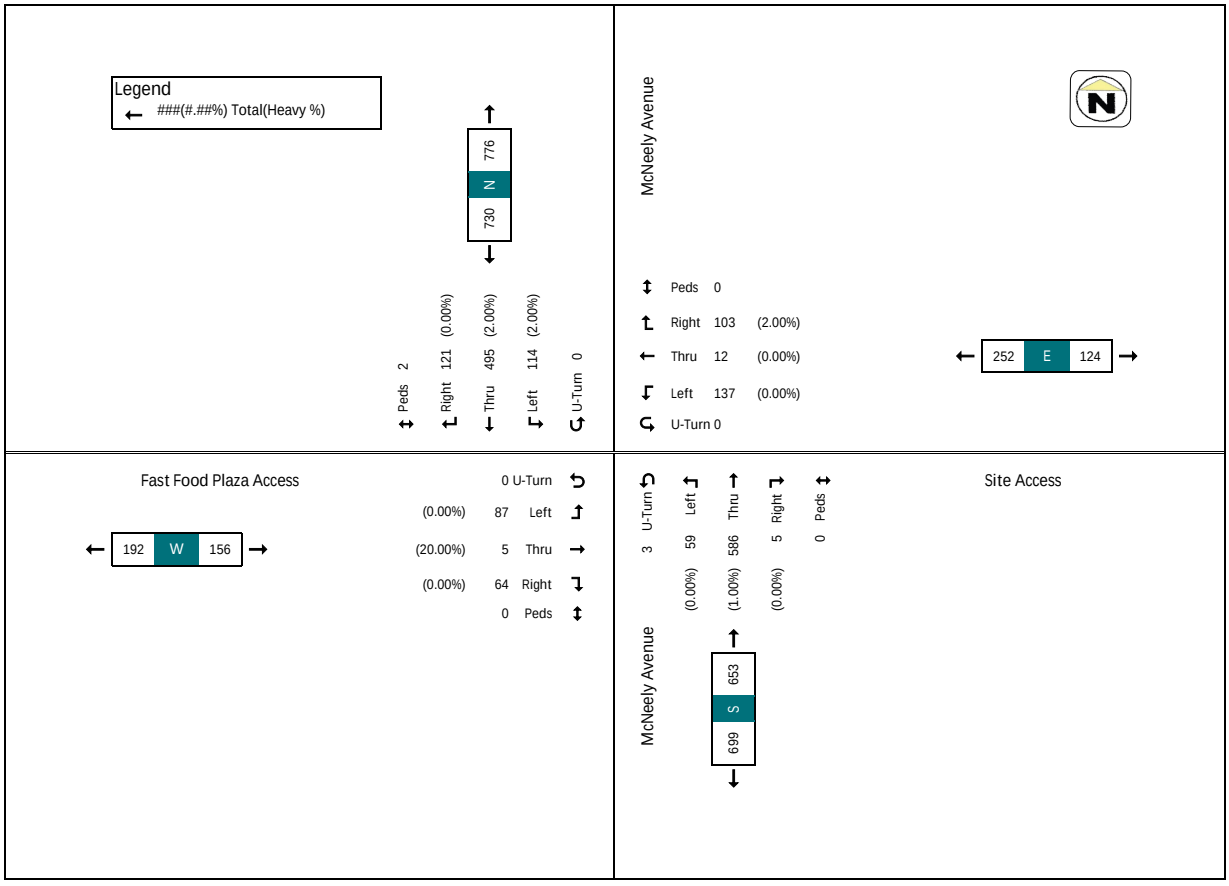


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Fast Food Plaza Access
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25267

PM Peak Hour - McNeely Avenue & Fast Food Plaza Access

	McNeely Avenue Southbound						Site Access Westbound						McNeely Avenue Northbound						Fast Food Plaza Access Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
16:00	0	27	134	34	0	195	0	34	2	18	0	54	1	11	136	1	0	149	0	9	2	21	0	32	430
16:15	0	33	113	21	0	167	0	41	3	27	0	71	2	17	177	1	0	197	0	27	2	12	0	41	476
16:30	0	29	126	26	1	181	0	35	4	32	0	71	0	20	141	2	0	163	0	23	1	11	0	35	450
16:45	0	25	122	40	1	187	0	27	3	26	0	56	0	11	132	1	0	144	0	28	0	20	0	48	435
Hourly Total	0	114	495	121	2	730	0	137	12	103	0	252	3	59	586	5	0	653	0	87	5	64	0	156	1791
Approach %	0.0%	15.6%	67.8%	16.6%	-	-	0.0%	54.4%	4.8%	40.9%	-	-	0.5%	9.0%	89.7%	0.8%	-	-	0.0%	55.8%	3.2%	41.0%	-	-	
Total %	0.0%	6.4%	27.6%	6.8%	-	40.8%	0.0%	11.1%	1.0%	5.8%	-	14.1%	0.2%	4.8%	47.5%	0.4%	-	36.5%	0.0%	7.1%	0.4%	5.2%	-	8.7%	
PHF	0	0.86	0.92	0.76	-	0.94	0	0.84	0.75	0.8	-	0.89	0	0.74	0.83	0.63	-	0.83	0	0.78	0.63	0.76	-	0.81	0.94
Lights	0	112	485	121	-	718	0	137	12	101	-	250	3	59	580	5	-	647	0	87	5	64	-	156	1770
% Lights	-	98.2%	98.0%	100.0%	-	98.4%	-	100.0%	100.0%	98.1%	-	99.2%	-	100.0%	99.0%	100.0%	-	99.1%	-	100.0%	80.0%	100.0%	-	99.4%	98.8%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	0.0%
Trucks	-	2	10	0	-	12	-	0	0	2	-	2	-	0	6	0	-	6	-	0	1	0	-	1	21
% Trucks	-	1.8%	2.0%	0.0%	-	1.6%	-	0.0%	0.0%	1.9%	-	0.8%	-	0.0%	1.0%	0.0%	-	0.9%	-	0.0%	20.0%	0.0%	-	0.6%	1.2%
Bicycles	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	3	3	4
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	5

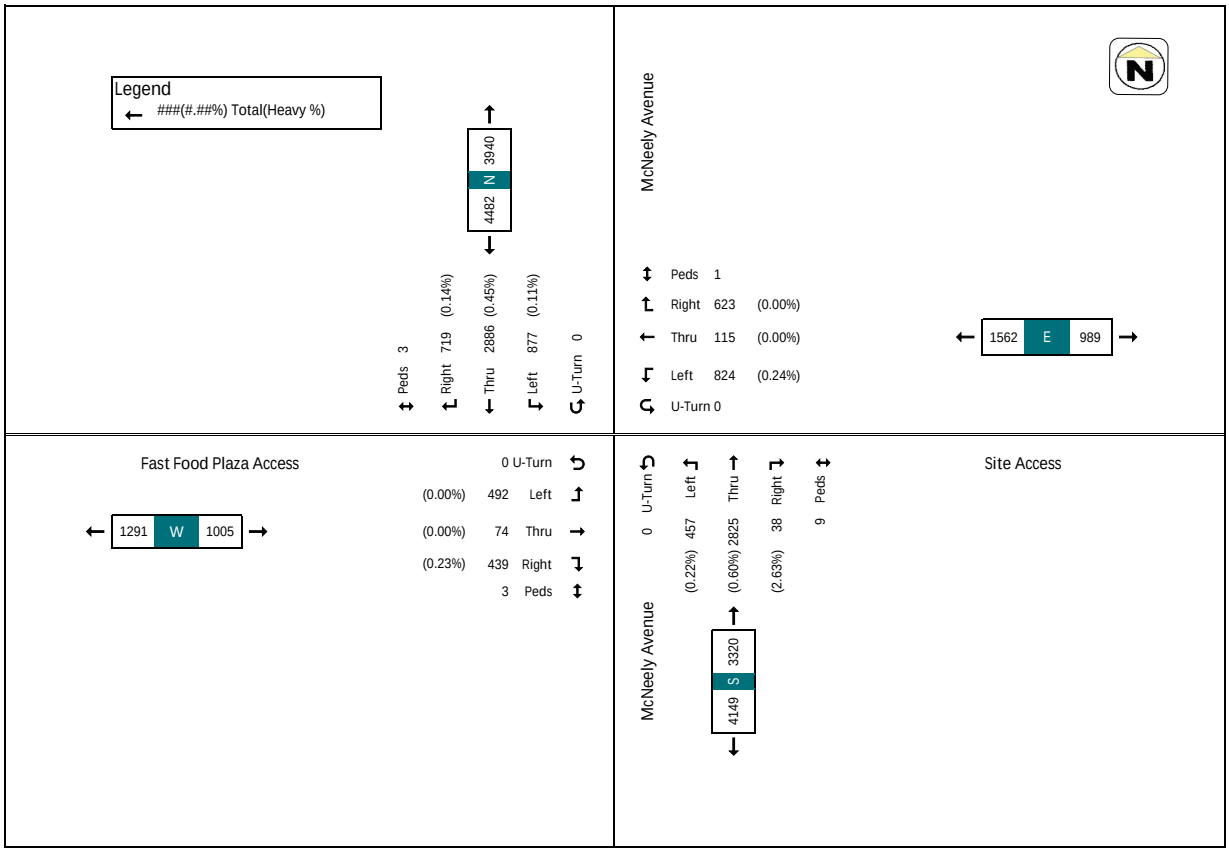


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Fast Food Plaza Access
Survey Date : August 9, 2025
Project No. : 26155
Count ID : 25267

Turning Movement Count - McNeely Avenue & Fast Food Plaza Access

	McNeely Avenue Southbound						Site Access Westbound						McNeely Avenue Northbound						Fast Food Plaza Access Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
10:00	0	39	95	41	0	175	0	17	8	22	0	47	2	24	90	2	0	118	0	16	5	13	0	34	374
10:15	0	30	114	22	0	166	0	42	11	21	0	74	2	11	104	2	0	119	0	22	0	19	0	41	400
10:30	0	41	150	38	0	229	0	21	2	27	0	50	4	15	140	1	0	160	0	23	2	19	0	44	483
10:45	0	30	129	48	0	207	0	35	7	30	0	72	4	13	112	2	1	131	0	25	6	16	0	47	457
Hourly Total	0	140	488	149	0	777	0	115	28	100	0	243	0	63	446	7	1	516	0	86	13	67	0	166	1702
11:00	0	38	118	25	1	181	0	27	0	42	0	69	16	16	125	2	1	159	0	24	2	25	3	51	460
11:15	0	39	125	32	0	196	0	38	7	27	0	72	23	23	135	1	0	182	0	21	4	18	0	43	493
11:30	0	49	134	37	1	220	0	47	5	23	1	75	20	20	121	1	0	162	0	25	3	23	0	51	508
11:45	0	28	133	34	0	195	0	29	4	31	0	64	30	30	132	1	0	193	0	30	4	20	0	54	506
Hourly Total	0	154	510	128	2	792	0	141	16	123	1	280	0	89	513	5	1	607	0	100	13	86	3	199	1878
12:00	0	67	142	31	0	240	0	38	4	25	0	67	2	34	127	1	1	164	0	21	6	23	0	50	521
12:15	0	41	122	21	0	184	0	46	12	27	0	85	3	29	97	0	0	129	0	18	3	12	0	33	431
12:30	0	41	139	23	0	203	0	36	5	31	0	72	3	24	114	0	1	142	0	20	3	27	0	50	466
12:45	0	44	99	29	0	172	0	28	8	30	0	66	0	20	113	0	0	133	0	24	4	16	0	44	415
Hourly Total	0	184	502	114	0	800	0	148	28	113	0	289	0	107	481	1	2	589	0	83	15	81	0	179	1857
13:00	0	45	118	27	0	190	0	25	7	17	0	49	0	19	115	1	0	135	0	13	2	14	0	29	403
13:15	0	41	118	36	0	195	0	46	5	27	0	78	0	19	110	4	2	133	0	25	4	16	0	45	451
13:30	0	36	117	31	0	184	0	53	2	27	0	82	1	19	141	3	0	164	0	11	4	15	0	30	460
13:45	0	26	124	25	0	175	0	31	6	35	0	72	1	19	109	3	0	132	0	23	5	24	0	52	431
Hourly Total	0	148	477	119	0	744	0	155	20	106	0	281	0	76	475	11	2	562	0	72	15	69	0	156	1743
14:00	0	29	134	27	1	190	0	43	3	26	0	72	0	13	108	4	0	125	0	25	1	18	0	44	431
14:15	0	35	113	33	0	181	0	26	4	16	0	46	1	26	125	5	0	157	0	25	5	25	0	55	439
14:30	0	35	98	30	0	163	0	36	4	27	0	67	2	15	125	3	0	145	0	15	2	19	0	36	411
14:45	0	30	122	25	0	177	0	32	3	25	0	60	1	21	122	1	0	145	0	21	3	18	0	42	424
Hourly Total	0	129	467	115	1	711	0	137	14	94	0	245	0	75	480	13	0	568	0	86	11	80	0	177	1701
15:00	0	33	107	31	0	171	0	36	1	26	0	63	1	14	115	0	0	130	0	21	4	14	0	39	403
15:15	0	33	116	26	0	175	0	28	3	23	0	54	0	18	102	0	1	120	0	13	2	17	0	32	381
15:30	0	34	101	19	0	154	0	35	1	16	0	52	0	11	107	1	2	119	0	11	1	10	0	22	347
15:45	0	22	118	18	0	158	0	29	4	22	0	55	0	4	106	0	0	110	0	20	0	15	0	35	358
Hourly Total	0	122	442	94	0	658	0	128	9	87	0	224	0	47	430	1	3	478	0	65	7	56	0	128	1488
Grand Total	0	877	2886	719	3	4482	0	824	115	623	1	1562	0	457	2825	38	9	3320	0	492	74	439	3	1005	10369
Approach %	0.0%	19.6%	64.4%	16.0%	-	-	0.0%	52.8%	7.4%	39.9%	-	-	0.0%	13.8%	85.1%	1.1%	-	-	0.0%	49.0%	7.4%	43.7%	-	-	
Total %	0.0%	8.5%	27.8%	6.9%	-	43.2%	0.0%	7.9%	1.1%	6.0%	-	15.1%	0.0%	4.4%	27.2%	0.4%	-	32.0%	0.0%	4.7%	0.7%	4.2%	-	9.7%	
Lights	0	876	2873	718	-	4467	0	822	115	623	-	1560	31	456	2808	37	-	3332	0	492	74	438	-	1004	10363
% Lights	-	99.9%	99.5%	99.9%	-	99.7%	-	99.8%	100.0%	100.0%	-	99.9%	-	99.8%	99.4%	97.4%	-	100.4%	-	100.0%	100.0%	99.8%	-	99.9%	99.9%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	6	0	-	6	-	0	0	1	-	1	7
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.2%	0.0%	-	0.2%	-	0.0%	0.0%	0.2%	-	0.1%	0.1%
Trucks	-	1	13	1	-	15	-	2	0	0	-	2	-	1	11	1	-	13	-	0	0	0	-	0	30
% Trucks	-	0.1%	0.5%	0.1%	-	0.3%	-	0.2%	0.0%	0.0%	-	0.1%	-	0.2%	0.4%	2.6%	-	0.4%	-	0.0%	0.0%	0.0%	-	0.0%	0.3%
Bicycles	-	-	-	-	3	3	-	-	-	-	1	1	-	-	-	-	5	5	-	-	-	-	7	7	15
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	9	-	-	-	-	-	3	-	16

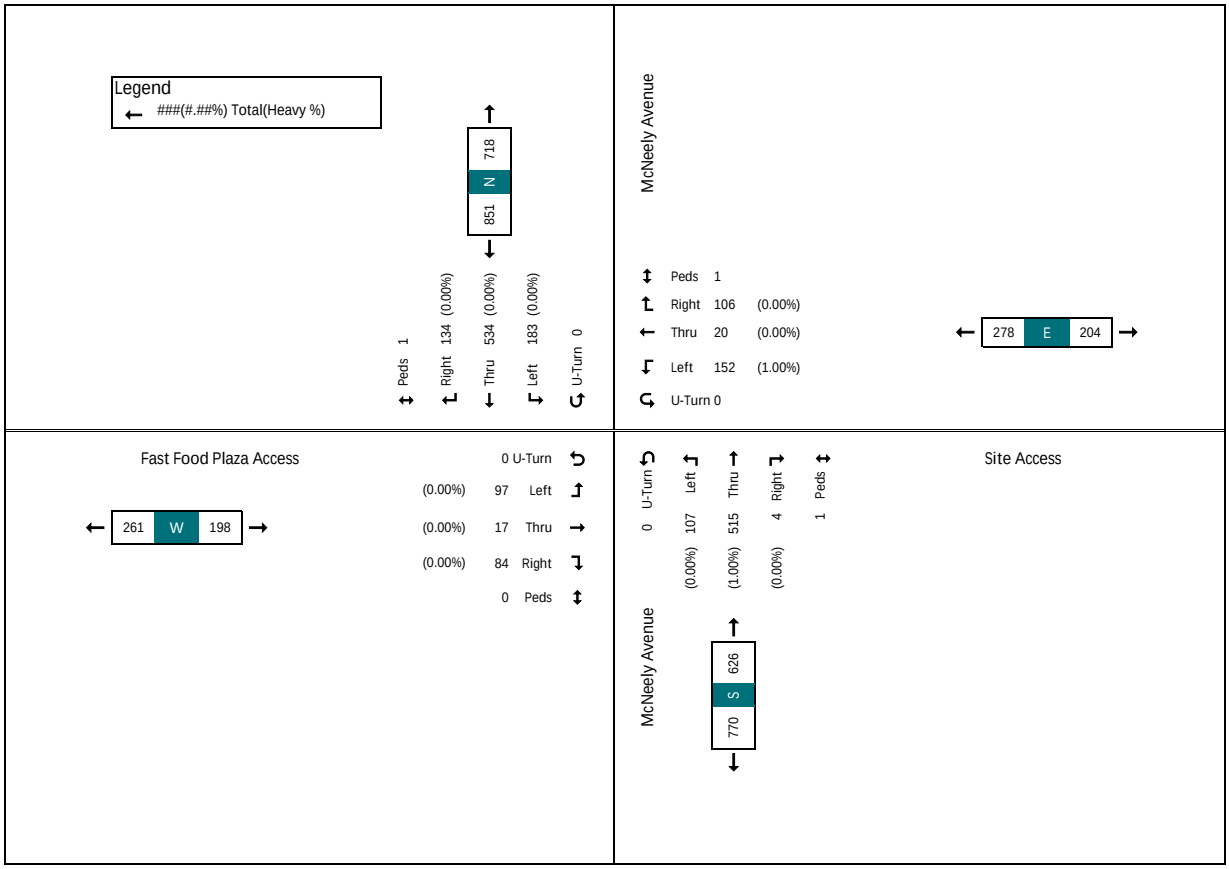


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & Fast Food Plaza Access
Survey Date : August 9, 2025
Project No. : 26155
Count ID : 25267

SAT Peak Hour - McNeely Avenue & Fast Food Plaza Access

	McNeely Avenue Southbound						Site Access Westbound						McNeely Avenue Northbound						Fast Food Plaza Access Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
11:15	0	39	125	32	0	196	0	38	7	27	0	72	2	23	135	1	0	161	0	21	4	18	0	43	472
11:30	0	49	134	37	1	220	0	47	5	23	1	75	0	20	121	1	0	142	0	25	3	23	0	51	488
11:45	0	28	133	34	0	195	0	29	4	31	0	64	2	30	132	1	0	165	0	30	4	20	0	54	478
12:00	0	67	142	31	0	240	0	38	4	25	0	67	2	34	127	1	1	164	0	21	6	23	0	50	521
Hourly Total	0	183	534	134	1	851	0	152	20	106	1	278	0	107	515	4	1	626	0	97	17	84	0	198	1959
Approach %	0.0%	21.5%	62.7%	15.7%	-	-	0.0%	54.7%	7.2%	38.1%	-	-	0.0%	17.1%	82.3%	0.6%	-	-	0.0%	49.0%	8.6%	42.4%	-	-	-
Total %	0.0%	9.3%	27.3%	6.8%	-	43.4%	0.0%	12.3%	1.6%	5.4%	-	14.2%	0.0%	8.7%	41.8%	0.3%	-	32.0%	0.0%	7.9%	1.4%	6.8%	-	10.1%	-
PHF	0	0.68	0.94	0.91	-	0.89	0	0.81	0.71	0.85	-	0.93	0	0.79	0.95	1	-	0.96	0	0.81	0.71	0.91	-	0.92	0.94
Lights	0	183	522	134	-	849	0	151	20	106	-	277	0	107	512	4	-	628	0	97	17	84	-	198	1953
% Lights	-	100.0%	99.6%	100.0%	-	99.8%	-	99.3%	100.0%	100.0%	-	99.6%	-	100.0%	99.4%	100.0%	-	100.5%	-	100.0%	100.0%	100.0%	-	100.0%	99.7%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	2	0	-	2	-	0	0	0	-	0	2
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.4%	0.0%	-	0.3%	-	0.0%	0.0%	0.0%	-	0.0%	0.1%
Trucks	-	0	2	0	-	2	-	1	0	0	-	1	-	0	1	0	-	1	-	0	0	0	-	0	4
% Trucks	-	0.0%	0.4%	0.0%	-	0.2%	-	0.7%	0.0%	0.0%	-	0.4%	-	0.0%	0.2%	0.0%	-	0.2%	-	0.0%	0.0%	0.0%	-	0.0%	0.2%
Bicycles	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	1
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	2



TABULAR SUMMARY OF TRIP GENERATION COUNT

COUNT DATE: Thurs & Sat August 7 & 9, 2025
PROJECT # : 26155.00.200
OBSERVER Camera

N / S STREET: McNeely Ave
E / W STREET: North Access Dwys

AREA: Carleton Place
PROV.: ONTARIO

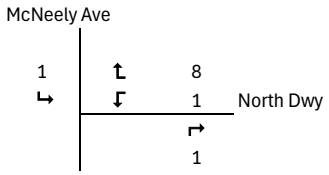
Thursday August 7, 2025

Time Start	Inbound		Outbound		
	SBL	NBR	WBL	WBR	
7:00	0	0	0	0	
7:15	0	0	0	0	
7:30	0	0	0	0	
7:45	1	0	0	1	
8:00	0	0	0	1	
8:15	0	0	0	1	
8:30	0	0	0	1	
8:45	1	1	0	3	
9:00	0	0	1	3	<-- Common Peak Hour
9:15	0	0	0	5	
16:00	0	0	1	8	
16:15	0	0	0	6	
16:30	0	0	0	13	
16:45	0	0	1	13	<-- Common Peak Hour
17:00	0	0	0	13	
17:15	0	0	0	9	
17:30	0	0	0	9	
17:45	0	0	0	9	
18:00	0	0	0	8	
18:15	0	0	0	2	
18:30	0	0	0	4	
18:45	0	0	0	4	
Total	2	1	3	113	
Common Peak Hour Total					
8:15	1	1	1	8	
16:00	0	0	2	40	

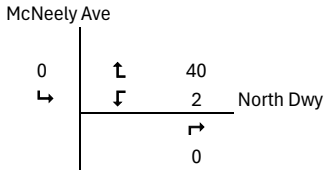
Saturday August 9, 2025

Time Start	Inbound		Outbound		
	SBL	NBR	WBL	WBR	
10:00	0	0	0	5	
10:15	1	0	0	6	
10:30	0	0	0	5	
10:45	0	0	0	11	
11:00	0	0	0	4	
11:15	0	0	0	5	
11:30	0	0	0	8	
11:45	0	1	1	12	
12:00	0	0	1	12	<-- Common Peak Hour
12:15	0	0	0	8	
12:30	0	0	1	10	
12:45	0	0	0	10	
13:00	0	0	0	10	
13:15	0	0	0	4	
13:30	0	0	0	9	
13:45	0	0	0	7	
14:00	0	1	0	10	
14:15	0	0	0	7	
14:30	0	0	0	3	
14:45	0	0	0	11	
15:00	0	0	0	11	
15:15	0	0	0	8	
15:30	0	0	1	11	
15:45	0	0	0	5	
Total	1	2	4	192	
Common Peak Hour Total					
11:15	0	1	2	37	

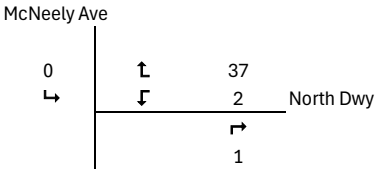
AM Common Peak Hour



PM Common Peak Hour



Saturday Common Peak Hour

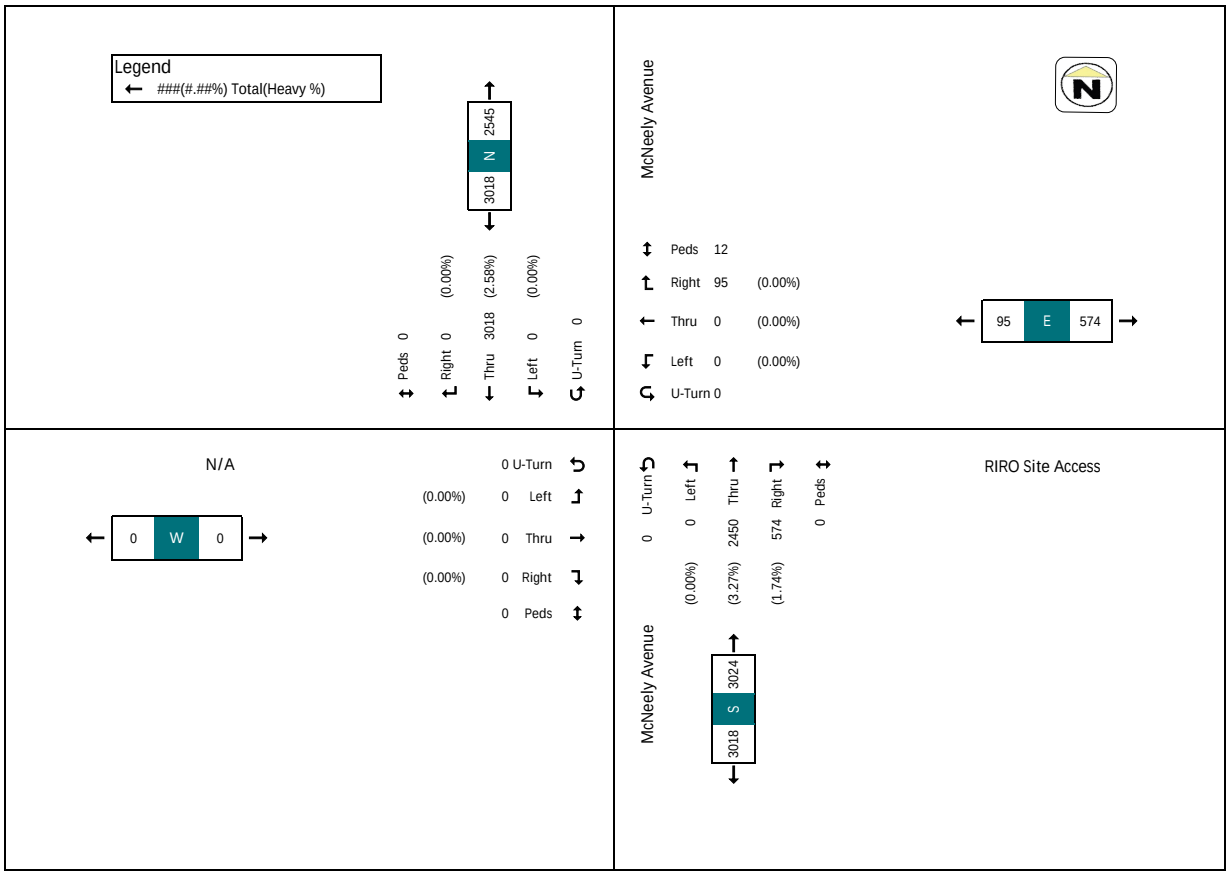


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & RIRO Site Access
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25268

Turning Movement Count - McNeely Avenue & RIRO Site Access

	McNeely Avenue Southbound						RIRO Site Access Westbound						McNeely Avenue Northbound						N/A Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:00	0	0	86	0	0	86	0	0	0	0	2	0	0	0	59	1	0	60	0	0	0	0	0	0	146
7:15	0	0	80	0	0	80	0	0	0	0	0	0	0	0	65	6	0	71	0	0	0	0	0	0	151
7:30	0	0	95	0	0	95	0	0	0	0	0	0	0	0	61	8	0	69	0	0	0	0	0	0	164
7:45	0	0	104	0	0	104	0	0	0	0	0	0	0	0	79	18	0	97	0	0	0	0	0	0	201
Hourly Total	0	0	365	0	0	365	0	0	0	0	3	0	0	0	264	33	0	297	0	0	0	0	0	0	662
8:00	0	0	114	0	0	114	0	0	0	4	0	4	0	0	68	13	0	81	0	0	0	0	0	0	199
8:15	0	0	142	0	0	142	0	0	0	1	0	1	0	0	98	12	0	110	0	0	0	0	0	0	253
8:30	0	0	135	0	0	135	0	0	0	3	1	3	0	0	108	26	0	134	0	0	0	0	0	0	272
8:45	0	0	124	0	0	124	0	0	0	3	0	3	0	0	132	23	0	155	0	0	0	0	0	0	282
Hourly Total	0	0	515	0	0	515	0	0	0	11	1	11	0	0	406	74	0	480	0	0	0	0	0	0	1006
9:00	0	0	112	0	0	112	0	0	0	4	0	4	0	0	63	18	0	81	0	0	0	0	0	0	197
9:15	0	0	124	0	0	124	0	0	0	6	0	6	0	0	87	12	0	99	0	0	0	0	0	0	229
Hourly Total	0	0	236	0	0	236	0	0	0	10	0	10	0	0	150	30	0	180	0	0	0	0	0	0	426
* Break *																									
16:00	0	0	190	0	0	190	0	0	0	6	0	6	0	0	142	53	0	195	0	0	0	0	0	0	391
16:15	0	0	168	0	0	168	0	0	0	12	0	12	0	0	183	49	0	232	0	0	0	0	0	0	412
16:30	0	0	171	0	0	171	0	0	0	7	0	7	0	0	158	40	0	198	0	0	0	0	0	0	376
16:45	0	0	169	0	0	169	0	0	0	5	0	5	0	0	138	46	0	184	0	0	0	0	0	0	359
Hourly Total	0	0	699	0	0	699	0	0	0	29	0	29	0	0	621	188	0	809	0	0	0	0	0	0	1537
17:00	0	0	178	0	0	178	0	0	0	8	1	8	0	0	161	44	0	205	0	0	0	0	0	0	391
17:15	0	0	189	0	0	189	0	0	0	7	1	7	0	0	147	31	0	178	0	0	0	0	0	0	374
17:30	0	0	180	0	0	180	0	0	0	9	0	9	0	0	146	39	0	185	0	0	0	0	0	0	374
17:45	0	0	127	0	0	127	0	0	0	6	0	6	0	0	145	29	0	174	0	0	0	0	0	0	307
Hourly Total	0	0	674	0	0	674	0	0	0	30	2	30	0	0	599	143	0	742	0	0	0	0	0	0	1446
18:00	0	0	137	0	0	137	0	0	0	3	2	3	0	0	111	37	0	148	0	0	0	0	0	0	288
18:15	0	0	144	0	0	144	0	0	0	4	0	4	0	0	101	21	0	122	0	0	0	0	0	0	270
18:30	0	0	132	0	0	132	0	0	0	3	3	3	0	0	113	25	0	138	0	0	0	0	0	0	273
18:45	0	0	116	0	0	116	0	0	0	5	1	5	0	0	85	23	0	108	0	0	0	0	0	0	229
Hourly Total	0	0	529	0	0	529	0	0	0	15	6	15	0	0	410	106	0	516	0	0	0	0	0	0	1060
Grand Total	0	0	3018	0	0	3018	0	0	0	95	12	95	0	0	2450	574	0	3024	0	0	0	0	0	0	6137
Approach %	0.0%	0.0%	100.0%	0.0%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	0.0%	81.0%	19.0%	-	-	-	-	-	-	-	-	
Total %	0.0%	0.0%	49.2%	0.0%	-	49.2%	0.0%	0.0%	0.0%	1.5%	-	1.5%	0.0%	0.0%	39.9%	9.4%	-	49.3%	0.0%	0.0%	0.0%	0.0%	-	0.0%	
Lights	0	0	2940	0	-	2940	0	0	0	92	-	92	0	0	2370	564	-	2934	0	0	0	0	-	0	5966
% Lights	-	-	97.4%	-	-	97.4%	-	-	-	96.8%	-	96.8%	-	-	96.7%	98.3%	-	97.0%	-	-	-	-	-	-	97.2%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	-	0.0%	-	-	0.0%	-	-	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	-	-	-	-	-	-	0.0%
Trucks	-	0	78	0	-	78	-	0	0	3	-	3	-	0	80	10	-	90	-	0	0	0	-	0	171
% Trucks	-	-	2.6%	-	-	2.6%	-	-	-	3.2%	-	3.2%	-	-	3.3%	1.7%	-	3.0%	-	-	-	-	-	-	2.8%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	0	0	1
Pedestrians	-	-	-	-	0	-	-	-	-	-	12	-	-	-	-	-	0	-	-	-	-	-	0	-	12

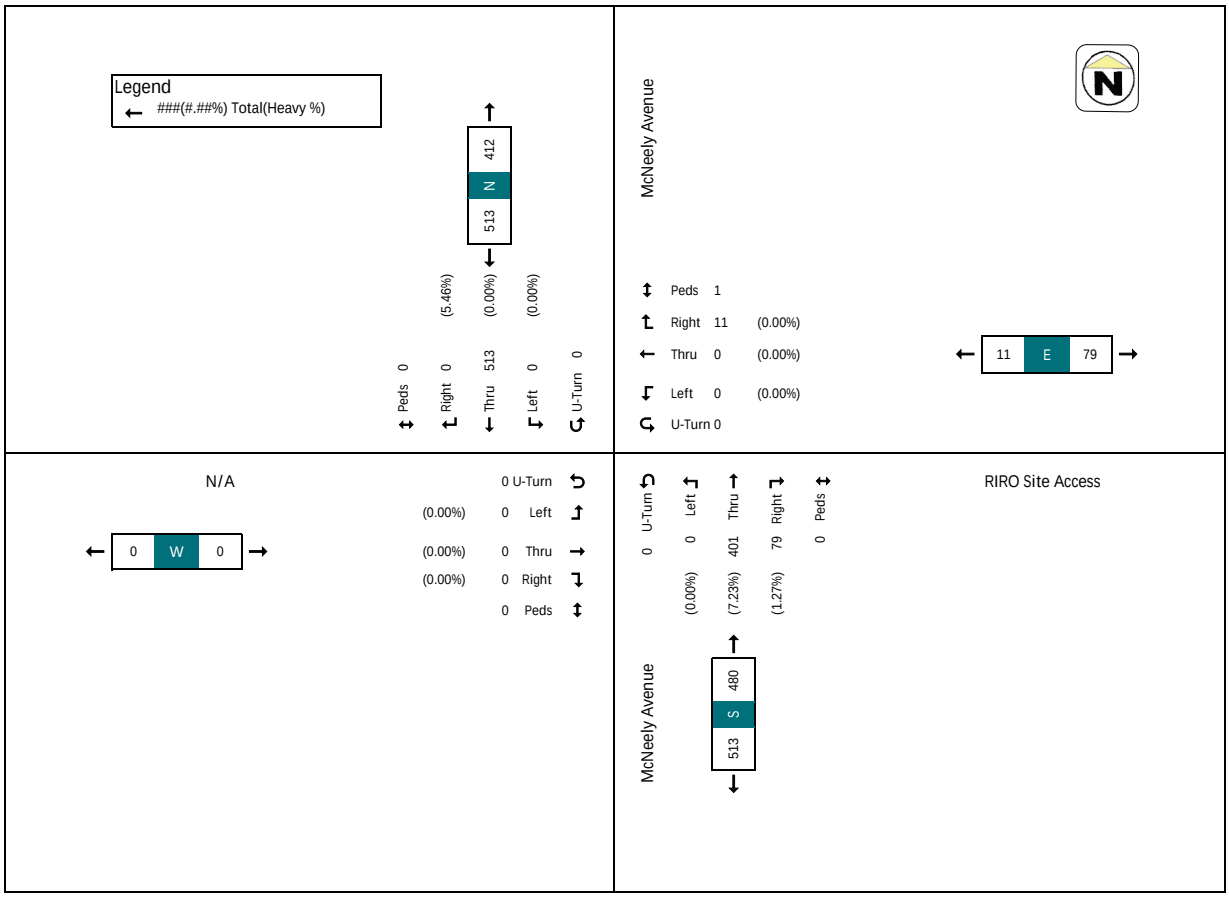


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & RIRO Site Access
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25268

AM Peak Hour - McNeely Avenue & RIRO Site Access

	McNeely Avenue Southbound						RIRO Site Access Westbound						McNeely Avenue Northbound						N/A Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
8:15	0	0	142	0	0	142	0	0	0	1	0	1	0	0	98	12	0	110	0	0	0	0	0	0	253
8:30	0	0	125	0	0	125	0	0	0	3	0	3	0	0	108	26	0	134	0	0	0	0	0	0	272
8:45	0	0	124	0	0	124	0	0	0	3	0	3	0	0	132	23	0	155	0	0	0	0	0	0	282
9:00	0	0	112	0	0	112	0	0	0	4	0	4	0	0	63	18	0	81	0	0	0	0	0	0	197
Hourly Total	0	0	513	0	0	513	0	0	0	11	1	11	0	0	401	79	0	480	0	0	0	0	0	0	1004
Approach %	0.0%	0.0%	100.0%	0.0%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	0.0%	83.5%	16.5%	-	-	-	-	-	-	-	-	-
Total %	0.0%	0.0%	51.1%	0.0%	-	51.1%	0.0%	0.0%	0.0%	1.1%	-	1.1%	0.0%	0.0%	39.9%	7.9%	-	47.8%	0.0%	0.0%	0.0%	0.0%	-	0.0%	-
PHF	0	0	0.9	0	-	0.9	0	0	0	0.69	-	0.69	0	0	0.76	0.76	-	0.77	0	0	0	0	-	0	0.89
Lights	0	0	485	0	-	485	0	0	0	11	-	11	0	0	372	78	-	450	0	0	0	0	-	0	946
% Lights	-	-	94.5%	-	-	94.5%	-	-	-	100.0%	-	100.0%	-	-	92.8%	98.7%	-	93.8%	-	-	-	-	-	-	94.2%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	-	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	-	0.0%	-	-	0.0%	-	-	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	-	-	-	-	-	-	0.0%
Trucks	-	0	28	0	-	28	-	0	0	0	-	0	-	0	29	1	-	30	-	0	0	0	-	0	58
% Trucks	-	-	5.5%	-	-	5.5%	-	-	-	0.0%	-	0.0%	-	-	7.2%	1.3%	-	6.3%	-	-	-	-	-	-	5.8%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	1

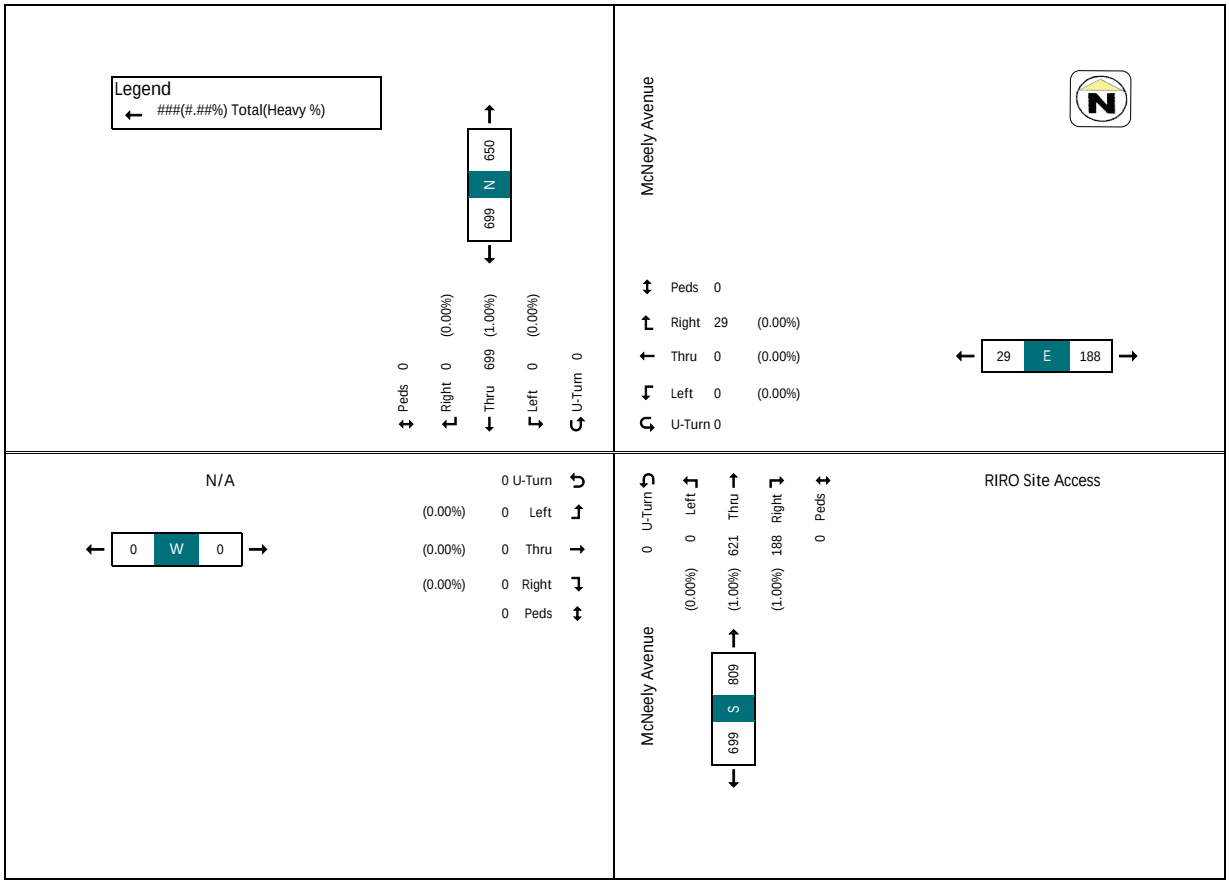


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & RIRO Site Access
Survey Date : August 7, 2025
Project No. : 26155
Count ID : 25268

PM Peak Hour - McNeely Avenue & RIRO Site Access

	McNeely Avenue Southbound						RIRO Site Access Westbound						McNeely Avenue Northbound						N/A Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
16:00	0	0	190	0	0	190	0	0	0	6	0	6	0	0	142	53	0	195	0	0	0	0	0	0	391
16:15	0	0	168	0	0	168	0	0	0	12	0	12	0	0	183	49	0	232	0	0	0	0	0	0	412
16:30	0	0	172	0	0	172	0	0	0	5	0	5	0	0	158	40	0	198	0	0	0	0	0	0	375
16:45	0	0	169	0	0	169	0	0	0	6	0	6	0	0	138	46	0	184	0	0	0	0	0	0	359
Hourly Total	0	0	699	0	0	699	0	0	0	29	0	29	0	0	621	188	0	809	0	0	0	0	0	0	1537
Approach %	0.0%	0.0%	100.0%	0.0%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	0.0%	76.8%	23.2%	-	-	-	-	-	-	-	-	
Total %	0.0%	0.0%	45.5%	0.0%	-	45.5%	0.0%	0.0%	0.0%	1.9%	-	1.9%	0.0%	0.0%	61.9%	18.7%	-	52.6%	0.0%	0.0%	0.0%	0.0%	-	0.0%	
PHF	0	0	0.92	0	-	0.92	0	0	0	0.6	-	0.6	0	0	0.85	0.89	-	0.87	0	0	0	0	-	0	0.93
Lights	0	0	689	0	-	689	0	0	0	29	-	29	0	0	615	187	-	802	0	0	0	0	-	0	1520
% Lights	-	-	98.6%	-	-	98.6%	-	-	-	100.0%	-	100.0%	-	-	99.0%	99.5%	-	99.1%	-	-	-	-	-	-	98.9%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	-	0.0%	-	-	0.0%	-	-	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	-	-	-	-	-	-	0.0%
Trucks	-	0	10	0	-	10	-	0	0	0	-	0	-	0	6	1	-	7	-	0	0	0	-	0	17
% Trucks	-	-	1.4%	-	-	1.4%	-	-	-	0.0%	-	0.0%	-	-	1.0%	0.5%	-	0.9%	-	-	-	-	-	-	1.1%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

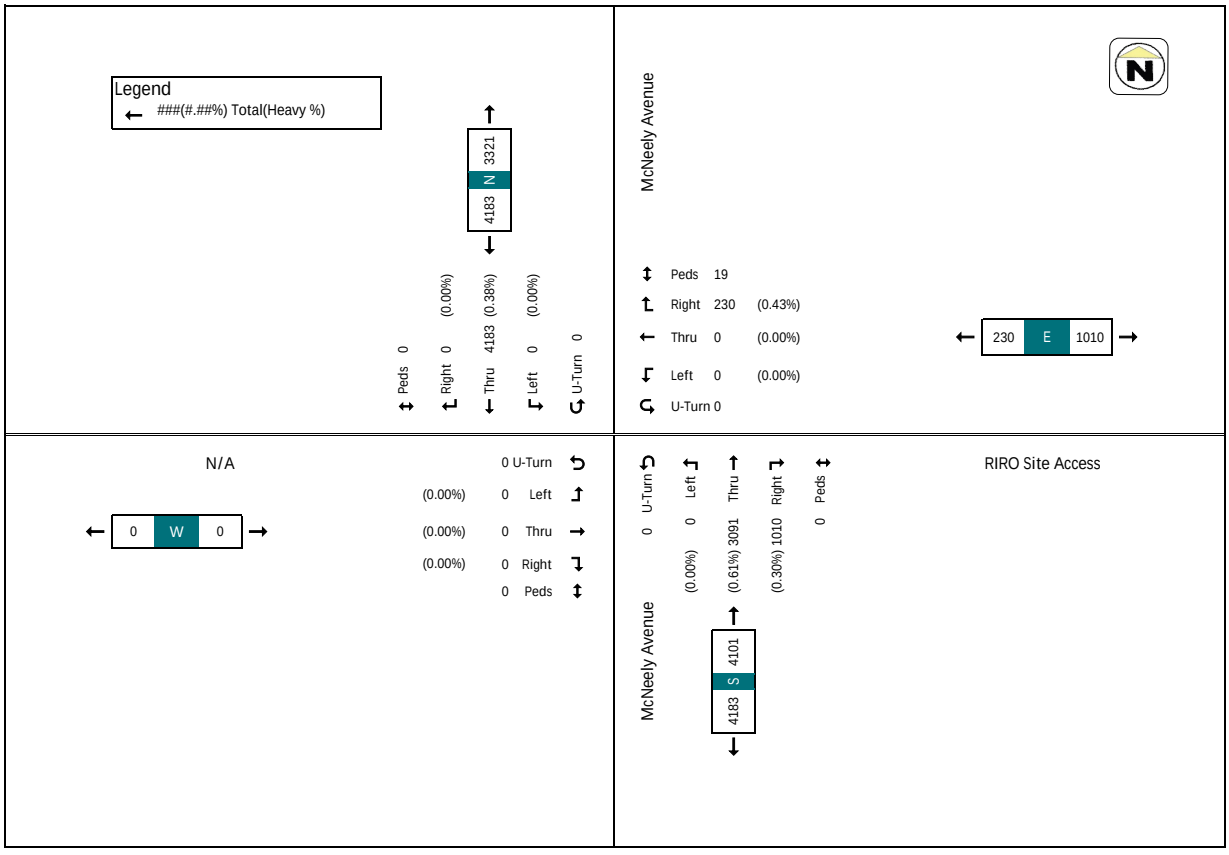


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & RIRO Site Access
Survey Date : August 9, 2025
Project No. : 26155
Count ID : 25268

Turning Movement Count - McNeely Avenue & RIRO Site Access

	McNeely Avenue Southbound						RIRO Site Access Westbound						McNeely Avenue Northbound						N/A Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
10:00	0	0	127	0	0	127	0	0	0	4	0	4	0	0	112	45	0	157	0	0	0	0	0	0	288
10:15	0	0	177	0	0	177	0	0	0	9	1	9	0	0	108	42	0	150	0	0	0	0	0	0	336
10:30	0	0	194	0	0	194	0	0	0	12	2	12	0	0	144	51	0	195	0	0	0	0	0	0	401
10:45	0	0	184	0	0	184	0	0	0	6	0	6	0	0	121	53	0	174	0	0	0	0	0	0	364
Hourly Total	0	0	682	0	0	682	0	0	0	31	3	31	0	0	485	191	0	676	0	0	0	0	0	0	1389
11:00	0	0	170	0	0	170	0	0	0	11	0	11	0	0	133	46	0	179	0	0	0	0	0	0	360
11:15	0	0	183	0	0	183	0	0	0	19	2	19	0	0	140	35	0	175	0	0	0	0	0	0	377
11:30	0	0	204	0	0	204	0	0	0	6	0	6	0	0	136	60	0	196	0	0	0	0	0	0	406
11:45	0	0	184	0	0	184	0	0	0	10	0	10	0	0	153	45	0	198	0	0	0	0	0	0	392
Hourly Total	0	0	741	0	0	741	0	0	0	46	2	46	0	0	562	186	0	748	0	0	0	0	0	0	1535
12:00	0	0	205	0	0	205	0	0	0	14	0	14	0	0	148	43	0	191	0	0	0	0	0	0	410
12:15	0	0	186	0	0	186	0	0	0	9	0	9	0	0	149	39	0	188	0	0	0	0	0	0	382
12:30	0	0	205	0	0	205	0	0	0	13	0	13	0	0	125	38	0	163	0	0	0	0	0	0	381
12:45	0	0	143	0	0	143	0	0	0	10	0	10	0	0	123	46	0	169	0	0	0	0	0	0	322
Hourly Total	0	0	739	0	0	739	0	0	0	44	0	44	0	0	545	177	0	722	0	0	0	0	0	0	1505
13:00	0	0	157	0	0	157	0	0	0	16	0	16	0	0	119	51	0	170	0	0	0	0	0	0	343
13:15	0	0	179	0	0	179	0	0	0	7	2	7	0	0	126	46	0	172	0	0	0	0	0	0	358
13:30	0	0	186	0	0	186	0	0	0	13	6	13	0	0	150	42	0	192	0	0	0	0	0	0	391
13:45	0	0	180	0	0	180	0	0	0	14	1	14	0	0	117	42	0	159	0	0	0	0	0	0	353
Hourly Total	0	0	702	0	0	702	0	0	0	50	9	50	0	0	512	181	0	693	0	0	0	0	0	0	1445
14:00	0	0	196	0	0	196	0	0	0	9	2	9	0	0	116	36	0	152	0	0	0	0	0	0	357
14:15	0	0	165	0	0	165	0	0	0	5	0	5	0	0	151	34	0	185	0	0	0	0	0	0	355
14:30	0	0	155	0	0	155	0	0	0	7	0	7	0	0	136	33	0	169	0	0	0	0	0	0	331
14:45	0	0	173	0	0	173	0	0	0	11	0	11	0	0	133	31	0	164	0	0	0	0	0	0	348
Hourly Total	0	0	689	0	0	689	0	0	0	32	2	32	0	0	536	134	0	670	0	0	0	0	0	0	1391
15:00	0	0	158	0	0	158	0	0	0	3	0	3	0	0	126	41	0	167	0	0	0	0	0	0	328
15:15	0	0	162	0	0	162	0	0	0	14	2	14	0	0	106	42	0	148	0	0	0	0	0	0	324
15:30	0	0	148	0	0	148	0	0	0	3	0	3	0	0	112	22	0	134	0	0	0	0	0	0	289
15:45	0	0	162	0	0	162	0	0	0	3	1	3	0	0	107	36	0	143	0	0	0	0	0	0	308
Hourly Total	0	0	630	0	0	630	0	0	0	27	3	27	0	0	451	141	0	592	0	0	0	0	0	0	1249
Grand Total	0	0	4183	0	0	4183	0	0	0	230	19	230	0	0	3091	1010	0	4101	0	0	0	0	0	0	8514
Approach %	0.0%	0.0%	100.0%	0.0%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	0.0%	75.4%	24.6%	-	-	-	-	-	-	-	-	
Total %	0.0%	0.0%	49.1%	0.0%	-	49.1%	0.0%	0.0%	0.0%	2.7%	-	2.7%	0.0%	0.0%	36.3%	11.9%	-	48.2%	0.0%	0.0%	0.0%	0.0%	-	0.0%	
Lights	0	0	4167	0	-	4167	0	0	0	229	-	229	0	0	3072	1007	-	4079	0	0	0	0	-	0	8475
% Lights	-	-	99.6%	-	-	99.6%	-	-	-	99.6%	-	99.6%	-	-	99.4%	99.7%	-	99.5%	-	-	-	-	-	-	99.5%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	6	0	-	6	-	0	0	0	-	0	6
% Buses	-	-	0.0%	-	-	0.0%	-	-	-	0.0%	-	0.0%	-	-	0.2%	0.0%	-	0.1%	-	-	-	-	-	-	0.1%
Trucks	-	0	16	0	-	16	-	0	0	1	-	1	-	0	13	3	-	16	-	0	0	0	-	0	33
% Trucks	-	-	0.4%	-	-	0.4%	-	-	-	0.4%	-	0.4%	-	-	0.4%	0.3%	-	0.4%	-	-	-	-	-	-	0.4%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	19	-	-	-	-	-	0	-	-	-	-	-	0	-	19

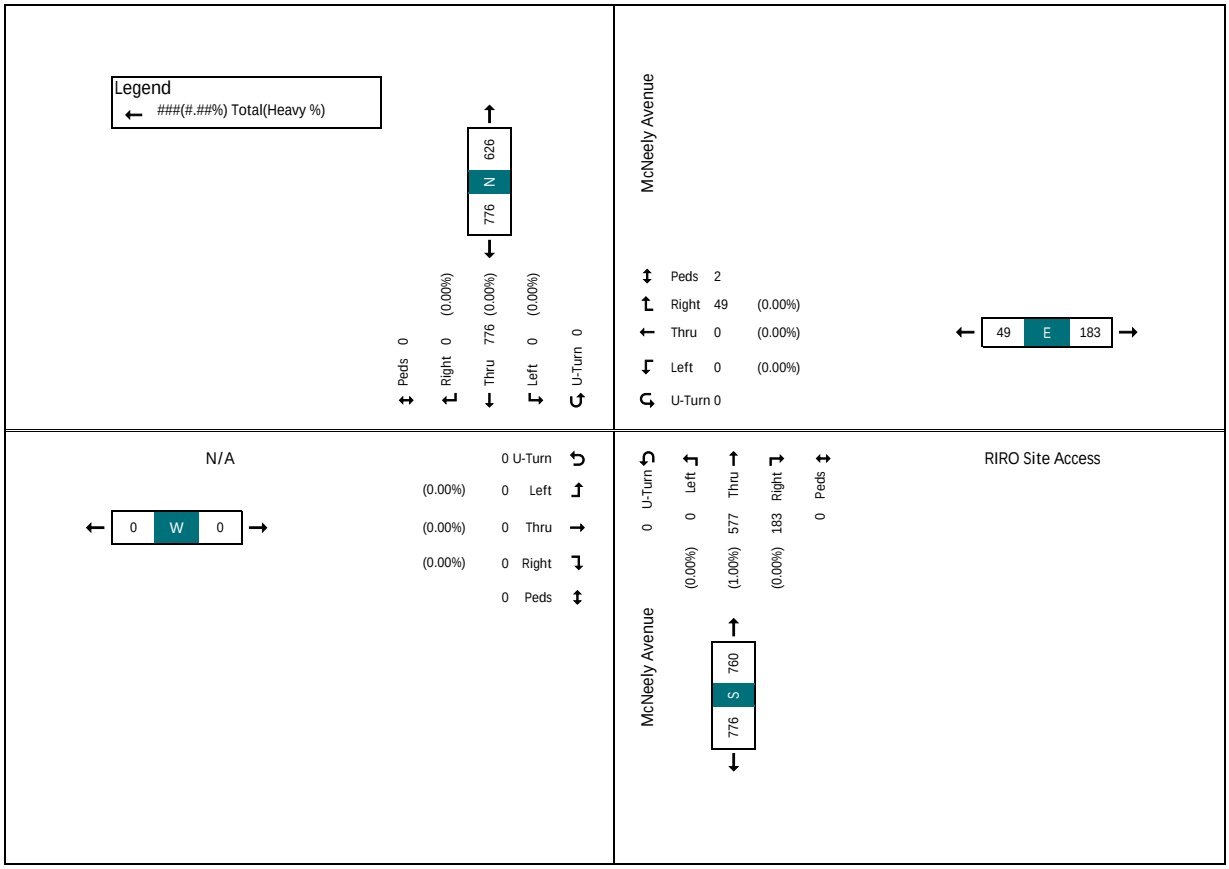


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : McNeely Avenue & RIRO Site Access
Survey Date : August 9, 2025
Project No. : 26155
Count ID : 25268

SAT Peak Hour - McNeely Avenue & RIRO Site Access

	McNeely Avenue Southbound						RIRO Site Access Westbound						McNeely Avenue Northbound						N/A Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
11:15	0	0	183	0	0	183	0	0	0	19	2	19	0	0	140	35	0	175	0	0	0	0	0	0	377
11:30	0	0	204	0	0	204	0	0	0	6	0	6	0	0	136	60	0	196	0	0	0	0	0	0	406
11:45	0	0	184	0	0	184	0	0	0	10	0	10	0	0	153	45	0	198	0	0	0	0	0	0	392
12:00	0	0	205	0	0	205	0	0	0	14	0	14	0	0	148	43	0	191	0	0	0	0	0	0	410
Hourly Total	0	0	776	0	0	776	0	0	0	49	2	49	0	0	577	183	0	760	0	0	0	0	0	0	1585
Approach %	0.0%	0.0%	100.0%	0.0%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	0.0%	75.9%	24.1%	-	-	-	-	-	-	-	-	-
Total %	0.0%	0.0%	49.0%	0.0%	-	49.0%	0.0%	0.0%	0.0%	3.1%	-	3.1%	0.0%	0.0%	57.5%	18.2%	-	47.9%	0.0%	0.0%	0.0%	0.0%	-	0.0%	
PHF	0	0	0.95	0	-	0.95	0	0	0	0.64	-	0.64	0	0	0.94	0.76	-	0.96	0	0	0	0	-	0	0.97
Lights	0	0	773	0	-	773	0	0	0	49	-	49	0	0	574	183	-	757	0	0	0	0	-	0	1579
% Lights	-	-	99.6%	-	-	99.6%	-	-	-	100.0%	-	100.0%	-	-	99.5%	100.0%	-	99.6%	-	-	-	-	-	-	99.6%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	2	0	-	2	-	0	0	0	-	0	2
% Buses	-	-	0.0%	-	-	0.0%	-	-	-	0.0%	-	0.0%	-	-	0.3%	0.0%	-	0.3%	-	-	-	-	-	-	0.1%
Trucks	-	0	3	0	-	3	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	4
% Trucks	-	-	0.4%	-	-	0.4%	-	-	-	0.0%	-	0.0%	-	-	0.2%	0.0%	-	0.1%	-	-	-	-	-	-	0.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	3	3	-	-	-	-	0	0	-	-	-	-	0	0	3
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	2



APPENDIX B

Background Developments

CARLETON PLACE SUBDIVISION BLOCK 213, TRAFFIC IMPACT STUDY



Project No.: 0CP-19-0595-01

Prepared for:

Pegasus Development Corporation
1914 Merivale Road
Ottawa, ON
K2G 1E9

Prepared by:

Egis Canada Ltd.
1-1329 Gardiners Road
Kingston, ON
K7P 0L8

April 7, 2025

April 7, 2025
Pegasus Development Corporation
1914 Merivale Road
Ottawa, ON
K2G 1E8

Dear Mr. Angelosante

Re: Carleton Place Block 213 Subdivision Expansion Traffic Impact Study

Enclosed is the Traffic Impact Study (TIS) report for the expansion of the residential subdivision located south of Cavanagh Road, east of McNeely Avenue, in Carleton Place, Ontario. The new development will include 88 single unit homes. This study will assess and review the impact of forecasted site generated traffic on the boundary roads and its intersections.

The report has been prepared based the Terms of Reference submitted to the Town of Carleton Place and further discussions with City Staff. The study focused on determining the impact of the proposed development on the surrounding transportation network and provides recommendations for mitigation measures as required.

If you have any questions, do not hesitate to contact us.

Sincerely,



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EXECUTIVE SUMMARY

Egis was retained by Pegasus Development Corporation c/o John Angelosante for the completion of a Traffic Impact Study (TIS) in support of the expansion of the residential subdivision located south of Cavanagh Road, east of McNeely Avenue, in Carleton Place, Ontario. The proposed development is located on vacant land within the existing subdivision in the southeast quadrant of the McNeely Avenue and Cavanagh Road intersection and will contain a total of 88 single unit homes split over two (2) locations.

This study will be prepared based on the MTO General Guidelines for the Preparation of Traffic Impact Studies (March 2023). Analysis consisted of network growth and two (2) background developments consisting of 30 single unit homes, approved under the previous application but yet to be constructed.

The study was assessed with a buildout horizon of 2026 and 5-year post buildout 2031 horizon. Egis reviewed a total of four (4) intersections for both the background and total traffic scenarios. Development related impacts of the proposed development were reviewed and the study intersections are listed below:

- Cavanagh Road and Hooper Street intersection;
- Cavanagh Road and Dunlop Road intersection;
- McNeely Avenue and Cavanagh Road / Coleman Street, and
- McNeely Avenue and Highway 7.

Turning movement count (TMC) data used in the study was commissioned by Egis and collected Thursday January 23, 2025, while additional data was taken from the Town of Carleton Place Transportation Master Plan, October 2022.

The proposed site is anticipated to generate 66 trips during the AM peak hour (17 inbound and 49 outbound) and 88 trips during the PM peak hour (56 inbound and 32 outbound). Using the data collected and existing travel patterns, Egis assigned the generated trips to the proposed road network accordingly. Egis conducted traffic analysis to identify capacity concerns at the study intersections using Synchro 11 software at all study horizons.

Based on the analysis, it is anticipated that the proposed development will have minimal impact on the boundary transportation network, which are expected to adequately support site generated traffic.

Construction of a pedestrian cross-over (PXO) has been identified as a requirement for Phase 6 of the development and will be constructed on Cavanagh Road, east of Dunlop Road, providing a connection between the pedestrian network within the subdivision and adjacent facilities.

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APPENDIX

Appendix A – Site Plan

Appendix B – Available Traffic Data

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1.0 INTRODUCTION

Egis has been retained by Pegasus Development Corporation c/o John Angelosante (hereinafter referred to as the 'Client') for the completion of a Traffic Impact Study (TIS) in support of the expansion of the residential subdivision located south of Cavanagh Road, east of McNeely Avenue, in Carleton Place, Ontario (hereinafter referred to as the 'Site').

This study will be prepared based on the MTO General Guidelines for the Preparation of Traffic Impact Studies (March 2023). The study will review and address the traffic impacts associated with the proposed development. It will focus on determining the impact of the proposed development on the surrounding transportation network and will provide recommendations for mitigation measures as required. This report is based on the latest site plan that was provided to Egis, last updated December 2024.

2.0 PROPOSED DEVELOPMENT

The proposed development is located on vacant land within the existing subdivision in the southeast quadrant of the McNeely Avenue and Cavanagh Road intersection. The new development will include 88 single unit homes, with 77 located within Block 213 on Private Street No. 1 and Private Street No. 2, and 11 located on Eastwood Drive.

The location and surround areas of the development has been illustrated in **Figure 2-1**.

Two (2) existing intersections provide ingress and egress for the development:

- Cavanagh Road and Hooper Street intersection, and
- Cavanagh Road and Dunlop Road intersection.

The site plan, identifying the proposed development and access locations is illustrated in **Figure 2-2** and detail site plan provided in **Appendix A**.



Figure 2-1: Site Location and Surrounding Area

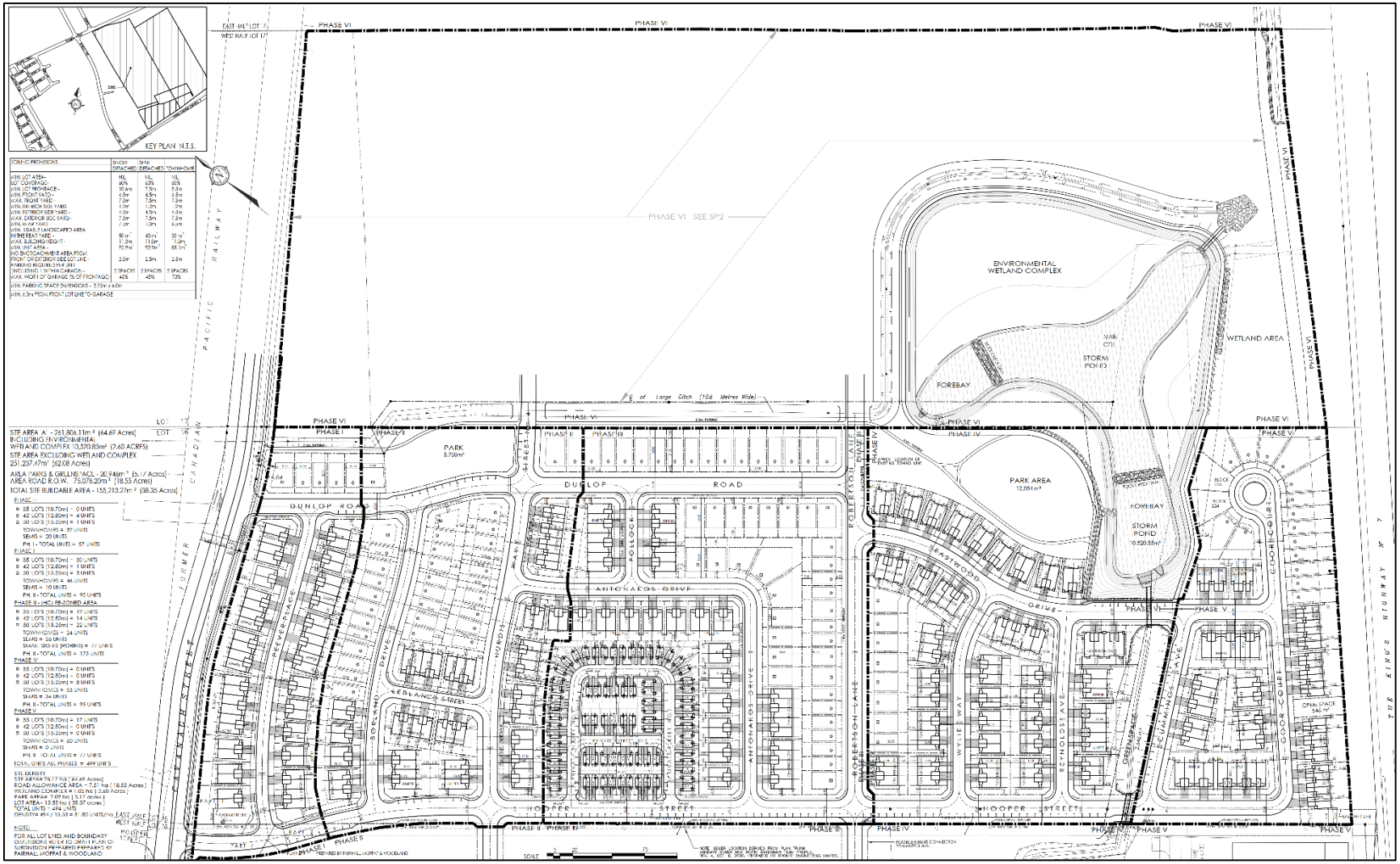


Figure 2-2: Site Plan

3.0 EXISTING CONDITIONS

3.1 Existing Transportation Network

3.1.1 Road Network

The existing study area network surrounding the proposed development consists of the following roadways:

Hooper Street is classified as a local road under the jurisdiction of the Town of Carleton Place. Hooper Street has an unposted speed limit of 40 km/h and has a two-lane cross section, with one lane in each direction. Hooper Street runs north-south and provided access into the proposed development.

Dunlop Road is classified as a local road under the jurisdiction of the Town of Carleton Place. Dunlop Road has an unposted speed limit of 40 km/h and has a two-lane cross section, with one lane in each direction. Dunlop Road runs north-south and provided access into the proposed development.

Cavanagh Road is classified as a collector road under the jurisdiction of the Town of Carleton Place. Cavanagh Road has a posted speed limit of 50 km/h and has a two-lane cross section, with one lane in each direction. Cavanagh Road runs east-west and lies to the north of the proposed development.

McNeely Avenue is classified as an arterial road under the jurisdiction of Lanark County. McNeely Avenue has a posted speed limit of 60 km/h and has a four-lane cross section, with two lanes in each direction. McNeely Avenue runs north-south and lies to the west of the proposed development.

Highway 7 is classified as an undivided urban freeway under the jurisdiction of the MTO. Highway 7 has a posted speed limit of 60 km/h and has a four-lane cross section, with two lanes in each direction. Highway 7 runs east-west and lies to the south of the proposed development.

3.1.2 Intersections

The traffic control and lane configurations for the existing intersections to be included in the analysis are discussed in this section. The following intersections are included in the analysis for this report:

- Cavanagh Road and Hooper Street intersection;
- Cavanagh Road and Dunlop Road intersection;
- McNeely Avenue and Cavanagh Road / Coleman Street, and
- McNeely Avenue and Highway 7.

3.1.2.1 Cavanagh Road and Hooper Street Intersection

The intersection of Cavanagh Road and Hooper Street, illustrated in **Figure 3-1**, is a four-leg unsignalized intersection with stop-control on the minor approaches (Hooper Street). The northbound and southbound approaches both have a shared left-through-right lane while the eastbound and westbound approaches have a left-through and a through-right lane. Pedestrian crossings are not provided on any approach.

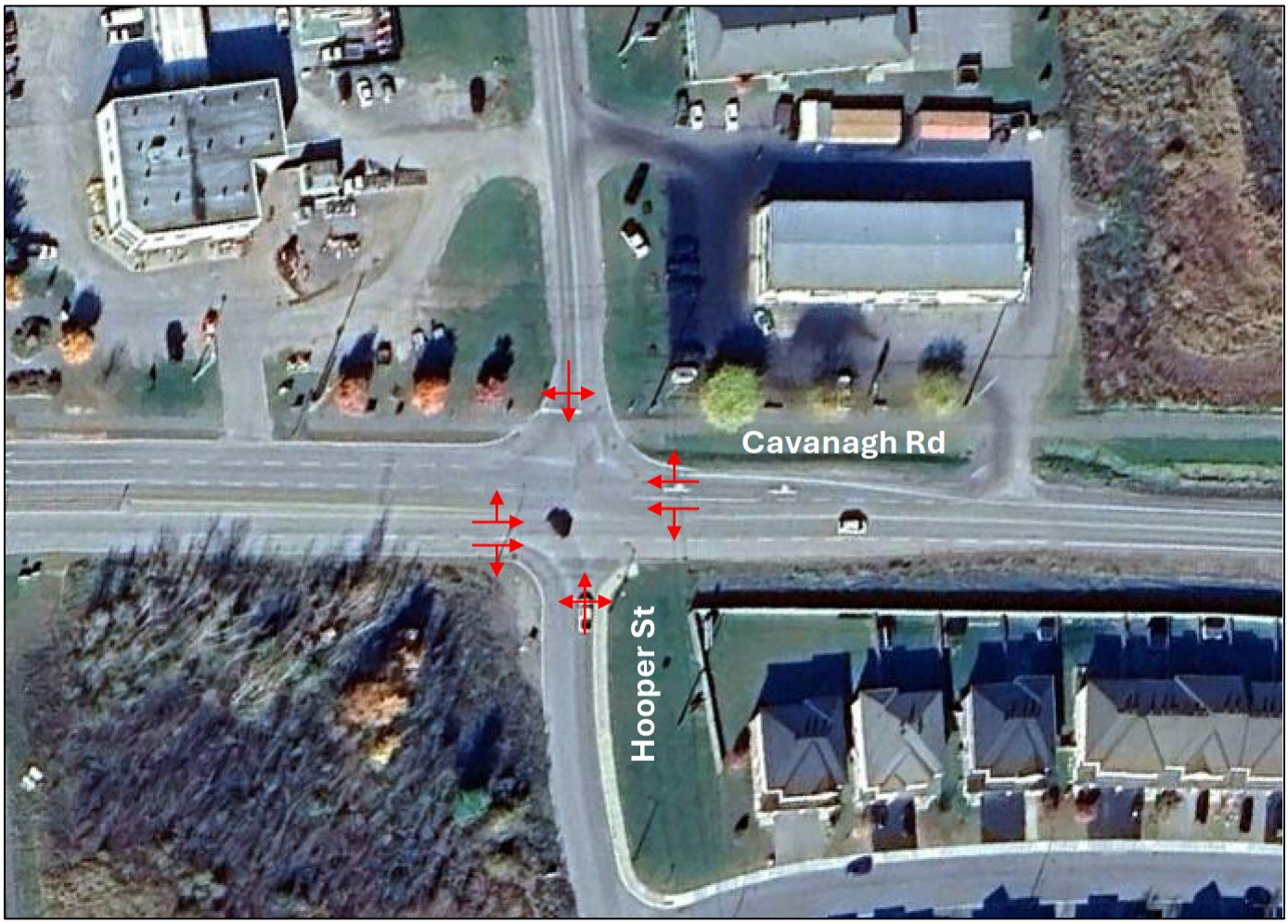


Figure 3-1: Cavanagh Road and Hooper Street Intersection

3.1.2.2 Cavanagh Road and Dunlop Road Intersection

The intersection of Cavanagh Road and Dunlop Road, illustrated in **Figure 3-2**, is a four-leg unsignalized intersection with stop-control on the minor approaches (Dunlop Road and communications tower access). All four (4) approaches have a shared left-through-right lane. The northbound and southbound approaches are offset by approximately 15 m. Pedestrian crossings are not provided on any approach.

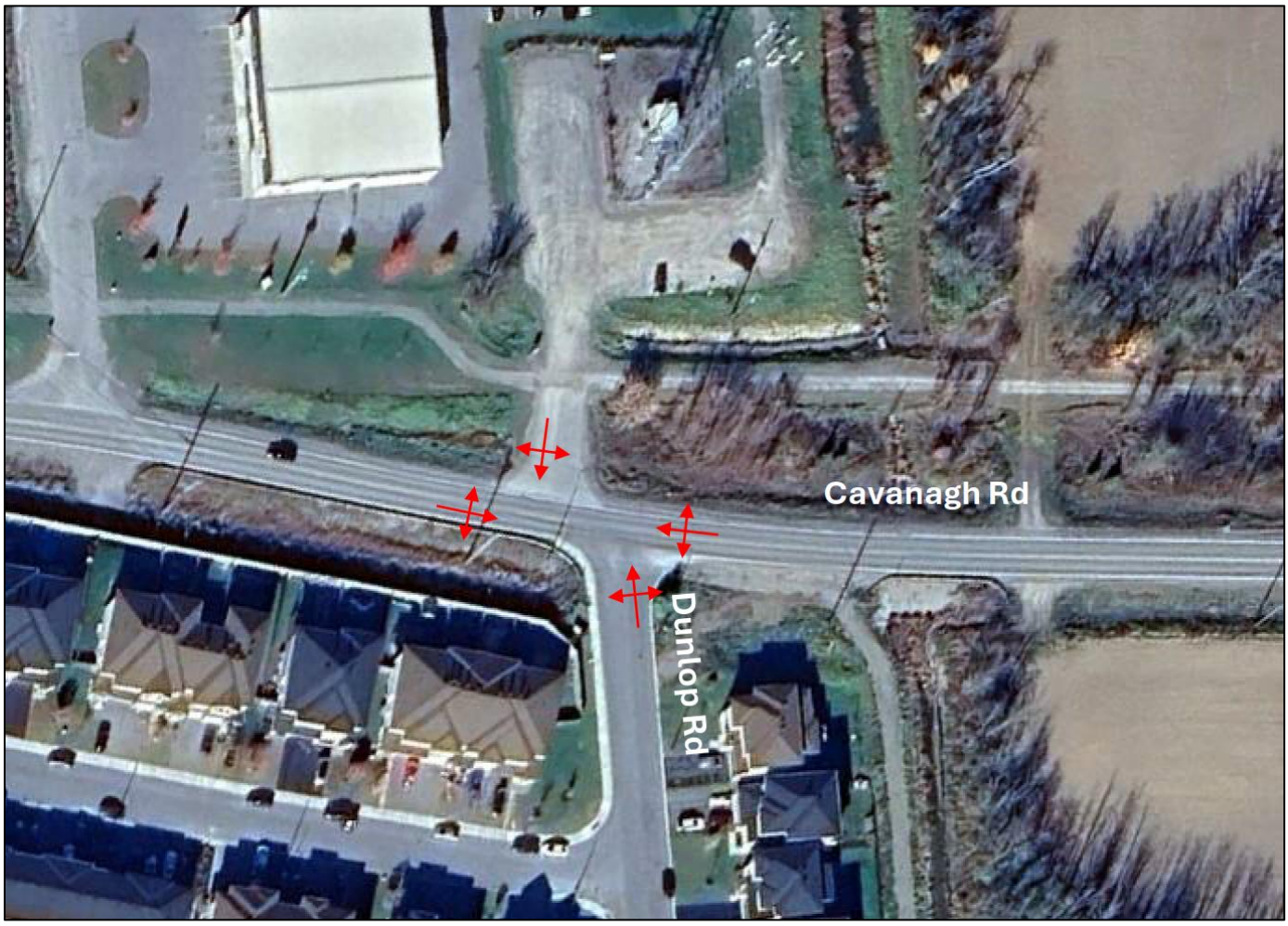


Figure 3-2: Cavanagh Road and Dunlop Road Intersection

3.1.2.3 McNeely Avenue and Cavanagh Road Intersection

The intersection of McNeely Avenue and Cavanagh Road, illustrated in **Figure 3-3**, is a four-leg signalized intersection. Both the northbound and southbound approaches contain a left lane, through lane, and through-right lane, while the eastbound and westbound approaches contain a left lane, through lane, and right lane. Signalized pedestrian crossings with push-button activation are provided across all approaches.

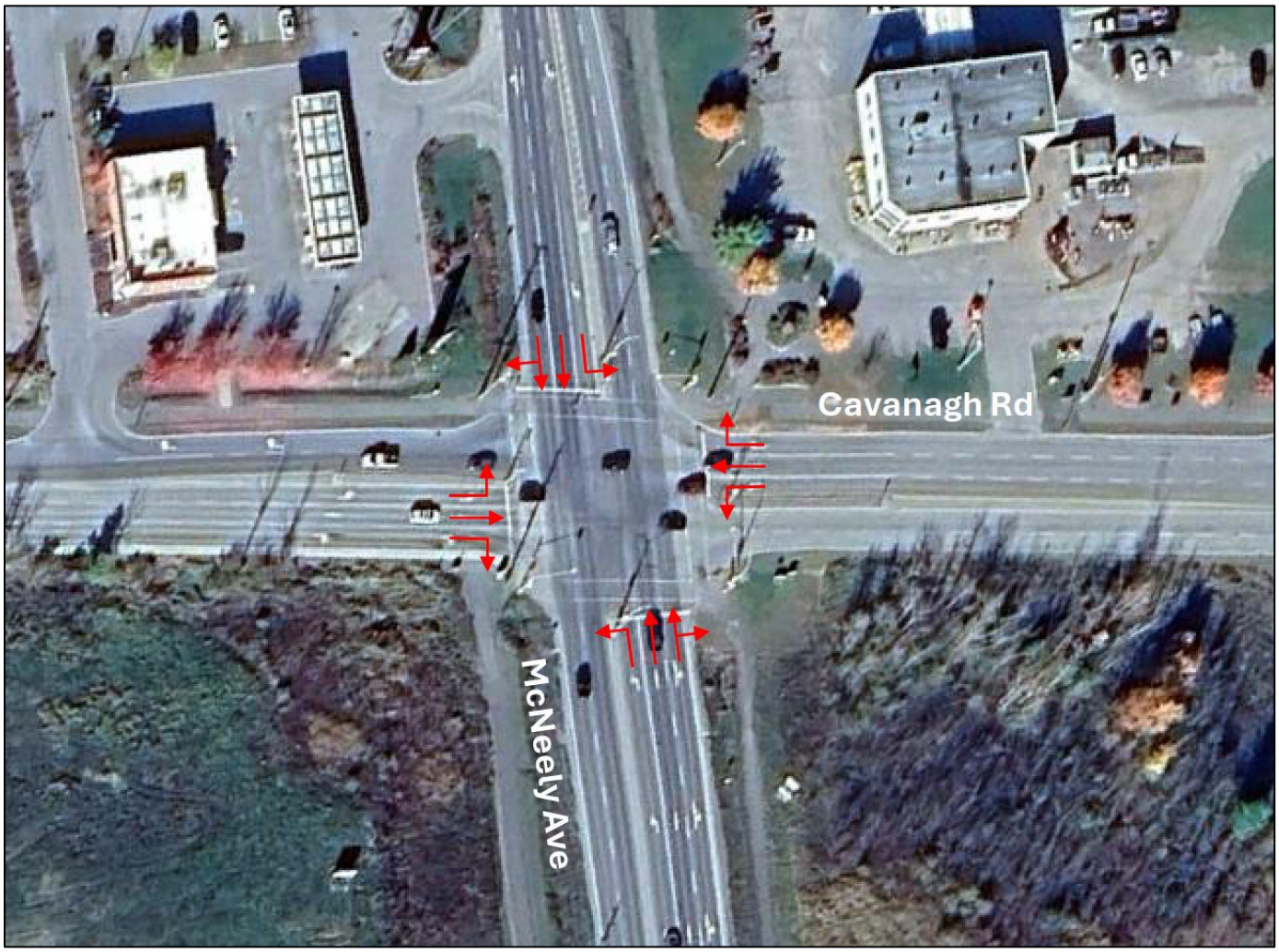


Figure 3-3: McNeely Avenue and Cavanagh Road Intersection

3.1.2.4 McNeely Avenue and Highway 7 Intersection

The intersection of McNeely Avenue and Highway 7, illustrated in **Figure 3-4**, is a four-leg signalized intersection. The northbound approach contains a left lane, through lane, and through-right lane while the southbound and eastbound approaches contain dual left-turn lanes, two (2) through lanes, and a right lane. The westbound approach contains a left lane, two (2) through lanes, and a right lane. Signalized pedestrian crossings with push-button activation are provided across all approaches.

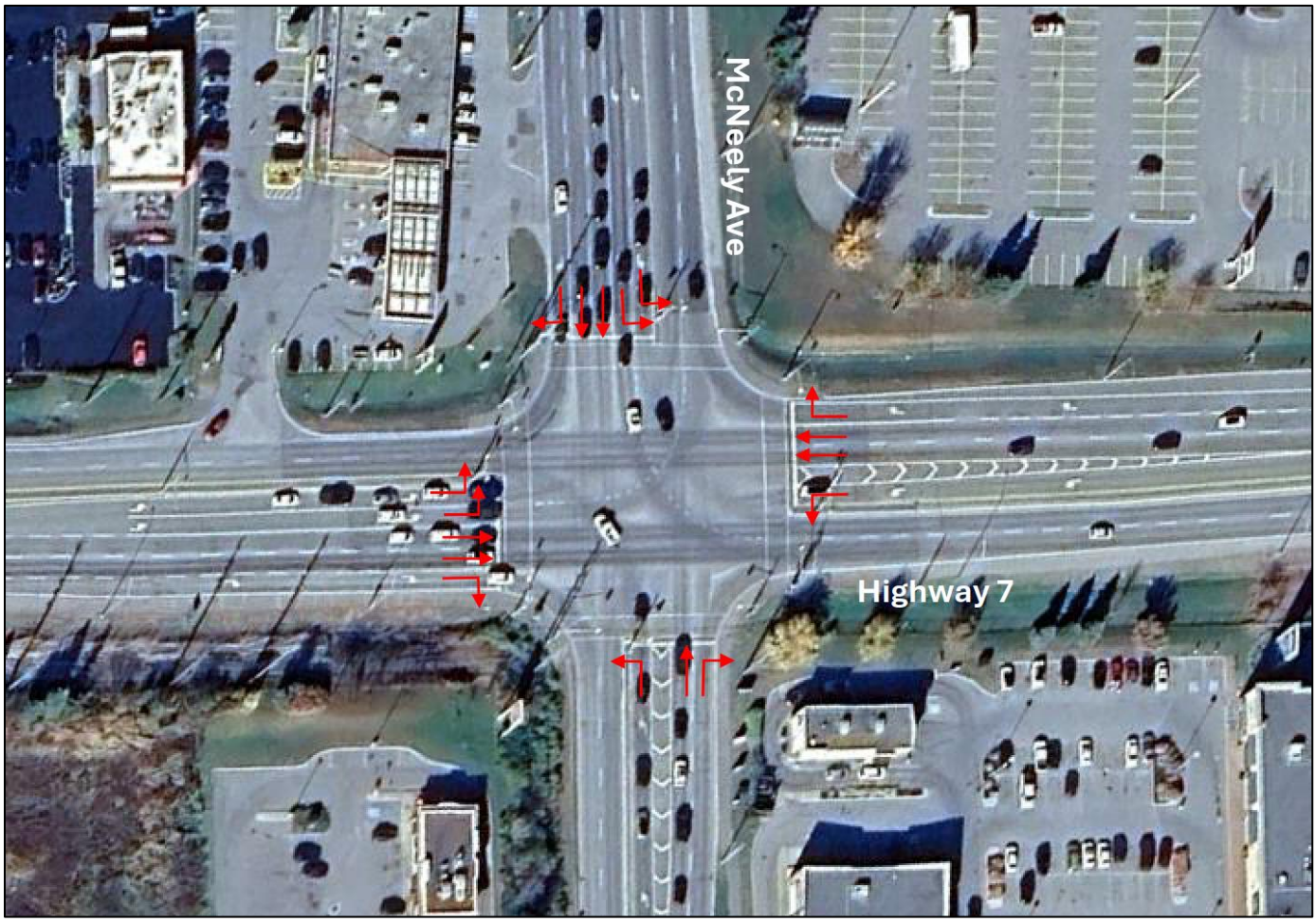


Figure 3-4: McNeely Avenue and Highway 7 Intersection

3.2 Existing Pedestrian and Cyclist Facilities

Pedestrian facilities are provided at the following locations within the study area:

- Concrete sidewalk along the west side of Dunlop Road;
- Concrete sidewalk along the east side of Hooper Street;
- Asphalt Multi-Use Pathway (MUP) along the north side of Cavanagh Road;
- Concrete sidewalk along the south side of Coleman Street;
- Gravel trail along the east side of McNeely Avenue;
- Asphalt MUP along the west side of McNeely Avenue, and
- Gravel trail running north-south along the east side of the existing subdivision.

No dedicated on-road cycling facilities are provided within the study area. The only cycling facilities provided within the study area are shared pedestrian and cycling facilities.

3.3 Existing Transit

There are no transit routes within Carleton Place that can service the proposed development.

3.4 Existing Traffic Volumes

Traffic volumes for existing conditions were obtained via turning movement counts (TMC) commissioned by Egis, conducted on Thursday January 23, 2025, as well as projected traffic volumes taken from Town of Carleton Place Transportation Master Plan, October 2022. As the peak hour varied between intersections adjustment of traffic volumes was applied to develop baseline volumes for analysis for existing 2025 conditions.

Obtained traffic data and the source of the available counts have been summarized in **Table 3-1**. Existing traffic volumes for the assessed study area network for both AM and PM peak hours have been illustrated in **Figure 3-5.** Traffic data used for the purpose of this study have provided in **Appendix B.**

Table 3-1: Available Traffic Data

Location	Source	Count Date
Cavanagh Road and Dunlop Road	Egis	January 23, 2025
Cavanagh Road and Hooper Street	Egis	January 23, 2025
McNeely Avenue and Cavanagh Road / Coleman Street	CP TMP	2026 Projection
McNeely Avenue and Highway 7	CP TMP	2026 Projection

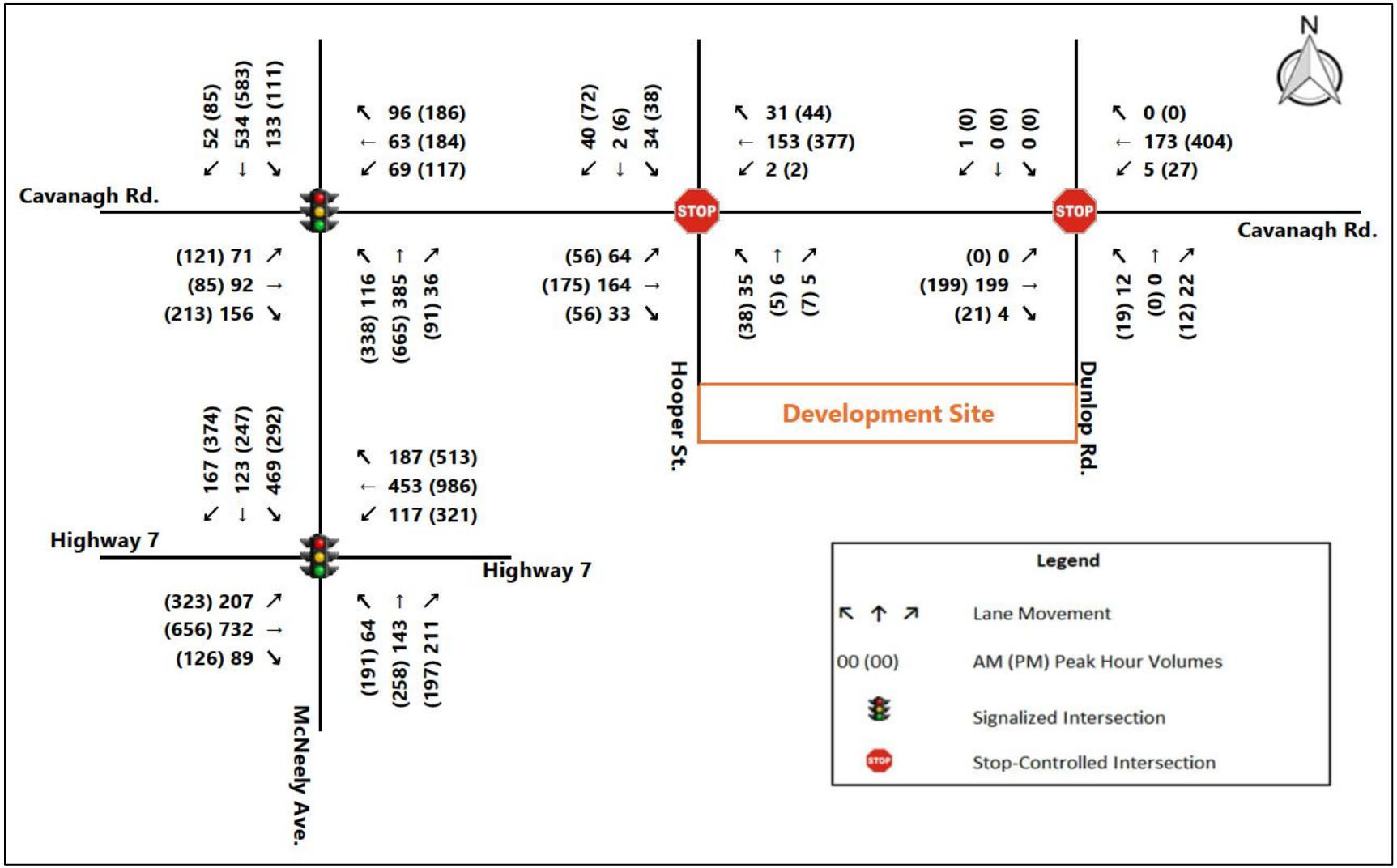


Figure 3-5: Existing 2025 Traffic Volumes

3.5 Existing 2025 Traffic Analysis

3.5.1 Traffic Analysis Methodology

Study area intersection operations were assessed using Synchro 11 software. Intersection operations performance metrics are reported in terms of Level of Service (LOS), volume-to-capacity ratio (V/C), average vehicle delay (Delay), and 95th percentile queue length (Queue). Level of Service is based on the average control delay per vehicle for a given movement and is represented by a letter between 'A' and 'F', with 'F' being the longest delay.

Table 3-2 summarizes the LOS criteria for signalized and unsignalized intersections based on HCM 6th Edition methodology.

Table 3-2: LOS Criteria for Signalized and Unsignalized Intersections

Level of Service	Signalized Intersection Average Delay (s)	Unsignalized Intersection Average Delay (s)
A	<10.0	<10.0
B	10 - <20	10 - <15
C	20 - <35	15 - <25
D	35 - <55	25 - <35
E	55 - <80	35 - <50
F	80+	50+

3.5.2 Existing 2025 Conditions

Existing traffic conditions were analyzed in Synchro 11 software to determine a baseline for traffic operations. Results from the traffic analysis are summarized in **Table 3-3**. Synchro 11 output reports are provided in detail in **Appendix C**.

Table 3-3: 2025 Existing Condition Traffic Analysis

Intersection	Approach - Movement	AM Peak				PM Peak			
		LOS	V/C	Delay (s)	Queue (m)	LOS	V/C	Delay (s)	Queue (m)
Cavanagh Road & Dunlop Road	**Intersection**	**A**	**-**	**1.0**	**-**	**A**	**-**	**1.0**	**-**
	EB - LTR	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LTR	A	0.00	0.2	0	A	0.02	0.5	1
	NB - LTR	B	0.05	10.4	2	B	0.08	14.0	3
	SB - LTR	A	0.00	9.2	0	A	0.00	0.0	0
Cavanagh Road & Hooper Street	**Intersection**	**A**	**-**	**3.6**	**-**	**A**	**-**	**3.9**	**-**
	EB - LT	A	0.05	7.8	2	A	0.06	8.5	2
	EB - R	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LT	A	0.00	7.6	0	A	0.00	7.7	0
	WB - R	A	0.00	0.0	0	A	0.00	0.0	0
	NB - LTR	B	0.11	14.1	4	C	0.19	20.8	7
	SB - LTR	B	0.14	11.9	5	C	0.28	16.3	12
McNeely Avenue & Cavanagh Road / Coleman Street	**Intersection**	**B**	**-**	**10.9**	**-**	**B**	**-**	**15.5**	**-**
	EB - L	C	0.27	20.0	16	C	0.57	32.6	34
	EB - T	B	0.25	18.9	19	C	0.22	21.8	22
	EB - R	A	0.36	6.3	12	A	0.44	6.3	16
	WB - L	C	0.27	20.1	16	C	0.44	26.7	31
	WB - T	B	0.17	18.0	14	C	0.48	25.7	44
	WB - R	A	0.24	5.5	9	A	0.40	6.3	15
	NB - L	A	0.23	4.9	9	B	0.65	12.4	45
	NB - TR	B	0.31	10.3	24	B	0.48	12.4	57
	SB - L	A	0.23	4.9	10	A	0.28	7.8	13
	SB - TR	B	0.43	11.8	37	B	0.58	18.8	62
McNeely Avenue & Highway 7	**Intersection**	**C**	**-**	**24.8**	**-**	**C**	**-**	**32.8**	**-**
	EB - L	D	0.50	36.3	31	D	0.76	48.4	54
	EB - T	C	0.65	25.0	82	D	0.76	35.2	84
	EB - R	A	0.15	1.8	4	A	0.26	5.8	13
	WB - L	D	0.54	41.0	40	D	0.85	51.7	106
	WB - T	C	0.43	21.8	47	C	0.83	31.4	117
	WB - R	A	0.31	4.5	14	B	0.67	11.0	57
	NB - L	D	0.40	41.5	26	E	0.77	56.1	72
	NB - TR	B	0.57	16.7	27	C	0.67	24.7	43
	SB - L	D	0.78	40.9	76	D	0.70	45.1	46
	SB - T	C	0.14	25.2	18	D	0.49	36.2	36
	SB - R	A	0.33	6.5	16	C	0.83	27.3	68

Under the 2025 existing conditions both unsignalized intersections, Cavanagh Road & Dunlop Road and Cavanagh Road & Hooper Street, are expected to operate well with an average intersection delay per vehicle of 1.0 s. Northbound and southbound movements operate at LOS C or better while all movements on Cavanagh Road operate at LOS A. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.28. Queueing on the sideroads is expected to peak at 12 m (2 vehicles) while little to no queueing is expected on Cavanagh Road.

The intersection of McNeely Avenue and Cavanagh Road / Coleman Street is expected to operate at LOS B during the AM and PM peak hours with an average intersection delay of 15.5 s during the PM peak hour. Movements on McNeely Avenue are expected to operate at LOS B or better while movements on Cavanagh Road and Coleman Street are expected to operate at LOS C or better. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.65. The maximum reported queue of 62 m (9 vehicles) occurs in the southbound direction.

The intersection of McNeely Avenue and Highway 7 is expected to operate at LOS C during the AM and PM peak hours with an average intersection delay of 32.8 s during the PM peak hour. Individual movements are expected to operate at LOS D or better, with the exception of the northbound left-turn movement which operates at LOS E during the PM peak hour. Some movements exhibit little excess capacity with a maximum reported V/C ratio of 0.85. The maximum reported queue of 117 m (17 vehicles) occurs in the westbound direction.

4.0 FUTURE CONDITIONS

4.1 Study Horizon

Based on development planning a 1-year buildout horizon (2026) has been assumed and will be assessed for this study. A 5-year post buildout horizon (2031) would also be assessed.

4.2 Network Improvements

Based on a review of the 2010 Transportation Master Plan for the County of Lanark no network improvements are planned or required to be considered for this study network. As such the existing conditions network and lane configurations were maintained for future conditions analysis.

4.3 Background Traffic Growth

Background traffic growth is a function of the projected population growth, changes to employment, roadway network modifications and other external factors. For this study the background traffic growth rate of 1.0% was applied to project future traffic volumes within the study area.

4.4 Background Developments

Approved as part of the previous development, 30 single unit homes, 17 on Coor Court and 13 on Eastwood Drive, have yet to be developed. Construction of these units is expected to be completed prior to the completion of the proposed development. As a result, an additional 30 single unit homes were included in the calculation of site generated trips.

In consultation with the Town of Carleton Place, no additional background developments were identified to be included in the study.

4.5 Future Background Traffic Volumes

Future 2026 and 2031 background weekday AM and PM peak hour traffic volumes were calculated by applying the forecasted background growth rate to the existing conditions traffic volumes. Future 2026 and 2031 background traffic volumes are illustrated in **Figure 4-1** and **Figure 4-2**, respectively.

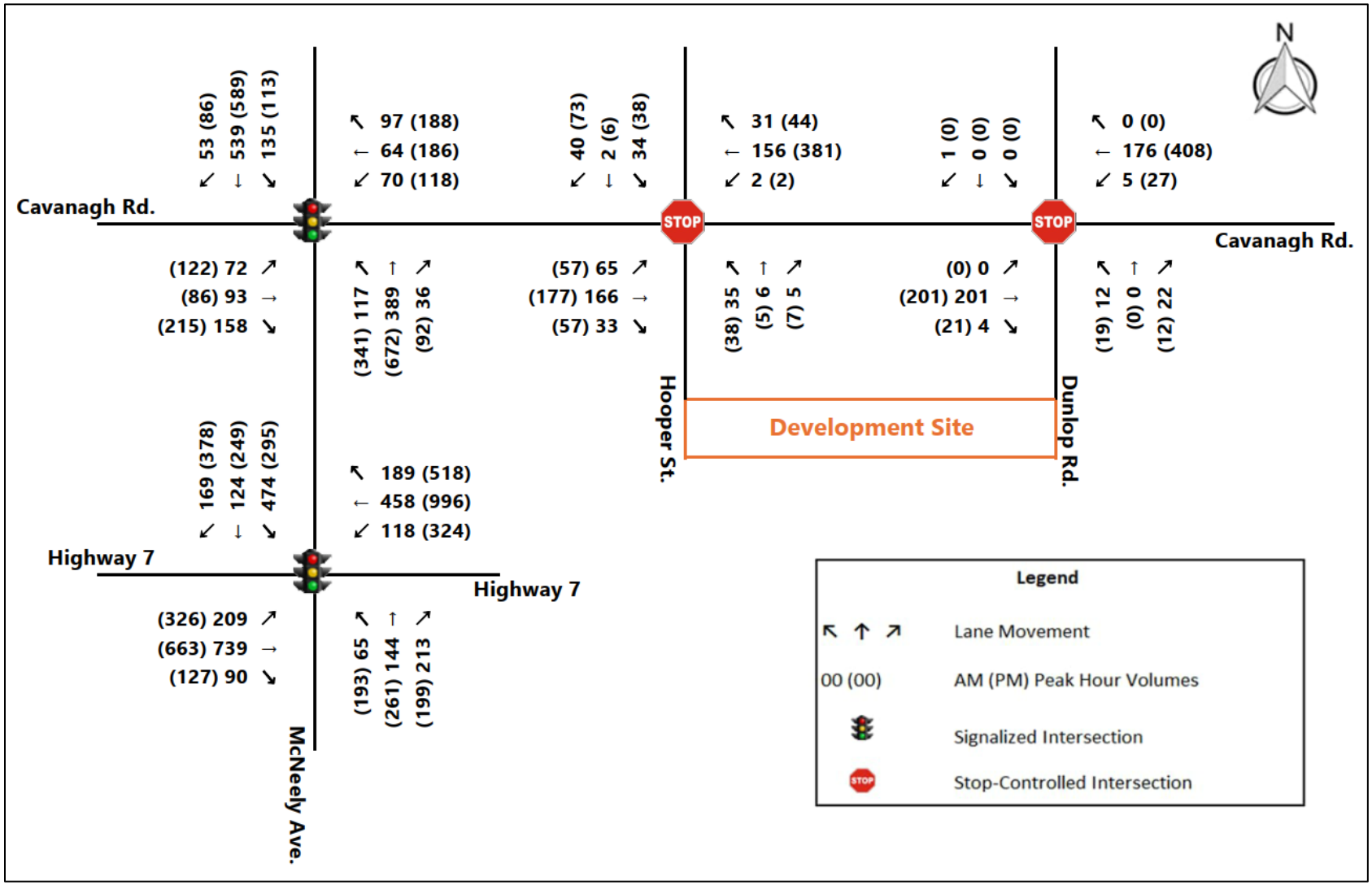


Figure 4-1: Future 2026 Buildout Background Traffic Volumes

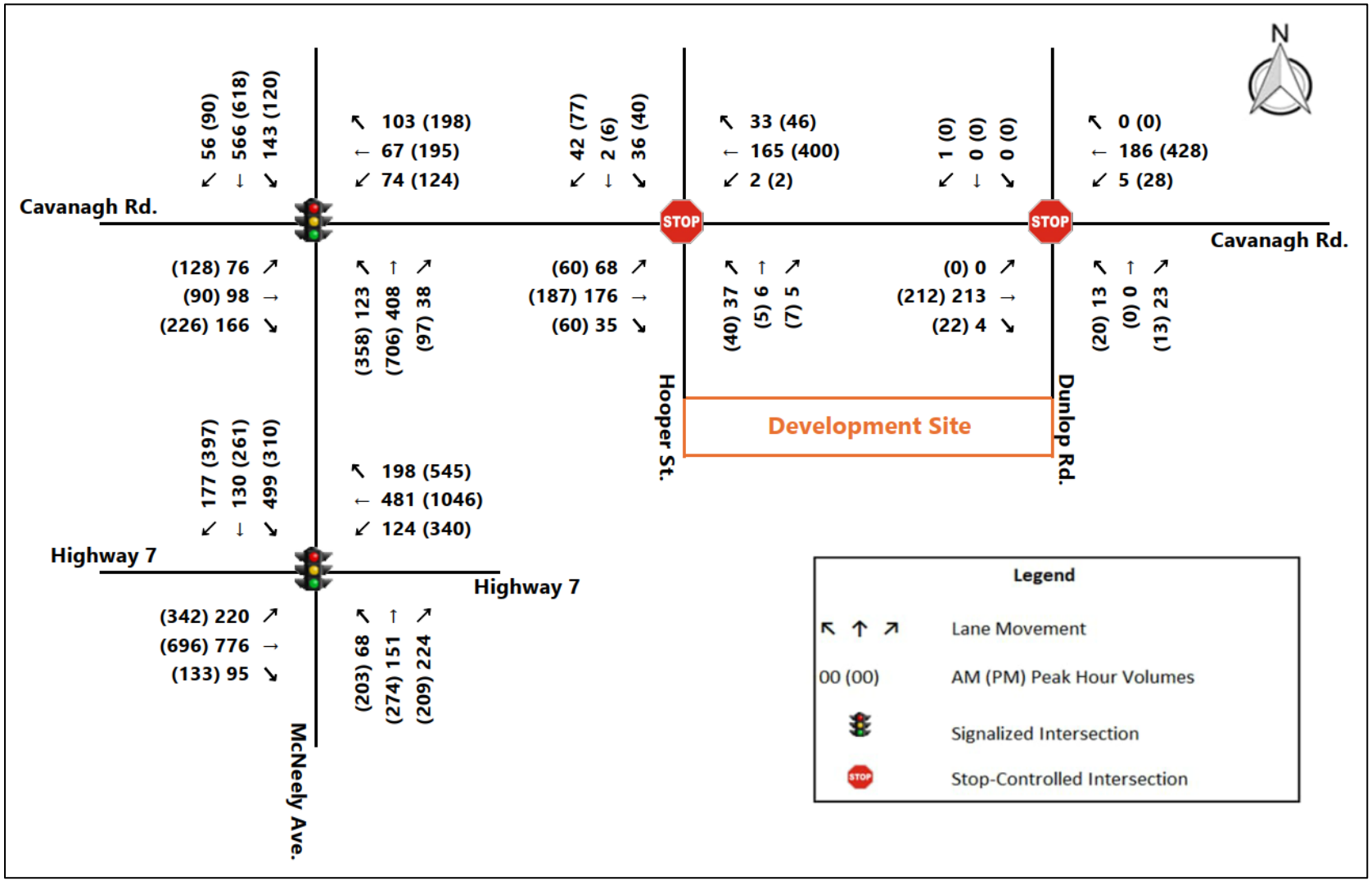


Figure 4-2: Future 2031 Background Traffic Volumes

4.6 Future 2026 Buildout Background Traffic Operations

The assessment of the 2026 buildout background traffic scenario serves as a baseline for comparison for the 2026 buildout year, representing the scenario where there is no development built. Results from the 2026 buildout background traffic analysis are summarized in **Table 4-1**. Synchro 11 output reports are provided in detail in **Appendix C**.

Under the 2026 background conditions intersections are expected to operate similarly to the 2025 existing conditions with background growth having little impact on traffic operations.

Both unsignalized intersections, Cavanagh Road & Dunlop Road and Cavanagh Road & Hooper Street, are expected to operate well with an average intersection delay per vehicle of 0.9 s. Northbound and southbound movements operate at LOS C or better while all movements on Cavanagh Road operate at LOS A. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.29. Queueing on the sideroads is expected to peak at 12 m (2 vehicles) while little to no queueing is expected on Cavanagh Road.

The intersection of McNeely Avenue and Cavanagh Road / Coleman Street is expected to operate at LOS B during the AM and PM peak hours with an average intersection delay of 15.7 s during the PM peak hour. Movements on McNeely Avenue are expected to operate at LOS B or better while movements on Cavanagh Road and Coleman Street are expected to operate at LOS C or better. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.66. The maximum reported queue of 63 m (9 vehicles) occurs in the southbound direction.

The intersection of McNeely Avenue and Highway 7 is expected to operate at LOS C during the AM and PM peak hours with an average intersection delay of 33.3 s during the PM peak hour. Individual movements are expected to operate at LOS D or better, with the exception of the northbound left-turn movement which operates at LOS E during the PM peak hour. Some movements exhibit little excess capacity with a maximum reported V/C ratio of 0.85. The maximum reported queue of 119 m (17 vehicles) occurs in the westbound direction.

Table 4-1: 2026 Background Traffic Analysis

Intersection	Approach - Movement	AM Peak				PM Peak			
		LOS	V/C	Delay (s)	Queue (m)	LOS	V/C	Delay (s)	Queue (m)
Cavanagh Road & Dunlop Road	**Intersection**	**A**	**-**	**0.9**	**-**	**A**	**-**	**0.9**	**-**
	EB - LTR	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LTR	A	0.00	0.2	0	A	0.02	0.5	1
	NB - LTR	B	0.05	10.4	2	B	0.08	14.0	3
	SB - LTR	A	0.00	9.2	0	A	0.00	0.0	0
Cavanagh Road & Hooper Street	**Intersection**	**A**	**-**	**3.6**	**-**	**A**	**-**	**3.9**	**-**
	EB - LT	A	0.05	7.8	2	A	0.06	8.5	2
	EB - R	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LT	A	0.00	7.6	0	A	0.00	7.7	0
	WB - R	A	0.00	0.0	0	A	0.00	0.0	0
	NB - LTR	B	0.11	14.2	4	C	0.20	21.1	7
	SB - LTR	B	0.14	12.0	5	C	0.29	16.4	12
McNeely Avenue & Cavanagh Road / Coleman Street	**Intersection**	**B**	**-**	**11.0**	**-**	**B**	**-**	**15.7**	**-**
	EB - L	C	0.27	20.1	16	C	0.58	33.0	34
	EB - T	B	0.25	19.0	19	C	0.22	21.9	22
	EB - R	A	0.36	6.3	13	A	0.44	6.3	16
	WB - L	C	0.27	20.2	16	C	0.44	26.9	31
	WB - T	B	0.17	18.1	14	C	0.49	25.9	44
	WB - R	A	0.24	5.6	9	A	0.40	6.3	15
	NB - L	A	0.23	4.9	9	B	0.66	12.9	47
	NB - TR	B	0.31	10.3	25	B	0.48	12.4	58
	SB - L	A	0.23	5.0	10	A	0.28	7.9	13
	SB - TR	B	0.44	11.8	38	B	0.59	18.9	63
McNeely Avenue & Highway 7	**Intersection**	**C**	**-**	**24.9**	**-**	**C**	**-**	**33.3**	**-**
	EB - L	D	0.51	36.4	32	D	0.77	49.1	54
	EB - T	C	0.65	25.1	83	D	0.77	35.8	85
	EB - R	A	0.15	1.9	4	A	0.26	5.8	13
	WB - L	D	0.54	41.3	40	D	0.85	52.3	107
	WB - T	C	0.44	21.9	48	C	0.84	31.8	119
	WB - R	A	0.32	4.5	14	B	0.68	11.4	59
	NB - L	D	0.40	41.7	26	E	0.78	56.7	74
	NB - TR	B	0.58	16.8	27	C	0.67	24.8	44
	SB - L	D	0.79	41.4	78	D	0.71	45.8	47
	SB - T	C	0.14	25.2	18	D	0.49	36.3	36
	SB - R	A	0.33	6.5	16	C	0.84	28.4	70

4.7 Future 2031 Background Traffic Conditions

The 2031 background scenario was assessed using the same network configuration and parameters as the 2026 buildout and existing conditions. Results from the 2031 background traffic analysis are summarized in **Table 4-2**. Synchro 11 output reports are provided in detail in **Appendix C.**

Under the 2031 background conditions intersections are expected to operate similarly to the 2026 background buildout horizon and the 2025 existing conditions. Analysis demonstrates that future background growth for the 2031 horizon would having little impact on traffic operations.

Both unsignalized intersections, Cavanagh Road & Dunlop Road and Cavanagh Road & Hooper Street, are expected to operate well with an average intersection delay per vehicle of 1.0 s. Northbound and southbound movements operate at LOS C or better while all movements on Cavanagh Road operate at LOS A. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.32. Queueing on the sideroads is expected to peak at 13 m (2 vehicles) while little to no queueing is expected on Cavanagh Road.

The intersection of McNeely Avenue and Cavanagh Road / Coleman Street is expected to operate at LOS B during the AM and PM peak hours with an average intersection delay of 16.6 s during the PM peak hour. Movements on McNeely Avenue are expected to operate at LOS B or better while movements on Cavanagh Road and Coleman Street are expected to operate at LOS D or better. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.70. The maximum reported queue of 67 m (10 vehicles) occurs in the southbound direction.

The intersection of McNeely Avenue and Highway 7 is expected to operate at LOS C during the AM peak hour and LOS D with an average intersection delay of 36.2 s during the PM peak hour. Individual movements are expected to operate at LOS D or better, with the exception of the northbound and westbound left-turn movements which operate at LOS E during the PM peak hour. Some movements exhibit little excess capacity with a maximum reported V/C ratio of 0.88. The maximum reported queue of 131 m (19 vehicles) occurs in the westbound direction.

Table 4-2: 2031 Background Traffic Analysis

Intersection	Approach - Movement	AM Peak				PM Peak			
		LOS	V/C	Delay (s)	Queue (m)	LOS	V/C	Delay (s)	Queue (m)
Cavanagh Road & Dunlop Road	**Intersection**	**A**	**-**	**1.0**	**-**	**A**	**-**	**1.0**	**-**
	EB - LTR	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LTR	A	0.00	0.2	0	A	0.02	0.5	1
	NB - LTR	B	0.06	10.7	2	B	0.09	14.5	3
	SB - LTR	A	0.00	9.3	0	A	0.00	0.0	0
Cavanagh Road & Hooper Street	**Intersection**	**A**	**-**	**3.7**	**-**	**A**	**-**	**4.2**	**-**
	EB - LT	A	0.06	7.8	2	A	0.06	8.6	2
	EB - R	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LT	A	0.00	7.7	0	A	0.00	7.8	0
	WB - R	A	0.00	0.0	0	A	0.00	0.0	0
	NB - LTR	B	0.12	14.8	4	C	0.22	23.1	8
	SB - LTR	B	0.15	12.3	5	C	0.32	17.5	13
McNeely Avenue & Cavanagh Road / Coleman Street	**Intersection**	**B**	**-**	**11.2**	**-**	**B**	**-**	**16.6**	**-**
	EB - L	C	0.29	20.5	17	D	0.62	36.1	37
	EB - T	B	0.26	19.2	20	C	0.23	22.5	24
	EB - R	A	0.37	9.2	13	A	0.45	6.3	17
	WB - L	C	0.29	20.5	17	C	0.46	27.8	33
	WB - T	B	0.18	18.2	15	C	0.50	26.7	47
	WB - R	A	0.26	6.1	10	A	0.41	6.3	16
	NB - L	A	0.25	5.1	10	B	0.70	16.0	57
	NB - TR	B	0.32	10.5	26	B	0.50	12.8	62
	SB - L	A	0.25	5.2	11	A	0.31	8.3	13
	SB - TR	B	0.46	12.3	41	B	0.62	19.8	67
McNeely Avenue & Highway 7	**Intersection**	**C**	**-**	**26.5**	**-**	**D**	**-**	**36.2**	**-**
	EB - L	D	0.53	37.4	33	D	0.82	53.3	59
	EB - T	C	0.74	28.3	89	D	0.81	38.5	92
	EB - R	A	0.17	2.2	5	A	0.28	6.3	14
	WB - L	D	0.57	42.8	42	E	0.88	56.5	115
	WB - T	C	0.46	22.2	51	C	0.87	34.5	131
	WB - R	A	0.33	4.4	14	B	0.71	13.3	70
	NB - L	D	0.42	42.9	27	E	0.83	62.7	79
	NB - TR	B	0.60	17.1	28	C	0.69	26.1	47
	SB - L	D	0.83	44.9	84	D	0.76	49.1	50
	SB - T	C	0.15	25.6	19	D	0.50	36.7	37
	SB - R	A	0.34	6.5	17	C	0.88	34.3	81

5.0 FUTURE TOTAL TRAFFIC CONDITIONS

5.1 Trip Generation

Trip generation for the proposed development was completed using the methodology identified in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition.

The proposed development will contain 88 single-detached home units, for which Land Use Code (LUC) 210 (single-family detached housing) was selected. An additional 30 single-detached home units are identified as background traffic and shall follow the same trip assignment and distribution as site generated trips. As ITE provides an estimate of vehicle trips, additional mode share evaluation was not considered.

The proposed site is anticipated to generate 66 trips during the AM peak hour (17 inbound and 49 outbound) and 88 trips during the PM peak hour (56 inbound and 32 outbound). The projected trip generation for the proposed development is summarized in **Table 5-1**.

Table 5-1: Site Generated Traffic

Location	Units	Type	LUC		AM Peak			PM Peak		
					Inbound	Outbound	Total	Inbound	Outbound	Total
Block 213	77	Single Unit	210	Equation	Ln(T) = 0.91 Ln(X) + 0.12			Ln(T) = 0.94 Ln(X) + 0.27		
Eastwood	11			Distribution	25%	75%	100%	63%	37%	100%
Background	30			**Site Trips**	**17**	**49**	**66**	**56**	**32**	**88**
Total	118			**Total New Trips**	**22**	**65**	**87**	**73**	**43**	**116**

5.2 Trip Distribution

Trip distribution was estimated and based on a combination of the existing travel and traffic patterns at boundary road intersections, and workplace location of Carleton Place residents. **Table 5-2** summarizes the trip distribution within the study area for the weekday AM and PM peak hour.

Table 5-2: Estimated Site Trip Distribution

Distribution	
N	6%
S	4%
E	35%
W	55%

5.3 Site Trip Assignment

Access to the development is provided by two (2) existing intersections. The site-generated trips for the proposed development have been assigned to the road network according to the estimated trip distribution summarized in **Table 5-2**, as well as existing distribution of inbound and outbound trips at the two (2) intersections. Trips generated by the proposed and background development have been illustrated in **Figure 5-1**.

5.4 Future Total Traffic Volumes

Future (2026) buildout background weekday AM and PM peak hour traffic volumes were added to site generated traffic volumes to forecast future (2026) buildout total traffic volumes, illustrated in **Figure 5-2**.

Future (2031) 5-year post buildout total weekday AM, and PM peak hour traffic volumes were similarly forecasted by adding site generated traffic volumes to projected future 2031 background traffic volumes. Future 2031 total traffic volumes are illustrated in **Figure 5-3.**

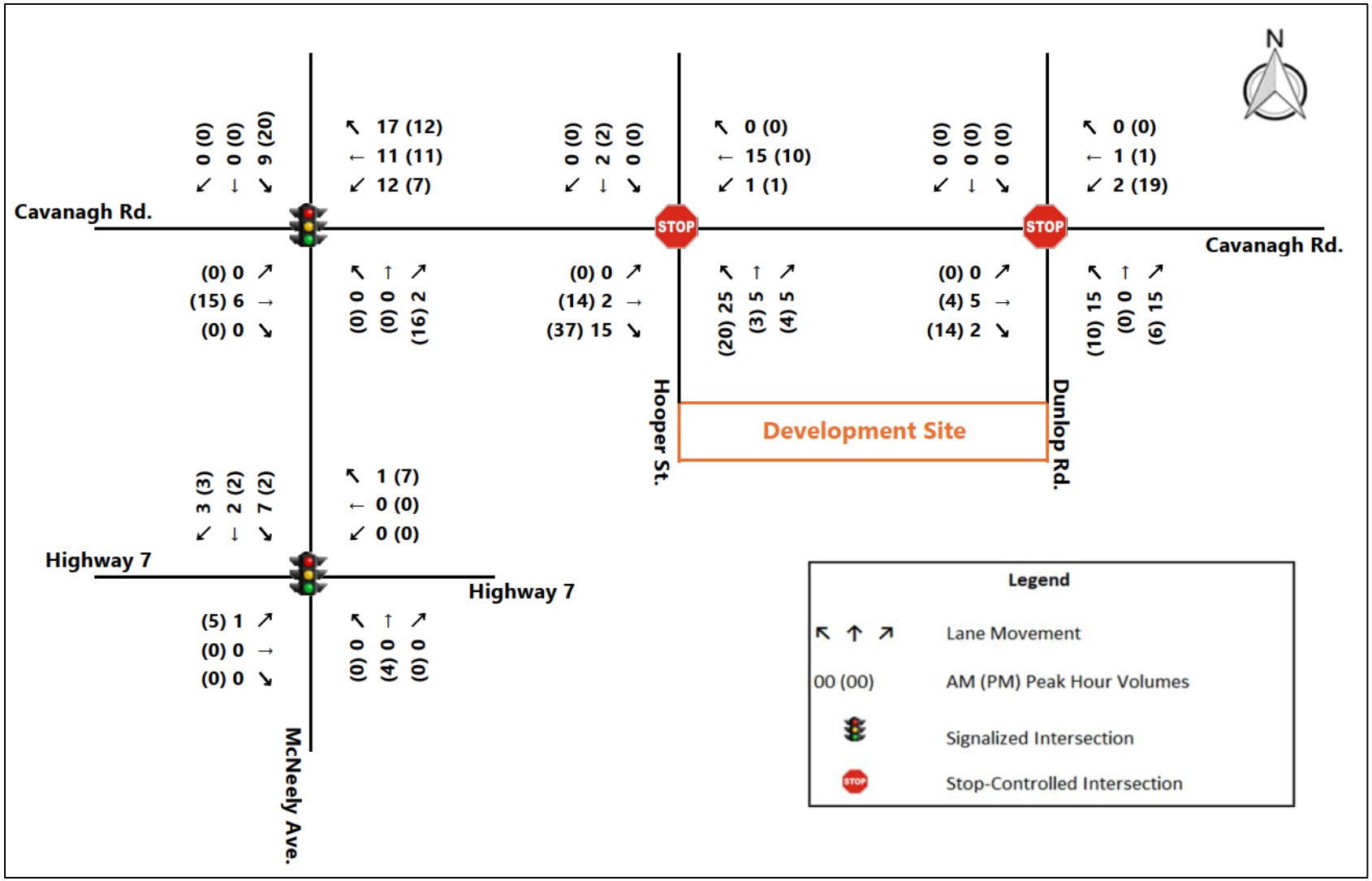


Figure 5-1: New Vehicle Trips (Background and Site Generated)

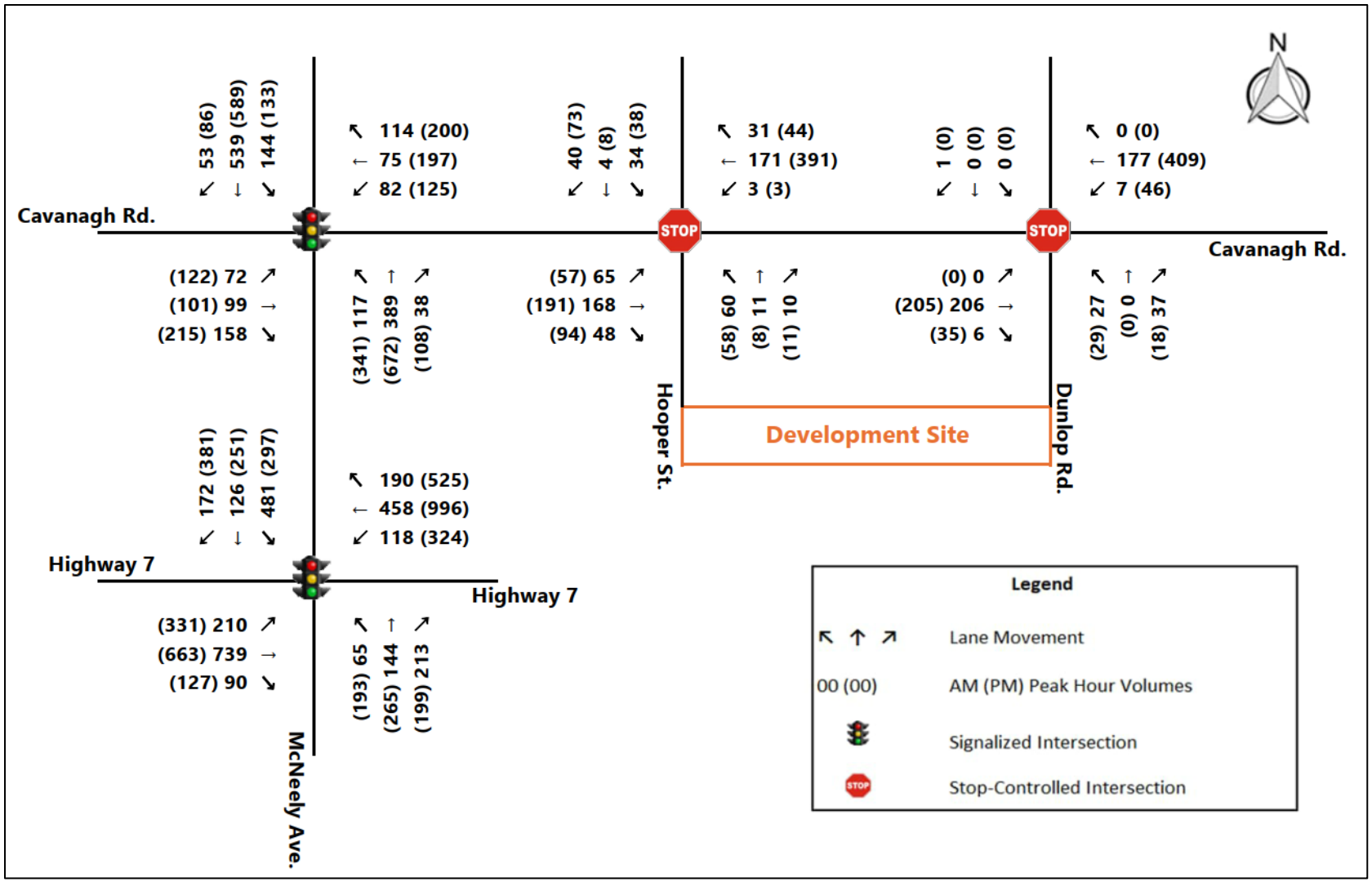


Figure 5-2: Future 2026 Buildout Total Traffic Volumes

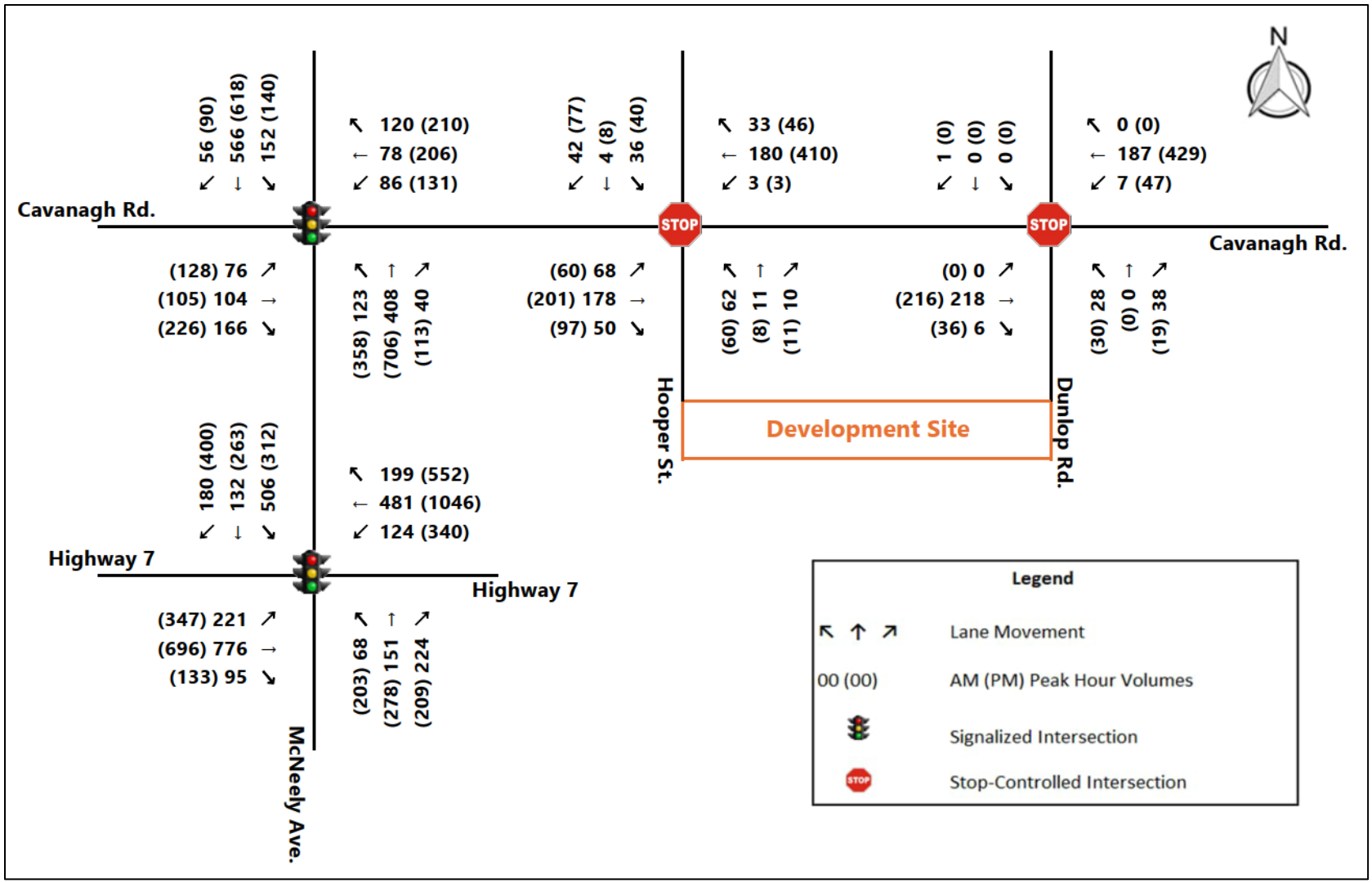


Figure 5-3: Future 2031 Total Traffic Volumes

5.5 Future 2026 Buildout Total Traffic Operations

Results from the 2026 buildout year total traffic analysis are summarized in **Table 5-3**. Synchro 11 output reports are provided in detail in **Appendix C**.

Results from the analysis show that during the 2026 total traffic scenario operate very similarly to the 2026 background traffic scenario with site traffic having little impact on traffic operations.

Both unsignalized intersections, Cavanagh Road & Dunlop Road and Cavanagh Road & Hooper Street, are expected to operate well with an average intersection delay per vehicle of 4.7 s or less. Northbound and southbound movements operate at LOS D or better while all movements on Cavanagh Road operate at LOS A. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.32. Queueing on the sideroads is expected to peak at 13 m (2 vehicles) while little to no queueing is expected on Cavanagh Road. Hooper Street and Dunlop Road are able to accommodate the anticipated queues.

The intersection of McNeely Avenue and Cavanagh Road / Coleman Street is expected to operate at LOS B during the AM and PM peak hours with an average intersection delay of 15.9 s during the PM peak hour. Movements on McNeely Avenue are expected to operate at LOS B or better while movements on Cavanagh Road and Coleman Street are expected to operate at LOS C or better. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.66. The maximum reported queue of 63 m (9 vehicles) occurs in the southbound direction.

The intersection of McNeely Avenue and Highway 7 is expected to operate at LOS C during the AM and PM peak hours with an average intersection delay of 33.5 s during the PM peak hour. Individual movements are expected to operate at LOS D or better, with the exception of the northbound left-turn movement which operates at LOS E during the PM peak hour. Some movements exhibit little excess capacity with a maximum reported V/C ratio of 0.85. The maximum reported queue of 119 m (17 vehicles) occurs in the westbound direction.

Table 5-3: 2026 Total Traffic Analysis

Intersection	Approach - Movement	AM Peak				PM Peak			
		LOS	V/C	Delay (s)	Queue (m)	LOS	V/C	Delay (s)	Queue (m)
Cavanagh Road & Dunlop Road	**Intersection**	**A**	**-**	**1.7**	**-**	**A**	**-**	**1.5**	**-**
	EB - LTR	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LTR	A	0.01	0.3	0	A	0.04	0.8	1
	NB - LTR	B	0.11	11.1	3	C	0.13	15.5	4
	SB - LTR	A	0.00	9.2	0	A	0.00	0.0	0
Cavanagh Road & Hooper Street	**Intersection**	**A**	**-**	**4.3**	**-**	**A**	**-**	**4.7**	**-**
	EB - LT	A	0.05	7.8	2	A	0.06	8.5	2
	EB - R	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LT	A	0.00	7.7	0	A	0.00	7.9	0
	WB - R	A	0.00	0.0	0	A	0.00	0.0	0
	NB - LTR	C	0.21	15.6	8	D	0.32	25.0	13
	SB - LTR	B	0.15	12.6	5	C	0.32	17.8	13
McNeely Avenue & Cavanagh Road / Coleman Street	**Intersection**	**B**	**-**	**11.2**	**-**	**B**	**-**	**15.9**	**-**
	EB - L	C	0.27	20.0	16	C	0.59	34.3	35
	EB - T	B	0.27	19.1	20	C	0.26	22.3	26
	EB - R	A	0.36	6.1	12	A	0.43	6.3	16
	WB - L	C	0.32	20.9	18	C	0.47	27.6	33
	WB - T	B	0.20	18.3	16	C	0.51	26.3	46
	WB - R	A	0.28	6.2	11	A	0.41	6.3	16
	NB - L	A	0.24	5.1	10	B	0.66	13.2	47
	NB - TR	B	0.31	10.5	25	B	0.50	12.7	59
	SB - L	A	0.25	5.2	12	A	0.33	8.4	15
	SB - TR	B	0.44	12.0	39	B	0.59	19.0	63
McNeely Avenue & Highway 7	**Intersection**	**C**	**-**	**25.0**	**-**	**C**	**-**	**33.5**	**-**
	EB - L	D	0.51	36.5	32	D	0.78	49.8	56
	EB - T	C	0.65	25.2	83	D	0.77	35.8	85
	EB - R	A	0.15	1.9	4	A	0.26	5.8	13
	WB - L	D	0.54	41.3	40	D	0.85	52.4	107
	WB - T	C	0.44	21.9	48	C	0.84	32.0	119
	WB - R	A	0.32	4.5	14	B	0.69	12.0	62
	NB - L	D	0.40	41.7	26	E	0.78	56.8	74
	NB - TR	B	0.58	16.8	27	C	0.68	25.3	45
	SB - L	D	0.80	41.8	79	D	0.71	46.1	47
	SB - T	C	0.15	25.3	18	D	0.49	36.3	36
	SB - R	A	0.34	6.5	16	C	0.85	29.0	71

5.6 Future 2031 Horizon Total Traffic Conditions

Results from the 2031 horizon year total traffic analysis are summarized in **Table 5-4**. Synchro 11 output reports are provided in detail in **Appendix C**.

Results from the analysis show that during the 2031 total traffic scenario operate very similarly to the 2031 background traffic scenario with site traffic having little impact on traffic operations.

Both unsignalized intersections, Cavanagh Road & Dunlop Road and Cavanagh Road & Hooper Street, are expected to operate well with an average intersection delay per vehicle of 5.0 s or less. Northbound and southbound movements operate at LOS D or better while all movements on Cavanagh Road operate at LOS A. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.35. Queueing on the sideroads is expected to peak at 15 m (2 vehicles) while little to no queueing is expected on Cavanagh Road. Hooper Street and Dunlop Road are able to accommodate the anticipated queues.

The intersection of McNeely Avenue and Cavanagh Road / Coleman Street is expected to operate at LOS B during the AM and PM peak hours with an average intersection delay of 16.9 s during the PM peak hour. All movements are expected to operate at LOS C or better with the exception of the eastbound left-turn movements which operates at LOS D during the PM peak hour. All movements exhibit excess capacity with a maximum reported V/C ratio of 0.70. The maximum reported queue of 67 m (10 vehicles) occurs in the southbound direction.

The intersection of McNeely Avenue and Highway 7 is expected to operate at LOS C during the AM peak hour and LOS D with an average intersection delay of 36.5 s during the PM peak hour. Individual movements are expected to operate at LOS D or better, with the exception of the northbound and westbound left-turn movements which operate at LOS E during the PM peak hour. Some movements exhibit little excess capacity with a maximum reported V/C ratio of 0.89. The maximum reported queue of 131 m (19 vehicles) occurs in the westbound direction.

Table 5-4: 2031 Total Traffic Analysis

Intersection	Approach - Movement	AM Peak				PM Peak			
		LOS	V/C	Delay (s)	Queue (m)	LOS	V/C	Delay (s)	Queue (m)
Cavanagh Road & Dunlop Road	**Intersection**	**A**	**-**	**1.7**	**-**	**A**	**-**	**1.5**	**-**
	EB - LTR	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LTR	A	0.01	0.3	0	A	0.04	0.8	1
	NB - LTR	B	0.11	11.3	4	C	0.14	16.1	5
	SB - LTR	A	0.00	9.3	0	A	0.00	0.0	0
Cavanagh Road & Hooper Street	**Intersection**	**A**	**-**	**4.4**	**-**	**A**	**-**	**5.0**	**-**
	EB - LT	A	0.06	7.9	2	A	0.06	8.6	2
	EB - R	A	0.00	0.0	0	A	0.00	0.0	0
	WB - LT	A	0.00	7.7	0	A	0.00	7.9	0
	WB - R	A	0.00	0.0	0	A	0.00	0.0	0
	NB - LTR	C	0.22	16.3	8	D	0.35	27.7	15
	SB - LTR	B	0.17	13.0	6	C	0.35	19.0	15
McNeely Avenue & Cavanagh Road / Coleman Street	**Intersection**	**B**	**-**	**11.5**	**-**	**B**	**-**	**16.9**	**-**
	EB - L	C	0.29	20.4	17	D	0.64	37.6	38
	EB - T	B	0.28	19.3	21	C	0.27	22.8	27
	EB - R	A	0.37	6.1	13	A	0.44	6.3	17
	WB - L	C	0.33	21.3	19	C	0.49	28.4	35
	WB - T	B	0.21	18.4	17	C	0.52	27.0	50
	WB - R	A	0.29	6.2	11	A	0.42	6.2	16
	NB - L	A	0.25	5.3	10	B	0.70	16.2	57
	NB - TR	B	0.32	10.7	27	B	0.52	13.1	63
	SB - L	A	0.27	5.5	12	A	0.36	9.1	15
	SB - TR	B	0.46	12.5	43	C	0.62	20.0	67
McNeely Avenue & Highway 7	**Intersection**	**C**	**-**	**26.7**	**-**	**D**	**-**	**36.5**	**-**
	EB - L	D	0.54	37.4	33	D	0.83	54.0	59
	EB - T	C	0.74	28.3	89	D	0.81	38.5	92
	EB - R	A	0.17	2.2	5	A	0.28	6.3	14
	WB - L	D	0.57	42.8	42	E	0.89	56.7	115
	WB - T	C	0.46	22.2	51	C	0.88	34.7	131
	WB - R	A	0.33	4.4	14	B	0.73	13.9	74
	NB - L	D	0.42	42.9	27	E	0.83	62.8	79
	NB - TR	B	0.60	17.1	28	C	0.70	26.6	48
	SB - L	D	0.84	45.9	86	D	0.76	49.4	51
	SB - T	C	0.15	25.6	19	D	0.50	36.7	38
	SB - R	A	0.35	6.4	17	D	0.89	35.0	82

6.0 SITE PLAN REVIEW

6.1 Vehicular Circulation Review

Internal site circulation was reviewed using vehicle tracking software to examine if emergency vehicles can ingress and egress. As access to the subdivision is provided via existing roadways vehicle circulation was only reviewed at the two (2) new connections, Private Roadway 1 and Hooper Street north and south junctions. Due to the size, a fire truck was identified as the governing vehicle and was used to ensure adequate site ingress and egress. Internal site circulation review figures have been provided in **Appendix D**.

Based on the simulations performed it was shown that a fire truck can ingress and egress the site conflict free. As a result, it is also expected that ambulances and passenger cars can also ingress and egress the site conflict free.

6.2 Site Access Sightline Review

Sight distance requirements for development accesses were reviewed using methodology outlined in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads.

As access to the subdivision is provided via existing roadways vehicle circulation was only reviewed at the two (2) new connections, Private Roadway 1 and Hooper Street north and south junctions. Hooper Street has an unposted speed limit of 40 km/h, as such, sight distance reviews were assessed based on an design speed of 60 km/h.

A desktop sightline review has been completed by Egis for development accesses. A detailed review was undertaken for the two (2) new intersections. The intersections were assessed based on TAC Table 9.9.4 and 9.9.6 which provides minimum intersection sight distance requirements for left and right-turn maneuvers from stop, respectively.

Table 6-1: outlines the requirements and available sight distances for the new intersections.

Table 6-1: Intersection Sight Distance Requirements

Location	Maneuver	Required Stopping Sight Distance (m)	Required Intersection Sight Distance (m)	Available Site Distances (m)	Site Distances Requirement Met
Hooper Street and Private Roadway 1 North Junction	Left-Turn from Stop	85	130	>200	Yes
	Right-Turn from Stop	85	110	>200	Yes
Hooper Street and Private Roadway 1 South Junction	Left-Turn from Stop	85	130	>200	Yes
	Right-Turn from Stop	85	110	>200	Yes

6.3 Pedestrian Connectivity Review

Pedestrian connections are provided within the subdivision; however, no connections are provided to the other facilities within the study area.

Construction of a PXO has been identified as a requirement for Phase 6 of the development and will be constructed on Cavanagh Road, east of Dunlop Road. This will provide adequate connection between the pedestrian network within the subdivision and adjacent facilities. As a result, construction of additional pedestrian facilities as part of the proposed development are not required.

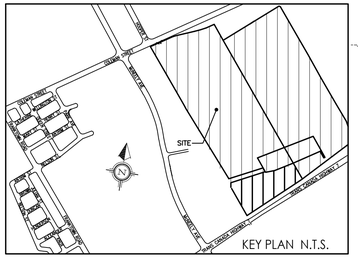
7.0 SUMMARY

7.1 Findings

The findings from this Traffic Impact Study for the proposed addition to the existing Carleton Place subdivision I the south-east quadrant of the McNeely Avenue and Cavanagh Road / Coleman Street intersection is as follows:

- The proposed development will include 118 single unit homes.
- The proposed site is anticipated to generate 87 trips during the AM peak hour and 116 trips during the PM peak hour.
- All study intersections are anticipated to operate at satisfactory level through all analysis periods with no network improvements noted.
- While the intersection of McNeely Avenue and Highway 7 operates at a satisfactory level under the 2031 background and total traffic conditions, it is noted that multiple movements are nearing capacity, with a V/C ratio of near 0.90. Improvements to the intersection are expected to be required in 5-10 years (2036-2041).
- Roadways used to provide access to the proposed sites are anticipated to operate at LOS D or better with an average delay of 27.7 s and a maximum queue of 15 m (2 vehicles). Excess capacity is exhibited with a maximum V/C ratio of 0.35 and the roadways are able to accommodate the anticipated queues.
- Vehicle circulation was performed to ensure a fire truck can ingress and egress the site conflict free.
- A sightline review confirmed the two (2) new intersections, Private Roadway 1 and Hooper Street north and south junctions, meet intersection sight distance requirements.
- Construction of a PXO has been identified as a requirement for Phase 6 of the development and will be constructed on Cavanagh Road, east of Dunlop Road. As such, construction of pedestrian facilities as part of the proposed development are not required.

APPENDIX A – SITE PLAN



KEY PLAN N.T.S.

ZONING PROVISIONS	SINGLE DETACHED	SEMI DETACHED	TOWNHOME
MIN. LOT AREA-	NIL	NIL	NIL
LOT COVERAGE-	60%	60%	60%
MIN. LOT FRONTAGE -	10.6m	7.5m	5.5m
MIN. FRONT YARD -	4.5m	4.5m	4.5m
MAX. FRONT YARD -	7.5m	7.5m	7.5m
MIN. INTERIOR SIDE YARD -	1.2m	1.2m	1.2m
MIN. EXTERIOR SIDE YARD -	4.5m	4.5m	4.5m
MAX. EXTERIOR SIDE YARD -	7.5m	7.5m	7.5m
MIN. REAR YARD -	7.5m	7.0m	6.5m
MIN. USABLE LANDSCAPED AREA IN THE REAR YARD -	50 m^2	40 m^2	30 m^2
MAX. BUILDING HEIGHT -	11.0m	11.0m	11.0m
MIN. UNIT AREA -	92.9m^2	92.9m^2	83.1m^2
NO ENCROACHMENT AREA FROM FRONT OR EXTERIOR SIDE LOT LINE -	2.5m	2.5m	2.5m
PARKING REQUIRED PER UNIT (INCLUDING 1 WITHIN GARAGE) -	2 SPACES	2 SPACES	2 SPACES
MAX. WIDTH OF GARAGE (% OF FRONTAGE)-	45%	45%	70%
MIN. PARKING SPACE DIMENSIONS - 2.75m x 6.0m			
MIN. 6.0m FROM FRONT LOT LINE TO GARAGE			

SITE AREA 'A' - 261,806.11m² (64.69 Acres)
INCLUDING ENVIRONMENTAL
WETLAND COMPLEX 10,520.85m² (2.60 ACRES)
SITE AREA EXCLUDING WETLAND COMPLEX
251,237.47m² (62.08 Acres)

AREA PARKS & GREENSPACE - 20,946m² (5.17 Acres)
AREA ROAD R.O.W. - 75,078.20m² (18.55 Acres)
TOTAL SITE BUILDABLE AREA - 155,213.27m² (38.35 Acres)

PHASE I -
- 35' LOTS (10.70m) = 0 UNITS
- 42' LOTS (12.80m) = 4 UNITS
- 50' LOTS (15.25m) = 1 UNITS

TOWNHOMES = 32 UNITS
SEMIS = 20 UNITS
PH. I - TOTAL UNITS = 57 UNITS

PHASE II
- 35' LOTS (10.70m) = 30 UNITS
- 42' LOTS (12.80m) = 1 UNITS
- 50' LOTS (15.25m) = 3 UNITS

TOWNHOMES = 46 UNITS
SEMIS = 10 UNITS
PH. II - TOTAL UNITS = 90 UNITS

PHASE III - (HC) RE-ZONED AREA
- 35' LOTS (10.70m) = 12 UNITS
- 42' LOTS (12.80m) = 14 UNITS
- 50' LOTS (15.25m) = 22 UNITS

TOWNHOMES = 24 UNITS
SEMIS = 26 UNITS
SMALL SIGLES (ROBINS) = 77 UNITS
PH. II - TOTAL UNITS = 175 UNITS

PHASE IV
- 35' LOTS (10.70m) = 0 UNITS
- 42' LOTS (12.80m) = 0 UNITS
- 50' LOTS (15.25m) = 8 UNITS

TOWNHOMES = 53 UNITS
SEMIS = 34 UNITS
PH. II - TOTAL UNITS = 95 UNITS

PHASE V
- 35' LOTS (10.70m) = 17 UNITS
- 42' LOTS (12.80m) = 0 UNITS
- 50' LOTS (15.25m) = 0 UNITS

TOWNHOMES = 60 UNITS
SEMIS = 0 UNITS
PH. II - TOTAL UNITS = 77 UNITS

TOTAL UNITS ALL PHASES = 499 UNITS

SITE DENSITY
SITE AREA= 26.17 ha (64.69 Acres)
ROAD ALLOWANCE AREA = 7.51 ha (18.55 Acres)
WETLAND COMPLEX = 1.05 ha (2.60 Acres)
PARK AREA= 2.09 ha (5.17 acres)
LOT AREA= 15.53 ha (38.37 acres)
TOTAL UNITS = 494 UNITS
DENSITY= 494 / 15.53 = 31.80 UNITS/ha

NOTE:

FOR ALL LOT LINES AND BOUNDARY DIMENSIONS REFER TO DRAFT PLAN OF SUBDIVISION PREPARED PREPARED BY FAIRHALL MOFFAT & WOODLAND

PLAN 571 PREPARED BY FAIRHALL, MOFFAT & WOODLAND

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS, ANY DISCREPANCY MUST BE REPORTED TO M. DAVID BLAKELY ARCHITECT INC.
2. ALL WORK AND MATERIALS TO BE IN COMPLAINCE WITH ALL CODES, REGULATIONS, & BY-LAWS
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7. THIS DRAWING SHALL NOT BE USED FOR PERMIT OR CONSTRUCTION UNLESS THE DRAWING BEARS THE ARCHITECT'S SEAL AND SIGNATURE.

M. David Blakely
Architect Inc.
2200 Prince of Wales Dr. - Suite 101
Ottawa, Ontario K2E 6Z9
Phone (613) 226-8811 Fax (613) 226-7942

CONSTRUCTION NORTH

SEAL

No.	DATE	DESCRIPTION	INIT.
31.	08/11/17	REVISED UNIT COUNTS/ SITE DENSITY	JB
30.	10/03/17	REVISED PEEVER PLACE LOTS	SM
29.	14/02/17	REVISED UNIT TYPES / LOTTING	SM
28.	22/12/16	NEW STREET NAMES ADDED TO PLAN	SM
27.	21/11/16	PHASE 4, FOR REVIEW	SM
26.	13/11/15	STREET No. 5 - RE-LOTTING AND CAVANAGH STREET - ROAD ALIGNMENT	SM
25.	24/06/15	REVISED AS PER DRAFT PLAN	JB
24.	12/05/14	ISSUED	JB
23.	02/05/14	REVISED AREA 'A' DENSITY CALCULATIONS	JB
22.	17/03/14	REVISED LOTTING	JB

REVISIONS

No.	DATE	DESCRIPTION	INIT.
32.	18/12/24	REVISED UNIT COUNTS/ SITE DENSITY	JB

REVISIONS

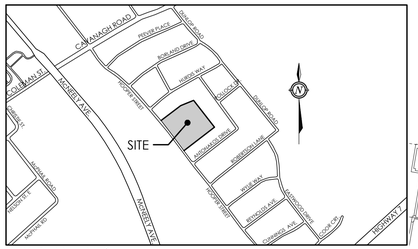
A - DETAIL NUMBER
B - SHEET NUMBER (DETAIL REQUIRED)
C - SHEET NUMBER (DETAIL LOCATION)

PROJECT:
RESIDENTIAL SUBDIVISION
CARLETON PLACE, ONTARIO

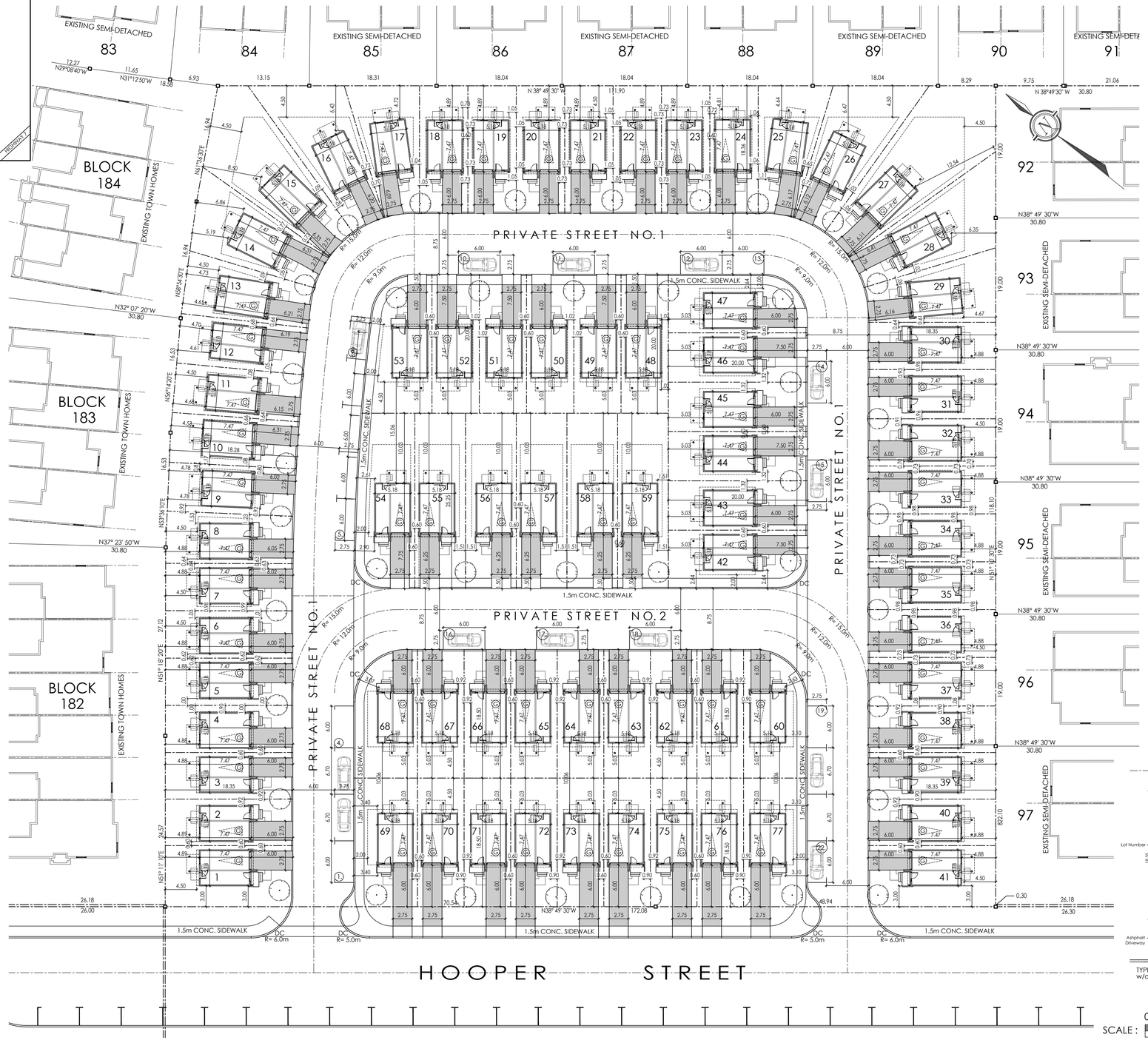
CLIENT:
PEGASUS DEVELOPMENT CORP.
1914 MERIVALE ROAD
OTTAWA, ONTARIO

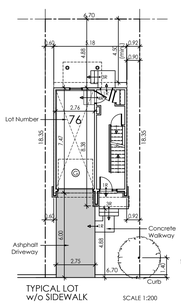
DRAWING TITLE:
DEVELOPMENT PLAN

DATE: OCT. , 2010.
SCALE: 1:1250
DRAWN BY: JB
CHECKED: MDB
SHEET No.: SP-1

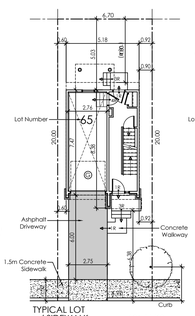


KEY PLAN - NTS

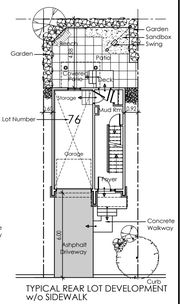




TYPICAL LOT w/o SIDEWALK SCALE 1:200



TYPICAL LOT w/ SIDEWALK SCALE 1:200



TYPICAL REAR LOT DEVELOPMENT w/o SIDEWALK

SCALE : 0 5 10 20 30 40 50M

SITE INFORMATION:

SITE AREA :	13,922 m²	(1.39 ha)	
TOTAL BUILDING AREA :	2,979.90m²		
SITE COVERAGE :		20.10%	
AREA ASPHALT/BUILDING :	5,793.56m²	41.61%	
AREA LANDSCAPING :	8,128.44m²	58.38%	
UNITS PER HECTARE:	77 UNITS / 1.42ha	54.2 UNITS/ha	

SINGLES	UNIT TYPE	No. UNITS	BLDG. AREA	FLOOR AREA
SINGLE LOTS	3 STOREY 2 BEDRM. -	77	38.7m²@ 77 = 2,979.90m²	96.8m²@ 77 = 7,453.60m²

PARKING REQUIRED:
2 SPACES PER DWELLING UNIT = 154 spaces
PARKING SPACE SIZE = 2.75m x 6.00m
PARKING PROVIDED:
PRIVATE GARAGE = 77 spaces
PRIVATE DRIVEWAY = 77 spaces
VISITOR STREET PARKING = 22 spaces
TOTAL = 176 spaces

BICYCLE PARKING PROVIDED: 6 spaces

SITE BOUNDARIES AND TOPOGRAPHIC INFORMATION DERIVED FROM PLAN OF SUBDIVISION PLAN 27M- 81 PREPARED BY FAIRHALL MOFFIT WOODLAND Ltd. DATED: DECEMBER 7, 2017. SURVEYOR TO VERIFY SETBACKS, ZONING REQUIREMENTS & EASEMENTS BEFORE SETTING-OUT FOR CONSTRUCTION.

ZONING INFORMATION
PROPOSED ZONING - _____

		REQUIRED :	PROVIDED :
LOT FRONTAGE :			172.08 m
MIN. LOT FRONTAGE :	SINGLES :	m	6.70m
	TOWNHOME :	m	4.98m
MIN. FRONT YARD SETBACK :	SINGLES :	m	6.00 m
	TOWNHOME :	m	6.00 m
MIN. SETBACK TO GARAGE :	SINGLES :	m	6.00 m
	TOWNHOME :	m	6.00 m
MIN. REAR YARD SETBACK :	SINGLES :	m	4.61 m
	TOWNHOME :	m	4.63 m
MIN. EXTERIOR YARD SETBACK :	SINGLES :	m	3.00 m
	TOWNHOME :	m	N/A
MIN. INTERIOR YARD SETBACK :	SINGLES :	m	0.60 m
	TOWNHOME :	m	1.52 m
MIN. DWELLING AREA :	SINGLES :	m	96.8 m²
	TOWNHOME :	m	96.8 m²
MAX. BUILDING HEIGHT :	SINGLES :	m	9.14 m
	TOWNHOME :	m	9.14 m

NOTE:
REFER TO LANDSCAPE PLAN PREPARED BY _____.
REFER TO SITE SERVICING AND GRADING PLANS PREPARED BY _____.

M. David Blakely
Architect Inc.
2200 Prince of Wales Dr. - Suite 101
Ottawa, Ontario K2E 6Z9
Phone (613) 226-8811 Fax (613) 226-7942

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8 - THIS REPRODUCTION SHALL NOT BE ALTERED.

CONSTRUCTION NORTH

SEAL

No.	DATE	DESCRIPTION	INIT.
11.			
10.	21/02/24	REVISED FOR ALL SINGLES/ FOR CO-ORD.	JB
9.	29/09/23	FOR CO-ORDINATION	SM
8.	18/05/22	REVISED TOWNHOME BLOCKS	SM
7.	16/03/22	REVISED UNIT SPACING	SM
6.	05/07/21	REVISED ROAD WIDTH / UNIT TYPES	SM
5.	02/12/19	REVISED ROAD WIDTH	SM
4.	05/09/19	REVISED MODEL TYPE	SM
3.	21/09/17	ADDED BLOCK 9	SM
2.	12/09/17	REVISED MODEL TYPE	SM
1.	24/01/17	FOR REVIEW	JB

REVISIONS

No.	DATE	DESCRIPTION	INIT.
22.			
21.			
20.			
19.			
18.			
17.			
16.			
15.			
14.			
13.			
12.			

REVISIONS

A - DETAIL NUMBER
B - SHEET NUMBER (DETAIL REQUIRED)
C - SHEET NUMBER (DETAIL LOCATION)

PROJECT:
BLOCK 213
77 UNIT RESIDENTAL SUBDIVION
SINGLES & TOWNHOMES
CARLETON PLACE, ONTARIO

CLIENT:
OLYMPIA HOMES
1914 MERIVALE ROAD
OTTAWA, ONTARIO

DRAWING TITLE:
SITE PLAN

DATE: JAN., 2017.
SCALE: 1: 300
DRAWN BY: JB
CHECKED: MDB
SHEET No.: SP-1

APPENDIX B – AVAILABLE TRAFFIC DATA

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #25-013 - egis

Intersection Count Report

Intersection:	Cavanagh Rd & Hooper St
Municipality:	Carleton Place
Count Date:	Thursday, Jan 23, 2025
Site Code:	2501300001
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	06:00-10:00, 14:30-18:30
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Cavanagh Rd & Hooper St
Site Code:	2501300001
Municipality:	Carleton Place
Count Date:	Jan 23, 2025



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

Hooper St - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
06:00 - 07:00	28	0	32	0	60	0	20	1	6	0	27	0	87
07:00 - 08:00	38	1	23	0	62	3	32	7	8	0	47	0	109
08:00 - 09:00	33	2	47	0	82	0	36	4	5	0	45	0	127
09:00 - 10:00	30	5	30	0	65	0	30	7	4	0	41	0	106
BREAK													
14:30 - 15:00	17	0	22	0	39	0	16	4	1	0	21	0	60
15:00 - 16:00	37	3	62	0	102	1	38	3	4	0	45	0	147
16:00 - 17:00	32	5	73	0	110	3	43	7	11	0	61	0	171
17:00 - 18:00	31	2	62	0	95	0	42	4	4	0	50	0	145
18:00 - 18:30	7	3	26	0	36	0	13	0	6	0	19	0	55
GRAND TOTAL	**253**	**21**	**377**	**0**	**651**	**7**	**270**	**37**	**49**	**0**	**356**	**0**	**1007**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

Cavanagh Rd - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
06:00 - 07:00	0	48	15	0	63	1	41	106	7	0	154	0	217
07:00 - 08:00	4	116	25	0	145	3	56	161	15	0	232	0	377
08:00 - 09:00	2	152	36	0	190	0	54	143	33	0	230	0	420
09:00 - 10:00	2	152	31	0	185	0	55	116	29	0	200	0	385
BREAK													
14:30 - 15:00	1	105	14	0	120	1	23	66	21	0	110	1	230
15:00 - 16:00	2	267	45	0	314	0	56	140	46	0	242	0	556
16:00 - 17:00	4	274	39	0	317	2	57	165	59	0	281	0	598
17:00 - 18:00	7	219	30	0	256	2	30	125	46	0	201	0	457
18:00 - 18:30	2	71	7	0	80	0	6	32	31	0	69	0	149
GRAND TOTAL	**24**	**1404**	**242**	**0**	**1670**	**9**	**378**	**1054**	**287**	**0**	**1719**	**1**	**3389**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

North Approach - Hooper St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
06:00	5	0	4	0	9	0	0	1	0	1	0	0	0	0	0	0
06:15	8	0	6	0	14	0	0	0	0	0	0	0	0	0	0	0
06:30	5	0	13	0	18	0	0	0	0	0	0	0	0	0	0	0
06:45	10	0	7	0	17	0	0	1	0	1	0	0	0	0	0	0
07:00	17	0	7	0	24	0	1	0	0	1	0	0	0	0	0	0
07:15	4	0	4	0	8	0	0	0	0	0	0	0	0	0	0	1
07:30	12	0	7	0	19	0	0	0	0	0	0	0	0	0	0	1
07:45	5	0	5	0	10	0	0	0	0	0	0	0	0	0	0	1
08:00	13	2	12	0	27	0	0	0	0	0	0	0	0	0	0	0
08:15	10	0	15	0	25	0	0	0	0	0	0	0	0	0	0	0
08:30	6	0	8	0	14	0	0	0	0	0	0	0	0	0	0	0
08:45	4	0	12	0	16	0	0	0	0	0	0	0	0	0	0	0
09:00	7	1	5	0	13	0	0	1	0	1	0	0	0	0	0	0
09:15	4	1	12	0	17	0	0	0	0	0	0	0	0	0	0	0
09:30	7	1	5	0	13	0	0	0	0	0	0	0	0	0	0	0
09:45	11	2	7	0	20	1	0	0	0	1	0	0	0	0	0	0
SUBTOTAL	128	7	129	0	264	1	1	3	0	5	0	0	0	0	0	3

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

North Approach - Hooper St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
14:30	4	0	14	0	18	0	0	0	0	0	0	0	0	0	0	0
14:45	13	0	7	0	20	0	0	1	0	1	0	0	0	0	0	0
15:00	10	1	18	0	29	0	0	0	0	0	0	0	0	0	0	1
15:15	10	0	9	0	19	0	0	0	0	0	0	0	0	0	0	0
15:30	7	1	18	0	26	0	0	0	0	0	0	0	0	0	0	0
15:45	9	1	17	0	27	1	0	0	0	1	0	0	0	0	0	0
16:00	9	2	20	0	31	1	0	0	0	1	0	0	0	0	0	1
16:15	7	2	12	0	21	0	0	1	0	1	0	0	0	0	0	0
16:30	11	1	22	0	34	0	0	0	0	0	0	0	0	0	0	2
16:45	4	0	16	0	20	0	0	2	0	2	0	0	0	0	0	0
17:00	6	1	18	0	25	0	0	0	0	0	0	0	0	0	0	0
17:15	10	0	22	0	32	0	0	0	0	0	0	0	0	0	0	0
17:30	8	0	11	0	19	1	0	0	0	1	0	0	0	0	0	0
17:45	6	1	11	0	18	0	0	0	0	0	0	0	0	0	0	0
18:00	3	2	21	0	26	0	0	0	0	0	0	0	0	0	0	0
18:15	4	1	5	0	10	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	121	13	241	0	375	3	0	4	0	7	0	0	0	0	0	4
GRAND TOTAL	249	20	370	0	639	4	1	7	0	12	0	0	0	0	0	7

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

South Approach - Hooper St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
06:00	6	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0
06:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
06:30	6	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0
06:45	7	1	4	0	12	0	0	0	0	0	0	0	0	0	0	0
07:00	6	0	2	0	8	1	0	0	0	1	0	0	0	0	0	0
07:15	6	3	0	0	9	0	0	0	0	0	0	0	0	0	0	0
07:30	6	0	5	0	11	1	1	0	0	2	0	0	0	0	0	0
07:45	12	3	1	0	16	0	0	0	0	0	0	0	0	0	0	0
08:00	15	1	1	0	17	0	0	0	0	0	0	0	0	0	0	0
08:15	4	1	2	0	7	0	0	0	0	0	0	0	0	0	0	0
08:30	4	1	1	0	6	0	0	0	0	0	0	0	0	0	0	0
08:45	12	1	1	0	14	1	0	0	0	1	0	0	0	0	0	0
09:00	6	0	1	0	7	0	1	0	0	1	0	0	0	0	0	0
09:15	7	1	1	0	9	0	0	0	0	0	0	0	0	0	0	0
09:30	7	3	0	0	10	0	0	0	0	0	0	0	0	0	0	0
09:45	10	2	2	0	14	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	115	17	23	0	155	3	2	0	0	5	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

South Approach - Hooper St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
14:30	7	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0
14:45	9	3	1	0	13	0	0	0	0	0	0	0	0	0	0	0
15:00	13	0	1	0	14	0	0	0	0	0	0	0	0	0	0	0
15:15	11	1	1	0	13	0	0	0	0	0	0	0	0	0	0	0
15:30	5	1	1	0	7	1	0	0	0	1	0	0	0	0	0	0
15:45	8	1	1	0	10	0	0	0	0	0	0	0	0	0	0	0
16:00	12	2	1	0	15	1	1	0	0	2	0	0	0	0	0	0
16:15	10	0	2	0	12	0	0	0	0	0	0	0	0	0	0	0
16:30	7	1	3	0	11	0	0	0	0	0	0	0	0	0	0	0
16:45	13	3	5	0	21	0	0	0	0	0	0	0	0	0	0	0
17:00	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0
17:15	16	2	2	0	20	0	0	0	0	0	0	0	0	0	0	0
17:30	8	1	1	0	10	0	0	0	0	0	0	0	0	0	0	0
17:45	11	1	1	0	13	0	0	0	0	0	0	0	0	0	0	0
18:00	9	0	1	0	10	0	0	0	0	0	0	0	0	0	0	0
18:15	4	0	5	0	9	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	150	17	26	0	193	2	1	0	0	3	0	0	0	0	0	0
GRAND TOTAL	265	34	49	0	348	5	3	0	0	8	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

East Approach - Cavanagh Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
06:00	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
06:15	0	8	1	0	9	0	1	0	0	1	0	0	0	0	0	0
06:30	0	11	3	0	14	0	2	0	0	2	0	0	0	0	0	1
06:45	0	20	11	0	31	0	1	0	0	1	0	0	0	0	0	0
07:00	0	21	4	0	25	0	1	0	0	1	0	0	0	0	0	0
07:15	1	25	4	0	30	0	2	1	0	3	0	0	0	0	0	1
07:30	1	27	6	0	34	0	1	1	0	2	0	0	0	0	0	1
07:45	2	37	8	0	47	0	2	1	0	3	0	0	0	0	0	1
08:00	0	26	6	0	32	0	3	0	0	3	0	0	0	0	0	0
08:15	0	43	6	0	49	0	1	0	0	1	0	0	0	0	0	0
08:30	0	36	9	0	45	0	2	1	0	3	0	0	0	0	0	0
08:45	2	41	12	0	55	0	0	2	0	2	0	0	0	0	0	0
09:00	0	38	3	0	41	0	0	0	0	0	0	0	0	0	0	0
09:15	1	43	6	0	50	0	1	0	0	1	0	0	0	0	0	0
09:30	0	35	7	0	42	0	1	0	0	1	0	0	0	0	0	0
09:45	1	34	15	0	50	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	8	450	101	0	559	0	18	6	0	24	0	0	0	0	0	4

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

East Approach - Cavanagh Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
14:30	1	54	8	0	63	0	1	0	0	1	0	0	0	0	0	1
14:45	0	50	6	0	56	0	0	0	0	0	0	0	0	0	0	0
15:00	1	54	14	0	69	0	2	0	0	2	0	0	0	0	0	0
15:15	0	69	11	0	80	0	0	0	0	0	0	0	0	0	0	0
15:30	1	67	10	0	78	0	0	0	0	0	0	0	0	0	0	0
15:45	0	74	10	0	84	0	1	0	0	1	0	0	0	0	0	0
16:00	0	72	7	0	79	0	1	0	0	1	0	0	0	0	0	0
16:15	0	71	16	0	87	0	1	0	0	1	0	0	0	0	0	0
16:30	2	64	11	0	77	0	1	0	0	1	0	0	0	0	0	2
16:45	2	63	5	0	70	0	1	0	0	1	0	0	0	0	0	0
17:00	2	56	9	0	67	0	1	0	0	1	0	0	0	0	0	0
17:15	1	56	10	0	67	0	1	0	0	1	0	0	0	0	0	1
17:30	4	57	4	0	65	0	1	0	0	1	0	0	0	0	0	1
17:45	0	47	7	0	54	0	0	0	0	0	0	0	0	0	0	0
18:00	1	44	7	0	52	0	1	0	0	1	0	0	0	0	0	0
18:15	1	26	0	0	27	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	16	924	135	0	1075	0	12	0	0	12	0	0	0	0	0	5
GRAND TOTAL	24	1374	236	0	1634	0	30	6	0	36	0	0	0	0	0	9

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

West Approach - Cavanagh Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
06:00	4	21	1	0	26	1	1	0	0	2	0	0	0	0	0	0
06:15	4	17	3	0	24	0	1	0	0	1	0	0	0	0	0	0
06:30	10	24	1	0	35	0	5	1	0	6	0	0	0	0	0	0
06:45	21	37	1	0	59	1	0	0	0	1	0	0	0	0	0	0
07:00	9	44	4	0	57	0	1	0	0	1	0	0	0	0	0	0
07:15	11	39	3	0	53	0	0	0	0	0	0	0	0	0	0	0
07:30	14	31	2	0	47	0	1	0	0	1	0	0	0	0	0	0
07:45	21	43	6	0	70	1	2	0	0	3	0	0	0	0	0	0
08:00	15	36	11	0	62	0	4	0	0	4	0	0	0	0	0	0
08:15	17	22	11	0	50	0	3	0	0	3	0	0	0	0	0	0
08:30	10	44	5	0	59	0	1	0	0	1	0	0	0	0	0	0
08:45	12	32	6	0	50	0	1	0	0	1	0	0	0	0	0	0
09:00	8	32	8	0	48	1	2	1	0	4	0	0	0	0	0	0
09:15	14	29	7	0	50	0	0	0	0	0	0	0	0	0	0	0
09:30	12	23	4	0	39	0	1	1	0	2	0	0	1	0	1	0
09:45	19	26	6	0	51	1	3	1	0	5	0	0	0	0	0	0
SUBTOTAL	201	500	79	0	780	5	26	4	0	35	0	0	1	0	1	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Municipality: Carleton Place
Count Date: Jan 23, 2025

West Approach - Cavanagh Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
14:30	10	33	11	0	54	0	0	0	0	0	0	0	0	0	0	1
14:45	12	33	10	0	55	1	0	0	0	1	0	0	0	0	0	0
15:00	16	26	9	0	51	0	0	0	0	0	0	0	0	0	0	0
15:15	15	34	12	0	61	0	0	0	0	0	0	0	0	0	0	0
15:30	10	41	13	0	64	1	1	0	0	2	0	0	0	0	0	0
15:45	13	38	12	0	63	1	0	0	0	1	0	0	0	0	0	0
16:00	12	51	16	0	79	0	2	0	0	2	0	0	0	0	0	0
16:15	11	44	15	0	70	0	0	0	0	0	0	0	0	0	0	0
16:30	19	33	13	0	65	0	0	0	0	0	0	0	0	0	0	0
16:45	14	34	15	0	63	1	1	0	0	2	0	0	0	0	0	0
17:00	6	38	11	0	55	0	0	0	0	0	0	0	0	0	0	0
17:15	8	39	11	0	58	0	0	0	0	0	0	0	0	0	0	0
17:30	9	23	17	0	49	0	0	0	0	0	0	0	0	0	0	0
17:45	7	25	7	0	39	0	0	0	0	0	0	0	0	0	0	0
18:00	4	12	16	0	32	0	0	0	0	0	0	0	0	0	0	0
18:15	2	20	15	0	37	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	168	524	203	0	895	4	4	0	0	8	0	0	0	0	0	1
GRAND TOTAL	369	1024	282	0	1675	9	30	4	0	43	0	0	1	0	1	1

Peak Hour Diagram

Specified Period
From: 06:00:00
To: 10:00:00

One Hour Peak
From: 07:45:00
To: 08:45:00

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Count Date: Jan 23, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Cavanagh Rd runs E/W

North Approach

	Out	In	Total
Cars	76	98	174
Trucks	0	3	3
Bicycles	0	0	0
	76	**101**	**177**

Hooper St

Bicycles	0	0	0	0
Trucks	0	0	0	0
Cars	40	2	34	0
Totals	**40**	**2**	**34**	**0**

Peds: 1

East Approach

	Out	In	Total
Cars	173	184	357
Trucks	10	10	20
Bicycles	0	0	0
	183	**194**	**377**

Cavanagh Rd

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	63	**64**	
0	10	145	**155**	
0	0	33	**33**	

Peds: 0



Peds: 1

Cavanagh Rd

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	31	29	2	0
	150	142	8	0
	2	2	0	0

Peds: 0

West Approach

	Out	In	Total
Cars	241	217	458
Trucks	11	8	19
Bicycles	0	0	0
	252	**225**	**477**

Hooper St

Totals	**35**	**6**	**5**	**0**
Cars	35	6	5	0
Trucks	0	0	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	46	37	83
Trucks	0	0	0
Bicycles	0	0	0
	46	**37**	**83**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Cavanagh Rd & Hooper St
Site Code:	2501300001
Count Date:	Jan 23, 2025
Period:	06:00 - 10:00

Peak Hour Data (07:45 - 08:45)

Start Time	North Approach Hooper St						South Approach Hooper St						East Approach Cavanagh Rd						West Approach Cavanagh Rd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:45	5	0	5	0	1	10	12	3	1	0	0	16	2	39	9	0	1	50	22	45	6	0	0	73	149
08:00	13	2	12	0	0	27	15	1	1	0	0	17	0	29	6	0	0	35	15	40	11	0	0	66	145
08:15	10	0	15	0	0	25	4	1	2	0	0	7	0	44	6	0	0	50	17	25	11	0	0	53	135
08:30	6	0	8	0	0	14	4	1	1	0	0	6	0	38	10	0	0	48	10	45	5	0	0	60	128
Grand Total	**34**	**2**	**40**	**0**	**1**	**76**	**35**	**6**	**5**	**0**	**0**	**46**	**2**	**150**	**31**	**0**	**1**	**183**	**64**	**155**	**33**	**0**	**0**	**252**	**557**
Approach %	44.7	2.6	52.6	0		-	76.1	13	10.9	0		-	1.1	82	16.9	0		-	25.4	61.5	13.1	0		-	
Totals %	6.1	0.4	7.2	0		13.6	6.3	1.1	0.9	0		8.3	0.4	26.9	5.6	0		32.9	11.5	27.8	5.9	0		45.2	
PHF	**0.65**	**0.25**	**0.67**	**0**		**0.7**	**0.58**	**0.5**	**0.63**	**0**		**0.68**	**0.25**	**0.85**	**0.78**	**0**		**0.92**	**0.73**	**0.86**	**0.75**	**0**		**0.86**	**0.93**
Cars	34	2	40	0		76	35	6	5	0		46	2	142	29	0		173	63	145	33	0		241	536
% Cars	100	100	100	0		100	100	100	100	0		100	100	94.7	93.5	0		94.5	98.4	93.5	100	0		95.6	96.2
Trucks	0	0	0	0		0	0	0	0	0		0	0	8	2	0		10	1	10	0	0		11	21
% Trucks	0	0	0	0		0	0	0	0	0		0	0	5.3	6.5	0		5.5	1.6	6.5	0	0		4.4	3.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					1	-					0	-					1	-					0	-	2
% Peds					50	-					0	-					50	-					0	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period
From: 14:30:00
To: 18:30:00

One Hour Peak
From: 15:45:00
To: 16:45:00

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Count Date: Jan 23, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Cavanagh Rd runs E/W

North Approach

	Out	In	Total
Cars	113	103	216
Trucks	3	2	5
Bicycles	0	0	0
Totals	**116**	**105**	**221**

Hooper St

Bicycles	0	0	0	0
Trucks	1	0	2	0
Cars	71	6	36	0
Totals	**72**	**6**	**38**	**0**

East Approach

	Out	In	Total
Cars	327	209	536
Trucks	4	4	8
Bicycles	0	0	0
Totals	**331**	**213**	**544**

Cavanagh Rd

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	1	55	**56**
0	2	166	**168**
0	0	56	**56**

Peds: 3
Peds: 0
Peds: 2
Peds: 0



Cavanagh Rd

Totals	Cars	Trucks	Bicycles
0	0	0	0
44	44	0	0
285	281	4	0
2	2	0	0

West Approach

	Out	In	Total
Cars	277	389	666
Trucks	3	6	9
Bicycles	0	0	0
Totals	**280**	**395**	**675**

Hooper St

Totals	**38**	**5**	**7**	**0**
Cars	37	4	7	0
Trucks	1	1	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	48	64	112
Trucks	2	0	2
Bicycles	0	0	0
Totals	**50**	**64**	**114**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Cavanagh Rd & Hooper St
Site Code: 2501300001
Count Date: Jan 23, 2025
Period: 14:30 - 18:30

Peak Hour Data (15:45 - 16:45)

Start Time	North Approach Hooper St						South Approach Hooper St						East Approach Cavanagh Rd						West Approach Cavanagh Rd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
15:45	10	1	17	0	0	28	8	1	1	0	0	10	0	75	10	0	0	85	14	38	12	0	0	64	187
16:00	10	2	20	0	1	32	13	3	1	0	0	17	0	73	7	0	0	80	12	53	16	0	0	81	210
16:15	7	2	13	0	0	22	10	0	2	0	0	12	0	72	16	0	0	88	11	44	15	0	0	70	192
16:30	11	1	22	0	2	34	7	1	3	0	0	11	2	65	11	0	2	78	19	33	13	0	0	65	188
Grand Total	**38**	**6**	**72**	**0**	**3**	**116**	**38**	**5**	**7**	**0**	**0**	**50**	**2**	**285**	**44**	**0**	**2**	**331**	**56**	**168**	**56**	**0**	**0**	**280**	**777**
Approach %	32.8	5.2	62.1	0		-	76	10	14	0		-	0.6	86.1	13.3	0		-	20	60	20	0		-	
Totals %	4.9	0.8	9.3	0		14.9	4.9	0.6	0.9	0		6.4	0.3	36.7	5.7	0		42.6	7.2	21.6	7.2	0		36	
PHF	**0.86**	**0.75**	**0.82**	**0**		**0.85**	**0.73**	**0.42**	**0.58**	**0**		**0.74**	**0.25**	**0.95**	**0.69**	**0**		**0.94**	**0.74**	**0.79**	**0.88**	**0**		**0.86**	**0.93**
Cars	36	6	71	0		113	37	4	7	0		48	2	281	44	0		327	55	166	56	0		277	765
% Cars	94.7	100	98.6	0		97.4	97.4	80	100	0		96	100	98.6	100	0		98.8	98.2	98.8	100	0		98.9	98.5
Trucks	2	0	1	0		3	1	1	0	0		2	0	4	0	0		4	1	2	0	0		3	12
% Trucks	5.3	0	1.4	0		2.6	2.6	20	0	0		4	0	1.4	0	0		1.2	1.8	1.2	0	0		1.1	1.5
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					3	-					0	-					2	-					0	-	5
% Peds					60	-					0	-					40	-					0	-	

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Project #25-013 - egis

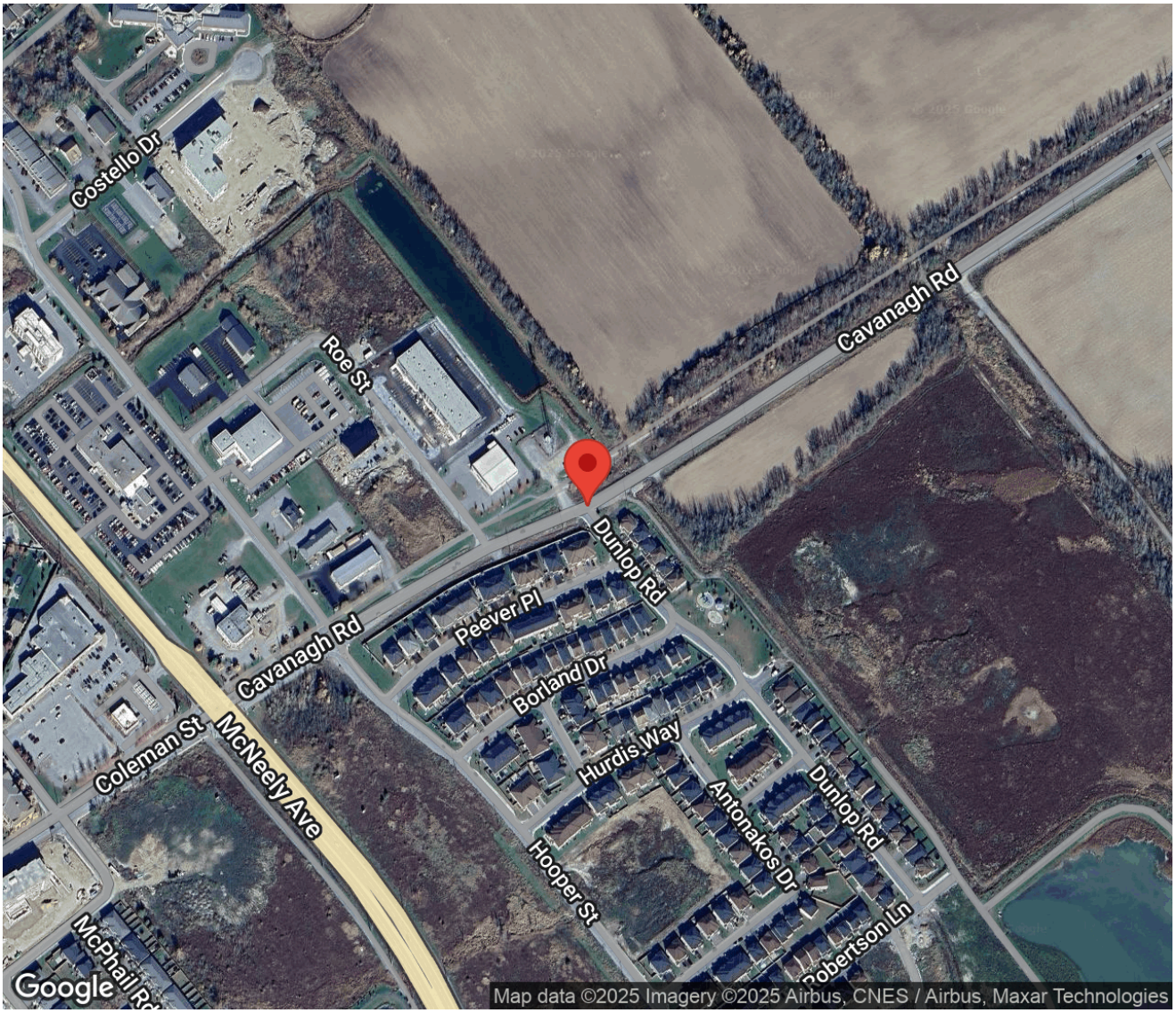
Intersection Count Report

Intersection:	Cavanagh Rd & Dunlop Rd
Municipality:	Carleton Place
Count Date:	Thursday, Jan 23, 2025
Site Code:	2501300002
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	06:00-10:00, 14:30-18:30
Weather:	Clear
Comments:	

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Traffic Count Map

Intersection:	Cavanagh Rd & Dunlop Rd
Site Code:	2501300002
Municipality:	Carleton Place
Count Date:	Jan 23, 2025



Ontario Traffic Inc.
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Traffic Count Summary

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

Dunlop Rd - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
06:00 - 07:00	1	0	2	0	3	0	3	0	19	0	22	0	25
07:00 - 08:00	0	0	1	0	1	0	12	0	22	0	34	0	35
08:00 - 09:00	0	0	2	0	2	0	14	0	17	0	31	0	33
09:00 - 10:00	1	1	0	0	2	0	8	0	13	1	22	0	24
BREAK													
14:30 - 15:00	1	0	1	0	2	0	8	0	8	0	16	0	18
15:00 - 16:00	0	0	2	0	2	0	14	0	5	0	19	0	21
16:00 - 17:00	0	1	0	0	1	0	21	0	16	0	37	0	38
17:00 - 18:00	0	0	0	0	0	0	19	0	14	0	33	0	33
18:00 - 18:30	0	0	0	0	0	0	5	0	2	0	7	0	7
GRAND TOTAL	**3**	**2**	**8**	**0**	**13**	**0**	**104**	**0**	**116**	**1**	**221**	**0**	**234**

Ontario Traffic Inc.
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Traffic Count Summary

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

Cavanagh Rd - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
06:00 - 07:00	1	67	0	0	68	0	1	128	1	0	130	0	198
07:00 - 08:00	5	137	0	0	142	0	0	199	4	0	203	3	345
08:00 - 09:00	4	167	0	0	171	0	2	156	10	0	168	1	339
09:00 - 10:00	5	172	0	0	177	0	3	136	5	0	144	0	321
BREAK													
14:30 - 15:00	5	112	0	0	117	0	0	75	8	0	83	0	200
15:00 - 16:00	16	290	1	0	307	0	1	163	13	0	177	1	484
16:00 - 17:00	29	300	0	0	329	0	0	194	20	0	214	1	543
17:00 - 18:00	28	236	0	0	264	0	1	143	16	0	160	3	424
18:00 - 18:30	7	76	0	0	83	0	0	42	3	0	45	0	128
GRAND TOTAL	**100**	**1557**	**1**	**0**	**1658**	**0**	**8**	**1236**	**80**	**0**	**1324**	**9**	**2982**

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

North Approach - Dunlop Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
06:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	1	5	0	8	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

North Approach - Dunlop Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
14:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
14:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	1	0	3	0	4	0	0	0	0	0	0	1	0	0	1	0
GRAND TOTAL	3	1	8	0	12	0	0	0	0	0	0	1	0	0	1	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

South Approach - Dunlop Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
06:00	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	7	0	7	1	0	0	0	1	0	0	0	0	0	0
06:45	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0
07:00	5	0	5	0	10	0	0	0	0	0	0	0	0	0	0	0
07:15	3	0	8	0	11	0	0	0	0	0	0	0	0	0	0	0
07:30	3	0	8	0	11	0	0	0	0	0	0	0	0	0	0	0
07:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
08:00	3	0	7	0	10	0	0	0	0	0	0	0	0	0	0	0
08:15	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0
08:30	5	0	5	0	10	0	0	0	0	0	0	0	0	0	0	0
08:45	2	0	4	0	6	0	0	0	0	0	0	0	0	0	0	0
09:00	3	0	6	0	9	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0
09:30	3	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0
09:45	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	36	0	71	1	108	1	0	0	0	1	0	0	0	0	0	0

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

South Approach - Dunlop Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
14:30	2	0	6	0	8	0	0	1	0	1	0	0	0	0	0	0
14:45	6	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0
15:00	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
15:15	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0
15:30	4	0	2	0	6	0	0	0	0	0	0	0	0	0	0	0
15:45	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
16:00	3	0	6	0	9	0	0	0	0	0	0	0	0	0	0	0
16:15	7	0	4	0	11	0	0	0	0	0	0	0	0	0	0	0
16:30	6	0	2	0	8	0	0	0	0	0	0	0	0	0	0	0
16:45	5	0	4	0	9	0	0	0	0	0	0	0	0	0	0	0
17:00	2	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0
17:15	7	0	2	0	9	0	0	0	0	0	0	0	0	0	0	0
17:30	7	0	3	0	10	0	0	0	0	0	0	0	0	0	0	0
17:45	3	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0
18:00	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0
18:15	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	67	0	44	0	111	0	0	1	0	1	0	0	0	0	0	0
GRAND TOTAL	**103**	**0**	**115**	**1**	**219**	**1**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

East Approach - Cavanagh Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
06:00	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0	0
06:15	0	10	0	0	10	0	1	0	0	1	0	0	0	0	0	0
06:30	0	15	0	0	15	0	1	0	0	1	0	0	0	0	0	0
06:45	0	34	0	0	34	0	1	0	0	1	0	0	0	0	0	0
07:00	0	24	0	0	24	0	1	0	0	1	0	0	0	0	0	0
07:15	1	34	0	0	35	1	2	0	0	3	0	0	0	0	0	0
07:30	1	30	0	0	31	0	3	0	0	3	0	0	0	0	0	0
07:45	2	41	0	0	43	0	2	0	0	2	0	0	0	0	0	0
08:00	1	29	0	0	30	0	3	0	0	3	0	0	0	0	0	0
08:15	1	42	0	0	43	0	1	0	0	1	0	0	0	0	0	0
08:30	0	38	0	0	38	0	3	0	0	3	0	0	0	0	0	0
08:45	2	49	0	0	51	0	2	0	0	2	0	0	0	0	0	0
09:00	0	40	0	0	40	0	0	0	0	0	0	0	0	0	0	0
09:15	1	44	0	0	45	0	1	0	0	1	0	0	0	0	0	0
09:30	2	37	0	0	39	0	0	0	0	0	0	0	0	0	0	0
09:45	2	49	0	0	51	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	14	521	0	0	535	1	22	0	0	23	0	0	0	0	0	0

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

East Approach - Cavanagh Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
14:30	2	57	0	0	59	0	2	0	0	2	0	0	0	0	0	0
14:45	3	53	0	0	56	0	0	0	0	0	0	0	0	0	0	0
15:00	6	70	1	0	77	0	1	0	0	1	0	0	0	0	0	0
15:15	0	72	0	0	72	0	0	0	0	0	0	0	0	0	0	0
15:30	7	69	0	0	76	0	0	0	0	0	0	0	0	0	0	0
15:45	3	77	0	0	80	0	1	0	0	1	0	0	0	0	0	0
16:00	4	81	0	0	85	0	1	0	0	1	0	0	0	0	0	0
16:15	13	80	0	0	93	0	1	0	0	1	0	0	0	0	0	0
16:30	5	71	0	0	76	0	1	0	0	1	0	0	0	0	0	0
16:45	7	65	0	0	72	0	0	0	0	0	0	0	0	0	0	0
17:00	8	62	0	0	70	0	2	0	0	2	0	0	0	0	0	0
17:15	11	64	0	0	75	0	1	0	0	1	0	0	0	0	0	0
17:30	3	51	0	0	54	0	1	0	0	1	0	0	0	0	0	0
17:45	6	55	0	0	61	0	0	0	0	0	0	0	0	0	0	0
18:00	3	48	0	0	51	0	1	0	0	1	0	0	0	0	0	0
18:15	4	25	0	0	29	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	85	1000	1	0	1086	0	14	0	0	14	0	0	0	0	0	0
GRAND TOTAL	**99**	**1521**	**1**	**0**	**1621**	**1**	**36**	**0**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

West Approach - Cavanagh Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
06:00	0	26	0	0	26	0	1	0	0	1	0	0	0	0	0	0
06:15	1	25	0	0	26	0	0	0	0	0	0	0	0	0	0	0
06:30	0	26	0	0	26	0	4	0	0	4	0	0	0	0	0	0
06:45	0	46	1	0	47	0	0	0	0	0	0	0	0	0	0	0
07:00	0	59	0	0	59	0	1	0	0	1	0	0	0	0	0	0
07:15	0	43	0	0	43	0	0	0	0	0	0	0	0	0	0	1
07:30	0	44	0	0	44	0	0	1	0	1	0	0	0	0	0	1
07:45	0	50	3	0	53	0	2	0	0	2	0	0	0	0	0	1
08:00	0	47	1	0	48	0	2	0	0	2	0	0	0	0	0	0
08:15	0	29	1	0	30	0	4	0	0	4	0	0	0	0	0	0
08:30	1	43	3	0	47	0	0	1	0	1	0	0	0	0	0	0
08:45	1	31	2	0	34	0	0	2	0	2	0	0	0	0	0	1
09:00	1	40	1	0	42	0	1	0	0	1	0	0	0	0	0	0
09:15	1	30	1	0	32	0	0	0	0	0	0	0	0	0	0	0
09:30	0	29	0	0	29	0	1	0	0	1	0	0	0	0	0	0
09:45	1	32	2	0	35	0	3	1	0	4	0	0	0	0	0	0
SUBTOTAL	6	600	15	0	621	0	19	5	0	24	0	0	0	0	0	4

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Municipality: Carleton Place
Count Date: Jan 23, 2025

West Approach - Cavanagh Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
14:30	0	35	1	0	36	0	0	0	0	0	0	0	0	0	0	0
14:45	0	40	7	0	47	0	0	0	0	0	0	0	0	0	0	0
15:00	1	33	1	0	35	0	0	0	0	0	0	0	0	0	0	1
15:15	0	41	3	0	44	0	0	0	0	0	0	0	0	0	0	0
15:30	0	50	4	0	54	0	1	0	0	1	0	0	0	0	0	0
15:45	0	38	4	0	42	0	0	1	0	1	0	0	0	0	0	0
16:00	0	57	7	0	64	0	1	1	0	2	0	0	0	0	0	0
16:15	0	52	4	0	56	0	0	0	0	0	0	0	0	0	0	1
16:30	0	39	3	0	42	0	0	0	0	0	0	0	0	0	0	0
16:45	0	45	5	0	50	0	0	0	0	0	0	0	0	0	0	0
17:00	0	32	7	0	39	0	0	0	0	0	0	0	0	0	0	2
17:15	0	51	4	0	55	0	0	0	0	0	0	0	0	0	0	0
17:30	1	31	2	0	34	0	2	0	0	2	0	0	0	0	0	1
17:45	0	27	3	0	30	0	0	0	0	0	0	0	0	0	0	0
18:00	0	16	2	0	18	0	0	0	0	0	0	0	0	0	0	0
18:15	0	26	1	0	27	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	613	58	0	673	0	4	2	0	6	0	0	0	0	0	5
GRAND TOTAL	8	1213	73	0	1294	0	23	7	0	30	0	0	0	0	0	9

Peak Hour Diagram

Specified Period
From: 06:00:00
To: 10:00:00

One Hour Peak
From: 07:00:00
To: 08:00:00

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Count Date: Jan 23, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Cavanagh Rd runs E/W

North Approach

	Out	In	Total
Cars	1	0	1
Trucks	0	0	0
Bicycles	0	0	0
	1	**0**	**1**

Dunlop Rd

Bicycles	0	0	0	0
Trucks	0	0	0	0
Cars	1	0	0	0
Totals	**1**	**0**	**0**	**0**

Peds: 0

East Approach

	Out	In	Total
Cars	133	218	351
Trucks	9	3	12
Bicycles	0	0	0
	142	**221**	**363**

Cavanagh Rd

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	0	**0**	
0	3	196	**199**	
0	1	3	**4**	

Peds: 3



Peds: 0

Cavanagh Rd

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	0	0	0	0
	137	129	8	0
	5	4	1	0

Peds: 0

West Approach

	Out	In	Total
Cars	199	142	341
Trucks	4	8	12
Bicycles	0	0	0
	203	**150**	**353**

Totals	**12**	**0**	**22**	**0**
Cars	12	0	22	0
Trucks	0	0	0	0
Bicycles	0	0	0	0

Dunlop Rd

South Approach

	Out	In	Total
Cars	34	7	41
Trucks	0	2	2
Bicycles	0	0	0
	34	**9**	**43**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Count Date: Jan 23, 2025
Period: 06:00 - 10:00

Peak Hour Data (07:00 - 08:00)

Start Time	North Approach Dunlop Rd						South Approach Dunlop Rd						East Approach Cavanagh Rd						West Approach Cavanagh Rd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:00	0	0	0	0	0	0	5	0	5	0	0	10	0	25	0	0	0	25	0	60	0	0	0	60	95
07:15	0	0	0	0	0	0	3	0	8	0	0	11	2	36	0	0	0	38	0	43	0	0	1	43	92
07:30	0	0	0	0	0	0	3	0	8	0	0	11	1	33	0	0	0	34	0	44	1	0	1	45	90
07:45	0	0	1	0	0	1	1	0	1	0	0	2	2	43	0	0	0	45	0	52	3	0	1	55	103
Grand Total	**0**	**0**	**1**	**0**	**0**	**1**	**12**	**0**	**22**	**0**	**0**	**34**	**5**	**137**	**0**	**0**	**0**	**142**	**0**	**199**	**4**	**0**	**3**	**203**	**380**
Approach %	0	0	100	0		-	35.3	0	64.7	0		-	3.5	96.5	0	0		-	0	98	2	0		-	
Totals %	0	0	0.3	0		0.3	3.2	0	5.8	0		8.9	1.3	36.1	0	0		37.4	0	52.4	1.1	0		53.4	
PHF	**0**	**0**	**0.25**	**0**		**0.25**	**0.6**	**0**	**0.69**	**0**		**0.77**	**0.63**	**0.8**	**0**	**0**		**0.79**	**0**	**0.83**	**0.33**	**0**		**0.85**	**0.92**
Cars	0	0	1	0		1	12	0	22	0		34	4	129	0	0		133	0	196	3	0		199	367
% Cars	0	0	100	0		100	100	0	100	0		100	80	94.2	0	0		93.7	0	98.5	75	0		98	96.6
Trucks	0	0	0	0		0	0	0	0	0		0	1	8	0	0		9	0	3	1	0		4	13
% Trucks	0	0	0	0		0	0	0	0	0		0	20	5.8	0	0		6.3	0	1.5	25	0		2	3.4
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					0	-					0	-					3	-	3
% Peds					0	-					0	-					0	-					100	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	14:30:00	From:	15:30:00
To:	18:30:00	To:	16:30:00

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Count Date: Jan 23, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Cavanagh Rd runs E/W

North Approach

	Out	In	Total
	0	0	0
	0	0	0
	0	0	0
	0	**0**	**0**

Dunlop Rd

	0	0	0	0
	0	0	0	0
	0	0	0	0
Totals	**0**	**0**	**0**	**0**

Peds: 0

East Approach

	Out	In	Total
	334	209	543
	3	2	5
	0	0	0
	337	**211**	**548**

Cavanagh Rd

			Totals	
0	0	0	**0**	
0	0	0	**0**	
0	2	197	**199**	
0	2	19	**21**	

Peds: 1



Peds: 0

Cavanagh Rd

Totals			
0	0	0	0
0	0	0	0
310	307	3	0
27	27	0	0

Peds: 0

West Approach

	Out	In	Total
	216	326	542
	4	3	7
	0	0	0
	220	**329**	**549**

Totals	**19**	**0**	**12**	**0**
	19	0	12	0
	0	0	0	0
	0	0	0	0

Dunlop Rd

South Approach

	Out	In	Total
	31	46	77
	0	2	2
	0	0	0
	31	**48**	**79**

- Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Cavanagh Rd & Dunlop Rd
Site Code: 2501300002
Count Date: Jan 23, 2025
Period: 14:30 - 18:30

Peak Hour Data (15:30 - 16:30)

Start Time	North Approach Dunlop Rd						South Approach Dunlop Rd						East Approach Cavanagh Rd						West Approach Cavanagh Rd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
15:30	0	0	0	0	0	0	4	0	2	0	0	6	7	69	0	0	0	76	0	51	4	0	0	55	137
15:45	0	0	0	0	0	0	5	0	0	0	0	5	3	78	0	0	0	81	0	38	5	0	0	43	129
16:00	0	0	0	0	0	0	3	0	6	0	0	9	4	82	0	0	0	86	0	58	8	0	0	66	161
16:15	0	0	0	0	0	0	7	0	4	0	0	11	13	81	0	0	0	94	0	52	4	0	1	56	161
Grand Total	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**12**	**0**	**0**	**31**	**27**	**310**	**0**	**0**	**0**	**337**	**0**	**199**	**21**	**0**	**1**	**220**	**588**
Approach %	0	0	0	0		-	61.3	0	38.7	0		-	8	92	0	0		-	0	90.5	9.5	0		-	
Totals %	0	0	0	0		0	3.2	0	2	0		5.3	4.6	52.7	0	0		57.3	0	33.8	3.6	0		37.4	
PHF	**0**	**0**	**0**	**0**		**0**	**0.68**	**0**	**0.5**	**0**		**0.7**	**0.52**	**0.95**	**0**	**0**		**0.9**	**0**	**0.86**	**0.66**	**0**		**0.83**	**0.91**
Cars	0	0	0	0		0	19	0	12	0		31	27	307	0	0		334	0	197	19	0		216	581
% Cars	0	0	0	0		0	100	0	100	0		100	100	99	0	0		99.1	0	99	90.5	0		98.2	98.8
Trucks	0	0	0	0		0	0	0	0	0		0	0	3	0	0		3	0	2	2	0		4	7
% Trucks	0	0	0	0		0	0	0	0	0		0	0	1	0	0		0.9	0	1	9.5	0		1.8	1.2
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					0	-					0	-					1	-	1
% Peds					0	-					0	-					0	-					100	-	

Carleton PLACE

Town of Carleton Place

Transportation Master Plan



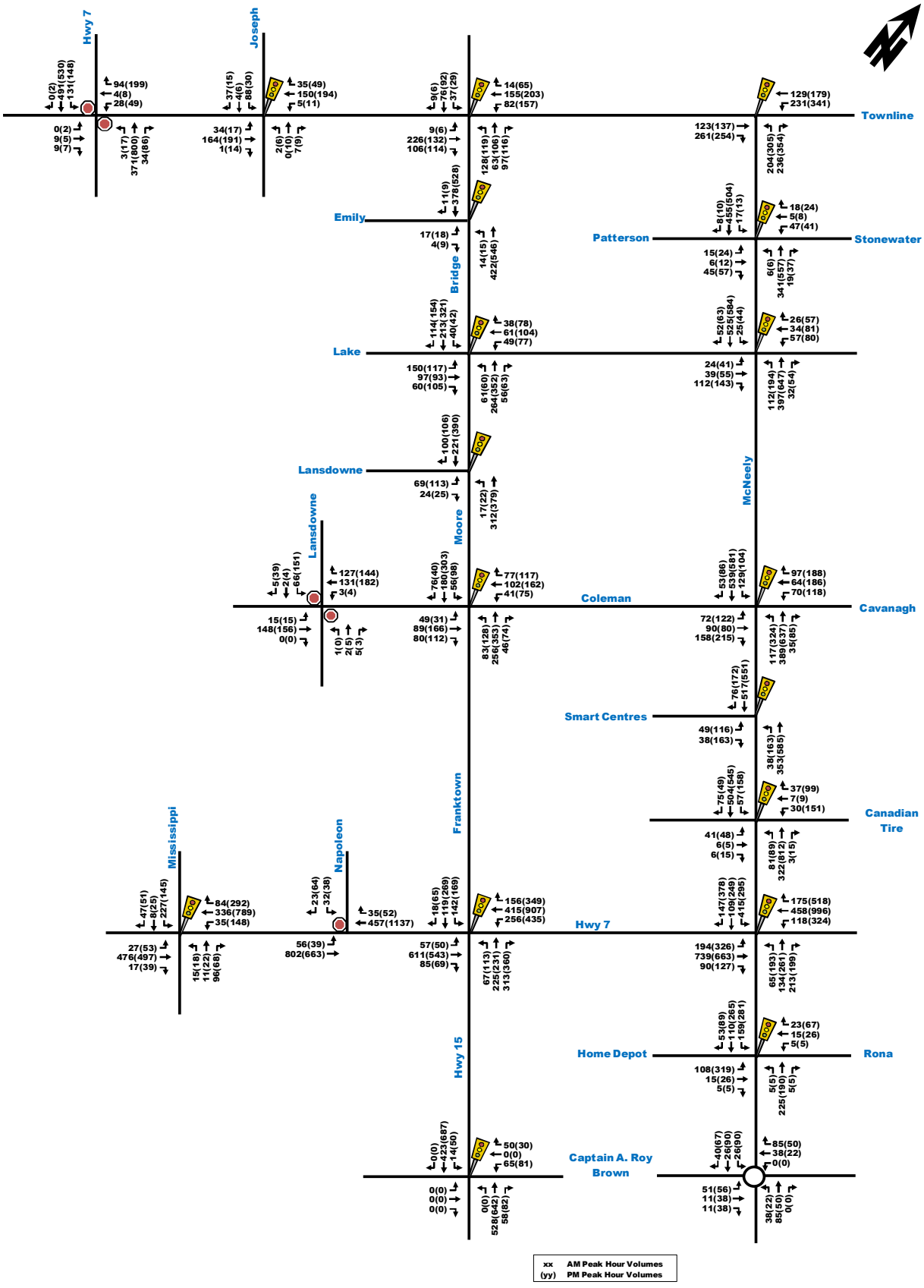




October 2022

PARSONS

Figure B3-1: Total Projected 2026 Peak Hour Traffic Volumes



APPENDIX C – SYNCHRO OUTPUT REPORTS

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	199	4	5	173	0	12	0	22	0	0	1
Future Vol, veh/h	0	199	4	5	173	0	12	0	22	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	25	20	6	0	0	0	0	0	0	0
Mvmt Flow	0	216	4	5	188	0	13	0	24	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	188	0	0	220	0	0	417	416	218	428	418	188
Stage 1	-	-	-	-	-	-	218	218	-	198	198	-
Stage 2	-	-	-	-	-	-	199	198	-	230	220	-
Critical Hdwy	4.1	-	-	4.3	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.38	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1398	-	-	1250	-	-	550	530	827	541	529	859
Stage 1	-	-	-	-	-	-	789	726	-	808	741	-
Stage 2	-	-	-	-	-	-	807	741	-	777	725	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1398	-	-	1250	-	-	548	528	827	524	527	859
Mov Cap-2 Maneuver	-	-	-	-	-	-	548	528	-	524	527	-
Stage 1	-	-	-	-	-	-	789	726	-	808	738	-
Stage 2	-	-	-	-	-	-	803	738	-	755	725	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	10.4	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	701	1398	-	-	1250	-	-	859
HCM Lane V/C Ratio	0.053	-	-	-	0.004	-	-	0.001
HCM Control Delay (s)	10.4	0	-	-	7.9	0	-	9.2
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	164	33	2	153	31	35	6	5	34	2	40
Future Vol, veh/h	64	164	33	2	153	31	35	6	5	34	2	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	0	0	5	6	0	0	0	0	0	0
Mvmt Flow	70	178	36	2	166	34	38	7	5	37	2	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	200	0	0	214	0	0	528	522	178	512	524	166
Stage 1	-	-	-	-	-	-	318	318	-	170	170	-
Stage 2	-	-	-	-	-	-	210	204	-	342	354	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1372	-	-	1368	-	-	464	462	870	476	461	884
Stage 1	-	-	-	-	-	-	698	657	-	837	762	-
Stage 2	-	-	-	-	-	-	797	737	-	677	634	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1372	-	-	1368	-	-	419	434	870	446	433	884
Mov Cap-2 Maneuver	-	-	-	-	-	-	419	434	-	446	433	-
Stage 1	-	-	-	-	-	-	658	619	-	788	760	-
Stage 2	-	-	-	-	-	-	754	736	-	627	597	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.1	14.1	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	446	1372	-	-	1368	-	-	603
HCM Lane V/C Ratio	0.112	0.051	-	-	0.002	-	-	0.137
HCM Control Delay (s)	14.1	7.8	0	-	7.6	0	-	11.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	0.5

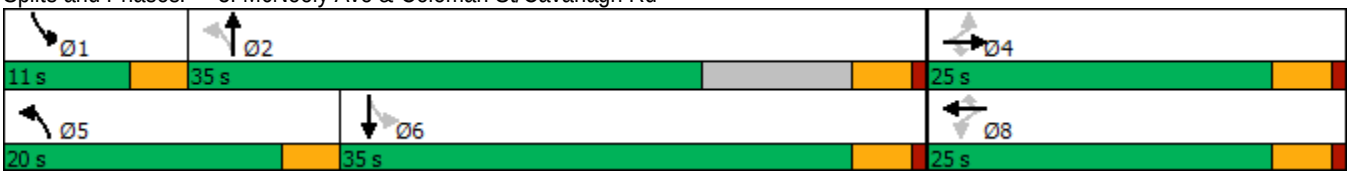
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	92	156	69	63	96	116	385	36	133	534	52
Future Volume (vph)	71	92	156	69	63	96	116	385	36	133	534	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.987			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3493	0	1770	3493	0
Flt Permitted	0.713			0.692			0.365			0.489		
Satd. Flow (perm)	1328	1863	1583	1289	1863	1583	680	3493	0	911	3493	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170			116		17			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	100	170	75	68	104	126	418	39	145	580	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	100	170	75	68	104	126	457	0	145	637	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	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	
Act Effct Green (s)	10.4	10.4	10.4	10.4	10.4	10.4	27.3	20.5		26.8	20.3	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.57	0.43		0.56	0.42	
v/c Ratio	0.27	0.25	0.36	0.27	0.17	0.24	0.23	0.31		0.23	0.43	
Control Delay	20.0	18.9	6.3	20.1	18.0	5.5	4.9	10.3		4.9	11.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	20.0	18.9	6.3	20.1	18.0	5.5	4.9	10.3		4.9	11.8	
LOS	C	B	A	C	B	A	A	B		A	B	
Approach Delay		13.0			13.4			9.1			10.5	
Approach LOS		B			B			A			B	
Queue Length 50th (m)	6.1	7.9	0.0	6.0	5.3	0.0	3.6	13.8		4.2	20.7	
Queue Length 95th (m)	16.1	19.1	12.3	15.9	14.0	8.7	8.8	24.2		10.0	37.0	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	570	800	777	554	800	746	796	2887		646	2239	
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	0.14	0.13	0.22	0.14	0.09	0.14	0.16	0.16		0.22	0.28	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 48.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 10.9 Intersection LOS: B
Intersection Capacity Utilization 45.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd



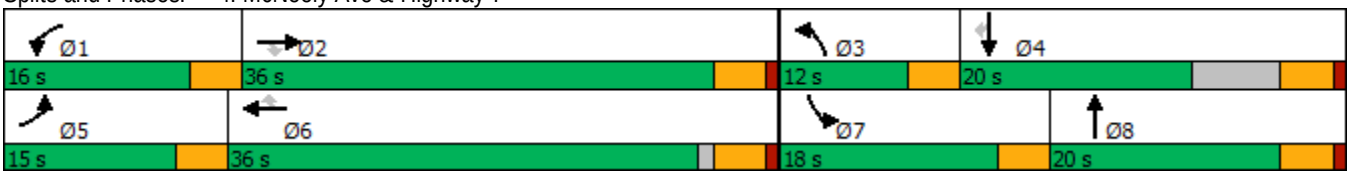
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	732	89	117	453	187	64	143	211	469	123	167
Future Volume (vph)	207	732	89	117	453	187	64	143	211	469	123	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.911				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3224	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3224	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			203		229				182
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	225	796	97	127	492	203	70	155	229	510	134	182
Shared Lane Traffic (%)												
Lane Group Flow (vph)	225	796	97	127	492	203	70	384	0	510	134	182
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	36.0	36.0	16.0	36.0	36.0	12.0	20.0		18.0	20.0	20.0
Total Split (%)	16.7%	40.0%	40.0%	17.8%	40.0%	40.0%	13.3%	22.2%		20.0%	22.2%	22.2%
Maximum Green (s)	11.5	31.5	31.5	12.5	31.5	31.5	8.5	15.5		14.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	9.9	26.4	26.4	10.2	24.3	24.3	7.6	11.1		14.4	20.0	20.0
Actuated g/C Ratio	0.13	0.35	0.35	0.13	0.32	0.32	0.10	0.15		0.19	0.26	0.26
v/c Ratio	0.50	0.65	0.15	0.54	0.43	0.31	0.40	0.57		0.78	0.14	0.33
Control Delay	36.3	25.0	1.8	41.0	21.8	4.5	41.5	16.7		40.9	25.2	6.5
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	36.3	25.0	1.8	41.0	21.8	4.5	41.5	16.7		40.9	25.2	6.5
LOS	D	C	A	D	C	A	D	B		D	C	A
Approach Delay		25.2			20.5			20.5			30.8	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	15.7	54.2	0.0	17.3	29.8	0.0	9.6	10.9		36.2	8.3	0.0
Queue Length 95th (m)	31.3	81.8	4.1	39.6	47.2	13.8	25.6	26.9		#76.2	18.0	16.3
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	525	1485	748	294	1532	800	200	847		663	1069	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	0.43	0.54	0.13	0.43	0.32	0.25	0.35	0.45		0.77	0.13	0.30

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 75.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 24.8 Intersection LOS: C
Intersection Capacity Utilization 65.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	199	21	27	404	0	19	0	12	0	0	0
Future Vol, veh/h	0	199	21	27	404	0	19	0	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	10	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	216	23	29	439	0	21	0	13	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	439	0	0	239	0	0	725	725	228	731	736	439
Stage 1	-	-	-	-	-	-	228	228	-	497	497	-
Stage 2	-	-	-	-	-	-	497	497	-	234	239	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1132	-	-	1340	-	-	343	354	816	340	349	622
Stage 1	-	-	-	-	-	-	779	719	-	559	548	-
Stage 2	-	-	-	-	-	-	559	548	-	774	711	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1132	-	-	1340	-	-	335	344	816	327	339	622
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	344	-	327	339	-
Stage 1	-	-	-	-	-	-	779	719	-	559	532	-
Stage 2	-	-	-	-	-	-	543	532	-	762	711	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	14	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	434	1132	-	-	1340	-	-	-
HCM Lane V/C Ratio	0.078	-	-	-	0.022	-	-	-
HCM Control Delay (s)	14	0	-	-	7.7	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

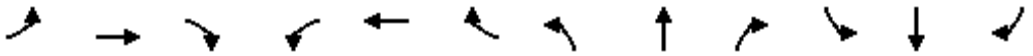
Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	175	56	2	377	44	38	5	7	38	6	72
Future Vol, veh/h	56	175	56	2	377	44	38	5	7	38	6	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	1	0	0	1	0	3	20	0	5	0	1
Mvmt Flow	61	190	61	2	410	48	41	5	8	41	7	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	251	0	0	793	774	190	763	787	410
Stage 1	-	-	-	-	-	-	312	312	-	414	414	-
Stage 2	-	-	-	-	-	-	481	462	-	349	373	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.13	6.7	6.2	7.15	6.5	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.527	4.18	3.3	3.545	4	3.309
Pot Cap-1 Maneuver	1103	-	-	1326	-	-	305	309	857	317	326	644
Stage 1	-	-	-	-	-	-	696	626	-	610	597	-
Stage 2	-	-	-	-	-	-	564	535	-	661	622	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1103	-	-	1326	-	-	250	288	857	294	304	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	288	-	294	304	-
Stage 1	-	-	-	-	-	-	651	585	-	570	596	-
Stage 2	-	-	-	-	-	-	489	534	-	607	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	20.8	16.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	282	1103	-	-	1326	-	-	445
HCM Lane V/C Ratio	0.193	0.055	-	-	0.002	-	-	0.283
HCM Control Delay (s)	20.8	8.5	0	-	7.7	0	-	16.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	1.2



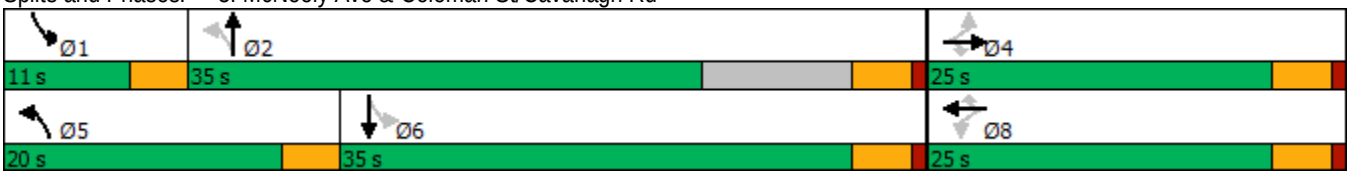
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	85	213	117	184	186	338	665	91	111	583	85
Future Volume (vph)	121	85	213	117	184	186	338	665	91	111	583	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.982			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3476	0	1770	3472	0
Flt Permitted	0.562			0.697			0.238			0.342		
Satd. Flow (perm)	1047	1863	1583	1298	1863	1583	443	3476	0	637	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			232			202		26			23	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	92	232	127	200	202	367	723	99	121	634	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	92	232	127	200	202	367	822	0	121	726	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	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	
Act Effct Green (s)	13.6	13.6	13.6	13.6	13.6	13.6	39.3	30.0		29.6	21.7	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.64	0.49		0.48	0.36	
v/c Ratio	0.57	0.22	0.44	0.44	0.48	0.40	0.65	0.48		0.28	0.58	
Control Delay	32.6	21.8	6.3	26.7	25.7	6.3	12.4	12.4		7.8	18.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	32.6	21.8	6.3	26.7	25.7	6.3	12.4	12.4		7.8	18.8	
LOS	C	C	A	C	C	A	B	B		A	B	
Approach Delay		17.0			18.5			12.4			17.2	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	13.2	8.5	0.0	12.3	19.6	0.0	15.1	31.8		4.3	33.1	
Queue Length 95th (m)	33.8	22.1	16.0	30.8	43.5	15.0	45.4	57.4		12.6	62.4	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	358	638	694	444	638	675	651	2303		458	1781	
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	0.37	0.14	0.33	0.29	0.31	0.30	0.56	0.36		0.26	0.41	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 61.1
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 15.5 Intersection LOS: B
Intersection Capacity Utilization 70.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd



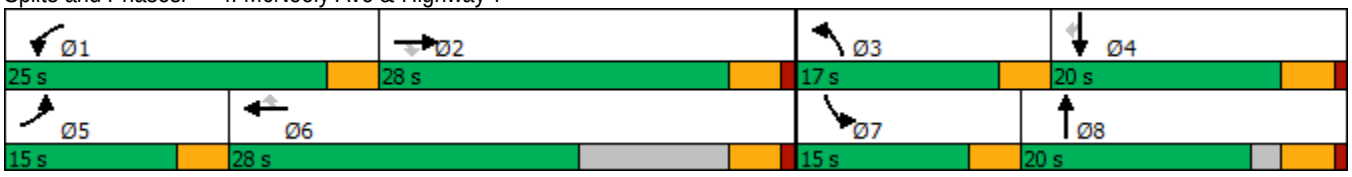
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	323	656	126	321	986	513	191	258	197	292	247	374
Future Volume (vph)	323	656	126	321	986	513	191	258	197	292	247	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3309	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3309	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			400		190				287
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	351	713	137	349	1072	558	208	280	214	317	268	407
Shared Lane Traffic (%)												
Lane Group Flow (vph)	351	713	137	349	1072	558	208	494	0	317	268	407
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	28.0	28.0	25.0	28.0	28.0	17.0	20.0		15.0	20.0	20.0
Total Split (%)	16.7%	31.1%	31.1%	27.8%	31.1%	31.1%	18.9%	22.2%		16.7%	22.2%	22.2%
Maximum Green (s)	11.5	23.5	23.5	21.5	23.5	23.5	13.5	15.5		11.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	11.2	22.1	22.1	19.5	30.4	30.4	12.7	14.7		11.0	13.0	13.0
Actuated g/C Ratio	0.13	0.26	0.26	0.23	0.36	0.36	0.15	0.18		0.13	0.16	0.16
v/c Ratio	0.76	0.76	0.26	0.85	0.83	0.67	0.77	0.67		0.70	0.49	0.83
Control Delay	48.4	35.2	5.8	51.7	31.4	11.0	56.1	24.7		45.1	36.2	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	48.4	35.2	5.8	51.7	31.4	11.0	56.1	24.7		45.1	36.2	27.3
LOS	D	D	A	D	C	B	E	C		D	D	C
Approach Delay		35.7			29.2			34.0			35.4	
Approach LOS		D			C			C			D	
Queue Length 50th (m)	32.0	62.1	0.0	59.5	89.1	19.3	36.4	26.2		28.6	23.2	19.8
Queue Length 95th (m)	#53.5	84.4	12.5	#106.2	117.4	57.2	#72.4	43.2		#45.8	35.5	#67.6
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	477	1005	553	459	1433	879	288	849		477	663	529
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	0.74	0.71	0.25	0.76	0.75	0.63	0.72	0.58		0.66	0.40	0.77

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 83.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 32.8 Intersection LOS: C
Intersection Capacity Utilization 72.4% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	201	4	5	176	0	12	0	22	0	0	1
Future Vol, veh/h	0	201	4	5	176	0	12	0	22	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	25	20	6	0	0	0	0	0	0	0
Mvmt Flow	0	218	4	5	191	0	13	0	24	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	191	0	0	222	0	0	422	421	220	433	423	191
Stage 1	-	-	-	-	-	-	220	220	-	201	201	-
Stage 2	-	-	-	-	-	-	202	201	-	232	222	-
Critical Hdwy	4.1	-	-	4.3	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.38	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1395	-	-	1248	-	-	546	527	825	537	526	856
Stage 1	-	-	-	-	-	-	787	725	-	805	739	-
Stage 2	-	-	-	-	-	-	805	739	-	775	723	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1395	-	-	1248	-	-	544	525	825	520	524	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	544	525	-	520	524	-
Stage 1	-	-	-	-	-	-	787	725	-	805	736	-
Stage 2	-	-	-	-	-	-	801	736	-	753	723	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	10.4	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	698	1395	-	-	1248	-	-	856
HCM Lane V/C Ratio	0.053	-	-	-	0.004	-	-	0.001
HCM Control Delay (s)	10.4	0	-	-	7.9	0	-	9.2
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

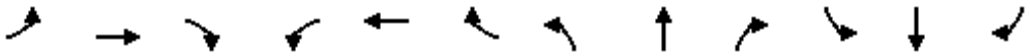
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	166	33	2	156	31	35	6	5	34	2	40
Future Vol, veh/h	65	166	33	2	156	31	35	6	5	34	2	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	0	0	5	6	0	0	0	0	0	0
Mvmt Flow	71	180	36	2	170	34	38	7	5	37	2	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	204	0	0	216	0	0	536	530	180	520	532	170
Stage 1	-	-	-	-	-	-	322	322	-	174	174	-
Stage 2	-	-	-	-	-	-	214	208	-	346	358	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1368	-	-	1366	-	-	459	457	868	470	456	879
Stage 1	-	-	-	-	-	-	694	655	-	833	759	-
Stage 2	-	-	-	-	-	-	793	734	-	674	631	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1368	-	-	1366	-	-	414	429	868	440	428	879
Mov Cap-2 Maneuver	-	-	-	-	-	-	414	429	-	440	428	-
Stage 1	-	-	-	-	-	-	653	616	-	784	757	-
Stage 2	-	-	-	-	-	-	750	733	-	624	594	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.1	14.2	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	441	1368	-	-	1366	-	-	596
HCM Lane V/C Ratio	0.113	0.052	-	-	0.002	-	-	0.139
HCM Control Delay (s)	14.2	7.8	0	-	7.6	0	-	12
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	0.5



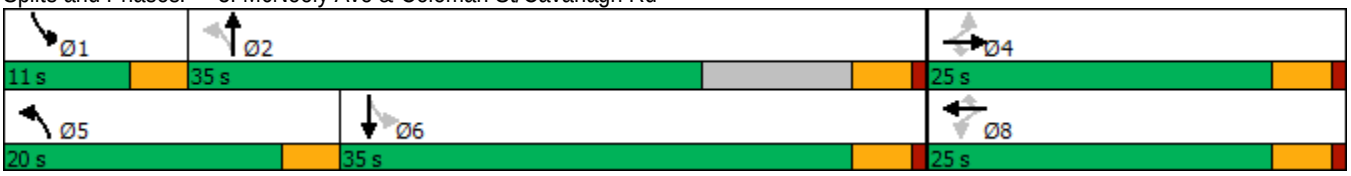
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	93	158	70	64	97	117	389	36	135	539	53
Future Volume (vph)	72	93	158	70	64	97	117	389	36	135	539	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.987			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3493	0	1770	3490	0
Flt Permitted	0.711			0.692			0.361			0.486		
Satd. Flow (perm)	1324	1863	1583	1289	1863	1583	672	3493	0	905	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172			116		17			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	78	101	172	76	70	105	127	423	39	147	586	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	101	172	76	70	105	127	462	0	147	644	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

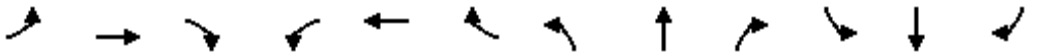
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)	10.4	10.4	10.4	10.4	10.4	10.4	27.3	20.6		26.8	20.3	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.57	0.43		0.55	0.42	
v/c Ratio	0.27	0.25	0.36	0.27	0.17	0.24	0.23	0.31		0.23	0.44	
Control Delay	20.1	19.0	6.3	20.2	18.1	5.6	4.9	10.3		5.0	11.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	20.1	19.0	6.3	20.2	18.1	5.6	4.9	10.3		5.0	11.8	
LOS	C	B	A	C	B	A	A	B		A	B	
Approach Delay		13.0			13.5			9.2			10.6	
Approach LOS		B			B			A			B	
Queue Length 50th (m)	6.2	8.0	0.0	6.0	5.4	0.0	3.7	14.1		4.3	21.0	
Queue Length 95th (m)	16.3	19.1	12.5	16.1	14.4	8.8	9.0	24.5		10.2	37.7	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	568	800	778	553	800	746	793	2885		643	2236	
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	0.14	0.13	0.22	0.14	0.09	0.14	0.16	0.16		0.23	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 48.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 46.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd





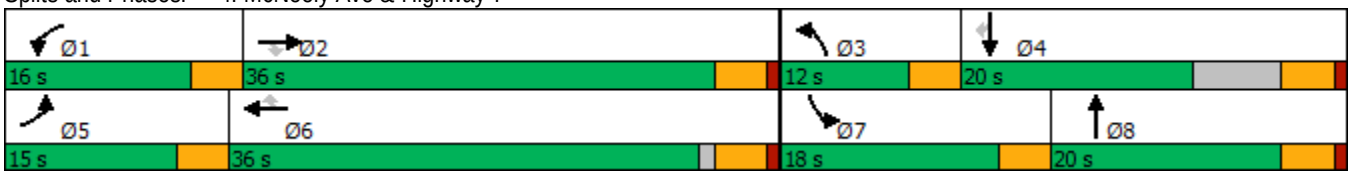
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	739	90	118	458	189	65	144	213	474	124	169
Future Volume (vph)	209	739	90	118	458	189	65	144	213	474	124	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.911				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3224	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3224	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			205		232				184
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	227	803	98	128	498	205	71	157	232	515	135	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	803	98	128	498	205	71	389	0	515	135	184
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	36.0	36.0	16.0	36.0	36.0	12.0	20.0		18.0	20.0	20.0
Total Split (%)	16.7%	40.0%	40.0%	17.8%	40.0%	40.0%	13.3%	22.2%		20.0%	22.2%	22.2%
Maximum Green (s)	11.5	31.5	31.5	12.5	31.5	31.5	8.5	15.5		14.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	9.9	26.5	26.5	10.2	24.4	24.4	7.6	11.2		14.5	20.1	20.1
Actuated g/C Ratio	0.13	0.35	0.35	0.13	0.32	0.32	0.10	0.15		0.19	0.26	0.26
v/c Ratio	0.51	0.65	0.15	0.54	0.44	0.32	0.40	0.58		0.79	0.14	0.33
Control Delay	36.4	25.1	1.9	41.3	21.9	4.5	41.7	16.8		41.4	25.2	6.5
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	36.4	25.1	1.9	41.3	21.9	4.5	41.7	16.8		41.4	25.2	6.5
LOS	D	C	A	D	C	A	D	B		D	C	A
Approach Delay		25.4			20.6			20.6			31.1	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	15.9	55.0	0.0	17.5	30.3	0.0	9.8	11.1		36.9	8.4	0.0
Queue Length 95th (m)	31.6	82.8	4.4	39.7	47.8	14.0	25.8	27.2		#77.5	18.0	16.3
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	524	1480	746	294	1527	799	199	848		661	1069	606
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	0.43	0.54	0.13	0.44	0.33	0.26	0.36	0.46		0.78	0.13	0.30

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 24.9 Intersection LOS: C
Intersection Capacity Utilization 65.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	201	21	27	408	0	19	0	12	0	0	0
Future Vol, veh/h	0	201	21	27	408	0	19	0	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	10	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	218	23	29	443	0	21	0	13	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	443	0	0	241	0	0	731	731	230	737	742	443
Stage 1	-	-	-	-	-	-	230	230	-	501	501	-
Stage 2	-	-	-	-	-	-	501	501	-	236	241	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1128	-	-	1337	-	-	340	351	814	337	346	619
Stage 1	-	-	-	-	-	-	777	718	-	556	546	-
Stage 2	-	-	-	-	-	-	556	546	-	772	710	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1128	-	-	1337	-	-	333	341	814	324	336	619
Mov Cap-2 Maneuver	-	-	-	-	-	-	333	341	-	324	336	-
Stage 1	-	-	-	-	-	-	777	718	-	556	530	-
Stage 2	-	-	-	-	-	-	540	530	-	760	710	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	14	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	432	1128	-	-	1337	-	-	-
HCM Lane V/C Ratio	0.078	-	-	-	0.022	-	-	-
HCM Control Delay (s)	14	0	-	-	7.8	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	177	57	2	381	44	38	5	7	38	6	73
Future Vol, veh/h	57	177	57	2	381	44	38	5	7	38	6	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	1	0	0	1	0	3	20	0	5	0	1
Mvmt Flow	62	192	62	2	414	48	41	5	8	41	7	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	462	0	0	254	0	0	801	782	192	772	796	414
Stage 1	-	-	-	-	-	-	316	316	-	418	418	-
Stage 2	-	-	-	-	-	-	485	466	-	354	378	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.13	6.7	6.2	7.15	6.5	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.527	4.18	3.3	3.545	4	3.309
Pot Cap-1 Maneuver	1099	-	-	1323	-	-	301	306	855	313	322	640
Stage 1	-	-	-	-	-	-	693	624	-	607	594	-
Stage 2	-	-	-	-	-	-	561	533	-	657	619	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1099	-	-	1323	-	-	246	285	855	290	300	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	246	285	-	290	300	-
Stage 1	-	-	-	-	-	-	647	583	-	567	593	-
Stage 2	-	-	-	-	-	-	485	532	-	603	578	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0	21.1	16.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	277	1099	-	-	1323	-	-	441
HCM Lane V/C Ratio	0.196	0.056	-	-	0.002	-	-	0.288
HCM Control Delay (s)	21.1	8.5	0	-	7.7	0	-	16.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	1.2

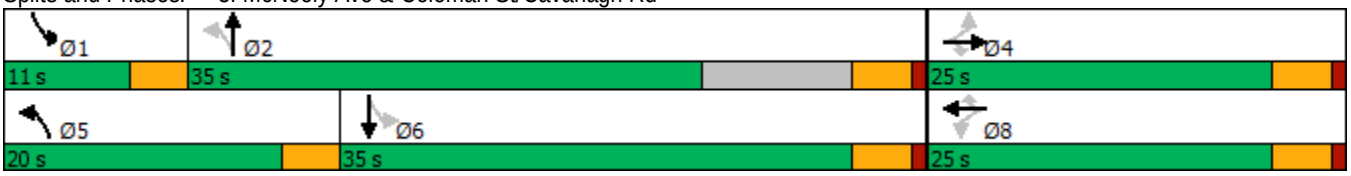
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	86	215	118	186	188	341	672	92	113	589	86
Future Volume (vph)	122	86	215	118	186	188	341	672	92	113	589	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.982			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3476	0	1770	3472	0
Flt Permitted	0.558			0.697			0.234			0.339		
Satd. Flow (perm)	1039	1863	1583	1298	1863	1583	436	3476	0	631	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234			204		26			23	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	93	234	128	202	204	371	730	100	123	640	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	93	234	128	202	204	371	830	0	123	733	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	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	
Act Effct Green (s)	13.7	13.7	13.7	13.7	13.7	13.7	39.5	30.1		29.7	21.8	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.64	0.49		0.48	0.36	
v/c Ratio	0.58	0.22	0.44	0.44	0.49	0.40	0.66	0.48		0.28	0.59	
Control Delay	33.0	21.9	6.3	26.9	25.9	6.3	12.9	12.4		7.9	18.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.0	21.9	6.3	26.9	25.9	6.3	12.9	12.4		7.9	18.9	
LOS	C	C	A	C	C	A	B	B		A	B	
Approach Delay		17.2			18.6			12.6			17.3	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	13.4	8.6	0.0	12.5	20.0	0.0	15.5	32.5		4.4	33.8	
Queue Length 95th (m)	34.2	22.4	16.0	31.1	43.9	15.1	47.1	58.2		12.8	63.2	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	354	636	694	443	636	674	647	2295		455	1775	
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	0.38	0.15	0.34	0.29	0.32	0.30	0.57	0.36		0.27	0.41	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 61.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 70.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd



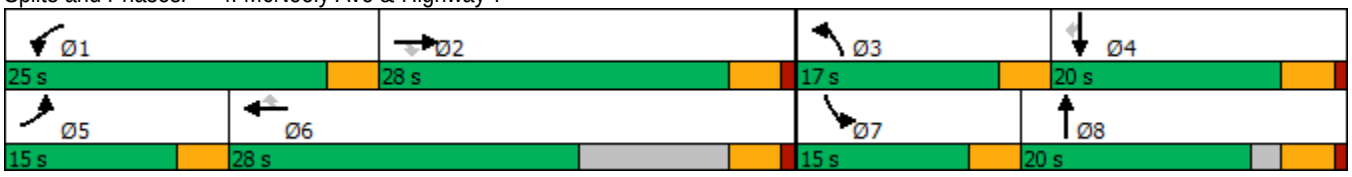
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	326	663	127	324	996	518	193	261	199	295	249	378
Future Volume (vph)	326	663	127	324	996	518	193	261	199	295	249	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3309	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3309	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			398		192				286
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	354	721	138	352	1083	563	210	284	216	321	271	411
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	721	138	352	1083	563	210	500	0	321	271	411
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	28.0	28.0	25.0	28.0	28.0	17.0	20.0		15.0	20.0	20.0
Total Split (%)	16.7%	31.1%	31.1%	27.8%	31.1%	31.1%	18.9%	22.2%		16.7%	22.2%	22.2%
Maximum Green (s)	11.5	23.5	23.5	21.5	23.5	23.5	13.5	15.5		11.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	11.2	22.2	22.2	19.6	30.6	30.6	12.8	14.9		11.1	13.1	13.1
Actuated g/C Ratio	0.13	0.26	0.26	0.23	0.36	0.36	0.15	0.18		0.13	0.16	0.16
v/c Ratio	0.77	0.77	0.26	0.85	0.84	0.68	0.78	0.67		0.71	0.49	0.84
Control Delay	49.1	35.8	5.8	52.3	31.8	11.4	56.7	24.8		45.8	36.3	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	49.1	35.8	5.8	52.3	31.8	11.4	56.7	24.8		45.8	36.3	28.4
LOS	D	D	A	D	C	B	E	C		D	D	C
Approach Delay		36.2			29.7			34.2			36.1	
Approach LOS		D			C			C			D	
Queue Length 50th (m)	32.5	63.4	0.0	60.4	91.1	20.4	37.0	26.6		29.1	23.5	20.7
Queue Length 95th (m)	#54.3	85.4	12.7	#107.3	118.9	59.1	#73.5	43.8		#46.6	35.9	#69.9
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	474	1001	551	457	1427	875	287	848		474	660	527
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	0.75	0.72	0.25	0.77	0.76	0.64	0.73	0.59		0.68	0.41	0.78

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 83.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 33.3 Intersection LOS: C
Intersection Capacity Utilization 73.0% 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: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	213	4	5	186	0	13	0	23	0	0	1
Future Vol, veh/h	0	213	4	5	186	0	13	0	23	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	25	20	6	0	0	0	0	0	0	0
Mvmt Flow	0	232	4	5	202	0	14	0	25	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	202	0	0	236	0	0	447	446	234	459	448	202
Stage 1	-	-	-	-	-	-	234	234	-	212	212	-
Stage 2	-	-	-	-	-	-	213	212	-	247	236	-
Critical Hdwy	4.1	-	-	4.3	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.38	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1382	-	-	1232	-	-	525	510	810	516	509	844
Stage 1	-	-	-	-	-	-	774	715	-	795	731	-
Stage 2	-	-	-	-	-	-	794	731	-	761	713	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1382	-	-	1232	-	-	522	507	810	498	506	844
Mov Cap-2 Maneuver	-	-	-	-	-	-	522	507	-	498	506	-
Stage 1	-	-	-	-	-	-	774	715	-	795	727	-
Stage 2	-	-	-	-	-	-	789	727	-	738	713	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	10.7	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	675	1382	-	-	1232	-	-	844
HCM Lane V/C Ratio	0.058	-	-	-	0.004	-	-	0.001
HCM Control Delay (s)	10.7	0	-	-	7.9	0	-	9.3
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

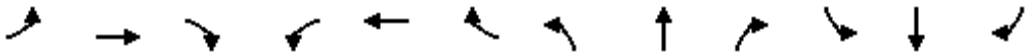
Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	176	35	2	165	33	37	6	5	36	2	42
Future Vol, veh/h	68	176	35	2	165	33	37	6	5	36	2	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	0	0	5	6	0	0	0	0	0	0
Mvmt Flow	74	191	38	2	179	36	40	7	5	39	2	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	215	0	0	229	0	0	564	558	191	547	560	179
Stage 1	-	-	-	-	-	-	339	339	-	183	183	-
Stage 2	-	-	-	-	-	-	225	219	-	364	377	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1355	-	-	1351	-	-	439	441	856	451	440	869
Stage 1	-	-	-	-	-	-	680	643	-	823	752	-
Stage 2	-	-	-	-	-	-	782	726	-	659	619	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1355	-	-	1351	-	-	394	412	856	421	411	869
Mov Cap-2 Maneuver	-	-	-	-	-	-	394	412	-	421	411	-
Stage 1	-	-	-	-	-	-	637	602	-	771	750	-
Stage 2	-	-	-	-	-	-	737	725	-	607	580	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.1	14.8	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	420	1355	-	-	1351	-	-	577
HCM Lane V/C Ratio	0.124	0.055	-	-	0.002	-	-	0.151
HCM Control Delay (s)	14.8	7.8	0	-	7.7	0	-	12.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0	-	-	0.5



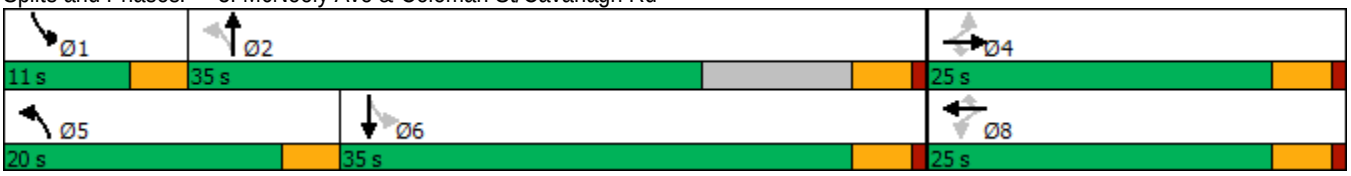
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	98	166	74	67	103	123	408	38	143	566	56
Future Volume (vph)	76	98	166	74	67	103	123	408	38	143	566	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.987			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3493	0	1770	3490	0
Flt Permitted	0.709			0.688			0.337			0.476		
Satd. Flow (perm)	1321	1863	1583	1282	1863	1583	628	3493	0	887	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			116		17			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	107	180	80	73	112	134	443	41	155	615	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	107	180	80	73	112	134	484	0	155	676	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	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	
Act Effct Green (s)	10.5	10.5	10.5	10.5	10.5	10.5	27.7	20.7		26.9	20.4	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.57	0.43		0.55	0.42	
v/c Ratio	0.29	0.26	0.37	0.29	0.18	0.26	0.25	0.32		0.25	0.46	
Control Delay	20.5	19.2	6.2	20.5	18.2	6.1	5.1	10.5		5.2	12.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	20.5	19.2	6.2	20.5	18.2	6.1	5.1	10.5		5.2	12.3	
LOS	C	B	A	C	B	A	A	B		A	B	
Approach Delay		13.2			13.8			9.3			11.0	
Approach LOS		B			B			A			B	
Queue Length 50th (m)	6.6	8.5	0.0	6.4	5.7	0.0	3.9	15.0		4.5	22.4	
Queue Length 95th (m)	17.3	20.2	12.7	16.8	14.9	9.7	9.7	26.1		11.0	41.1	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	564	796	779	548	796	743	779	2871		632	2225	
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	0.15	0.13	0.23	0.15	0.09	0.15	0.17	0.17		0.25	0.30	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 48.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 47.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd



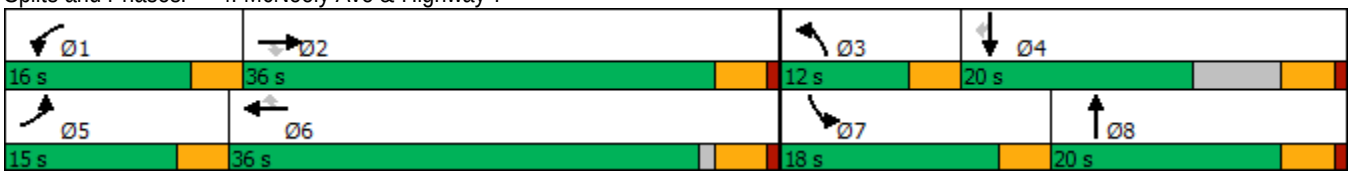
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	776	95	124	481	198	68	151	224	499	130	177
Future Volume (vph)	220	776	95	124	481	198	68	151	224	499	130	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.910				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3221	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3221	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			215		243				192
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	843	103	135	523	215	74	164	243	542	141	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	843	103	135	523	215	74	407	0	542	141	192
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	36.0	36.0	16.0	36.0	36.0	12.0	20.0		18.0	20.0	20.0
Total Split (%)	16.7%	40.0%	40.0%	17.8%	40.0%	40.0%	13.3%	22.2%		20.0%	22.2%	22.2%
Maximum Green (s)	11.5	31.5	31.5	12.5	31.5	31.5	8.5	15.5		14.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	10.1	24.7	24.7	10.4	25.0	25.0	7.6	11.3		14.6	20.4	20.4
Actuated g/C Ratio	0.13	0.32	0.32	0.13	0.32	0.32	0.10	0.15		0.19	0.26	0.26
v/c Ratio	0.53	0.74	0.17	0.57	0.46	0.33	0.42	0.60		0.83	0.15	0.34
Control Delay	37.4	28.3	2.2	42.8	22.2	4.4	42.9	17.1		44.9	25.6	6.5
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	37.4	28.3	2.2	42.8	22.2	4.4	42.9	17.1		44.9	25.6	6.5
LOS	D	C	A	D	C	A	D	B		D	C	A
Approach Delay		27.9			21.0			21.0			33.3	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	17.3	59.0	0.0	18.9	32.3	0.0	10.4	12.0		40.3	9.1	0.0
Queue Length 95th (m)	33.1	88.5	5.1	41.7	50.8	14.2	26.9	28.2		#84.0	18.7	16.6
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	516	1458	737	289	1504	796	196	846		651	1063	609
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	0.46	0.58	0.14	0.47	0.35	0.27	0.38	0.48		0.83	0.13	0.32

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 26.5 Intersection LOS: C
Intersection Capacity Utilization 68.1% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	212	22	28	428	0	20	0	13	0	0	0
Future Vol, veh/h	0	212	22	28	428	0	20	0	13	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	10	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	230	24	30	465	0	22	0	14	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	254	0	0	767	767	242	774	779	465
Stage 1	-	-	-	-	-	-	242	242	-	525	525	-
Stage 2	-	-	-	-	-	-	525	525	-	249	254	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1107	-	-	1323	-	-	322	335	802	318	330	602
Stage 1	-	-	-	-	-	-	766	709	-	540	533	-
Stage 2	-	-	-	-	-	-	540	533	-	759	701	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1107	-	-	1323	-	-	314	325	802	305	320	602
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	325	-	305	320	-
Stage 1	-	-	-	-	-	-	766	709	-	540	516	-
Stage 2	-	-	-	-	-	-	523	516	-	746	701	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	14.5	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	413	1107	-	-	1323	-	-	-
HCM Lane V/C Ratio	0.087	-	-	-	0.023	-	-	-
HCM Control Delay (s)	14.5	0	-	-	7.8	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

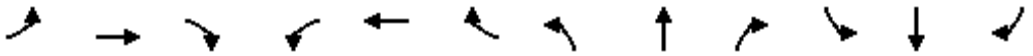
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	187	60	2	400	46	40	5	7	40	6	77
Future Vol, veh/h	60	187	60	2	400	46	40	5	7	40	6	77
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	1	0	0	1	0	3	20	0	5	0	1
Mvmt Flow	65	203	65	2	435	50	43	5	8	43	7	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	485	0	0	268	0	0	843	822	203	811	837	435
Stage 1	-	-	-	-	-	-	333	333	-	439	439	-
Stage 2	-	-	-	-	-	-	510	489	-	372	398	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.13	6.7	6.2	7.15	6.5	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.527	4.18	3.3	3.545	4	3.309
Pot Cap-1 Maneuver	1078	-	-	1307	-	-	282	289	843	295	305	623
Stage 1	-	-	-	-	-	-	679	613	-	591	582	-
Stage 2	-	-	-	-	-	-	544	520	-	642	606	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1078	-	-	1307	-	-	226	268	843	272	283	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	226	268	-	272	283	-
Stage 1	-	-	-	-	-	-	631	569	-	549	581	-
Stage 2	-	-	-	-	-	-	465	519	-	585	563	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0	23.1	17.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	255	1078	-	-	1307	-	-	421
HCM Lane V/C Ratio	0.222	0.06	-	-	0.002	-	-	0.318
HCM Control Delay (s)	23.1	8.6	0	-	7.8	0	-	17.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0	-	-	1.3



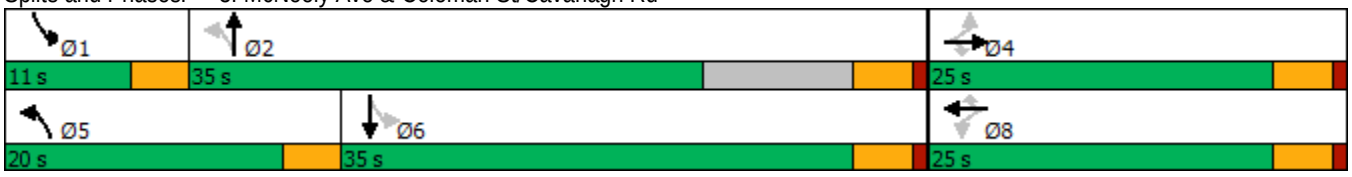
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	90	226	124	195	198	358	706	97	120	618	90
Future Volume (vph)	128	90	226	124	195	198	358	706	97	120	618	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.982			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3476	0	1770	3472	0
Flt Permitted	0.534			0.694			0.215			0.325		
Satd. Flow (perm)	995	1863	1583	1293	1863	1583	400	3476	0	605	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			246			215		26			23	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	98	246	135	212	215	389	767	105	130	672	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	98	246	135	212	215	389	872	0	130	770	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	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	
Act Effct Green (s)	14.3	14.3	14.3	14.3	14.3	14.3	40.6	31.3		30.3	22.3	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23	0.23	0.64	0.50		0.48	0.35	
v/c Ratio	0.62	0.23	0.45	0.46	0.50	0.41	0.70	0.50		0.31	0.62	
Control Delay	36.1	22.5	6.3	27.8	26.7	6.3	16.0	12.8		8.3	19.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	36.1	22.5	6.3	27.8	26.7	6.3	16.0	12.8		8.3	19.8	
LOS	D	C	A	C	C	A	B	B		A	B	
Approach Delay		18.2			19.1			13.8			18.2	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	14.7	9.4	0.0	13.7	21.7	0.0	17.4	36.0		4.9	38.6	
Queue Length 95th (m)	36.9	23.8	16.7	33.4	47.1	15.6	#56.9	61.6		13.3	67.0	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	330	618	689	429	618	669	623	2232		438	1725	
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	0.42	0.16	0.36	0.31	0.34	0.32	0.62	0.39		0.30	0.45	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 63.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 16.6 Intersection LOS: B
Intersection Capacity Utilization 73.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd



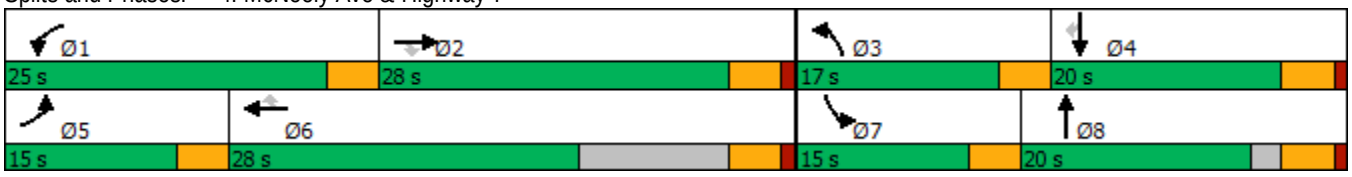
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	696	133	340	1046	545	203	274	209	310	261	397
Future Volume (vph)	342	696	133	340	1046	545	203	274	209	310	261	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3309	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3309	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			390		191				280
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	372	757	145	370	1137	592	221	298	227	337	284	432
Shared Lane Traffic (%)												
Lane Group Flow (vph)	372	757	145	370	1137	592	221	525	0	337	284	432
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	28.0	28.0	25.0	28.0	28.0	17.0	20.0		15.0	20.0	20.0
Total Split (%)	16.7%	31.1%	31.1%	27.8%	31.1%	31.1%	18.9%	22.2%		16.7%	22.2%	22.2%
Maximum Green (s)	11.5	23.5	23.5	21.5	23.5	23.5	13.5	15.5		11.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	11.4	22.6	22.6	20.3	31.5	31.5	13.0	15.6		11.1	13.8	13.8
Actuated g/C Ratio	0.13	0.26	0.26	0.24	0.37	0.37	0.15	0.18		0.13	0.16	0.16
v/c Ratio	0.82	0.81	0.28	0.88	0.87	0.71	0.83	0.69		0.76	0.50	0.88
Control Delay	53.3	38.5	6.3	56.5	34.5	13.3	62.7	26.1		49.1	36.7	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	53.3	38.5	6.3	56.5	34.5	13.3	62.7	26.1		49.1	36.7	34.3
LOS	D	D	A	E	C	B	E	C		D	D	C
Approach Delay		39.2			32.4			37.0			39.7	
Approach LOS		D			C			D			D	
Queue Length 50th (m)	34.6	68.1	0.0	65.0	99.0	28.1	39.6	29.2		31.0	24.7	26.7
Queue Length 95th (m)	#58.5	#92.4	14.1	#115.3	#130.7	70.3	#78.5	47.0		#50.4	37.4	#80.9
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	462	975	541	446	1390	859	280	831		462	643	517
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	0.81	0.78	0.27	0.83	0.82	0.69	0.79	0.63		0.73	0.44	0.84

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 85.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 36.2 Intersection LOS: D
Intersection Capacity Utilization 76.0% 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: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	206	6	7	177	0	27	0	37	0	0	1
Future Vol, veh/h	0	206	6	7	177	0	27	0	37	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	25	20	6	0	0	0	0	0	0	0
Mvmt Flow	0	224	7	8	192	0	29	0	40	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	192	0	0	231	0	0	437	436	228	456	439	192
Stage 1	-	-	-	-	-	-	228	228	-	208	208	-
Stage 2	-	-	-	-	-	-	209	208	-	248	231	-
Critical Hdwy	4.1	-	-	4.3	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.38	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1394	-	-	1238	-	-	533	517	816	518	515	855
Stage 1	-	-	-	-	-	-	779	719	-	799	734	-
Stage 2	-	-	-	-	-	-	798	734	-	760	717	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1394	-	-	1238	-	-	529	513	816	490	511	855
Mov Cap-2 Maneuver	-	-	-	-	-	-	529	513	-	490	511	-
Stage 1	-	-	-	-	-	-	779	719	-	799	729	-
Stage 2	-	-	-	-	-	-	791	729	-	723	717	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	11.1	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	664	1394	-	-	1238	-	-	855
HCM Lane V/C Ratio	0.105	-	-	-	0.006	-	-	0.001
HCM Control Delay (s)	11.1	0	-	-	7.9	0	-	9.2
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0

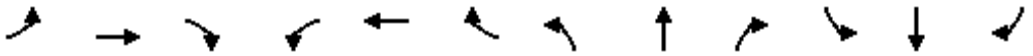
Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	168	48	3	171	31	60	11	10	34	4	40
Future Vol, veh/h	65	168	48	3	171	31	60	11	10	34	4	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	0	0	5	6	0	0	0	0	0	0
Mvmt Flow	71	183	52	3	186	34	65	12	11	37	4	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	220	0	0	235	0	0	558	551	183	555	569	186
Stage 1	-	-	-	-	-	-	325	325	-	192	192	-
Stage 2	-	-	-	-	-	-	233	226	-	363	377	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1349	-	-	1344	-	-	443	445	865	445	435	861
Stage 1	-	-	-	-	-	-	692	653	-	814	745	-
Stage 2	-	-	-	-	-	-	775	721	-	660	619	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1349	-	-	1344	-	-	397	417	865	409	407	861
Mov Cap-2 Maneuver	-	-	-	-	-	-	397	417	-	409	407	-
Stage 1	-	-	-	-	-	-	650	613	-	764	743	-
Stage 2	-	-	-	-	-	-	729	719	-	600	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.1	15.6	12.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	428	1349	-	-	1344	-	-	559
HCM Lane V/C Ratio	0.206	0.052	-	-	0.002	-	-	0.152
HCM Control Delay (s)	15.6	7.8	0	-	7.7	0	-	12.6
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0	-	-	0.5



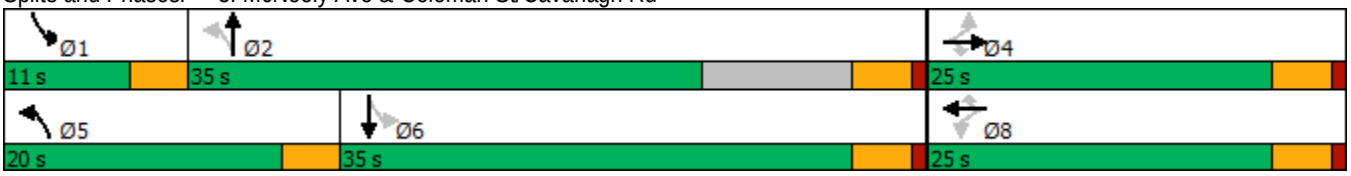
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	99	158	82	75	114	117	389	38	144	539	53
Future Volume (vph)	72	99	158	82	75	114	117	389	38	144	539	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.987			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3493	0	1770	3490	0
Flt Permitted	0.704			0.687			0.358			0.485		
Satd. Flow (perm)	1311	1863	1583	1280	1863	1583	667	3493	0	903	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172			124		18			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	78	108	172	89	82	124	127	423	41	157	586	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	108	172	89	82	124	127	464	0	157	644	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

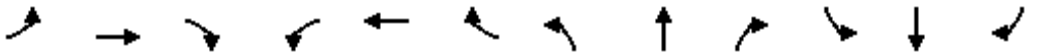
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)	10.6	10.6	10.6	10.6	10.6	10.6	27.4	20.6		26.9	20.4	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.56	0.42		0.55	0.42	
v/c Ratio	0.27	0.27	0.36	0.32	0.20	0.28	0.24	0.31		0.25	0.44	
Control Delay	20.0	19.1	6.1	20.9	18.3	6.2	5.1	10.5		5.2	12.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	20.0	19.1	6.1	20.9	18.3	6.2	5.1	10.5		5.2	12.0	
LOS	C	B	A	C	B	A	A	B		A	B	
Approach Delay		13.1			14.0			9.3			10.7	
Approach LOS		B			B			A			B	
Queue Length 50th (m)	6.2	8.6	0.0	7.2	6.4	0.0	3.7	14.1		4.6	21.0	
Queue Length 95th (m)	16.3	20.2	12.3	18.3	16.3	10.5	9.5	25.4		11.5	39.1	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	560	796	775	547	796	747	789	2872		639	2225	
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	0.14	0.14	0.22	0.16	0.10	0.17	0.16	0.16		0.25	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 48.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 46.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd





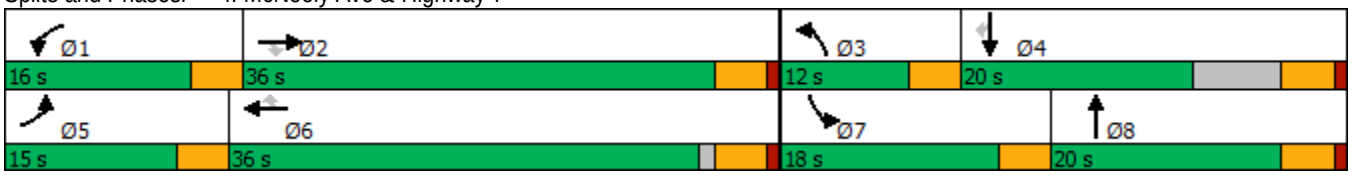
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	739	90	118	458	190	65	144	213	481	126	172
Future Volume (vph)	210	739	90	118	458	190	65	144	213	481	126	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.911				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3224	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3224	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			207		232				187
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	803	98	128	498	207	71	157	232	523	137	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	228	803	98	128	498	207	71	389	0	523	137	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	36.0	36.0	16.0	36.0	36.0	12.0	20.0		18.0	20.0	20.0
Total Split (%)	16.7%	40.0%	40.0%	17.8%	40.0%	40.0%	13.3%	22.2%		20.0%	22.2%	22.2%
Maximum Green (s)	11.5	31.5	31.5	12.5	31.5	31.5	8.5	15.5		14.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	9.9	26.5	26.5	10.2	24.4	24.4	7.6	11.2		14.6	20.2	20.2
Actuated g/C Ratio	0.13	0.35	0.35	0.13	0.32	0.32	0.10	0.15		0.19	0.27	0.27
v/c Ratio	0.51	0.65	0.15	0.54	0.44	0.32	0.40	0.58		0.80	0.15	0.34
Control Delay	36.5	25.2	1.9	41.3	21.9	4.5	41.7	16.8		41.8	25.3	6.5
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	36.5	25.2	1.9	41.3	21.9	4.5	41.7	16.8		41.8	25.3	6.5
LOS	D	C	A	D	C	A	D	B		D	C	A
Approach Delay		25.4			20.6			20.6			31.3	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	16.0	55.0	0.0	17.5	30.3	0.0	9.8	11.1		37.5	8.6	0.0
Queue Length 95th (m)	31.6	82.8	4.4	39.7	47.8	13.8	25.8	27.2		#79.3	18.2	16.4
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	523	1478	745	293	1524	799	199	847		660	1072	609
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	0.54	0.13	0.44	0.33	0.26	0.36	0.46		0.79	0.13	0.31

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 25.0 Intersection LOS: C
Intersection Capacity Utilization 65.7% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	205	35	46	409	0	29	0	18	0	0	0
Future Vol, veh/h	0	205	35	46	409	0	29	0	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	10	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	223	38	50	445	0	32	0	20	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	445	0	0	261	0	0	787	787	242	797	806	445
Stage 1	-	-	-	-	-	-	242	242	-	545	545	-
Stage 2	-	-	-	-	-	-	545	545	-	252	261	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1126	-	-	1315	-	-	312	326	802	307	318	617
Stage 1	-	-	-	-	-	-	766	709	-	526	522	-
Stage 2	-	-	-	-	-	-	526	522	-	757	696	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1126	-	-	1315	-	-	300	310	802	288	302	617
Mov Cap-2 Maneuver	-	-	-	-	-	-	300	310	-	288	302	-
Stage 1	-	-	-	-	-	-	766	709	-	526	496	-
Stage 2	-	-	-	-	-	-	500	496	-	739	696	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.8	15.5	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	1126	-	-	1315	-	-	-
HCM Lane V/C Ratio	0.129	-	-	-	0.038	-	-	-
HCM Control Delay (s)	15.5	0	-	-	7.8	0	-	0
HCM Lane LOS	C	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	-

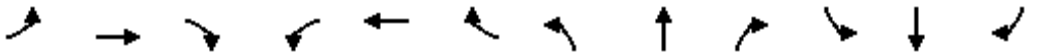
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	191	94	3	391	44	58	8	11	38	8	73
Future Vol, veh/h	57	191	94	3	391	44	58	8	11	38	8	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	1	0	0	1	0	3	20	0	5	0	1
Mvmt Flow	62	208	102	3	425	48	63	9	12	41	9	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	473	0	0	310	0	0	831	811	208	825	865	425
Stage 1	-	-	-	-	-	-	332	332	-	431	431	-
Stage 2	-	-	-	-	-	-	499	479	-	394	434	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.13	6.7	6.2	7.15	6.5	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.527	4.18	3.3	3.545	4	3.309
Pot Cap-1 Maneuver	1089	-	-	1262	-	-	288	294	837	288	294	631
Stage 1	-	-	-	-	-	-	679	614	-	597	586	-
Stage 2	-	-	-	-	-	-	552	526	-	625	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1089	-	-	1262	-	-	232	273	837	262	273	631
Mov Cap-2 Maneuver	-	-	-	-	-	-	232	273	-	262	273	-
Stage 1	-	-	-	-	-	-	631	571	-	555	584	-
Stage 2	-	-	-	-	-	-	474	524	-	564	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.1	25	17.8
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	263	1089	-	-	1262	-	-	410
HCM Lane V/C Ratio	0.318	0.057	-	-	0.003	-	-	0.315
HCM Control Delay (s)	25	8.5	0	-	7.9	0	-	17.8
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.3	0.2	-	-	0	-	-	1.3



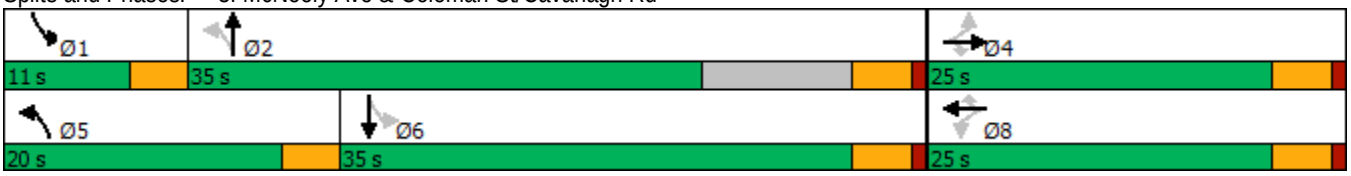
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	101	215	125	197	200	341	672	108	133	589	86
Future Volume (vph)	122	101	215	125	197	200	341	672	108	133	589	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.979			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3465	0	1770	3472	0
Flt Permitted	0.534			0.686			0.233			0.334		
Satd. Flow (perm)	995	1863	1583	1278	1863	1583	434	3465	0	622	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234			217		32			23	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	110	234	136	214	217	371	730	117	145	640	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	110	234	136	214	217	371	847	0	145	733	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

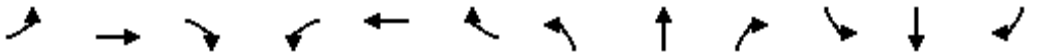
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)	13.9	13.9	13.9	13.9	13.9	13.9	39.5	30.0		29.9	21.8	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23	0.23	0.64	0.49		0.49	0.35	
v/c Ratio	0.59	0.26	0.43	0.47	0.51	0.41	0.66	0.50		0.33	0.59	
Control Delay	34.3	22.3	6.3	27.6	26.3	6.3	13.2	12.7		8.4	19.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	34.3	22.3	6.3	27.6	26.3	6.3	13.2	12.7		8.4	19.0	
LOS	C	C	A	C	C	A	B	B		A	B	
Approach Delay		17.8			18.9			12.8			17.3	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	13.5	10.3	0.0	13.4	21.3	0.0	15.7	34.0		5.3	34.2	
Queue Length 95th (m)	34.6	25.6	16.0	33.0	46.4	15.5	47.3	59.3		14.8	63.2	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	338	633	692	434	633	681	644	2281		450	1767	
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	0.39	0.17	0.34	0.31	0.34	0.32	0.58	0.37		0.32	0.41	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 61.6
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 15.9 Intersection LOS: B
Intersection Capacity Utilization 71.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd





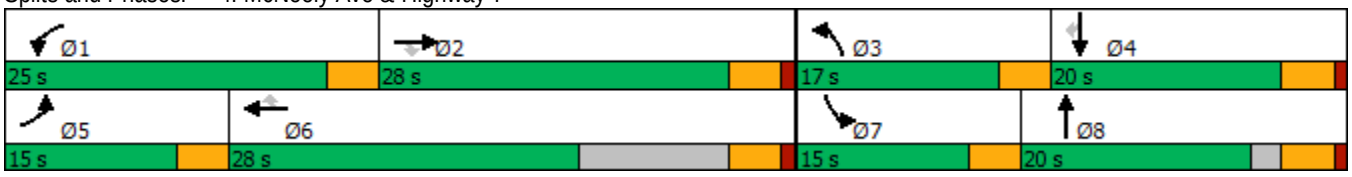
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	331	663	127	324	996	525	193	265	199	297	251	381
Future Volume (vph)	331	663	127	324	996	525	193	265	199	297	251	381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.936				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3313	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3313	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			395		188				286
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	360	721	138	352	1083	571	210	288	216	323	273	414
Shared Lane Traffic (%)												
Lane Group Flow (vph)	360	721	138	352	1083	571	210	504	0	323	273	414
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	28.0	28.0	25.0	28.0	28.0	17.0	20.0		15.0	20.0	20.0
Total Split (%)	16.7%	31.1%	31.1%	27.8%	31.1%	31.1%	18.9%	22.2%		16.7%	22.2%	22.2%
Maximum Green (s)	11.5	23.5	23.5	21.5	23.5	23.5	13.5	15.5		11.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	11.3	22.2	22.2	19.6	30.5	30.5	12.8	14.9		11.1	13.2	13.2
Actuated g/C Ratio	0.13	0.26	0.26	0.23	0.36	0.36	0.15	0.18		0.13	0.16	0.16
v/c Ratio	0.78	0.77	0.26	0.85	0.84	0.69	0.78	0.68		0.71	0.49	0.85
Control Delay	49.8	35.8	5.8	52.4	32.0	12.0	56.8	25.3		46.1	36.3	29.0
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	49.8	35.8	5.8	52.4	32.0	12.0	56.8	25.3		46.1	36.3	29.0
LOS	D	D	A	D	C	B	E	C		D	D	C
Approach Delay		36.5			29.9			34.6			36.4	
Approach LOS		D			C			C			D	
Queue Length 50th (m)	33.2	63.7	0.0	60.7	91.6	22.6	37.2	27.4		29.5	23.6	21.2
Queue Length 95th (m)	#55.5	85.4	12.7	#107.3	118.9	62.4	#73.5	44.6		#47.2	36.2	#71.0
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	474	1000	551	457	1426	873	287	845		474	659	527
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	0.76	0.72	0.25	0.77	0.76	0.65	0.73	0.60		0.68	0.41	0.79

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 83.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 73.3% 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: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	218	6	7	187	0	28	0	38	0	0	1
Future Vol, veh/h	0	218	6	7	187	0	28	0	38	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	25	20	6	0	0	0	0	0	0	0
Mvmt Flow	0	237	7	8	203	0	30	0	41	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	203	0	0	244	0	0	461	460	241	480	463	203
Stage 1	-	-	-	-	-	-	241	241	-	219	219	-
Stage 2	-	-	-	-	-	-	220	219	-	261	244	-
Critical Hdwy	4.1	-	-	4.3	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.38	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1381	-	-	1224	-	-	514	501	803	499	499	843
Stage 1	-	-	-	-	-	-	767	710	-	788	726	-
Stage 2	-	-	-	-	-	-	787	726	-	748	708	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1381	-	-	1224	-	-	510	497	803	471	496	843
Mov Cap-2 Maneuver	-	-	-	-	-	-	510	497	-	471	496	-
Stage 1	-	-	-	-	-	-	767	710	-	788	721	-
Stage 2	-	-	-	-	-	-	780	721	-	710	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	11.3	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	646	1381	-	-	1224	-	-	843
HCM Lane V/C Ratio	0.111	-	-	-	0.006	-	-	0.001
HCM Control Delay (s)	11.3	0	-	-	8	0	-	9.3
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0

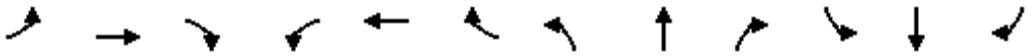
Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	178	50	3	180	33	62	11	10	36	4	42
Future Vol, veh/h	68	178	50	3	180	33	62	11	10	36	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	0	0	5	6	0	0	0	0	0	0
Mvmt Flow	74	193	54	3	196	36	67	12	11	39	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	247	0	0	586	579	193	582	597	196
Stage 1	-	-	-	-	-	-	341	341	-	202	202	-
Stage 2	-	-	-	-	-	-	245	238	-	380	395	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1336	-	-	1331	-	-	425	429	854	427	419	850
Stage 1	-	-	-	-	-	-	678	642	-	805	738	-
Stage 2	-	-	-	-	-	-	763	712	-	646	608	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1336	-	-	1331	-	-	378	400	854	391	391	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	378	400	-	391	391	-
Stage 1	-	-	-	-	-	-	634	600	-	753	736	-
Stage 2	-	-	-	-	-	-	716	710	-	584	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.1	16.3	13
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	408	1336	-	-	1331	-	-	540
HCM Lane V/C Ratio	0.221	0.055	-	-	0.002	-	-	0.165
HCM Control Delay (s)	16.3	7.9	0	-	7.7	0	-	13
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0.2	-	-	0	-	-	0.6



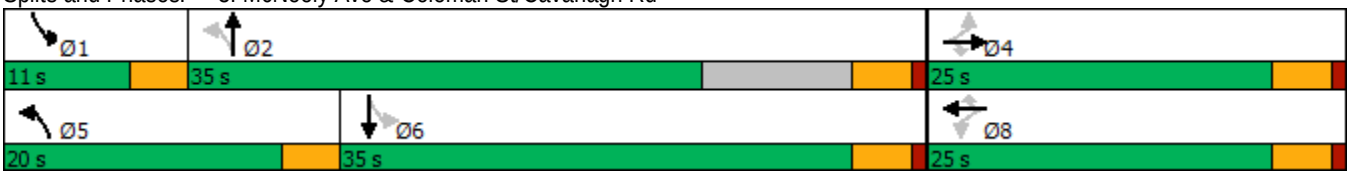
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	104	166	86	78	120	123	408	40	152	566	56
Future Volume (vph)	76	104	166	86	78	120	123	408	40	152	566	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.987			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3493	0	1770	3490	0
Flt Permitted	0.702			0.684			0.336			0.475		
Satd. Flow (perm)	1308	1863	1583	1274	1863	1583	626	3493	0	885	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			130		18			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	113	180	93	85	130	134	443	43	165	615	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	113	180	93	85	130	134	486	0	165	676	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	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	
Act Effct Green (s)	10.8	10.8	10.8	10.8	10.8	10.8	27.8	20.8		27.0	20.4	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.57	0.42		0.55	0.42	
v/c Ratio	0.29	0.28	0.37	0.33	0.21	0.29	0.25	0.32		0.27	0.46	
Control Delay	20.4	19.3	6.1	21.3	18.4	6.2	5.3	10.7		5.5	12.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	20.4	19.3	6.1	21.3	18.4	6.2	5.3	10.7		5.5	12.5	
LOS	C	B	A	C	B	A	A	B		A	B	
Approach Delay		13.2			14.1			9.5			11.1	
Approach LOS		B			B			A			B	
Queue Length 50th (m)	6.7	9.0	0.0	7.6	6.7	0.0	3.9	15.1		4.9	22.4	
Queue Length 95th (m)	17.3	21.2	12.6	19.1	16.9	10.8	10.3	27.0		12.3	42.5	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	555	790	775	540	790	746	775	2852		628	2209	
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	0.15	0.14	0.23	0.17	0.11	0.17	0.17	0.17		0.26	0.31	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 49
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 11.5 Intersection LOS: B
Intersection Capacity Utilization 47.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd



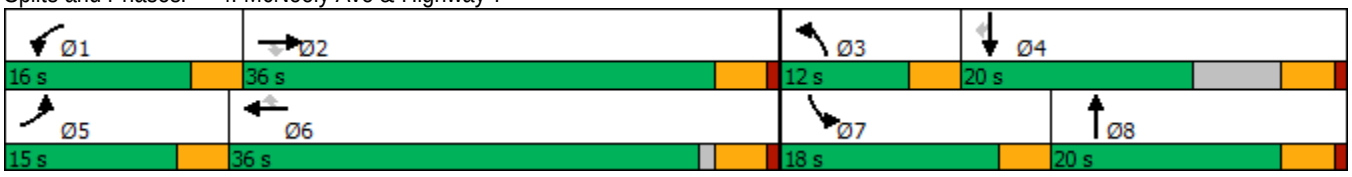
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	776	95	124	481	199	68	151	224	506	132	180
Future Volume (vph)	221	776	95	124	481	199	68	151	224	506	132	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.910				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3221	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3221	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			216		243				196
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	843	103	135	523	216	74	164	243	550	143	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	843	103	135	523	216	74	407	0	550	143	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	36.0	36.0	16.0	36.0	36.0	12.0	20.0		18.0	20.0	20.0
Total Split (%)	16.7%	40.0%	40.0%	17.8%	40.0%	40.0%	13.3%	22.2%		20.0%	22.2%	22.2%
Maximum Green (s)	11.5	31.5	31.5	12.5	31.5	31.5	8.5	15.5		14.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	10.1	24.7	24.7	10.4	25.0	25.0	7.6	11.3		14.6	20.4	20.4
Actuated g/C Ratio	0.13	0.32	0.32	0.13	0.32	0.32	0.10	0.15		0.19	0.26	0.26
v/c Ratio	0.54	0.74	0.17	0.57	0.46	0.33	0.42	0.60		0.84	0.15	0.35
Control Delay	37.4	28.3	2.2	42.8	22.2	4.4	42.9	17.1		45.9	25.6	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	37.4	28.3	2.2	42.8	22.2	4.4	42.9	17.1		45.9	25.6	6.4
LOS	D	C	A	D	C	A	D	B		D	C	A
Approach Delay		27.9			21.0			21.0			33.9	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	17.3	59.0	0.0	18.9	32.3	0.0	10.4	12.0		41.1	9.3	0.0
Queue Length 95th (m)	33.3	88.5	5.1	41.7	50.8	14.2	26.9	28.2		#85.8	18.9	16.8
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	516	1458	737	289	1504	797	196	846		651	1063	612
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	0.47	0.58	0.14	0.47	0.35	0.27	0.38	0.48		0.84	0.13	0.32

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 68.3% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: McNeely Ave & Highway 7



Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	216	36	47	429	0	30	0	19	0	0	0
Future Vol, veh/h	0	216	36	47	429	0	30	0	19	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	1	10	0	1	0	0	0	0	0	0	0
Mvmt Flow	0	235	39	51	466	0	33	0	21	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	466	0	0	274	0	0	823	823	255	833	842	466
Stage 1	-	-	-	-	-	-	255	255	-	568	568	-
Stage 2	-	-	-	-	-	-	568	568	-	265	274	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1106	-	-	1301	-	-	295	311	789	290	303	601
Stage 1	-	-	-	-	-	-	754	700	-	511	510	-
Stage 2	-	-	-	-	-	-	511	510	-	745	687	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1106	-	-	1301	-	-	283	295	789	271	287	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	283	295	-	271	287	-
Stage 1	-	-	-	-	-	-	754	700	-	511	483	-
Stage 2	-	-	-	-	-	-	484	483	-	725	687	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.8	16.1	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	377	1106	-	-	1301	-	-	-
HCM Lane V/C Ratio	0.141	-	-	-	0.039	-	-	-
HCM Control Delay (s)	16.1	0	-	-	7.9	0	-	0
HCM Lane LOS	C	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	-

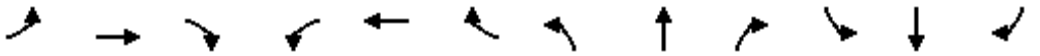
Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	201	97	3	410	46	60	8	11	40	8	77
Future Vol, veh/h	60	201	97	3	410	46	60	8	11	40	8	77
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	35	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	1	0	0	1	0	3	20	0	5	0	1
Mvmt Flow	65	218	105	3	446	50	65	9	12	43	9	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	496	0	0	323	0	0	872	850	218	863	905	446
Stage 1	-	-	-	-	-	-	348	348	-	452	452	-
Stage 2	-	-	-	-	-	-	524	502	-	411	453	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.13	6.7	6.2	7.15	6.5	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.7	-	6.15	5.5	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.527	4.18	3.3	3.545	4	3.309
Pot Cap-1 Maneuver	1068	-	-	1248	-	-	270	279	827	272	278	614
Stage 1	-	-	-	-	-	-	666	603	-	581	574	-
Stage 2	-	-	-	-	-	-	535	513	-	612	573	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1068	-	-	1248	-	-	214	257	827	246	256	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	214	257	-	246	256	-
Stage 1	-	-	-	-	-	-	616	558	-	537	572	-
Stage 2	-	-	-	-	-	-	454	511	-	549	530	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.1	27.7	19
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	243	1068	-	-	1248	-	-	392
HCM Lane V/C Ratio	0.353	0.061	-	-	0.003	-	-	0.347
HCM Control Delay (s)	27.7	8.6	0	-	7.9	0	-	19
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.5	0.2	-	-	0	-	-	1.5



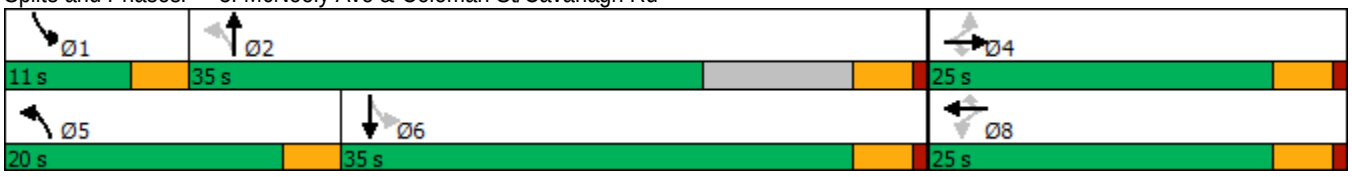
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	105	226	131	206	210	358	706	113	140	618	90
Future Volume (vph)	128	105	226	131	206	210	358	706	113	140	618	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		0.0	95.0		95.0	150.0		0.0	50.0		50.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	70.0			5.0			70.0			55.0		
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			0.850			0.850		0.979			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3465	0	1770	3472	0
Flt Permitted	0.511			0.684			0.214			0.320		
Satd. Flow (perm)	952	1863	1583	1274	1863	1583	399	3465	0	596	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			246			228		32			23	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		208.3			126.9			986.8			152.6	
Travel Time (s)		15.0			9.1			59.2			9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	114	246	142	224	228	389	767	123	152	672	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	114	246	142	224	228	389	890	0	152	770	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	14.5	9.5	24.5		9.5	24.5	
Total Split (s)	25.0	25.0	25.0	25.0	25.0	25.0	20.0	35.0		11.0	35.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%	31.3%	25.0%	43.8%		13.8%	43.8%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5	20.5	16.5	30.5		7.5	30.5	
Yellow Time (s)	3.5	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	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5		3.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	

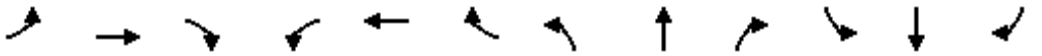
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)	14.6	14.6	14.6	14.6	14.6	14.6	40.7	31.3		30.5	22.4	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23	0.23	0.64	0.49		0.48	0.35	
v/c Ratio	0.64	0.27	0.44	0.49	0.52	0.42	0.70	0.52		0.36	0.62	
Control Delay	37.6	22.8	6.3	28.4	27.0	6.2	16.3	13.1		9.1	20.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	37.6	22.8	6.3	28.4	27.0	6.2	16.3	13.1		9.1	20.0	
LOS	D	C	A	C	C	A	B	B		A	C	
Approach Delay		18.8			19.4			14.1			18.2	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	14.9	11.1	0.0	14.6	23.2	0.0	17.9	37.7		6.0	39.2	
Queue Length 95th (m)	37.5	27.0	16.7	35.1	49.5	16.0	#57.1	63.0		15.3	67.0	
Internal Link Dist (m)		184.3			102.9			962.8			128.6	
Turn Bay Length (m)	70.0			95.0		95.0	150.0			50.0		
Base Capacity (vph)	314	614	687	420	614	675	619	2215		433	1716	
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	0.44	0.19	0.36	0.34	0.36	0.34	0.63	0.40		0.35	0.45	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 63.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 73.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: McNeely Ave & Coleman St/Cavanagh Rd





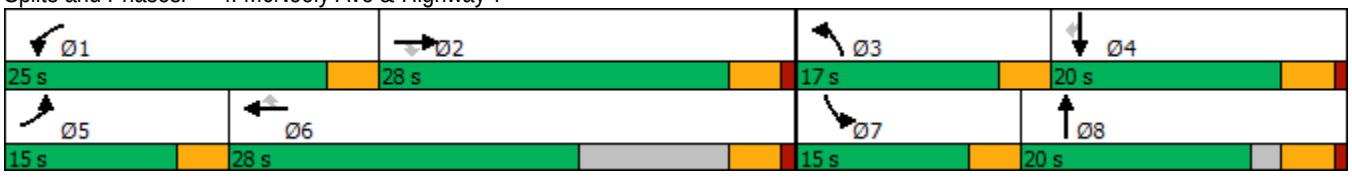
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	696	133	340	1046	552	203	278	209	312	263	400
Future Volume (vph)	347	696	133	340	1046	552	203	278	209	312	263	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		75.0	100.0		140.0	80.0		0.0	85.0		80.0
Storage Lanes	2		1	1		1	1		0	2		1
Taper Length (m)	85.0			80.0			25.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt			0.850			0.850		0.936				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3313	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3313	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			388		188				280
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		285.0			304.7			235.7			986.8	
Travel Time (s)		17.1			18.3			14.1			59.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	377	757	145	370	1137	600	221	302	227	339	286	435
Shared Lane Traffic (%)												
Lane Group Flow (vph)	377	757	145	370	1137	600	221	529	0	339	286	435
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phase	5	2	2	1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0	20.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.5	24.5	24.5	9.5	24.5	24.5	9.5	14.5		9.5	14.5	14.5
Total Split (s)	15.0	28.0	28.0	25.0	28.0	28.0	17.0	20.0		15.0	20.0	20.0
Total Split (%)	16.7%	31.1%	31.1%	27.8%	31.1%	31.1%	18.9%	22.2%		16.7%	22.2%	22.2%
Maximum Green (s)	11.5	23.5	23.5	21.5	23.5	23.5	13.5	15.5		11.5	15.5	15.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0		0.0	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	0.0	0.0
Total Lost Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	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	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	11.4	22.6	22.6	20.3	31.5	31.5	13.0	15.7		11.2	13.9	13.9
Actuated g/C Ratio	0.13	0.26	0.26	0.24	0.37	0.37	0.15	0.18		0.13	0.16	0.16
v/c Ratio	0.83	0.81	0.28	0.89	0.88	0.73	0.83	0.70		0.76	0.50	0.89
Control Delay	54.0	38.5	6.3	56.7	34.7	13.9	62.8	26.6		49.4	36.7	35.0
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	54.0	38.5	6.3	56.7	34.7	13.9	62.8	26.6		49.4	36.7	35.0
LOS	D	D	A	E	C	B	E	C		D	D	D
Approach Delay		39.4			32.7			37.2			40.1	
Approach LOS		D			C			D			D	
Queue Length 50th (m)	35.2	68.1	0.0	65.0	99.0	30.0	39.6	30.0		31.2	24.9	27.5
Queue Length 95th (m)	#59.4	#92.4	14.1	#115.3	#130.7	73.6	#78.5	47.7		#50.9	37.7	#82.4
Internal Link Dist (m)		261.0			280.7			211.7			962.8	
Turn Bay Length (m)	75.0		75.0	100.0		140.0	80.0			85.0		80.0
Base Capacity (vph)	462	974	540	445	1389	856	279	828		462	642	516
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	0.82	0.78	0.27	0.83	0.82	0.70	0.79	0.64		0.73	0.45	0.84

Intersection Summary

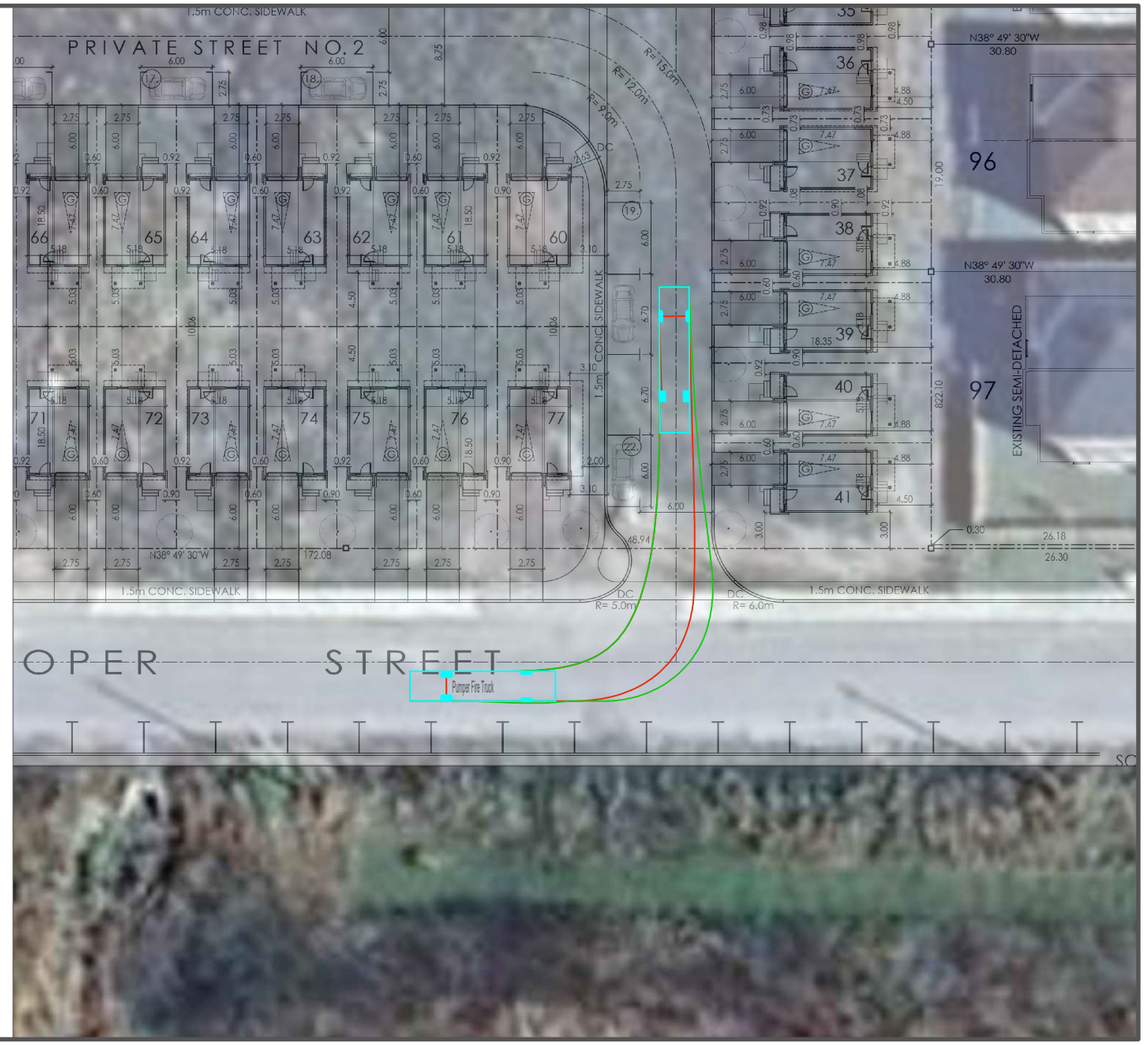
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 85.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 36.5 Intersection LOS: D
Intersection Capacity Utilization 76.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: McNeely Ave & Highway 7



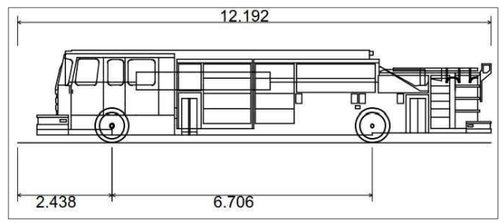
APPENDIX D – VEHICLE CIRCULATION FIGURES





LEGEND

FIRE TRUCK
SITE CIRCULATION



FIRE TRUCK

OPERATION DESCRIPTION

FIRE TRUCK

SITE CIRCULATION:
INGRESS 1 & 2

SCALE **1:250**

0 5 10 20 30 40

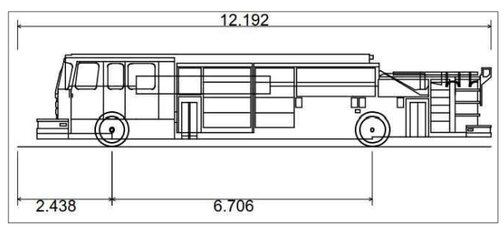
METRIC

egis

DATE	PROJECT No.	FIGURE
MAR 2025	0CP-190595	1



LEGEND



FIRE TRUCK

FIRE TRUCK
SITE CIRCULATION

OPERATION DESCRIPTION

FIRE TRUCK

SITE CIRCULATION:
EGRESS 1 & 2

SCALE **1:250**

0 5 10 20 30 40

METRIC

egis

DATE	PROJECT No.	FIGURE
MAR 2025	0CP-190595	2

Transportation Impact Study

320 Coleman Street

Carleton Place, Ontario



Prepared for Paul Marques Architect Inc. on behalf of Myathan
by IBI Group
August 19, 2022

Document Control

CLIENT:	Paul Marques Architect Inc.
PROJECT NAME:	320 Coleman Street
REPORT TITLE:	Transportation Impact Study
124875	139540
VERSION:	Final
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ORIGINATOR:	Ben Pascolo-Neveu/Tim Hui
REVIEWER:	David Hook
AUTHORIZATION:	David Hook
CIRCULATION LIST:	Crystal Tom – Paul Marques Architect Inc.
HISTORY:	TIS Submitted for Client Review – July 18, 2022 TIS Updated per Client's Comments – July 21, 2022 TIS Updated per Town Comments & Revised Site Plan – August 19, 2022

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Executive Summary

IBI Group (IBI) was retained by Paul Marques Architect Inc. on behalf of Myathan Project Management Group Inc. to prepare a Transportation Impact Study (TIS) in support of a Site Plan Control application for a standalone commercial building with approximately 725 square metres of Gross Leasable Area (GLA), which will be situated at the northeast corner of Coleman Street & McGregor Street intersection and within the Carleton Crossing Shopping Centre in Carleton Place, Ontario. The proposed building will contain 6 commercial units, including a fast-food restaurant with a drive-through, three fast-food restaurants without a drive through and two 'shopping centre' land uses.

The subject development is anticipated to generate up to 127 new two-way vehicular trips and up to 150 pass-by trips during the weekday and Saturday peak hours. Given that a significant portion of the site-generated demand consists of pass-by trips and that site-generated traffic will be divided amongst three existing site access driveways serving the Carleton Crossing Shopping Centre, the overall downstream impacts on the adjacent road network are anticipated to be marginal.

All study area intersections are expected to operate at an overall acceptable Level of Service (LOS 'D' or better) beyond the 2029 study horizon year with the exception of the southbound approach of Coleman & Access #2 which may approach its theoretical capacity (i.e. LOS 'E') by the 2029 study horizon year during the weekday afternoon peak hour. Given that the Coleman & Access #2 intersection is able to accommodate site-generated traffic under Future (2023) Total Traffic conditions, however, any potential traffic operational issues would be a direct result of regional traffic growth on the major road and not as a direct consequence of the proposed development.

Based on the auxiliary left- and right-turn lane analyses performed for this study, no geometric modifications are required at the study area intersections. Queue length analyses conducted as part of the 277 Coleman TIS indicated that spillback on the eastbound approach of the Coleman & McNeely intersection is expected to be at most 60 metres which is below the 65-metre separation distance to the Coleman & Access 2 intersection. As such, no traffic operational issues or blockages are expected to occur at Access 2, a key all-movements access for the shopping centre as a result of queuing from the signalized intersection.

With the integration of the proposed development's design within the Carleton Crossing Shopping Centre, a parking deficit of 19 spaces will exist with respect to the Development Permit By-law 15-2015 requirements. However, based on parking utilization data collected over peak 12-hour periods on a Thursday and Saturday and overlaid with estimates of site-generated parking demand, total peak parking demand was anticipated to be in the order of just 128 spaces (62% utilization) on a weekday and 110 spaces (53% utilization) on a Saturday. Given that significant residual capacity is expected to exist even with the addition of site-generated parking demand throughout the weekday and Saturday analysis periods, it is the opinion of IBI that the proposed parking supply is appropriate, despite not achieving the by-law requirements.

The overall conclusion of this TIS is that traffic generated by the proposed development can be safely accommodated on the adjacent road network and that the reduced parking supply proposed for the Carleton Crossing Shopping Centre will continue to satisfy parking demand with the inclusion of site-generated demand.

1 Introduction

IBI Group (IBI) was retained by Paul Marques Architect Inc. on behalf of Myathan Project Management Group Inc. to undertake a Transportation Impact Study (TIS) in support of a Site Plan Control application for a standalone commercial building at 320 Coleman Street in Carleton Place, Ontario. The proposed building will contain approximately 725 square metres of commercial space divided amongst six commercial units, including four restaurant units and two general retail units. The site will be situated at the northeast corner of Coleman Street & McGregor Street intersection within the Carleton Crossing Shopping Centre.

This report presents the methodology, findings and conclusions of a TIS related to the proposed development.

1.1 Study Objectives

The objectives of this study are to:

- Determine the impact of the proposed 320 Coleman Street site-generated traffic volumes on the adjacent road network.
- Recommend appropriate measures/strategies/improvements, as required, to ensure the adjacent road network can accommodate the proposed development generated traffic.
- Conduct parking utilization surveys to determine if the proposed parking supply is appropriate to accommodate the parking demand for the shopping centre, including the proposed development.

1.2 Study Methodology

The following study parameters and assumptions were confirmed by the Town of Carleton Place staff via email on June 29, July 6 and July 14, 2022 and prior to the submission of this TIS:

- Study Area
- Background Traffic Counts
- Analysis Years and Time Periods
- Trip Generation Rates
- Traffic Growth Rate Assumptions & Adjacent Development Applications
- Future Transportation Network Changes
- Auxiliary Left-Turn Warrant Analyses
- Parking Utilization Survey Analysis

The 2022 Carleton Place Draft Transportation Master Plan (CPTMP) was referenced for guidance on future infrastructure projects and implementation measures, with additional input received from the Town to reflect more recent changes to project scope and timing. Existing traffic counts were collected by IBI Group at the onset of the study. Future traffic volumes were estimated by applying a growth factor to existing traffic counts, while the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition, provided the required trip generation rates. Trip distribution and trip assignment were based primarily on geographic concentrations of residential areas and assigned to routes using engineering judgement. The intersection capacity analyses were

completed using Synchro 11 analysis software and based on the Highway Capacity Manual (HCM) 2010 in accordance with the Draft CPTMP.

Parking utilization surveys were conducted on a weekday and Saturday every 30 minutes over the course of peak 12-hour periods to determine if the proposed parking supply for the Carleton Crossing Shopping Centre would satisfy parking demand. It was agreed by the Town that a summary of this parking analysis and recommendations would be provided in this TIS report.

2 Proposed Development

2.1 Location & Site Context

The subject development is located at 320 Coleman Street in the Town of Carleton and is generally bound by McNeely Avenue to the east, Coleman Street to the south, McGregor Street to the west and low-rise residential uses to the north.

The subject property is zoned 'Highway District' in the Carleton Place Official Plan which permits a variety of regional-scale commercial uses.

The proposed development and its surrounding context are presented in **Figure 1** below.

Figure 1 – Site Location



2.2 Land Uses

The proposed development will consist of 6 commercial units, as summarized in **Table 1** below.

Table 1 – Land Use Statistics

LAND USE	UNIT	SIZE GLA
Fast-Food Restaurant with Drive-Through	1	~1,360 ft^2 (~126.3 m^2)
Fast-Food Restaurant without Drive-Through	2	~1,299 ft^2 (~120.7 m^2)
	3	~1,314 ft^2 (~122.1 m^2)
	4	~1,314 ft^2 (~122.1 m^2)
Fast-Food	**Sub-Total - Units 1 to 4**	**~5,287 ft^2 (~487.2 m^2)**
Shopping Centre Retail Plaza	5	~1,299 ft^2 (~120.7 m^2)
	6	~1,219 ft^2 (~113.2 m^2)
Shopping Centre	**Sub-Total - Units 5 to 6**	**~2,518 ft^2 (~233.9 m^2)**
Total	**All Units**	**~7,805 ft ft^2 (~725.1 m^2)**

2.3 Site Configuration

The proposed development will be accessed via the three (3) existing driveways serving the Carleton Place Shopping Centre, including all-movements access driveways on McGregor Street and Coleman Street, as well as a right-in/right-out access on McNeely Avenue.

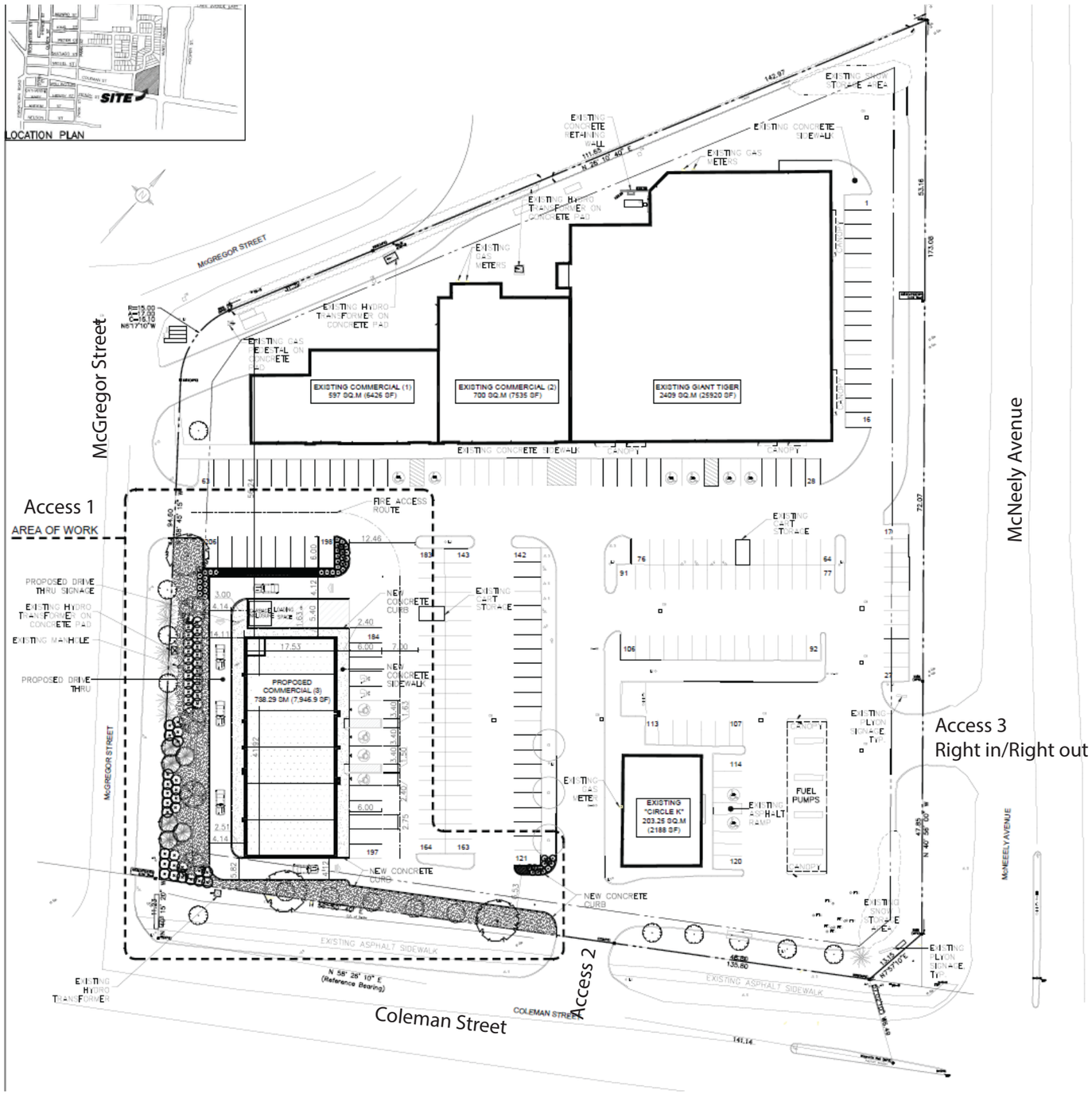
A counter-clockwise drive-through facility is proposed around the commercial building.

The proposed development is presented in **Exhibit 1** below.

2.4 Study Area Intersections

The following study area intersections were analysed in this report, as agreed to by the Town of Carleton Place:

- Coleman Street & McGregor Street/Christie Street (Unsignalized)
- McGregor Street & Access #1 (Unsignalized)
- Coleman Street & Access #2 (Unsignalized)
- McNeely Avenue & Access #3 (Unsignalized, right-in/right-out)
- Coleman Street/Cavanagh Road & McNeely Avenue (Signalized)


LOCATION PLAN
SITE
NORTH
McGregor Street
McNeely Avenue
Coleman Street
Access 1
AREA OF WORK
Access 2
Access 3
Right in/Right out
EXISTING COMMERCIAL (1)
597 SQ.M (6426 SF)
EXISTING COMMERCIAL (2)
700 SQ.M (7535 SF)
EXISTING GIANT TIGER
2409 SQ.M (25920 SF)
PROPOSED COMMERCIAL (3)
738.29 SM (7,946.9 SF)
EXISTING "CIRCLE K"
203.26 SQ.M
(2188 SF)
FUEL PUMPS
FIRE ACCESS ROUTE
PROPOSED DRIVE THRU SIGNAGE
PROPOSED DRIVE THRU
EXISTING MANHOLE
NEW CONCRETE CURB
NEW CONCRETE SIDEWALK
EXISTING CONCRETE SIDEWALK
EXISTING ASPHALT SIDEWALK
EXISTING GAS METERS
EXISTING HYDRO TRANSFORMER ON CONCRETE PAD
EXISTING HYDRO TRANSFORMER
EXISTING CART STORAGE
EXISTING SNOW STORAGE AREA
EXISTING PYLON SIGNAGE TYP.
CANOPY
RAMP
EXISTING ASPHALT RAMP
N 58° 28' 10" E
(Reference Bearing)

2.5 Phasing

Development of the site will be completed in a single phase with full build-out anticipated by 2023.

The study therefore considers the following three analysis years:

- Existing (2022) Traffic
- Future (2023) – Full Build-out
- Future (2028) – Full Build-out Plus 5 Years

2.6 Parking

With the implementation of the proposed development, the overall vehicular parking supply for the Carleton Crossing Shopping Centre will be reduced from 235 to 206 spaces. The Development Permit By-law 15-2015 indicates that a minimum of 225 stalls are required to support the shopping centre which results in an overall 19-space deficit. As such, a parking utilization survey was conducted as part of this TIS to determine if the reduced parking supply is compatible with the demand, despite not achieving the minimum by-law requirements. The results of this study are described in Section 7.

A total of 12 barrier-free parking spaces will be provided for the site as a whole, which exceeds the minimum 3-space requirement specified in the Development Permit By-law 15-2015.

As discussed previously, the proposed single-lane drive-through will allow for counter-clockwise vehicular circulation around the proposed commercial building. This facility will provide approximately 20 queuing positions total. Vehicle queuing is accommodated both upstream and downstream of the order window in accordance with the Development Permit By-law.

2.7 Site Circulation & Loading

As illustrated in **Exhibit 1**, the proposed development complements and builds on the existing pedestrian network within the Carleton Crossing Shopping Centre. Concrete sidewalks ranging in width from approximately 1.6 metres to 2.5 metres are proposed around the commercial building to facilitate connectivity among active users on-site.

A waste collection parking stall is proposed immediately to the north of the proposed commercial building to facilitate occasional access for refuse vehicles.

3 Transportation Network

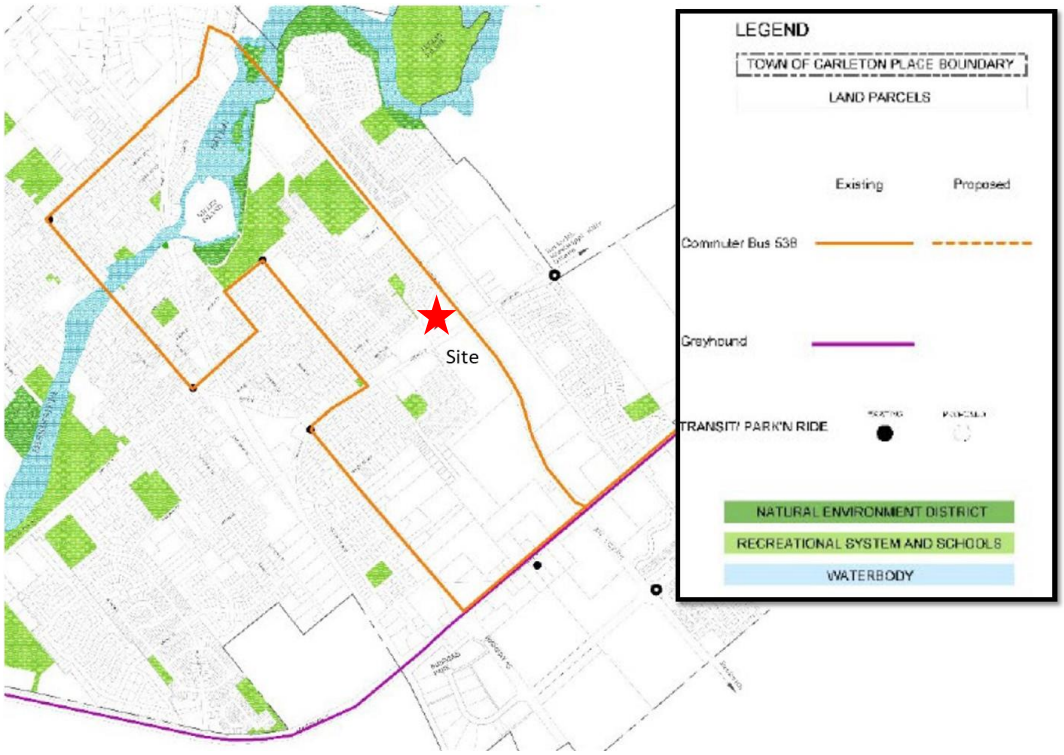
3.1 Existing Road Network

NAME	CLASS	JURISDICTION	ORIENTATION & EXTENTS	CROSS SECTION	ROW (M)	SPEED LIMIT (KM/H)
Coleman Street	Collector	Carleton Place	East-West, Lansdowne Avenue to Cavanagh Road	2-Lane, Urban, Undivided	36	50
Cavanagh Road	Collector	Carleton Place	East-West, Coleman Street to Ashton Station Road	2-Lane, Rural, Undivided	32	60
McGregor Street	Local	Carleton Place	North-South, Coleman Street to King Street	2-Lane, Urban, Undivided	20	50
Christie Road	Local	Carleton Place	Coleman Street to Nelson Street East	2-Lane, Urban, Undivided	24	50
McNeely Avenue	Arterial	County of Lanark	Townline Road East to 10th Line Beckwith	4-Lane, Urban, Undivided	36.5	50

3.2 Existing Transit Facilities and Service

There are currently no transit stops within 400 metres of the site. According to the CPTMP, the bus services operating in Carleton Place are Classic Alliance Motorcoach and Ride the LT. Currently all routes have been suspended due to COVID until further notice. Classic Alliance Motor Coach stations operates 2 Routes (502 & 503) between Almonte, Carleton Place, and Perth with 4 bus stations within the study area. The transit routes and stops are in the Transit Commuter Plan of the CPTMP and are presented in **Figure 2** below.

Figure 2 – Transit Commuter Plan



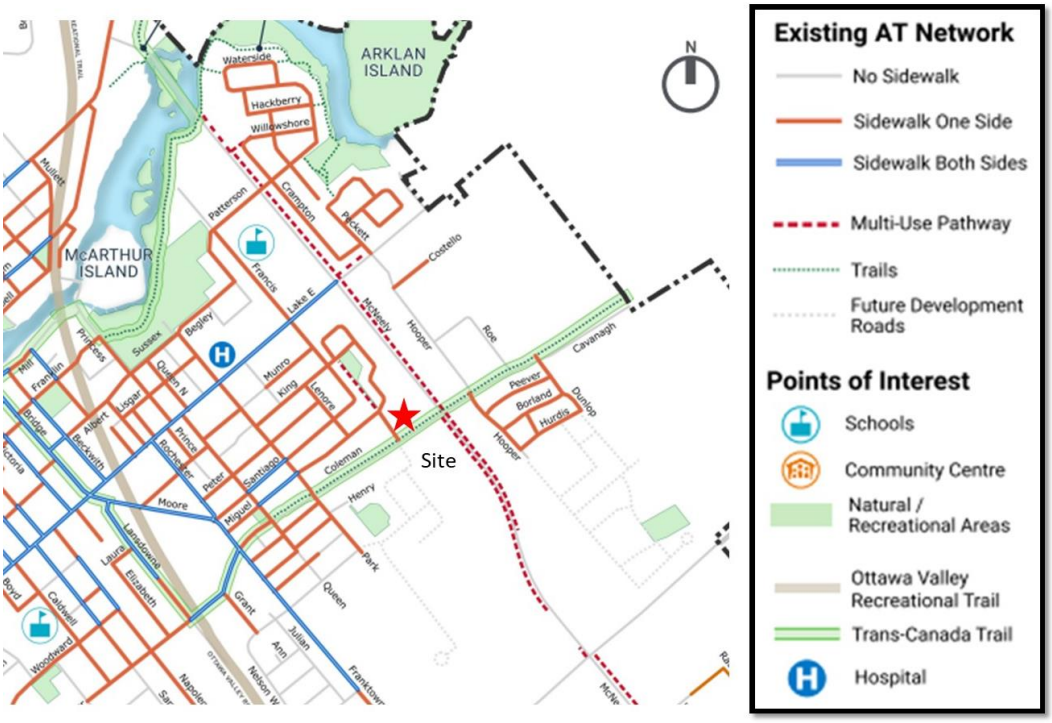
Source: Carleton Place Draft TMP, April 2022

3.3 Existing Pedestrian and Cycling Network

Pedestrian facilities are currently provided on most roads within the study area, including the multi-use pathway (MUP) on McNeely Avenue, trail on Coleman Street and concrete sidewalk on one side of McGregor Street, as illustrated in **Figure 3** below.

The Active Transportation network identified in the Draft Transportation Master Plan indicates that there are existing safe cycling routes in the study area. These cycling routes include Coleman Street, McNeely Avenue, and McGregor Street. The existing Safe Cycling Routes are indicated in the CPTMP and are shown in **Figure 4**.

Figure 3 – Existing Active Transportation Network Map



Source: Carleton Place Draft TMP, April 2022

Figure 4 – Existing Safe Cycling Routes



Source: Carleton Place Draft TMP, April 2022

3.4 Future Road Network

The 2022 Draft Carleton Place Master Plan (CPTMP) outlines future road network modifications, with short-, mid- and long-term implementation timelines. The following projects will provide additional vehicular capacity within the vicinity of the site to support the concentration of growth that is presently occurring within the southeastern areas of the Town:

- McNeely Avenue is approved for capital work to implement a widening from 2 to 4 lanes between Coleman Street and Lake Avenue by 2026.
- Cavanagh Road is approved for capital work to support its widening from 2 to 4 lanes from Hooper street to the Town Boundary by 2027.
- McNeely Avenue is identified as a 'Recommended Capital Project' (i.e. within 2041 ultimate planning horizon) to facilitate its widening from 2 to 4 lanes between Patterson Crescent to Townline Road East.
- McNeely Avenue is identified as a 'Potential Long-Term Project' (i.e. beyond 2041) to support its widening from 4 to 6 lanes between Coleman Street/Cavanagh Road and Highway 7.

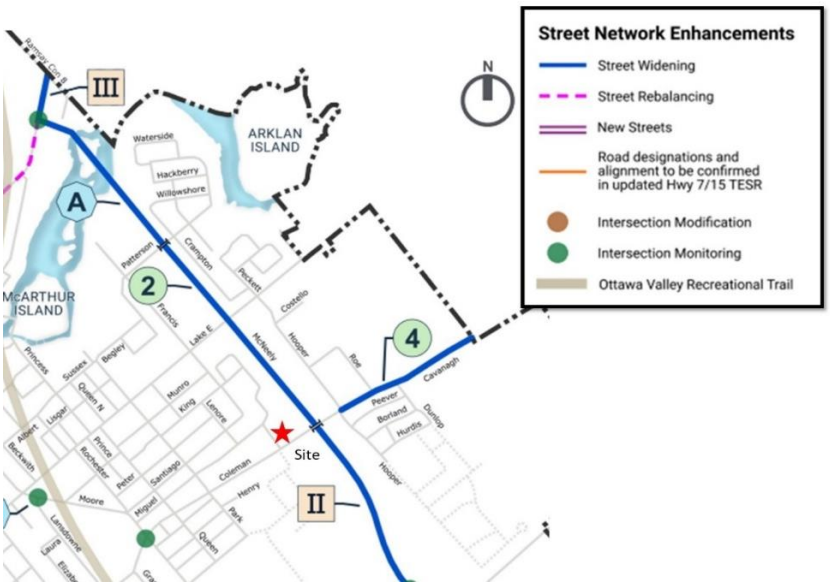
Figure 5 below illustrates the planned changes to the road network per the CPTMP "Street Network Strengthening Plan".

The CPTMP also recommends changes to the road classification system and should be amended in the next Official Plan Update. The recommended road reclassifications in the study area are:

- Reclassification of Coleman Street from a Collector to a Residential Collector
- Reclassification of Cavanagh Road from a Collector to Arterial
- Reclassification of Park Avenue from a Collector to a Residential Collector
- Reclassification of Hooper Street north of Cavanagh Road from a Local to a Commercial Local

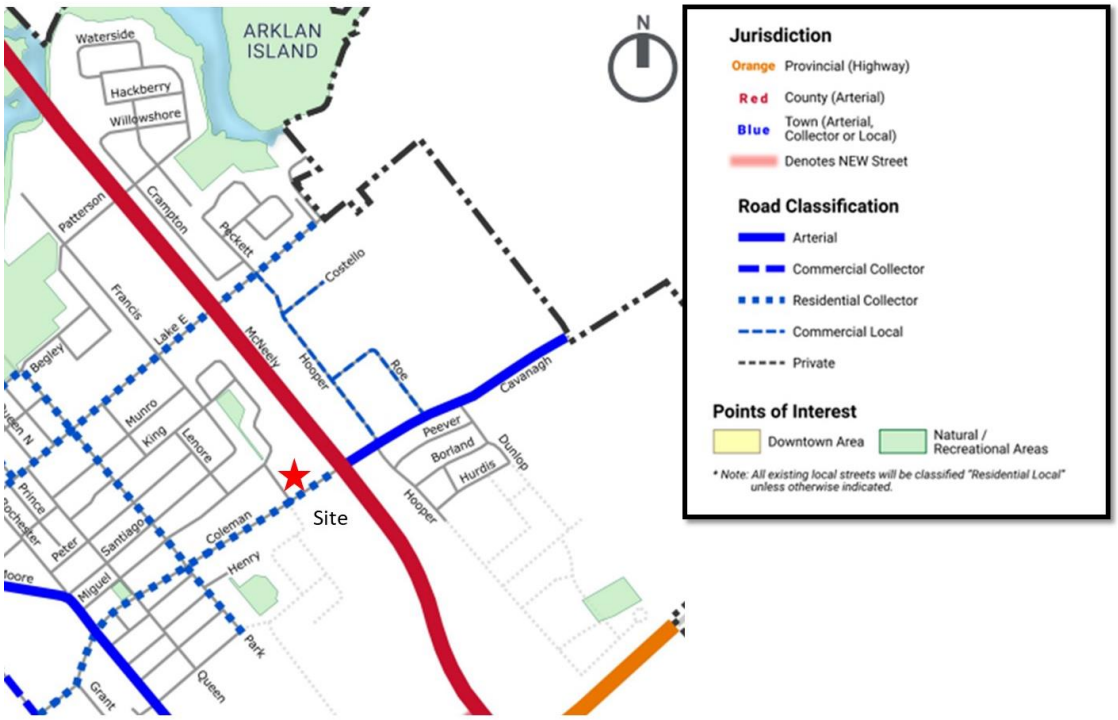
Figure 6 illustrates the recommended road classifications from the CPTMP.

Figure 5 – Street Network Strenghtening Plan



Source: Carleton Place Draft TMP, April 2022

Figure 6 – Recommended Road Classifications



Source: Carleton Place Draft TMP, April 2022

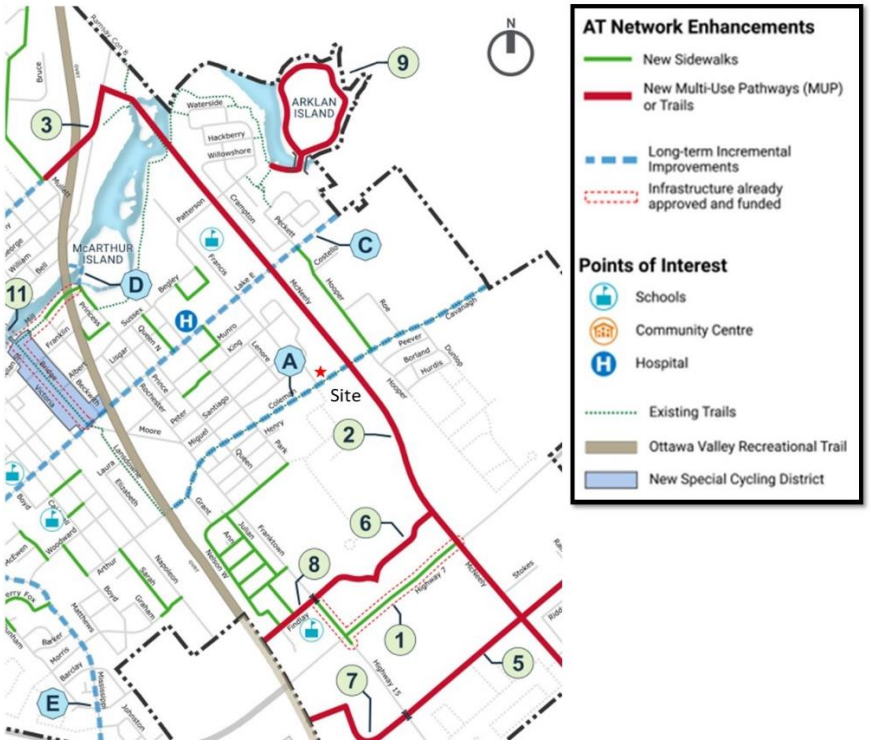
3.5 Future Transit Network

The CPTMP indicates that neither the Town nor County have plans in place to expand transit service or facilities. According to this draft policy document, the COVID-19 pandemic has significantly reduced transit ridership and may have lingering effects on long term expansion. Effects of the reduced transit ridership include the indefinite discontinuation of Leduc Bus Lines Route 538.

3.6 Future Pedestrian and Cycling Network

The Active Network Strengthening Plan in the CPTMP lists improvements to the pedestrian and cycling network. Within the study area, the Active Network Strengthening plan lists the implementation of multi-use paths (MUPs) to nearby road segments. This includes a medium-term (6-10 Year) MUPs on both sides on McNeely Avenue from Coleman Street to Paterson Creek and a long term (20+ Years) MUP on Coleman Street from Nelson West to McNeely. **Figure 7** below shows the Active Network Strengthening Plan.

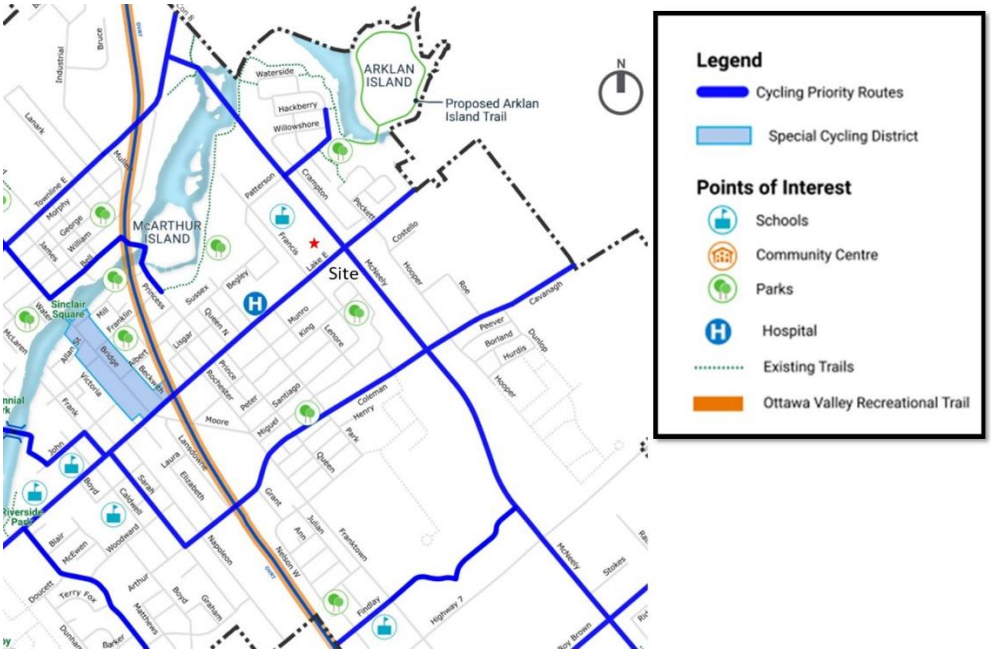
Figure 7 – Active Transportation Network Strengthening Plan



Source: Carleton Place Draft TMP, April 2022

The CPTMP also identifies cycling network improvements within the study area. These include cycle routes along Coleman and McNeely. **Figure 8** illustrates the recommended cycling routes indicated in the CPTMP.

Figure 8 – Recommended Cycling Priority Route



Source: Carleton Place Draft TMP, April 2022

4 Traffic Generation

4.1 Existing Traffic Volumes

The following weekday morning and afternoon peak hour traffic counts were collected on behalf of IBI on Thursday, June 9, 2022, while weekend data was collected on Saturday, June 11, 2022:

- Coleman Street & McGregor Street
- McGregor Street & Carleton Crossing Shopping Centre Access
- Coleman Street & Carleton Crossing Shopping Centre Access
- McNeely Avenue & Carleton Crossing Shopping Centre Access (right-in/right-out)

The McNeely & Coleman/Cavanagh intersection traffic counts were carried out on Tuesday, August 6, 2022 and Saturday, August 9, 2022.

Traffic count data is provided in **Appendix A** and Existing (2022) Traffic volumes are shown in **Exhibit 2** below.

4.2 Future Background Traffic Growth

As directed by the Town and to maintain consistency with Lanark County's growth projections, a 2% growth rate will be applied to the collector or higher-order road network, including through movements on both McNeely Avenue and Coleman Street. It should be noted that this growth rate is more conservative than the 1% growth rate applied in the 277 Coleman Street TIS.

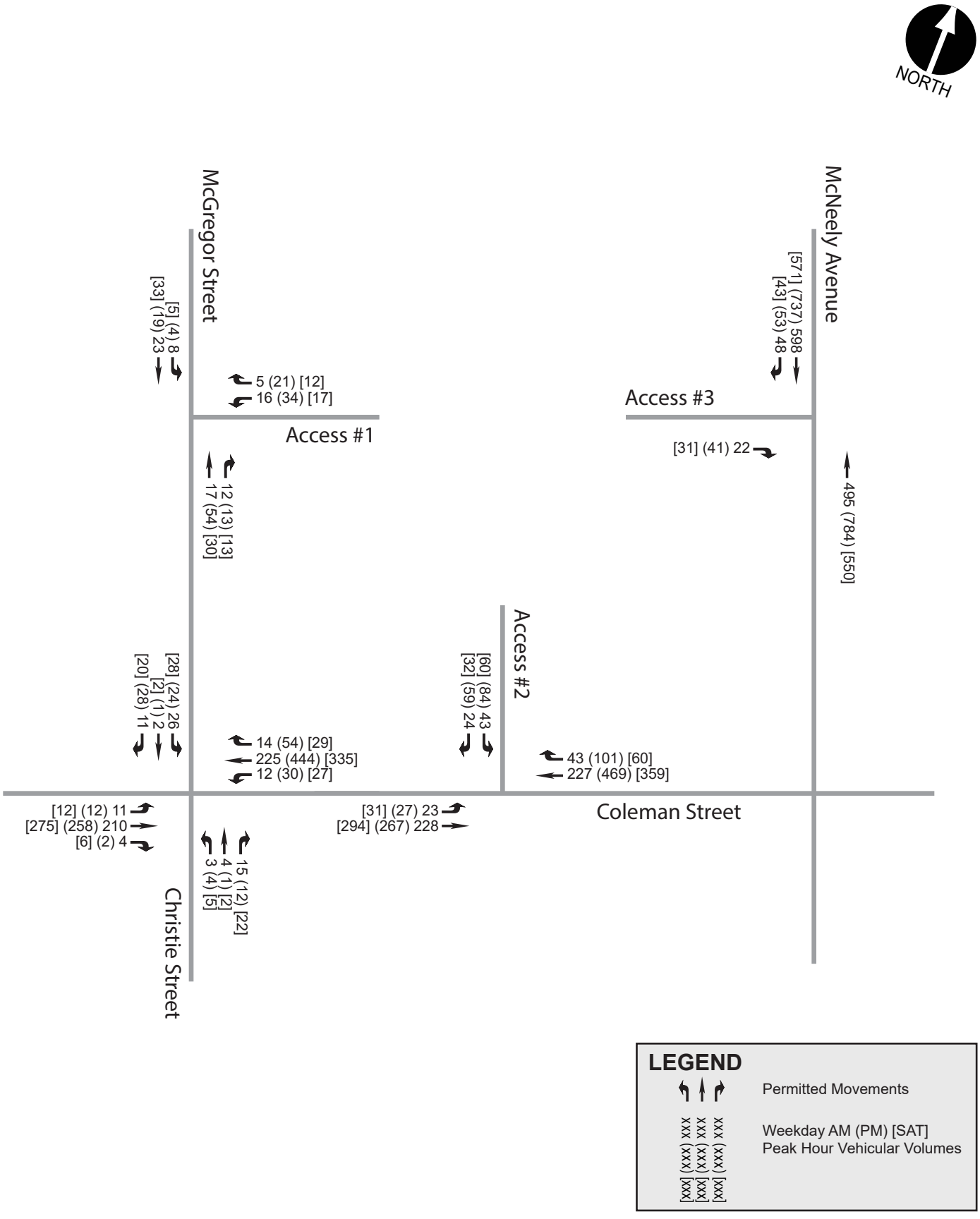
4.3 Future Adjacent Development Traffic Volumes

Based on discussions with Town staff and a review of the Development Applications database maintained by the municipality, it is understood that the following developments of significance are anticipated to occur within the timeframe horizon of this study:

- Coleman Central Subdivision (also referred to as the NuGlobe Subdivision)
    - A residential subdivision consisting of 40 low-rise dwelling units and 37 mid-rise dwelling units.
    - Estimated to be 50% built out based on Google Earth imagery from May 2022.
    - Assumed 75% build-out by 2023 and full build-out by 2028.
- 277 Coleman Street
    - A residential development consisting of three four-storey buildings with a total of 227 dwelling units.
    - Construction has not started based on Google Earth aerial imagery captured in May 2022.
    - Assumed 50% build-out by 2023 and full build-out by 2028.

The Carleton Landing North Subdivision, located to the east of the subject site, was approximately 75% built out at the time of traffic data collection for this study. The TIS prepared for the subdivision was not available at the time that this study was conducted, therefore it was assumed that any minor increases in traffic volumes associated with its completion would be adequately captured through the application of a more conservative 2% annual background growth rate.

The above noted future adjacent developments considered in this study are shown in **Figure 9** below.



IBI

320 Coleman Street
Transportation Impact Study

Exhibit 2:
Existing
(2022) Traffic

PROJECT No. 139540

SCALE: N.T.S.

Figure 9 – Future Adjacent Developments



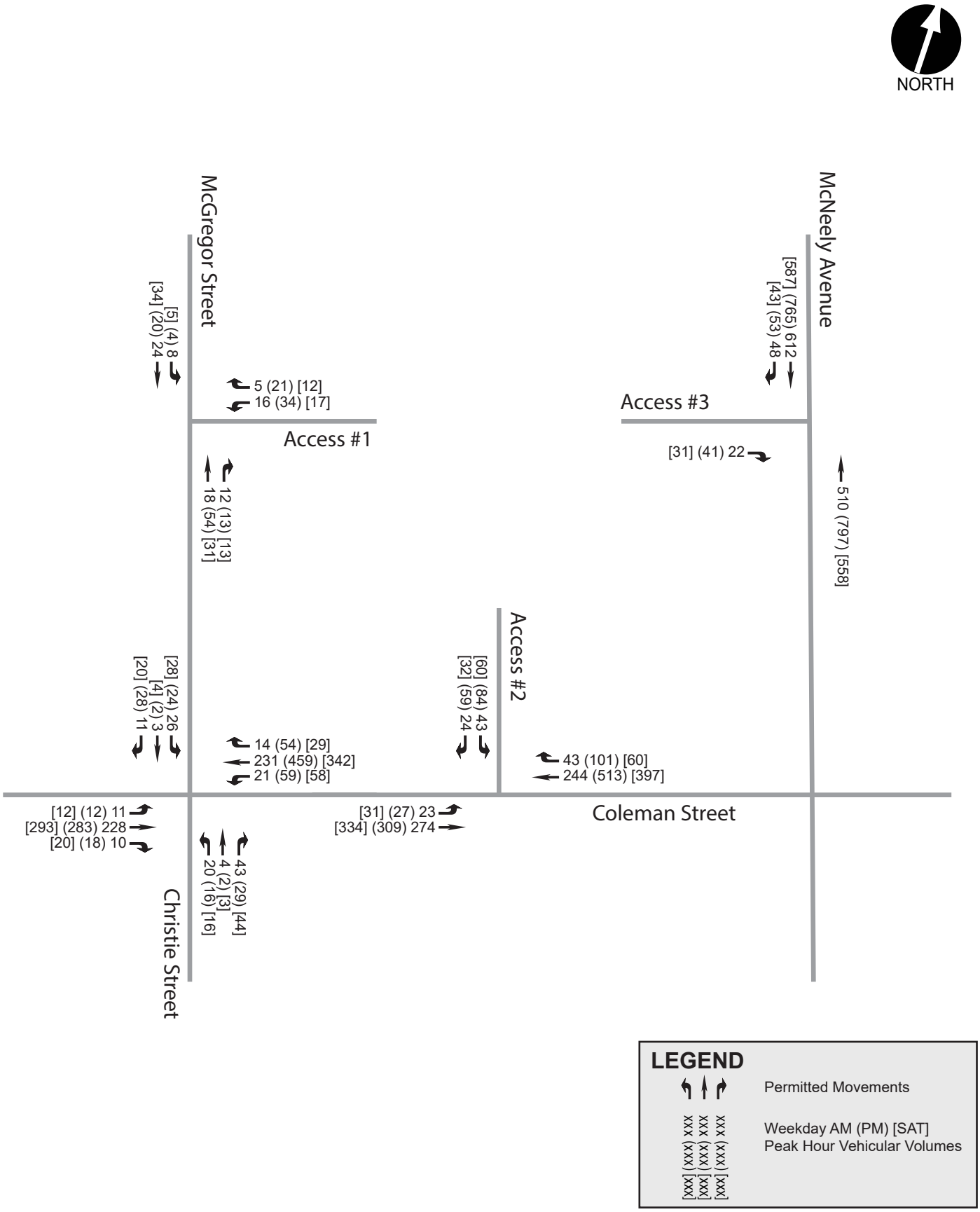
4.4 Future Background Traffic Volumes

As indicated in Section 3 of this report, changes to the transportation network are planned in the Town that may impact future traffic conditions within the study area. The widenings of McNeely Avenue from Coleman Street to Park Avenue and Cavanagh Road from Hooper Street to Town Boundary will increase north-south and east-west vehicular movement, respectively.

As the combined effect of these network modifications is difficult to predict at a micro-level, the analysis undertaken in this study provides a worst-case outlook assuming historical travel trends continue, and no future network modifications are considered.

Future (2023 & 2028) Background Traffic was estimated by applying the traffic growth rates described above to the Existing (2022) Traffic volumes and superimposing them with the estimated adjacent-development-generated traffic.

The estimated weekday peak hour traffic volumes in the 2023 and 2028 analysis years are presented in **Exhibit 3** and **Exhibit 4**, respectively.



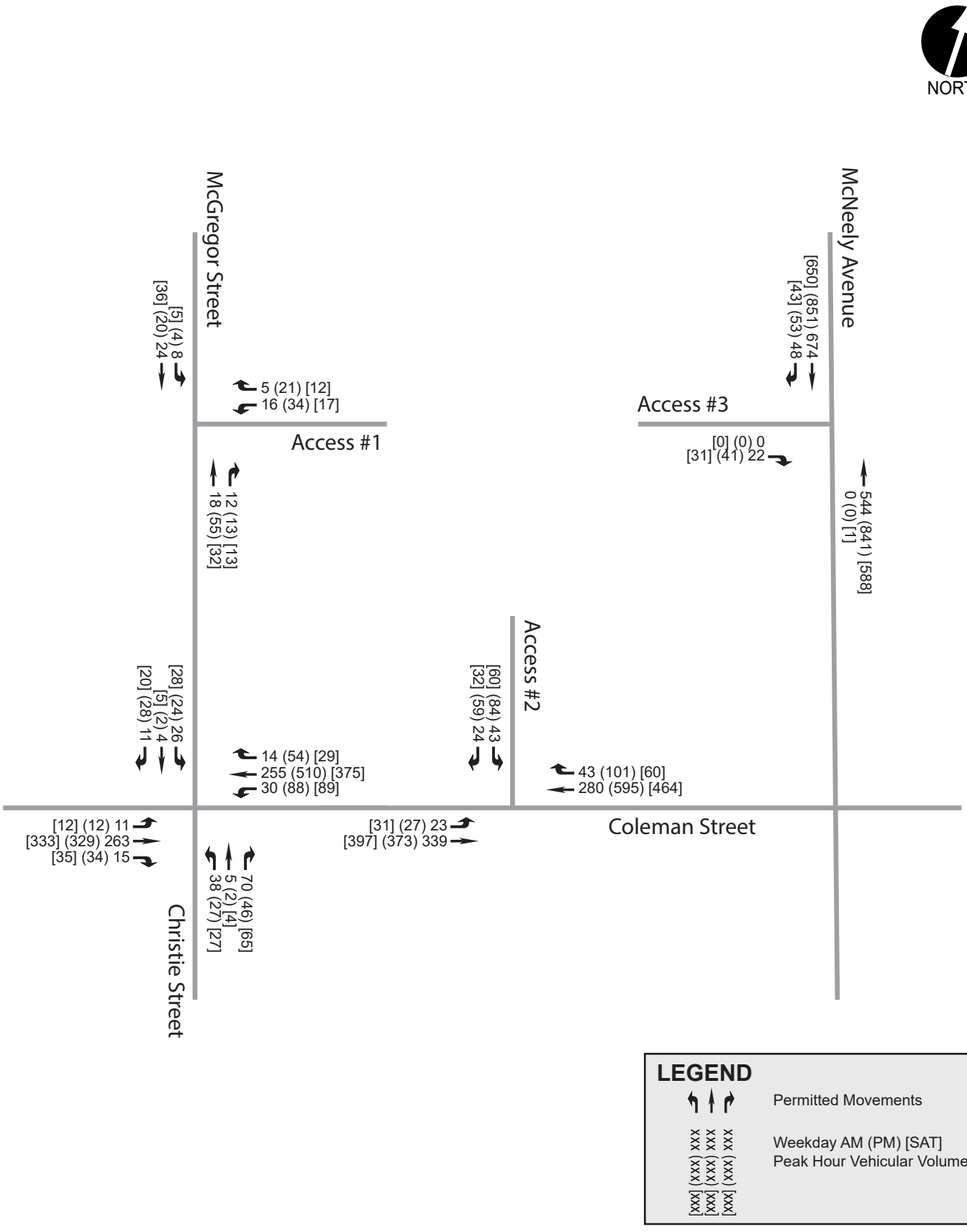
IBI

320 Coleman Street
Transportation Impact Study

Exhibit 3:
Future (2023)
Background Traffic

PROJECT No. 139540

SCALE: N.T.S.



IBI

320 Coleman Street
Transportation Impact Study

Exhibit 4:
Future (2028)
Background Traffic

PROJECT No. 139540

SCALE: N.T.S.

4.5 Trip Generation

The traffic generated by the proposed site was determined by referencing the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition, for the most appropriate land uses to estimate site-generated trips.

Although units 2 to 4 consist of fast-food restaurants without drive throughs, the 'Fast-Food Restaurant with Drive Through' rates were applied to all restaurants uses in this study, given the low survey sample size in the ITE Trip Generation Manual for non-drive through use and the lack of difference in the trip generation characteristics between the two datasets.

As agreed to by Town staff, a 10% internalization rate was applied to both land uses across all three time periods to approximate the synergy between the mix of existing and proposed uses within the Carleton Crossing Shopping Centre.

Based on a review of the ITE Trip Generation Handbook (3rd Edition), an average pass-by rate of 50% was determined to be appropriate for the Fast-Food Restaurant with Drive-Through land use for all three time periods considered in this study. The Commercial Strip Retail Plaza survey data in the ITE Handbook identified an average pass-by rate of 34% during the weekday morning and afternoon peak hours, while Saturday peak period consisted of a slightly reduced rate of 26%.

The resulting trip generation for the subject site is summarized in **Table 2** below. **Appendix C** presents all relevant extracts from ITE publications used in this analysis.

Table 2 – Site-Generated Trips

LAND USE (ITE Code)	SIZE (GLA[1])	Period	Site-Generated Traffic (vph[2])		
			IN	OUT	TOTAL
Fast-Food Restaurant with Drive-Through (934)	~491.2 m² (~5,287 ft²)	Weekday AM	120	116	236
		Weekday PM	91	84	175
		Saturday	149	143	292
Commercial Strip Retail Plaza (822)	~233.9 m² (~2,518 ft²)	Weekday AM	7	5	12
		Weekday PM	15	15	30
		Saturday	8	8	16
Total Baseline Auto Trips		**Weekday AM**	127	121	247
		Weekday PM	106	99	205
		Saturday	157	151	308
Internalization (10%)		**Weekday AM**	13	12	25
		Weekday PM	11	10	21
		Saturday	16	15	31
Pass-by Trips		**Weekday AM**	61	61	122
		Weekday PM	49	49	98
		Saturday	75	75	150
Total New Auto Trips		**Weekday AM**	53	47	100
		Weekday PM	46	40	86
		Saturday	66	61	127

Notes: [1] Gross Leasable Area (GLA); [2] vehicles per hour (vph)

4.6 Trip Distribution and Assignment

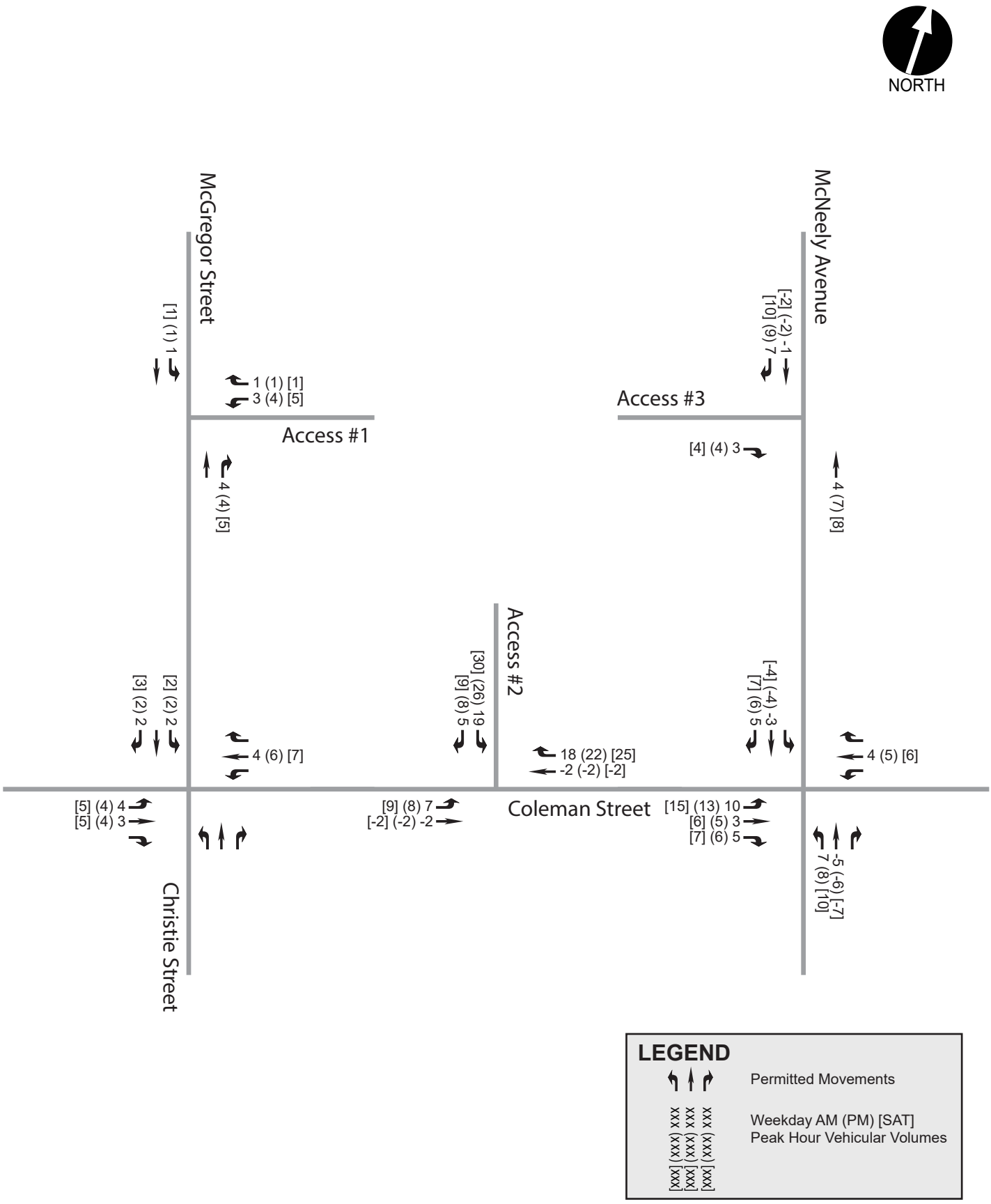
The global distribution of new site-generated trips was based on the geographic concentrations of residential areas in relation to the proposed development, the configuration of the regional road network within the study area, Google Maps travel times, existing travel patterns derived from traffic count data and engineering judgement.

The global distribution of new trips was assumed as follows:

- 35% To/From the North
    - 5% on McGregor Street
    - 30% on McNeely Avenue
- 10% To/from the South
    - 10% on McNeely Avenue
- 20% To/from the East
    - 20% on Cavanagh Road
- 35% To/from the West
    - 35% on Coleman Street

Pass-by trips were distributed and assigned to the adjacent road network based on a weighting of link volumes for each cardinal direction in combination with intersection-level characteristics derived from turning movement counts conducted for this study for each of the three analysis time periods.

The resulting weekday morning, weekday afternoon and Saturday peak hour new and pass-by site-generated traffic volumes are shown in **Exhibit 5** below.



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320 Coleman Street
Transportation Impact Study

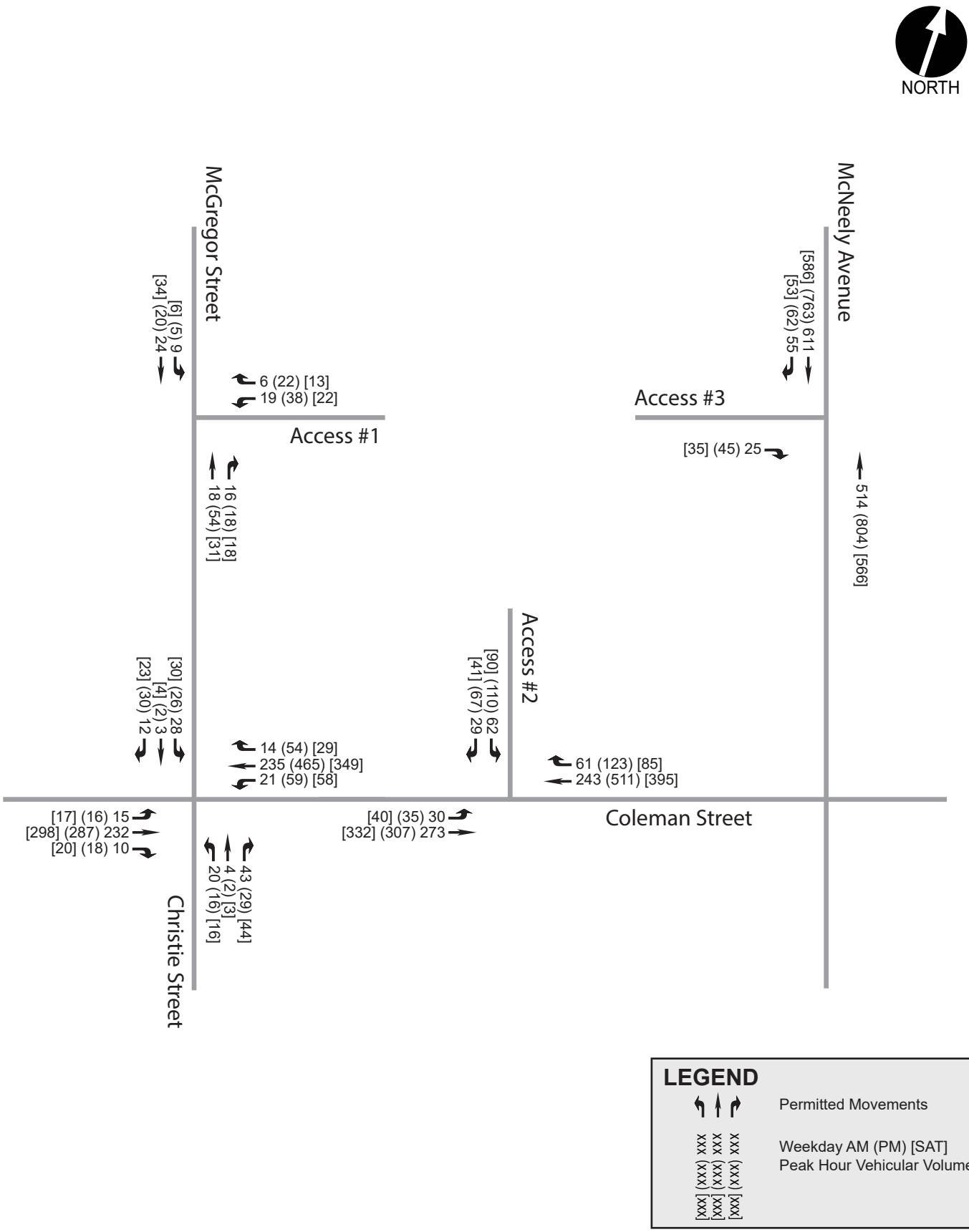
Exhibit 5:
Site Generated
Traffic Volumes

PROJECT No. 139540

SCALE: N.T.S.

4.7 Future Total Traffic Volumes

The future total peak hour traffic volumes were calculated by superimposing the site-generated peak hour traffic volumes from **Exhibit 5** onto the background traffic volumes from **Exhibit 3** and **Exhibit 4**. The resulting Future (2023) Total and Future (2028) Total Traffic volumes are presented in **Exhibit 6** and **Exhibit 7**, respectively.



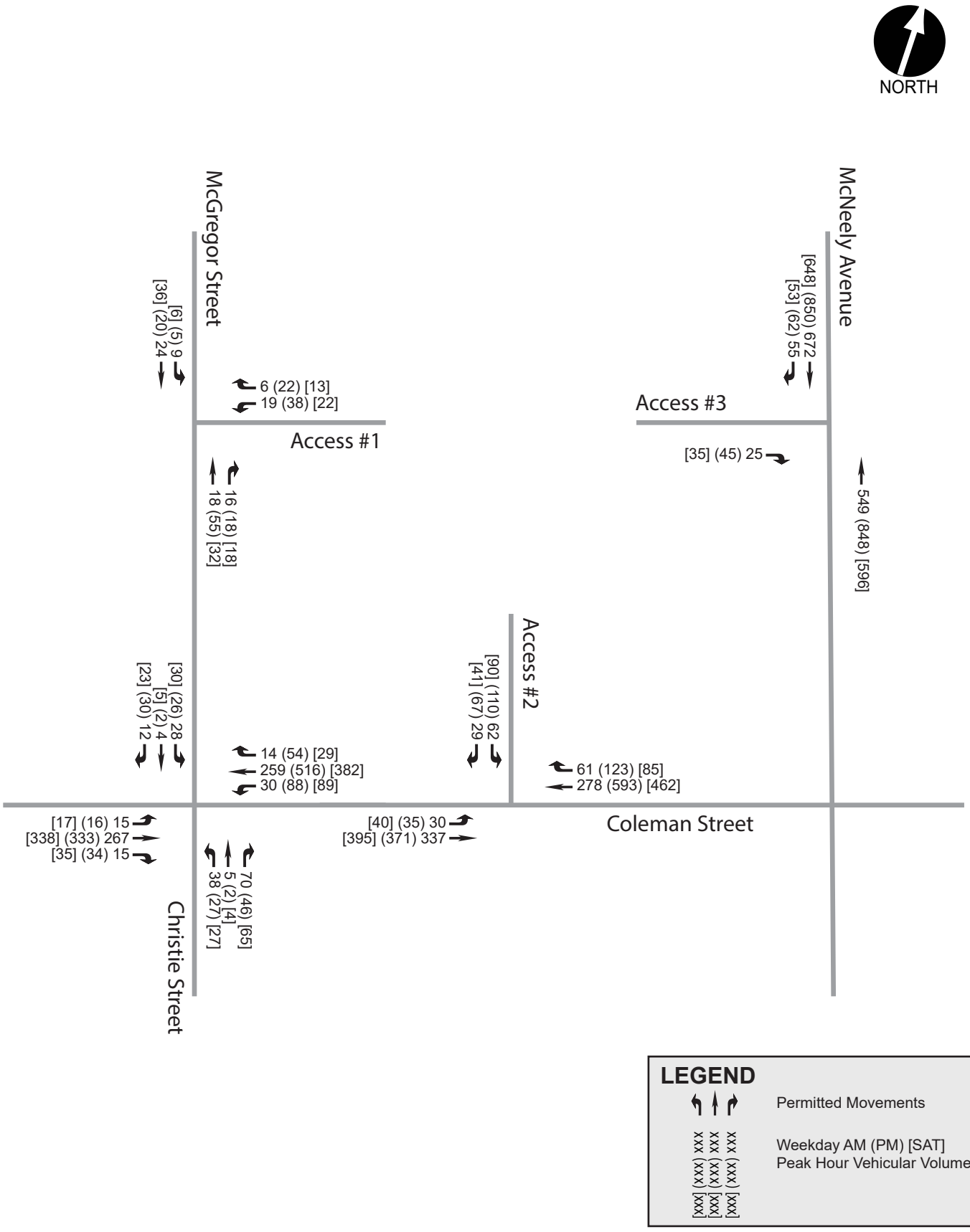
IBI

320 Coleman Street
Transportation Impact Study

Exhibit 6:
Future (2023)
Total Traffic

PROJECT No. 139540

SCALE: N.T.S.



IBI

320 Coleman Street
Transportation Impact Study

Exhibit 7:
Future (2028)
Total Traffic

PROJECT No. 139540

SCALE: N.T.S.

5 Intersection Operation Review

The criteria and methodology described in the following section were based on the Highway Capacity Manual (HCM) 2010 methodology, as agreed to by the Town of Carleton Place technical review staff.

5.1 Intersection Capacity Analysis Methodology

Based on the established intersection capacity analysis criteria from the HCM 2010 methodology, existing and future conditions were analysed using the weekday morning, weekday afternoon and Saturday peak hour traffic volumes presented in the previous sections of this report.

Both future (2023) and future (2028) traffic conditions were analyzed with and without site-generated volumes:

- **Background Traffic** – Estimated peak hour traffic volumes based on historical growth rates plus adjacent developments trips; and
- **Total Traffic** – Background peak hour traffic volumes plus the proposed development generated traffic volumes.

5.2 Intersection Capacity Analysis Results

Following the established intersection capacity analysis criteria described above, the existing and future conditions were analysed during the weekday and Saturday peak traffic volumes derived for this study.

The following section presents the results of the intersection capacity analysis. All tables summarize study area intersection LOS results during the weekday morning, weekday afternoon and Saturday peak hour periods.

The right-in/right-out site access driveway on McNeely Avenue and the all-movements site access driveway on McGregor Street (a local street) were not considered in the intersection capacity analysis, as both can be assumed to operate well within acceptable standards.

Synchro analysis output files have been provided in **Appendix C**.

5.2.1 Existing (2022) Traffic

An intersection capacity analysis has been undertaken using the Existing (2022) Traffic volumes presented in **Exhibit 4**, yielding the following results:

Table 3 – Intersection Capacity Analysis Results: Existing (2022) Traffic

INTERSECTION	CONTROL	PEAK HOUR	INTERSECTION LOS	CRITICAL MOVEMENT(S) DEMAND (S) OR V/C RATIO
Coleman & McGregor/Christie	Stop-Controlled	AM	B (11.9s)	SBTRL (11.9s)
		PM	B (15.4s)	SBTRL (15.4s)
		SAT	B (14.2s)	SBTRL (14.2s)
Coleman & Access #2	Stop-Controlled	AM	B (11.5s)	SBRL (11.5s)
		PM	C (18.8s)	SBRL (18.8s)
		SAT	B (14.2s)	SBRL (14.2s)
McNeely & Coleman/Cavanagh	Signal-Controlled	AM	B (12.9s)	EBL (40.4s)
		PM	B (18.2s)	**EBL (69.7s)**
		SAT	D (13.7s)	EBL (41.6s)

5.2.2 Future (2023) Background Traffic

An intersection capacity analysis has been undertaken using the Future (2023) Background Traffic volumes presented in **Exhibit 5**, yielding the following results:

Table 4 – Intersection Capacity Analysis Results: Future (2023) Background Traffic

INTERSECTION	CONTROL	PEAK HOUR	INTERSECTION LOS	CRITICAL MOVEMENT DEMAND (S)
Coleman & McGregor/Christie	Stop-Controlled	AM	B (12.5s)	SBTRL (12.5s)
		PM	C (17.4s)	SBTRL (17.4s)
		SAT	C (16.2s)	SBTRL (16.2s)
Coleman & Access #2	Stop-Controlled	AM	B (11.9s)	SBRL (11.9s)
		PM	C (20.9s)	SBRL (20.9s)
		SAT	B (15.8s)	SBRL (15.8s)
McNeely & Coleman/Cavanagh	Signal-Controlled	AM	B (13.4s)	EBL (41.6s)
		PM	B (19.5s)	**EBL (72.6s)**
		SAT	B (14.5s)	EBL (42.7s)

5.2.3 Future (2028) Background Traffic

An intersection capacity analysis has been undertaken using the Future (2028) Background Traffic volumes presented in **Exhibit 6**, yielding the following results:

Table 5 – Intersection Capacity Analysis Results: Future (2028) Background Traffic

INTERSECTION	CONTROL	PEAK HOUR	INTERSECTION LOS	CRITICAL MOVEMENT(S) DEMAND (S)
Coleman & McGregor/Christie	Stop-Controlled	AM	B (13.7s)	SBTRL (13.7s)
		PM	C (23.4s)	NBTRL (23.4s)
		SAT	C (19.8s)	SBTRL (19.8s)
Coleman & Access #2	Stop-Controlled	AM	B (12.6s)	SBRL (12.6s)
		PM	D (25.7s)	SBRL (25.7s)
		SAT	C (17.9s)	SBRL (17.9s)
McNeely & Coleman/Cavanagh	Signal-Controlled	AM	B (14.5s)	EBL (42.5s)
		PM	B (22.4s)	**EBL (83.2s)**
		SAT	D (16.7s)	EBL (43.2s)

5.2.4 Future (2023) Total Traffic

An intersection capacity analysis has been undertaken using the Future (2023) Total Traffic volumes presented in **Exhibit 8**, yielding the following results:

Table 6 – Intersection Capacity Analysis Results: Future (2023) Total Traffic

INTERSECTION	CONTROL	PEAK HOUR	INTERSECTION LOS	CRITICAL MOVEMENT(S) DEMAND (S)
Coleman & McGregor/Christie	Stop-Controlled	AM	B (13.6s)	SBTRL (13.6s)
		PM	C (20.3s)	SBTRL (20.3s)
		SAT	C (19.4s)	SBTRL (19.4s)
Coleman & Access #2	Stop-Controlled	AM	B (14.6s)	SBRL (14.6s)
		PM	D (33.3s)	SBRL (33.3s)
		SAT	C (25.1s)	SBRL (25.1s)
McNeely & Coleman/Cavanagh	Signal-Controlled	AM	B (14.6s)	EBL (43.5s)
		PM	C (20.7s)	**EBL (71.7s)**
		SAT	B (15.8s)	EBL (43.7s)

5.2.5 Future (2028) Total Traffic

An intersection capacity analysis has been undertaken using the Future (2028) Total Traffic volumes presented in **Exhibit 9**, yielding the following results:

Table 7 – Intersection Capacity Analysis Results: Future (2028) Total Traffic

INTERSECTION	CONTROL	PEAK HOUR	INTERSECTION LOS DELAY (S)	CRITICAL MOVEMENT(S) DELAY (S)
Coleman & McGregor/Christie	Stop-Controlled	AM	B (15.1s)	SBTRL (15.1s)
		PM	D (26.4s)	SBTRL (26.4s)
		SAT	D (25.2s)	SBTRL (25.2)
Coleman & Access #2	Stop-Controlled	AM	B (15.9s)	SBRL (15.9s)
		PM	**E (48.0s)**	**SBRL (48.0s)**
		SAT	D (31.9s)	SBRL (31.9s)
McNeely & Coleman/Cavanagh	Signal-Controlled	AM	B (15.4s)	EBL (43.3s)
		PM	C (24.1s)	**EBL (78.5s)**
		SAT	B (18.3s)	SBTRL (43.8s)

All study area intersections are expected to operate at an overall acceptable Level of Service (LOS 'D' or better) within the timeframe of this study with the exception of the southbound approach of Coleman & Access #2 which may approach its theoretical capacity (i.e. LOS ‘E’) by the 2029 study horizon year during the weekday afternoon peak hour. Given that the Coleman & Access #2 intersection is able to accommodate site-generated traffic under Future (2023) Total Traffic conditions, however, any potential traffic operational issues would be a direct result of increases in background traffic and not as a consequence of the proposed development.

It is acknowledged as well that the McNeely & Coleman/Cavanagh intersection is currently approaching its theoretical capacity on the eastbound left-turn movement during the weekday afternoon peak hour, although even under Future (2028) Total Traffic conditions the intersection is still anticipated to operate at an overall LOS ‘C’ which is well within acceptable standards. As such, this intersection may benefit from signal optimization, given that all remaining movements are operating at LOS ‘B’ or ‘C’. As these capacity issues exist under existing conditions and are shown to be manageable throughout the timeframe of the study, any minor operational issues at this intersection are not exacerbated by site-generated traffic.

6 Geometric Review

6.1 Site Access Assessment

The proposed development will be accessed via existing site access driveways associated with the overall shopping centre and therefore a review of sightlines, corner clearances or access spacing from the Transportation Association of Canada (TAC) Geometric Design Guidelines was not required as part of this study.

6.2 Auxiliary Lane Analyses

6.2.1 Unsignalized Auxiliary Left-Turn Lanes

An auxiliary left-turn lane analyses for unsignalized study area intersections was completed under Future (2028) Total Traffic conditions and is provided in **Appendix D**.

The MTO Geometric Design Standards for Ontario Highways left-turn warrant was applied to mainstreet approaches at all unsignalized intersections using the critical left-turn volume from either the weekday morning, weekday afternoon or Saturday peak hours. The results have been summarized below in **Table 8** below.

The McNeely & Access 3 intersection is restricted to right-in/right-out movements and therefore this location was exempt from the left-turn warrant analysis.

The McGregor & Access 1 intersection will not require an auxiliary left-turn lane, as it is a local road.

Table 8 – Auxiliary Left-Turn Lane Analysis at Unsignalized Intersections

INTERSECTION	APPROACH	VOLUME ADVANCING (V_A)	VOLUME OPPOSING (V_O)	% LEFT TURN IN V_A	PARRALLEL LANE LENGTH REQUIRED (M)
Coleman & McGregor/ Christie	EB	403	661	5%	Existing Configuration Adequate [1]
Coleman & Access 2	EB	433	739	10%	Existing 15m Storage Adequate

Note:[1] EB approach consists of separate EBT/L and EBT/R lanes. The inner lane effectively functions as a dedicated EBL auxiliary lane with an approximate 145-metre parallel lane.

The analysis presented in **Table 8** above indicates that the existing 15-metre eastbound left-turn auxiliary lane at the intersection of Coleman & Access 2 is of sufficient parallel length to accommodate projected traffic volumes within the 2028 study horizon year.

The Coleman & McGregor/Christie intersection is located at a transition between a four- and two-lane cross-section on the major road and therefore a left-turn warrant analysis has been conducted for both cross-section types using the two-lane and four-lane, undivided highway left-turn warrant methodologies. The inner eastbound through lane essentially functions as an auxiliary left-turn lane with an approximately 145-metre parallel lane length and therefore the 15 metres of storage identified as being required through the warrants is easily accommodated without the need to modify the existing configuration of the eastbound approach.

6.2.2 Signalized Auxiliary Left-Turn Lanes

A review of auxiliary left-turn lane storage requirements was completed at all signalized intersections within the study area under Future (2028) Total Traffic conditions. The review compared the projected 95th percentile queue lengths from Synchro operational results, and the standard queue length calculation based on the following equation:

$$Storage\ Length = \frac{NL}{C} \times 1.5$$

Where:
N = number of vehicles per hour
L = Length occupied by a vehicle in the queue = 7 m
C = number of traffic signal cycles per hour

The results of the auxiliary left-turn lane analysis are summarized below in **Table 9** below.

Table 9 – Auxiliary Left-Turn Storage Analysis at Signalized Intersections

INTERSECTION	APPROACH	95TH %ILE QUEUE LENGTH / CALCULATED QUEUE (M)			EXISTING PARALLEL LANE LENGTH (m)	STORAGE DEFICIENCY (m)
		AM PEAK HR	PM PEAK HR	SAT PEAK HR		
McNeely & Coleman/ Cavanagh	NB	18/38	66/80	36/69	155	-
	SB	9/17	16/26	9/14	45	-
	EB	32/29	60/44	36/34	65	-
	WB	21/17	30/29	24/20	100	-

Based on the analysis presented in **Table 9** above, no storage deficiencies are expected under Future (2028) Total Traffic conditions at the intersection of McNeely & Coleman/Cavanagh.

6.2.1 Unsignalized Auxiliary Right-Turn Lanes

There is currently no local warrant procedure governing the application of auxiliary right-turn lanes at unsignalized intersections. Referring to TAC Geometric Design Guide for Canadian Roads, an auxiliary right-turn lane be considered “when the volume of decelerating or accelerating vehicles compared with the through traffic volume causes undue hazard” and the volume of right-turning traffic exceeds 60 vehicles or 10% of the approach volume.

The westbound right-turn movement at Coleman & Access 2 is projected to experience right-turn volumes up to 150 vehicles, while the McNeely & Access 3 intersection may slightly exceed the 60-vehicle trip threshold during each weekday peak hour. Two westbound lanes presently exist on Coleman Street, reducing to a single lane west of McGregor, while the Access 3 on McNeely is located in the taper area of the auxiliary lane. These geometric features help reduce the potential for safety risks associated with right-turning vehicles into the Carleton Crossing Shopping Centre.

Based on the traffic volumes developed for this study, it was therefore determined that no additional right-turn facilities are required as a result of projected background or site-generated traffic volumes within the timeframe of this study. Auxiliary right turn lanes should be further considered by the Town at these locations, however, upon widening of these roadways.

6.2.2 Signalized Auxiliary Right-Turn Lanes

Similarly for signalized intersections, Section 9.14 of TAC suggests that auxiliary right-turn lanes shall be considered when more than 10% of vehicles on an approach are turning right and when the peak hour demand exceeds 60 vehicles. The purpose of this guideline is to mitigate operational impacts to through-traffic, particularly on high-speed arterial roadways, and may not be applicable in all circumstances.

The results of the auxiliary right-turn lane analyses are summarized in **Table 10** below.

Table 10 – Auxiliary Right-Turn Lane Storage Analysis at Signalized Intersections

INTERSECTION	APPROACH	NUMBER OF RIGHT TURNS/ %RIGHT-TURNS			95TH %ILE QUEUE (M) AM / PM / SAT	EXISTING PARALLEL LANE LENGTH (M)	STORAGE DEFICIENCY (M)
		AM	PM	SAT			
McNeely & Coleman/ Cavanagh	SB	109/ 15%	135/ 14%	123/ 14%	54 86 70	Shared Through-Right	-[1]
	EB	179/ 40%	211/ 39%	250/ 45%	22 20 24	Shared Through-Right	-[1]

Notes:[1] Configured with two through lanes on each approach and approach volumes well within the capacity of 1,000 vehicles per hour per lane.

Given that the McNeely & Coleman/Cavanagh intersection is configured with two through lanes on each approach and the through volumes are well below the capacity of a single lane which is generally assumed to be 1,000 vehicles per hour, the curbside lanes effectively function as right-turn auxiliary lanes. The queue lengths for the through lanes, as presented in **Table 10** above, are manageable and are not anticipated to result in spillback beyond the four-lane cross-section on either approach. Further, neither McNeely Avenue or Coleman/Cavanagh are classified as high-speed arterial roads which typically have speeds of at least 80 km/h. Based on the above, the implementation of any additional auxiliary right-turn lanes is not required to accommodate site-generated traffic for the proposed development.

7 Parking Utilization Survey & Analysis

Based on the 19-space parking deficit for the Carleton Crossing Shopping Centre, as identified on the site plan in **Exhibit 1**, the Carleton Place Development Permit By-law 15-2015 specifies the need for a Parking Study to determine whether the overall parking supply of the shopping centre can sufficiently accommodate parking demand with the inclusion of the proposed development. As such, parking utilization surveys were undertaken to collect occupancy data for vehicle stalls during a weekday and Saturday to capture the critical parking demand, as described below:

- Weekday On-Site Parking Survey: A vehicle occupancy survey was conducted every 30 minutes for the Carleton Crossing Shopping Centre on Thursday, June 9, 2022 from 9:00am to 9:00pm to identify the peak vehicle occupancy.
- Saturday On-Site Survey: A vehicle occupancy survey was conducted every 30 minutes for the Carleton Crossing Shopping Centre on Saturday, June 11, 2022 from 9:00am to 9:00pm to identify the peak vehicle occupancy.

The 12 hours of vehicle occupancy data collected during the weekday and Saturday periods was then analysed to inform recommendations about an appropriate parking supply for the Carleton Crossing Shopping Centre, including the proposed development, based on the results of the surveys.

It should be noted that the above noted surveys did not include any data collection of heavy vehicles performing loading operations associated with any of the commercial buildings on-site, nor will it reflect any vehicles stopped at the gas station.

Parking utilization data is provided in **Appendix E**.

7.1 Existing Parking Demand and Utilization

An analysis of the parking utilization data collected for this study indicated that peak utilization times occurred between 10:30AM and 4:00 PM on a weekday and around 12:30 PM on a Saturday. The maximum parking utilization is 72 parked vehicles (31% utilization) out of 235 existing parking spaces on a weekday and 49 parked vehicles (21% utilization) on a Saturday as shown below in **Figure 10** and **Figure 11**, respectively.

Figure 10 – Existing Parking Utilization (Weekday)

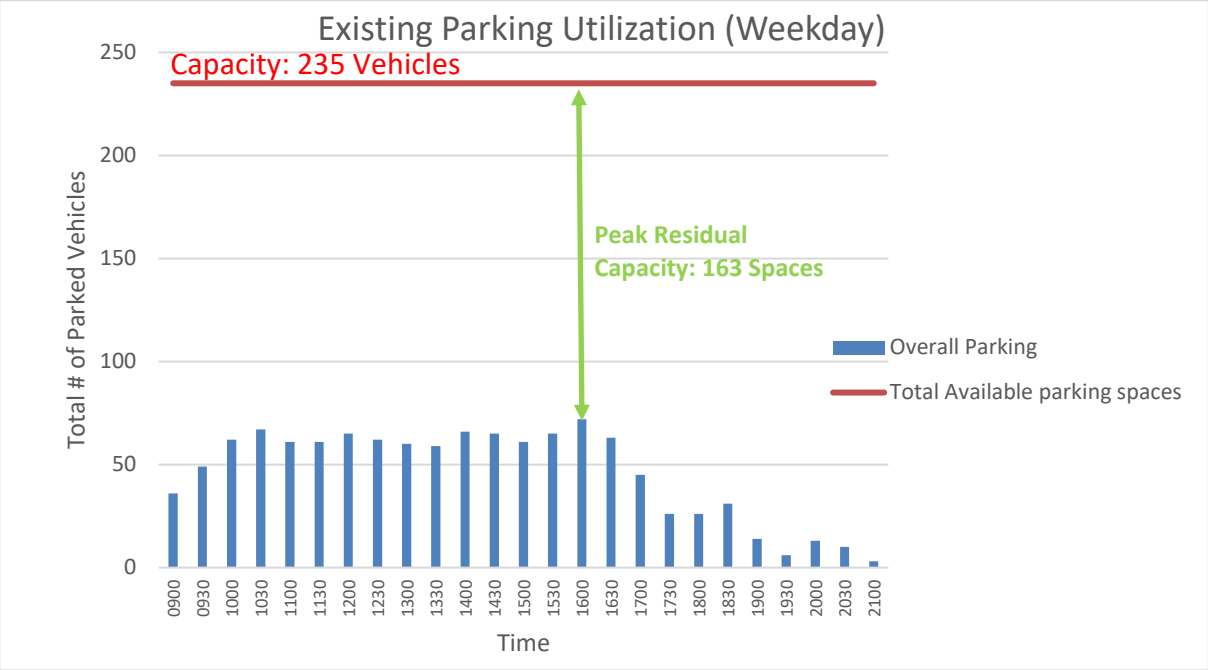
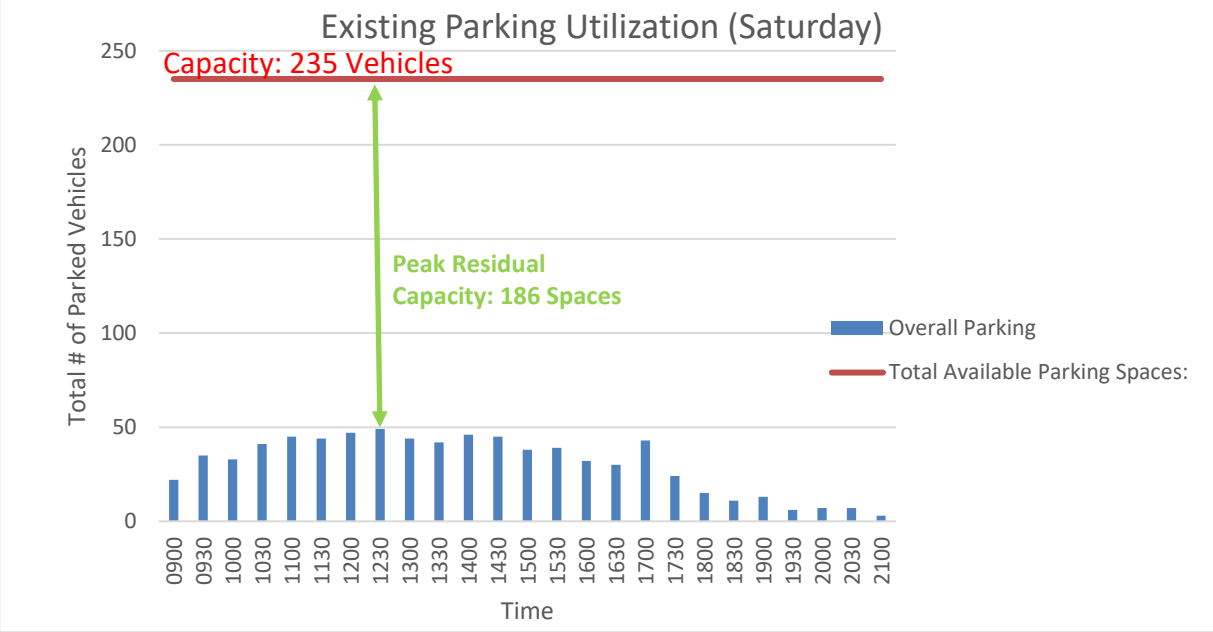


Figure 11 – Existing Parking Utilization (Saturday)



7.2 Site-Generated Parking Demand

The site-generated parking demand was estimated using the two different methods:

1) The minimum required parking space rates identified in the Development Permit By-law 15-2015; and
2) Relevant land uses in the Institute of Transportation Engineers' (ITE) Parking Generation Manual, 5th Edition.

7.2.1 Development Permit By-law

As per the Development Permit By-law and identified on the site plan, a minimum of 63 vehicle parking spaces are required to accommodate the proposed development.

7.2.2 ITE Parking Generation

The ITE Parking Generation Manual (5th Edition) indicates that the peak parking demand for the proposed development would occupy 24 stalls on a weekday and 31 stalls on a Saturday. Given that both parking demand values fall below the minimum requirement of 63 spaces specified in the Development Permit By-law, it can be concluded that the latter governs for both analysis time periods.

Relevant extracts from the ITE Parking Generation Manual (5th Edition) are provided in **Appendix F**.

7.3 Future Parking Demand and Utilization

With the implementation of the proposed development, the overall parking supply of the shopping centre would be reduced from 235 to 206 spaces. The site-generated peak parking demand was estimated using the minimum by-law requirements, while the parking distribution over the course of the weekday and Saturday 12-hour periods was based on the demand profiles provided for each respective land use in the ITE Parking Generation Manual. The site-generated peak parking demand profiles for the weekday and Saturday survey periods were superimposed onto the existing parking demand profiles developed through an analysis of the parking utilization data and are presented in **Figure 12** and **Figure 13**, respectively.

A total peak parking demand of 128 spaces (62% utilization) is expected to occur at 12:00 PM on a weekday, while a peak demand of 110 parked vehicles (53% utilization) is anticipated on a Saturday between 12:00 PM and 1:00 PM. Given that both critical time periods are shown to consistently maintain significant residual capacity of 79 and 96 parking stalls for the weekday and Saturday survey periods, respectively, the proposed parking supply is appropriate, despite not meeting the by-law requirements.

Figure 12 – Future Parking Utilization (Weekday)

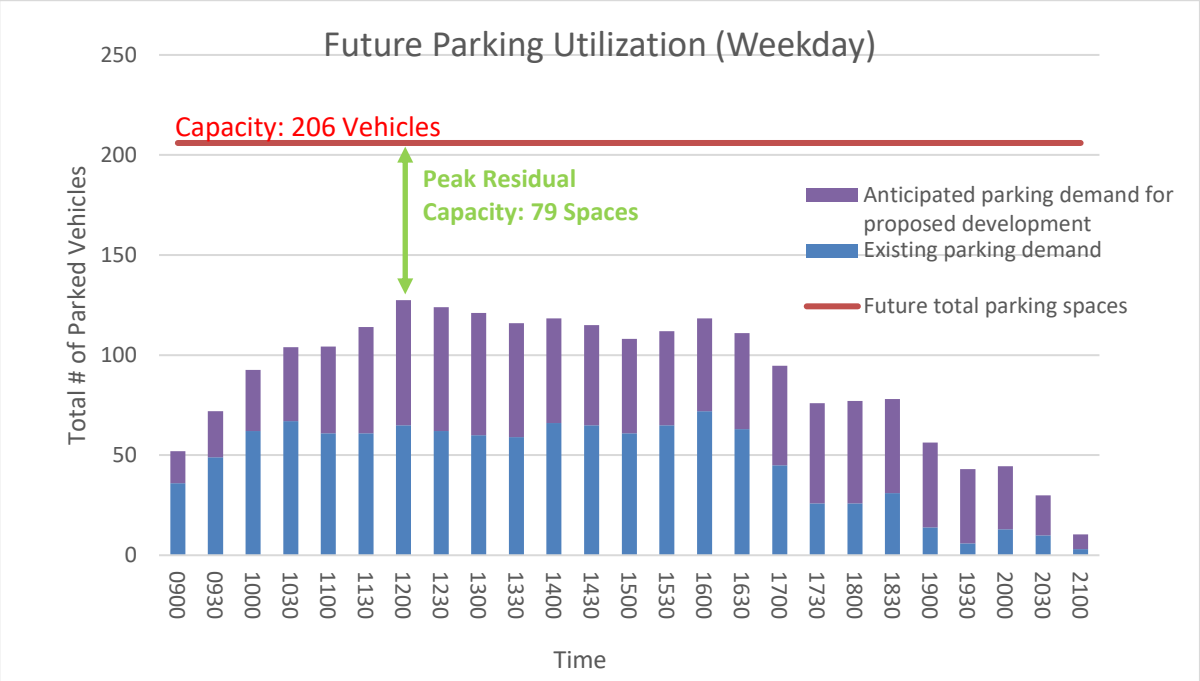
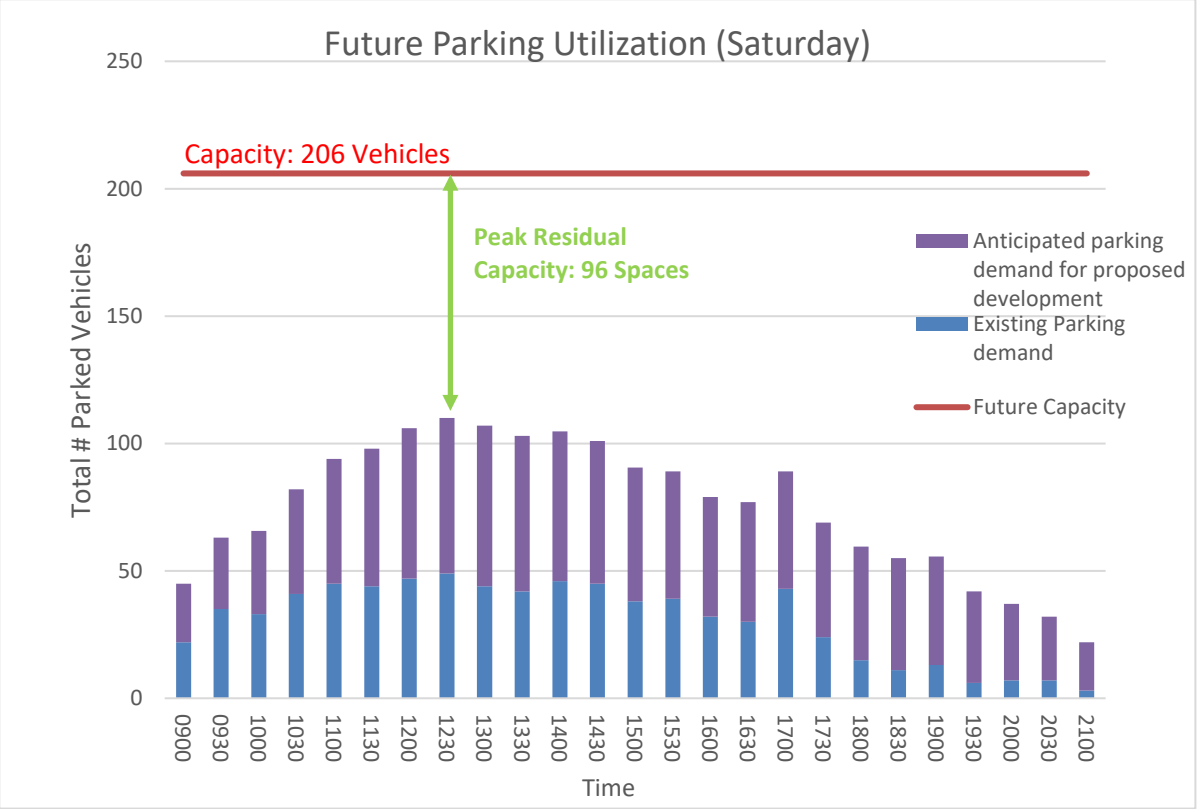


Figure 13 – Future Parking Utilization (Saturday)



8 Conclusions and Recommendations

This Transportation Impact Study and Parking Utilization Survey were conducted in support of a Site Plan Application for the proposed development at 320 Coleman Street in the Town of Carleton Place. The following outlines the conclusions and recommendations resulting from the analysis of the proposed development:

- The proposed development is expected to generate up to 127 new two-way vehicular trips and up to 150 pass-by trips during the weekday and Saturday peak hours. Given that a significant portion of the site-generated demand consists of pass-by trips which will be divided amongst three existing site access driveways serving the Carleton Crossing Shopping Centre, the overall downstream impacts on the adjacent road network, including the Coleman & McNeely intersection, are anticipated to be marginal.
- All study area intersections are expected to operate at an overall acceptable Level of Service (LOS 'D' or better) beyond the 2029 study horizon year with the exception of the southbound approach of Coleman & Access #2 which may approach its theoretical capacity (i.e. LOS 'E') by the 2029 study horizon year during the weekday afternoon peak hour. Given that the Coleman & Access #2 intersection is able to accommodate site-generated traffic under Future (2023) Total Traffic conditions, however, any potential traffic operational issues would be a direct result of regional traffic growth on the major road and not as a direct consequence of the proposed development.
- Based on the auxiliary left- and right-turn lane analyses performed for this study, no modifications to any of the lane configurations are required at the study area intersections.
- With the integration of the proposed development within the Carleton Crossing Shopping Centre, a parking deficit of 19 spaces will exist with respect to the Development Permit By-law 15-2015 requirements. However, based on parking utilization data collected over peak 12-hour periods on a Thursday and Saturday and overlaid with estimates of site-generated parking demand, total peak parking demand was anticipated to be in the order of just 128 spaces (62% utilization) on a weekday and 110 spaces (53% utilization) on a Saturday. Given that significant residual capacity is expected to exist even with the addition of site-generated parking demand and throughout the weekday and Saturday periods, it is the opinion of IBI that the proposed parking supply is appropriate, despite not achieving the by-law requirements.

The overall conclusion of this TIS is that traffic generated by the proposed development can be safely accommodated on the adjacent road network and that the reduced parking supply for the Carleton Crossing Shopping Centre will continue to satisfy parking demand with the inclusion of site-generated demand.

Prepared by:



Ben Pascolo-Neveu, P.Eng.

Appendix A – Traffic Count Data

ACCURATE TRUSTED TRAFFIC DATA

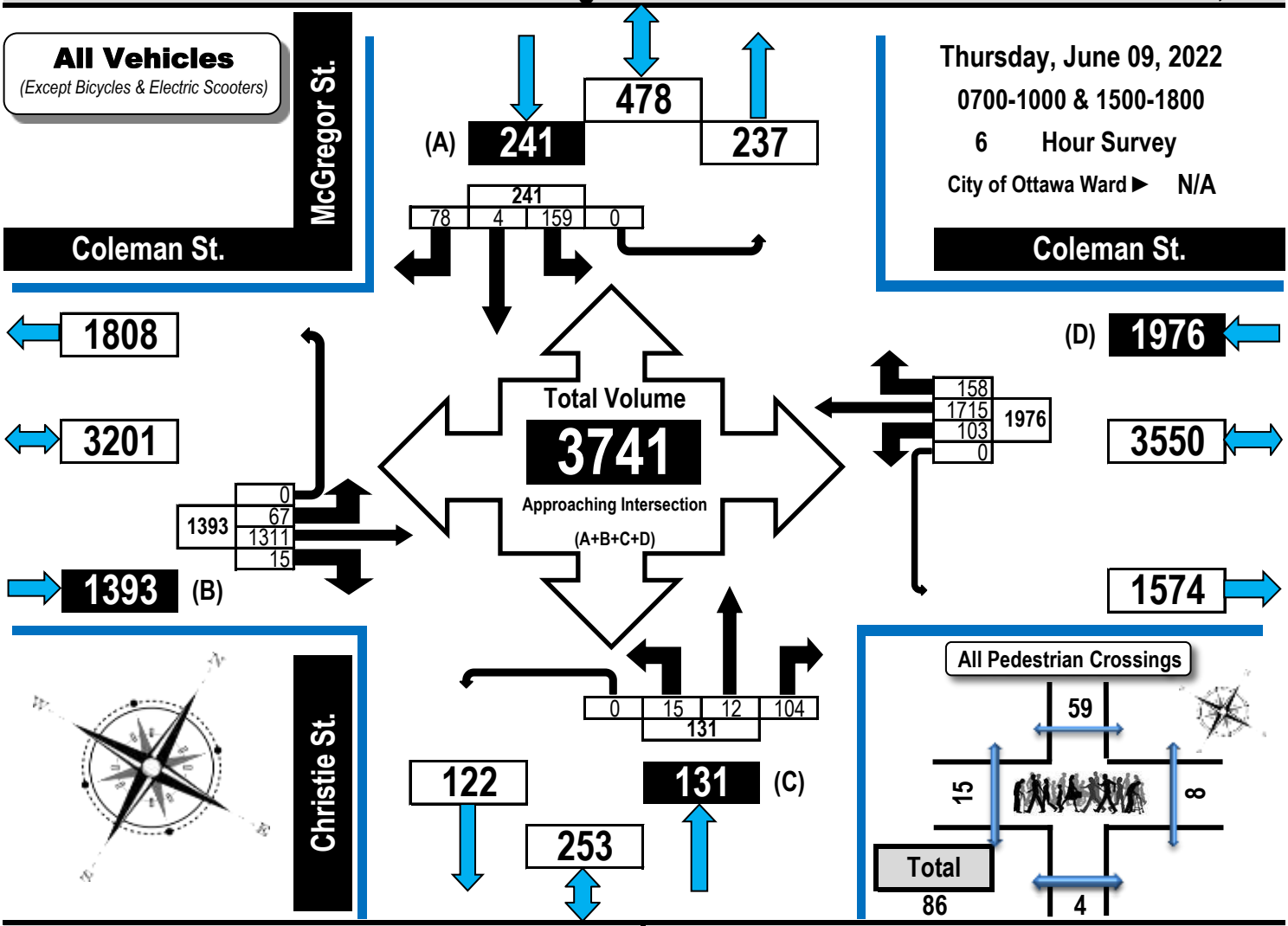
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles



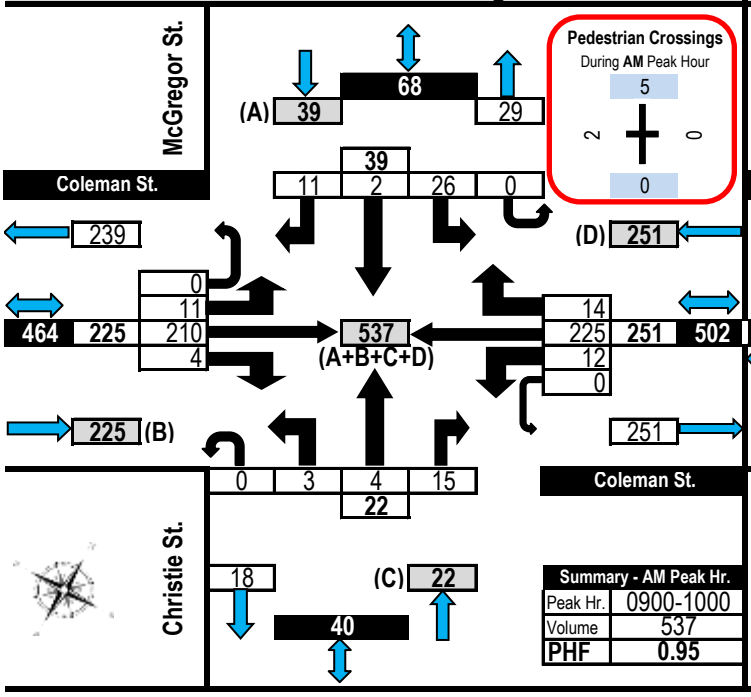
Coleman Street & Christie Street/McGregor Street — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, June 09, 2022
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► N/A

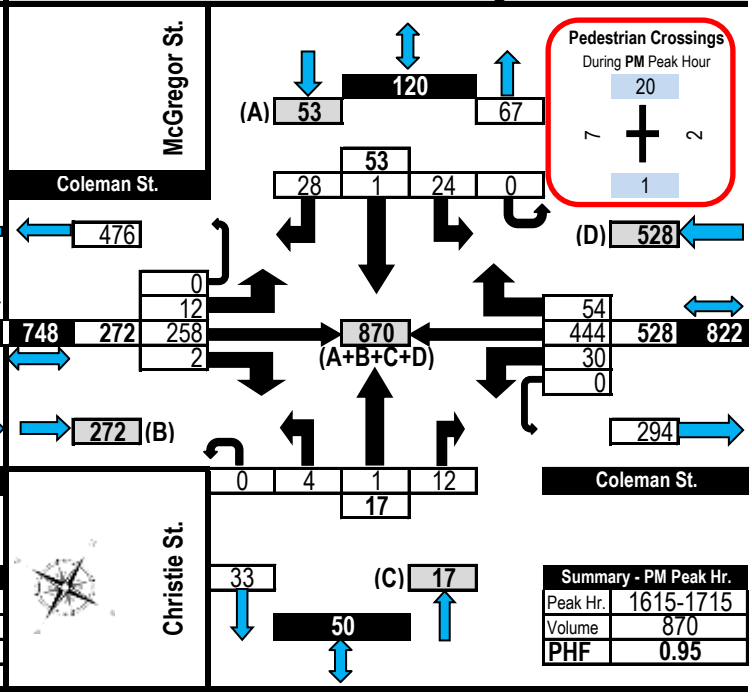


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0900-1000
Volume	537
PHF	0.95

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1615-1715
Volume	870
PHF	0.95

ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles



Carleton Crossing Plaza & McGregor Street — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, June 09, 2022
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► N/A

McGregor St.

(A) 38 | 94 | 56

38 → 0 | 38 | 0

Total vehicle volume, all approaches. (A + C + D)

255

Please refer to the traffic count at Christie/McGregor and Coleman for vehicle and heavy vehicle volumes on McGregor Street

Carleton Crossing

56 | 95 | 0 → 151 (D) 151

255

104

0 | 0 | 66 → 66

95 | 66 (C) | 161

N/A

N/A

All Pedestrian Crossings

4 | 5 | 6

Total 15

AM Peak Hour Flow Diagram

McGregor St.

(A) 8 | 13 | 5

8 → 0 | 8 | 0

Pedestrian Crossings During **AM** Peak Hr.
1
N/A + 0
2

Total vehicle volume, all approaches. (A + C + D)

41 (A+C+D)

(D) 21

5 | 16 | 21 | 41

0

20

0 | 0 | 12 → 12

16 | (C) 12 | 28

Carleton Crossing

Summary - AM Peak Hr.	
Peak Hr.	0900-1000
Volume	41
PHF	N/A

PM Peak Hour Flow Diagram

McGregor St.

(A) 4 | 25 | 21

4 → 0 | 4 | 0

Pedestrian Crossings During **PM** Peak Hr.
0
N/A + 0
1

Total vehicle volume, all approaches. (A + C + D)

72 (A+C+D)

(D) 55

21 | 34 | 55 | 72

0

17

0 | 0 | 13 → 13

34 | (C) 13 | 47

Carleton Crossing

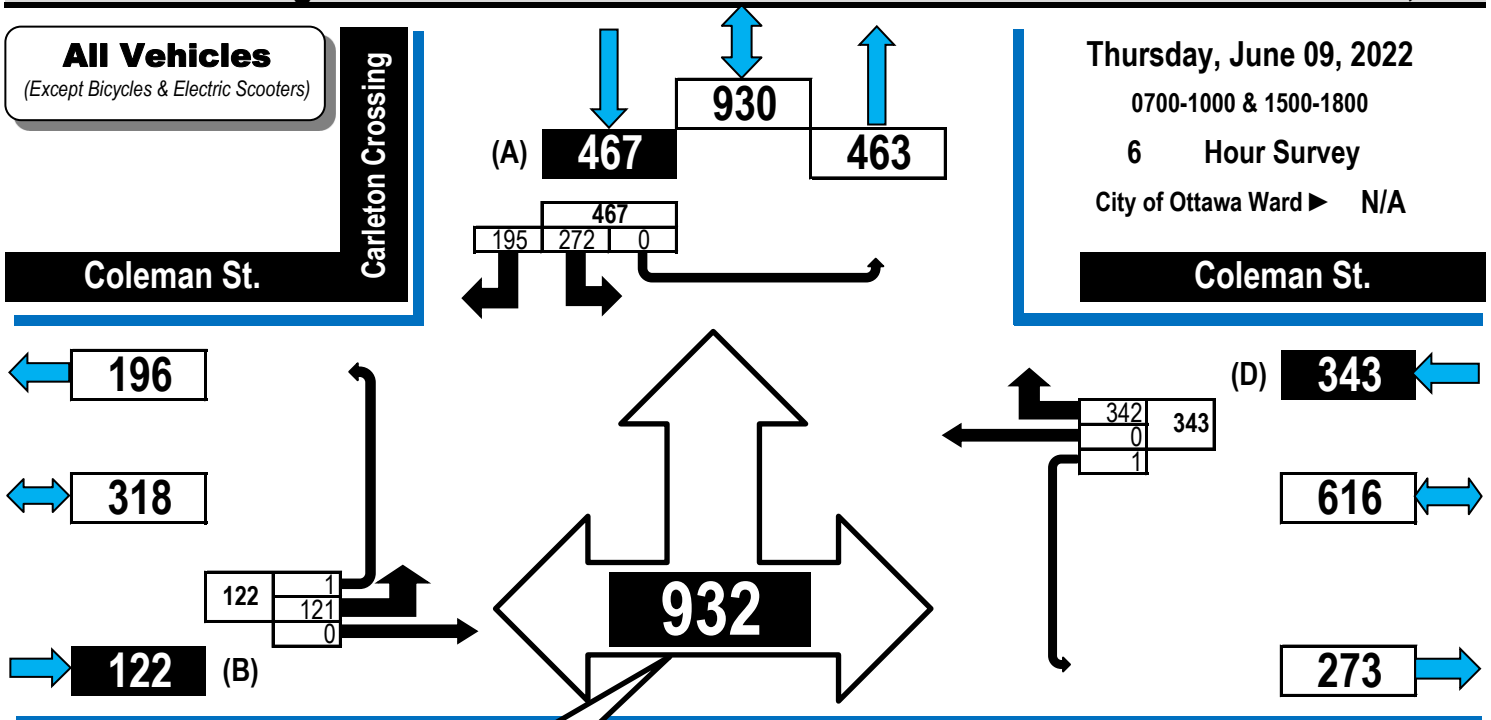
Summary - PM Peak Hr.	
Peak Hr.	1630-1730
Volume	72
PHF	N/A

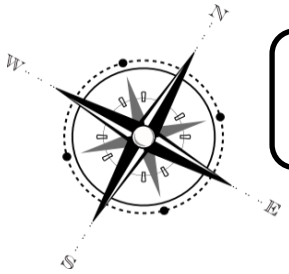
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

Carleton Crossing Plaza & Coleman Street — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

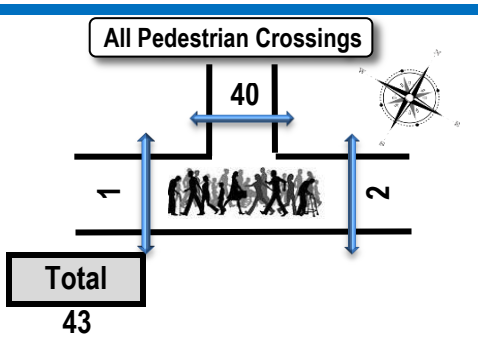
Thursday, June 09, 2022
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ▶ N/A



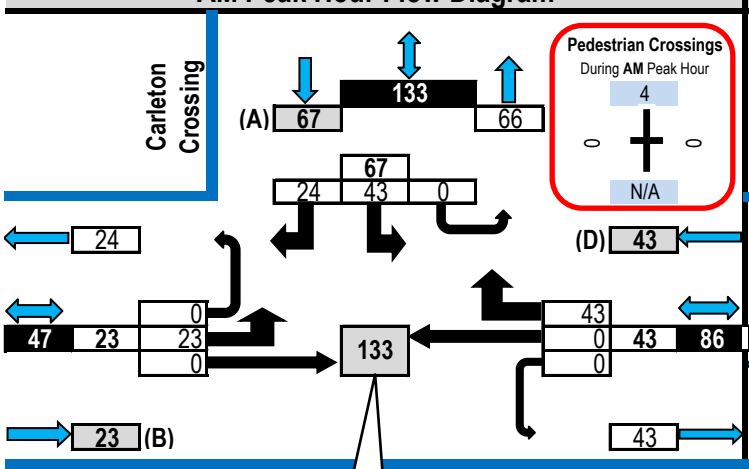


Total vehicle volume, all approaches. (A + B + D)

Please refer to the traffic count at Christie/McGregor and Coleman for vehicle and heavy vehicle volumes on Coleman Street



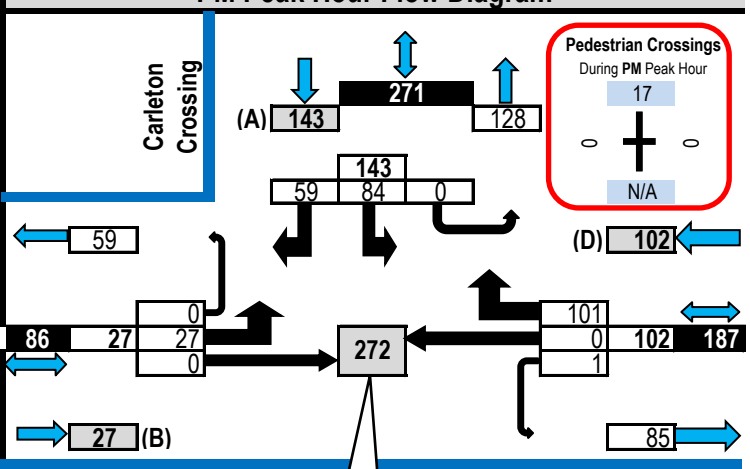
AM Peak Hour Flow Diagram



Total **AM Peak Hour** vehicle volume, all approaches. (A + B + D)

Summary - AM Peak Hr.	
Peak Hr.	0900-1000
Volume	133
PHF	N/A

PM Peak Hour Flow Diagram



Total **PM Peak Hour** vehicle volume, all approaches. (A + B + D)

Summary - PM Peak Hr.	
Peak Hr.	1600-1700
Volume	272
PHF	N/A

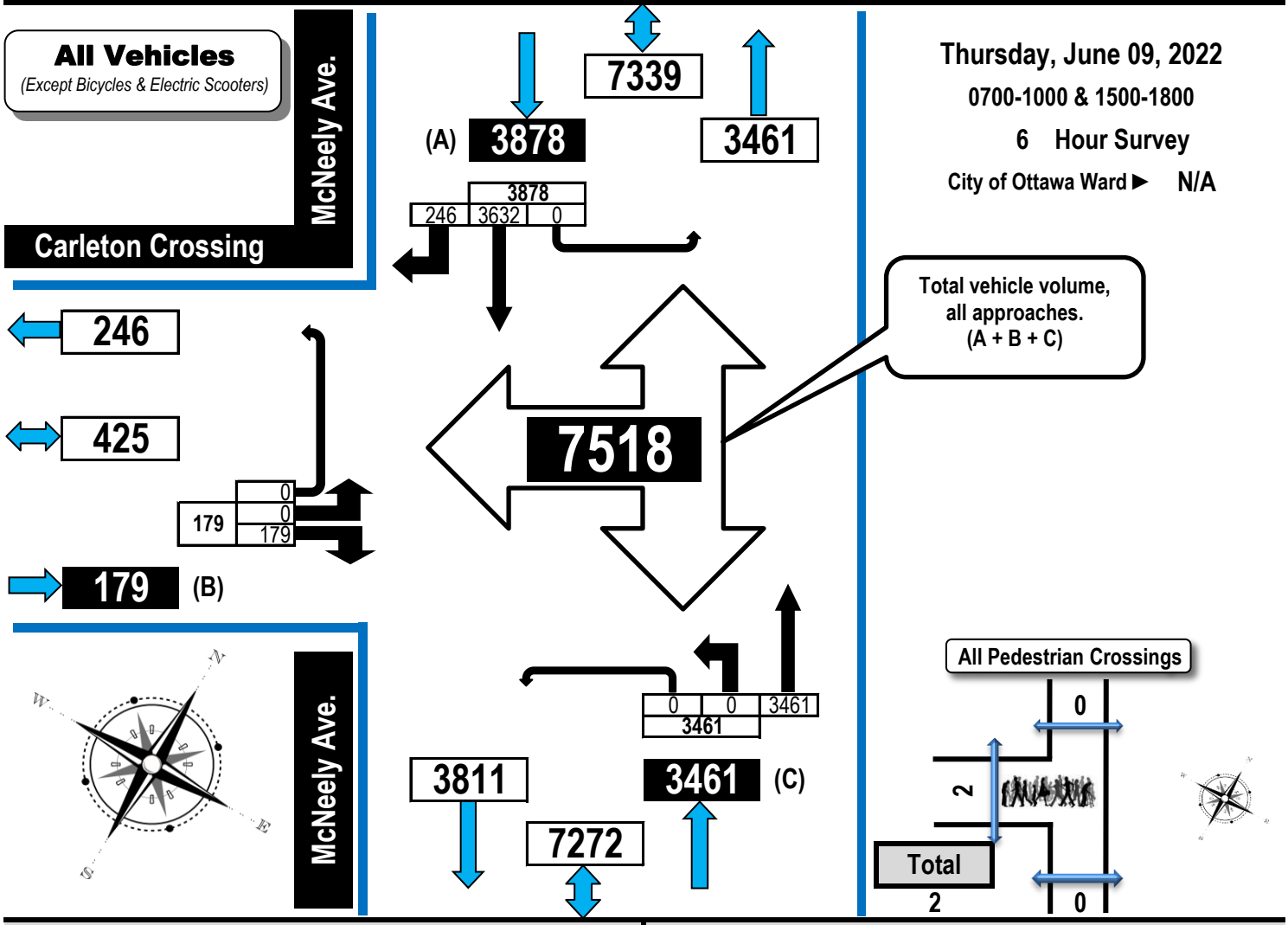
ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

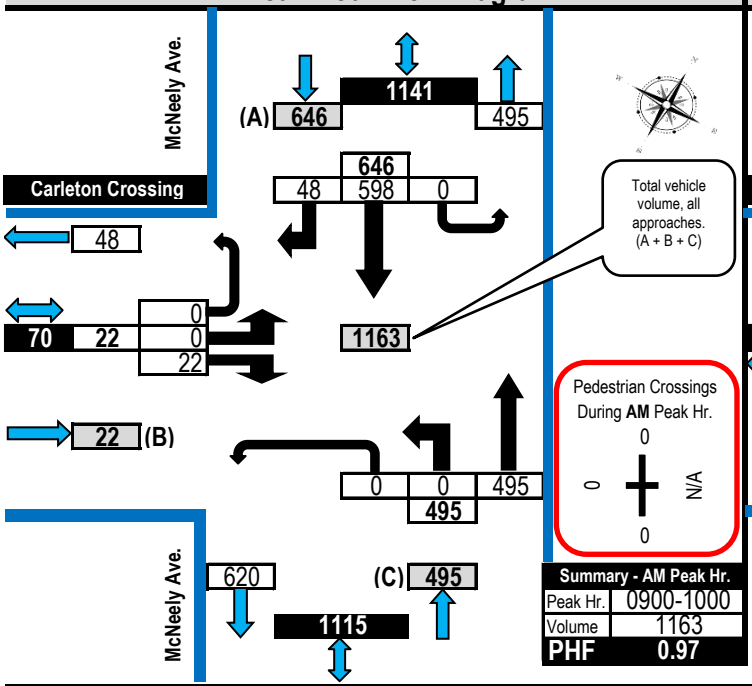
Carleton Crossing Plaza & McNeely Avenue — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, June 09, 2022
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► N/A



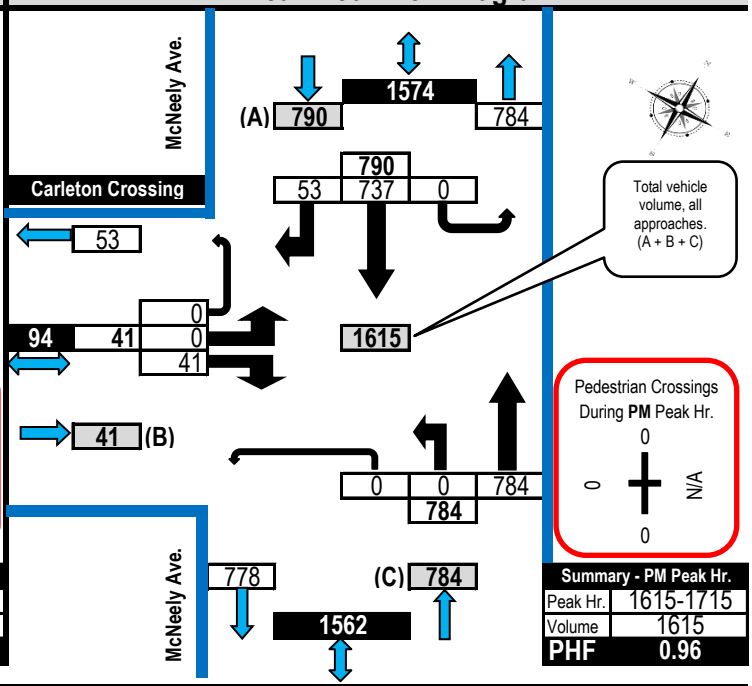
AM Peak Hour Flow Diagram



Summary - AM Peak Hr.

Peak Hr.	0900-1000
Volume	1163
PHF	0.97

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.

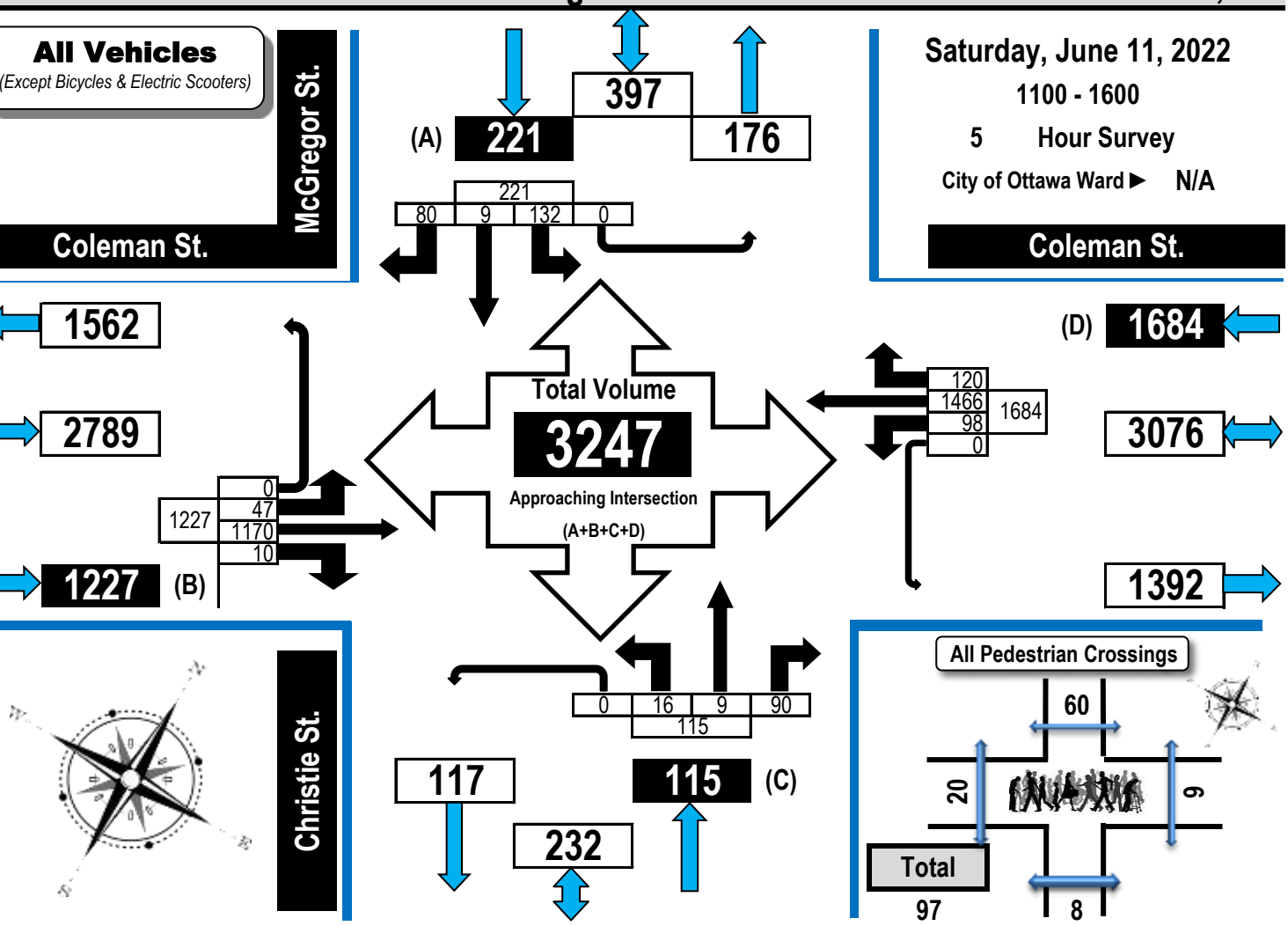
Peak Hr.	1615-1715
Volume	1615
PHF	0.96

Turning Movement Count
Summary, OFF and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

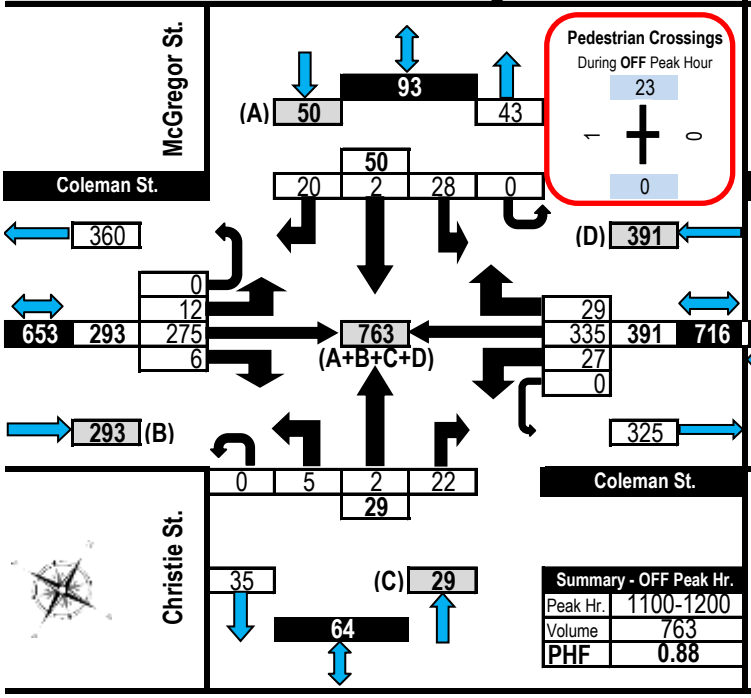
Coleman Street & Christie Street/McGregor Street — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Saturday, June 11, 2022
1100 - 1600
5 Hour Survey
City of Ottawa Ward ► N/A

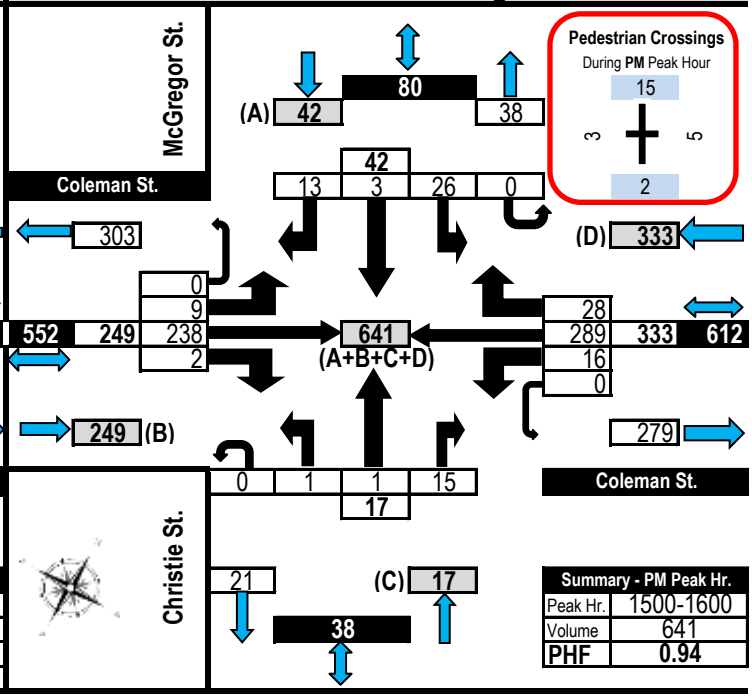


Off Peak Hour Flow Diagram



Summary - OFF Peak Hr.	
Peak Hr.	1100-1200
Volume	763
PHF	0.88

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1500-1600
Volume	641
PHF	0.94

ACCURATE TRUSTED TRAFFIC DATA

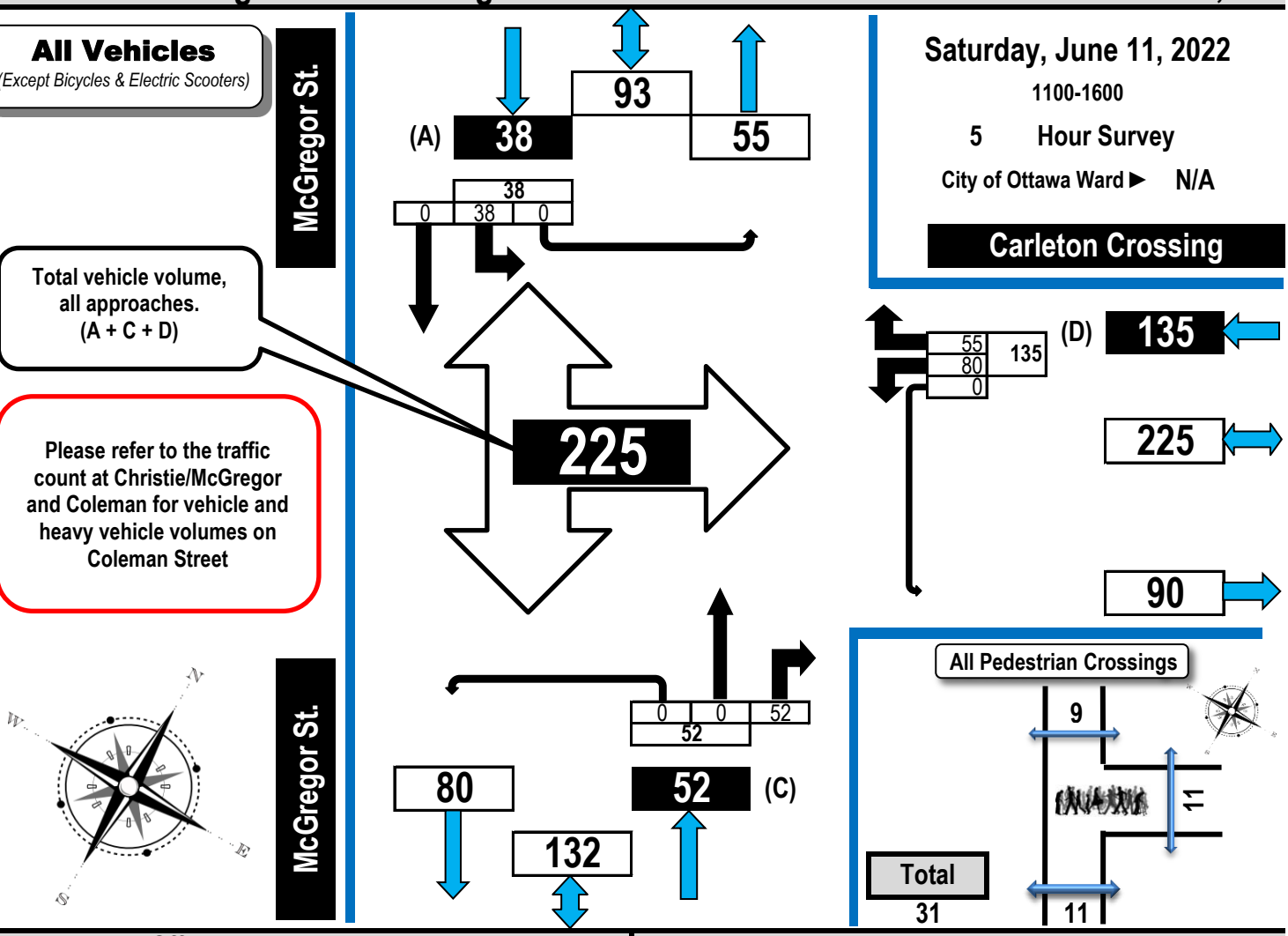
Turning Movement Count
Summary, OFF and EVENING Peak Hour Flow Diagrams
All Vehicles Except Bicycles



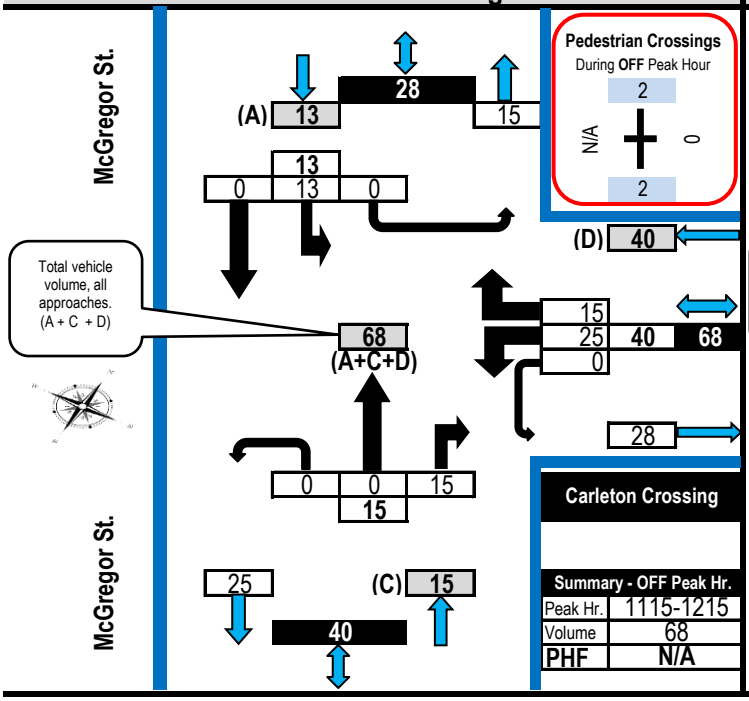
Carleton Crossing Plaza & McGregor Street — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

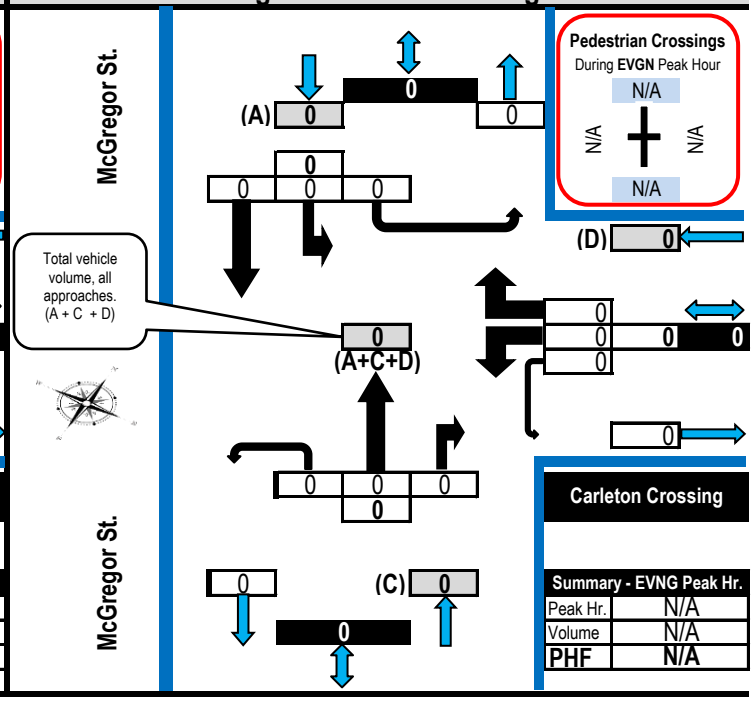
Saturday, June 11, 2022
1100-1600
5 Hour Survey
City of Ottawa Ward ► N/A



Off Peak Hour Flow Diagram



Evening Peak Hour Flow Diagram



ACCURATE TRUSTED TRAFFIC DATA

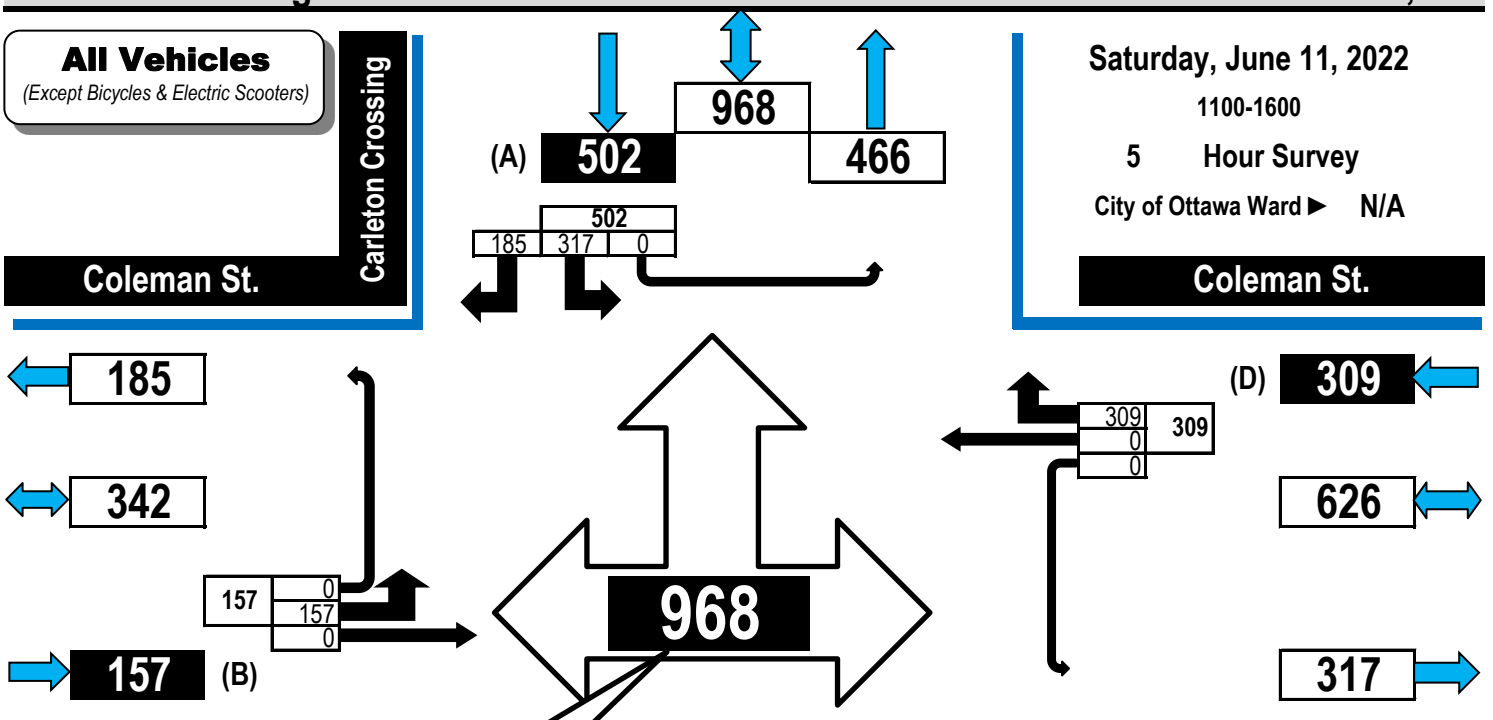
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

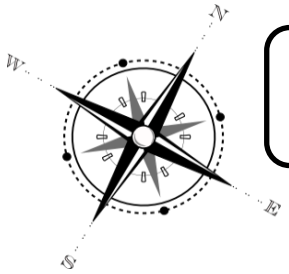


Carleton Crossing Plaza & Coleman Street — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

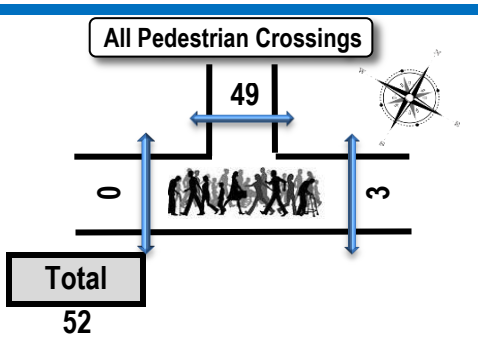
Saturday, June 11, 2022
1100-1600
5 Hour Survey
City of Ottawa Ward ► N/A



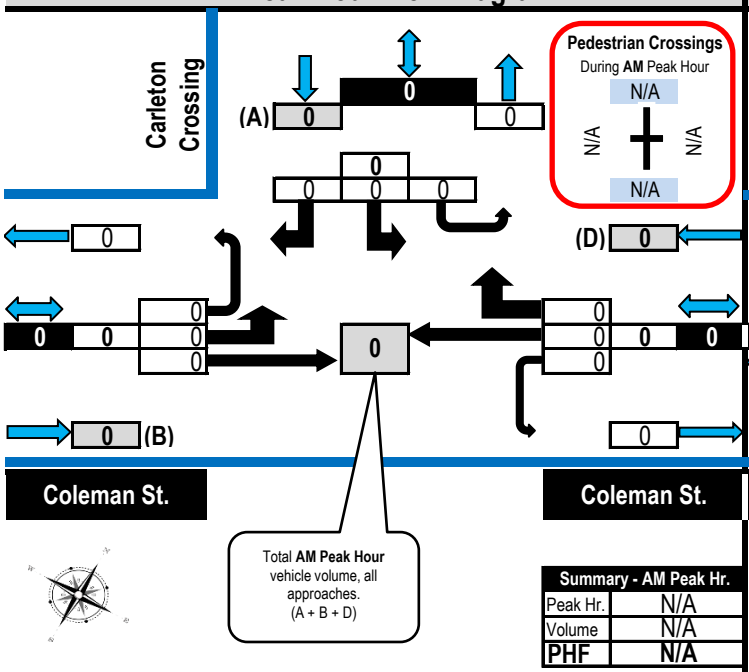


Total vehicle volume, all approaches. (A + B + D)

Please refer to the traffic count at Christie/McGregor and Coleman for vehicle and heavy vehicle volumes on Coleman Street



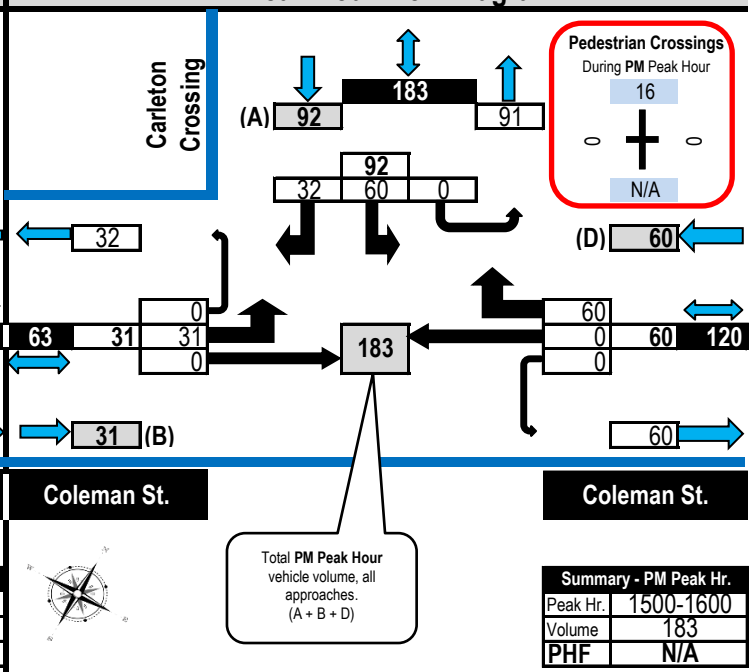
AM Peak Hour Flow Diagram



Total **AM Peak Hour** vehicle volume, all approaches. (A + B + D)

Summary - AM Peak Hr.	
Peak Hr.	N/A
Volume	N/A
PHF	N/A

PM Peak Hour Flow Diagram



Total **PM Peak Hour** vehicle volume, all approaches. (A + B + D)

Summary - PM Peak Hr.	
Peak Hr.	1500-1600
Volume	183
PHF	N/A

ACCURATE TRUSTED TRAFFIC DATA

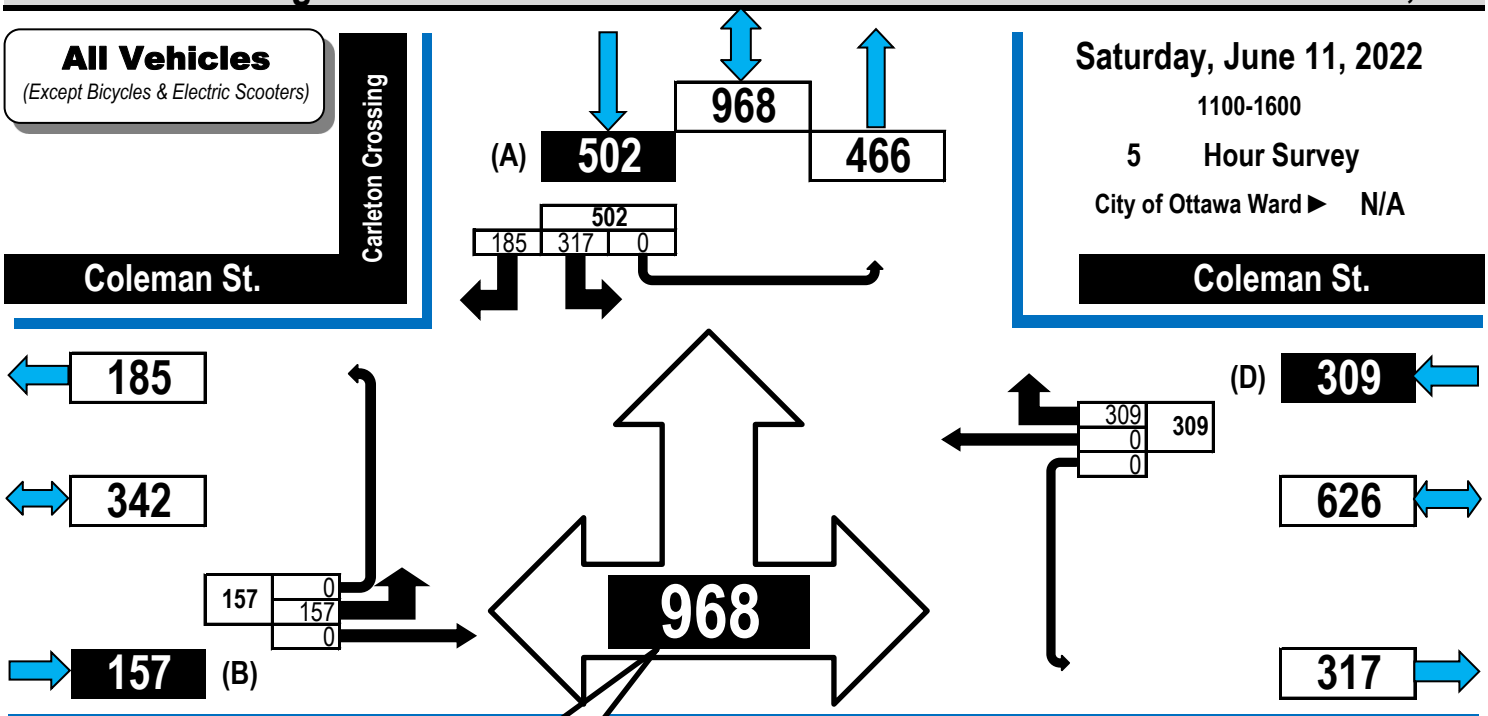
Turning Movement Count
Summary, OFF and EVENING Peak Hour Flow Diagrams
All Vehicles Except Bicycles

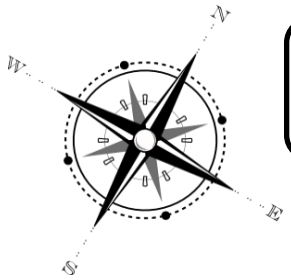


Carleton Crossing Plaza & Coleman Street — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

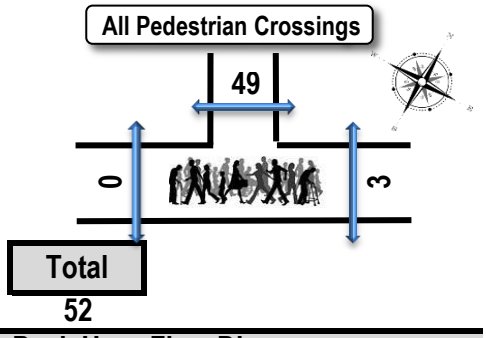
Saturday, June 11, 2022
1100-1600
5 Hour Survey
City of Ottawa Ward ► N/A



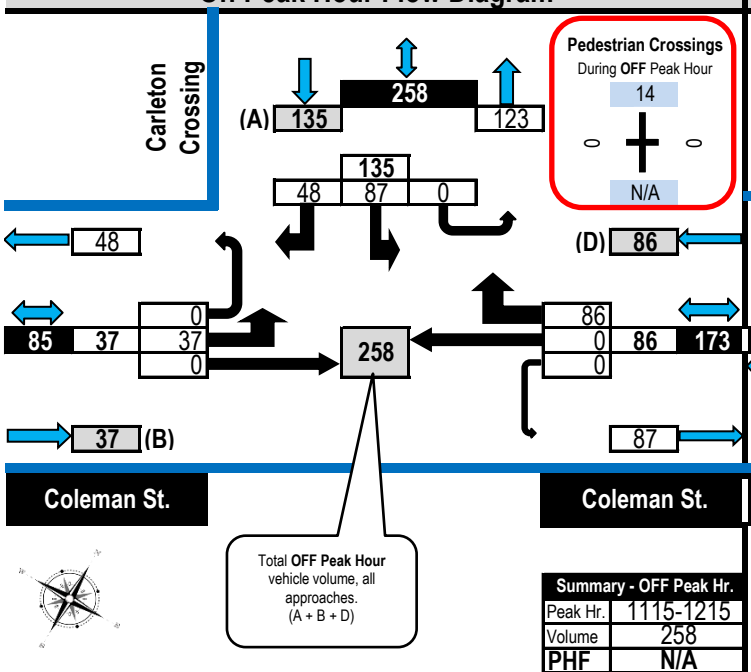


Total vehicle volume, all approaches. (A + B + D)

Please refer to the traffic count at Christie/McGregor and Coleman for vehicle and heavy vehicle volumes on Coleman Street



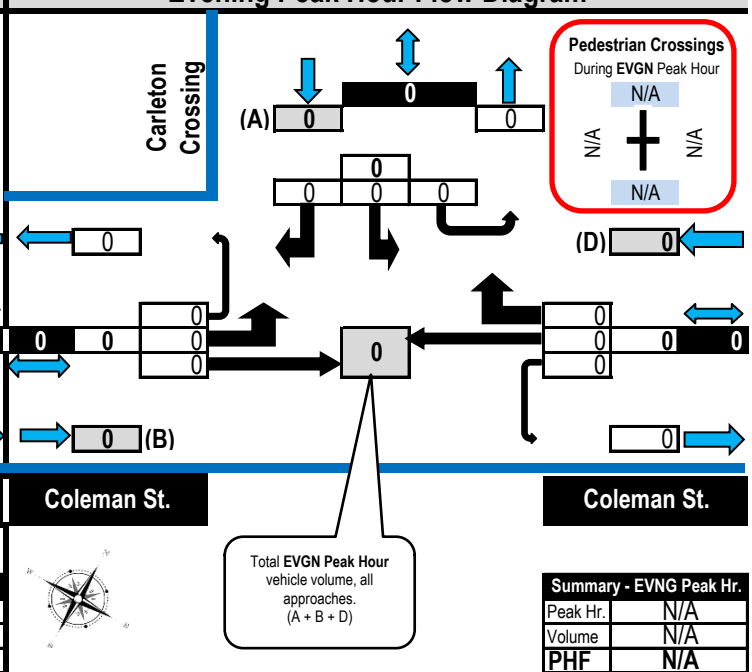
Off Peak Hour Flow Diagram



Total **OFF Peak Hour** vehicle volume, all approaches. (A + B + D)

Summary - OFF Peak Hr.	
Peak Hr.	1115-1215
Volume	258
PHF	N/A

Evening Peak Hour Flow Diagram



Total **EVGN Peak Hour** vehicle volume, all approaches. (A + B + D)

Summary - EVNG Peak Hr.	
Peak Hr.	N/A
Volume	N/A
PHF	N/A

ACCURATE TRUSTED TRAFFIC DATA

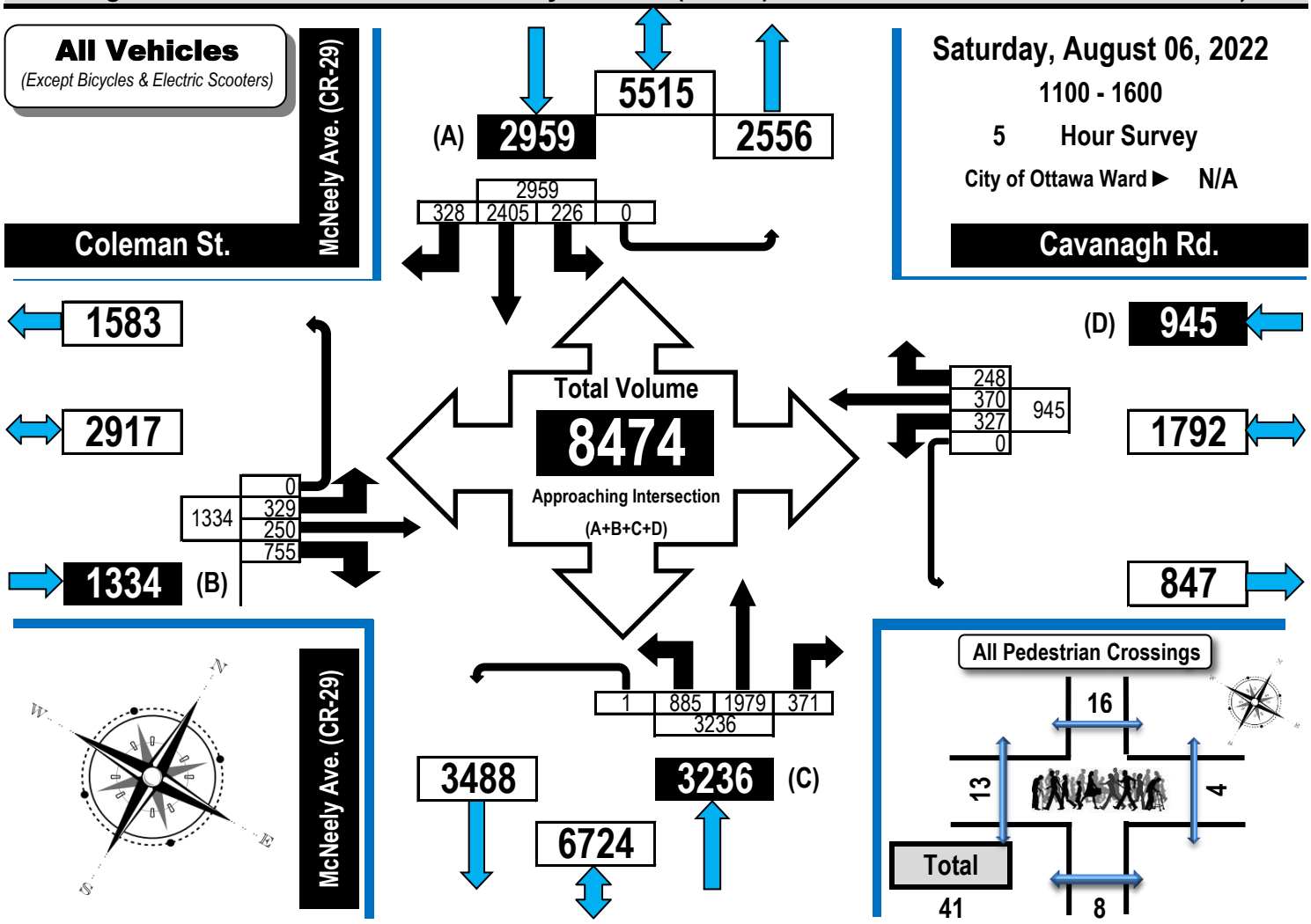
Turning Movement Count
Summary, Off and PM Peak Hour
Flow Diagrams
All Vehicles Except Bicycles



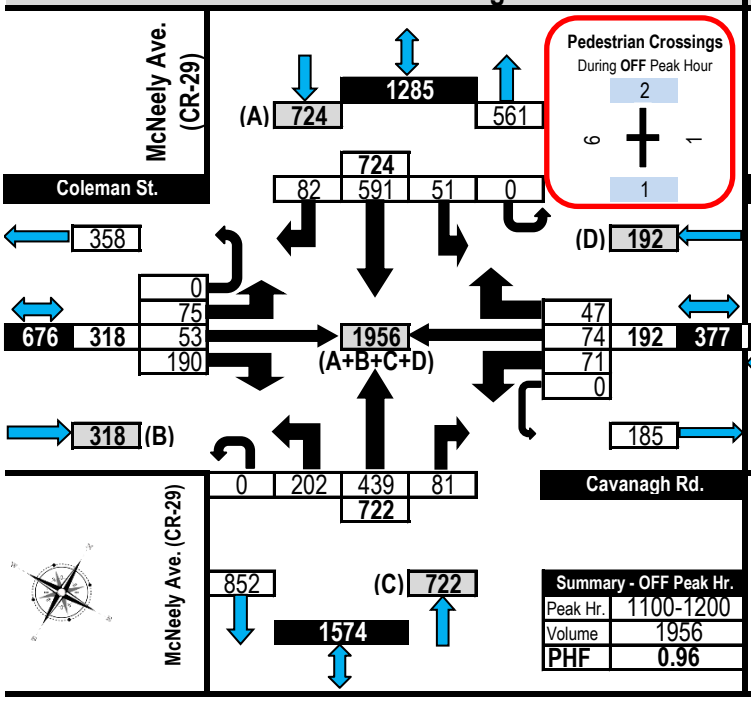
Cavanagh Road/Coleman Street & McNeely Avenue (CR-29) — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

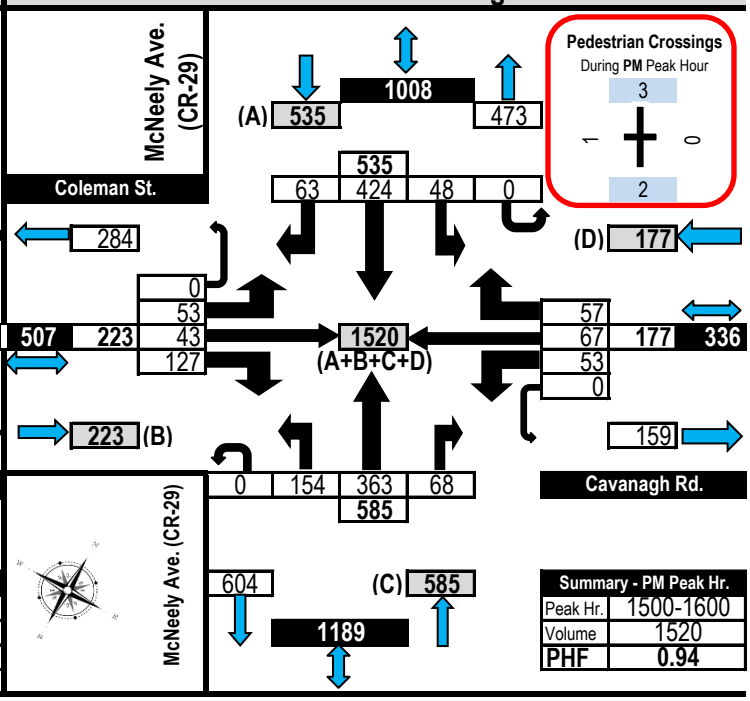
Saturday, August 06, 2022
1100 - 1600
5 Hour Survey
City of Ottawa Ward ► N/A



Off Peak Hour Flow Diagram



PM Peak Hour Flow Diagram



ACCURATE TRUSTED TRAFFIC DATA

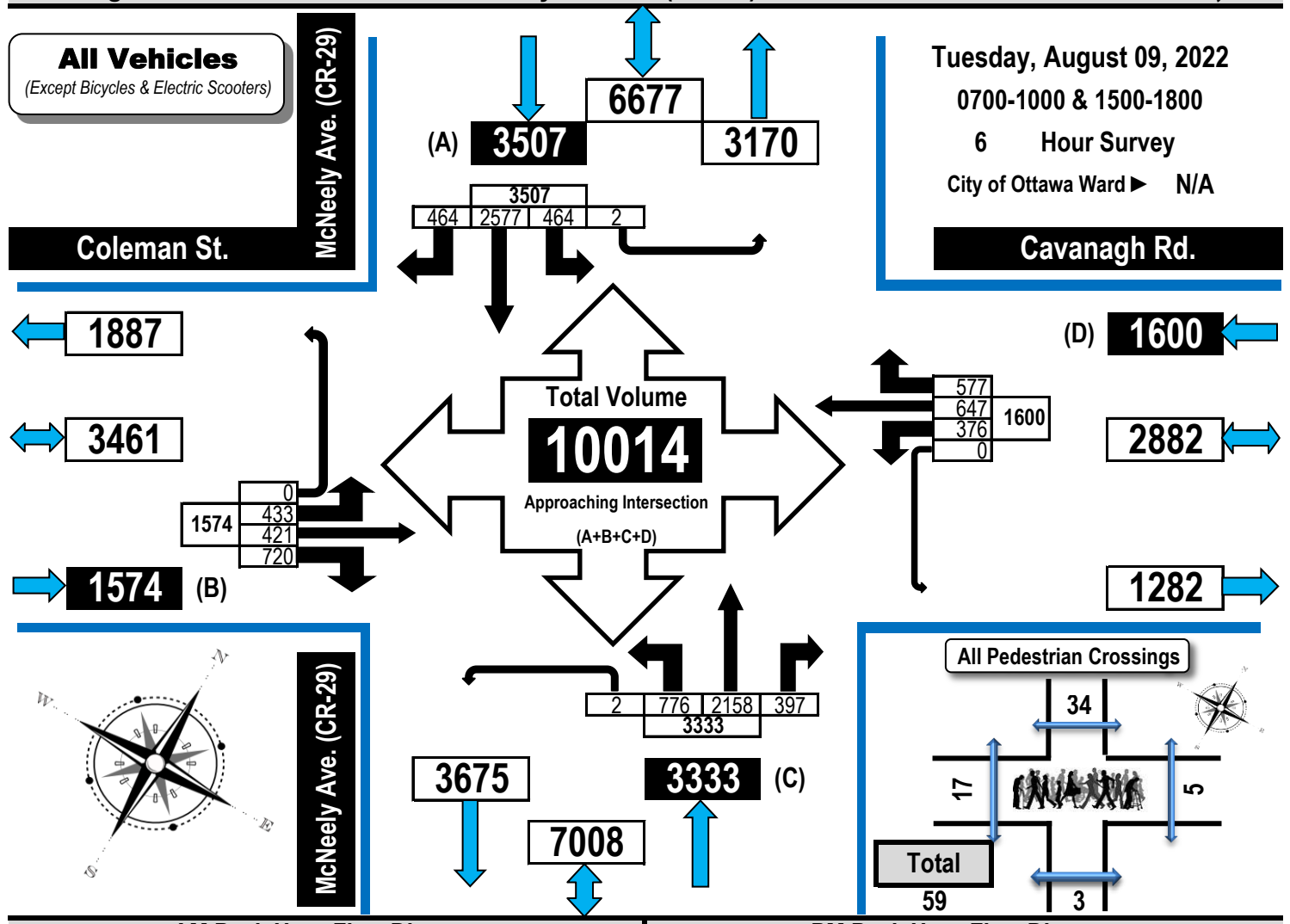
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles



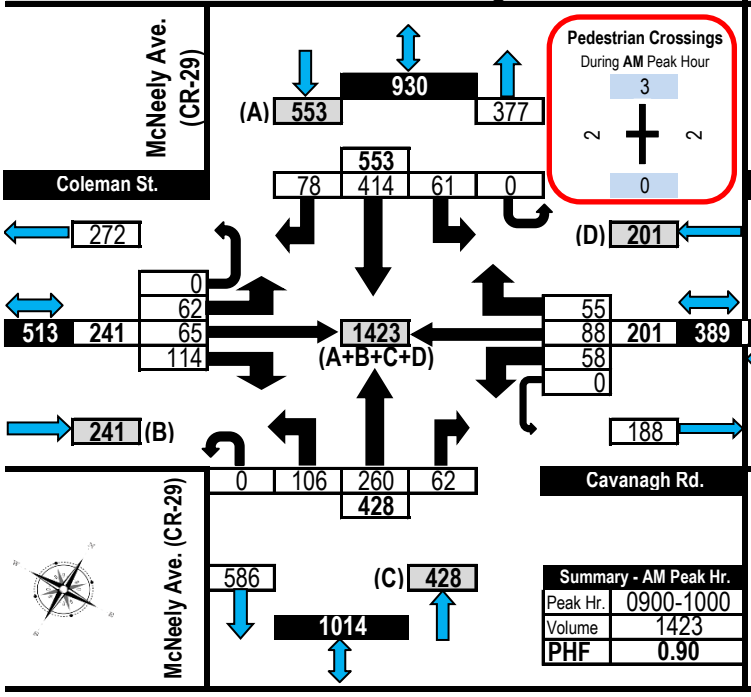
Cavanagh Road/Coleman Street & McNeely Avenue (CR-29) — Carleton Place, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Tuesday, August 09, 2022
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► N/A



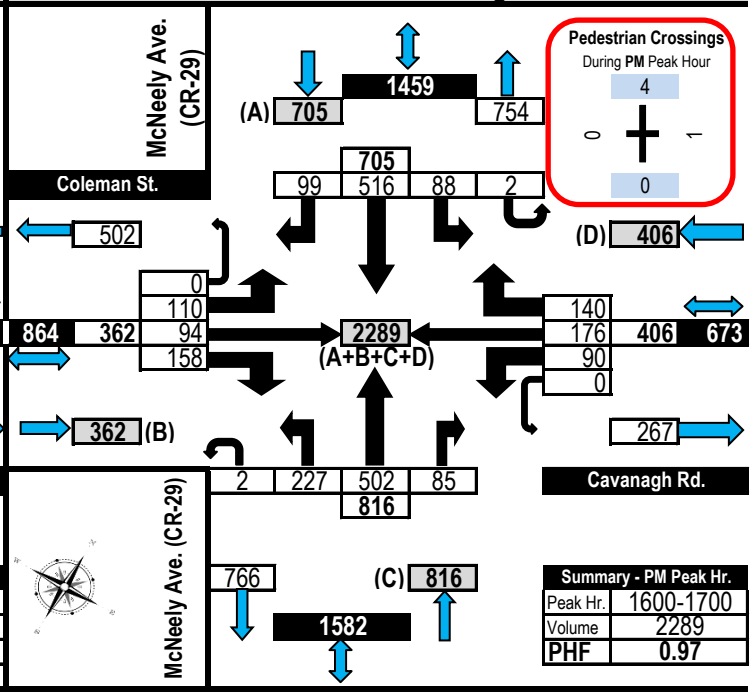
AM Peak Hour Flow Diagram



Summary - AM Peak Hr.

Peak Hr.	0900-1000
Volume	1423
PHF	0.90

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.

Peak Hr.	1600-1700
Volume	2289
PHF	0.97

Appendix B – Trip Generation Data

Land Use: 822
Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

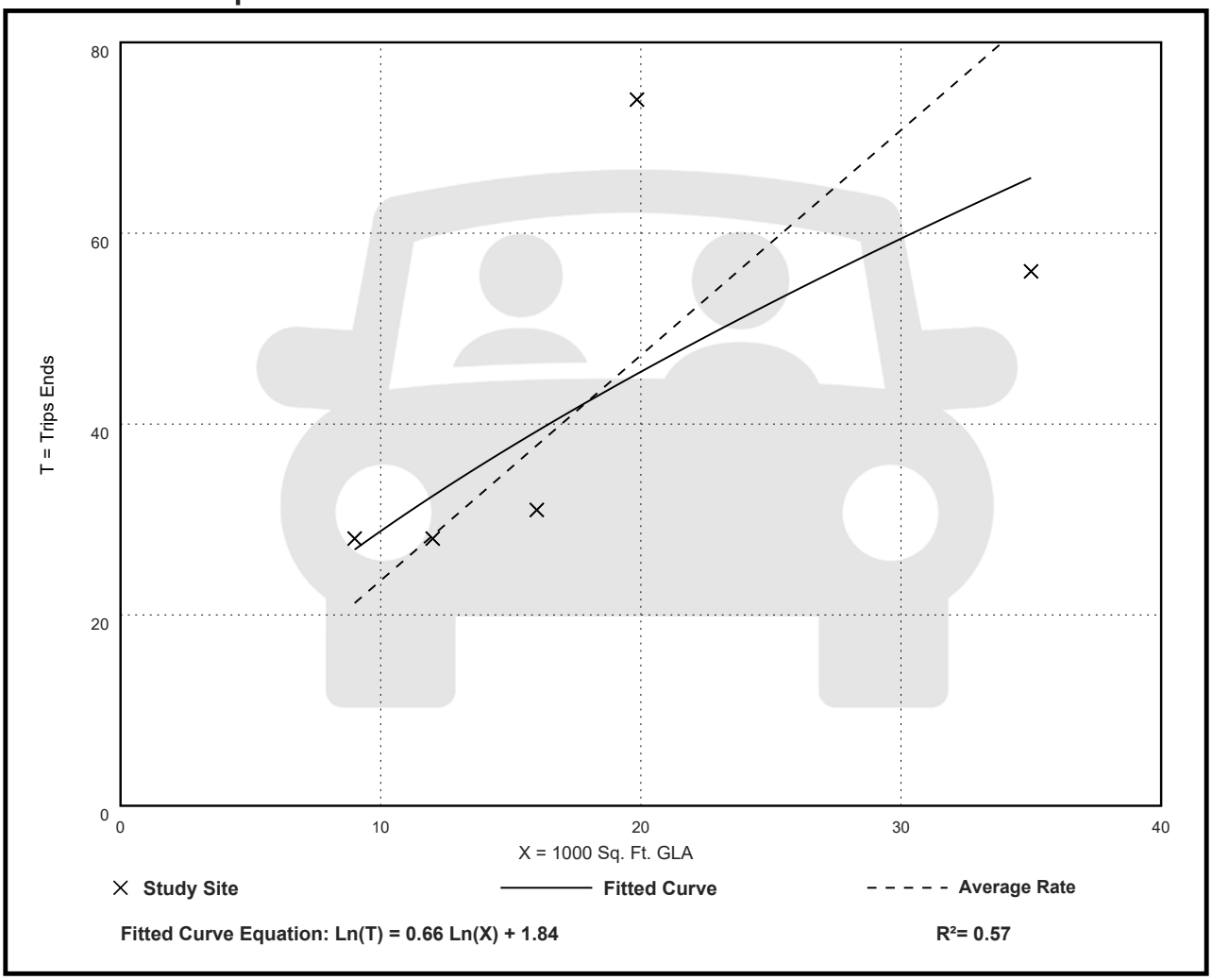
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.66 Ln(X) + 1.84

R^2= 0.57

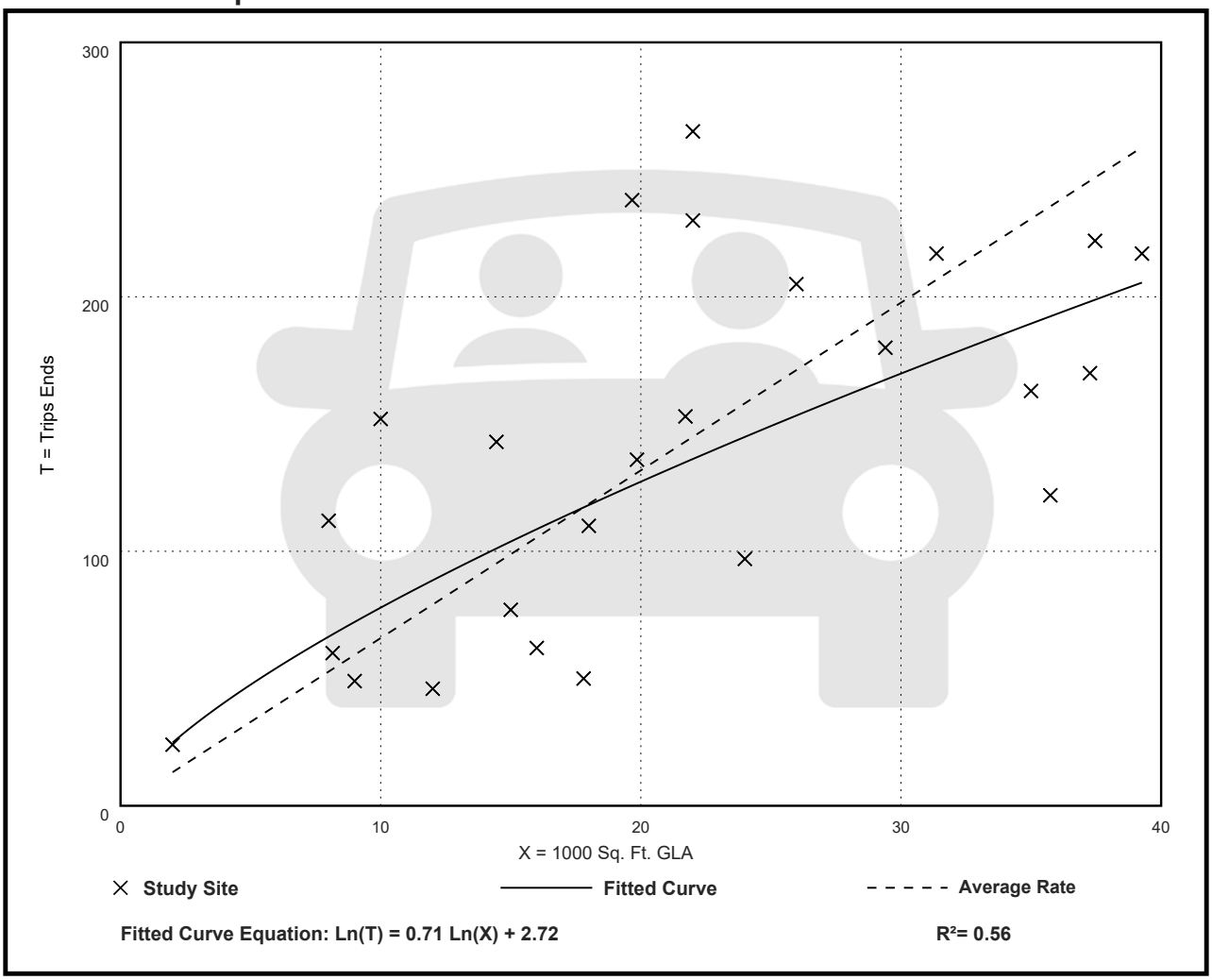
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.72

R^2= 0.56

Strip Retail Plaza (<40k)
(822)

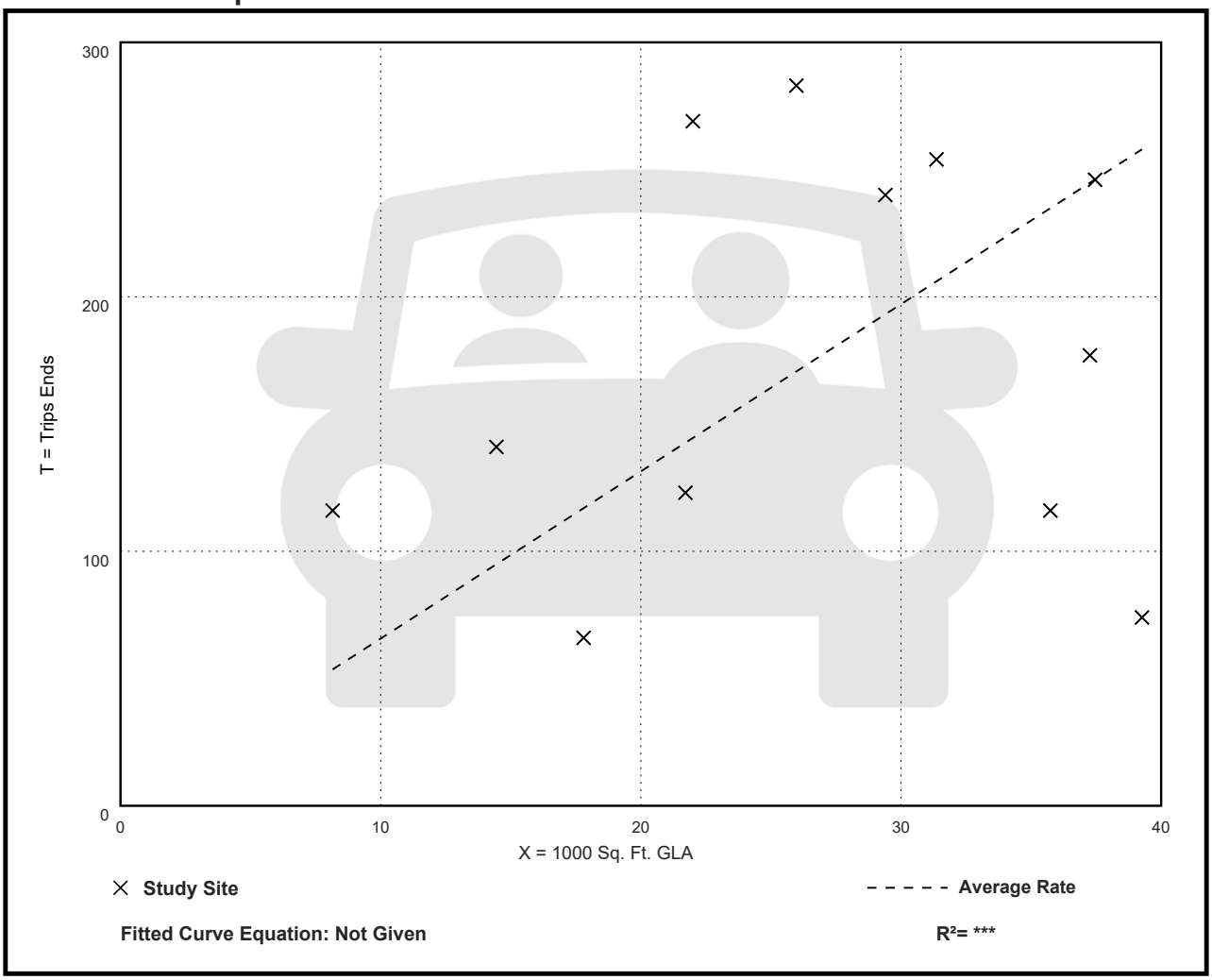
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 12
Avg. 1000 Sq. Ft. GLA: 27
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.57	1.88 - 14.23	3.45

Data Plot and Equation



Land Use: 934
Fast-Food Restaurant with Drive-Through Window

Description

This land use includes any fast-food restaurant with a drive-through window. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. The restaurant does not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alaska, Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Washington, and Wisconsin.

Source Numbers

163, 164, 168, 180, 181, 241, 245, 278, 294, 300, 301, 319, 338, 340, 342, 358, 389, 438, 502, 552, 577, 583, 584, 617, 640, 641, 704, 715, 728, 810, 866, 867, 869, 885, 886, 927, 935, 962, 977, 1050, 1053, 1054

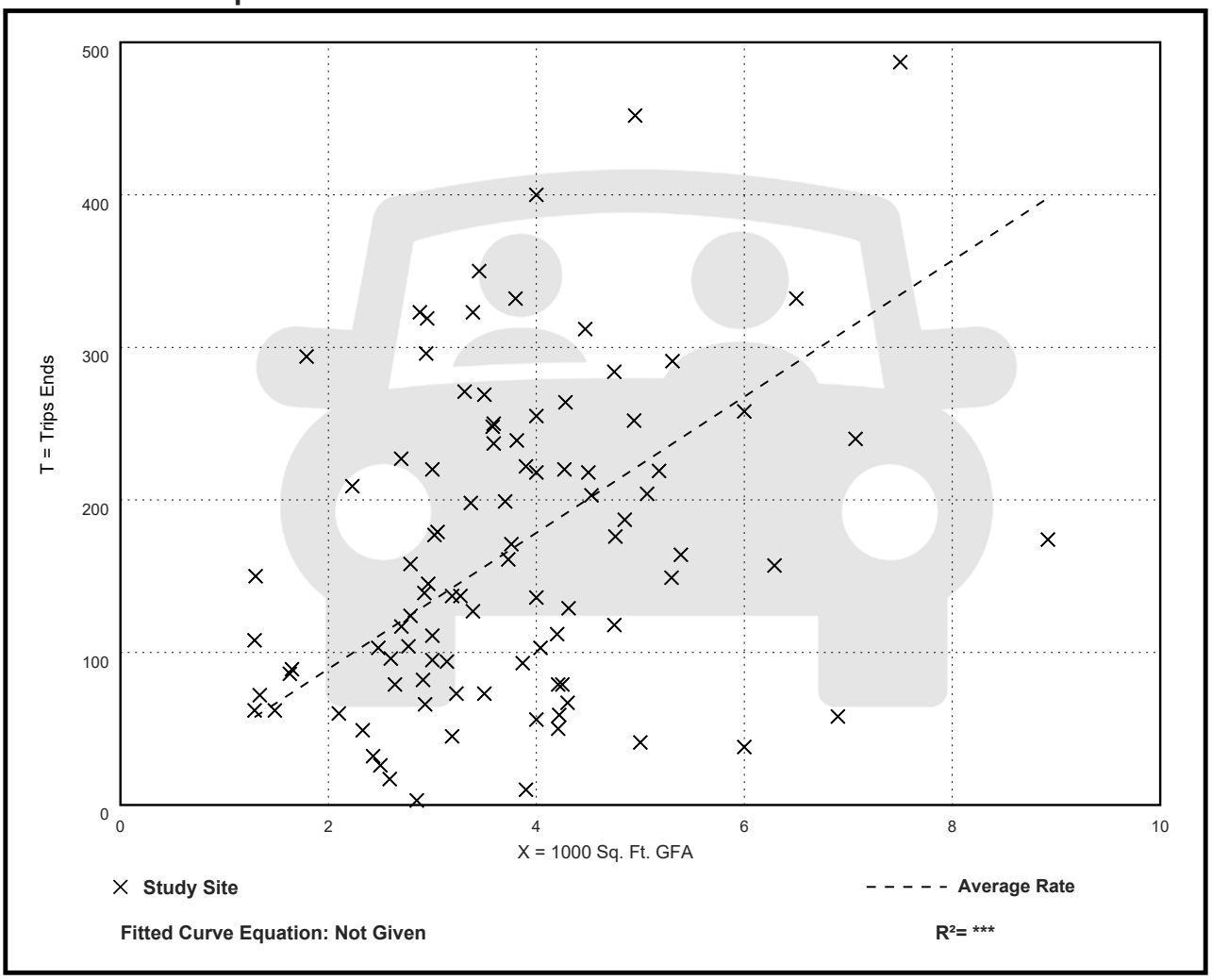
Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 96
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

Data Plot and Equation



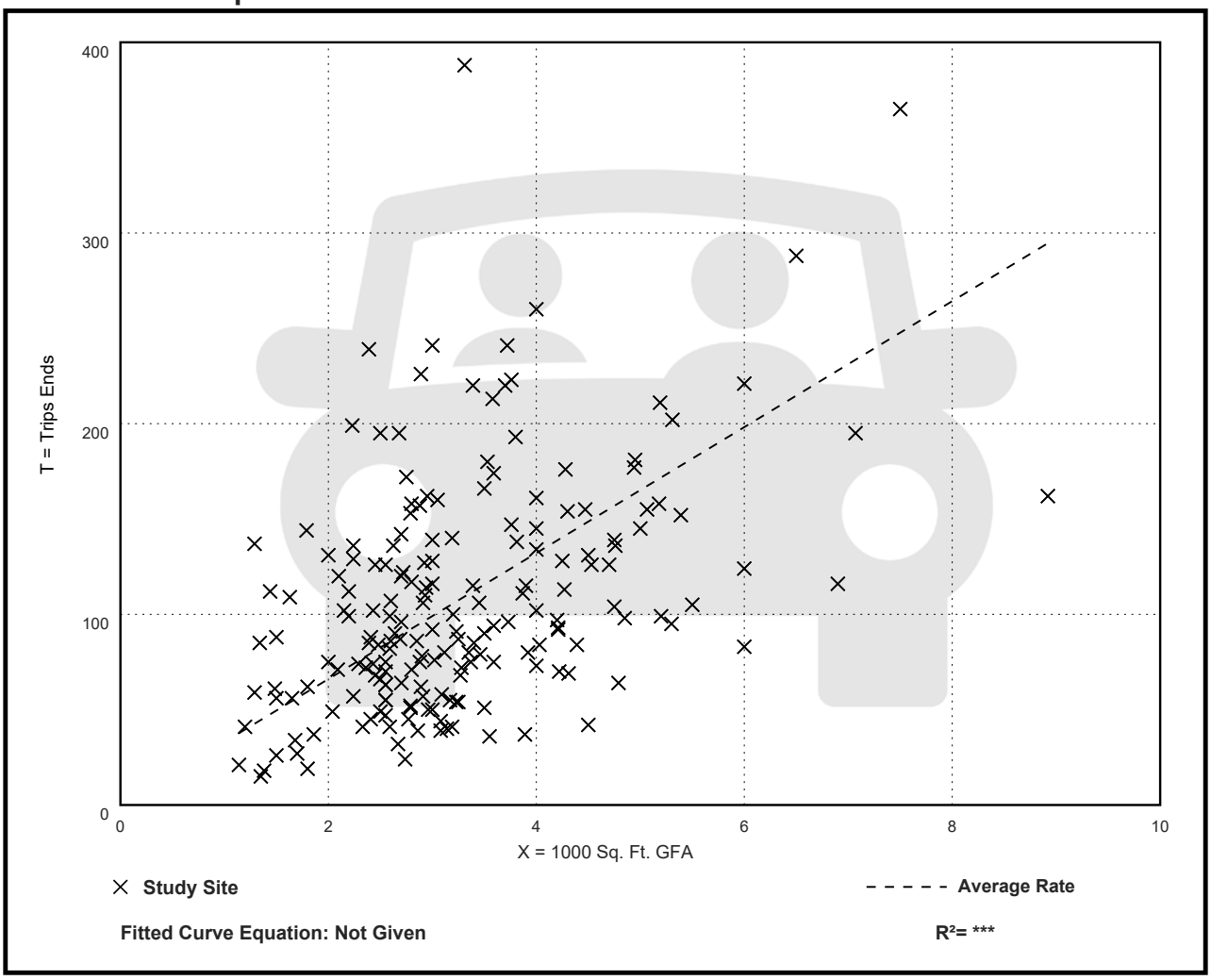
Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 190
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



Fast-Food Restaurant with Drive-Through Window (934)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 53
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
55.25	11.25 - 122.92	24.62

Data Plot and Equation

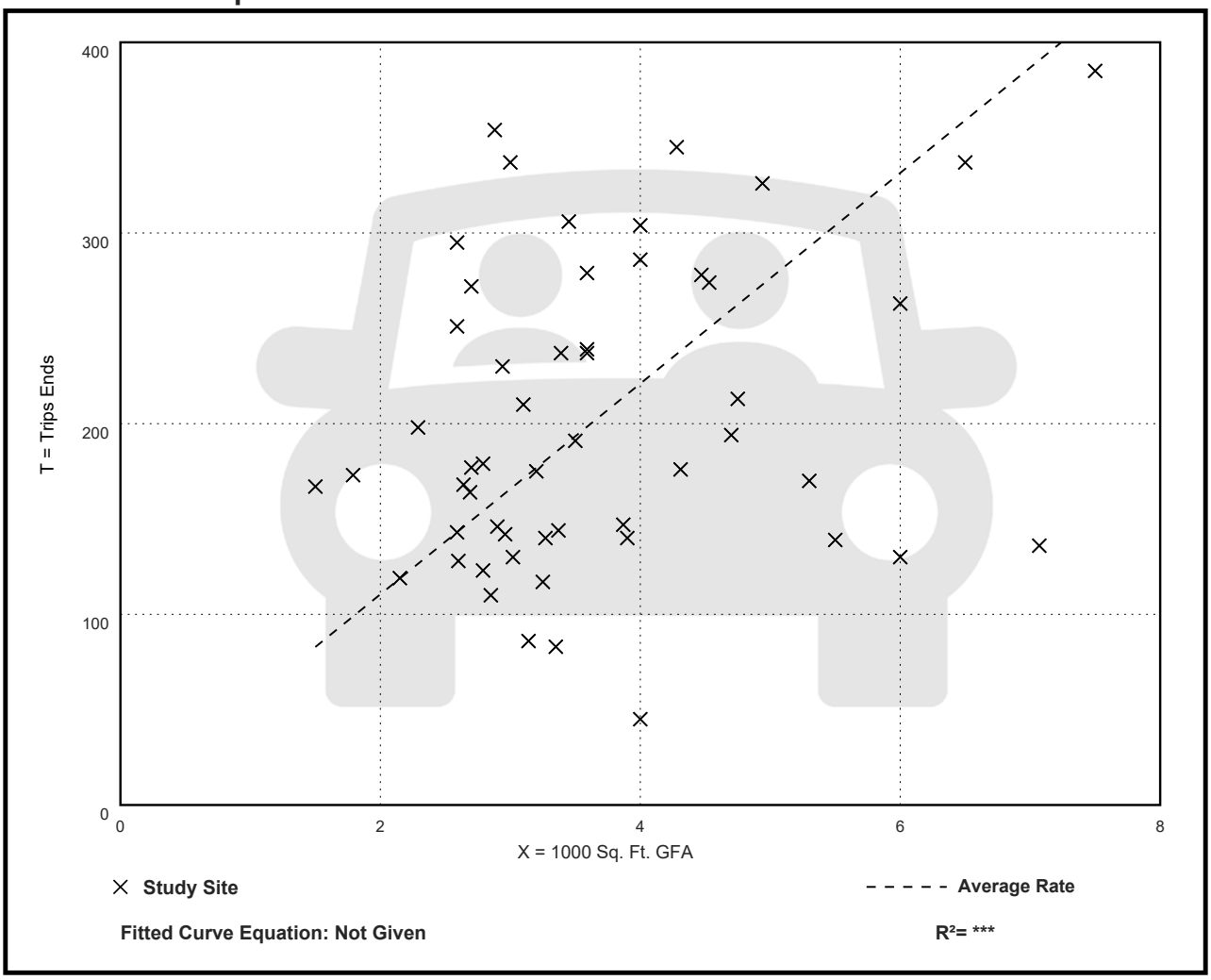


Table 6.1 Unconstrained Internal Person Trip Capture Rates for Trip Origins within a Mixed-Use Development

		WEEKDAY	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Retail	28%	20%
	To Restaurant	63%	4%
	To Cinema/Entertainment	0%	0%
	To Residential	1%	2%
	To Hotel	0%	0%
From RETAIL	To Office	29%	2%
	To Restaurant	13%	29%
	To Cinema/Entertainment	0%	4%
	To Residential	14%	26%
	To Hotel	0%	5%
From RESTAURANT	To Office	31%	3%
	To Retail	14%	41%
	To Cinema/Entertainment	0%	8%
	To Residential	4%	18%
	To Hotel	3%	7%
From CINEMA/ENTERTAINMENT	To Office	0%	2%
	To Retail	0%	21%
	To Restaurant	0%	31%
	To Residential	0%	8%
	To Hotel	0%	2%
From RESIDENTIAL	To Office	2%	4%
	To Retail	1%	42%
	To Restaurant	20%	21%
	To Cinema/Entertainment	0%	0%
	To Hotel	0%	3%
From HOTEL	To Office	75%	0%
	To Retail	14%	16%
	To Restaurant	9%	68%
	To Cinema/Entertainment	0%	0%
	To Residential	0%	2%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 99 and 100, 2011.

Table 6.2 Unconstrained Internal Person Trip Capture Rates for Trip Destinations within a Mixed-Use Development

		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Retail	4%	31%
	From Restaurant	14%	30%
	From Cinema/Entertainment	0%	6%
	From Residential	3%	57%
	From Hotel	3%	0%
To RETAIL	From Office	32%	8%
	From Restaurant	8%	50%
	From Cinema/Entertainment	0%	4%
	From Residential	17%	10%
	From Hotel	4%	2%
To RESTAURANT	From Office	23%	2%
	From Retail	50%	29%
	From Cinema/Entertainment	0%	3%
	From Residential	20%	14%
	From Hotel	6%	5%
To CINEMA/ENTERTAINMENT	From Office	0%	1%
	From Retail	0%	26%
	From Restaurant	0%	32%
	From Residential	0%	0%
	From Hotel	0%	0%
To RESIDENTIAL	From Office	0%	4%
	From Retail	2%	46%
	From Restaurant	5%	16%
	From Cinema/Entertainment	0%	4%
	From Hotel	0%	0%
To HOTEL	From Office	0%	0%
	From Retail	0%	17%
	From Restaurant	4%	71%
	From Cinema/Entertainment	0%	1%
	From Residential	0%	12%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 101 and 102, 2011.

Table E.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
921	Albany, NY	July & Aug. 1985	196	4:00–6:00 p.m.	23	42	35	77	—	60,950	Raymond Keyes Assoc.
108	Overland Park, KS	July 1988	111	4:30–5:30 p.m.	26	61	13	74	—	34,000	—
118	Overland Park, KS	Aug. 1988	123	4:30–5:30 p.m.	25	55	20	75	—	—	—
256	Greece, NY	June 1988	120	4:00–6:00 p.m.	38	62	—	62	—	23,410	Sear Brown
160	Greece, NY	June 1988	78	4:00–6:00 p.m.	29	71	—	71	—	57,306	Sear Brown
550	Greece, NY	June 1988	117	4:00–6:00 p.m.	48	52	—	52	—	40,763	Sear Brown
51	Boca Raton, FL	Dec. 1987	110	4:00–6:00 p.m.	33	34	33	67	—	42,225	Kimley-Horn and Assoc. Inc.
1,090	Ross Twp, PA	July 1988	411	2:00–8:00 p.m.	34	56	10	66	—	51,500	Wilbur Smith and Assoc.
97	Upper Dublin Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	41	—	—	59	—	34,000	McMahon Associates
118	Tredyffrin Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	24	—	—	76	—	10,000	Booz Allen & Hamilton
122	Lawnside, NJ	Winter 1988/89	—	4:00–6:00 p.m.	37	—	—	63	—	20,000	Pennoni Associates
126	Boca Raton, FL	Winter 1988/89	—	4:00–6:00 p.m.	43	—	—	57	—	40,000	McMahon Associates
150	Willow Grove, PA	Winter 1988/89	—	4:00–6:00 p.m.	39	—	—	61	—	26,000	Booz Allen & Hamilton
153	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	50	—	—	50	—	85,000	McMahon Associates
153	Arden, DE	Winter 1988/89	—	4:00–6:00 p.m.	30	—	—	70	—	26,000	Orth-Rodgers & Assoc. Inc.
154	Doylestown, PA	Winter 1988/89	—	4:00–6:00 p.m.	32	—	—	68	—	29,000	Orth-Rodgers & Assoc. Inc.
164	Middletown Twp, PA	Winter 1988/89	—	4:00–6:00 p.m.	33	—	—	67	—	25,000	Booz Allen & Hamilton
166	Haddon Twp, NJ	Winter 1988/89	—	4:00–6:00 p.m.	20	—	—	80	—	6,000	Pennoni Associates
205	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	55	—	—	45	—	62,000	McMahon Associates

Table E.9 (Cont'd) Pass-By and Non-Pass-By Trips Weekday, PM Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GLA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIP (%)			ADJ. STREET PEAK HOUR VOLUME	AVERAGE 24-HOUR TRAFFIC	SOURCE
						PRIMARY	DIVERTED	TOTAL			
237	W. Windsor Twp, NJ	Winter 1988/89	—	4:00–6:00 p.m.	48	—	—	52	—	46,000	Booz Allen & Hamilton
242	Willow Grove, PA	Winter 1988/89	—	4:00–6:00 p.m.	37	—	—	63	—	26,000	McMahon Associates
297	Whitehall, PA	Winter 1988/89	—	4:00–6:00 p.m.	33	—	—	67	—	26,000	Orth-Rodgers & Assoc. Inc.
360	Broward Cnty., FL	Winter 1988/89	—	4:00–6:00 p.m.	44	—	—	56	—	73,000	McMahon Associates
370	Pittsburgh, PA	Winter 1988/89	—	4:00–6:00 p.m.	19	—	—	81	—	33,000	Wilbur Smith
150	Portland, OR	—	519	4:00–6:00 p.m.	68	6	26	32	—	25,000	Kittelson and Associates
150	Portland, OR	—	655	4:00–6:00 p.m.	65	7	28	35	—	30,000	Kittelson and Associates
760	Calgary, Alberta	Oct.-Dec. 1987	15,436	4:00–6:00 p.m.	20	39	41	80	—	—	City of Calgary DOT
178	Bordentown, NJ	Apr. 1989	154	2:00–6:00 p.m.	35	—	—	65	—	37,980	Raymond Keyes Assoc.
144	Manalapan, NJ	July 1990	176	3:30–6:15 p.m.	32	44	24	68	—	69,347	Raymond Keyes Assoc.
549	Natick, MA	Feb. 1989	—	4:45–5:45 p.m.	33	26	41	67	—	48,782	Raymond Keyes Assoc.

Average Pass-By Trip Percentage: 34
"—" means no data were provided

Table E.10 Pass-By and Non-Pass-By Trips Saturday, Mid-Day Peak Period Land Use Code 820—Shopping Center

SIZE (1,000 SQ. FT. GFA)	LOCATION	SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
						PRIMARY	DIVERTED	TOTAL		
720	Framingham, MA	Feb. 1984	258	11:00 a.m.–4:00 p.m.	23	34	43	77	—	Raymond Keyes Assoc.
600	Brandywine, DE	Apr. 1983	256	10:00 a.m.–3:00 p.m.	17	50	33	83	—	Raymond Keyes Assoc.
880	Christiana, DE	July 1984	198	11:00 a.m.–4:00 p.m.	5	55	40	95	—	Raymond Keyes Assoc.
234	Huntington LI, NY	Nov. 1985	223	11:00 a.m.–3:00 p.m.	39	22	39	61	—	Raymond Keyes Assoc.
658	Wayne, NJ	Sept. 1984	329	11:00 a.m.–4:00 p.m.	46	44	10	54	—	Raymond Keyes Assoc.
622	Ramsey Cnty, MN	Nov. 1985	119	11:00 a.m.–3:00 p.m.	23	21	56	77	—	Raymond Keyes Assoc.
736	Pensacola, FL	Oct. 1985	680	11:00 a.m.–3:00 p.m.	20	31	49	80	—	Raymond Keyes Assoc.
430	Ross, PA	June 1980	425	11:00 a.m.–4:00 p.m.	22	—	—	78	—	Raymond Keyes Assoc.
176	Tampa Springs, FL	May 1986	188	11:00 a.m.–3:00 p.m.	31	42	27	69	—	Raymond Keyes Assoc.
144	Manalapan, NJ	July 1990	264	11:00 a.m.–3:15 p.m.	31	47	22	69	63,362	Raymond Keyes Assoc.
549	Natick, MA	Feb. 1989	—	2:15–3:15 p.m.	28	39	33	72	48,782	Raymond Keyes Assoc.

Average Pass-By Trip Percentage: 26
"—" means no data were provided

Table E.32 Pass-By and Non-Pass-By Trips Weekday, PM Peak Period
Land Use Code 934—Fast-Food Restaurant with Drive-Through Window

SEATS	SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PASS-BY TRIP (%)	NON-PASS-BY TRIPS (%)			ADJ. STREET PEAK HOUR VOLUME	SOURCE
							PRIMARY	DIVERTED	TOTAL		
—	~2.6	Minn-St. Paul, MN	1987	50	3:00–7:00 p.m.	25	27	48	75	—	—
—	<5.0	Chicago suburbs, IL	1987	80	3:00–6:00 p.m.	38	—	—	62	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	100	3:00–6:00 p.m.	55	—	—	45	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	159	3:00–6:00 p.m.	56	—	—	44	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	225	3:00–6:00 p.m.	48	—	—	52	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	88	3:00–6:00 p.m.	35	—	—	65	—	Kenig, O'Hara, Humes, Flock
—	<5.0	Chicago suburbs, IL	1987	84	3:00–6:00 p.m.	44	—	—	56	—	Kenig, O'Hara, Humes, Flock
88	1.3	Louisville area, KY	1993	—	4:00–6:00 p.m.	68	22	10	32	2,055	Barton-Aschman Assoc.
120	1.9	Louisville area, KY	1993	33	4:00–6:00 p.m.	67	24	9	33	2,447	Barton-Aschman Assoc.
87	4.2	New Albany, IN	1993	—	4:00–6:00 p.m.	56	25	19	44	1,632	Barton-Aschman Assoc.
150	3.0	Louisville area, KY	1993	—	4:00–6:00 p.m.	31	31	38	69	4,250	Barton-Aschman Assoc.
—	3.1	Kissimmee, FL	1995	28	2:00–6:00 p.m.	71	—	—	29	—	TPD Inc.
—	3.1	Apopka, FL	1996	29	2:00–6:00 p.m.	38	—	—	62	—	TPD Inc.
—	2.8	Winter Springs, FL	1995	47	2:00–6:00 p.m.	66	—	—	34	—	TPD Inc.
—	4.3	Longwood, FL	1994	304	2:00–6:00 p.m.	62	—	—	38	—	TPD Inc.
—	3.2	Altamonte Springs, FL	1996	202	2:00–6:00 p.m.	40	39	21	60	—	TPD Inc.
—	2.9	Winter Park, FL	1996	271	2:00–6:00 p.m.	41	41	18	59	—	TPD Inc.
—	3.3*	several	1996	varies	4:00–6:00 p.m.	62	—	—	38	—	Oracle Engineering

*Average of several combined studies.
Average Pass-By Trip Percentage: 50
"—" means no data were provided

Appendix C – Intersection Capacity Analyses

Existing Traffic

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	210	4	12	227	14	3	4	15	26	2	11
Future Vol, veh/h	11	210	4	12	227	14	3	4	15	26	2	11
Conflicting Peds, #/hr	5	0	0	0	0	5	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	2	25	8	3	14	0	0	7	4	0	0
Mvmt Flow	12	221	4	13	239	15	3	4	16	27	2	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	225	0	0	529	532	113	407	519	246
Stage 1	-	-	-	-	-	-	247	247	-	270	270	-
Stage 2	-	-	-	-	-	-	282	285	-	137	249	-
Critical Hdwy	4.1	-	-	4.22	-	-	7.3	6.5	7.005	7.36	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.56	5.5	-
Follow-up Hdwy	2.2	-	-	2.276	-	-	3.5	4	3.3665	3.538	4	3.3
Pot Cap-1 Maneuver	1317	-	-	1303	-	-	450	456	904	537	464	798
Stage 1	-	-	-	-	-	-	741	706	-	730	690	-
Stage 2	-	-	-	-	-	-	729	679	-	847	704	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1311	-	-	1303	-	-	434	444	904	513	451	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	434	444	-	513	451	-
Stage 1	-	-	-	-	-	-	734	699	-	719	678	-
Stage 2	-	-	-	-	-	-	706	667	-	819	697	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	10.5	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	677	1311	-	-	1303	-	-	565
HCM Lane V/C Ratio	0.034	0.009	-	-	0.01	-	-	0.073
HCM Control Delay (s)	10.5	7.8	0	-	7.8	-	-	11.9
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	228	229	43	43	24
Future Vol, veh/h	23	228	229	43	43	24
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	24	240	241	45	45	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	290	0	-	0	436	147
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	4.1	-	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.3
Pot Cap-1 Maneuver	1283	-	-	-	549	880
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	844	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1278	-	-	-	534	877
Mov Cap-2 Maneuver	-	-	-	-	534	-
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1278	-	-	-	621
HCM Lane V/C Ratio	0.019	-	-	-	0.114
HCM Control Delay (s)	7.9	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	95	114	58	88	55	106	378	62	61	481	78
Future Volume (vph)	62	95	114	58	88	55	106	378	62	61	481	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00	1.00		1.00	1.00	
Frt		0.918			0.942			0.979			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3250	0	1738	3348	0	1789	3369	0	1615	3346	0
Flt Permitted	0.656			0.614			0.416			0.486		
Satd. Flow (perm)	1236	3250	0	1121	3348	0	783	3369	0	826	3346	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		120			58			24			24	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			3	3			2		2	2		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
Heavy Vehicles (%)	2%	5%	0%	5%	0%	7%	2%	6%	5%	13%	7%	4%
Adj. Flow (vph)	65	100	120	61	93	58	112	398	65	64	506	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	220	0	61	151	0	112	463	0	64	588	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		13.0	36.0		13.0	36.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		15.3%	42.4%		15.3%	42.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0		8.0	29.9		8.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	11.4	11.4		11.4	11.4		59.2	52.2		58.1	51.6	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.70	0.61		0.68	0.61	
v/c Ratio	0.39	0.41		0.41	0.30		0.18	0.22		0.10	0.29	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	40.4	17.8		41.7	21.8		4.3	8.2		4.0	9.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.4	17.8		41.7	21.8		4.3	8.2		4.0	9.0	
LOS	D	B		D	C		A	A		A	A	
Approach Delay		22.9			27.5			7.4			8.5	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	10.0	7.8		9.4	7.3		3.8	15.4		2.1	21.1	
Queue Length 95th (m)	20.7	16.8		20.1	14.9		9.6	27.4		6.2	36.7	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	436	1224		395	1219		647	2077		649	2041	
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	0.18		0.15	0.12		0.17	0.22		0.10	0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	269	2	30	444	54	4	1	12	24	1	28
Future Vol, veh/h	12	269	2	30	444	54	4	1	12	24	1	28
Conflicting Peds, #/hr	20	0	1	1	0	20	7	0	2	2	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	13	283	2	32	467	57	4	1	13	25	1	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	544	0	0	286	0	0	893	919	146	721	863	494
Stage 1	-	-	-	-	-	-	311	311	-	551	551	-
Stage 2	-	-	-	-	-	-	582	608	-	170	312	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1035	-	-	1288	-	-	252	273	881	332	295	579
Stage 1	-	-	-	-	-	-	680	662	-	522	519	-
Stage 2	-	-	-	-	-	-	502	489	-	821	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1016	-	-	1287	-	-	228	254	879	307	275	565
Mov Cap-2 Maneuver	-	-	-	-	-	-	228	254	-	307	275	-
Stage 1	-	-	-	-	-	-	669	651	-	505	492	-
Stage 2	-	-	-	-	-	-	455	464	-	794	650	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4	12.7	15.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	484	1016	-	-	1287	-	-	403
HCM Lane V/C Ratio	0.037	0.012	-	-	0.025	-	-	0.138
HCM Control Delay (s)	12.7	8.6	0.1	-	7.9	-	-	15.4
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.5

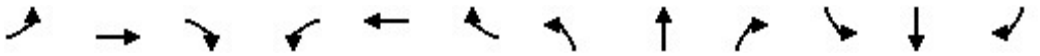
Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	278	469	101	84	59
Future Vol, veh/h	27	278	469	101	84	59
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	0	0	2	1	0
Mvmt Flow	28	293	494	106	88	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	617	0	-	0	767	317
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	203	-
Critical Hdwy	4.24	-	-	-	6.82	6.9
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	2.27	-	-	-	3.51	3.3
Pot Cap-1 Maneuver	926	-	-	-	341	685
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	814	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	911	-	-	-	320	674
Mov Cap-2 Maneuver	-	-	-	-	320	-
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	18.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	911	-	-	-	409
HCM Lane V/C Ratio	0.031	-	-	-	0.368
HCM Control Delay (s)	9.1	-	-	-	18.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.7

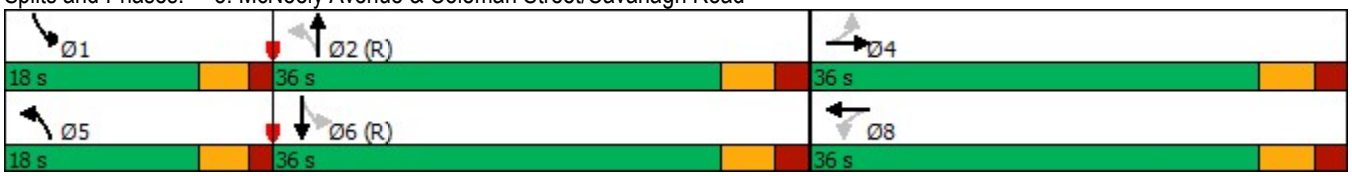


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	94	158	90	244	140	227	534	85	88	591	99
Future Volume (vph)	110	94	158	90	244	140	227	534	85	88	591	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00				1.00	
Frt		0.906			0.945			0.979			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3242	0	1825	3355	0	1825	3508	0	1738	3477	0
Flt Permitted	0.402			0.584			0.301			0.404		
Satd. Flow (perm)	757	3242	0	1119	3355	0	578	3508	0	739	3477	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		166			134			21			22	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			4	4			1					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%	1%	1%	0%	1%	6%	0%	2%	1%	5%	3%	0%
Adj. Flow (vph)	116	99	166	95	257	147	239	562	89	93	622	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	265	0	95	404	0	239	651	0	93	726	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		18.0	36.0		18.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		20.0%	40.0%		20.0%	40.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		13.0	29.9		13.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	17.2	17.2		17.2	17.2		60.4	50.5		53.9	45.5	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.67	0.56		0.60	0.51	
v/c Ratio	0.80	0.35		0.44	0.54		0.45	0.33		0.18	0.41	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	69.7	12.3		36.9	23.3		9.0	12.8		7.3	16.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.7	12.3		36.9	23.3		9.0	12.8		7.3	16.0	
LOS	E	B		D	C		A	B		A	B	
Approach Delay		29.8			25.9			11.8			15.0	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	19.4	7.6		14.7	21.8		12.8	30.0		4.5	37.0	
Queue Length 95th (m)	34.7	15.7		25.8	31.4		28.9	53.4		12.4	67.6	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	252	1191		373	1207		580	1979		632	1770	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.22		0.25	0.33		0.41	0.33		0.15	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 75.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	275	6	27	335	29	5	2	22	28	2	20
Future Vol, veh/h	12	275	6	27	335	29	5	2	22	28	2	20
Conflicting Peds, #/hr	23	0	0	0	0	23	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	0	0	4	0	0	0	0	0	0	0	0
Mvmt Flow	13	289	6	28	353	31	5	2	23	29	2	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	407	0	0	295	0	0	755	781	148	604	753	377
Stage 1	-	-	-	-	-	-	318	318	-	432	432	-
Stage 2	-	-	-	-	-	-	437	463	-	172	321	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.238	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1163	-	-	1252	-	-	314	329	878	400	341	674
Stage 1	-	-	-	-	-	-	673	657	-	606	586	-
Stage 2	-	-	-	-	-	-	602	568	-	819	655	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1138	-	-	1252	-	-	292	308	878	367	320	659
Mov Cap-2 Maneuver	-	-	-	-	-	-	292	308	-	367	320	-
Stage 1	-	-	-	-	-	-	664	648	-	585	557	-
Stage 2	-	-	-	-	-	-	563	540	-	784	646	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.5	11.4	14.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	596	1138	-	-	1252	-	-	443
HCM Lane V/C Ratio	0.051	0.011	-	-	0.023	-	-	0.119
HCM Control Delay (s)	11.4	8.2	0.1	-	7.9	-	-	14.2
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	294	359	60	60	32
Future Vol, veh/h	31	294	359	60	60	32
Conflicting Peds, #/hr	16	0	0	16	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	33	309	378	63	63	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	457	0	-	0	647	237
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1114	-	-	-	408	771
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	801	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1098	-	-	-	384	760
Mov Cap-2 Maneuver	-	-	-	-	384	-
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	789	-

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

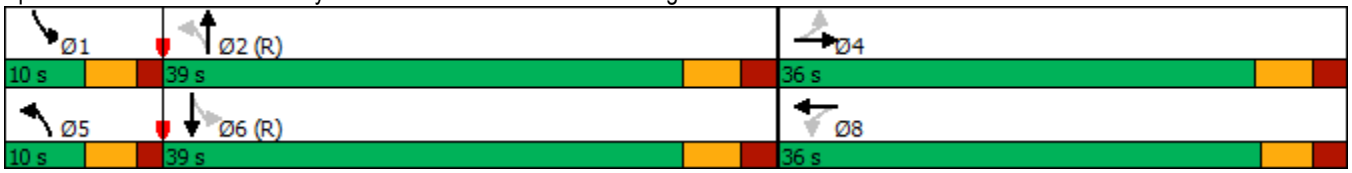
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1098	-	-	-	464
HCM Lane V/C Ratio	0.03	-	-	-	0.209
HCM Control Delay (s)	8.4	-	-	-	14.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	89	190	71	135	47	202	439	81	51	591	82
Future Volume (vph)	75	89	190	71	135	47	202	439	81	51	591	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.898			0.962			0.977			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3227	0	1807	3499	0	1825	3524	0	1825	3537	0
Flt Permitted	0.632			0.533			0.320			0.448		
Satd. Flow (perm)	1213	3227	0	1013	3499	0	614	3524	0	860	3537	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		200			49			29			21	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)	2		1	1		2	6		1	1		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
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	0%	1%	1%	0%	1%	2%
Adj. Flow (vph)	79	94	200	75	142	49	213	462	85	54	622	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	294	0	75	191	0	213	547	0	54	708	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		35.6	35.6		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		10.0	39.0		10.0	39.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		11.8%	45.9%		11.8%	45.9%	
Maximum Green (s)	30.0	30.0		30.4	30.4		5.0	32.9		5.0	32.9	
Yellow Time (s)	3.7	3.7		3.3	3.3		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		5.6	5.6		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	12.1	12.1		12.5	12.5		60.8	53.8		54.4	47.1	
Actuated g/C Ratio	0.14	0.14		0.15	0.15		0.72	0.63		0.64	0.55	
v/c Ratio	0.46	0.47		0.51	0.34		0.38	0.24		0.09	0.36	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	41.6	13.5		44.9	25.1		6.0	8.0		4.5	11.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.6	13.5		44.9	25.1		6.0	8.0		4.5	11.6	
LOS	D	B		D	C		A	A		A	B	
Approach Delay		19.5			30.7			7.4			11.1	
Approach LOS		B			C			A			B	
Queue Length 50th (m)	12.2	7.3		11.6	11.1		8.0	18.8		1.9	28.7	
Queue Length 95th (m)	23.8	17.2		23.3	19.0		18.5	33.3		5.8	50.7	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	428	1268		362	1282		564	2242		621	1967	
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	0.23		0.21	0.15		0.38	0.24		0.09	0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 45 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 13.7		Intersection LOS: B	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Future (2023) Background Traffic

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	228	10	21	233	14	20	4	43	26	3	11
Future Vol, veh/h	11	228	10	21	233	14	20	4	43	26	3	11
Conflicting Peds, #/hr	5	0	0	0	0	5	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	2	25	8	3	14	0	0	7	4	0	0
Mvmt Flow	12	240	11	22	245	15	21	4	45	27	3	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	265	0	0	251	0	0	576	579	126	440	569	252
Stage 1	-	-	-	-	-	-	270	270	-	294	294	-
Stage 2	-	-	-	-	-	-	306	309	-	146	275	-
Critical Hdwy	4.1	-	-	4.22	-	-	7.3	6.5	7.005	7.36	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.56	5.5	-
Follow-up Hdwy	2.2	-	-	2.276	-	-	3.5	4	3.3665	3.538	4	3.3
Pot Cap-1 Maneuver	1311	-	-	1275	-	-	418	429	887	510	435	792
Stage 1	-	-	-	-	-	-	718	690	-	708	673	-
Stage 2	-	-	-	-	-	-	708	663	-	837	686	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1305	-	-	1275	-	-	399	414	887	467	419	787
Mov Cap-2 Maneuver	-	-	-	-	-	-	399	414	-	467	419	-
Stage 1	-	-	-	-	-	-	710	682	-	697	656	-
Stage 2	-	-	-	-	-	-	679	646	-	781	678	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.6	11.6	12.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	619	1305	-	-	1275	-	-	521
HCM Lane V/C Ratio	0.114	0.009	-	-	0.017	-	-	0.081
HCM Control Delay (s)	11.6	7.8	0	-	7.9	-	-	12.5
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	274	246	43	43	24
Future Vol, veh/h	23	274	246	43	43	24
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	24	288	259	45	45	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	308	0	-	0	478	156
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	192	-
Critical Hdwy	4.1	-	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.3
Pot Cap-1 Maneuver	1264	-	-	-	516	868
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1259	-	-	-	502	865
Mov Cap-2 Maneuver	-	-	-	-	502	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	819	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	11.9
HCM LOS			B

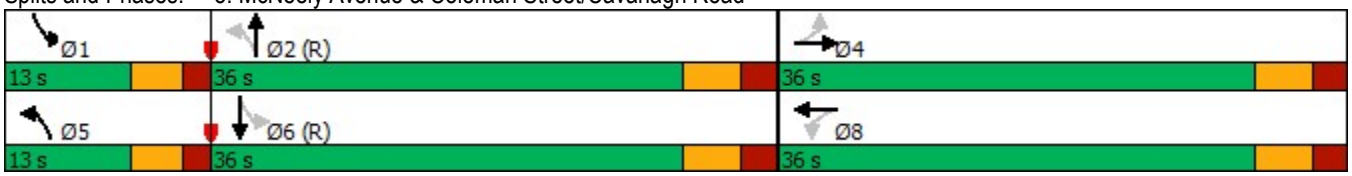
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1259	-	-	-	591
HCM Lane V/C Ratio	0.019	-	-	-	0.119
HCM Control Delay (s)	7.9	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	115	134	59	96	56	113	389	63	62	491	82
Future Volume (vph)	70	115	134	59	96	56	113	389	63	62	491	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00	1.00		1.00	1.00	
Frt		0.919			0.945			0.979			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3253	0	1738	3363	0	1789	3369	0	1615	3347	0
Flt Permitted	0.651			0.586			0.408			0.480		
Satd. Flow (perm)	1226	3253	0	1070	3363	0	768	3369	0	815	3347	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		141			59			23			24	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			3	3			2		2	2		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
Heavy Vehicles (%)	2%	5%	0%	5%	0%	7%	2%	6%	5%	13%	7%	4%
Adj. Flow (vph)	74	121	141	62	101	59	119	409	66	65	517	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	262	0	62	160	0	119	475	0	65	603	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		13.0	36.0		13.0	36.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		15.3%	42.4%		15.3%	42.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0		8.0	29.9		8.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	11.7	11.7		11.7	11.7		59.0	51.8		57.7	51.2	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.69	0.61		0.68	0.60	
v/c Ratio	0.44	0.46		0.42	0.31		0.19	0.23		0.11	0.30	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	41.6	18.0		42.1	21.9		4.5	8.5		4.2	9.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.6	18.0		42.1	21.9		4.5	8.5		4.2	9.4	
LOS	D	B		D	C		A	A		A	A	
Approach Delay		23.2			27.6			7.7			8.9	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	11.4	9.5		9.5	7.9		4.2	16.1		2.2	22.1	
Queue Length 95th (m)	22.8	19.1		20.0	15.5		10.4	28.7		6.5	38.7	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	432	1239		377	1225		636	2063		637	2024	
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	0.21		0.16	0.13		0.19	0.23		0.10	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 67.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	294	18	59	459	54	16	2	29	24	2	28
Future Vol, veh/h	12	294	18	59	459	54	16	2	29	24	2	28
Conflicting Peds, #/hr	20	0	1	1	0	20	7	0	2	2	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	13	309	19	62	483	57	17	2	31	25	2	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	560	0	0	329	0	0	1004	1030	167	811	982	510
Stage 1	-	-	-	-	-	-	346	346	-	627	627	-
Stage 2	-	-	-	-	-	-	658	684	-	184	355	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1021	-	-	1242	-	-	210	235	854	287	251	567
Stage 1	-	-	-	-	-	-	649	639	-	475	479	-
Stage 2	-	-	-	-	-	-	457	452	-	806	633	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1002	-	-	1241	-	-	183	211	852	251	225	553
Mov Cap-2 Maneuver	-	-	-	-	-	-	183	211	-	251	225	-
Stage 1	-	-	-	-	-	-	638	628	-	459	436	-
Stage 2	-	-	-	-	-	-	397	412	-	761	622	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.8	16.6	17.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	359	1002	-	-	1241	-	-	348
HCM Lane V/C Ratio	0.138	0.013	-	-	0.05	-	-	0.163
HCM Control Delay (s)	16.6	8.6	0.1	-	8.1	-	-	17.4
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0.6

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	320	513	101	84	59
Future Vol, veh/h	27	320	513	101	84	59
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	0	0	2	1	0
Mvmt Flow	28	337	540	106	88	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	663	0	-	0	835	340
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	225	-
Critical Hdwy	4.24	-	-	-	6.82	6.9
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	2.27	-	-	-	3.51	3.3
Pot Cap-1 Maneuver	889	-	-	-	308	662
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	794	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	875	-	-	-	289	652
Mov Cap-2 Maneuver	-	-	-	-	289	-
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	20.9
HCM LOS			C

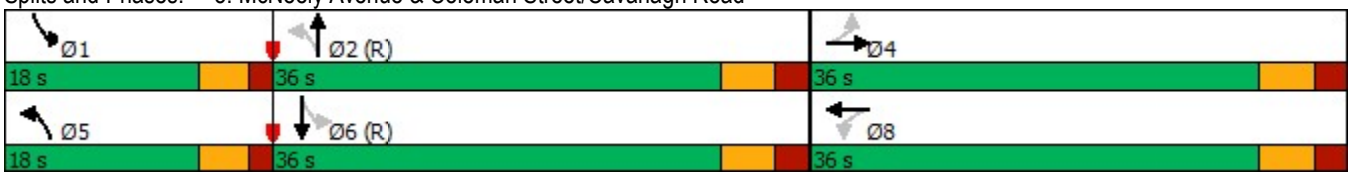
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	875	-	-	-	375
HCM Lane V/C Ratio	0.032	-	-	-	0.401
HCM Control Delay (s)	9.3	-	-	-	20.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	114	171	97	263	143	247	548	87	90	611	106
Future Volume (vph)	120	114	171	97	263	143	247	548	87	90	611	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00				1.00	
Frt		0.910			0.947			0.979			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3258	0	1825	3364	0	1825	3508	0	1738	3474	0
Flt Permitted	0.389			0.542			0.277			0.397		
Satd. Flow (perm)	733	3258	0	1039	3364	0	532	3508	0	726	3474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		180			122			21			24	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			4	4			1					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%	1%	1%	0%	1%	6%	0%	2%	1%	5%	3%	0%
Adj. Flow (vph)	126	120	180	102	277	151	260	577	92	95	643	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	300	0	102	428	0	260	669	0	95	755	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		18.0	36.0		18.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		20.0%	40.0%		20.0%	40.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		13.0	29.9		13.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	18.6	18.6		18.6	18.6		59.4	49.0		52.0	43.5	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.66	0.54		0.58	0.48	
v/c Ratio	0.83	0.37		0.48	0.54		0.51	0.35		0.19	0.45	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	72.6	12.3		36.9	23.9		10.7	14.0		8.2	17.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	72.6	12.3		36.9	23.9		10.7	14.0		8.2	17.9	
LOS	E	B		D	C		B	B		A	B	
Approach Delay		30.1			26.4			13.1			16.8	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	21.1	9.0		15.7	24.5		15.1	32.5		5.0	41.3	
Queue Length 95th (m)	37.2	17.1		27.0	33.6		33.6	58.1		13.5	75.0	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	244	1206		346	1202		550	1920		609	1692	
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	0.52	0.25		0.29	0.36		0.47	0.35		0.16	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 77.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	293	20	58	342	29	16	3	44	28	4	20
Future Vol, veh/h	12	293	20	58	342	29	16	3	44	28	4	20
Conflicting Peds, #/hr	23	0	0	0	0	23	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	0	0	4	0	0	0	0	0	0	0	0
Mvmt Flow	13	308	21	61	360	31	17	3	46	29	4	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	414	0	0	329	0	0	856	881	165	687	860	384
Stage 1	-	-	-	-	-	-	345	345	-	505	505	-
Stage 2	-	-	-	-	-	-	511	536	-	182	355	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.238	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1156	-	-	1216	-	-	267	288	857	350	296	668
Stage 1	-	-	-	-	-	-	649	640	-	553	544	-
Stage 2	-	-	-	-	-	-	549	527	-	808	633	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1131	-	-	1216	-	-	240	260	857	302	268	653
Mov Cap-2 Maneuver	-	-	-	-	-	-	240	260	-	302	268	-
Stage 1	-	-	-	-	-	-	640	631	-	534	498	-
Stage 2	-	-	-	-	-	-	493	483	-	750	624	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.1	13.6	16.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	486	1131	-	-	1216	-	-	376
HCM Lane V/C Ratio	0.136	0.011	-	-	0.05	-	-	0.146
HCM Control Delay (s)	13.6	8.2	0.1	-	8.1	-	-	16.2
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.2	-	-	0.5

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	334	397	60	60	32
Future Vol, veh/h	31	334	397	60	60	32
Conflicting Peds, #/hr	16	0	0	16	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	33	352	418	63	63	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	497	0	-	0	708	257
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	242	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1077	-	-	-	374	748
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1061	-	-	-	352	737
Mov Cap-2 Maneuver	-	-	-	-	352	-
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	770	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1061	-	-	-	430
HCM Lane V/C Ratio	0.031	-	-	-	0.225
HCM Control Delay (s)	8.5	-	-	-	15.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	111	202	72	153	48	217	451	83	52	603	89
Future Volume (vph)	82	111	202	72	153	48	217	451	83	52	603	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.903			0.964			0.977			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3248	0	1807	3507	0	1825	3524	0	1825	3533	0
Flt Permitted	0.619			0.478			0.305			0.441		
Satd. Flow (perm)	1188	3248	0	909	3507	0	585	3524	0	847	3533	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		213			51			29			22	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)	2		1	1		2	6		1	1		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
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	0%	1%	1%	0%	1%	2%
Adj. Flow (vph)	86	117	213	76	161	51	228	475	87	55	635	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	330	0	76	212	0	228	562	0	55	729	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		35.6	35.6		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		10.0	39.0		10.0	39.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		11.8%	45.9%		11.8%	45.9%	
Maximum Green (s)	30.0	30.0		30.4	30.4		5.0	32.9		5.0	32.9	
Yellow Time (s)	3.7	3.7		3.3	3.3		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		5.6	5.6		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	12.5	12.5		12.9	12.9		60.9	53.4		53.4	46.1	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.72	0.63		0.63	0.54	
v/c Ratio	0.50	0.50		0.55	0.37		0.41	0.25		0.09	0.38	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	42.7	14.5		48.3	25.7		6.4	8.3		4.8	12.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.7	14.5		48.3	25.7		6.4	8.3		4.8	12.4	
LOS	D	B		D	C		A	A		A	B	
Approach Delay		20.3			31.6			7.8			11.8	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	13.2	9.1		11.8	12.5		9.1	20.0		2.0	31.2	
Queue Length 95th (m)	25.4	19.3		23.7	20.8		20.2	34.8		6.0	53.8	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	419	1284		325	1287		555	2225		604	1924	
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	0.21	0.26		0.23	0.16		0.41	0.25		0.09	0.38	

Intersection Summary	
Area Type:	Other
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 45 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 73.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Future (2028) Background Traffic

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	263	15	30	257	14	38	5	70	26	4	11
Future Vol, veh/h	11	263	15	30	257	14	38	5	70	26	4	11
Conflicting Peds, #/hr	5	0	0	0	0	5	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	2	25	8	3	14	0	0	7	4	0	0
Mvmt Flow	12	277	16	32	271	15	40	5	74	27	4	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	291	0	0	293	0	0	662	664	147	505	657	278
Stage 1	-	-	-	-	-	-	309	309	-	340	340	-
Stage 2	-	-	-	-	-	-	353	355	-	165	317	-
Critical Hdwy	4.1	-	-	4.22	-	-	7.3	6.5	7.005	7.36	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.56	5.5	-
Follow-up Hdwy	2.2	-	-	2.276	-	-	3.5	4	3.3665	3.538	4	3.3
Pot Cap-1 Maneuver	1282	-	-	1229	-	-	364	384	860	460	387	766
Stage 1	-	-	-	-	-	-	682	663	-	669	643	-
Stage 2	-	-	-	-	-	-	668	633	-	816	658	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1276	-	-	1229	-	-	343	366	860	401	369	761
Mov Cap-2 Maneuver	-	-	-	-	-	-	343	366	-	401	369	-
Stage 1	-	-	-	-	-	-	674	656	-	658	620	-
Stage 2	-	-	-	-	-	-	632	610	-	732	651	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.8	13.4	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	549	1276	-	-	1229	-	-	455
HCM Lane V/C Ratio	0.217	0.009	-	-	0.026	-	-	0.095
HCM Control Delay (s)	13.4	7.8	0	-	8	-	-	13.7
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	339	282	43	43	24
Future Vol, veh/h	23	339	282	43	43	24
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	24	357	297	45	45	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	346	0	-	0	551	175
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	227	-
Critical Hdwy	4.1	-	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.3
Pot Cap-1 Maneuver	1224	-	-	-	464	844
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	789	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1219	-	-	-	451	841
Mov Cap-2 Maneuver	-	-	-	-	451	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	786	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1219	-	-	-	541
HCM Lane V/C Ratio	0.02	-	-	-	0.13
HCM Control Delay (s)	8	-	-	-	12.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	142	162	65	111	62	128	429	69	68	539	91
Future Volume (vph)	83	142	162	65	111	62	128	429	69	68	539	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00	1.00		1.00	1.00	
Frt		0.920			0.946			0.979			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3256	0	1738	3369	0	1789	3369	0	1615	3343	0
Flt Permitted	0.637			0.492			0.362			0.457		
Satd. Flow (perm)	1200	3256	0	899	3369	0	681	3369	0	776	3343	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		171			65			23			25	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			3	3			2		2	2		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
Heavy Vehicles (%)	2%	5%	0%	5%	0%	7%	2%	6%	5%	13%	7%	4%
Adj. Flow (vph)	87	149	171	68	117	65	135	452	73	72	567	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	320	0	68	182	0	135	525	0	72	663	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		13.0	36.0		13.0	36.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		15.3%	42.4%		15.3%	42.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0		8.0	29.9		8.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	12.5	12.5		12.5	12.5		58.3	50.9		55.7	47.9	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.69	0.60		0.66	0.56	
v/c Ratio	0.49	0.51		0.52	0.33		0.24	0.26		0.13	0.35	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	42.5	17.8		47.0	21.6		5.2	9.3		4.8	11.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.5	17.8		47.0	21.6		5.2	9.3		4.8	11.0	
LOS	D	B		D	C		A	A		A	B	
Approach Delay		23.1			28.5			8.4			10.4	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	13.4	11.7		10.5	9.1		5.1	19.0		2.6	26.2	
Queue Length 95th (m)	25.5	21.8		21.7	16.8		12.5	34.0		7.6	45.8	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	423	1259		317	1231		579	2025		600	1895	
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	0.21	0.25		0.21	0.15		0.23	0.26		0.12	0.35	

Intersection Summary	
Area Type:	Other
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 69.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	341	34	88	510	54	27	2	46	24	2	28
Future Vol, veh/h	12	341	34	88	510	54	27	2	46	24	2	28
Conflicting Peds, #/hr	20	0	1	1	0	20	7	0	2	2	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	13	359	36	93	537	57	28	2	48	25	2	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	614	0	0	396	0	0	1178	1204	201	952	1165	564
Stage 1	-	-	-	-	-	-	404	404	-	743	743	-
Stage 2	-	-	-	-	-	-	774	800	-	209	422	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	975	-	-	1174	-	-	159	186	813	229	196	529
Stage 1	-	-	-	-	-	-	600	603	-	410	425	-
Stage 2	-	-	-	-	-	-	394	400	-	779	592	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	957	-	-	1173	-	-	132	158	811	187	167	516
Mov Cap-2 Maneuver	-	-	-	-	-	-	132	158	-	187	167	-
Stage 1	-	-	-	-	-	-	589	592	-	396	368	-
Stage 2	-	-	-	-	-	-	323	346	-	716	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.1	23.4	21.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	274	957	-	-	1173	-	-	278
HCM Lane V/C Ratio	0.288	0.013	-	-	0.079	-	-	0.204
HCM Control Delay (s)	23.4	8.8	0.1	-	8.3	-	-	21.2
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	0	-	-	0.3	-	-	0.8

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	385	595	101	84	59
Future Vol, veh/h	27	385	595	101	84	59
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	0	0	2	1	0
Mvmt Flow	28	405	626	106	88	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	749	0	-	0	955	383
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	259	-
Critical Hdwy	4.24	-	-	-	6.82	6.9
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	2.27	-	-	-	3.51	3.3
Pot Cap-1 Maneuver	824	-	-	-	258	621
Stage 1	-	-	-	-	459	-
Stage 2	-	-	-	-	764	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	811	-	-	-	241	611
Mov Cap-2 Maneuver	-	-	-	-	241	-
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	752	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	25.7
HCM LOS			D

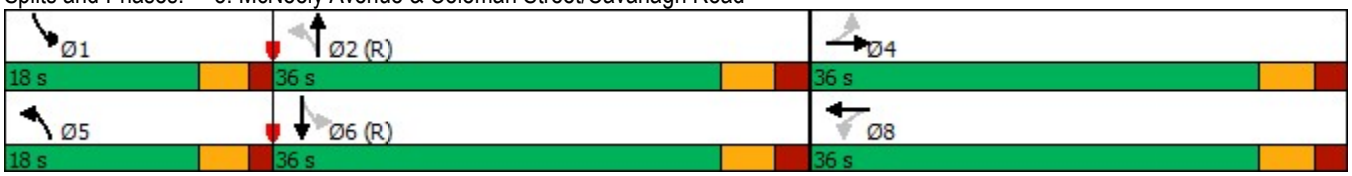
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	811	-	-	-	321
HCM Lane V/C Ratio	0.035	-	-	-	0.469
HCM Control Delay (s)	9.6	-	-	-	25.7
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	2.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	142	197	110	302	157	285	604	95	99	678	121
Future Volume (vph)	139	142	197	110	302	157	285	604	95	99	678	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00				1.00	
Frt		0.913			0.949			0.980			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3270	0	1825	3373	0	1825	3512	0	1738	3471	0
Flt Permitted	0.359			0.489			0.219			0.364		
Satd. Flow (perm)	676	3270	0	937	3373	0	421	3512	0	666	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		207			111			21			24	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			4	4			1					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%	1%	1%	0%	1%	6%	0%	2%	1%	5%	3%	0%
Adj. Flow (vph)	146	149	207	116	318	165	300	636	100	104	714	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	356	0	116	483	0	300	736	0	104	841	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		18.0	36.0		18.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		20.0%	40.0%		20.0%	40.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		13.0	29.9		13.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	21.4	21.4		21.4	21.4		56.9	45.8		48.4	39.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.63	0.51		0.54	0.44	
v/c Ratio	0.91	0.38		0.52	0.55		0.66	0.41		0.23	0.55	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	83.2	11.5		36.4	24.1		17.2	16.8		9.9	21.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	83.2	11.5		36.4	24.1		17.2	16.8		9.9	21.9	
LOS	F	B		D	C		B	B		A	C	
Approach Delay		32.4			26.5			16.9			20.6	
Approach LOS		C			C			B			C	
Queue Length 50th (m)	24.4	10.7		17.3	29.0		20.6	40.8		6.3	54.8	
Queue Length 95th (m)	#48.1	19.1		29.9	38.3		#50.8	69.1		15.7	85.6	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	225	1228		312	1198		477	1798		551	1534	
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	0.65	0.29		0.37	0.40		0.63	0.41		0.19	0.55	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 22.4		Intersection LOS: C	
Intersection Capacity Utilization 80.9%		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: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	333	35	89	375	29	27	4	65	28	5	20
Future Vol, veh/h	12	333	35	89	375	29	27	4	65	28	5	20
Conflicting Peds, #/hr	23	0	0	0	0	23	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	0	0	4	0	0	0	0	0	0	0	0
Mvmt Flow	13	351	37	94	395	31	28	4	68	29	5	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	449	0	0	388	0	0	1009	1033	194	810	1020	419
Stage 1	-	-	-	-	-	-	396	396	-	606	606	-
Stage 2	-	-	-	-	-	-	613	637	-	204	414	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.238	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1122	-	-	1156	-	-	209	234	821	288	239	638
Stage 1	-	-	-	-	-	-	606	607	-	487	490	-
Stage 2	-	-	-	-	-	-	483	475	-	785	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1098	-	-	1156	-	-	180	201	821	231	206	624
Mov Cap-2 Maneuver	-	-	-	-	-	-	180	201	-	231	206	-
Stage 1	-	-	-	-	-	-	597	598	-	469	428	-
Stage 2	-	-	-	-	-	-	411	415	-	704	588	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.5	17.6	19.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	385	1098	-	-	1156	-	-	299
HCM Lane V/C Ratio	0.262	0.012	-	-	0.081	-	-	0.187
HCM Control Delay (s)	17.6	8.3	0.1	-	8.4	-	-	19.8
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	1	0	-	-	0.3	-	-	0.7

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	397	464	60	60	32
Future Vol, veh/h	31	397	464	60	60	32
Conflicting Peds, #/hr	16	0	0	16	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	33	418	488	63	63	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	567	0	-	0	811	292
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1015	-	-	-	321	710
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1000	-	-	-	301	700
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	742	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1000	-	-	-	375
HCM Lane V/C Ratio	0.033	-	-	-	0.258
HCM Control Delay (s)	8.7	-	-	-	17.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	141	229	80	182	53	247	498	91	57	662	102
Future Volume (vph)	95	141	229	80	182	53	247	498	91	57	662	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.907			0.966			0.977			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3264	0	1807	3515	0	1825	3524	0	1825	3529	0
Flt Permitted	0.598			0.404			0.261			0.417		
Satd. Flow (perm)	1147	3264	0	768	3515	0	501	3524	0	801	3529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		227			49			29			23	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)	2		1	1		2	6		1	1		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
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	0%	1%	1%	0%	1%	2%
Adj. Flow (vph)	100	148	241	84	192	56	260	524	96	60	697	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	389	0	84	248	0	260	620	0	60	804	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		35.6	35.6		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		10.0	39.0		10.0	39.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		11.8%	45.9%		11.8%	45.9%	
Maximum Green (s)	30.0	30.0		30.4	30.4		5.0	32.9		5.0	32.9	
Yellow Time (s)	3.7	3.7		3.3	3.3		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		5.6	5.6		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.6	13.6		14.0	14.0		60.3	49.9		50.3	42.7	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.71	0.59		0.59	0.50	
v/c Ratio	0.55	0.55		0.67	0.40		0.49	0.30		0.11	0.45	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	43.2	15.7		57.4	26.4		8.0	10.1		5.8	15.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.2	15.7		57.4	26.4		8.0	10.1		5.8	15.2	
LOS	D	B		E	C		A	B		A	B	
Approach Delay		21.3			34.2			9.5			14.6	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	15.3	12.5		13.1	15.4		11.4	23.7		2.4	39.7	
Queue Length 95th (m)	27.8	22.8		25.9	23.4		26.0	42.4		7.3	67.5	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	404	1298		274	1288		535	2082		551	1785	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.30		0.31	0.19		0.49	0.30		0.11	0.45	

Intersection Summary	
Area Type:	Other
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 45 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 76.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Future (2023) Total Traffic

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	235	10	21	245	14	20	4	43	44	3	16
Future Vol, veh/h	22	235	10	21	245	14	20	4	43	44	3	16
Conflicting Peds, #/hr	5	0	0	0	0	5	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	2	25	8	3	14	0	0	7	4	0	0
Mvmt Flow	23	247	11	22	258	15	21	4	45	46	3	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	278	0	0	258	0	0	621	621	129	479	611	265
Stage 1	-	-	-	-	-	-	299	299	-	307	307	-
Stage 2	-	-	-	-	-	-	322	322	-	172	304	-
Critical Hdwy	4.1	-	-	4.22	-	-	7.3	6.5	7.005	7.36	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.56	5.5	-
Follow-up Hdwy	2.2	-	-	2.276	-	-	3.5	4	3.3665	3.538	4	3.3
Pot Cap-1 Maneuver	1296	-	-	1267	-	-	389	406	883	479	411	779
Stage 1	-	-	-	-	-	-	691	670	-	697	665	-
Stage 2	-	-	-	-	-	-	694	655	-	808	667	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1290	-	-	1267	-	-	366	387	883	434	392	774
Mov Cap-2 Maneuver	-	-	-	-	-	-	366	387	-	434	392	-
Stage 1	-	-	-	-	-	-	676	656	-	679	648	-
Stage 2	-	-	-	-	-	-	660	638	-	746	653	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.6	11.9	13.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	589	1290	-	-	1267	-	-	486
HCM Lane V/C Ratio	0.12	0.018	-	-	0.017	-	-	0.136
HCM Control Delay (s)	11.9	7.8	0.1	-	7.9	-	-	13.6
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	0.5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	280	240	101	96	42
Future Vol, veh/h	42	280	240	101	96	42
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	44	295	253	106	101	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	363	0	-	0	546	184
Stage 1	-	-	-	-	310	-
Stage 2	-	-	-	-	236	-
Critical Hdwy	4.1	-	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.3
Pot Cap-1 Maneuver	1207	-	-	-	468	833
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	781	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1203	-	-	-	447	830
Mov Cap-2 Maneuver	-	-	-	-	447	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	778	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1203	-	-	-	520
HCM Lane V/C Ratio	0.037	-	-	-	0.279
HCM Control Delay (s)	8.1	-	-	-	14.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	124	150	59	106	56	136	370	63	62	478	99
Future Volume (vph)	102	124	150	59	106	56	136	370	63	62	478	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00	1.00		1.00	1.00	
Frt		0.918			0.948			0.978			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3251	0	1738	3379	0	1789	3366	0	1615	3331	0
Flt Permitted	0.644			0.549			0.383			0.490		
Satd. Flow (perm)	1213	3251	0	1003	3379	0	721	3366	0	832	3331	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		158			59			25			32	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			3	3			2		2	2		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
Heavy Vehicles (%)	2%	5%	0%	5%	0%	7%	2%	6%	5%	13%	7%	4%
Adj. Flow (vph)	107	131	158	62	112	59	143	389	66	65	503	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	289	0	62	171	0	143	455	0	65	607	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		13.0	36.0		13.0	36.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		15.3%	42.4%		15.3%	42.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0		8.0	29.9		8.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.5	13.5		13.5	13.5		57.6	49.9		54.4	46.7	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.68	0.59		0.64	0.55	
v/c Ratio	0.56	0.45		0.39	0.29		0.24	0.23		0.11	0.33	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	43.5	16.1		38.2	20.8		5.6	9.6		5.2	11.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.5	16.1		38.2	20.8		5.6	9.6		5.2	11.4	
LOS	D	B		D	C		A	A		A	B	
Approach Delay		23.5			25.4			8.6			10.8	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	16.4	10.0		9.2	8.5		5.9	16.6		2.6	24.4	
Queue Length 95th (m)	29.6	19.3		19.1	15.7		14.3	30.3		7.5	43.6	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	428	1249		354	1230		598	1986		619	1842	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.23		0.18	0.14		0.24	0.23		0.11	0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 69.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	301	18	59	469	54	16	2	29	39	2	32
Future Vol, veh/h	22	301	18	59	469	54	16	2	29	39	2	32
Conflicting Peds, #/hr	20	0	1	1	0	20	7	0	2	2	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	23	317	19	62	494	57	17	2	31	41	2	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	571	0	0	337	0	0	1046	1069	171	846	1021	521
Stage 1	-	-	-	-	-	-	374	374	-	638	638	-
Stage 2	-	-	-	-	-	-	672	695	-	208	383	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1012	-	-	1234	-	-	196	223	849	271	238	559
Stage 1	-	-	-	-	-	-	624	621	-	468	474	-
Stage 2	-	-	-	-	-	-	449	447	-	780	616	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	993	-	-	1233	-	-	167	197	847	234	210	545
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	197	-	234	210	-
Stage 1	-	-	-	-	-	-	605	602	-	446	431	-
Stage 2	-	-	-	-	-	-	386	407	-	726	598	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.8	17.6	20.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	335	993	-	-	1233	-	-	311
HCM Lane V/C Ratio	0.148	0.023	-	-	0.05	-	-	0.247
HCM Control Delay (s)	17.6	8.7	0.1	-	8.1	-	-	20.3
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.2	-	-	1

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	325	508	149	127	74
Future Vol, veh/h	43	325	508	149	127	74
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	0	0	2	1	0
Mvmt Flow	45	342	535	157	134	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	709	0	-	0	892	363
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	261	-
Critical Hdwy	4.24	-	-	-	6.82	6.9
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	2.27	-	-	-	3.51	3.3
Pot Cap-1 Maneuver	853	-	-	-	283	640
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	840	-	-	-	259	630
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	750	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	33.3
HCM LOS			D

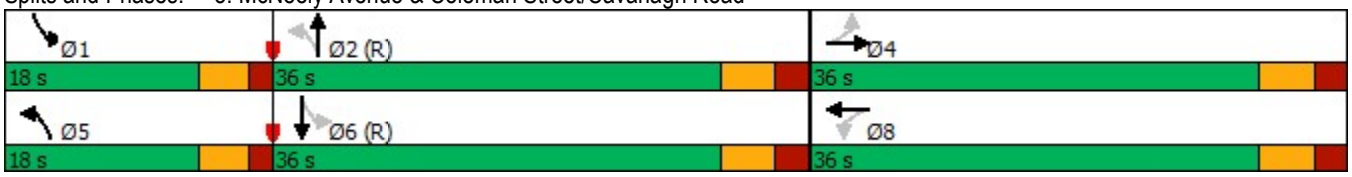
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	840	-	-	-	331
HCM Lane V/C Ratio	0.054	-	-	-	0.639
HCM Control Delay (s)	9.5	-	-	-	33.3
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	4.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	122	185	97	273	143	266	533	87	90	601	120
Future Volume (vph)	147	122	185	97	273	143	266	533	87	90	601	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00				1.00	
Frt		0.909			0.948			0.979			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3254	0	1825	3369	0	1825	3508	0	1738	3465	0
Flt Permitted	0.402			0.526			0.262			0.404		
Satd. Flow (perm)	757	3254	0	1008	3369	0	503	3508	0	739	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		195			113			22			28	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			4	4			1					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%	1%	1%	0%	1%	6%	0%	2%	1%	5%	3%	0%
Adj. Flow (vph)	155	128	195	102	287	151	280	561	92	95	633	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	323	0	102	438	0	280	653	0	95	759	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		18.0	36.0		18.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		20.0%	40.0%		20.0%	40.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		13.0	29.9		13.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	21.3	21.3		21.3	21.3		56.7	46.2		49.3	40.6	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.63	0.51		0.55	0.45	
v/c Ratio	0.87	0.35		0.43	0.50		0.58	0.36		0.19	0.48	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	71.7	11.0		32.7	22.5		13.6	15.8		9.4	19.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	71.7	11.0		32.7	22.5		13.6	15.8		9.4	19.9	
LOS	E	B		C	C		B	B		A	B	
Approach Delay		30.7			24.4			15.2			18.7	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	25.6	9.2		14.9	24.9		18.7	34.4		5.7	45.7	
Queue Length 95th (m)	#45.7	17.2		26.0	33.7		39.0	59.6		14.5	75.1	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	252	1214		336	1198		513	1810		592	1578	
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	0.62	0.27		0.30	0.37		0.55	0.36		0.16	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 78.6%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	302	20	58	357	29	16	3	44	51	4	26
Future Vol, veh/h	26	302	20	58	357	29	16	3	44	51	4	26
Conflicting Peds, #/hr	23	0	0	0	0	23	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	0	0	4	0	0	0	0	0	0	0	0
Mvmt Flow	27	318	21	61	376	31	17	3	46	54	4	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	430	0	0	339	0	0	913	935	170	736	914	400
Stage 1	-	-	-	-	-	-	383	383	-	521	521	-
Stage 2	-	-	-	-	-	-	530	552	-	215	393	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.238	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1140	-	-	1206	-	-	244	267	851	324	275	654
Stage 1	-	-	-	-	-	-	617	616	-	542	535	-
Stage 2	-	-	-	-	-	-	536	518	-	773	609	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1116	-	-	1206	-	-	214	237	851	275	244	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	214	237	-	275	244	-
Stage 1	-	-	-	-	-	-	598	598	-	514	489	-
Stage 2	-	-	-	-	-	-	475	473	-	705	591	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.1	14.3	19.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	453	1116	-	-	1206	-	-	334
HCM Lane V/C Ratio	0.146	0.025	-	-	0.051	-	-	0.255
HCM Control Delay (s)	14.3	8.3	0.1	-	8.1	-	-	19.4
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.2	-	-	1

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	55	342	390	131	126	55
Future Vol, veh/h	55	342	390	131	126	55
Conflicting Peds, #/hr	16	0	0	16	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	58	360	411	138	133	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	565	0	-	0	792	291
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	296	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1017	-	-	-	330	712
Stage 1	-	-	-	-	583	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1002	-	-	-	302	701
Mov Cap-2 Maneuver	-	-	-	-	302	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	724	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	25.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1002	-	-	-	365
HCM Lane V/C Ratio	0.058	-	-	-	0.522
HCM Control Delay (s)	8.8	-	-	-	25.1
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	2.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	123	223	72	166	48	246	428	83	52	588	110
Future Volume (vph)	123	123	223	72	166	48	246	428	83	52	588	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.903			0.966			0.976			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3248	0	1807	3515	0	1825	3520	0	1825	3512	0
Flt Permitted	0.611			0.456			0.288			0.452		
Satd. Flow (perm)	1172	3248	0	867	3515	0	552	3520	0	868	3512	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		235			49			31			30	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)	2		1	1		2	6		1	1		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
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	0%	1%	1%	0%	1%	2%
Adj. Flow (vph)	129	129	235	76	175	51	259	451	87	55	619	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	129	364	0	76	226	0	259	538	0	55	735	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		35.6	35.6		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		10.0	39.0		10.0	39.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		11.8%	45.9%		11.8%	45.9%	
Maximum Green (s)	30.0	30.0		30.4	30.4		5.0	32.9		5.0	32.9	
Yellow Time (s)	3.7	3.7		3.3	3.3		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		5.6	5.6		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	15.3	15.3		15.7	15.7		58.6	50.4		49.4	41.9	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.69	0.59		0.58	0.49	
v/c Ratio	0.61	0.47		0.47	0.33		0.48	0.26		0.10	0.42	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	43.7	12.4		39.5	23.5		8.7	10.1		6.4	15.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.7	12.4		39.5	23.5		8.7	10.1		6.4	15.4	
LOS	D	B		D	C		A	B		A	B	
Approach Delay		20.6			27.5			9.6			14.7	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	19.7	9.5		11.3	13.2		12.6	21.0		2.4	36.0	
Queue Length 95th (m)	33.5	19.0		21.9	20.4		28.6	38.4		7.5	61.7	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	413	1298		310	1288		539	2101		576	1747	
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	0.31	0.28		0.25	0.18		0.48	0.26		0.10	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 45 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 76.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Future (2028) Total Traffic

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	270	15	30	269	14	38	5	70	44	4	16
Future Vol, veh/h	22	270	15	30	269	14	38	5	70	44	4	16
Conflicting Peds, #/hr	5	0	0	0	0	5	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	2	25	8	3	14	0	0	7	4	0	0
Mvmt Flow	23	284	16	32	283	15	40	5	74	46	4	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	303	0	0	300	0	0	705	705	150	543	698	290
Stage 1	-	-	-	-	-	-	338	338	-	352	352	-
Stage 2	-	-	-	-	-	-	367	367	-	191	346	-
Critical Hdwy	4.1	-	-	4.22	-	-	7.3	6.5	7.005	7.36	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.56	5.5	-
Follow-up Hdwy	2.2	-	-	2.276	-	-	3.5	4	3.3665	3.538	4	3.3
Pot Cap-1 Maneuver	1269	-	-	1222	-	-	340	363	856	433	367	754
Stage 1	-	-	-	-	-	-	656	644	-	659	635	-
Stage 2	-	-	-	-	-	-	657	626	-	788	639	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1263	-	-	1222	-	-	316	342	856	374	346	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	316	342	-	374	346	-
Stage 1	-	-	-	-	-	-	642	630	-	641	612	-
Stage 2	-	-	-	-	-	-	617	603	-	698	625	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.8	13.9	15.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	522	1263	-	-	1222	-	-	425
HCM Lane V/C Ratio	0.228	0.018	-	-	0.026	-	-	0.159
HCM Control Delay (s)	13.9	7.9	0.1	-	8	-	-	15.1
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.6

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	345	276	101	96	42
Future Vol, veh/h	42	345	276	101	96	42
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	44	363	291	106	101	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	401	0	-	0	618	203
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	270	-
Critical Hdwy	4.1	-	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.3
Pot Cap-1 Maneuver	1169	-	-	-	421	810
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1165	-	-	-	402	807
Mov Cap-2 Maneuver	-	-	-	-	402	-
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	15.9
HCM LOS			C

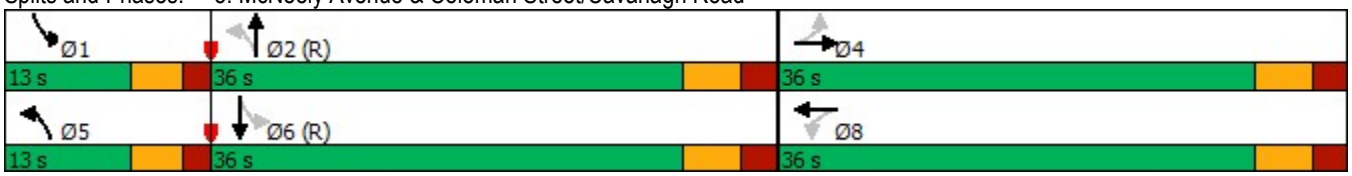
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1165	-	-	-	474
HCM Lane V/C Ratio	0.038	-	-	-	0.306
HCM Control Delay (s)	8.2	-	-	-	15.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	151	179	65	121	62	152	411	69	68	527	109
Future Volume (vph)	115	151	179	65	121	62	152	411	69	68	527	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00	1.00		1.00	1.00	
Frt		0.919			0.949			0.978			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3254	0	1738	3384	0	1789	3366	0	1615	3331	0
Flt Permitted	0.631			0.472			0.346			0.466		
Satd. Flow (perm)	1188	3254	0	862	3384	0	651	3366	0	792	3331	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		188			65			25			32	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			3	3			2		2	2		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
Heavy Vehicles (%)	2%	5%	0%	5%	0%	7%	2%	6%	5%	13%	7%	4%
Adj. Flow (vph)	121	159	188	68	127	65	160	433	73	72	555	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	347	0	68	192	0	160	506	0	72	670	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		13.0	36.0		13.0	36.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		15.3%	42.4%		15.3%	42.4%	
Maximum Green (s)	30.0	30.0		30.0	30.0		8.0	29.9		8.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.7	14.7		14.7	14.7		56.6	48.5		52.9	45.0	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.67	0.57		0.62	0.53	
v/c Ratio	0.59	0.48		0.46	0.30		0.29	0.26		0.13	0.38	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	43.3	15.7		40.2	20.1		6.6	10.8		6.0	13.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.3	15.7		40.2	20.1		6.6	10.8		6.0	13.1	
LOS	D	B		D	C		A	B		A	B	
Approach Delay		22.8			25.4			9.8			12.4	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	18.5	12.1		10.1	9.5		7.1	19.7		3.0	29.0	
Queue Length 95th (m)	31.9	21.4		20.3	16.6		17.5	36.7		9.0	53.2	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	419	1270		304	1236		553	1930		583	1777	
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	0.29	0.27		0.22	0.16		0.29	0.26		0.12	0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	348	34	88	520	54	27	2	46	39	2	32
Future Vol, veh/h	22	348	34	88	520	54	27	2	46	39	2	32
Conflicting Peds, #/hr	20	0	1	1	0	20	7	0	2	2	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	1	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	23	366	36	93	547	57	28	2	48	41	2	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	624	0	0	403	0	0	1218	1241	204	985	1202	574
Stage 1	-	-	-	-	-	-	431	431	-	753	753	-
Stage 2	-	-	-	-	-	-	787	810	-	232	449	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	967	-	-	1167	-	-	148	176	809	217	186	522
Stage 1	-	-	-	-	-	-	578	586	-	405	420	-
Stage 2	-	-	-	-	-	-	388	396	-	756	576	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	949	-	-	1166	-	-	120	147	807	175	155	509
Mov Cap-2 Maneuver	-	-	-	-	-	-	120	147	-	175	155	-
Stage 1	-	-	-	-	-	-	560	567	-	385	362	-
Stage 2	-	-	-	-	-	-	315	342	-	685	558	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.1	25.4	26.4
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	254	949	-	-	1166	-	-	244
HCM Lane V/C Ratio	0.311	0.024	-	-	0.079	-	-	0.315
HCM Control Delay (s)	25.4	8.9	0.1	-	8.4	-	-	26.4
HCM Lane LOS	D	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.3	-	-	1.3

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	390	590	149	127	74
Future Vol, veh/h	43	390	590	149	127	74
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	0	0	2	1	0
Mvmt Flow	45	411	621	157	134	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	795	0	-	0	1013	406
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	296	-
Critical Hdwy	4.24	-	-	-	6.82	6.9
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	2.27	-	-	-	3.51	3.3
Pot Cap-1 Maneuver	791	-	-	-	237	600
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	779	-	-	-	216	591
Mov Cap-2 Maneuver	-	-	-	-	216	-
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	720	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	48
HCM LOS			E

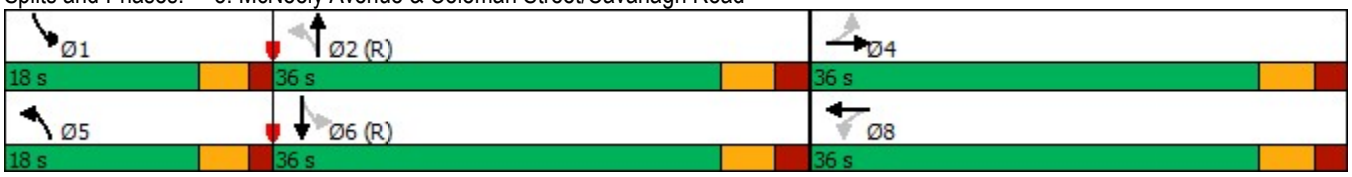
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	779	-	-	-	282
HCM Lane V/C Ratio	0.058	-	-	-	0.75
HCM Control Delay (s)	9.9	-	-	-	48
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.2	-	-	-	5.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	150	211	110	311	157	305	589	95	99	668	135
Future Volume (vph)	166	150	211	110	311	157	305	589	95	99	668	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00			1.00				1.00	
Frt		0.912			0.950			0.979			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3266	0	1825	3377	0	1825	3508	0	1738	3465	0
Flt Permitted	0.375			0.479			0.198			0.368		
Satd. Flow (perm)	706	3266	0	918	3377	0	380	3508	0	673	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		222			105			21			28	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)			4	4			1					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%	1%	1%	0%	1%	6%	0%	2%	1%	5%	3%	0%
Adj. Flow (vph)	175	158	222	116	327	165	321	620	100	104	703	142
Shared Lane Traffic (%)												
Lane Group Flow (vph)	175	380	0	116	492	0	321	720	0	104	845	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		18.0	36.0		18.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		20.0%	40.0%		20.0%	40.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		13.0	29.9		13.0	29.9	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	24.4	24.4		24.4	24.4		53.9	42.7		45.0	35.9	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.60	0.47		0.50	0.40	
v/c Ratio	0.92	0.36		0.47	0.50		0.75	0.43		0.24	0.60	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	78.5	10.5		32.2	22.3		24.1	18.6		11.0	24.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	78.5	10.5		32.2	22.3		24.1	18.6		11.0	24.5	
LOS	E	B		C	C		C	B		B	C	
Approach Delay		32.0			24.2			20.3			23.0	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	28.3	10.6		16.1	28.2		25.9	44.1		7.3	62.8	
Queue Length 95th (m)	#59.7	20.0		30.1	39.7		#65.5	67.4		15.7	85.7	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	235	1236		306	1195		442	1676		527	1400	
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	0.74	0.31		0.38	0.41		0.73	0.43		0.20	0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 23.9		Intersection LOS: C	
Intersection Capacity Utilization 83.1%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	342	35	89	390	29	27	4	65	51	5	26
Future Vol, veh/h	26	342	35	89	390	29	27	4	65	51	5	26
Conflicting Peds, #/hr	23	0	0	0	0	23	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	-
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, %	0	0	0	4	0	0	0	0	0	0	0	0
Mvmt Flow	27	360	37	94	411	31	28	4	68	54	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	397	0	0	1065	1086	199	858	1073	435
Stage 1	-	-	-	-	-	-	433	433	-	622	622	-
Stage 2	-	-	-	-	-	-	632	653	-	236	451	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.238	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1107	-	-	1147	-	-	191	218	815	266	222	625
Stage 1	-	-	-	-	-	-	577	585	-	478	482	-
Stage 2	-	-	-	-	-	-	472	467	-	752	574	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1083	-	-	1147	-	-	160	184	815	210	187	611
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	184	-	210	187	-
Stage 1	-	-	-	-	-	-	559	566	-	453	420	-
Stage 2	-	-	-	-	-	-	396	407	-	662	556	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.5	19.1	25.2
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	355	1083	-	-	1147	-	-	263
HCM Lane V/C Ratio	0.285	0.025	-	-	0.082	-	-	0.328
HCM Control Delay (s)	19.1	8.4	0.1	-	8.4	-	-	25.2
HCM Lane LOS	C	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.3	-	-	1.4

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	55	405	457	131	126	55
Future Vol, veh/h	55	405	457	131	126	55
Conflicting Peds, #/hr	16	0	0	16	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	58	426	481	138	133	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	635	0	-	0	895	326
Stage 1	-	-	-	-	566	-
Stage 2	-	-	-	-	329	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	958	-	-	-	284	676
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	944	-	-	-	259	666
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	31.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	944	-	-	-	318
HCM Lane V/C Ratio	0.061	-	-	-	0.599
HCM Control Delay (s)	9.1	-	-	-	31.9
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	3.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	153	250	80	195	53	276	475	91	57	647	123
Future Volume (vph)	136	153	250	80	195	53	276	475	91	57	647	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0		0.0	100.0		0.0	155.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.907			0.968			0.976			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3264	0	1807	3523	0	1825	3520	0	1825	3512	0
Flt Permitted	0.590			0.396			0.235			0.427		
Satd. Flow (perm)	1132	3264	0	753	3523	0	451	3520	0	820	3512	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		232			46			30			30	
Link Speed (k/h)		50			60			50			50	
Link Distance (m)		85.7			123.6			254.8			207.2	
Travel Time (s)		6.2			7.4			18.3			14.9	
Confl. Peds. (#/hr)	2		1	1		2	6		1	1		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
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	0%	1%	1%	0%	1%	2%
Adj. Flow (vph)	143	161	263	84	205	56	291	500	96	60	681	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	424	0	84	261	0	291	596	0	60	810	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	36.0	36.0		35.6	35.6		10.0	35.1		10.0	35.1	
Total Split (s)	36.0	36.0		36.0	36.0		10.0	39.0		10.0	39.0	
Total Split (%)	42.4%	42.4%		42.4%	42.4%		11.8%	45.9%		11.8%	45.9%	
Maximum Green (s)	30.0	30.0		30.4	30.4		5.0	32.9		5.0	32.9	
Yellow Time (s)	3.7	3.7		3.3	3.3		3.3	3.7		3.3	3.7	
All-Red Time (s)	2.3	2.3		2.3	2.3		1.7	2.4		1.7	2.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		5.6	5.6		5.0	6.1		5.0	6.1	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	23.0	23.0		23.0	23.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	16.7	16.7		17.1	17.1		56.9	46.8		45.2	37.5	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.67	0.55		0.53	0.44	
v/c Ratio	0.64	0.51		0.56	0.35		0.56	0.31		0.12	0.52	

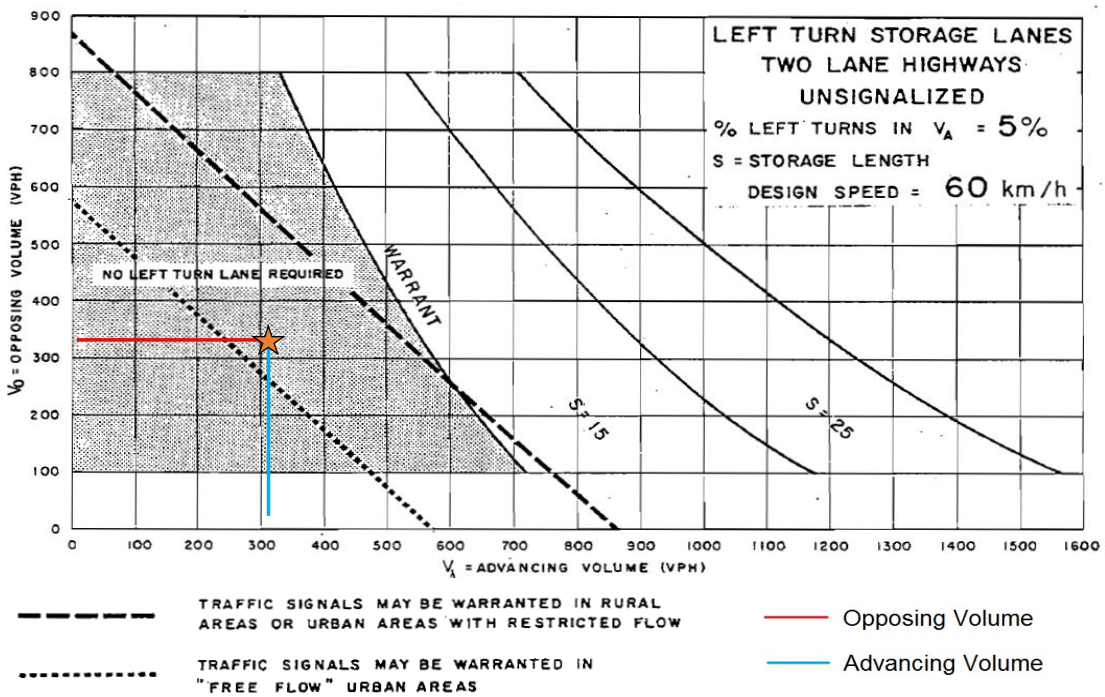
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	43.8	14.7		43.2	24.0		11.1	12.1		7.4	18.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.8	14.7		43.2	24.0		11.1	12.1		7.4	18.8	
LOS	D	B		D	C		B	B		A	B	
Approach Delay		22.0			28.6			11.8			18.0	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	21.7	14.2		12.5	15.9		15.5	25.2		2.8	46.5	
Queue Length 95th (m)	35.9	23.8		24.0	23.1		#35.3	45.5		8.6	69.6	
Internal Link Dist (m)		61.7			99.6			230.8			183.2	
Turn Bay Length (m)	65.0			100.0			155.0			45.0		
Base Capacity (vph)	399	1302		269	1289		523	1949		513	1566	
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	0.36	0.33		0.31	0.20		0.56	0.31		0.12	0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 45 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 79.5%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

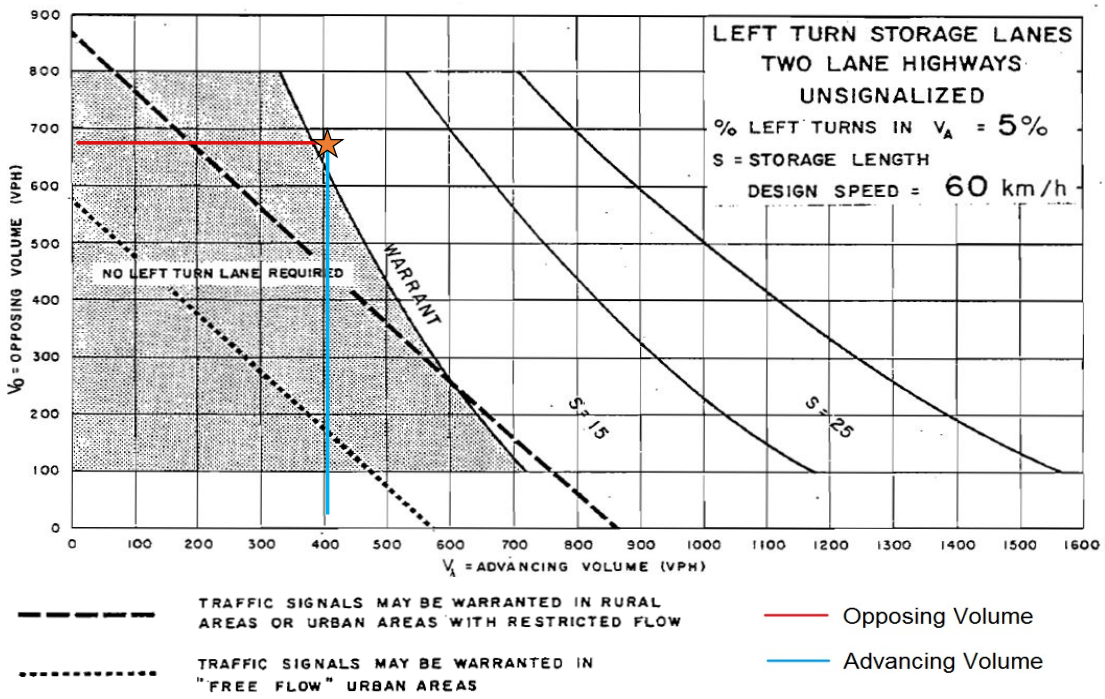
Splits and Phases: 5: McNeely Avenue & Coleman Street/Cavanagh Road



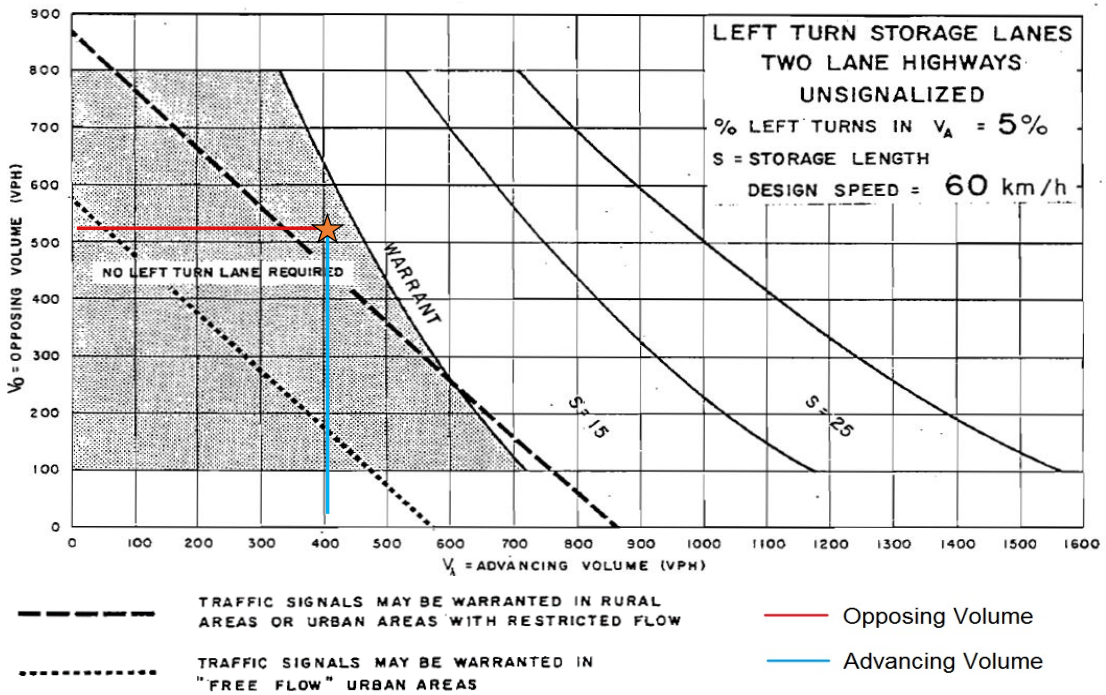
Appendix D – Auxiliary Lane Analyses



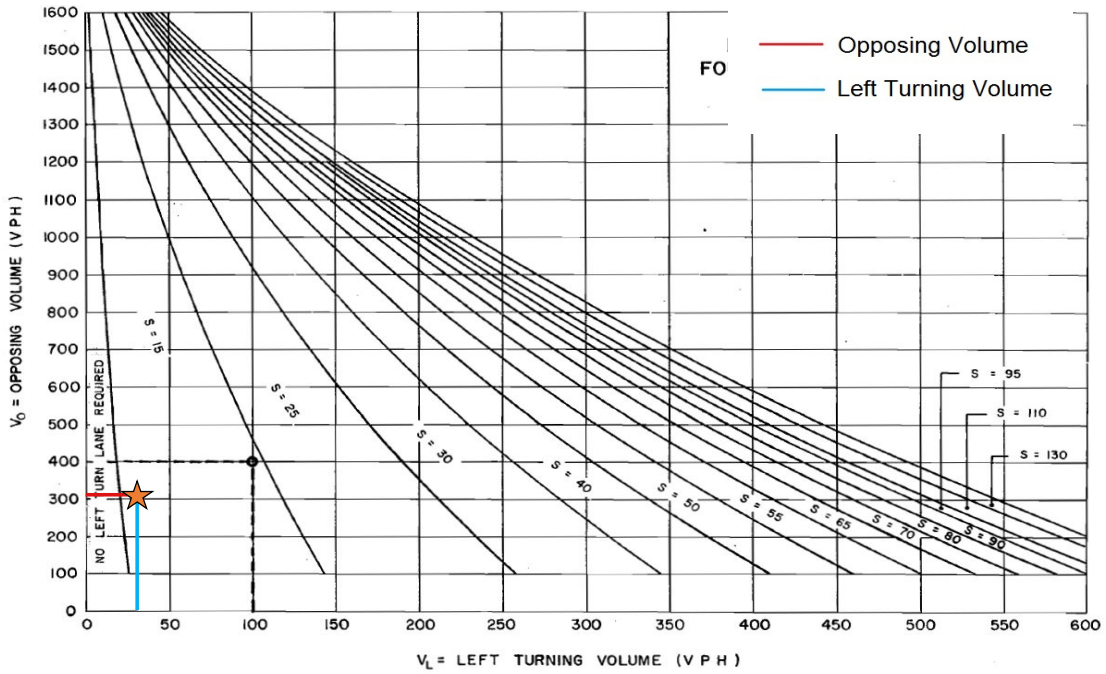
Coleman Street & McGregor Street/Christie Street | Eastbound Left-Turn | AM Peak Hour



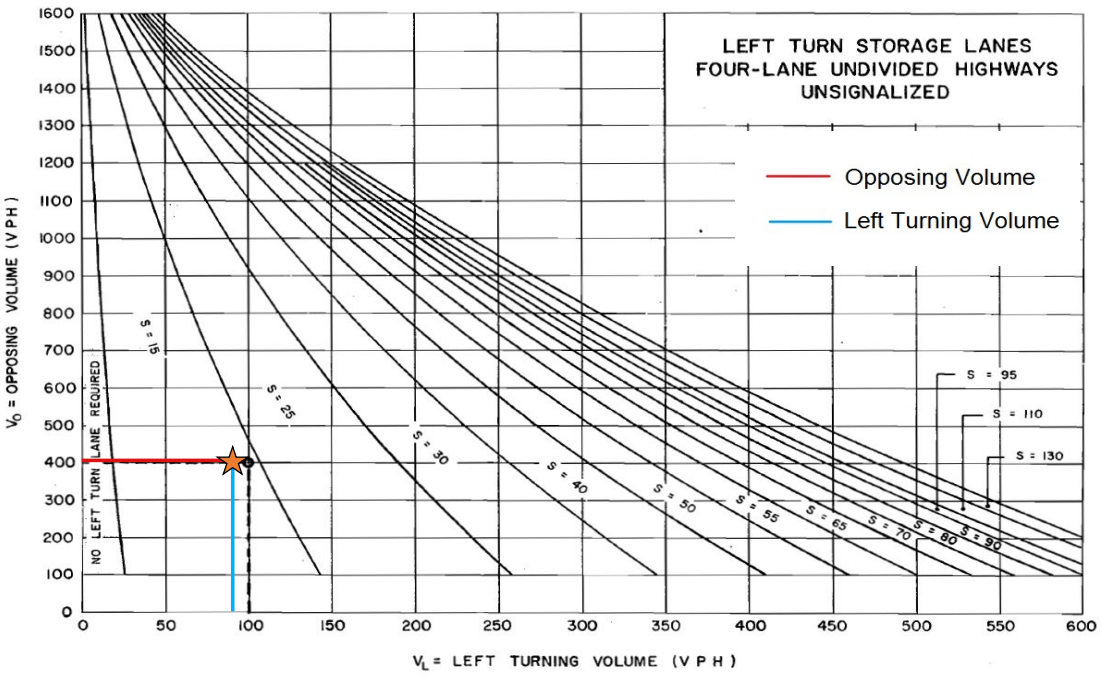
Coleman Street & McGregor Street/Christie Street | Eastbound Left-Turn | PM Peak Hour



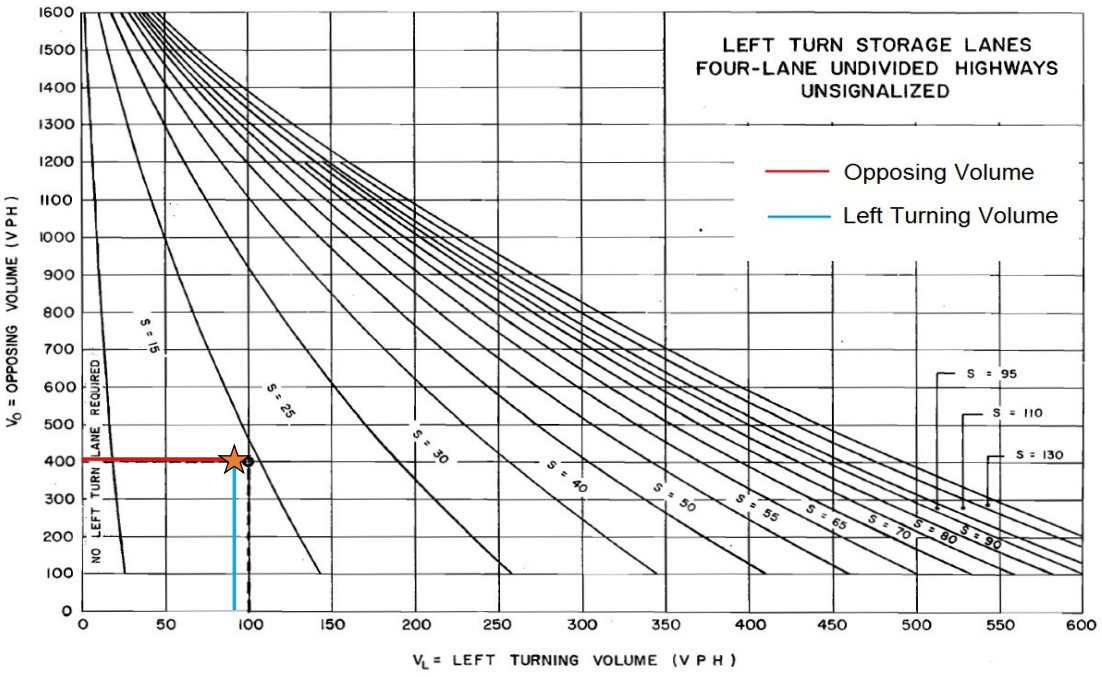
Coleman Street & McGregor Street/Christie Street | Eastbound Left-Turn | SAT



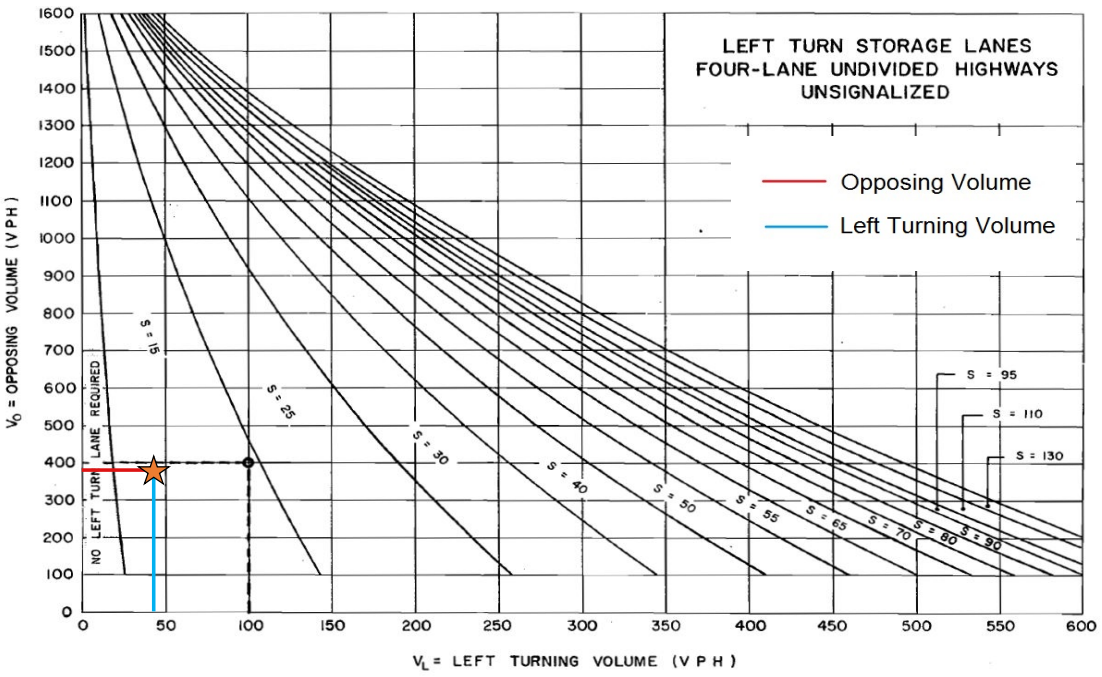
Coleman Street & McGregor Street/Christie Street | Westbound Left-Turn | AM Peak Hour



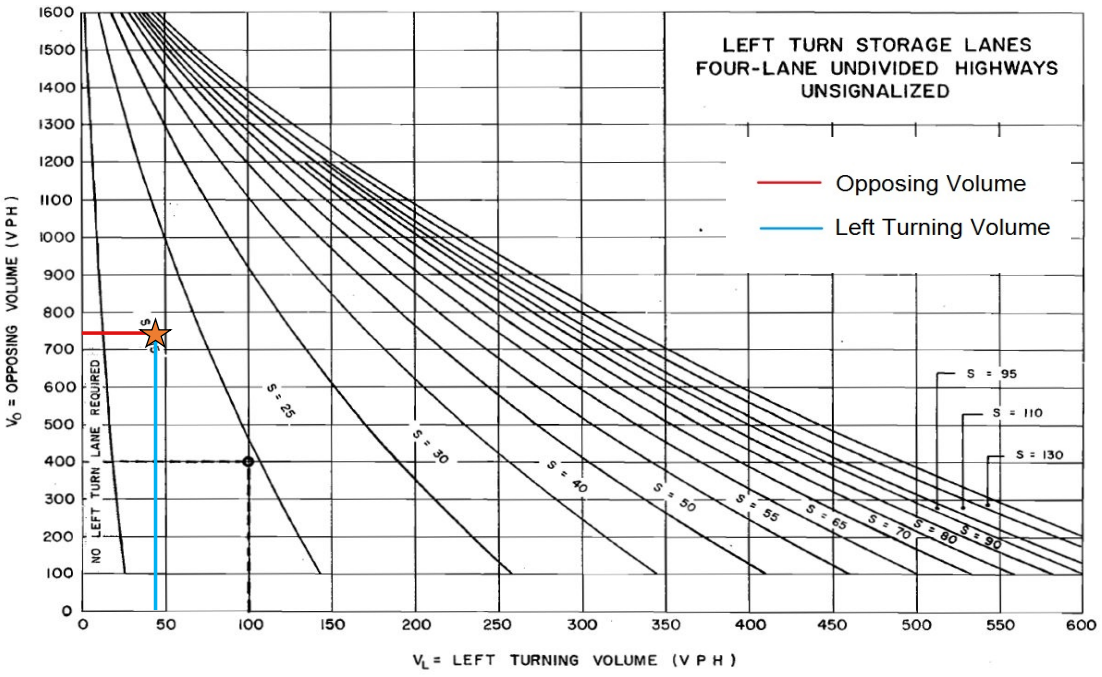
Coleman Street & McGregor Street/Christie Street | Westbound Left-Turn | PM Peak Hour



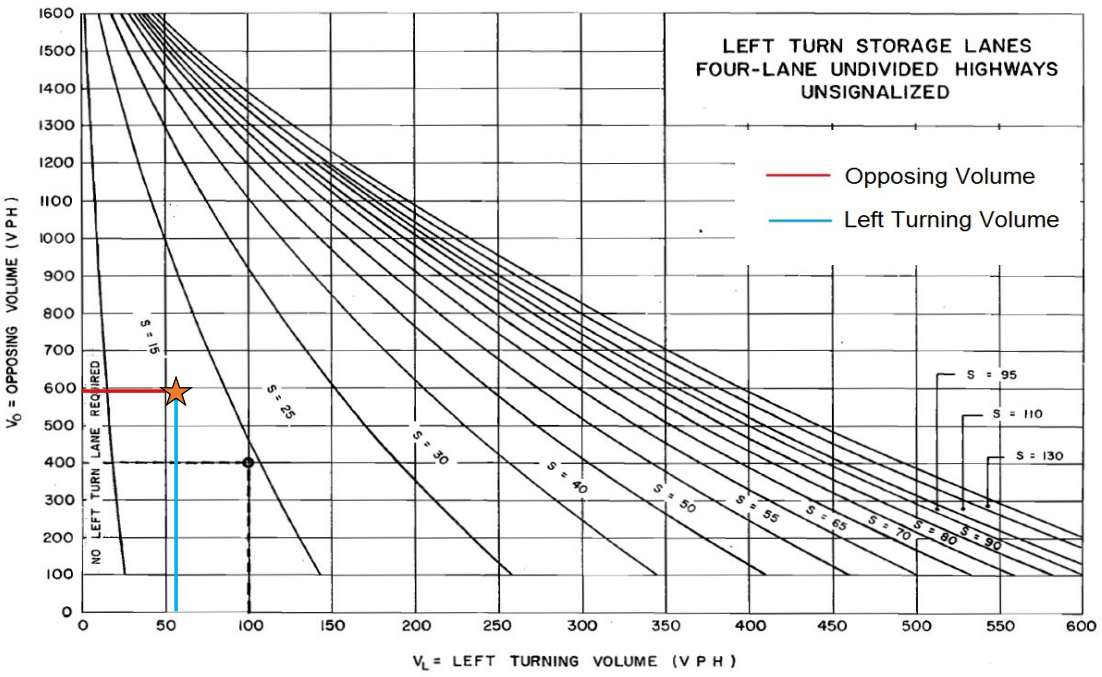
Coleman Street & McGregor Street/Christie Street | Westbound Left-Turn | SAT



Coleman Street & Access 2 | Eastbound Left-Turn | AM Peak Hour



Coleman Street & Access 2 | Eastbound Left-Turn | PM Peak Hour



Coleman Street & Access 2 | Eastbound Left-Turn | SAT

Appendix E – Parking Utilization Data

Parking Lot Survey

Carleton Crossing Plaza - 320 Coleman Street, Carleton Place, ON

Survey Day: Thursday **Date:** June 9, 2022 **Survey Hours:** 0900 - 2100

Section 1

# of General Parking Spaces:	20
# of Accessible Spaces:	0
# of Other Parking Spaces:	0
Total Available Parking Spaces:	**20**

Section 2

# of General Parking Spaces	112
# of Accessible Spaces:	2
# of Other Parking Spaces:	9
Total Available Parking Spaces:	**123**

Section 3

# of General Parking Spaces	31
# of Accessible Spaces:	6
# of Other Parking Spaces:	0
Total Available Parking Spaces:	**37**

Section 1

Time	# Parked Vehicles				Section 1 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	0	0	0	0	0.0%
0930	0	0	0	0	0.0%
1000	0	0	0	0	0.0%
1030	0	0	0	0	0.0%
1100	0	0	0	0	0.0%
1130	0	0	0	0	0.0%
1200	0	0	0	0	0.0%
1230	0	0	0	0	0.0%
1300	0	0	0	0	0.0%
1330	2	0	0	2	10.0%
1400	0	0	0	0	0.0%
1430	0	0	0	0	0.0%
1500	0	0	0	0	0.0%
1530	0	0	0	0	0.0%
1600	0	0	0	0	0.0%
1630	0	0	0	0	0.0%
1700	0	0	0	0	0.0%
1730	0	0	0	0	0.0%
1800	0	0	0	0	0.0%
1830	0	0	0	0	0.0%
1900	0	0	0	0	0.0%
1930	0	0	0	0	0.0%
2000	0	0	0	0	0.0%
2030	0	0	0	0	0.0%
2100	0	0	0	0	0.0%

Section 2

Time	# Parked Vehicles				Section 2 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	23	0	0	23	18.7%
0930	25	0	0	25	20.3%
1000	26	0	1	27	22.0%
1030	24	0	0	24	19.5%
1100	26	0	0	26	21.1%
1130	28	0	1	29	23.6%
1200	29	0	0	29	23.6%
1230	28	0	0	28	22.8%
1300	27	0	0	27	22.0%
1330	27	0	1	28	22.8%
1400	23	2	0	25	20.3%
1430	25	1	0	26	21.1%
1500	25	2	0	27	22.0%
1530	23	1	0	24	19.5%
1600	27	0	0	27	22.0%
1630	26	0	0	26	21.1%
1700	13	0	0	13	10.6%
1730	7	0	0	7	5.7%
1800	6	0	0	6	4.9%
1830	4	0	0	4	3.3%
1900	3	0	0	3	2.4%
1930	1	0	0	1	0.8%
2000	0	0	0	0	0.0%
2030	1	0	0	1	0.8%
2100	0	0	0	0	0.0%

Section 3

Time	# Parked Vehicles				Section 3 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	7	1	0	8	21.6%
0930	10	2	0	12	32.4%
1000	13	3	0	16	43.2%
1030	17	3	0	20	54.1%
1100	14	4	0	18	48.6%
1130	14	4	0	18	48.6%
1200	14	2	0	16	43.2%
1230	14	4	0	18	48.6%
1300	17	3	0	20	54.1%
1330	13	3	0	16	43.2%
1400	19	4	0	23	62.2%
1430	16	4	0	20	54.1%
1500	13	1	0	14	37.8%
1530	16	3	0	19	51.4%
1600	17	3	0	20	54.1%
1630	15	2	0	17	45.9%
1700	14	0	0	14	37.8%
1730	5	0	0	5	13.5%
1800	10	2	0	12	32.4%
1830	11	4	0	15	40.5%
1900	6	0	0	6	16.2%
1930	2	0	0	2	5.4%
2000	6	0	0	6	16.2%
2030	3	0	0	3	8.1%
2100	2	0	0	2	5.4%

Section 1: This portion of the parking lot is gravel and the number of parking spaces is estimated at 20

Section 2: There are 2 accessible & 2 Expectant Mothers spaces in the S/W quadrant & 7 'Other' parking spaces in the N/E Quadrant 6 of which are for the dentist's office. The sign for the 7th parking space is blank. The total number of 'Other' spaces is 9.

Section 3: There are 6 accessible parking spaces.

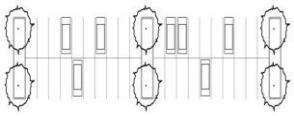
Section 4: All but 2 parking spaces are used by the garden centre.

Section 5: One space is used by a Giant Tiger advertising sign.

Section 6: There are 4 'Expectant Mothers' parking spaces.

Grub Hub food truck parking on Thursday consisted of approximately 1-2 cars per hour.

Parking Lot Survey



Carleton Crossing Plaza - 320 Coleman Street, Carleton Place, ON

Survey Day: Thursday **Date:** June 9, 2022 **Survey Hours:** 0900 - 2100

Section 4

# of General Parking Spaces:	2
# of Accessible Spaces:	0
# of Other Parking Spaces:	0
Total Available Parking Spaces:	**2**

Section 5

# of General Parking Spaces	11
# of Accessible Spaces:	0
# of Other Parking Spaces:	0
Total Available Parking Spaces:	**11**

Section 6

# of General Parking Spaces	38
# of Accessible Spaces:	0
# of Other Parking Spaces:	4
Total Available Parking Spaces:	**42**

Section 4

Time	# Parked Vehicles				Section 4 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	0	0	0	0	0.0%
0930	0	0	0	0	0.0%
1000	0	0	0	0	0.0%
1030	0	0	0	0	0.0%
1100	0	0	0	0	0.0%
1130	0	0	0	0	0.0%
1200	0	0	0	0	0.0%
1230	0	0	0	0	0.0%
1300	0	0	0	0	0.0%
1330	0	0	0	0	0.0%
1400	0	0	0	0	0.0%
1430	0	0	0	0	0.0%
1500	0	0	0	0	0.0%
1530	0	0	0	0	0.0%
1600	1	0	0	1	50.0%
1630	0	0	0	0	0.0%
1700	0	0	0	0	0.0%
1730	0	0	0	0	0.0%
1800	0	0	0	0	0.0%
1830	0	0	0	0	0.0%
1900	0	0	0	0	0.0%
1930	0	0	0	0	0.0%
2000	0	0	0	0	0.0%
2030	0	0	0	0	0.0%
2100	0	0	0	0	0.0%

Section 5

Time	# Parked Vehicles				Section 5 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	1	0	0	1	9.1%
0930	1	0	0	1	9.1%
1000	2	0	0	2	18.2%
1030	2	0	0	2	18.2%
1100	1	0	0	1	9.1%
1130	2	0	0	2	18.2%
1200	3	0	0	3	27.3%
1230	2	0	0	2	18.2%
1300	2	0	0	2	18.2%
1330	2	0	0	2	18.2%
1400	3	0	0	3	27.3%
1430	3	0	0	3	27.3%
1500	3	0	0	3	27.3%
1530	3	0	0	3	27.3%
1600	4	0	0	4	36.4%
1630	4	0	0	4	36.4%
1700	2	0	0	2	18.2%
1730	1	0	0	1	9.1%
1800	1	0	0	1	9.1%
1830	2	0	0	2	18.2%
1900	1	0	0	1	9.1%
1930	2	0	0	2	18.2%
2000	1	0	0	1	9.1%
2030	1	0	0	1	9.1%
2100	1	0	0	1	9.1%

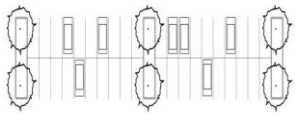
Section 6

Time	# Parked Vehicles				Section 6 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	4	0	0	4	9.5%
0930	11	0	0	11	26.2%
1000	17	0	0	17	40.5%
1030	21	0	0	21	50.0%
1100	16	0	0	16	38.1%
1130	11	0	1	12	28.6%
1200	16	0	1	17	40.5%
1230	14	0	0	14	33.3%
1300	11	0	0	11	26.2%
1330	11	0	0	11	26.2%
1400	14	0	1	15	35.7%
1430	14	0	2	16	38.1%
1500	17	0	0	17	40.5%
1530	18	0	1	19	45.2%
1600	20	0	0	20	47.6%
1630	16	0	0	16	38.1%
1700	16	0	0	16	38.1%
1730	13	0	0	13	31.0%
1800	7	0	0	7	16.7%
1830	10	0	0	10	23.8%
1900	4	0	0	4	9.5%
1930	1	0	0	1	2.4%
2000	6	0	0	6	14.3%
2030	5	0	0	5	11.9%
2100	0	0	0	0	0.0%

Section 1: This portion of the parking lot is gravel and the number of parking spaces is estimated at 20.
Section 2: There are 2 accessible & 2 Expectant Mothers spaces in the S/W quadrant & 7 'Other' parking spaces in the N/E Quadrant 6 of which are for the dentist's office. The sign for the 7th parking space is blank. The total number of 'Other' spaces is 9.
Section 3: There are 6 accessible parking spaces.
Section 4: All but 2 parking spaces are used by the garden centre.
Section 5: One parking space is used by a Giant Tiger advertising sign.
Section 6: There are 4 'Expectant Mothers' parking spaces.
Grub Hub food truck parking on Thursday consisted of approximately 1-2 cars per hour.

ACCURATE TRUSTED TRAFFIC DATA

Parking Lot Survey



Carleton Crossing Plaza - 320 Coleman Street, Carleton Place, ON

Survey Day: SATURDAY **Date:** June 11, 2022 **Survey Hours:** 0900 - 2100

Section 1

# of General Parking Spaces:	20
# of Accessible Spaces:	0
# of Other Parking Spaces:	0
Total Available Parking Spaces:	**20**

Section 2

# of General Parking Spaces	112
# of Accessible Spaces:	2
# of Other Parking Spaces:	9
Total Available Parking Spaces:	**123**

Section 3

# of General Parking Spaces	31
# of Accessible Spaces:	6
# of Other Parking Spaces:	0
Total Available Parking Spaces:	**37**

Section 1

Time	# Parked Vehicles				Section 1 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	0	0	0	0	0.0%
0930	0	0	0	0	0.0%
1000	0	0	0	0	0.0%
1030	0	0	0	0	0.0%
1100	0	0	0	0	0.0%
1130	0	0	0	0	0.0%
1200	0	0	0	0	0.0%
1230	0	0	0	0	0.0%
1300	0	0	0	0	0.0%
1330	0	0	0	0	0.0%
1400	0	0	0	0	0.0%
1430	0	0	0	0	0.0%
1500	0	0	0	0	0.0%
1530	0	0	0	0	0.0%
1600	0	0	0	0	0.0%
1630	0	0	0	0	0.0%
1700	0	0	0	0	0.0%
1730	0	0	0	0	0.0%
1800	0	0	0	0	0.0%
1830	0	0	0	0	0.0%
1900	0	0	0	0	0.0%
1930	0	0	0	0	0.0%
2000	0	0	0	0	0.0%
2030	0	0	0	0	0.0%
2100	0	0	0	0	0.0%

Section 2

Time	# Parked Vehicles				Section 2 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	3	0	0	3	2.4%
0930	6	0	0	6	4.9%
1000	8	0	0	8	6.5%
1030	5	0	0	5	4.1%
1100	5	0	0	5	4.1%
1130	6	0	0	6	4.9%
1200	11	0	0	11	8.9%
1230	9	0	0	9	7.3%
1300	9	0	0	9	7.3%
1330	9	0	0	9	7.3%
1400	10	0	0	10	8.1%
1430	8	0	0	8	6.5%
1500	8	0	0	8	6.5%
1530	7	0	0	7	5.7%
1600	7	0	0	7	5.7%
1630	6	0	0	6	4.9%
1700	8	0	0	8	6.5%
1730	8	0	0	8	6.5%
1800	6	0	0	6	4.9%
1830	5	0	0	5	4.1%
1900	5	0	0	5	4.1%
1930	1	0	0	1	0.8%
2000	2	0	0	2	1.6%
2030	3	0	0	3	2.4%
2100	2	0	0	2	1.6%

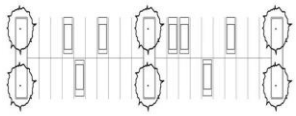
Section 3

Time	# Parked Vehicles				Section 3 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	5	0	0	5	13.5%
0930	9	3	0	12	32.4%
1000	12	0	0	12	32.4%
1030	16	2	0	18	48.6%
1100	15	1	0	16	43.2%
1130	15	2	0	17	45.9%
1200	11	3	0	14	37.8%
1230	14	4	0	18	48.6%
1300	15	0	0	15	40.5%
1330	13	3	0	16	43.2%
1400	15	2	0	17	45.9%
1430	13	4	0	17	45.9%
1500	11	3	0	14	37.8%
1530	15	3	0	18	48.6%
1600	11	4	0	15	40.5%
1630	10	3	0	13	35.1%
1700	12	4	0	16	43.2%
1730	5	2	0	7	18.9%
1800	3	1	0	4	10.8%
1830	4	1	0	5	13.5%
1900	4	1	0	5	13.5%
1930	2	1	0	3	8.1%
2000	2	0	0	2	5.4%
2030	2	0	0	2	5.4%
2100	0	0	0	0	0.0%

Section 1: This portion of the parking lot is gravel and the number of parking spaces is estimated at 20.
Section 2: There are 2 accessible & 2 Expectant Mothers spaces in the S/W quadrant & 7 'Other' parking spaces in the N/E Quadrant 6 of which are for the dentist's office. The sign for the 7th parking space is blank. The total number of 'Other' spaces is 9.
Section 3: There are 6 accessible parking spaces.
Section 4: All but 2 parking spaces are used by the garden centre.
Section 5: One space is used by a Giant Tiger advertising sign.
Section 6: There are 4 'Expectant Mothers' parking spaces.
Grub Hub food truck parking accounted for between 4 and 5 vehicles per hour at its busiest. Open from 1100 - 1900H.

ACCURATE TRUSTED TRAFFIC DATA

Parking Lot Survey



Carleton Crossing Plaza - 320 Coleman Street, Carleton Place, ON

Survey Day: SATURDAY **Date:** June 11, 2022 **Survey Hours:** 0900 - 2100

Section 4

# of General Parking Spaces:	2
# of Accessible Spaces:	0
# of Other Parking Spaces:	0
Total Available Parking Spaces:	**2**

Section 5

# of General Parking Spaces	11
# of Accessible Spaces:	0
# of Other Parking Spaces:	0
Total Available Parking Spaces:	**11**

Section 6

# of General Parking Spaces	38
# of Accessible Spaces:	0
# of Other Parking Spaces:	4
Total Available Parking Spaces:	**42**

Section 4

Time	# Parked Vehicles				Section 4 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	0	0	0	0	0.0%
0930	0	0	0	0	0.0%
1000	0	0	0	0	0.0%
1030	0	0	0	0	0.0%
1100	1	0	0	1	50.0%
1130	0	0	0	0	0.0%
1200	0	0	0	0	0.0%
1230	0	0	0	0	0.0%
1300	0	0	0	0	0.0%
1330	0	0	0	0	0.0%
1400	0	0	0	0	0.0%
1430	0	0	0	0	0.0%
1500	0	0	0	0	0.0%
1530	1	0	0	1	50.0%
1600	0	0	0	0	0.0%
1630	0	0	0	0	0.0%
1700	0	0	0	0	0.0%
1730	0	0	0	0	0.0%
1800	0	0	0	0	0.0%
1830	0	0	0	0	0.0%
1900	0	0	0	0	0.0%
1930	0	0	0	0	0.0%
2000	0	0	0	0	0.0%
2030	0	0	0	0	0.0%
2100	0	0	0	0	0.0%

Section 5

Time	# Parked Vehicles				Section 5 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	0	0	0	0	0.0%
0930	2	0	0	2	18.2%
1000	2	0	0	2	18.2%
1030	3	0	0	3	27.3%
1100	4	0	0	4	36.4%
1130	6	0	0	6	54.5%
1200	5	0	0	5	45.5%
1230	3	0	0	3	27.3%
1300	2	0	0	2	18.2%
1330	1	0	0	1	9.1%
1400	4	0	0	4	36.4%
1430	1	0	0	1	9.1%
1500	1	0	0	1	9.1%
1530	1	0	0	1	9.1%
1600	1	0	0	1	9.1%
1630	0	0	0	0	0.0%
1700	2	0	0	2	18.2%
1730	0	0	0	0	0.0%
1800	1	0	0	1	9.1%
1830	0	0	0	0	0.0%
1900	0	0	0	0	0.0%
1930	0	0	0	0	0.0%
2000	0	0	0	0	0.0%
2030	0	0	0	0	0.0%
2100	0	0	0	0	0.0%

Section 6

Time	# Parked Vehicles				Section 6 Usage by Time Period
	General Parking	Accessible Parking Spaces	Other Parking Spaces	Total	
0900	14	0	0	14	33.3%
0930	15	0	0	15	35.7%
1000	11	0	0	11	26.2%
1030	15	0	0	15	35.7%
1100	19	0	0	19	45.2%
1130	15	0	0	15	35.7%
1200	17	0	0	17	40.5%
1230	19	0	0	19	45.2%
1300	18	0	0	18	42.9%
1330	16	0	0	16	38.1%
1400	15	0	0	15	35.7%
1430	19	0	0	19	45.2%
1500	15	0	0	15	35.7%
1530	12	0	0	12	28.6%
1600	9	0	0	9	21.4%
1630	11	0	0	11	26.2%
1700	17	0	0	17	40.5%
1730	9	0	0	9	21.4%
1800	4	0	0	4	9.5%
1830	1	0	0	1	2.4%
1900	3	0	0	3	7.1%
1930	2	0	0	2	4.8%
2000	3	0	0	3	7.1%
2030	2	0	0	2	4.8%
2100	1	0	0	1	2.4%

Section 1: This portion of the parking lot is gravel and the number of parking spaces is estimated at 10.
Section 2: There are 2 accessible & 2 Expectant Mothers spaces in the S/W quadrant & 7 'Other' parking spaces in the N/E Quadrant 6 of which are for the dentist's office. The sign for the 7th parking space is blank. The total number of 'Other' spaces is 9.
Section 3: There are 6 accessible parking spaces.
Section 4: All but 2 parking spaces are used by the garden centre.
Section 5: One parking space is used by a Giant Tiger advertising sign.
Section 6: There are 4 'Expectant Mothers' parking spaces.
Grub Hub food truck parking accounted for between 4 and 5 vehicles per hour at its busiest. Open from 1100-1900H.

Appendix F – Parking Generation Data

Land Use: 820 Shopping Center

Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands.

Time of Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand **during the month of December** on a weekday (seven study sites), a Friday (eight study sites), and a Saturday (19 study sites).

	Percent of Peak Parking Demand during December		
Hour Beginning	Weekday	Friday	Saturday
12:00–4:00 a.m.	–	–	–
5:00 a.m.	–	–	–
6:00 a.m.	–	–	–
7:00 a.m.	–	–	–
8:00 a.m.	–	–	–
9:00 a.m.	–	–	–
10:00 a.m.	–	74	–
11:00 a.m.	–	87	85
12:00 p.m.	77	97	97
1:00 p.m.	100	100	98
2:00 p.m.	98	92	100
3:00 p.m.	90	85	97
4:00 p.m.	76	84	88
5:00 p.m.	82	78	77
6:00 p.m.	89	75	64
7:00 p.m.	90	63	–
8:00 p.m.	84	–	–
9:00 p.m.	–	–	–
10:00 p.m.	–	–	–
11:00 p.m.	–	–	–

The following table presents a time-of-day distribution of parking demand **during a non-December month** on a weekday (18 study sites), a Friday (seven study sites), and a Saturday (13 study sites).

	Percent of Non–December Peak Parking Demand		
Hour Beginning	Weekday	Friday	Saturday
12:00–4:00 a.m.	–	–	–
5:00 a.m.	–	–	–
6:00 a.m.	–	–	–
7:00 a.m.	–	–	–
8:00 a.m.	15	32	27
9:00 a.m.	32	50	46
10:00 a.m.	54	67	67
11:00 a.m.	71	80	85
12:00 p.m.	99	100	95
1:00 p.m.	100	98	100
2:00 p.m.	90	90	98
3:00 p.m.	83	78	92
4:00 p.m.	81	81	86
5:00 p.m.	84	86	79
6:00 p.m.	86	84	71
7:00 p.m.	80	79	69
8:00 p.m.	63	70	60
9:00 p.m.	42	–	51
10:00 p.m.	15	–	38
11:00 p.m.	–	–	–

Additional Data

The parking demand database includes data from strip, neighborhood, community, town center, and regional shopping centers. Some of the centers contain non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs, and recreational facilities.

Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied included peripheral buildings, it can be assumed that some of the data show their effect.

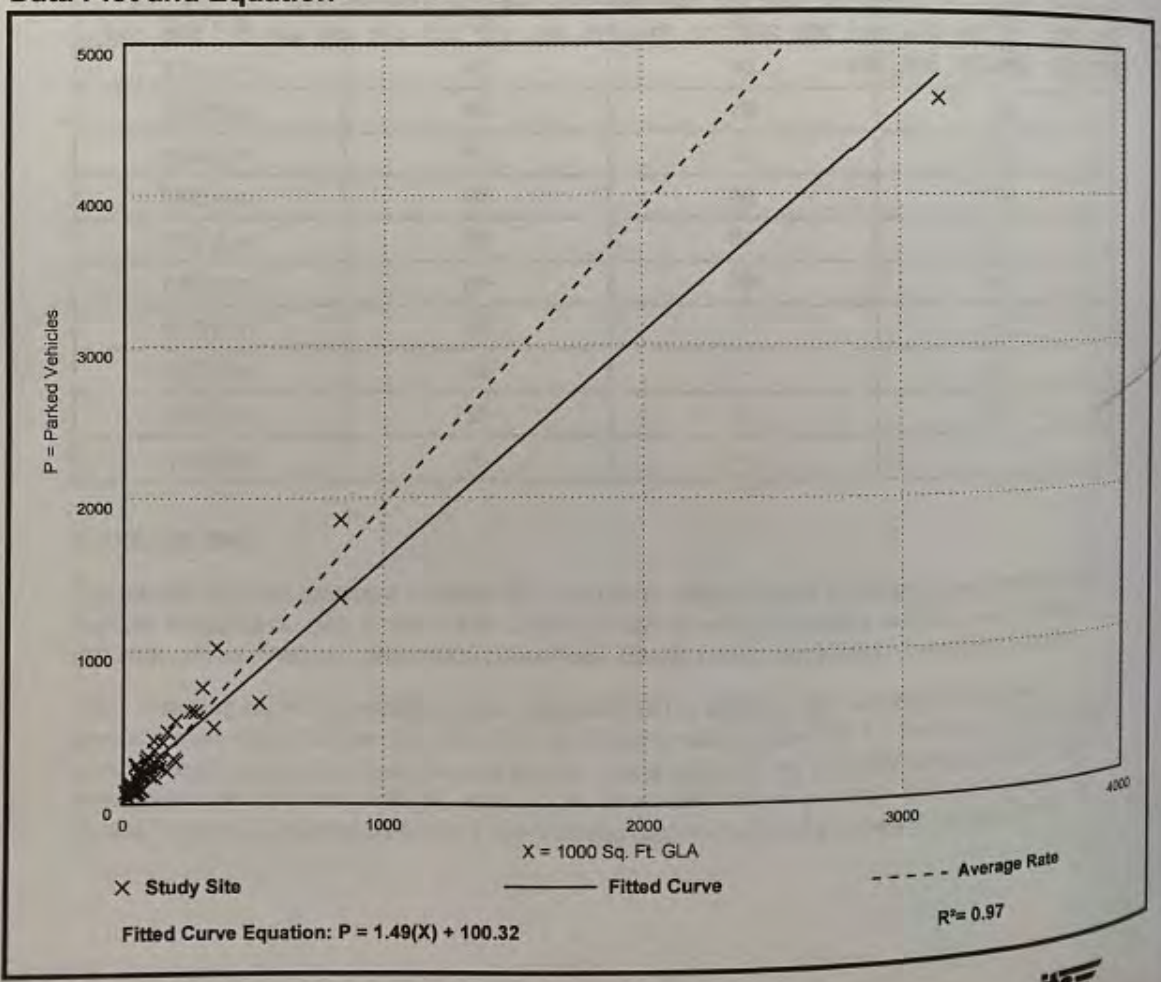
Shopping Center - Non-December (820)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA
On a: Weekday (Monday - Thursday)
Setting/Location: General Urban/Suburban
Peak Period of Parking Demand: 12:00 - 6:00 p.m.
Number of Studies: 46
Avg. 1000 Sq. Ft. GLA: 218

Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.95	1.27 - 7.98	1.99 / 3.68	1.73 - 2.17	0.75 (38%)

Data Plot and Equation



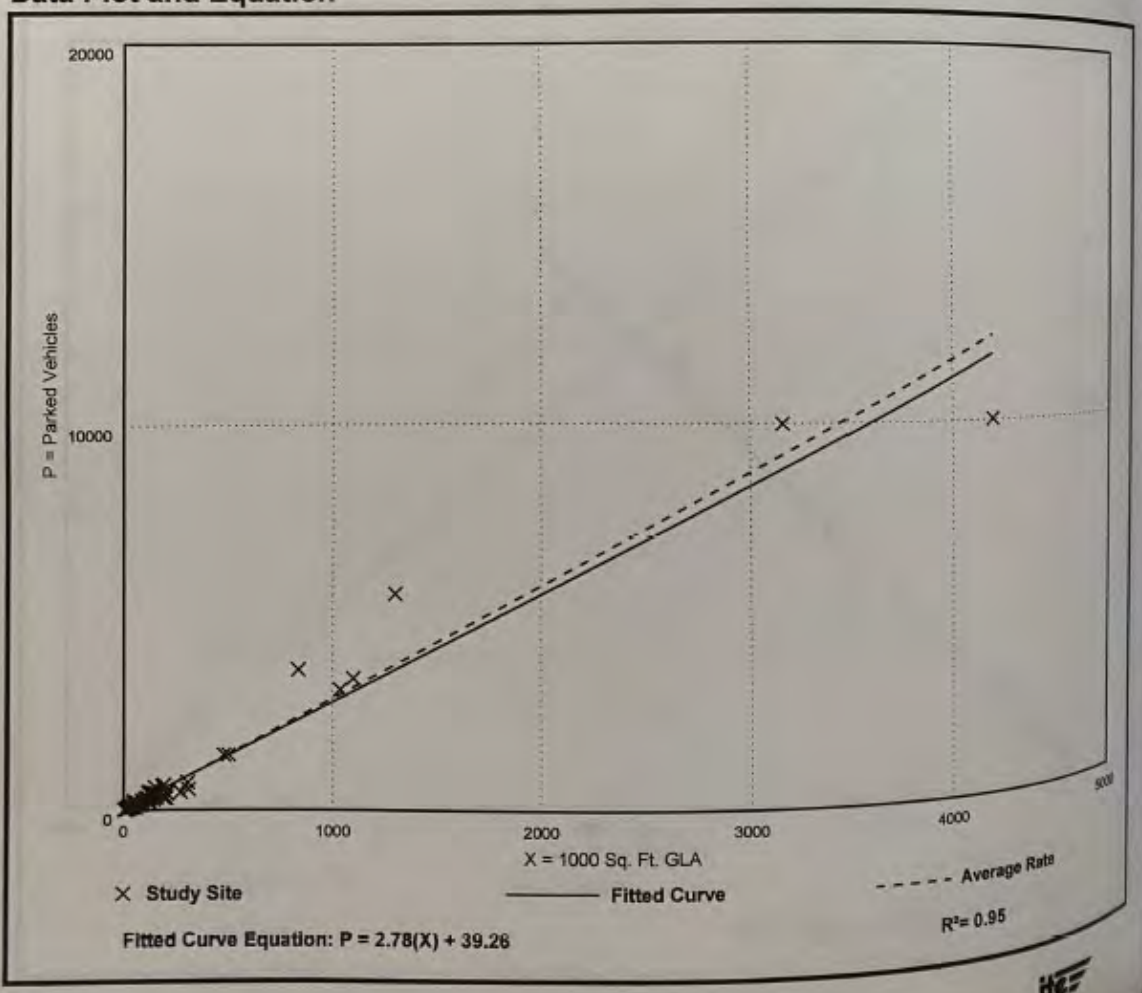
Shopping Center - Non-December (820)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA
On a: Saturday
Setting/Location: General Urban/Suburban
Peak Period of Parking Demand: 11:00 a.m. - 5:00 p.m.
Number of Studies: 58
Avg. 1000 Sq. Ft. GLA: 313

Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
2.91	1.15 - 4.72	2.27 / 3.74	2.72 - 3.10	0.74 (25%)

Data Plot and Equation



Land Use: 933 Fast-Food Restaurant without Drive-Through Window

Description

This land use includes fast-food restaurants without drive-through windows. This type of restaurant is characterized by a large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. These limited-service eating establishments do not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in customer is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), and fast-food restaurant with drive-through window (Land Use 934) are related uses.

Additional Data

The outdoor seating area is not included in the overall gross floor area. Therefore, the number of seats may be a more reliable independent variable on which to establish parking generation rates for facilities having significant outdoor seating.

The average parking supply ratios for the study sites with parking supply information are as follows:

- in a general urban/suburban setting, 16 spaces per 1,000 square feet GFA (11 sites)
- in a dense multi-use urban setting, 10 spaces per 1,000 square feet GFA (7 sites)

The sites were surveyed in the 1980s and the 1990s in California, Connecticut, Oklahoma, and Washington.

Source Numbers

8, 9, 47, 235, 241, 298

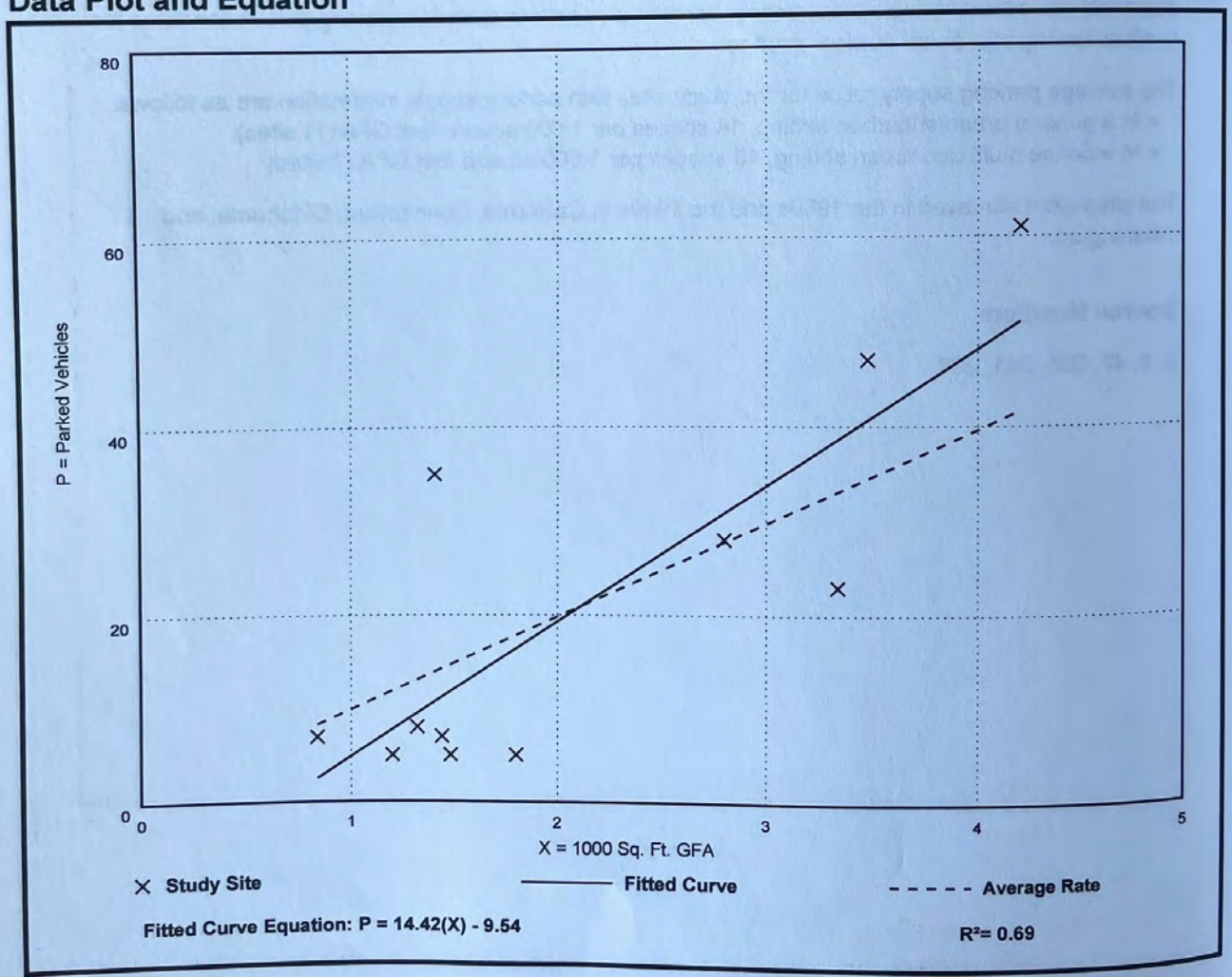
Fast-Food Restaurant without Drive-Through Window (933)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA
On a: Weekday (Monday - Friday)
Setting/Location: General Urban/Suburban
Peak Period of Parking Demand: 11:00 a.m. - 1:00 p.m.
Number of Studies: 11
Avg. 1000 Sq. Ft. GFA: 2.1

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
9.91	2.78 - 24.93	4.83 / 16.60	***	5.89 (59%)

Data Plot and Equation



Fitted Curve Equation: P = 14.42(X) - 9.54

R^2= 0.69

Land Use: 934 Fast-Food Restaurant with Drive-Through Window

Description

This category includes fast-food restaurants with drive-through windows. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. These limited-service eating establishments do not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

Time of Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a Monday-through-Thursday weekday (four study sites) and a Saturday (one study site) in a general urban/suburban setting.

	Percent of Peak Parking Demand	
Hour Beginning	Weekday	Saturday
12:00–4:00 a.m.	–	–
5:00 a.m.	–	–
6:00 a.m.	–	–
7:00 a.m.	–	–
8:00 a.m.	–	–
9:00 a.m.	–	–
10:00 a.m.	28	31
11:00 a.m.	60	50
12:00 p.m.	100	88
1:00 p.m.	85	100
2:00 p.m.	57	75
3:00 p.m.	43	50
4:00 p.m.	45	31
5:00 p.m.	59	50
6:00 p.m.	62	69
7:00 p.m.	18	63
8:00 p.m.	–	–
9:00 p.m.	–	–
10:00 p.m.	–	–
11:00 p.m.	–	–

Land Use: 934 Fast-Food Restaurant with Drive-Through Window

Description

This category includes fast-food restaurants with drive-through windows. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. These limited-service eating establishments do not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

Time of Day Distribution for Parking Demand

The following table presents a time-of-day distribution of parking demand on a Monday-through-Thursday weekday (four study sites) and a Saturday (one study site) in a general urban/suburban setting.

	Percent of Peak Parking Demand	
Hour Beginning	Weekday	Saturday
12:00–4:00 a.m.	–	–
5:00 a.m.	–	–
6:00 a.m.	–	–
7:00 a.m.	–	–
8:00 a.m.	–	–
9:00 a.m.	–	–
10:00 a.m.	28	31
11:00 a.m.	60	50
12:00 p.m.	100	88
1:00 p.m.	85	100
2:00 p.m.	57	75
3:00 p.m.	43	50
4:00 p.m.	45	31
5:00 p.m.	59	50
6:00 p.m.	62	69
7:00 p.m.	18	63
8:00 p.m.	–	–
9:00 p.m.	–	–
10:00 p.m.	–	–
11:00 p.m.	–	–

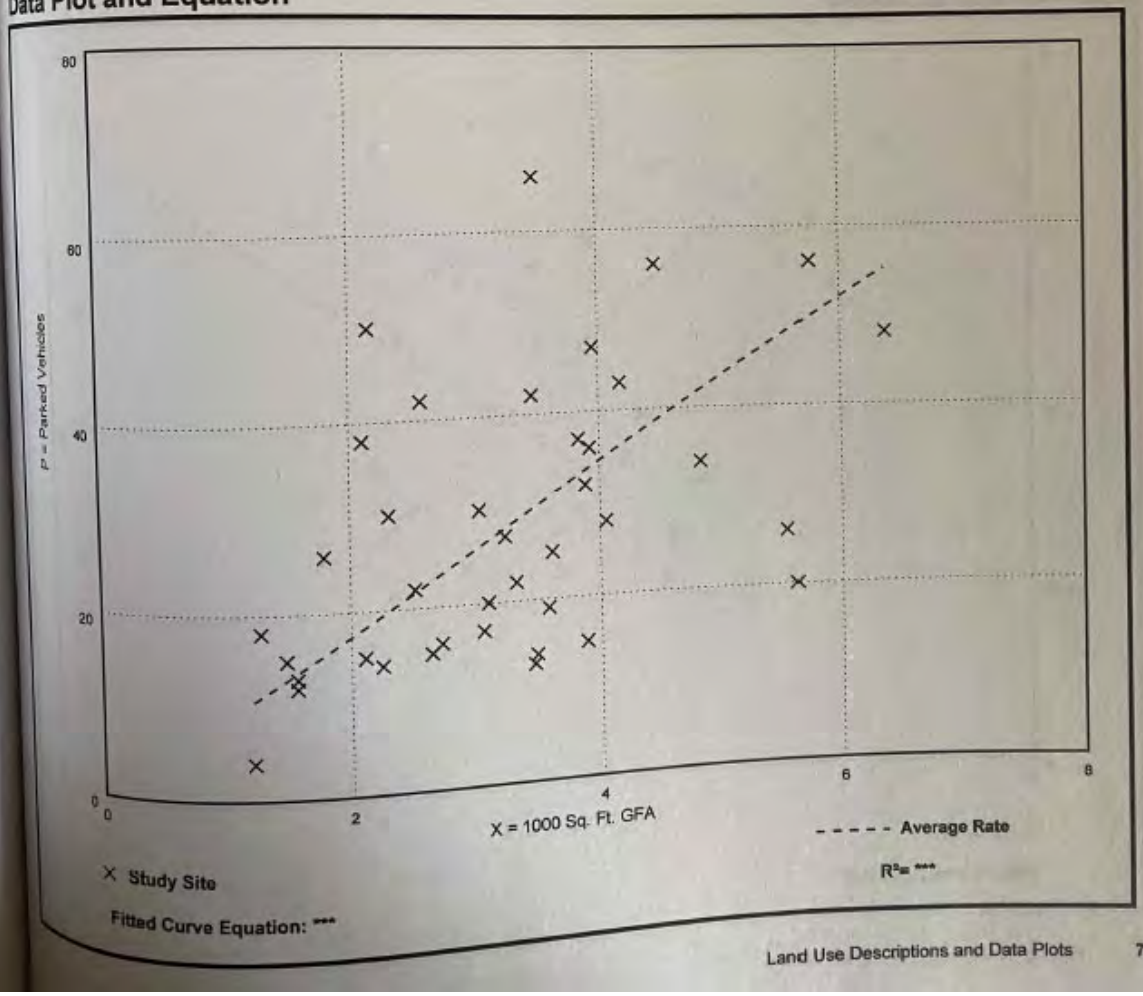
Fast-Food Restaurant with Drive-Through Window (934)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA
On a: Weekday (Monday - Thursday)
Setting/Location: General Urban/Suburban
Peak Period of Parking Demand: 12:00 - 1:00 p.m.
Number of Studies: 39
Avg. 1000 Sq. Ft. GFA: 3.3

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
8.66	3.23 - 23.26	6.71 / 13.78	7.34 - 9.98	4.22 (49%)

Data Plot and Equation



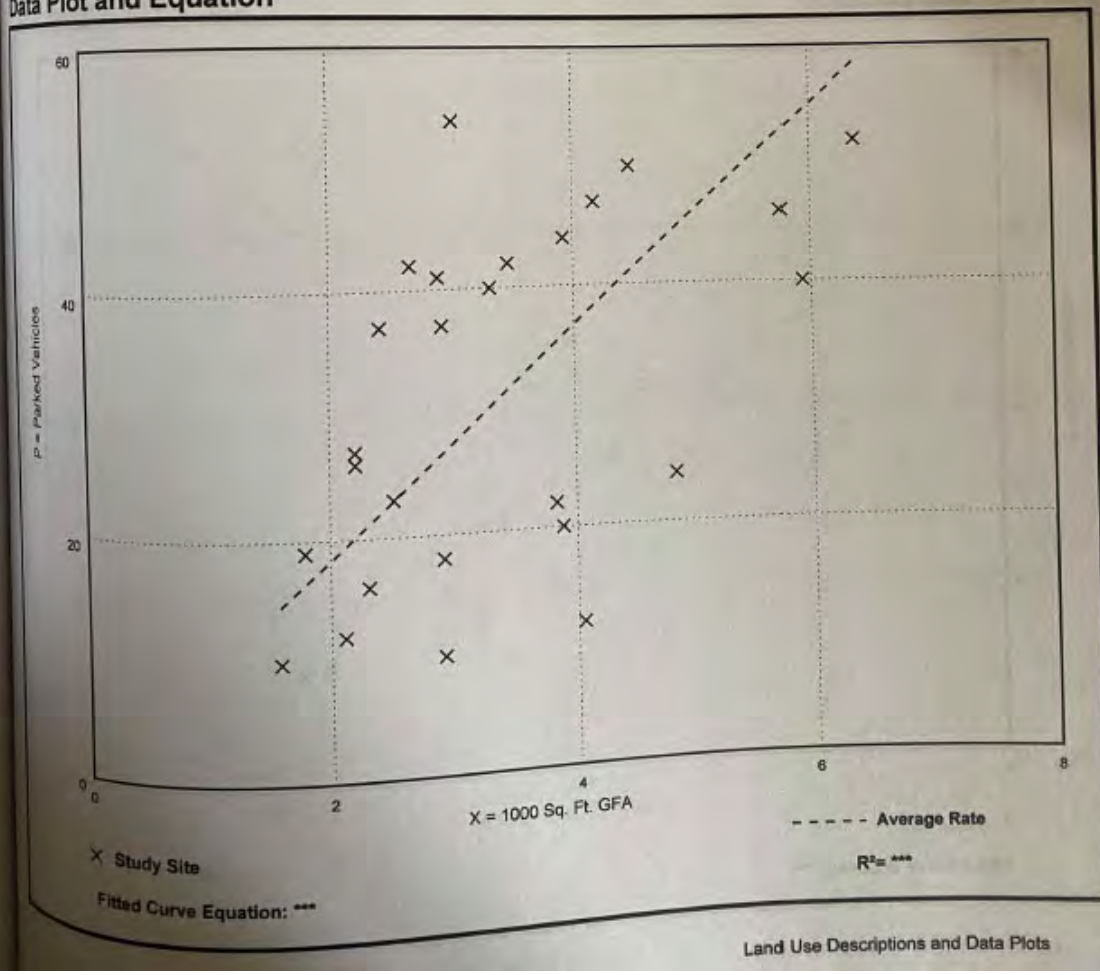
Fast-Food Restaurant with Drive-Through Window (934)

Peak Period Parking Demand vs: 1000 Sq. Ft. GFA
On a: Saturday
Setting/Location: General Urban/Suburban
Peak Period of Parking Demand: 12:00 - 2:00 p.m.
Number of Studies: 26
Avg. 1000 Sq. Ft. GFA: 3.4

Peak Period Parking Demand per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
9.18	2.96 - 18.00	6.70 / 14.20	7.69 - 10.67	3.88 (42%)

Data Plot and Equation



APPENDIX C

Trip Distribution

TABULAR SUMMARY OF TRIP GENERATION COUNT

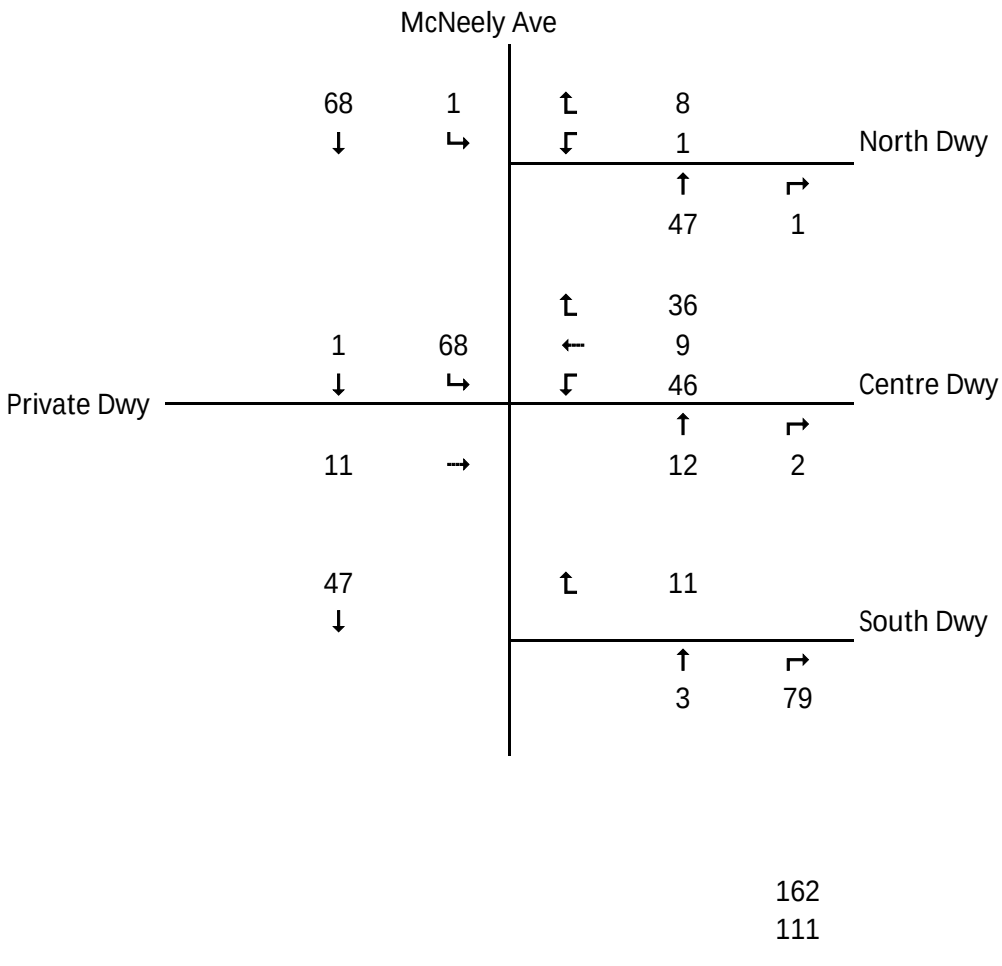
COUNT DATE: Thursday August 7, 2025
PROJECT # : 26155.00.200
OBSERVER Camera

N / S STREET: McNeely Ave
E / W STREET: Access Dwys

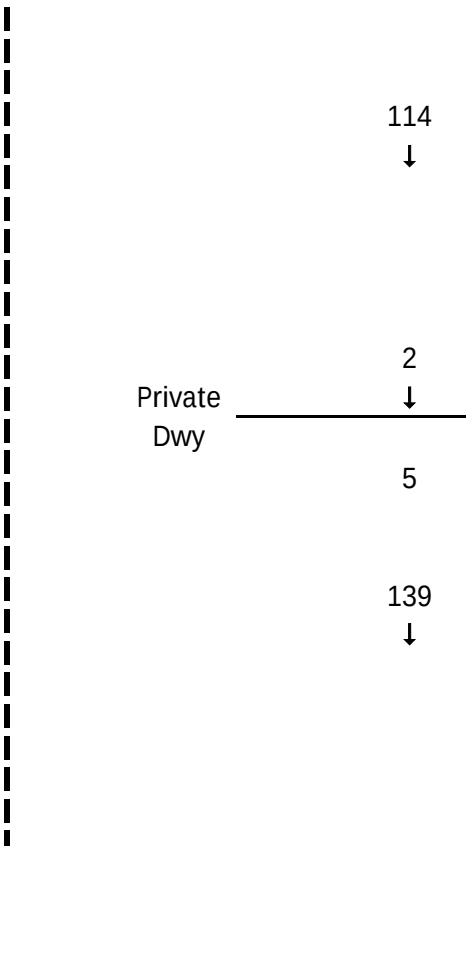
AREA: Carleton P
PROV.: ONTARIC

Time Start	South Dwy (RIRO)		Centre Dwy (Signalized)						North Dwy (Loading)			
	In	Out	In			Out			In		Out	
	NBR	WBR	SBL	EBT	NBR	WBL	WBT	WBR	SBL	NBR	WBL	WBR
7:00	1	0	1	4	0	1	1	2	0	0	0	0
7:15	6	0	5	4	0	3	5	1	0	0	0	0
7:30	8	0	6	6	0	2	6	4	0	0	0	0
7:45	18	0	16	2	0	2	0	5	1	0	0	1
8:00	13	4	14	3	0	8	0	4	0	0	0	1
8:15	12	1	10	2	0	9	1	10	0	0	0	1
8:30	26	3	13	5	1	7	2	10	0	0	0	1
8:45	23	3	19	3	0	15	3	11	1	1	0	3
9:00	18	4	26	1	1	15	3	5	0	0	1	3
9:15	12	6	20	2	0	12	5	14	0	0	0	5
16:00	53	6	27	2	1	34	2	18	0	0	1	8
16:15	49	12	33	2	1	41	3	27	0	0	0	6
16:30	40	5	29	1	2	35	4	32	0	0	0	13
16:45	46	6	25	0	1	27	3	26	0	0	1	13
17:00	44	8	40	5	6	35	6	32	0	0	0	13
17:15	31	7	23	5	2	40	1	34	0	0	0	9
17:30	39	9	30	0	2	35	4	13	0	0	0	9
17:45	29	6	23	1	0	27	3	19	0	0	0	5
18:00	37	3	16	1	1	28	6	12	0	0	0	8
18:15	21	4	18	3	2	25	4	20	0	0	0	2
18:30	25	3	23	0	0	23	2	19	0	0	0	4
18:45	23	5	23	2	0	27	1	14	0	0	0	4
Site Peak												
AM (8:30)	79	16	78	11	2	49	13	40	1	1	1	12
PM (16:15)	179	31	127	8	10	138	16	117	0	0	1	45
Common Peak Hour												
AM 8:15	79	11	68	11	2	46	9	36	1	1	1	8
PM 16:00	188	29	114	5	5	137	12	103	0	0	2	40

AM Common Peak Hour



PM Common Peak Hour



AM
PM

AM
PM

TABULAR SUMMARY OF T

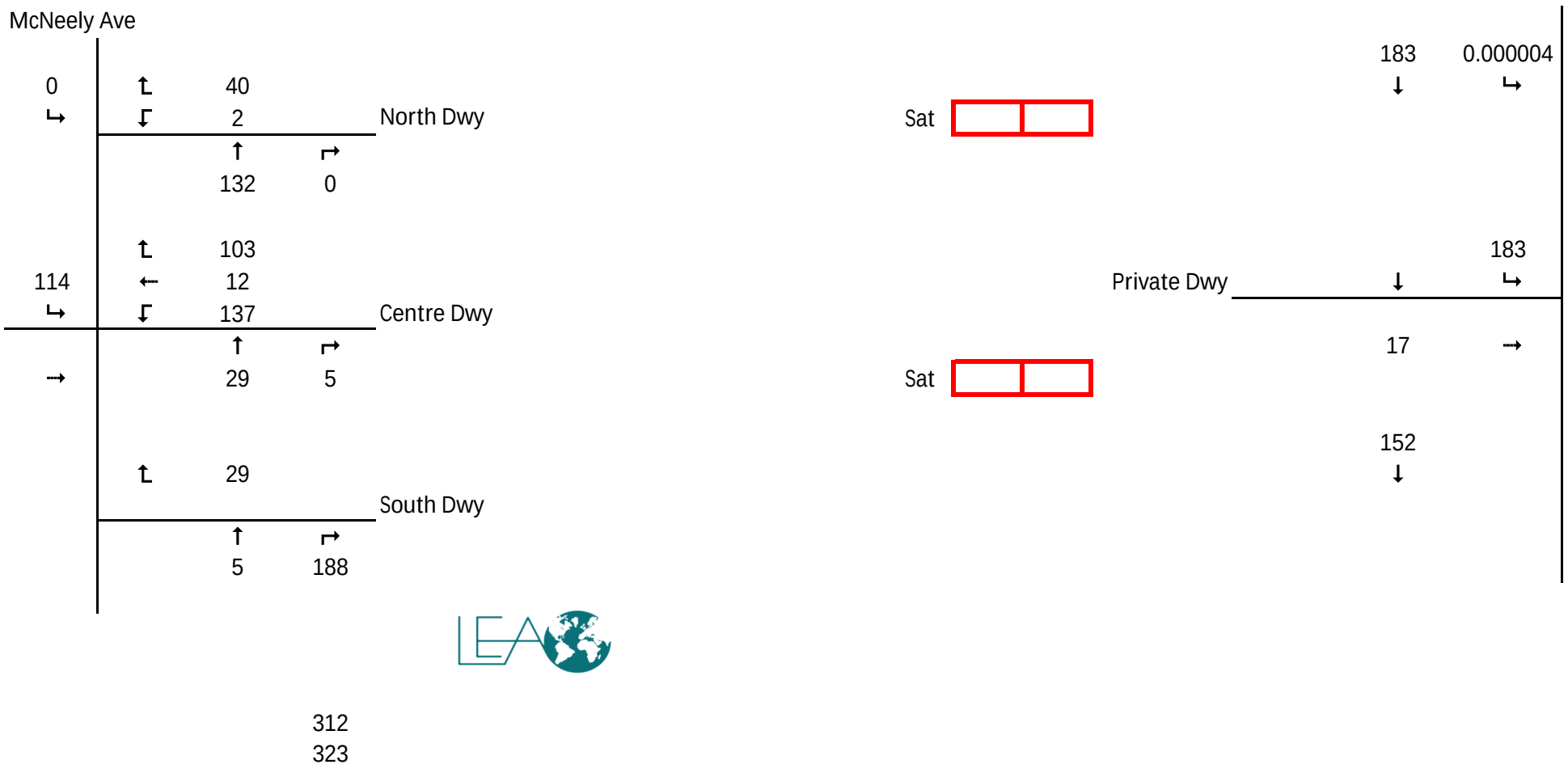
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COUNT DATE: Saturday August 9, 2025
PROJECT # : 26155.00.200
OBSERVER Camera

Total				
In	Out	All	Hourly	
6	4	10		
15	9	24		
20	12	32		
37	8	45	111	
30	17	47	148	
24	22	46	170	
45	23	68	206	
47	35	82	243	
46	31	77	273	<-- Common Peak Hour
34	42	76	303	<-- Site Peak Hour
83	69	152		
85	89	174		
72	89	161		
72	76	148	635	<-- Common Peak Hour
95	94	189	672	<-- Site Peak Hour
61	91	152	650	
71	70	141	630	
53	60	113	595	
55	57	112	518	
44	55	99	465	
48	51	99	423	
48	51	99	409	
172	131	303		
324	348	672		
162	111	273		
312	323	635		

Time Start	South Dwy (RIRO)		
	In	Out	
	NBR	WBR	SBL
10:00	45	4	39
10:15	42	9	30
10:30	51	12	41
10:45	53	6	30
11:00	46	11	38
11:15	35	19	39
11:30	60	6	49
11:45	45	10	28
12:00	43	14	67
12:15	50	7	32
12:30	38	13	41
12:45	46	10	44
13:00	51	16	45
13:15	46	7	41
13:30	42	13	36
13:45	42	14	26
14:00	36	9	29
14:15	34	5	35
14:30	33	7	35
14:45	31	11	30
15:00	41	3	33
15:15	42	14	33
15:30	22	7	34
15:45	36	3	22
Site Peak			
Sat. (11:30)	198	37	176
Sat. 11:15	183	49	183

Saturday Peak Hour



RIP GENERATION COUNT

N / S STREET: McNeely Ave
E / W STREET: Access Dwys

AREA: Carleton Place
PROV.: ONTARIO

Centre Dwy (Signalized)					North Dwy (Loading)				Total			
In		Out			In		Out		In	Out	All	Hourly
EBT	NBR	WBL	WBT	WBR	SBL	NBR	WBL	WBR				
5	2	17	8	22	0	0	0	5	91	56	147	
0	2	42	11	21	0	0	0	6	74	89	163	
2	1	21	2	27	0	0	0	5	95	67	162	
6	2	35	7	30	0	0	0	12	91	90	181	653
2	2	27	0	42	0	0	0	4	88	84	172	678
4	1	38	7	27	0	0	0	5	79	96	175	690
3	1	47	5	23	0	0	0	8	113	89	202	730
4	1	29	4	31	0	1	1	12	79	87	166	715
6	1	38	4	25	0	0	1	12	117	94	211	754
2	0	46	11	27	0	0	0	8	84	99	183	762
3	0	36	5	31	0	0	1	10	82	96	178	738
4	0	28	8	30	0	0	0	10	94	86	180	752
2	1	25	7	17	0	0	0	10	99	75	174	715
4	4	46	5	27	0	0	0	4	95	89	184	716
4	3	53	2	27	0	0	0	9	85	104	189	727
5	3	31	6	35	0	0	0	7	76	93	169	716
1	4	43	3	26	0	1	0	10	71	91	162	704
5	5	26	4	16	0	0	0	7	79	58	137	657
2	3	36	4	27	0	0	0	3	73	77	150	618
3	1	32	3	25	0	0	0	11	65	82	147	596
4	0	36	1	26	0	0	0	11	78	77	155	589
2	0	28	3	23	0	0	0	8	77	76	153	605
1	1	35	1	16	0	0	1	11	58	71	129	584
0	0	29	4	22	0	0	0	5	58	63	121	558
15	3.000001	160	24	106	0	1.000003	2.000002	40	393	369	762	
17	4	152	20	106	0	1.000003	2.000002	37	388	366	754	

762

ve

37

North Dwy

155 1.000003

106
20
152

Centre Dwy

50 4

49

South Dwy

5 183

388
364

SITE DISTRIBUTION CALCULATIONS

Direction	To/From	Volumes				
		Inbound			Outbound	
		AM	PM	Sat	AM	PM
McNeely N	N Dwy	1.000003	0.000004	0.000004	8	40
	C Dwy	68	114	183	36	103
	S Dwy				11	29
McNeely S	S	See below			See below	
Hwy 7	W					
	E					
Private Dwy	Strght	11	5.000001	17	9	12

<-- Common Peak Hour
<-- Peak Hour

Inbound from McNeely/Hwy 7 intersection
From S

	AM	PM	Sat	AM	PM
NB from McN/H7	82	193	188	Proportions at McNee	
NBT	18	50	71	22%	26%
EBL	37	66	62	45%	34%
WBR	27	77	55	33%	40%

Final Site Distribution

	Inbound				
	AM	PM	Sat	AM	PM
McNeely N	69	114	183	43%	37%
McNeely S	18	50.000004	71.000003	11%	16%
Hwy 7 W	37	66	62	23%	21%
Hwy 7 E	27	77	55	17%	25%
Private	11	5.000001	17	6%	1%
Total	162.00001	312.00001	388.00001	100%	100%

Breakdown by dwy (Inbound)
From McNeely N

	AM	PM	Sat	AM	PM
Total In	69	114	183		
McNeely S N Dwy	1.000003	0.000004	0.000004	1%	
McNeely S C Dwy	68	114	183	99%	100%
McNeely S S Dwy					
				100%	100%

From McNeely S

Total In	82	193	188		
McNeely S N Dwy	1.000003	0.000004	1.000003	1%	
McNeely S C Dwy	2.000002	5	4	2%	3%
McNeely S S Dwy	79	188	183	96%	97%
				99%	100%

Sat
37
106
49
20

From Survey

From survey

Outbound to McNeely/Hwy 7 intersection

To S

Sat
ely/Hwy 7
38%
33%
29%

	AM	PM	Sat	AM	PM	Sat
SB to McN+H7	47	139	152	Proportions at McNeely/Hwy 7		
SBL	23	46	47	49%	33%	31%
SBT	11	36	52	23%	27%	34%
SBR	13	57	53	28%	41%	35%

Outbound

Sat
47%
18%
16%
14%
5%
100%

AM	PM	Sat	AM	PM	Sat
55	172	192	50%	53%	53%
11	36.000002	52	10%	11%	14%
13	57	53	12%	18%	15%
23	46	47	21%	14%	13%
9	12	20	7%	4%	5%
111	323	364	100%	100%	100%

Breakdown by dwy (Outbound)

To McNeely N

Sat
100%
100%

	AM	PM	Sat	AM	PM	Sat
Total Out	55	172	192			
McNeely S N Dwy	8	40	37	15%	23%	19%
McNeely S C Dwy	36	103	106	65%	60%	55%
McNeely S S Dwy	11	29	49	20%	17%	26%
				100%	100%	100%

To McNeely S

1%
2%
97%
100%

	AM	PM	Sat	AM	PM	Sat
Total Out	47	139	152			
McNeely S N Dwy	1.000003	2.000002		2%	1%	
McNeely S C Dwy	46	137	152	98%	99%	100%
McNeely S S Dwy						
				100%	100%	100%

APPENDIX D

Intersection Capacity Analysis

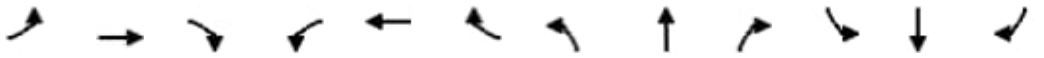
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	223	620	124	51	511	161	86	107	258	118	146
Future Volume (vph)	223	620	124	51	511	161	86	107	258	118	146
Lane Group Flow (vph)	237	660	132	54	544	171	91	195	274	126	155
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.69	0.56	0.21	0.33	0.48	0.29	0.50	0.29	0.79	0.19	0.27
Control Delay (s/veh)	52.6	27.6	2.8	45.3	26.2	5.5	50.4	20.5	58.5	33.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.6	27.6	2.8	45.3	26.2	5.5	50.4	20.5	58.5	33.6	4.8
Queue Length 50th (m)	21.9	51.3	0.0	9.3	40.7	0.8	16.0	9.3	25.6	10.3	0.0
Queue Length 95th (m)	#36.1	68.5	7.3	20.7	55.8	14.1	31.3	18.7	#44.2	18.2	12.0
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	165	1137	594	182	672	349	652	569
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	0.69	0.56	0.21	0.33	0.48	0.29	0.50	0.29	0.79	0.19	0.27

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	620	124	51	511	161	86	107	76	258	118	146
Future Volume (veh/h)	223	620	124	51	511	161	86	107	76	258	118	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1752	1781	1752	1870	1811	1826	1856	1870	1856
Adj Flow Rate, veh/h	237	660	132	54	544	171	91	114	81	274	126	155
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	10	8	10	2	6	5	3	2	3
Cap, veh/h	358	1194	545	176	1165	510	188	370	243	361	662	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	1668	3385	1482	1781	1985	1307	3428	3554	1567
Grp Volume(v), veh/h	237	660	132	54	544	171	91	98	97	274	126	155
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1668	1692	1482	1781	1721	1571	1714	1777	1567
Q Serve(g_s), s	6.4	14.6	5.7	2.8	11.9	8.1	4.6	4.6	5.1	7.4	2.8	7.4
Cycle Q Clear(g_c), s	6.4	14.6	5.7	2.8	11.9	8.1	4.6	4.6	5.1	7.4	2.8	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.83	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	176	1165	510	188	321	293	361	662	458
V/C Ratio(X)	0.66	0.55	0.24	0.31	0.47	0.34	0.49	0.30	0.33	0.76	0.19	0.34
Avail Cap(c_a), veh/h	358	1194	545	176	1165	510	188	321	293	361	662	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	25.2	22.3	39.3	24.3	23.1	40.1	33.3	33.5	41.3	32.6	26.5
Incr Delay (d2), s/veh	9.3	1.8	1.1	4.5	1.3	1.8	8.7	2.4	3.0	13.9	0.6	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.8	1.0	0.9	2.2	1.4	1.6	1.3	1.3	2.5	0.7	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.2	27.1	23.3	43.8	25.7	24.9	48.8	35.8	36.6	55.3	33.2	28.5
LnGrp LOS	D	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1029			769			286			555	
Approach Delay, s/veh		31.9			26.8			40.2			42.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.4	7.1	4.8	16.6	6.6	9.4	8.4	13.9
Green Ext Time (p_c), s	0.1	1.8	0.1	10.8	0.1	1.7	0.2	10.9

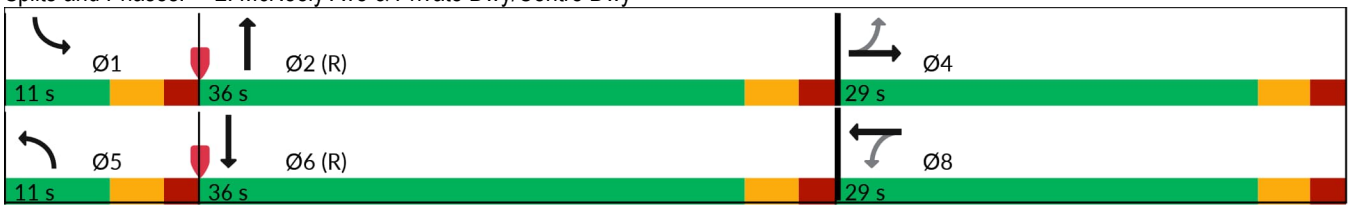
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	33.6
HCM 6th LOS	C

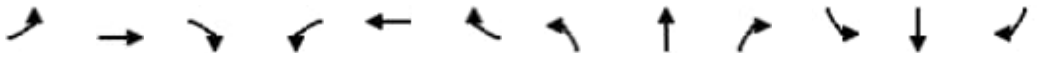
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	77	11	46	9	48	362	68	412
Future Volume (vph)	77	11	46	9	48	362	68	412
Lane Group Flow (vph)	84	70	50	49	52	395	74	566
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	29.0	29.0	29.0	29.0	11.0	36.0	11.0	36.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	14.5%	47.4%	14.5%	47.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.46	0.27	0.30	0.21	0.30	0.19	0.24	0.25
Control Delay (s/veh)	37.5	13.3	32.9	14.1	35.3	8.3	33.4	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.5	13.3	32.9	14.1	35.3	8.3	33.4	7.7
Queue Length 50th (m)	11.3	1.5	6.6	1.3	7.1	13.0	5.2	18.0
Queue Length 95th (m)	22.6	11.4	15.1	9.4	16.4	24.1	10.7	33.5
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	425	515	403	514	178	2121	311	2273
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	0.20	0.14	0.12	0.10	0.29	0.19	0.24	0.25

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	11	53	46	9	36	48	362	2	68	412	109
Future Volume (veh/h)	77	11	53	46	9	36	48	362	2	68	412	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1500	1841	1870	1737	1856	1811	1796	1159	1885	1811	1870
Adj Flow Rate, veh/h	84	12	58	50	10	39	52	393	2	74	448	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	27	4	2	11	3	6	7	50	1	6	2
Cap, veh/h	235	29	141	203	40	158	76	2158	11	181	1695	443
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.04	0.62	0.62	0.05	0.63	0.63
Sat Flow, veh/h	1375	223	1079	1328	309	1207	1725	3482	18	3483	2698	705
Grp Volume(v), veh/h	84	0	70	50	0	49	52	193	202	74	284	282
Grp Sat Flow(s),veh/h/ln	1375	0	1303	1328	0	1516	1725	1706	1793	1742	1721	1683
Q Serve(g_s), s	4.4	0.0	3.8	2.7	0.0	2.2	2.3	3.7	3.7	1.6	5.6	5.7
Cycle Q Clear(g_c), s	6.6	0.0	3.8	6.5	0.0	2.2	2.3	3.7	3.7	1.6	5.6	5.7
Prop In Lane	1.00		0.83	1.00		0.80	1.00		0.01	1.00		0.42
Lane Grp Cap(c), veh/h	235	0	170	203	0	198	76	1058	1111	181	1081	1057
V/C Ratio(X)	0.36	0.00	0.41	0.25	0.00	0.25	0.69	0.18	0.18	0.41	0.26	0.27
Avail Cap(c_a), veh/h	489	0	411	449	0	479	136	1058	1111	275	1081	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	30.3	33.3	0.0	29.7	35.8	6.2	6.2	34.9	6.3	6.3
Incr Delay (d2), s/veh	0.9	0.0	1.6	0.6	0.0	0.6	10.5	0.4	0.4	1.5	0.6	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.7	0.6	0.0	0.5	0.7	0.1	0.1	0.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.6	0.0	31.9	33.9	0.0	30.3	46.4	6.6	6.5	36.4	6.9	6.9
LnGrp LOS	C		C	C		C	D	A	A	D	A	A
Approach Vol, veh/h		154			99			447			640	
Approach Delay, s/veh		32.8			32.1			11.2			10.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	52.1		14.9	8.3	52.7		14.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	31.0		24.0	6.0	31.0		24.0				
Max Q Clear Time (g_c+I1), s	3.6	5.7		8.6	4.3	7.7		8.5				
Green Ext Time (p_c), s	0.1	6.2		1.2	0.0	8.9		0.7				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.8									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	401	79	0	513
Future Vol, veh/h	0	1	401	79	0	513
Conflicting Peds, #/hr	0	0	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	7	1	0	5
Mvmt Flow	0	1	451	89	0	576

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	271	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	733	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	732	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	732	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Ctrl Dly (s/v)	-	-	9.9	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q (veh)	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	274	667	136	154	955	325	168	213	229	188	287
Future Volume (vph)	274	667	136	154	955	325	168	213	229	188	287
Lane Group Flow (vph)	291	710	145	164	1016	346	179	314	244	200	305
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.83	0.61	0.23	0.93	0.84	0.54	0.98	0.45	0.71	0.30	0.56
Control Delay (s/veh)	62.1	28.7	3.7	96.4	36.7	15.4	105.9	30.9	53.1	34.8	19.2
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 (s/veh)	62.1	28.7	3.7	96.4	36.7	15.4	105.9	30.9	53.1	34.8	19.2
Queue Length 50th (m)	27.3	56.2	0.0	30.4	89.5	23.3	33.3	22.4	22.6	16.7	26.6
Queue Length 95th (m)	#47.8	74.8	9.5	#68.0	#115.1	49.6	#73.5	35.1	#37.4	26.8	50.5
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	352	1159	627	176	1204	646	183	691	346	658	544
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	0.83	0.61	0.23	0.93	0.84	0.54	0.98	0.45	0.71	0.30	0.56

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	667	136	154	955	325	168	213	82	229	188	287
Future Volume (veh/h)	274	667	136	154	955	325	168	213	82	229	188	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1811	1885	1856	1870	1885	1885	1900	1841	1841	1885	1885
Adj Flow Rate, veh/h	291	710	145	164	1016	346	179	227	87	244	200	305
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	6	1	3	2	1	1	0	4	4	1	1
Cap, veh/h	367	1184	541	186	1223	541	189	479	178	358	667	464
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3441	1571	1767	3554	1572	1795	2572	956	3401	3582	1590
Grp Volume(v), veh/h	291	710	145	164	1016	346	179	157	157	244	200	305
Grp Sat Flow(s),veh/h/ln	1742	1721	1571	1767	1777	1572	1795	1805	1722	1700	1791	1590
Q Serve(g_s), s	7.7	16.2	6.3	8.7	24.9	17.6	9.4	7.4	7.7	6.6	4.6	16.0
Cycle Q Clear(g_c), s	7.7	16.2	6.3	8.7	24.9	17.6	9.4	7.4	7.7	6.6	4.6	16.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	367	1184	541	186	1223	541	189	336	321	358	667	464
V/C Ratio(X)	0.79	0.60	0.27	0.88	0.83	0.64	0.95	0.47	0.49	0.68	0.30	0.66
Avail Cap(c_a), veh/h	367	1184	541	186	1223	541	189	336	321	358	667	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	25.7	22.5	41.9	28.6	26.2	42.2	34.4	34.6	41.0	33.3	29.5
Incr Delay (d2), s/veh	16.1	2.2	1.2	40.8	6.6	5.7	52.9	4.6	5.2	10.1	1.2	7.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.1	1.1	4.3	5.4	3.5	5.2	2.2	2.2	2.1	1.2	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.6	28.0	23.7	82.7	35.2	31.9	95.2	39.1	39.8	51.0	34.5	36.6
LnGrp LOS	E	C	C	F	D	C	F	D	D	D	C	D
Approach Vol, veh/h		1146			1526			493			749	
Approach Delay, s/veh		35.0			39.6			59.7			40.7	
Approach LOS		C			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	8.6	9.7	10.7	18.2	11.4	18.0	9.7	26.9
Green Ext Time (p_c), s	0.2	2.5	0.0	10.5	0.0	0.0	0.0	5.4

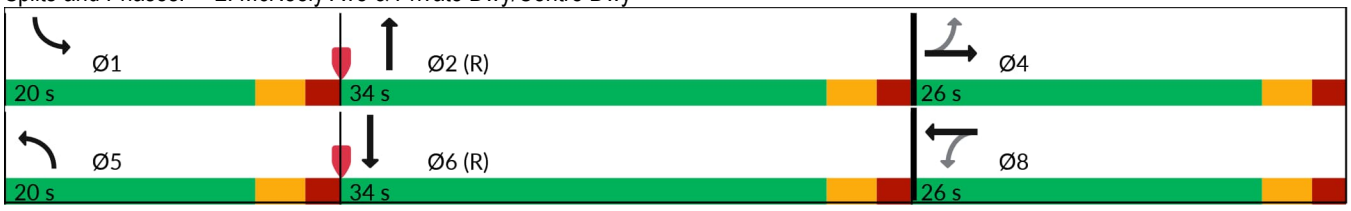
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	41.0
HCM 6th LOS	D

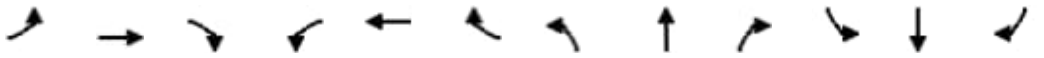
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	87	5	137	12	62	586	114	495
Future Volume (vph)	87	5	137	12	62	586	114	495
Lane Group Flow (vph)	93	73	146	123	66	628	121	656
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	26.0	26.0	26.0	26.0	20.0	34.0	20.0	34.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	25.0%	42.5%	25.0%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.44	0.22	0.63	0.33	0.36	0.32	0.36	0.33
Control Delay (s/veh)	34.3	9.3	41.7	9.3	37.9	12.2	35.9	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.3	9.3	41.7	9.3	37.9	12.2	35.9	11.7
Queue Length 50th (m)	12.8	0.6	20.7	1.7	9.5	26.7	8.9	26.1
Queue Length 95th (m)	23.6	9.7	34.9	13.4	20.1	47.7	16.1	48.2
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	308	449	338	492	332	1961	607	1965
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	0.30	0.16	0.43	0.25	0.20	0.32	0.20	0.33

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	5	64	137	12	103	62	586	5	114	495	121
Future Volume (veh/h)	87	5	64	137	12	103	62	586	5	114	495	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1900	1826	1885	1900	1900	1856	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	93	5	68	146	13	110	66	623	5	121	527	129
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	0	5	1	0	0	3	0	0	2	2	0
Cap, veh/h	237	20	278	288	32	273	87	2077	17	206	1626	396
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.57	0.57	0.06	0.58	0.58
Sat Flow, veh/h	1215	109	1489	1334	172	1459	1767	3670	29	3456	2820	687
Grp Volume(v), veh/h	93	0	73	146	0	123	66	306	322	121	331	325
Grp Sat Flow(s),veh/h/ln	1215	0	1599	1334	0	1632	1767	1805	1895	1728	1777	1730
Q Serve(g_s), s	5.8	0.0	3.1	8.4	0.0	5.3	3.0	7.1	7.1	2.7	7.8	7.8
Cycle Q Clear(g_c), s	11.1	0.0	3.1	11.5	0.0	5.3	3.0	7.1	7.1	2.7	7.8	7.8
Prop In Lane	1.00		0.93	1.00		0.89	1.00		0.02	1.00		0.40
Lane Grp Cap(c), veh/h	237	0	299	288	0	305	87	1022	1072	206	1024	997
V/C Ratio(X)	0.39	0.00	0.24	0.51	0.00	0.40	0.76	0.30	0.30	0.59	0.32	0.33
Avail Cap(c_a), veh/h	328	0	420	388	0	428	331	1022	1072	648	1024	997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	27.7	32.6	0.0	28.6	37.6	9.1	9.1	36.7	8.8	8.8
Incr Delay (d2), s/veh	1.1	0.0	0.4	1.4	0.0	0.9	12.9	0.8	0.7	2.7	0.8	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.7	1.7	0.0	1.2	1.0	0.2	0.2	0.7	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.5	0.0	28.1	34.0	0.0	29.5	50.5	9.8	9.8	39.3	9.7	9.7
LnGrp LOS	C		C	C		C	D	A	A	D	A	A
Approach Vol, veh/h		166			269			694			777	
Approach Delay, s/veh		31.7			31.9			13.7			14.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	50.3		20.0	8.9	51.1		20.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	15.0	29.0		21.0	15.0	29.0		21.0				
Max Q Clear Time (g_c+I1), s	4.7	9.1		13.1	5.0	9.8		13.5				
Green Ext Time (p_c), s	0.4	8.8		0.9	0.1	9.1		1.5				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			18.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	621	188	0	699
Future Vol, veh/h	0	29	621	188	0	699
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	1	0	1
Mvmt Flow	0	31	668	202	0	752

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	435	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	575	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	575	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	575	-
HCM Lane V/C Ratio	-	-	0.054	-
HCM Ctrl Dly (s/v)	-	-	11.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.2	-

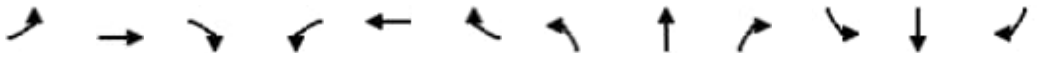
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	260	656	175	101	827	224	172	296	236	263	268
Future Volume (vph)	260	656	175	101	827	224	172	296	236	263	268
Lane Group Flow (vph)	265	669	179	103	844	229	176	417	241	268	273
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.74	0.56	0.28	0.57	0.69	0.36	0.95	0.60	0.67	0.40	0.43
Control Delay (s/veh)	55.2	27.4	5.9	53.6	30.5	9.1	99.1	35.0	50.8	36.1	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.2	27.4	5.9	53.6	30.5	9.1	99.1	35.0	50.8	36.1	15.8
Queue Length 50th (m)	24.7	51.7	1.8	18.3	69.3	8.1	32.6	32.5	22.2	22.9	21.4
Queue Length 95th (m)	#41.3	68.9	15.4	#35.3	90.2	24.9	#71.5	47.7	34.3	34.8	42.7
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	356	1204	637	181	1216	638	185	696	360	665	629
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	0.74	0.56	0.28	0.57	0.69	0.36	0.95	0.60	0.67	0.40	0.43

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	656	175	101	827	224	172	296	113	236	263	268
Future Volume (veh/h)	260	656	175	101	827	224	172	296	113	236	263	268
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1900	1900	1885	1885	1900	1900	1885	1900	1900	1900
Adj Flow Rate, veh/h	265	669	179	103	844	229	176	302	115	241	268	273
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	0	0	1	1	0	0	1	0	0	0
Cap, veh/h	370	1223	547	190	1233	543	190	477	178	370	673	469
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3554	1588	1810	3582	1576	1810	2562	953	3510	3610	1608
Grp Volume(v), veh/h	265	669	179	103	844	229	176	211	206	241	268	273
Grp Sat Flow(s),veh/h/ln	1755	1777	1588	1810	1791	1576	1810	1805	1710	1755	1805	1608
Q Serve(g_s), s	6.9	14.4	7.9	5.1	19.2	10.6	9.2	10.2	10.6	6.3	6.2	13.8
Cycle Q Clear(g_c), s	6.9	14.4	7.9	5.1	19.2	10.6	9.2	10.2	10.6	6.3	6.2	13.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.56	1.00		1.00
Lane Grp Cap(c), veh/h	370	1223	547	190	1233	543	190	336	319	370	673	469
V/C Ratio(X)	0.72	0.55	0.33	0.54	0.68	0.42	0.92	0.63	0.65	0.65	0.40	0.58
Avail Cap(c_a), veh/h	370	1223	547	190	1233	543	190	336	319	370	673	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	25.2	23.0	40.3	26.7	23.9	42.1	35.6	35.8	40.8	34.0	28.7
Incr Delay (d2), s/veh	11.3	1.8	1.6	10.6	3.1	2.4	47.9	8.5	9.8	8.7	1.8	5.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	2.8	1.5	1.9	3.8	2.0	4.9	3.2	3.3	2.0	1.6	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.5	26.9	24.6	50.9	29.8	26.3	90.0	44.1	45.5	49.5	35.7	33.9
LnGrp LOS	D	C	C	D	C	C	F	D	D	D	D	C
Approach Vol, veh/h		1113			1176			593			782	
Approach Delay, s/veh		32.6			31.0			58.2			39.3	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	8.3	12.6	7.1	16.4	11.2	15.8	8.9	21.2
Green Ext Time (p_c), s	0.2	2.3	0.1	11.3	0.0	1.0	0.2	9.6

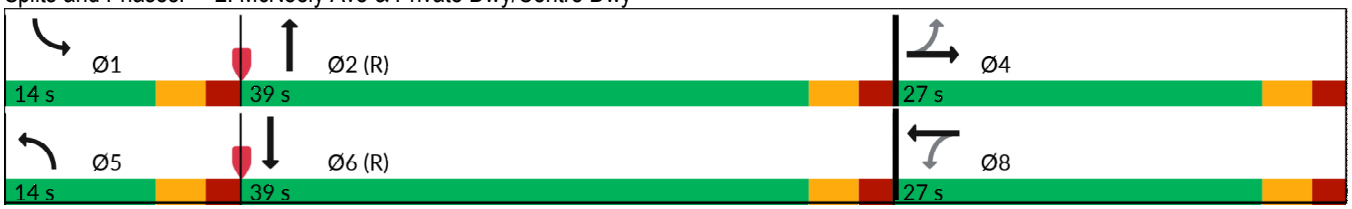
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	37.7
HCM 6th LOS	D

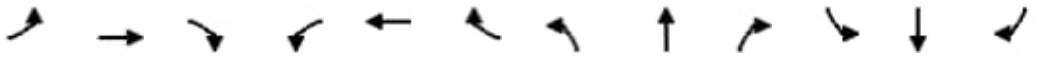
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	97	17	152	20	113	515	183	534
Future Volume (vph)	97	17	152	20	113	515	183	534
Lane Group Flow (vph)	103	107	162	134	120	552	195	711
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	27.0	27.0	27.0	27.0	14.0	39.0	14.0	39.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	17.5%	48.8%	17.5%	48.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.43	0.28	0.67	0.34	0.56	0.31	0.51	0.37
Control Delay (s/veh)	32.6	9.7	42.8	9.5	43.7	13.5	38.1	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.6	9.7	42.8	9.5	43.7	13.5	38.1	12.9
Queue Length 50th (m)	13.9	2.2	22.9	2.6	17.2	25.2	14.4	32.0
Queue Length 95th (m)	25.3	13.0	38.2	14.7	#36.7	40.9	24.5	50.6
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	338	511	343	518	227	1757	397	1908
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	0.30	0.21	0.47	0.26	0.53	0.31	0.49	0.37

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	17	84	152	20	106	113	515	4	183	534	134
Future Volume (veh/h)	97	17	84	152	20	106	113	515	4	183	534	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1885	1900	1900	1900	1885	1900	1900	1900	1900
Adj Flow Rate, veh/h	103	18	89	162	21	113	120	548	4	195	568	143
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	1	0	0	0	1	0	0	0	0
Cap, veh/h	277	60	297	300	56	301	153	1877	14	285	1454	365
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.08	0.51	0.51	0.08	0.51	0.51
Sat Flow, veh/h	1274	278	1373	1296	258	1389	1810	3645	27	3510	2844	714
Grp Volume(v), veh/h	103	0	107	162	0	134	120	269	283	195	360	351
Grp Sat Flow(s),veh/h/ln	1274	0	1651	1296	0	1648	1810	1791	1880	1755	1805	1753
Q Serve(g_s), s	6.0	0.0	4.3	9.6	0.0	5.5	5.2	6.9	6.9	4.3	9.7	9.8
Cycle Q Clear(g_c), s	11.5	0.0	4.3	13.9	0.0	5.5	5.2	6.9	6.9	4.3	9.7	9.8
Prop In Lane	1.00		0.83	1.00		0.84	1.00		0.01	1.00		0.41
Lane Grp Cap(c), veh/h	277	0	357	300	0	357	153	922	968	285	923	896
V/C Ratio(X)	0.37	0.00	0.30	0.54	0.00	0.38	0.78	0.29	0.29	0.69	0.39	0.39
Avail Cap(c_a), veh/h	352	0	454	376	0	453	204	922	968	395	923	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	26.3	32.1	0.0	26.7	35.9	11.1	11.1	35.8	11.9	11.9
Incr Delay (d2), s/veh	0.8	0.0	0.5	1.5	0.0	0.7	13.3	0.8	0.8	2.9	1.2	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.0	1.9	0.0	1.2	1.7	0.2	0.2	1.1	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.5	0.0	26.7	33.6	0.0	27.4	49.2	11.9	11.8	38.7	13.2	13.2
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		210			296			672			906	
Approach Delay, s/veh		29.5			30.8			18.5			18.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	46.2		22.3	11.8	45.9		22.3				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	34.0		22.0	9.0	34.0		22.0				
Max Q Clear Time (g_c+I1), s	6.3	8.9		13.5	7.2	11.8		15.9				
Green Ext Time (p_c), s	0.2	8.8		1.3	0.1	10.8		1.4				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			21.4									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	49	577	183	0	776
Future Vol, veh/h	0	49	577	183	0	776
Conflicting Peds, #/hr	0	0	0	2	2	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	97	97	97	97	97	97
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	0	51	595	189	0	800

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	394	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	611	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	609	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	609	-
HCM Lane V/C Ratio	-	-	0.083	-
HCM Ctrl Dly (s/v)	-	-	11.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.3	-

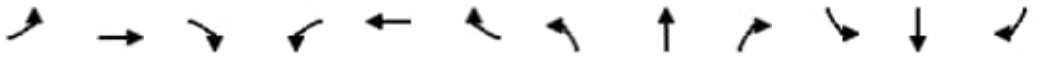
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	249	620	126	52	511	169	87	115	272	130	167
Future Volume (vph)	249	620	126	52	511	169	87	115	272	130	167
Lane Group Flow (vph)	265	660	134	55	544	180	93	204	289	138	178
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.77	0.56	0.21	0.33	0.48	0.30	0.51	0.30	0.83	0.21	0.30
Control Delay (s/veh)	58.0	27.6	2.9	45.4	26.2	5.7	50.8	21.0	62.4	33.7	4.7
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 (s/veh)	58.0	27.6	2.9	45.4	26.2	5.7	50.8	21.0	62.4	33.7	4.7
Queue Length 50th (m)	24.8	51.3	0.0	9.5	40.7	1.2	16.4	10.0	27.2	11.3	0.0
Queue Length 95th (m)	#42.7	68.5	7.7	21.1	55.8	14.8	31.9	19.7	#47.5	19.5	12.8
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	166	1137	603	182	678	349	658	585
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	0.77	0.56	0.21	0.33	0.48	0.30	0.51	0.30	0.83	0.21	0.30

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	620	126	52	511	169	87	115	77	272	130	167
Future Volume (veh/h)	249	620	126	52	511	169	87	115	77	272	130	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	265	660	134	55	544	180	93	122	82	289	138	178
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	358	1194	545	177	1165	514	188	381	239	361	667	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	1682	3385	1495	1781	2045	1280	3428	3582	1567
Grp Volume(v), veh/h	265	660	134	55	544	180	93	102	102	289	138	178
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1682	1692	1495	1781	1735	1591	1714	1791	1567
Q Serve(g_s), s	7.2	14.6	5.8	2.9	11.9	8.5	4.7	4.8	5.3	7.8	3.1	8.6
Cycle Q Clear(g_c), s	7.2	14.6	5.8	2.9	11.9	8.5	4.7	4.8	5.3	7.8	3.1	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.81	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	177	1165	514	188	323	296	361	667	458
V/C Ratio(X)	0.74	0.55	0.25	0.31	0.47	0.35	0.50	0.32	0.34	0.80	0.21	0.39
Avail Cap(c_a), veh/h	358	1194	545	177	1165	514	188	323	296	361	667	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	25.2	22.3	39.3	24.3	23.2	40.1	33.4	33.6	41.5	32.7	26.9
Incr Delay (d2), s/veh	12.9	1.8	1.1	4.5	1.3	1.9	9.1	2.6	3.1	16.9	0.7	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.8	1.0	0.9	2.2	1.5	1.7	1.3	1.4	2.8	0.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.1	27.1	23.4	43.8	25.7	25.1	49.2	36.0	36.7	58.4	33.4	29.4
LnGrp LOS	D	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1059			779			297			605	
Approach Delay, s/veh		33.4			26.8			40.4			44.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.8	7.3	4.9	16.6	6.7	10.6	9.2	13.9
Green Ext Time (p_c), s	0.0	1.9	0.1	10.8	0.1	1.7	0.1	11.0

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	34.7
HCM 6th LOS	C

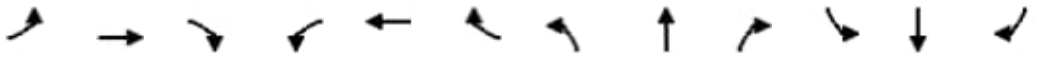
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	78	11	46	9	48	404	68	458
Future Volume (vph)	78	11	46	9	48	404	68	458
Lane Group Flow (vph)	85	71	50	49	52	441	74	618
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	29.0	29.0	29.0	29.0	11.0	36.0	11.0	36.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	14.5%	47.4%	14.5%	47.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.46	0.28	0.30	0.20	0.30	0.21	0.24	0.27
Control Delay (s/veh)	37.6	13.2	32.8	14.0	35.3	8.5	33.4	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.6	13.2	32.8	14.0	35.3	8.5	33.4	8.0
Queue Length 50th (m)	11.5	1.5	6.6	1.3	7.1	14.7	5.2	20.4
Queue Length 95th (m)	22.8	11.2	15.1	9.4	16.4	26.9	10.7	37.3
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	425	519	403	518	178	2140	311	2278
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	0.20	0.14	0.12	0.09	0.29	0.21	0.24	0.27

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	11	54	46	9	36	48	404	2	68	458	110
Future Volume (veh/h)	78	11	54	46	9	36	48	404	2	68	458	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1500	1856	1870	1737	1870	1811	1811	1159	1885	1811	1885
Adj Flow Rate, veh/h	85	12	59	50	10	39	52	439	2	74	498	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	27	3	2	11	2	6	6	50	1	6	1
Cap, veh/h	236	29	142	203	41	159	76	2174	10	181	1726	414
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.04	0.62	0.62	0.05	0.63	0.63
Sat Flow, veh/h	1375	220	1082	1327	309	1207	1725	3513	16	3483	2752	660
Grp Volume(v), veh/h	85	0	71	50	0	49	52	215	226	74	310	308
Grp Sat Flow(s),veh/h/ln	1375	0	1302	1327	0	1516	1725	1721	1808	1742	1721	1691
Q Serve(g_s), s	4.5	0.0	3.8	2.7	0.0	2.2	2.3	4.1	4.1	1.6	6.2	6.3
Cycle Q Clear(g_c), s	6.7	0.0	3.8	6.5	0.0	2.2	2.3	4.1	4.1	1.6	6.2	6.3
Prop In Lane	1.00		0.83	1.00		0.80	1.00		0.01	1.00		0.39
Lane Grp Cap(c), veh/h	236	0	171	203	0	200	76	1065	1119	181	1079	1061
V/C Ratio(X)	0.36	0.00	0.41	0.25	0.00	0.25	0.69	0.20	0.20	0.41	0.29	0.29
Avail Cap(c_a), veh/h	489	0	411	447	0	479	136	1065	1119	275	1079	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	30.3	33.3	0.0	29.6	35.8	6.3	6.3	34.9	6.4	6.5
Incr Delay (d2), s/veh	0.9	0.0	1.6	0.6	0.0	0.6	10.5	0.4	0.4	1.5	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.8	0.6	0.0	0.5	0.7	0.1	0.1	0.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.5	0.0	31.9	33.9	0.0	30.2	46.4	6.7	6.7	36.4	7.1	7.2
LnGrp LOS	C		C	C		C	D	A	A	D	A	A
Approach Vol, veh/h		156			99			493			692	
Approach Delay, s/veh		32.8			32.1			10.9			10.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	52.0		15.0	8.3	52.7		15.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	31.0		24.0	6.0	31.0		24.0				
Max Q Clear Time (g_c+I1), s	3.6	6.1		8.7	4.3	8.3		8.5				
Green Ext Time (p_c), s	0.1	6.9		1.2	0.0	9.6		0.7				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.4									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	443	79	0	560
Future Vol, veh/h	0	1	443	79	0	560
Conflicting Peds, #/hr	0	0	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	7	1	0	5
Mvmt Flow	0	1	498	89	0	629

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	295	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	707	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	706	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.1	0	0
HCM LOS	B		

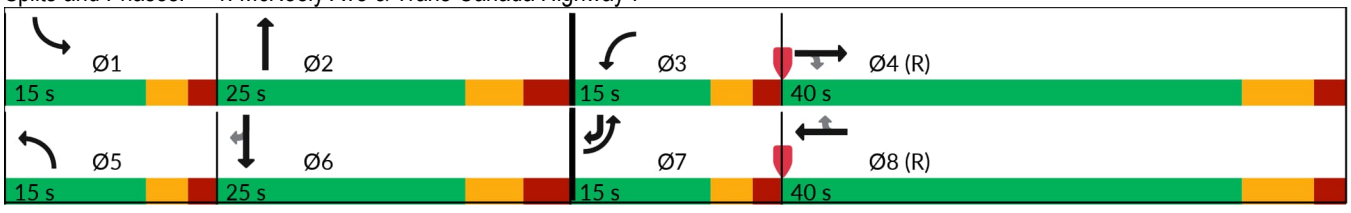
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	706	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Ctrl Dly (s/v)	-	-	10.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	346	667	138	156	955	350	171	234	247	206	357
Future Volume (vph)	346	667	138	156	955	350	171	234	247	206	357
Lane Group Flow (vph)	368	710	147	166	1016	372	182	337	263	219	380
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.05	0.61	0.23	0.93	0.84	0.56	0.98	0.49	0.75	0.33	0.69
Control Delay (s/veh)	103.0	28.5	3.8	96.2	36.7	15.8	106.9	32.4	56.1	35.1	25.1
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 (s/veh)	103.0	28.5	3.8	96.2	36.7	15.8	106.9	32.4	56.1	35.1	25.1
Queue Length 50th (m)	~37.9	56.1	0.0	30.7	89.5	25.6	33.8	25.1	24.5	18.4	39.7
Queue Length 95th (m)	#65.3	74.5	9.9	#68.1	#115.1	53.4	#74.6	38.5	#41.4	29.0	69.2
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	352	1170	627	178	1204	659	185	690	349	665	548
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	1.05	0.61	0.23	0.93	0.84	0.56	0.98	0.49	0.75	0.33	0.69

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 90
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	667	138	156	955	350	171	234	83	247	206	357
Future Volume (veh/h)	346	667	138	156	955	350	171	234	83	247	206	357
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	368	710	147	166	1016	372	182	249	88	263	219	380
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	367	1194	541	188	1223	545	190	490	169	361	673	468
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	1781	3554	1584	1810	2631	906	3428	3610	1602
Grp Volume(v), veh/h	368	710	147	166	1016	372	182	169	168	263	219	380
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1781	1777	1584	1810	1805	1732	1714	1805	1602
Q Serve(g_s), s	10.0	16.0	6.4	8.7	24.9	19.1	9.5	8.0	8.3	7.1	5.0	17.7
Cycle Q Clear(g_c), s	10.0	16.0	6.4	8.7	24.9	19.1	9.5	8.0	8.3	7.1	5.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	367	1194	541	188	1223	545	190	336	323	361	673	468
V/C Ratio(X)	1.00	0.59	0.27	0.89	0.83	0.68	0.96	0.50	0.52	0.73	0.33	0.81
Avail Cap(c_a), veh/h	367	1194	541	188	1223	545	190	336	323	361	673	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.7	22.5	41.9	28.6	26.7	42.3	34.7	34.8	41.2	33.5	31.2
Incr Delay (d2), s/veh	47.9	2.2	1.2	41.2	6.6	6.8	54.5	5.3	5.9	12.2	1.3	14.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	3.0	1.2	4.4	5.4	3.9	5.4	2.4	2.4	2.4	1.3	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	90.4	27.9	23.8	83.1	35.2	33.5	96.8	40.0	40.8	53.4	34.8	45.5
LnGrp LOS	F	C	C	F	D	C	F	D	D	D	C	D
Approach Vol, veh/h		1225			1554			519			862	
Approach Delay, s/veh		46.2			39.9			60.1			45.2	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.1	10.3	10.7	18.0	11.5	19.7	12.0	26.9
Green Ext Time (p_c), s	0.1	2.5	0.0	10.6	0.0	0.0	0.0	5.4

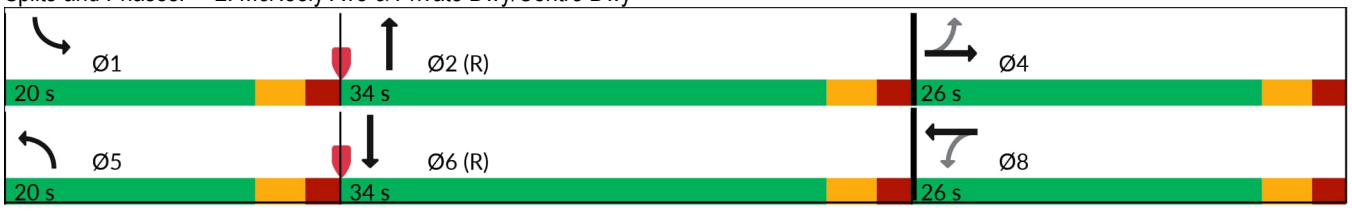
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	45.4
HCM 6th LOS	D

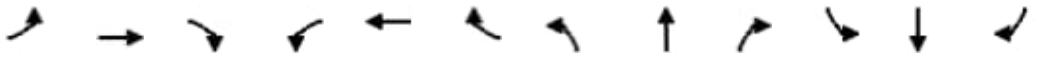
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	88	5	137	12	63	703	114	600
Future Volume (vph)	88	5	137	12	63	703	114	600
Lane Group Flow (vph)	94	74	146	123	67	753	121	768
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	26.0	26.0	26.0	26.0	20.0	34.0	20.0	34.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	25.0%	42.5%	25.0%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.44	0.22	0.63	0.33	0.36	0.38	0.36	0.39
Control Delay (s/veh)	34.4	9.2	41.4	9.3	38.0	12.7	35.8	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.4	9.2	41.4	9.3	38.0	12.7	35.8	12.4
Queue Length 50th (m)	12.9	0.6	20.8	1.7	9.7	33.4	8.9	32.7
Queue Length 95th (m)	23.9	9.8	34.8	13.4	20.3	58.5	16.1	58.8
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	311	454	341	492	332	1965	613	1971
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	0.30	0.16	0.43	0.25	0.20	0.38	0.20	0.39

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	5	65	137	12	103	63	703	5	114	600	122
Future Volume (veh/h)	88	5	65	137	12	103	63	703	5	114	600	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1841	1900	1900	1900	1856	1900	1900	1885	1870	1900
Adj Flow Rate, veh/h	94	5	69	146	13	110	67	748	5	121	638	130
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	0	4	0	0	0	3	0	0	1	2	0
Cap, veh/h	238	20	278	288	32	273	88	2082	14	207	1687	343
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.57	0.57	0.06	0.58	0.58
Sat Flow, veh/h	1225	108	1490	1343	172	1459	1767	3676	25	3483	2929	596
Grp Volume(v), veh/h	94	0	74	146	0	123	67	367	386	121	387	381
Grp Sat Flow(s),veh/h/ln	1225	0	1598	1343	0	1632	1767	1805	1896	1742	1777	1748
Q Serve(g_s), s	5.8	0.0	3.2	8.3	0.0	5.3	3.0	8.9	8.9	2.7	9.4	9.5
Cycle Q Clear(g_c), s	11.2	0.0	3.2	11.5	0.0	5.3	3.0	8.9	8.9	2.7	9.4	9.5
Prop In Lane	1.00		0.93	1.00		0.89	1.00		0.01	1.00		0.34
Lane Grp Cap(c), veh/h	238	0	299	288	0	305	88	1022	1074	207	1023	1007
V/C Ratio(X)	0.40	0.00	0.25	0.51	0.00	0.40	0.76	0.36	0.36	0.59	0.38	0.38
Avail Cap(c_a), veh/h	330	0	420	390	0	428	331	1022	1074	653	1023	1007
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	27.7	32.6	0.0	28.6	37.5	9.4	9.4	36.7	9.2	9.2
Incr Delay (d2), s/veh	1.1	0.0	0.4	1.4	0.0	0.9	12.7	1.0	0.9	2.6	1.1	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.7	1.7	0.0	1.2	1.0	0.3	0.3	0.7	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.6	0.0	28.2	34.0	0.0	29.5	50.2	10.4	10.4	39.3	10.3	10.3
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		168			269			820			889	
Approach Delay, s/veh		31.8			31.9			13.7			14.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	50.3		19.9	9.0	51.1		19.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	15.0	29.0		21.0	15.0	29.0		21.0				
Max Q Clear Time (g_c+I1), s	4.7	10.9		13.2	5.0	11.5		13.5				
Green Ext Time (p_c), s	0.4	9.9		0.9	0.1	10.0		1.5				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			17.6									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	739	188	0	805
Future Vol, veh/h	0	29	739	188	0	805
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	0	31	795	202	0	866

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	499	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	522	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	522	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.3	0	0
HCM LOS	B		

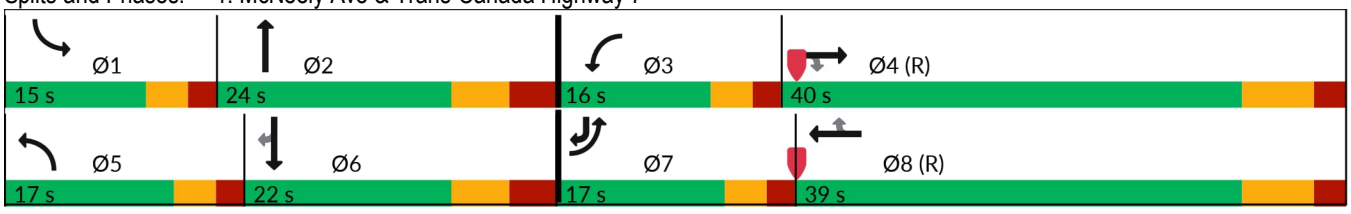
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	522	-
HCM Lane V/C Ratio	-	-	0.06	-
HCM Ctrl Dly (s/v)	-	-	12.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.2	-

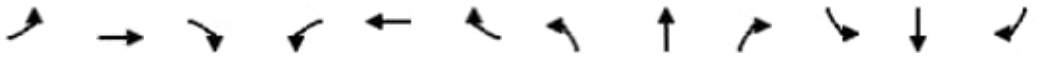
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	346	667	138	156	955	350	171	234	247	206	357
Future Volume (vph)	346	667	138	156	955	350	171	234	247	206	357
Lane Group Flow (vph)	368	710	147	166	1016	372	182	337	263	219	380
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	17.0	40.0	40.0	16.0	39.0	39.0	17.0	24.0	15.0	22.0	17.0
Total Split (%)	17.9%	42.1%	42.1%	16.8%	41.1%	41.1%	17.9%	25.3%	15.8%	23.2%	17.9%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.87	0.61	0.23	0.85	0.87	0.58	0.82	0.52	0.75	0.40	0.71
Control Delay (s/veh)	62.7	28.5	3.8	77.9	39.4	16.7	69.6	33.8	56.1	38.6	26.7
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 (s/veh)	62.7	28.5	3.8	77.9	39.4	16.7	69.6	33.8	56.1	38.6	26.7
Queue Length 50th (m)	34.6	56.1	0.0	30.3	91.1	26.7	33.0	25.6	24.5	19.2	40.4
Queue Length 95th (m)	#58.3	74.5	9.9	#64.6	#125.6	55.0	#67.5	39.2	#41.4	30.2	70.5
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	423	1170	627	195	1167	643	222	653	349	552	534
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	0.87	0.61	0.23	0.85	0.87	0.58	0.82	0.52	0.75	0.40	0.71

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	667	138	156	955	350	171	234	83	247	206	357
Future Volume (veh/h)	346	667	138	156	955	350	171	234	83	247	206	357
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	368	710	147	166	1016	372	182	249	88	263	219	380
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	440	1194	541	206	1186	529	229	462	159	361	559	451
Arrive On Green	0.13	0.34	0.34	0.12	0.33	0.33	0.13	0.18	0.18	0.11	0.15	0.15
Sat Flow, veh/h	3483	3469	1571	1781	3554	1584	1810	2631	906	3428	3610	1601
Grp Volume(v), veh/h	368	710	147	166	1016	372	182	169	168	263	219	380
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1781	1777	1584	1810	1805	1731	1714	1805	1601
Q Serve(g_s), s	9.8	16.0	6.4	8.6	25.3	19.4	9.3	8.1	8.4	7.1	5.2	14.7
Cycle Q Clear(g_c), s	9.8	16.0	6.4	8.6	25.3	19.4	9.3	8.1	8.4	7.1	5.2	14.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	440	1194	541	206	1186	529	229	317	304	361	559	451
V/C Ratio(X)	0.84	0.59	0.27	0.80	0.86	0.70	0.80	0.53	0.55	0.73	0.39	0.84
Avail Cap(c_a), veh/h	440	1194	541	206	1186	529	229	317	304	361	559	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	25.7	22.5	41.0	29.5	27.6	40.3	35.6	35.7	41.2	36.1	32.2
Incr Delay (d2), s/veh	17.0	2.2	1.2	27.4	8.1	7.7	24.3	6.3	7.1	12.2	2.1	17.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	3.0	1.2	3.8	5.8	4.2	3.9	2.5	2.5	2.4	1.4	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.5	27.9	23.8	68.4	37.6	35.2	64.6	41.9	42.8	53.4	38.2	49.4
LnGrp LOS	E	C	C	E	D	D	E	D	D	D	D	D
Approach Vol, veh/h		1225			1554			519			862	
Approach Delay, s/veh		36.3			40.3			50.2			47.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	24.0	16.0	40.0	17.0	22.0	17.0	39.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	16.7	11.0	32.7	12.0	14.7	12.0	31.7
Max Q Clear Time (g_c+I1), s	9.1	10.4	10.6	18.0	11.3	16.7	11.8	27.3
Green Ext Time (p_c), s	0.1	2.2	0.0	10.6	0.1	0.0	0.0	4.1

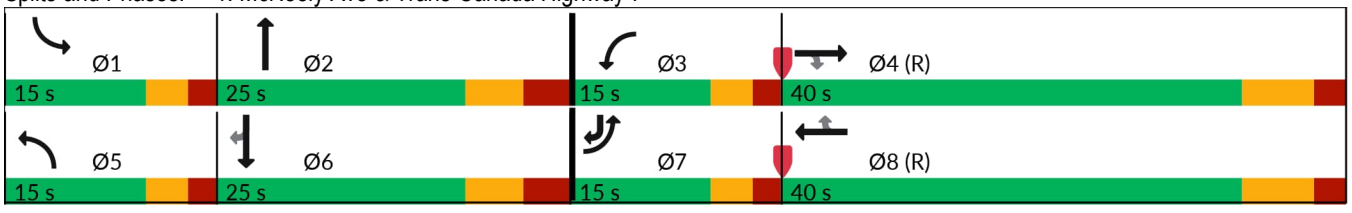
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	41.9
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	367	656	178	103	827	259	175	316	270	283	371
Future Volume (vph)	367	656	178	103	827	259	175	316	270	283	371
Lane Group Flow (vph)	374	669	182	105	844	264	179	439	276	289	379
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.05	0.55	0.29	0.58	0.69	0.41	0.97	0.63	0.77	0.43	0.60
Control Delay (s/veh)	104.1	27.3	6.0	54.2	30.5	11.2	102.9	36.2	56.6	36.6	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	104.1	27.3	6.0	54.2	30.5	11.2	102.9	36.2	56.6	36.6	21.8
Queue Length 50th (m)	~38.8	51.6	2.2	18.7	69.3	12.7	33.2	35.0	25.8	24.9	39.5
Queue Length 95th (m)	#66.3	68.7	15.9	#37.4	90.2	32.4	#73.1	50.7	#43.5	37.2	69.0
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	356	1216	637	181	1216	643	185	696	360	665	629
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	1.05	0.55	0.29	0.58	0.69	0.41	0.97	0.63	0.77	0.43	0.60

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	656	178	103	827	259	175	316	115	270	283	371
Future Volume (veh/h)	367	656	178	103	827	259	175	316	115	270	283	371
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	374	669	182	105	844	264	179	322	117	276	289	379
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	370	1233	547	190	1233	547	190	484	172	370	673	469
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3582	1588	1810	3582	1589	1810	2597	924	3510	3610	1608
Grp Volume(v), veh/h	374	669	182	105	844	264	179	222	217	276	289	379
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1810	1791	1589	1810	1805	1716	1755	1805	1608
Q Serve(g_s), s	10.0	14.3	8.1	5.2	19.2	12.4	9.3	10.8	11.2	7.3	6.7	17.7
Cycle Q Clear(g_c), s	10.0	14.3	8.1	5.2	19.2	12.4	9.3	10.8	11.2	7.3	6.7	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	370	1233	547	190	1233	547	190	336	320	370	673	469
V/C Ratio(X)	1.01	0.54	0.33	0.55	0.68	0.48	0.94	0.66	0.68	0.75	0.43	0.81
Avail Cap(c_a), veh/h	370	1233	547	190	1233	547	190	336	320	370	673	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.1	23.1	40.4	26.7	24.5	42.2	35.9	36.0	41.3	34.2	31.2
Incr Delay (d2), s/veh	49.9	1.7	1.6	11.0	3.1	3.0	51.1	9.7	11.1	12.9	2.0	13.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.8	1.5	2.0	3.8	2.4	5.1	3.5	3.5	2.5	1.8	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	92.4	26.8	24.7	51.4	29.8	27.5	93.3	45.6	47.1	54.2	36.2	45.1
LnGrp LOS	F	C	C	D	C	C	F	D	D	D	D	D
Approach Vol, veh/h		1225			1213			618			944	
Approach Delay, s/veh		46.5			31.2			59.9			45.0	
Approach LOS		D			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.3	13.2	7.2	16.3	11.3	19.7	12.0	21.2
Green Ext Time (p_c), s	0.1	2.2	0.1	11.3	0.0	0.0	0.0	9.7

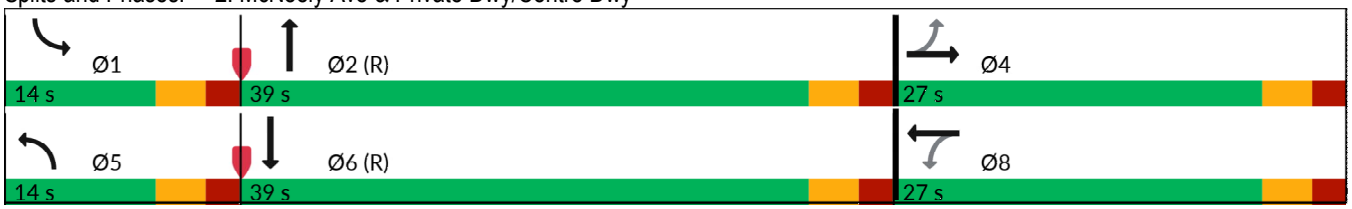
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	43.6
HCM 6th LOS	D

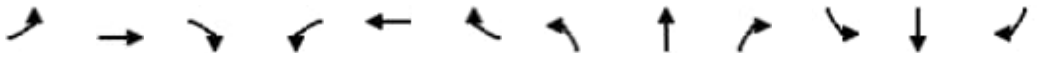
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	98	17	152	20	114	676	183	690
Future Volume (vph)	98	17	152	20	114	676	183	690
Lane Group Flow (vph)	104	108	162	134	121	723	195	878
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	27.0	27.0	27.0	27.0	14.0	39.0	14.0	39.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	17.5%	48.8%	17.5%	48.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.44	0.28	0.67	0.34	0.56	0.41	0.51	0.46
Control Delay (s/veh)	32.8	9.7	42.4	9.5	43.7	14.4	38.1	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.8	9.7	42.4	9.5	43.7	14.4	38.1	14.2
Queue Length 50th (m)	14.0	2.3	23.0	2.6	17.3	34.8	14.4	43.4
Queue Length 95th (m)	25.5	13.1	38.1	14.7	#37.0	55.1	24.5	66.6
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	338	512	346	518	228	1777	397	1915
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	0.31	0.21	0.47	0.26	0.53	0.41	0.49	0.46

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	17	85	152	20	106	114	676	4	183	690	135
Future Volume (veh/h)	98	17	85	152	20	106	114	676	4	183	690	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	104	18	90	162	21	113	121	719	4	195	734	144
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	277	59	297	300	56	300	154	1896	11	285	1531	300
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.52	0.52	0.08	0.51	0.51
Sat Flow, veh/h	1274	275	1375	1305	258	1389	1810	3681	20	3510	2996	588
Grp Volume(v), veh/h	104	0	108	162	0	134	121	353	370	195	442	436
Grp Sat Flow(s),veh/h/ln	1274	0	1650	1305	0	1648	1810	1805	1896	1755	1805	1779
Q Serve(g_s), s	6.1	0.0	4.4	9.5	0.0	5.6	5.2	9.4	9.4	4.3	12.7	12.7
Cycle Q Clear(g_c), s	11.6	0.0	4.4	13.9	0.0	5.6	5.2	9.4	9.4	4.3	12.7	12.7
Prop In Lane	1.00		0.83	1.00		0.84	1.00		0.01	1.00		0.33
Lane Grp Cap(c), veh/h	277	0	357	300	0	356	154	930	977	285	922	909
V/C Ratio(X)	0.38	0.00	0.30	0.54	0.00	0.38	0.78	0.38	0.38	0.69	0.48	0.48
Avail Cap(c_a), veh/h	352	0	454	377	0	453	204	930	977	395	922	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	26.3	32.1	0.0	26.7	35.9	11.7	11.7	35.8	12.7	12.7
Incr Delay (d2), s/veh	0.8	0.0	0.5	1.5	0.0	0.7	13.5	1.2	1.1	2.9	1.8	1.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.0	1.9	0.0	1.3	1.8	0.3	0.3	1.1	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.5	0.0	26.8	33.6	0.0	27.4	49.4	12.9	12.8	38.7	14.5	14.5
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		212			296			844			1073	
Approach Delay, s/veh		29.6			30.8			18.1			18.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	46.2		22.3	11.8	45.9		22.3				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	34.0		22.0	9.0	34.0		22.0				
Max Q Clear Time (g_c+I1), s	6.3	11.4		13.6	7.2	14.7		15.9				
Green Ext Time (p_c), s	0.2	11.0		1.3	0.1	12.0		1.4				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			21.0									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	49	739	183	0	933
Future Vol, veh/h	0	49	739	183	0	933
Conflicting Peds, #/hr	0	0	0	2	2	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	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	51	762	189	0	962

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	478	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	539	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	538	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	538	-
HCM Lane V/C Ratio	-	-	0.094	-
HCM Ctrl Dly (s/v)	-	-	12.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.3	-

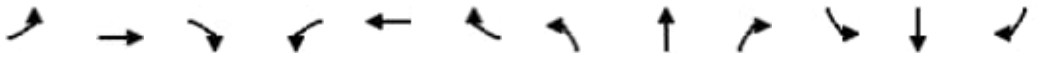
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	367	656	178	103	827	259	175	316	270	283	371
Future Volume (vph)	367	656	178	103	827	259	175	316	270	283	371
Lane Group Flow (vph)	374	669	182	105	844	264	179	439	276	289	379
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	18.0	40.0	40.0	15.0	37.0	37.0	16.0	25.0	15.0	24.0	18.0
Total Split (%)	18.9%	42.1%	42.1%	15.8%	38.9%	38.9%	16.8%	26.3%	15.8%	25.3%	18.9%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.81	0.55	0.29	0.58	0.76	0.44	0.88	0.63	0.77	0.46	0.58
Control Delay (s/veh)	54.6	27.3	6.0	54.2	34.9	12.6	80.9	36.2	56.6	37.9	20.0
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 (s/veh)	54.6	27.3	6.0	54.2	34.9	12.6	80.9	36.2	56.6	37.9	20.0
Queue Length 50th (m)	34.7	51.6	2.2	18.7	73.0	13.4	32.8	35.0	25.8	25.2	37.9
Queue Length 95th (m)	#55.7	68.7	15.9	#37.4	95.0	34.2	#69.5	50.7	#43.5	37.6	66.4
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	463	1216	637	181	1105	599	204	696	360	627	659
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	0.81	0.55	0.29	0.58	0.76	0.44	0.88	0.63	0.77	0.46	0.58

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	656	178	103	827	259	175	316	115	270	283	371
Future Volume (veh/h)	367	656	178	103	827	259	175	316	115	270	283	371
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	374	669	182	105	844	264	179	322	117	276	289	379
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	480	1233	547	190	1120	497	210	484	172	370	635	503
Arrive On Green	0.14	0.34	0.34	0.11	0.31	0.31	0.12	0.19	0.19	0.11	0.18	0.18
Sat Flow, veh/h	3510	3582	1588	1810	3582	1589	1810	2597	924	3510	3610	1607
Grp Volume(v), veh/h	374	669	182	105	844	264	179	222	217	276	289	379
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1810	1791	1589	1810	1805	1716	1755	1805	1607
Q Serve(g_s), s	9.8	14.3	8.1	5.2	20.1	13.0	9.2	10.8	11.2	7.3	6.8	16.7
Cycle Q Clear(g_c), s	9.8	14.3	8.1	5.2	20.1	13.0	9.2	10.8	11.2	7.3	6.8	16.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	480	1233	547	190	1120	497	210	336	320	370	635	503
V/C Ratio(X)	0.78	0.54	0.33	0.55	0.75	0.53	0.85	0.66	0.68	0.75	0.46	0.75
Avail Cap(c_a), veh/h	480	1233	547	190	1120	497	210	336	320	370	635	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	25.1	23.1	40.4	29.4	26.9	41.2	35.9	36.0	41.3	35.1	29.4
Incr Delay (d2), s/veh	11.8	1.7	1.6	11.0	4.7	4.0	33.4	9.7	11.1	12.9	2.3	10.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	2.8	1.5	2.0	4.5	2.7	4.3	3.5	3.5	2.5	1.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.4	26.8	24.7	51.4	34.1	31.0	74.6	45.6	47.1	54.2	37.4	39.4
LnGrp LOS	D	C	C	D	C	C	E	D	D	D	D	D
Approach Vol, veh/h		1225			1213			618			944	
Approach Delay, s/veh		34.0			34.9			54.5			43.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	16.0	24.0	18.0	37.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	11.0	16.7	13.0	29.7
Max Q Clear Time (g_c+I1), s	9.3	13.2	7.2	16.3	11.2	18.7	11.8	22.1
Green Ext Time (p_c), s	0.1	2.2	0.1	11.3	0.0	0.0	0.3	6.6

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	39.6
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	267	620	136	56	511	182	94	138	292	156	179
Future Volume (vph)	267	620	136	56	511	182	94	138	292	156	179
Lane Group Flow (vph)	284	660	145	60	544	194	100	235	311	166	190
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.83	0.56	0.23	0.19	0.33	0.31	0.28	0.34	0.89	0.25	0.33
Control Delay (s/veh)	63.0	27.6	3.7	40.4	23.8	4.8	41.5	22.3	70.4	34.2	5.7
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 (s/veh)	63.0	27.6	3.7	40.4	23.8	4.8	41.5	22.3	70.4	34.2	5.7
Queue Length 50th (m)	26.7	51.3	0.0	5.2	26.7	0.0	8.8	12.2	29.4	13.7	1.5
Queue Length 95th (m)	#47.3	68.5	9.5	11.1	35.9	13.9	16.4	22.6	#52.7	22.7	14.9
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	323	1634	619	353	686	349	658	584
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	0.83	0.56	0.23	0.19	0.33	0.31	0.28	0.34	0.89	0.25	0.33

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	620	136	56	511	182	94	138	83	292	156	179
Future Volume (veh/h)	267	620	136	56	511	182	94	138	83	292	156	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	284	660	145	60	544	194	100	147	88	311	166	190
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	358	1194	545	344	1674	514	364	398	225	361	667	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	3264	4863	1495	3456	2134	1205	3428	3582	1567
Grp Volume(v), veh/h	284	660	145	60	544	194	100	118	117	311	166	190
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1632	1621	1495	1728	1735	1604	1714	1791	1567
Q Serve(g_s), s	7.7	14.6	6.3	1.6	7.8	9.3	2.5	5.6	6.1	8.5	3.8	9.3
Cycle Q Clear(g_c), s	7.7	14.6	6.3	1.6	7.8	9.3	2.5	5.6	6.1	8.5	3.8	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	344	1674	514	364	323	299	361	667	458
V/C Ratio(X)	0.79	0.55	0.27	0.17	0.32	0.38	0.27	0.36	0.39	0.86	0.25	0.42
Avail Cap(c_a), veh/h	358	1194	545	344	1674	514	364	323	299	361	667	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	25.2	22.5	38.7	23.0	23.5	39.2	33.7	33.9	41.8	33.0	27.1
Incr Delay (d2), s/veh	16.4	1.8	1.2	1.1	0.5	2.1	1.9	3.2	3.8	22.8	0.9	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.8	1.1	0.4	1.3	1.6	0.7	1.6	1.6	3.2	1.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.9	27.1	23.7	39.8	23.5	25.6	41.0	36.9	37.8	64.6	33.9	29.9
LnGrp LOS	E	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1089			798			335			667	
Approach Delay, s/veh		34.7			25.2			38.4			47.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.5	8.1	3.6	16.6	4.5	11.3	9.7	11.3
Green Ext Time (p_c), s	0.0	2.1	0.1	10.9	0.2	1.8	0.0	12.1

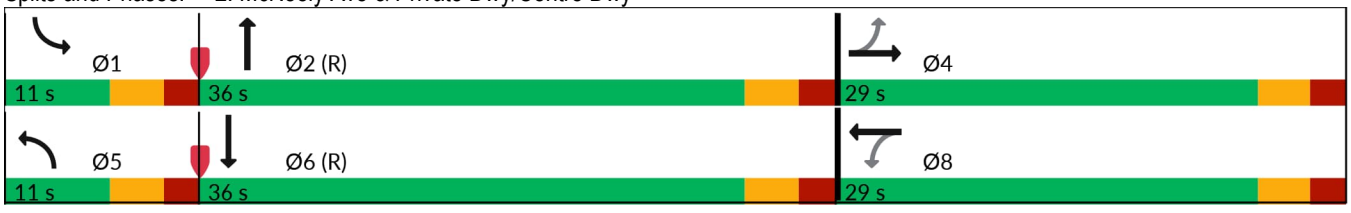
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	35.4
HCM 6th LOS	D

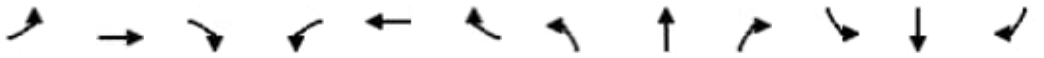
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	82	11	46	9	51	455	68	514
Future Volume (vph)	82	11	46	9	51	455	68	514
Lane Group Flow (vph)	89	73	50	49	55	497	74	685
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	29.0	29.0	29.0	29.0	11.0	36.0	11.0	36.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	14.5%	47.4%	14.5%	47.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.48	0.28	0.29	0.20	0.31	0.23	0.24	0.30
Control Delay (s/veh)	37.7	12.9	32.4	13.8	35.5	8.7	33.4	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.7	12.9	32.4	13.8	35.5	8.7	33.4	8.5
Queue Length 50th (m)	12.0	1.5	6.6	1.3	7.5	17.1	5.2	23.8
Queue Length 95th (m)	23.5	11.4	15.0	9.3	16.9	30.7	10.7	43.1
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	425	521	402	518	180	2132	311	2266
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	0.21	0.14	0.12	0.09	0.31	0.23	0.24	0.30

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	11	56	46	9	36	51	455	2	68	514	116
Future Volume (veh/h)	82	11	56	46	9	36	51	455	2	68	514	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1500	1856	1870	1737	1870	1811	1811	1159	1885	1811	1885
Adj Flow Rate, veh/h	89	12	61	50	10	39	55	495	2	74	559	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	27	3	2	11	2	6	6	50	1	6	1
Cap, veh/h	240	29	147	205	42	163	78	2164	9	181	1737	390
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.62	0.62	0.05	0.62	0.62
Sat Flow, veh/h	1375	214	1087	1325	309	1207	1725	3515	14	3483	2791	627
Grp Volume(v), veh/h	89	0	73	50	0	49	55	242	255	74	344	341
Grp Sat Flow(s),veh/h/ln	1375	0	1301	1325	0	1517	1725	1721	1809	1742	1721	1697
Q Serve(g_s), s	4.7	0.0	3.9	2.7	0.0	2.2	2.4	4.8	4.8	1.6	7.2	7.2
Cycle Q Clear(g_c), s	6.9	0.0	3.9	6.6	0.0	2.2	2.4	4.8	4.8	1.6	7.2	7.2
Prop In Lane	1.00		0.84	1.00		0.80	1.00		0.01	1.00		0.37
Lane Grp Cap(c), veh/h	240	0	175	205	0	205	78	1059	1114	181	1071	1057
V/C Ratio(X)	0.37	0.00	0.42	0.24	0.00	0.24	0.71	0.23	0.23	0.41	0.32	0.32
Avail Cap(c_a), veh/h	489	0	411	445	0	479	136	1059	1114	275	1071	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	30.1	33.2	0.0	29.4	35.8	6.5	6.5	34.9	6.8	6.8
Incr Delay (d2), s/veh	0.9	0.0	1.6	0.6	0.0	0.6	11.0	0.5	0.5	1.5	0.8	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.8	0.6	0.0	0.5	0.7	0.1	0.1	0.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.4	0.0	31.7	33.8	0.0	30.0	46.8	7.0	7.0	36.4	7.6	7.6
LnGrp LOS	C		C	C		C	D	A	A	D	A	A
Approach Vol, veh/h		162			99			552			759	
Approach Delay, s/veh		32.6			31.9			11.0			10.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	51.8		15.2	8.4	52.3		15.2				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	31.0		24.0	6.0	31.0		24.0				
Max Q Clear Time (g_c+I1), s	3.6	6.8		8.9	4.4	9.2		8.6				
Green Ext Time (p_c), s	0.1	7.8		1.3	0.0	10.4		0.7				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.2									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	497	79	0	618
Future Vol, veh/h	0	1	497	79	0	618
Conflicting Peds, #/hr	0	0	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	7	1	0	5
Mvmt Flow	0	1	558	89	0	694

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	325	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	677	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	676	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	676	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Ctrl Dly (s/v)	-	-	10.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0	-

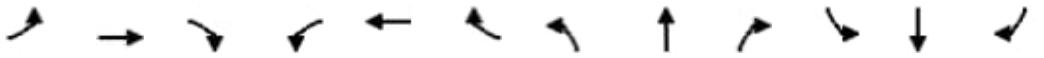
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	267	620	136	56	511	182	94	138	292	156	179
Future Volume (vph)	267	620	136	56	511	182	94	138	292	156	179
Lane Group Flow (vph)	284	660	145	60	544	194	100	235	311	166	190
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	24.0	16.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	25.3%	16.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.83	0.56	0.23	0.19	0.33	0.31	0.28	0.36	0.81	0.25	0.33
Control Delay (s/veh)	63.0	27.6	3.7	40.4	23.8	4.8	41.5	23.0	58.6	34.2	5.7
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 (s/veh)	63.0	27.6	3.7	40.4	23.8	4.8	41.5	23.0	58.6	34.2	5.7
Queue Length 50th (m)	26.7	51.3	0.0	5.2	26.7	0.0	8.8	12.3	29.1	13.7	1.5
Queue Length 95th (m)	#47.3	68.5	9.5	11.1	35.9	13.9	16.4	23.0	#49.2	22.7	14.9
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	323	1634	619	353	652	384	658	584
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	0.83	0.56	0.23	0.19	0.33	0.31	0.28	0.36	0.81	0.25	0.33

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	620	136	56	511	182	94	138	83	292	156	179
Future Volume (veh/h)	267	620	136	56	511	182	94	138	83	292	156	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	284	660	145	60	544	194	100	147	88	311	166	190
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	358	1194	545	344	1674	514	364	375	212	397	667	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.18	0.18	0.12	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	3264	4863	1495	3456	2134	1205	3428	3582	1567
Grp Volume(v), veh/h	284	660	145	60	544	194	100	118	117	311	166	190
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1632	1621	1495	1728	1735	1604	1714	1791	1567
Q Serve(g_s), s	7.7	14.6	6.3	1.6	7.8	9.3	2.5	5.7	6.2	8.4	3.8	9.3
Cycle Q Clear(g_c), s	7.7	14.6	6.3	1.6	7.8	9.3	2.5	5.7	6.2	8.4	3.8	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	344	1674	514	364	305	282	397	667	458
V/C Ratio(X)	0.79	0.55	0.27	0.17	0.32	0.38	0.27	0.39	0.42	0.78	0.25	0.42
Avail Cap(c_a), veh/h	358	1194	545	344	1674	514	364	305	282	397	667	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	25.2	22.5	38.7	23.0	23.5	39.2	34.6	34.8	40.8	33.0	27.1
Incr Delay (d2), s/veh	16.4	1.8	1.2	1.1	0.5	2.1	1.9	3.7	4.5	14.3	0.9	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.8	1.1	0.4	1.3	1.6	0.7	1.6	1.7	2.8	1.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.9	27.1	23.7	39.8	23.5	25.6	41.0	38.3	39.3	55.1	33.9	29.9
LnGrp LOS	E	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1089			798			335			667	
Approach Delay, s/veh		34.7			25.2			39.4			42.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	24.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	11.0	16.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.4	8.2	3.6	16.6	4.5	11.3	9.7	11.3
Green Ext Time (p_c), s	0.1	1.9	0.1	10.9	0.2	1.8	0.0	12.1

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	34.5
HCM 6th LOS	C

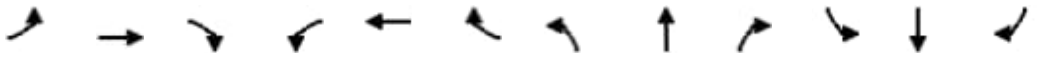
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	368	667	149	168	955	375	184	273	265	241	380
Future Volume (vph)	368	667	149	168	955	375	184	273	265	241	380
Lane Group Flow (vph)	391	710	159	179	1016	399	196	386	282	256	404
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.11	0.61	0.25	0.52	0.59	0.55	0.54	0.56	0.81	0.38	0.74
Control Delay (s/veh)	122.0	28.5	4.6	46.1	27.3	10.2	46.5	34.7	60.5	35.9	27.7
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 (s/veh)	122.0	28.5	4.6	46.1	27.3	10.2	46.5	34.7	60.5	35.9	27.7
Queue Length 50th (m)	~42.5	56.1	0.0	16.2	55.4	13.9	17.8	30.3	26.4	21.8	44.2
Queue Length 95th (m)	#70.4	74.5	11.9	26.6	69.0	40.2	28.6	44.8	#45.9	33.2	76.1
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	352	1170	627	345	1731	726	360	689	349	665	548
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	1.11	0.61	0.25	0.52	0.59	0.55	0.54	0.56	0.81	0.38	0.74

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	368	667	149	168	955	375	184	273	90	265	241	380
Future Volume (veh/h)	368	667	149	168	955	375	184	273	90	265	241	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	391	710	159	179	1016	399	196	290	96	282	256	404
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	367	1194	541	364	1758	545	370	499	162	361	673	468
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	3456	5106	1584	3510	2676	868	3428	3610	1602
Grp Volume(v), veh/h	391	710	159	179	1016	399	196	194	192	282	256	404
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1728	1702	1584	1755	1805	1739	1714	1805	1602
Q Serve(g_s), s	10.0	16.0	7.0	4.6	15.5	21.0	5.0	9.3	9.6	7.6	5.9	17.7
Cycle Q Clear(g_c), s	10.0	16.0	7.0	4.6	15.5	21.0	5.0	9.3	9.6	7.6	5.9	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	367	1194	541	364	1758	545	370	336	324	361	673	468
V/C Ratio(X)	1.07	0.59	0.29	0.49	0.58	0.73	0.53	0.58	0.59	0.78	0.38	0.86
Avail Cap(c_a), veh/h	367	1194	541	364	1758	545	370	336	324	361	673	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.7	22.7	40.1	25.5	27.3	40.3	35.2	35.4	41.4	33.8	31.9
Incr Delay (d2), s/veh	65.7	2.2	1.4	4.7	1.4	8.4	5.4	7.0	7.8	15.4	1.6	18.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	3.0	1.3	1.4	2.8	4.5	1.6	2.9	2.9	2.7	1.6	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	108.2	27.9	24.1	44.8	26.9	35.7	45.6	42.2	43.2	56.9	35.5	50.5
LnGrp LOS	F	C	C	D	C	D	D	D	D	E	D	D
Approach Vol, veh/h		1260			1594			582			942	
Approach Delay, s/veh		52.3			31.1			43.7			48.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.6	11.6	6.6	18.0	7.0	19.7	12.0	23.0
Green Ext Time (p_c), s	0.1	2.5	0.3	10.7	0.3	0.0	0.0	8.9

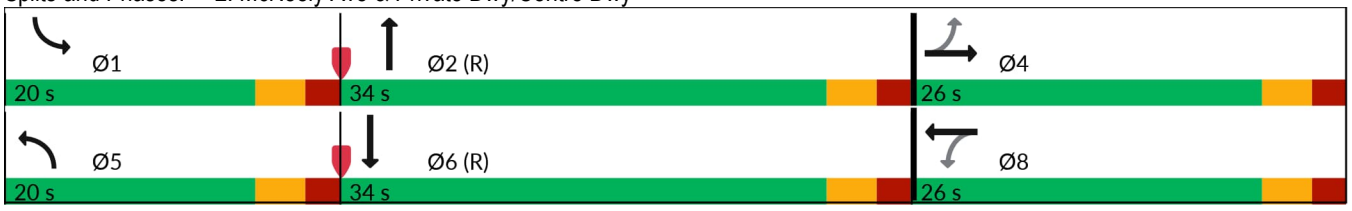
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	42.6
HCM 6th LOS	D

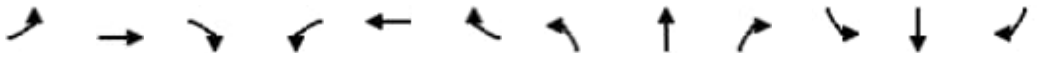
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	92	5	137	12	66	786	114	673
Future Volume (vph)	92	5	137	12	66	786	114	673
Lane Group Flow (vph)	98	77	146	123	70	841	121	852
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	26.0	26.0	26.0	26.0	20.0	34.0	20.0	34.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	25.0%	42.5%	25.0%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.46	0.23	0.63	0.33	0.37	0.43	0.36	0.43
Control Delay (s/veh)	35.1	9.1	41.6	9.3	38.0	13.2	35.8	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	35.1	9.1	41.6	9.3	38.0	13.2	35.8	13.1
Queue Length 50th (m)	13.5	0.6	20.8	1.7	10.1	38.5	8.9	37.8
Queue Length 95th (m)	24.7	10.1	34.9	13.4	20.9	67.0	16.1	67.5
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	311	456	340	492	332	1965	613	1965
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.17	0.43	0.25	0.21	0.43	0.20	0.43

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	5	68	137	12	103	66	786	5	114	673	128
Future Volume (veh/h)	92	5	68	137	12	103	66	786	5	114	673	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1841	1900	1900	1900	1856	1900	1900	1885	1870	1900
Adj Flow Rate, veh/h	98	5	72	146	13	110	70	836	5	121	716	136
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	0	4	0	0	0	3	0	0	1	2	0
Cap, veh/h	240	20	281	287	32	275	92	2078	12	207	1698	322
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.56	0.56	0.06	0.57	0.57
Sat Flow, veh/h	1225	104	1494	1340	172	1459	1767	3679	22	3483	2968	563
Grp Volume(v), veh/h	98	0	77	146	0	123	70	410	431	121	428	424
Grp Sat Flow(s),veh/h/ln	1225	0	1598	1340	0	1632	1767	1805	1896	1742	1777	1755
Q Serve(g_s), s	6.1	0.0	3.3	8.3	0.0	5.3	3.1	10.2	10.2	2.7	10.9	10.9
Cycle Q Clear(g_c), s	11.4	0.0	3.3	11.6	0.0	5.3	3.1	10.2	10.2	2.7	10.9	10.9
Prop In Lane	1.00		0.94	1.00		0.89	1.00		0.01	1.00		0.32
Lane Grp Cap(c), veh/h	240	0	301	287	0	307	92	1019	1071	207	1016	1004
V/C Ratio(X)	0.41	0.00	0.26	0.51	0.00	0.40	0.76	0.40	0.40	0.59	0.42	0.42
Avail Cap(c_a), veh/h	331	0	419	387	0	428	331	1019	1071	653	1016	1004
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	27.7	32.6	0.0	28.5	37.4	9.8	9.8	36.7	9.7	9.7
Incr Delay (d2), s/veh	1.1	0.0	0.4	1.4	0.0	0.8	12.1	1.2	1.1	2.6	1.3	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.7	1.7	0.0	1.2	1.0	0.3	0.3	0.7	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.6	0.0	28.1	34.0	0.0	29.3	49.5	11.0	10.9	39.3	10.9	11.0
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		175			269			911			973	
Approach Delay, s/veh		31.8			31.9			13.9			14.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	50.2		20.1	9.2	50.8		20.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	15.0	29.0		21.0	15.0	29.0		21.0				
Max Q Clear Time (g_c+I1), s	4.7	12.2		13.4	5.1	12.9		13.6				
Green Ext Time (p_c), s	0.4	10.3		0.9	0.2	10.2		1.4				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			17.6									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	825	188	0	881
Future Vol, veh/h	0	29	825	188	0	881
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	0	31	887	202	0	947

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	545	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	488	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	488	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	488	-
HCM Lane V/C Ratio	-	-	0.064	-
HCM Ctrl Dly (s/v)	-	-	12.9	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.2	-

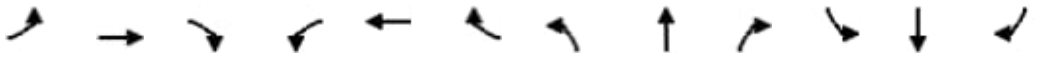
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	368	667	149	168	955	375	184	273	265	241	380
Future Volume (vph)	368	667	149	168	955	375	184	273	265	241	380
Lane Group Flow (vph)	391	710	159	179	1016	399	196	386	282	256	404
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	18.0	40.0	40.0	15.0	37.0	37.0	15.0	25.0	15.0	25.0	18.0
Total Split (%)	18.9%	42.1%	42.1%	15.8%	38.9%	38.9%	15.8%	26.3%	15.8%	26.3%	18.9%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.85	0.61	0.25	0.52	0.65	0.59	0.54	0.56	0.81	0.38	0.68
Control Delay (s/veh)	59.0	28.5	4.6	46.1	30.4	12.4	46.5	34.7	60.5	35.9	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.0	28.5	4.6	46.1	30.4	12.4	46.5	34.7	60.5	35.9	23.4
Queue Length 50th (m)	36.5	56.1	0.0	16.2	58.4	16.6	17.8	30.3	26.4	21.8	41.8
Queue Length 95th (m)	#60.0	74.5	11.9	26.6	72.6	45.4	28.6	44.8	#45.9	33.2	71.8
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	458	1170	627	345	1572	677	360	689	349	665	593
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	0.85	0.61	0.25	0.52	0.65	0.59	0.54	0.56	0.81	0.38	0.68

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	368	667	149	168	955	375	184	273	90	265	241	380
Future Volume (veh/h)	368	667	149	168	955	375	184	273	90	265	241	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	391	710	159	179	1016	399	196	290	96	282	256	404
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	477	1194	541	364	1596	495	370	499	162	361	673	519
Arrive On Green	0.14	0.34	0.34	0.11	0.31	0.31	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	3456	5106	1584	3510	2676	868	3428	3610	1602
Grp Volume(v), veh/h	391	710	159	179	1016	399	196	194	192	282	256	404
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1728	1702	1584	1755	1805	1739	1714	1805	1602
Q Serve(g_s), s	10.4	16.0	7.0	4.6	16.2	22.0	5.0	9.3	9.6	7.6	5.9	17.7
Cycle Q Clear(g_c), s	10.4	16.0	7.0	4.6	16.2	22.0	5.0	9.3	9.6	7.6	5.9	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	477	1194	541	364	1596	495	370	336	324	361	673	519
V/C Ratio(X)	0.82	0.59	0.29	0.49	0.64	0.81	0.53	0.58	0.59	0.78	0.38	0.78
Avail Cap(c_a), veh/h	477	1194	541	364	1596	495	370	336	324	361	673	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	25.7	22.7	40.1	28.0	30.0	40.3	35.2	35.4	41.4	33.8	29.1
Incr Delay (d2), s/veh	14.6	2.2	1.4	4.7	2.0	13.1	5.4	7.0	7.8	15.4	1.6	11.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	3.0	1.3	1.4	3.2	5.5	1.6	2.9	2.9	2.7	1.6	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.5	27.9	24.1	44.8	30.0	43.1	45.6	42.2	43.2	56.9	35.5	40.1
LnGrp LOS	D	C	C	D	C	D	D	D	D	E	D	D
Approach Vol, veh/h		1260			1594			582			942	
Approach Delay, s/veh		35.6			34.9			43.7			43.9	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	18.0	37.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	13.0	29.7
Max Q Clear Time (g_c+I1), s	9.6	11.6	6.6	18.0	7.0	19.7	12.4	24.0
Green Ext Time (p_c), s	0.1	2.5	0.3	10.7	0.3	0.0	0.2	5.3

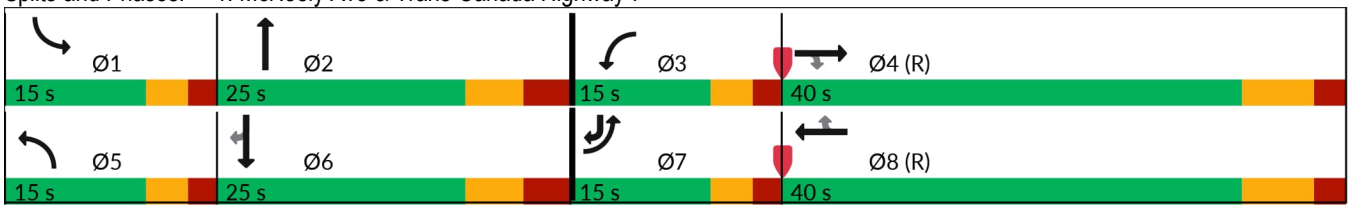
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	38.2
HCM 6th LOS	D

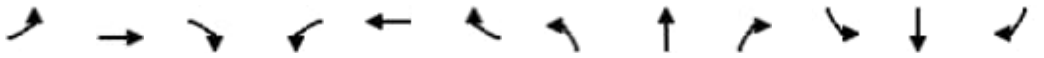
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	387	656	191	110	827	277	188	354	288	324	392
Future Volume (vph)	387	656	191	110	827	277	188	354	288	324	392
Lane Group Flow (vph)	395	669	195	112	844	283	192	488	294	331	400
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.11	0.55	0.31	0.32	0.48	0.41	0.53	0.70	0.82	0.50	0.64
Control Delay (s/veh)	121.4	27.3	6.9	42.1	25.6	6.4	46.2	39.0	60.8	37.6	23.1
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 (s/veh)	121.4	27.3	6.9	42.1	25.6	6.4	46.2	39.0	60.8	37.6	23.1
Queue Length 50th (m)	~42.9	51.6	3.8	9.9	44.1	4.3	17.4	40.4	27.6	28.8	43.5
Queue Length 95th (m)	#70.9	68.7	18.0	17.9	55.8	21.5	28.1	57.3	#47.7	42.2	75.1
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	356	1216	637	352	1748	698	360	694	360	665	629
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	1.11	0.55	0.31	0.32	0.48	0.41	0.53	0.70	0.82	0.50	0.64

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	387	656	191	110	827	277	188	354	124	288	324	392
Future Volume (veh/h)	387	656	191	110	827	277	188	354	124	288	324	392
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	395	669	195	112	844	283	192	361	127	294	331	400
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	370	1233	547	370	1771	547	370	488	169	370	673	469
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3582	1588	3510	5147	1589	3510	2618	906	3510	3610	1608
Grp Volume(v), veh/h	395	669	195	112	844	283	192	247	241	294	331	400
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1755	1716	1589	1755	1805	1720	1755	1805	1608
Q Serve(g_s), s	10.0	14.3	8.7	2.8	12.2	13.5	4.9	12.3	12.6	7.8	7.8	17.7
Cycle Q Clear(g_c), s	10.0	14.3	8.7	2.8	12.2	13.5	4.9	12.3	12.6	7.8	7.8	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	370	1233	547	370	1771	547	370	336	320	370	673	469
V/C Ratio(X)	1.07	0.54	0.36	0.30	0.48	0.52	0.52	0.73	0.75	0.80	0.49	0.85
Avail Cap(c_a), veh/h	370	1233	547	370	1771	547	370	336	320	370	673	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.1	23.3	39.3	24.4	24.9	40.2	36.4	36.6	41.5	34.6	31.7
Incr Delay (d2), s/veh	66.3	1.7	1.8	2.1	0.9	3.5	5.1	13.3	15.0	16.1	2.6	17.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	2.8	1.6	0.8	2.2	2.6	1.5	4.2	4.2	2.8	2.1	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	108.8	26.8	25.1	41.4	25.4	28.3	45.4	49.8	51.6	57.6	37.2	49.3
LnGrp LOS	F	C	C	D	C	C	D	D	D	E	D	D
Approach Vol, veh/h		1259			1239			680			1025	
Approach Delay, s/veh		52.3			27.5			49.2			47.8	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.8	14.6	4.8	16.3	6.9	19.7	12.0	15.5
Green Ext Time (p_c), s	0.0	1.7	0.2	11.4	0.3	0.0	0.0	13.8

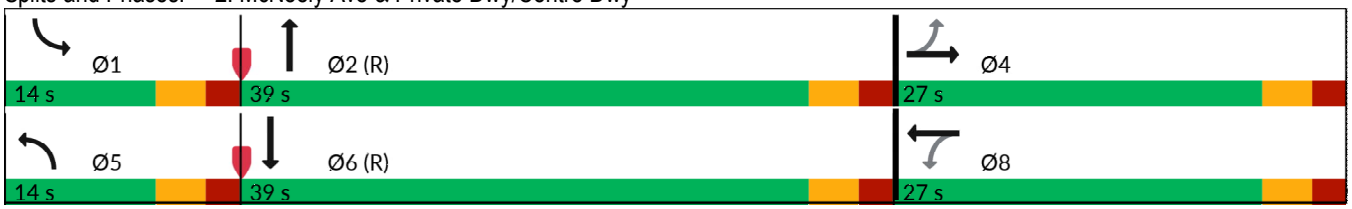
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	43.4
HCM 6th LOS	D

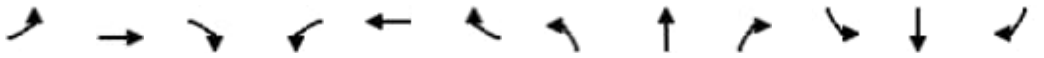
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	103	17	152	20	120	746	183	766
Future Volume (vph)	103	17	152	20	120	746	183	766
Lane Group Flow (vph)	110	113	162	134	128	798	195	966
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	27.0	27.0	27.0	27.0	14.0	39.0	14.0	39.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	17.5%	48.8%	17.5%	48.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.46	0.29	0.67	0.34	0.57	0.45	0.51	0.54
Control Delay (s/veh)	33.6	9.5	42.7	9.5	44.1	14.9	38.1	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.6	9.5	42.7	9.5	44.1	14.9	38.1	15.9
Queue Length 50th (m)	14.9	2.3	23.0	2.6	18.3	39.5	14.4	50.1
Queue Length 95th (m)	26.7	13.2	38.2	14.7	#40.2	61.9	24.5	75.4
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	338	515	345	518	233	1777	397	1801
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.22	0.47	0.26	0.55	0.45	0.49	0.54

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	17	89	152	20	106	120	746	4	183	766	142
Future Volume (veh/h)	103	17	89	152	20	106	120	746	4	183	766	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	110	18	95	162	21	113	128	794	4	195	815	151
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	281	57	303	300	57	304	162	1888	10	285	1526	283
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.51	0.51	0.08	0.50	0.50
Sat Flow, veh/h	1274	263	1386	1299	258	1389	1810	3683	19	3510	3028	561
Grp Volume(v), veh/h	110	0	113	162	0	134	128	389	409	195	486	480
Grp Sat Flow(s),veh/h/ln	1274	0	1648	1299	0	1648	1810	1805	1897	1755	1805	1784
Q Serve(g_s), s	6.4	0.0	4.6	9.6	0.0	5.5	5.5	10.7	10.7	4.3	14.6	14.6
Cycle Q Clear(g_c), s	12.0	0.0	4.6	14.2	0.0	5.5	5.5	10.7	10.7	4.3	14.6	14.6
Prop In Lane	1.00		0.84	1.00		0.84	1.00		0.01	1.00		0.31
Lane Grp Cap(c), veh/h	281	0	361	300	0	361	162	925	972	285	910	899
V/C Ratio(X)	0.39	0.00	0.31	0.54	0.00	0.37	0.79	0.42	0.42	0.69	0.53	0.53
Avail Cap(c_a), veh/h	352	0	453	372	0	453	204	925	972	395	910	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	26.2	32.1	0.0	26.6	35.7	12.1	12.1	35.8	13.5	13.5
Incr Delay (d2), s/veh	0.9	0.0	0.5	1.5	0.0	0.6	15.0	1.4	1.3	2.9	2.2	2.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.0	1.9	0.0	1.2	1.9	0.4	0.4	1.1	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.5	0.0	26.7	33.7	0.0	27.2	50.7	13.5	13.5	38.7	15.7	15.7
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		223			296			926			1161	
Approach Delay, s/veh		29.6			30.7			18.6			19.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	46.0		22.5	12.2	45.3		22.5				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	34.0		22.0	9.0	34.0		22.0				
Max Q Clear Time (g_c+I1), s	6.3	12.7		14.0	7.5	16.6		16.2				
Green Ext Time (p_c), s	0.2	11.7		1.3	0.1	12.0		1.3				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			21.4									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	49	815	183	0	1013
Future Vol, veh/h	0	49	815	183	0	1013
Conflicting Peds, #/hr	0	0	0	2	2	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	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	51	840	189	0	1044

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	517	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	509	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	508	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	508	-
HCM Lane V/C Ratio	-	-	0.099	-
HCM Ctrl Dly (s/v)	-	-	12.9	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.3	-

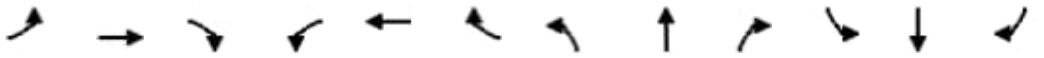
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	387	656	191	110	827	277	188	354	288	324	392
Future Volume (vph)	387	656	191	110	827	277	188	354	288	324	392
Lane Group Flow (vph)	395	669	195	112	844	283	192	488	294	331	400
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	18.0	40.0	40.0	15.0	37.0	37.0	15.0	25.0	15.0	25.0	18.0
Total Split (%)	18.9%	42.1%	42.1%	15.8%	38.9%	38.9%	15.8%	26.3%	15.8%	26.3%	18.9%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.85	0.55	0.31	0.32	0.53	0.44	0.53	0.70	0.82	0.50	0.59
Control Delay (s/veh)	58.8	27.3	6.9	42.1	28.4	7.9	46.2	39.0	60.8	37.6	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.8	27.3	6.9	42.1	28.4	7.9	46.2	39.0	60.8	37.6	20.3
Queue Length 50th (m)	37.0	51.6	3.8	9.9	46.4	5.9	17.4	40.4	27.6	28.8	41.0
Queue Length 95th (m)	#60.3	68.7	18.0	17.9	58.7	25.0	28.1	57.3	#47.7	42.2	70.9
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	463	1216	637	352	1587	649	360	694	360	665	674
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	0.85	0.55	0.31	0.32	0.53	0.44	0.53	0.70	0.82	0.50	0.59

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	387	656	191	110	827	277	188	354	124	288	324	392
Future Volume (veh/h)	387	656	191	110	827	277	188	354	124	288	324	392
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	395	669	195	112	844	283	192	361	127	294	331	400
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	480	1233	547	370	1609	497	370	488	169	370	673	520
Arrive On Green	0.14	0.34	0.34	0.11	0.31	0.31	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3582	1588	3510	5147	1589	3510	2618	906	3510	3610	1608
Grp Volume(v), veh/h	395	669	195	112	844	283	192	247	241	294	331	400
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1755	1716	1589	1755	1805	1720	1755	1805	1608
Q Serve(g_s), s	10.4	14.3	8.7	2.8	12.8	14.2	4.9	12.3	12.6	7.8	7.8	17.7
Cycle Q Clear(g_c), s	10.4	14.3	8.7	2.8	12.8	14.2	4.9	12.3	12.6	7.8	7.8	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	480	1233	547	370	1609	497	370	336	320	370	673	520
V/C Ratio(X)	0.82	0.54	0.36	0.30	0.52	0.57	0.52	0.73	0.75	0.80	0.49	0.77
Avail Cap(c_a), veh/h	480	1233	547	370	1609	497	370	336	320	370	673	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	25.1	23.3	39.3	26.8	27.3	40.2	36.4	36.6	41.5	34.6	29.0
Incr Delay (d2), s/veh	14.7	1.7	1.8	2.1	1.2	4.7	5.1	13.3	15.0	16.1	2.6	10.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	2.8	1.6	0.8	2.5	3.0	1.5	4.2	4.2	2.8	2.1	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.5	26.8	25.1	41.4	28.1	32.0	45.4	49.8	51.6	57.6	37.2	39.5
LnGrp LOS	D	C	C	D	C	C	D	D	D	E	D	D
Approach Vol, veh/h		1259			1239			680			1025	
Approach Delay, s/veh		35.3			30.2			49.2			43.9	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	18.0	37.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	13.0	29.7
Max Q Clear Time (g_c+I1), s	9.8	14.6	4.8	16.3	6.9	19.7	12.4	16.2
Green Ext Time (p_c), s	0.0	1.7	0.2	11.4	0.3	0.0	0.2	11.2

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	38.1
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	286	620	146	60	511	196	101	163	314	185	191
Future Volume (vph)	286	620	146	60	511	196	101	163	314	185	191
Lane Group Flow (vph)	304	660	155	64	544	209	107	269	334	197	203
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.89	0.56	0.24	0.20	0.33	0.33	0.30	0.39	0.96	0.30	0.35
Control Delay (s/veh)	70.5	27.6	4.3	40.6	23.8	4.8	41.8	23.3	82.3	34.7	7.0
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 (s/veh)	70.5	27.6	4.3	40.6	23.8	4.8	41.8	23.3	82.3	34.7	7.0
Queue Length 50th (m)	28.8	51.3	0.0	5.6	26.7	0.0	9.4	14.4	31.9	16.5	3.9
Queue Length 95th (m)	#51.8	68.5	11.3	11.7	35.9	14.3	17.4	25.8	#57.8	26.4	17.9
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	323	1634	628	353	694	349	658	579
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	0.89	0.56	0.24	0.20	0.33	0.33	0.30	0.39	0.96	0.30	0.35

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	620	146	60	511	196	101	163	90	314	185	191
Future Volume (veh/h)	286	620	146	60	511	196	101	163	90	314	185	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	304	660	155	64	544	209	107	173	96	334	197	203
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	358	1194	545	344	1674	514	364	408	216	361	667	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	3264	4863	1495	3456	2191	1157	3428	3582	1567
Grp Volume(v), veh/h	304	660	155	64	544	209	107	135	134	334	197	203
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1632	1621	1495	1728	1735	1613	1714	1791	1567
Q Serve(g_s), s	8.3	14.6	6.8	1.7	7.8	10.1	2.7	6.5	7.0	9.2	4.5	10.0
Cycle Q Clear(g_c), s	8.3	14.6	6.8	1.7	7.8	10.1	2.7	6.5	7.0	9.2	4.5	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	344	1674	514	364	323	301	361	667	458
V/C Ratio(X)	0.85	0.55	0.28	0.19	0.32	0.41	0.29	0.42	0.45	0.93	0.30	0.44
Avail Cap(c_a), veh/h	358	1194	545	344	1674	514	364	323	301	361	667	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	25.2	22.6	38.8	23.0	23.7	39.2	34.1	34.3	42.1	33.3	27.4
Incr Delay (d2), s/veh	21.5	1.8	1.3	1.2	0.5	2.4	2.0	3.9	4.7	31.8	1.1	3.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.8	1.2	0.5	1.3	1.8	0.8	1.8	1.9	3.9	1.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.3	27.1	24.0	40.0	23.5	26.1	41.3	38.0	39.0	73.9	34.4	30.5
LnGrp LOS	E	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1119			817			376			734	
Approach Delay, s/veh		36.5			25.5			39.3			51.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	11.2	9.0	3.7	16.6	4.7	12.0	10.3	12.1
Green Ext Time (p_c), s	0.0	2.3	0.1	11.0	0.2	1.9	0.0	11.9

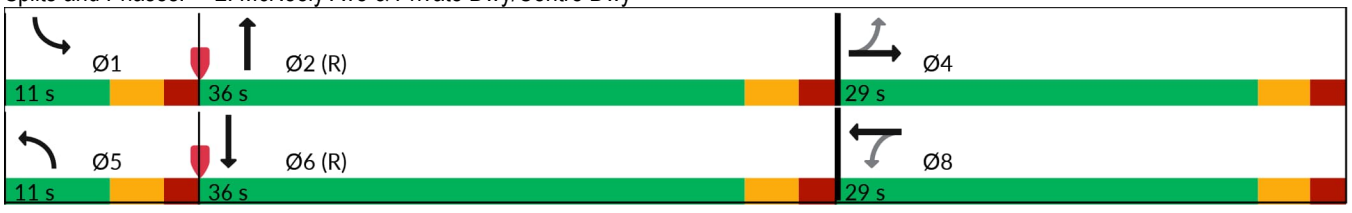
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	37.4
HCM 6th LOS	D

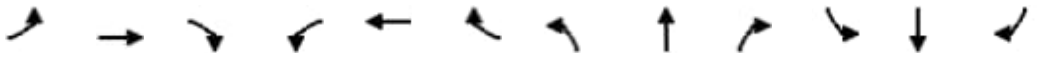
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	86	11	46	9	54	510	68	574
Future Volume (vph)	86	11	46	9	54	510	68	574
Lane Group Flow (vph)	93	76	50	49	59	556	74	757
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	29.0	29.0	29.0	29.0	11.0	36.0	11.0	36.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	14.5%	47.4%	14.5%	47.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.49	0.28	0.28	0.20	0.32	0.26	0.24	0.34
Control Delay (s/veh)	37.8	12.6	31.9	13.6	35.5	9.1	33.4	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.8	12.6	31.9	13.6	35.5	9.1	33.4	9.1
Queue Length 50th (m)	12.5	1.5	6.5	1.3	8.0	19.7	5.2	27.8
Queue Length 95th (m)	24.3	11.6	14.9	9.2	17.7	35.1	10.7	49.8
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	425	523	402	518	184	2124	311	2254
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	0.15	0.12	0.09	0.32	0.26	0.24	0.34

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	11	59	46	9	36	54	510	2	68	574	122
Future Volume (veh/h)	86	11	59	46	9	36	54	510	2	68	574	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1500	1856	1870	1737	1870	1811	1811	1159	1885	1811	1885
Adj Flow Rate, veh/h	93	12	64	50	10	39	59	554	2	74	624	133
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	27	3	2	11	2	6	6	50	1	6	1
Cap, veh/h	245	28	151	207	43	167	81	2154	8	181	1743	371
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.61	0.61	0.05	0.62	0.62
Sat Flow, veh/h	1375	205	1095	1321	310	1207	1725	3517	13	3483	2822	600
Grp Volume(v), veh/h	93	0	76	50	0	49	59	271	285	74	380	377
Grp Sat Flow(s),veh/h/ln	1375	0	1300	1321	0	1517	1725	1721	1809	1742	1721	1702
Q Serve(g_s), s	4.9	0.0	4.1	2.7	0.0	2.2	2.6	5.5	5.5	1.6	8.2	8.3
Cycle Q Clear(g_c), s	7.1	0.0	4.1	6.8	0.0	2.2	2.6	5.5	5.5	1.6	8.2	8.3
Prop In Lane	1.00		0.84	1.00		0.80	1.00		0.01	1.00		0.35
Lane Grp Cap(c), veh/h	245	0	180	207	0	210	81	1054	1108	181	1063	1051
V/C Ratio(X)	0.38	0.00	0.42	0.24	0.00	0.23	0.73	0.26	0.26	0.41	0.36	0.36
Avail Cap(c_a), veh/h	489	0	411	441	0	479	136	1054	1108	275	1063	1051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	30.0	33.1	0.0	29.2	35.7	6.8	6.8	34.9	7.1	7.1
Incr Delay (d2), s/veh	1.0	0.0	1.6	0.6	0.0	0.6	11.9	0.6	0.6	1.5	0.9	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.8	0.6	0.0	0.5	0.8	0.2	0.2	0.4	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.3	0.0	31.6	33.7	0.0	29.7	47.6	7.4	7.3	36.4	8.1	8.1
LnGrp LOS	C		C	C		C	D	A	A	D	A	A
Approach Vol, veh/h		169			99			615			831	
Approach Delay, s/veh		32.5			31.7			11.2			10.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	51.5		15.5	8.6	51.9		15.5				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	31.0		24.0	6.0	31.0		24.0				
Max Q Clear Time (g_c+I1), s	3.6	7.5		9.1	4.6	10.3		8.8				
Green Ext Time (p_c), s	0.1	8.6		1.3	0.0	11.1		0.7				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.2									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	555	79	0	681
Future Vol, veh/h	0	1	555	79	0	681
Conflicting Peds, #/hr	0	0	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	7	1	0	5
Mvmt Flow	0	1	624	89	0	765

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	358	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	644	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	643	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.6	0	0
HCM LOS	B		

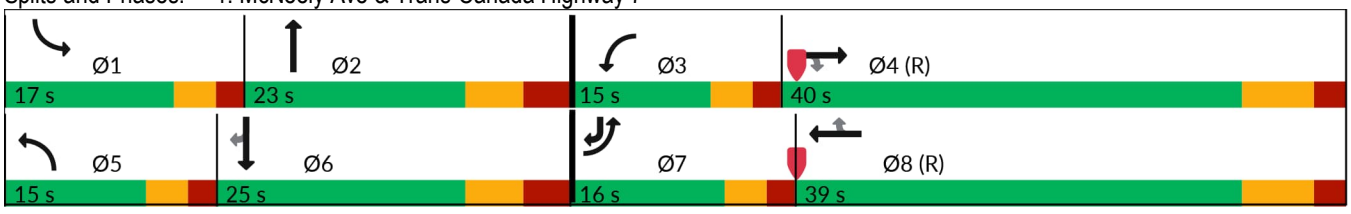
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	643	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Ctrl Dly (s/v)	-	-	10.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0	-

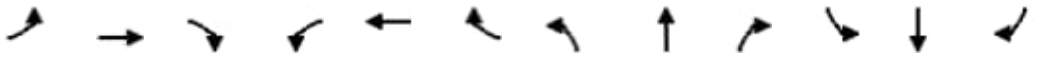
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	286	620	146	60	511	196	101	163	314	185	191
Future Volume (vph)	286	620	146	60	511	196	101	163	314	185	191
Lane Group Flow (vph)	304	660	155	64	544	209	107	269	334	197	203
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	16.0	40.0	40.0	15.0	39.0	39.0	15.0	23.0	17.0	25.0	16.0
Total Split (%)	16.8%	42.1%	42.1%	15.8%	41.1%	41.1%	15.8%	24.2%	17.9%	26.3%	16.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.81	0.56	0.24	0.20	0.34	0.34	0.30	0.43	0.80	0.30	0.34
Control Delay (s/veh)	58.8	27.6	4.3	40.6	24.6	5.0	41.8	25.1	55.7	34.7	7.1
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 (s/veh)	58.8	27.6	4.3	40.6	24.6	5.0	41.8	25.1	55.7	34.7	7.1
Queue Length 50th (m)	28.4	51.3	0.0	5.6	27.1	0.0	9.4	14.9	31.0	16.5	4.5
Queue Length 95th (m)	#48.4	68.5	11.3	11.7	36.5	14.6	17.4	26.7	#50.9	26.4	18.4
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	376	1170	634	323	1584	616	353	625	419	658	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	0.81	0.56	0.24	0.20	0.34	0.34	0.30	0.43	0.80	0.30	0.34

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	620	146	60	511	196	101	163	90	314	185	191
Future Volume (veh/h)	286	620	146	60	511	196	101	163	90	314	185	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	304	660	155	64	544	209	107	173	96	334	197	203
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	394	1194	545	344	1623	499	364	362	191	433	667	474
Arrive On Green	0.12	0.34	0.34	0.11	0.33	0.33	0.11	0.17	0.17	0.13	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	3264	4863	1494	3456	2191	1157	3428	3582	1567
Grp Volume(v), veh/h	304	660	155	64	544	209	107	135	134	334	197	203
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1632	1621	1494	1728	1735	1613	1714	1791	1567
Q Serve(g_s), s	8.2	14.6	6.8	1.7	8.0	10.3	2.7	6.7	7.2	9.0	4.5	9.9
Cycle Q Clear(g_c), s	8.2	14.6	6.8	1.7	8.0	10.3	2.7	6.7	7.2	9.0	4.5	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		1.00
Lane Grp Cap(c), veh/h	394	1194	545	344	1623	499	364	287	267	433	667	474
V/C Ratio(X)	0.77	0.55	0.28	0.19	0.34	0.42	0.29	0.47	0.50	0.77	0.30	0.43
Avail Cap(c_a), veh/h	394	1194	545	344	1623	499	364	287	267	433	667	474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	25.2	22.6	38.8	23.7	24.5	39.2	35.9	36.1	40.2	33.3	26.6
Incr Delay (d2), s/veh	13.7	1.8	1.3	1.2	0.6	2.6	2.0	5.5	6.6	12.5	1.1	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.8	1.2	0.5	1.4	1.9	0.8	2.0	2.1	2.9	1.2	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.4	27.1	24.0	40.0	24.3	27.1	41.3	41.4	42.7	52.7	34.4	29.4
LnGrp LOS	D	C	C	D	C	C	D	D	D	D	C	C
Approach Vol, veh/h		1119			817			376			734	
Approach Delay, s/veh		34.1			26.2			41.8			41.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	23.0	15.0	40.0	15.0	25.0	16.0	39.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	12.0	15.7	10.0	32.7	10.0	17.7	11.0	31.7
Max Q Clear Time (g_c+I1), s	11.0	9.2	3.7	16.6	4.7	11.9	10.2	12.3
Green Ext Time (p_c), s	0.2	1.8	0.1	11.0	0.2	1.9	0.1	11.4

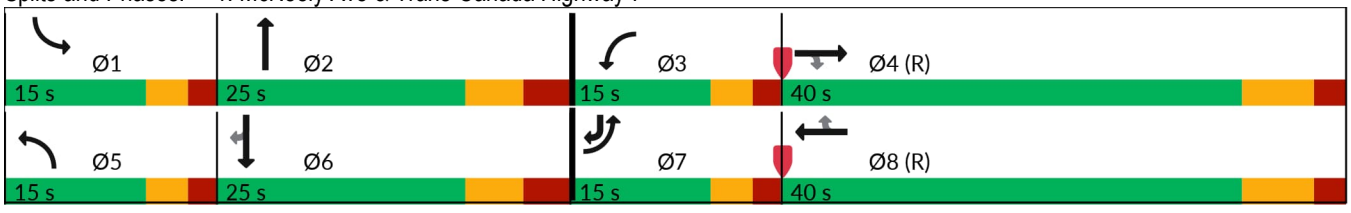
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	34.7
HCM 6th LOS	C

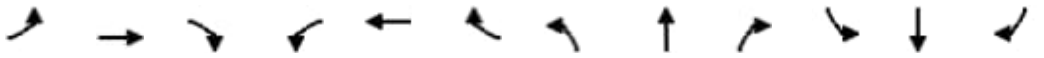
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	391	667	160	181	955	403	198	313	285	276	404
Future Volume (vph)	391	667	160	181	955	403	198	313	285	276	404
Lane Group Flow (vph)	416	710	170	193	1016	429	211	436	303	294	430
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.18	0.61	0.27	0.56	0.59	0.58	0.59	0.63	0.87	0.44	0.78
Control Delay (s/veh)	146.0	28.5	5.3	47.2	27.3	10.5	47.7	37.2	67.1	36.7	31.1
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 (s/veh)	146.0	28.5	5.3	47.2	27.3	10.5	47.7	37.2	67.1	36.7	31.1
Queue Length 50th (m)	~47.4	56.1	0.7	17.6	55.4	15.0	19.3	35.7	28.6	25.4	49.4
Queue Length 95th (m)	#76.2	74.5	13.8	28.5	69.0	43.3	30.5	51.2	#50.7	37.8	#92.5
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	352	1170	627	345	1731	741	360	687	349	665	548
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	1.18	0.61	0.27	0.56	0.59	0.58	0.59	0.63	0.87	0.44	0.78

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	391	667	160	181	955	403	198	313	97	285	276	404
Future Volume (veh/h)	391	667	160	181	955	403	198	313	97	285	276	404
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	416	710	170	193	1016	429	211	333	103	303	294	430
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	367	1194	541	364	1758	545	370	507	154	361	673	468
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	3456	5106	1584	3510	2723	828	3428	3610	1602
Grp Volume(v), veh/h	416	710	170	193	1016	429	211	219	217	303	294	430
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1728	1702	1584	1755	1805	1746	1714	1805	1602
Q Serve(g_s), s	10.0	16.0	7.6	5.0	15.5	23.1	5.4	10.7	11.0	8.2	6.9	17.7
Cycle Q Clear(g_c), s	10.0	16.0	7.6	5.0	15.5	23.1	5.4	10.7	11.0	8.2	6.9	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	367	1194	541	364	1758	545	370	336	325	361	673	468
V/C Ratio(X)	1.13	0.59	0.31	0.53	0.58	0.79	0.57	0.65	0.67	0.84	0.44	0.92
Avail Cap(c_a), veh/h	367	1194	541	364	1758	545	370	336	325	361	673	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.7	22.9	40.3	25.5	28.0	40.5	35.8	35.9	41.7	34.2	32.6
Incr Delay (d2), s/veh	88.8	2.2	1.5	5.5	1.4	10.9	6.3	9.4	10.4	20.4	2.1	25.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	3.0	1.4	1.5	2.8	5.2	1.7	3.4	3.5	3.1	1.8	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	131.3	27.9	24.4	45.7	26.9	38.9	46.7	45.2	46.3	62.1	36.3	58.2
LnGrp LOS	F	C	C	D	C	D	D	D	D	E	D	E
Approach Vol, veh/h		1296			1638			647			1027	
Approach Delay, s/veh		60.6			32.3			46.1			53.1	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.2	13.0	7.0	18.0	7.4	19.7	12.0	25.1
Green Ext Time (p_c), s	0.0	2.2	0.3	10.7	0.3	0.0	0.0	7.1

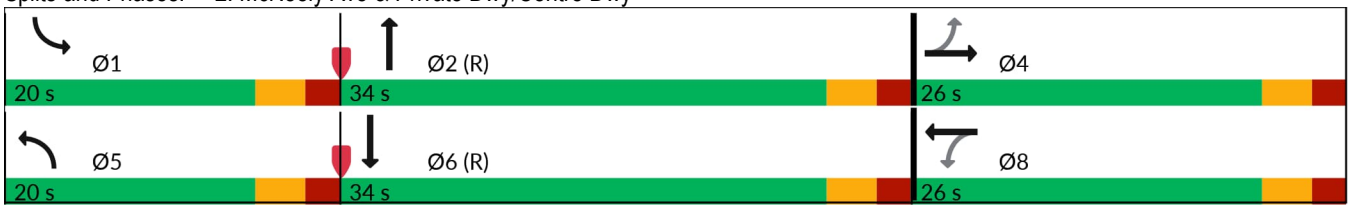
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	46.8
HCM 6th LOS	D

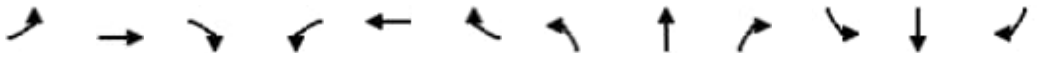
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	97	5	137	12	69	874	114	749
Future Volume (vph)	97	5	137	12	69	874	114	749
Lane Group Flow (vph)	103	81	146	123	73	935	121	941
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	26.0	26.0	26.0	26.0	20.0	34.0	20.0	34.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	25.0%	42.5%	25.0%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.49	0.24	0.63	0.33	0.38	0.48	0.36	0.48
Control Delay (s/veh)	35.9	9.0	41.6	9.3	38.3	13.8	35.8	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	35.9	9.0	41.6	9.3	38.3	13.8	35.8	13.8
Queue Length 50th (m)	14.2	0.6	20.7	1.7	10.5	44.6	8.9	43.8
Queue Length 95th (m)	26.0	10.2	34.9	13.4	21.6	76.4	16.1	77.1
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	311	458	339	492	332	1963	613	1962
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.18	0.43	0.25	0.22	0.48	0.20	0.48

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	5	71	137	12	103	69	874	5	114	749	135
Future Volume (veh/h)	97	5	71	137	12	103	69	874	5	114	749	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1841	1900	1900	1900	1856	1900	1900	1885	1870	1900
Adj Flow Rate, veh/h	103	5	76	146	13	110	73	930	5	121	797	144
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	0	4	0	0	0	3	0	0	1	2	0
Cap, veh/h	243	19	286	287	33	278	96	2071	11	207	1700	307
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.56	0.56	0.06	0.57	0.57
Sat Flow, veh/h	1225	99	1498	1335	172	1459	1767	3682	20	3483	2995	541
Grp Volume(v), veh/h	103	0	81	146	0	123	73	456	479	121	473	468
Grp Sat Flow(s),veh/h/ln	1225	0	1597	1335	0	1632	1767	1805	1896	1742	1777	1759
Q Serve(g_s), s	6.4	0.0	3.5	8.4	0.0	5.3	3.3	11.8	11.8	2.7	12.5	12.5
Cycle Q Clear(g_c), s	11.7	0.0	3.5	11.8	0.0	5.3	3.3	11.8	11.8	2.7	12.5	12.5
Prop In Lane	1.00		0.94	1.00		0.89	1.00		0.01	1.00		0.31
Lane Grp Cap(c), veh/h	243	0	304	287	0	311	96	1015	1067	207	1008	999
V/C Ratio(X)	0.42	0.00	0.27	0.51	0.00	0.40	0.76	0.45	0.45	0.59	0.47	0.47
Avail Cap(c_a), veh/h	331	0	419	383	0	428	331	1015	1067	653	1008	999
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	27.6	32.6	0.0	28.3	37.3	10.2	10.2	36.7	10.2	10.2
Incr Delay (d2), s/veh	1.2	0.0	0.5	1.4	0.0	0.8	11.6	1.4	1.4	2.6	1.6	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.8	1.7	0.0	1.2	1.0	0.4	0.4	0.7	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.6	0.0	28.1	34.0	0.0	29.2	48.9	11.7	11.6	39.3	11.8	11.8
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		184			269			1008			1062	
Approach Delay, s/veh		31.7			31.8			14.3			14.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	50.0		20.2	9.3	50.4		20.2				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	15.0	29.0		21.0	15.0	29.0		21.0				
Max Q Clear Time (g_c+I1), s	4.7	13.8		13.7	5.3	14.5		13.8				
Green Ext Time (p_c), s	0.4	10.4		0.9	0.2	10.2		1.4				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			17.7									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	916	188	0	960
Future Vol, veh/h	0	29	916	188	0	960
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	0	31	985	202	0	1032

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	594	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	453	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	453	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.5	0	0
HCM LOS	B		

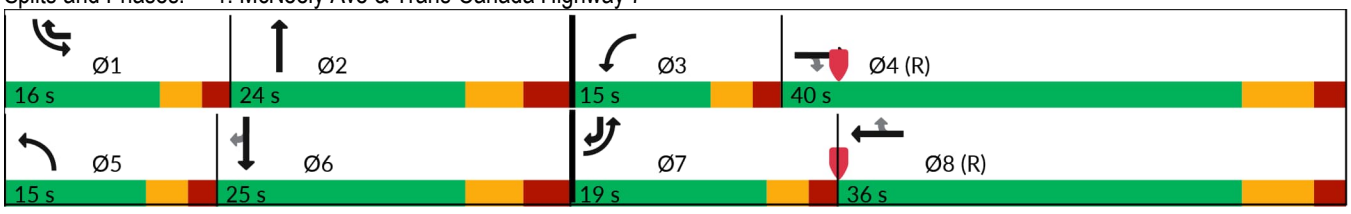
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	453	-
HCM Lane V/C Ratio	-	-	0.069	-
HCM Ctrl Dly (s/v)	-	-	13.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.2	-

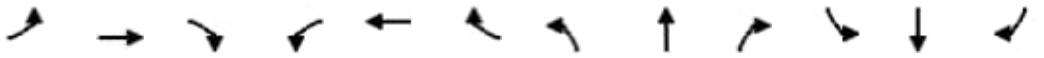
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	391	667	160	181	955	403	198	313	285	276	404
Future Volume (vph)	391	667	160	181	955	403	198	313	285	276	404
Lane Group Flow (vph)	416	710	170	193	1016	429	211	436	303	294	430
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	12.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	19.0	40.0	40.0	15.0	36.0	16.0	15.0	24.0	16.0	25.0	19.0
Total Split (%)	20.0%	42.1%	42.1%	15.8%	37.9%	16.8%	15.8%	25.3%	16.8%	26.3%	20.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.0	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	5.0	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.84	0.61	0.27	0.56	0.67	0.57	0.59	0.67	0.79	0.44	0.71
Control Delay (s/veh)	56.4	28.5	5.3	47.2	31.6	15.5	47.7	39.1	56.8	36.7	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.4	28.5	5.3	47.2	31.6	15.5	47.7	39.1	56.8	36.7	24.3
Queue Length 50th (m)	38.7	56.1	0.7	17.6	59.3	37.4	19.3	36.2	28.2	25.4	45.7
Queue Length 95th (m)	#62.2	74.5	13.8	28.5	73.8	63.2	30.5	52.0	#47.2	37.8	77.5
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	493	1170	627	345	1519	751	360	650	384	665	608
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	0.84	0.61	0.27	0.56	0.67	0.57	0.59	0.67	0.79	0.44	0.71

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	391	667	160	181	955	403	198	313	97	285	276	404
Future Volume (veh/h)	391	667	160	181	955	403	198	313	97	285	276	404
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	416	710	170	193	1016	429	211	333	103	303	294	430
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	513	1194	541	364	1543	665	370	479	146	397	673	536
Arrive On Green	0.15	0.34	0.34	0.11	0.30	0.30	0.11	0.18	0.18	0.12	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	3456	5106	1583	3510	2723	828	3428	3610	1602
Grp Volume(v), veh/h	416	710	170	193	1016	429	211	219	217	303	294	430
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1728	1702	1583	1755	1805	1746	1714	1805	1602
Q Serve(g_s), s	11.0	16.0	7.6	5.0	16.5	20.6	5.4	10.8	11.1	8.1	6.9	17.7
Cycle Q Clear(g_c), s	11.0	16.0	7.6	5.0	16.5	20.6	5.4	10.8	11.1	8.1	6.9	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	513	1194	541	364	1543	665	370	317	307	397	673	536
V/C Ratio(X)	0.81	0.59	0.31	0.53	0.66	0.65	0.57	0.69	0.71	0.76	0.44	0.80
Avail Cap(c_a), veh/h	513	1194	541	364	1543	665	370	317	307	397	673	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	25.7	22.9	40.3	28.9	22.1	40.5	36.7	36.9	40.7	34.2	28.8
Incr Delay (d2), s/veh	13.0	2.2	1.5	5.5	2.2	4.8	6.3	11.6	12.9	13.0	2.1	12.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.0	1.4	1.5	3.3	3.3	1.7	3.6	3.7	2.7	1.8	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.2	27.9	24.4	45.7	31.1	26.9	46.7	48.4	49.8	53.8	36.3	40.8
LnGrp LOS	D	C	C	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1296			1638			647			1027	
Approach Delay, s/veh		35.2			31.7			48.3			43.4	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	24.0	15.0	40.0	15.0	25.0	19.0	36.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	11.0	16.7	10.0	32.7	10.0	17.7	14.0	28.7
Max Q Clear Time (g_c+I1), s	10.1	13.1	7.0	18.0	7.4	19.7	13.0	22.6
Green Ext Time (p_c), s	0.2	1.7	0.3	10.7	0.3	0.0	0.3	5.8

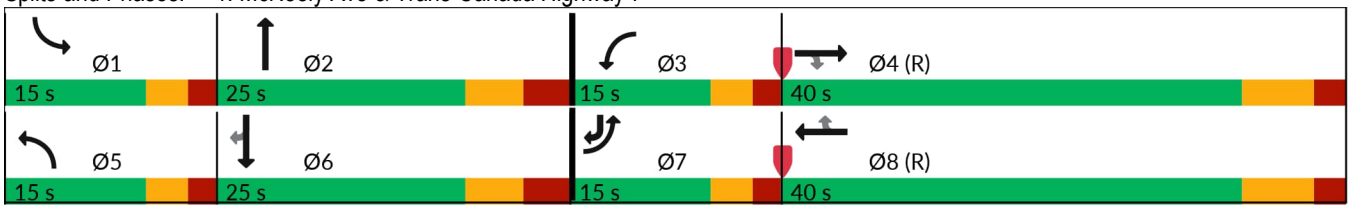
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	37.6
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	409	656	206	119	827	296	203	394	308	368	415
Future Volume (vph)	409	656	206	119	827	296	203	394	308	368	415
Lane Group Flow (vph)	417	669	210	121	844	302	207	538	314	376	423
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.17	0.55	0.33	0.34	0.48	0.43	0.57	0.78	0.87	0.57	0.67
Control Delay (s/veh)	142.0	27.3	7.8	42.5	25.6	6.4	47.4	42.6	67.1	38.9	24.7
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 (s/veh)	142.0	27.3	7.8	42.5	25.6	6.4	47.4	42.6	67.1	38.9	24.7
Queue Length 50th (m)	~47.3	51.6	5.6	10.7	44.1	4.5	18.9	45.8	29.7	33.2	48.0
Queue Length 95th (m)	#76.0	68.7	21.0	19.1	55.8	22.5	30.1	#64.4	#52.2	47.6	81.7
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	356	1216	637	352	1748	710	360	693	360	665	629
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	1.17	0.55	0.33	0.34	0.48	0.43	0.58	0.78	0.87	0.57	0.67

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	409	656	206	119	827	296	203	394	133	308	368	415
Future Volume (veh/h)	409	656	206	119	827	296	203	394	133	308	368	415
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	417	669	210	121	844	302	207	402	136	314	376	423
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	370	1233	547	370	1771	547	370	493	165	370	673	469
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3582	1588	3510	5147	1589	3510	2645	884	3510	3610	1608
Grp Volume(v), veh/h	417	669	210	121	844	302	207	273	265	314	376	423
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1755	1716	1589	1755	1805	1724	1755	1805	1608
Q Serve(g_s), s	10.0	14.3	9.5	3.0	12.2	14.6	5.3	13.8	14.1	8.3	9.0	17.7
Cycle Q Clear(g_c), s	10.0	14.3	9.5	3.0	12.2	14.6	5.3	13.8	14.1	8.3	9.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	370	1233	547	370	1771	547	370	336	321	370	673	469
V/C Ratio(X)	1.13	0.54	0.38	0.33	0.48	0.55	0.56	0.81	0.83	0.85	0.56	0.90
Avail Cap(c_a), veh/h	370	1233	547	370	1771	547	370	336	321	370	673	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.1	23.5	39.4	24.4	25.2	40.4	37.0	37.2	41.8	35.1	32.3
Incr Delay (d2), s/veh	86.4	1.7	2.0	2.4	0.9	4.0	6.0	18.8	21.0	21.0	3.3	23.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	2.8	1.8	0.9	2.2	2.8	1.7	5.0	5.1	3.2	2.4	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	128.9	26.8	25.6	41.7	25.4	29.2	46.4	55.8	58.2	62.8	38.4	55.5
LnGrp LOS	F	C	C	D	C	C	D	E	E	E	D	E
Approach Vol, veh/h		1296			1267			745			1113	
Approach Delay, s/veh		59.5			27.8			54.0			51.8	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.3	16.1	5.0	16.3	7.3	19.7	12.0	16.6
Green Ext Time (p_c), s	0.0	1.0	0.2	11.5	0.3	0.0	0.0	13.1

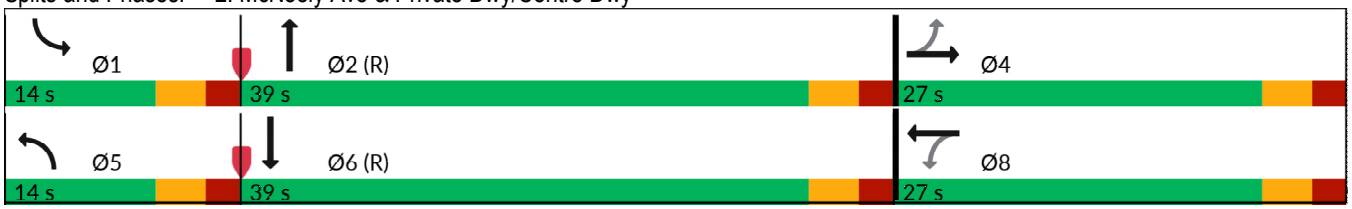
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	47.6
HCM 6th LOS	D

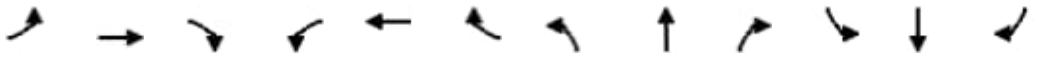
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	108	17	152	20	126	821	183	848
Future Volume (vph)	108	17	152	20	126	821	183	848
Lane Group Flow (vph)	115	118	162	134	134	877	195	1061
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	27.0	27.0	27.0	27.0	14.0	39.0	14.0	39.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	17.5%	48.8%	17.5%	48.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.48	0.30	0.67	0.34	0.59	0.49	0.51	0.59
Control Delay (s/veh)	34.2	9.3	42.8	9.5	44.9	15.5	38.1	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.2	9.3	42.8	9.5	44.9	15.5	38.1	16.9
Queue Length 50th (m)	15.7	2.3	22.9	2.6	19.1	44.8	14.4	58.1
Queue Length 95th (m)	27.8	13.5	38.2	14.7	#42.8	69.6	24.5	85.6
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	338	518	343	518	236	1775	397	1792
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	0.34	0.23	0.47	0.26	0.57	0.49	0.49	0.59

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	17	94	152	20	106	126	821	4	183	848	149
Future Volume (veh/h)	108	17	94	152	20	106	126	821	4	183	848	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	115	18	100	162	21	113	134	873	4	195	902	159
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	284	56	309	299	57	308	169	1879	9	285	1521	268
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.09	0.51	0.51	0.08	0.50	0.50
Sat Flow, veh/h	1274	251	1395	1293	258	1389	1810	3685	17	3510	3056	538
Grp Volume(v), veh/h	115	0	118	162	0	134	134	428	449	195	533	528
Grp Sat Flow(s),veh/h/ln	1274	0	1647	1293	0	1648	1810	1805	1897	1755	1805	1789
Q Serve(g_s), s	6.7	0.0	4.8	9.6	0.0	5.5	5.8	12.2	12.2	4.3	16.8	16.8
Cycle Q Clear(g_c), s	12.2	0.0	4.8	14.4	0.0	5.5	5.8	12.2	12.2	4.3	16.8	16.8
Prop In Lane	1.00		0.85	1.00		0.84	1.00		0.01	1.00		0.30
Lane Grp Cap(c), veh/h	284	0	365	299	0	365	169	920	967	285	898	890
V/C Ratio(X)	0.40	0.00	0.32	0.54	0.00	0.37	0.79	0.46	0.46	0.69	0.59	0.59
Avail Cap(c_a), veh/h	353	0	453	368	0	453	204	920	967	395	898	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	0.0	26.1	32.2	0.0	26.4	35.5	12.6	12.6	35.8	14.3	14.3
Incr Delay (d2), s/veh	0.9	0.0	0.5	1.5	0.0	0.6	16.2	1.7	1.6	2.9	2.9	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.1	1.9	0.0	1.2	2.0	0.4	0.4	1.1	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.5	0.0	26.6	33.7	0.0	27.0	51.7	14.3	14.2	38.7	17.2	17.2
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		233			296			1011			1256	
Approach Delay, s/veh		29.5			30.7			19.2			20.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	45.8		22.7	12.5	44.8		22.7				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	34.0		22.0	9.0	34.0		22.0				
Max Q Clear Time (g_c+I1), s	6.3	14.2		14.2	7.8	18.8		16.4				
Green Ext Time (p_c), s	0.2	12.1		1.3	0.1	11.5		1.3				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			21.9									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	49	896	183	0	1100
Future Vol, veh/h	0	49	896	183	0	1100
Conflicting Peds, #/hr	0	0	0	2	2	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	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	51	924	189	0	1134

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	559	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	478	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	477	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.4	0	0
HCM LOS	B		

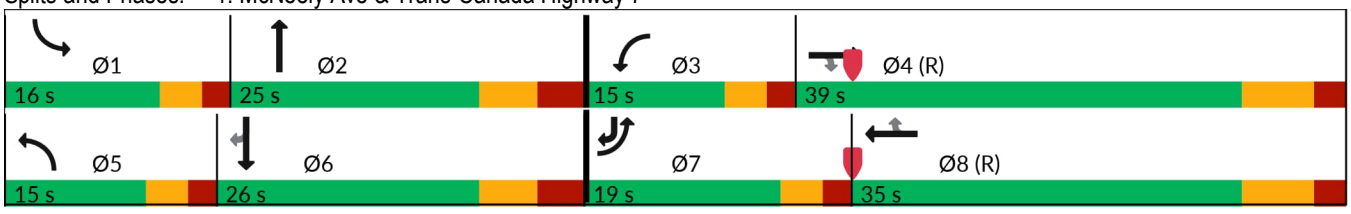
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	477	-
HCM Lane V/C Ratio	-	-	0.106	-
HCM Ctrl Dly (s/v)	-	-	13.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.4	-

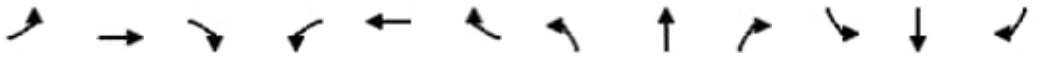
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	409	656	206	119	827	296	203	394	308	368	415
Future Volume (vph)	409	656	206	119	827	296	203	394	308	368	415
Lane Group Flow (vph)	417	669	210	121	844	302	207	538	314	376	423
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	19.0	39.0	39.0	15.0	35.0	35.0	15.0	25.0	16.0	26.0	19.0
Total Split (%)	20.0%	41.1%	41.1%	15.8%	36.8%	36.8%	15.8%	26.3%	16.8%	27.4%	20.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.84	0.57	0.34	0.34	0.57	0.48	0.57	0.78	0.79	0.54	0.60
Control Delay (s/veh)	55.6	28.3	8.1	42.5	30.4	9.1	47.4	42.6	56.7	37.5	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.6	28.3	8.1	42.5	30.4	9.1	47.4	42.6	56.7	37.5	19.8
Queue Length 50th (m)	38.8	52.5	5.7	10.7	48.0	7.7	18.9	45.8	29.3	32.7	43.4
Queue Length 95th (m)	#61.9	70.0	21.4	19.1	60.7	28.9	30.1	#64.4	#48.7	47.0	73.9
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	498	1179	622	352	1480	627	360	693	396	702	704
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	0.84	0.57	0.34	0.34	0.57	0.48	0.58	0.78	0.79	0.54	0.60

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	409	656	206	119	827	296	203	394	133	308	368	415
Future Volume (veh/h)	409	656	206	119	827	296	203	394	133	308	368	415
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	417	669	210	121	844	302	207	402	136	314	376	423
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	517	1195	530	370	1501	463	370	493	165	406	711	554
Arrive On Green	0.15	0.33	0.33	0.11	0.29	0.29	0.11	0.19	0.19	0.12	0.20	0.20
Sat Flow, veh/h	3510	3582	1588	3510	5147	1588	3510	2645	884	3510	3610	1608
Grp Volume(v), veh/h	417	669	210	121	844	302	207	273	265	314	376	423
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1755	1716	1588	1755	1805	1724	1755	1805	1608
Q Serve(g_s), s	10.9	14.5	9.6	3.0	13.2	15.8	5.3	13.8	14.1	8.3	8.9	18.7
Cycle Q Clear(g_c), s	10.9	14.5	9.6	3.0	13.2	15.8	5.3	13.8	14.1	8.3	8.9	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	517	1195	530	370	1501	463	370	336	321	406	711	554
V/C Ratio(X)	0.81	0.56	0.40	0.33	0.56	0.65	0.56	0.81	0.83	0.77	0.53	0.76
Avail Cap(c_a), veh/h	517	1195	530	370	1501	463	370	336	321	406	711	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	25.9	24.3	39.4	28.5	29.4	40.4	37.0	37.2	40.8	34.2	27.7
Incr Delay (d2), s/veh	12.6	1.9	2.2	2.4	1.5	7.0	6.0	18.8	21.0	13.3	2.8	9.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.9	1.8	0.9	2.7	3.7	1.7	5.0	5.1	2.8	2.4	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.8	27.8	26.5	41.7	30.0	36.4	46.4	55.8	58.2	54.1	37.0	37.4
LnGrp LOS	D	C	C	D	C	D	D	E	E	D	D	D
Approach Vol, veh/h		1296			1267			745			1113	
Approach Delay, s/veh		35.3			32.7			54.0			42.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	25.0	15.0	39.0	15.0	26.0	19.0	35.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	11.0	17.7	10.0	31.7	10.0	18.7	14.0	27.7
Max Q Clear Time (g_c+I1), s	10.3	16.1	5.0	16.5	7.3	20.7	12.9	17.8
Green Ext Time (p_c), s	0.1	1.0	0.2	10.8	0.3	0.0	0.3	8.5

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	39.4
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	257	620	126	52	511	175	87	118	276	131	169
Future Volume (vph)	257	620	126	52	511	175	87	118	276	131	169
Lane Group Flow (vph)	273	660	134	55	544	186	93	208	294	139	180
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.80	0.56	0.21	0.33	0.48	0.31	0.51	0.31	0.84	0.21	0.31
Control Delay (s/veh)	59.9	27.6	2.9	45.4	26.2	5.6	50.8	21.3	64.0	33.7	4.7
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 (s/veh)	59.9	27.6	2.9	45.4	26.2	5.6	50.8	21.3	64.0	33.7	4.7
Queue Length 50th (m)	25.6	51.3	0.0	9.5	40.7	1.2	16.4	10.3	27.7	11.4	0.0
Queue Length 95th (m)	#44.5	68.5	7.7	21.1	55.8	15.0	31.9	20.2	#48.7	19.6	12.8
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	166	1137	607	182	679	349	658	586
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	0.80	0.56	0.21	0.33	0.48	0.31	0.51	0.31	0.84	0.21	0.31

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	620	126	52	511	175	87	118	77	276	131	169
Future Volume (veh/h)	257	620	126	52	511	175	87	118	77	276	131	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	273	660	134	55	544	186	93	126	82	294	139	180
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	358	1194	545	177	1165	514	188	386	235	361	667	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	1682	3385	1495	1781	2070	1259	3428	3582	1567
Grp Volume(v), veh/h	273	660	134	55	544	186	93	104	104	294	139	180
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1682	1692	1495	1781	1735	1595	1714	1791	1567
Q Serve(g_s), s	7.4	14.6	5.8	2.9	11.9	8.9	4.7	4.9	5.4	8.0	3.1	8.7
Cycle Q Clear(g_c), s	7.4	14.6	5.8	2.9	11.9	8.9	4.7	4.9	5.4	8.0	3.1	8.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.79	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	177	1165	514	188	323	297	361	667	458
V/C Ratio(X)	0.76	0.55	0.25	0.31	0.47	0.36	0.50	0.32	0.35	0.81	0.21	0.39
Avail Cap(c_a), veh/h	358	1194	545	177	1165	514	188	323	297	361	667	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	25.2	22.3	39.3	24.3	23.3	40.1	33.5	33.6	41.6	32.7	26.9
Incr Delay (d2), s/veh	14.2	1.8	1.1	4.5	1.3	2.0	9.1	2.6	3.2	18.0	0.7	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.8	1.0	0.9	2.2	1.6	1.7	1.4	1.4	2.9	0.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.6	27.1	23.4	43.8	25.7	25.3	49.2	36.1	36.9	59.6	33.4	29.5
LnGrp LOS	E	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1067			785			301			613	
Approach Delay, s/veh		33.9			26.9			40.4			44.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.0	7.4	4.9	16.6	6.7	10.7	9.4	13.9
Green Ext Time (p_c), s	0.0	1.9	0.1	10.8	0.1	1.7	0.1	11.1

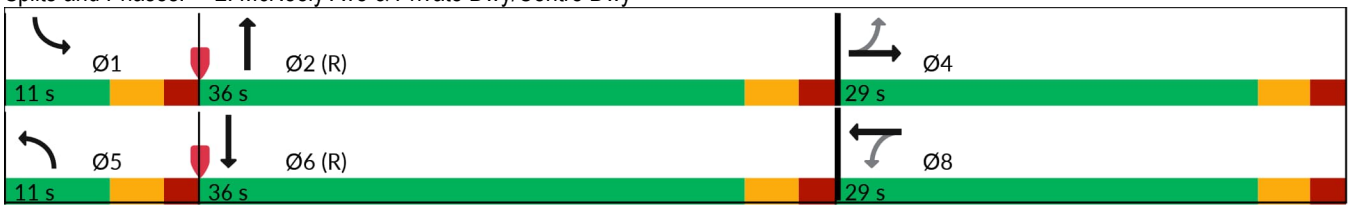
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	35.0
HCM 6th LOS	D

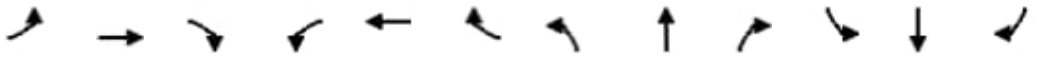
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	78	13	53	10	48	413	82	458
Future Volume (vph)	78	13	53	10	48	413	82	458
Lane Group Flow (vph)	85	73	58	50	52	452	89	618
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	29.0	29.0	29.0	29.0	11.0	36.0	11.0	36.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	14.5%	47.4%	14.5%	47.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.46	0.28	0.34	0.21	0.30	0.21	0.28	0.27
Control Delay (s/veh)	37.6	13.6	34.1	14.3	35.3	8.7	33.5	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.6	13.6	34.1	14.3	35.3	8.7	33.5	8.0
Queue Length 50th (m)	11.5	1.8	7.7	1.4	7.1	15.4	6.2	20.4
Queue Length 95th (m)	22.8	11.7	16.9	9.6	16.4	28.1	12.3	37.4
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	424	519	402	519	178	2124	323	2277
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	0.20	0.14	0.14	0.10	0.29	0.21	0.28	0.27

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	13	54	53	10	36	48	413	3	82	458	110
Future Volume (veh/h)	78	13	54	53	10	36	48	413	3	82	458	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1500	1856	1870	1737	1870	1811	1811	1159	1885	1811	1885
Adj Flow Rate, veh/h	85	14	59	58	11	39	52	449	3	89	498	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	27	3	2	11	2	6	6	50	1	6	1
Cap, veh/h	236	33	140	202	44	157	76	2152	14	194	1723	413
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.04	0.61	0.61	0.06	0.63	0.63
Sat Flow, veh/h	1374	251	1056	1325	334	1186	1725	3504	23	3483	2752	660
Grp Volume(v), veh/h	85	0	73	58	0	50	52	220	232	89	310	308
Grp Sat Flow(s),veh/h/ln	1374	0	1307	1325	0	1520	1725	1721	1807	1742	1721	1691
Q Serve(g_s), s	4.5	0.0	3.9	3.2	0.0	2.2	2.3	4.3	4.3	1.9	6.3	6.3
Cycle Q Clear(g_c), s	6.7	0.0	3.9	7.1	0.0	2.2	2.3	4.3	4.3	1.9	6.3	6.3
Prop In Lane	1.00		0.81	1.00		0.78	1.00		0.01	1.00		0.39
Lane Grp Cap(c), veh/h	236	0	173	202	0	202	76	1057	1110	194	1077	1059
V/C Ratio(X)	0.36	0.00	0.42	0.29	0.00	0.25	0.69	0.21	0.21	0.46	0.29	0.29
Avail Cap(c_a), veh/h	488	0	413	445	0	480	136	1057	1110	275	1077	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	0.0	30.3	33.5	0.0	29.6	35.8	6.5	6.5	34.8	6.5	6.5
Incr Delay (d2), s/veh	0.9	0.0	1.6	0.8	0.0	0.6	10.5	0.4	0.4	1.7	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.8	0.7	0.0	0.5	0.7	0.1	0.1	0.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.5	0.0	31.9	34.3	0.0	30.2	46.4	6.9	6.9	36.5	7.2	7.2
LnGrp LOS	C		C	C		C	D	A	A	D	A	A
Approach Vol, veh/h		158			108			504			707	
Approach Delay, s/veh		32.8			32.4			11.0			10.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	51.7		15.1	8.3	52.6		15.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	31.0		24.0	6.0	31.0		24.0				
Max Q Clear Time (g_c+I1), s	3.9	6.3		8.7	4.3	8.3		9.1				
Green Ext Time (p_c), s	0.1	7.1		1.3	0.0	9.6		0.8				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.8									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	444	95	0	567
Future Vol, veh/h	0	10	444	95	0	567
Conflicting Peds, #/hr	0	0	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	7	1	0	5
Mvmt Flow	0	11	499	107	0	637

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	304	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	698	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	697	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.3	0	0
HCM LOS	B		

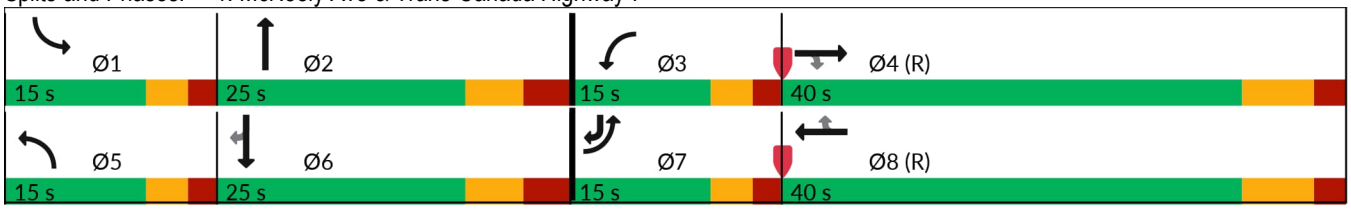
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	697	-
HCM Lane V/C Ratio	-	-	0.016	-
HCM Ctrl Dly (s/v)	-	-	10.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0	-

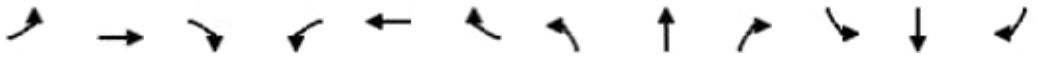
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	353	667	138	156	955	358	171	239	252	210	363
Future Volume (vph)	353	667	138	156	955	358	171	239	252	210	363
Lane Group Flow (vph)	376	710	147	166	1016	381	182	342	268	223	386
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.07	0.61	0.23	0.93	0.84	0.57	0.98	0.50	0.77	0.34	0.70
Control Delay (s/veh)	109.2	28.5	3.8	96.2	36.7	16.0	106.9	32.7	57.1	35.2	25.7
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 (s/veh)	109.2	28.5	3.8	96.2	36.7	16.0	106.9	32.7	57.1	35.2	25.7
Queue Length 50th (m)	~39.5	56.1	0.0	30.7	89.5	26.4	33.8	25.7	25.0	18.8	40.8
Queue Length 95th (m)	#67.1	74.5	9.9	#68.1	#115.1	54.9	#74.6	39.1	#42.8	29.4	71.2
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	352	1170	627	178	1204	663	185	689	349	665	548
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	1.07	0.61	0.23	0.93	0.84	0.57	0.98	0.50	0.77	0.34	0.70

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 90
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	667	138	156	955	358	171	239	83	252	210	363
Future Volume (veh/h)	353	667	138	156	955	358	171	239	83	252	210	363
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	376	710	147	166	1016	381	182	254	88	268	223	386
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	367	1194	541	188	1223	545	190	493	166	361	673	468
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	1781	3554	1584	1810	2645	894	3428	3610	1602
Grp Volume(v), veh/h	376	710	147	166	1016	381	182	171	171	268	223	386
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1781	1777	1584	1810	1805	1734	1714	1805	1602
Q Serve(g_s), s	10.0	16.0	6.4	8.7	24.9	19.7	9.5	8.1	8.4	7.2	5.1	17.7
Cycle Q Clear(g_c), s	10.0	16.0	6.4	8.7	24.9	19.7	9.5	8.1	8.4	7.2	5.1	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	367	1194	541	188	1223	545	190	336	323	361	673	468
V/C Ratio(X)	1.03	0.59	0.27	0.89	0.83	0.70	0.96	0.51	0.53	0.74	0.33	0.82
Avail Cap(c_a), veh/h	367	1194	541	188	1223	545	190	336	323	361	673	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.7	22.5	41.9	28.6	26.9	42.3	34.7	34.9	41.3	33.5	31.4
Incr Delay (d2), s/veh	53.7	2.2	1.2	41.2	6.6	7.3	54.5	5.4	6.1	12.9	1.3	15.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	3.0	1.2	4.4	5.4	4.1	5.4	2.4	2.5	2.4	1.3	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	96.2	27.9	23.8	83.1	35.2	34.2	96.8	40.2	41.0	54.2	34.8	46.6
LnGrp LOS	F	C	C	F	D	C	F	D	D	D	C	D
Approach Vol, veh/h		1233			1563			524			877	
Approach Delay, s/veh		48.2			40.1			60.1			45.9	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.2	10.4	10.7	18.0	11.5	19.7	12.0	26.9
Green Ext Time (p_c), s	0.1	2.5	0.0	10.6	0.0	0.0	0.0	5.4

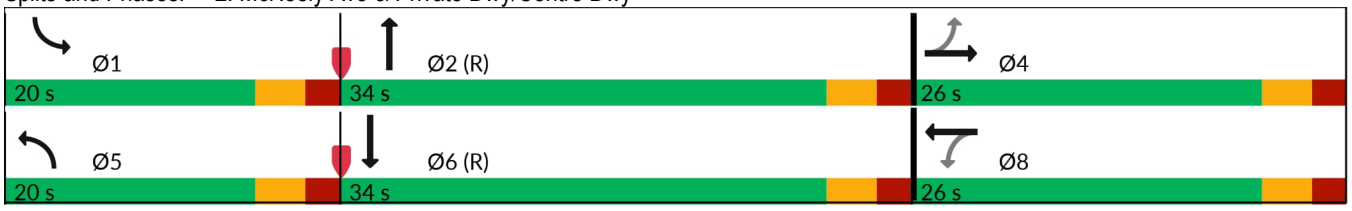
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	46.2
HCM 6th LOS	D

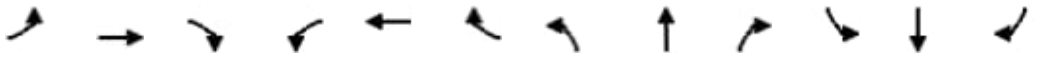
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	10	169	14	63	722	141	585
Future Volume (vph)	85	10	169	14	63	722	141	585
Lane Group Flow (vph)	90	78	180	128	67	774	150	752
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	26.0	26.0	26.0	26.0	20.0	34.0	20.0	34.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	25.0%	42.5%	25.0%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.39	0.22	0.70	0.32	0.36	0.44	0.41	0.39
Control Delay (s/veh)	31.3	9.8	44.2	8.9	38.0	14.9	35.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.3	9.8	44.2	8.9	38.0	14.9	35.9	13.2
Queue Length 50th (m)	11.9	1.4	25.4	1.9	9.7	37.7	11.1	33.8
Queue Length 95th (m)	23.2	10.8	42.8	13.9	20.3	61.8	18.9	57.3
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	309	459	340	496	332	1772	613	1904
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	0.29	0.17	0.53	0.26	0.20	0.44	0.24	0.39

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	10	63	169	14	106	63	722	6	141	585	122
Future Volume (veh/h)	85	10	63	169	14	106	63	722	6	141	585	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1841	1900	1900	1900	1856	1900	1900	1885	1870	1900
Adj Flow Rate, veh/h	90	11	67	180	15	113	67	768	6	150	622	130
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	0	4	0	0	0	3	0	0	1	2	0
Cap, veh/h	264	48	292	318	40	303	88	1953	15	245	1611	336
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.05	0.53	0.53	0.07	0.55	0.55
Sat Flow, veh/h	1220	228	1391	1339	192	1444	1767	3671	29	3483	2915	608
Grp Volume(v), veh/h	90	0	78	180	0	128	67	378	396	150	379	373
Grp Sat Flow(s),veh/h/ln	1220	0	1620	1339	0	1635	1767	1805	1895	1742	1777	1746
Q Serve(g_s), s	5.5	0.0	3.2	10.3	0.0	5.4	3.0	9.9	9.9	3.3	9.7	9.7
Cycle Q Clear(g_c), s	10.8	0.0	3.2	13.5	0.0	5.4	3.0	9.9	9.9	3.3	9.7	9.7
Prop In Lane	1.00		0.86	1.00		0.88	1.00		0.02	1.00		0.35
Lane Grp Cap(c), veh/h	264	0	340	318	0	343	88	960	1008	245	982	965
V/C Ratio(X)	0.34	0.00	0.23	0.57	0.00	0.37	0.76	0.39	0.39	0.61	0.39	0.39
Avail Cap(c_a), veh/h	328	0	425	388	0	429	331	960	1008	653	982	965
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	26.2	31.8	0.0	27.1	37.5	11.1	11.1	36.1	10.2	10.2
Incr Delay (d2), s/veh	0.8	0.0	0.3	1.6	0.0	0.7	12.7	1.2	1.2	2.5	1.1	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.7	2.0	0.0	1.2	1.0	0.3	0.3	0.8	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.5	0.0	26.6	33.4	0.0	27.8	50.2	12.3	12.2	38.6	11.3	11.4
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		168			308			841			902	
Approach Delay, s/veh		29.7			31.1			15.3			15.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	47.6		21.8	9.0	49.2		21.8				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	15.0	29.0		21.0	15.0	29.0		21.0				
Max Q Clear Time (g_c+I1), s	5.3	11.9		12.8	5.0	11.7		15.5				
Green Ext Time (p_c), s	0.5	9.8		0.9	0.1	9.7		1.3				

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	18.8
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	67	721	226	0	820
Future Vol, veh/h	0	67	721	226	0	820
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	0	72	775	243	0	882

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	509	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	515	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	515	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.1	0	0
HCM LOS	B		

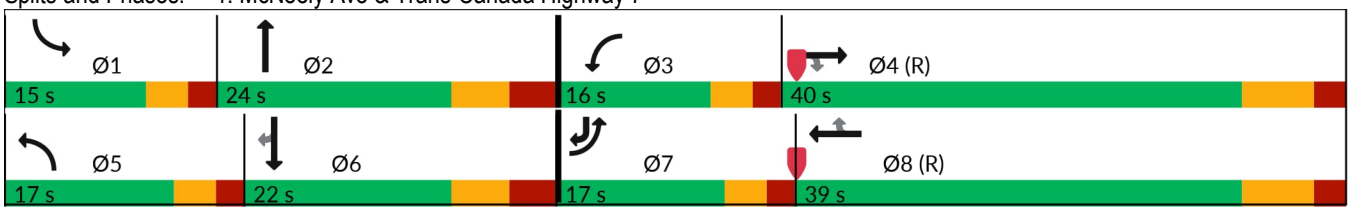
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	515	-
HCM Lane V/C Ratio	-	-	0.14	-
HCM Ctrl Dly (s/v)	-	-	13.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.5	-

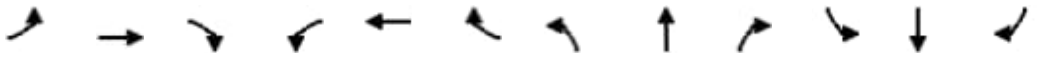
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	353	667	138	156	955	358	171	239	252	210	363
Future Volume (vph)	353	667	138	156	955	358	171	239	252	210	363
Lane Group Flow (vph)	376	710	147	166	1016	381	182	342	268	223	386
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	17.0	40.0	40.0	16.0	39.0	39.0	17.0	24.0	15.0	22.0	17.0
Total Split (%)	17.9%	42.1%	42.1%	16.8%	41.1%	41.1%	17.9%	25.3%	15.8%	23.2%	17.9%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.89	0.61	0.23	0.85	0.87	0.59	0.82	0.52	0.77	0.40	0.72
Control Delay (s/veh)	65.2	28.5	3.8	77.9	39.4	16.9	69.6	34.1	57.1	38.7	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	65.2	28.5	3.8	77.9	39.4	16.9	69.6	34.1	57.1	38.7	27.4
Queue Length 50th (m)	35.5	56.1	0.0	30.3	91.1	27.4	33.0	26.2	25.0	19.6	41.6
Queue Length 95th (m)	#60.1	74.5	9.9	#64.6	#125.6	56.5	#67.5	39.8	#42.8	30.7	72.5
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	423	1170	627	195	1167	646	222	652	349	552	534
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	0.89	0.61	0.23	0.85	0.87	0.59	0.82	0.52	0.77	0.40	0.72

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 90
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	667	138	156	955	358	171	239	83	252	210	363
Future Volume (veh/h)	353	667	138	156	955	358	171	239	83	252	210	363
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	376	710	147	166	1016	381	182	254	88	268	223	386
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	440	1194	541	206	1186	529	229	465	157	361	559	451
Arrive On Green	0.13	0.34	0.34	0.12	0.33	0.33	0.13	0.18	0.18	0.11	0.15	0.15
Sat Flow, veh/h	3483	3469	1571	1781	3554	1584	1810	2645	893	3428	3610	1601
Grp Volume(v), veh/h	376	710	147	166	1016	381	182	171	171	268	223	386
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1781	1777	1584	1810	1805	1734	1714	1805	1601
Q Serve(g_s), s	10.0	16.0	6.4	8.6	25.3	20.0	9.3	8.2	8.6	7.2	5.3	14.7
Cycle Q Clear(g_c), s	10.0	16.0	6.4	8.6	25.3	20.0	9.3	8.2	8.6	7.2	5.3	14.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	440	1194	541	206	1186	529	229	317	305	361	559	451
V/C Ratio(X)	0.85	0.59	0.27	0.80	0.86	0.72	0.80	0.54	0.56	0.74	0.40	0.86
Avail Cap(c_a), veh/h	440	1194	541	206	1186	529	229	317	305	361	559	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	25.7	22.5	41.0	29.5	27.8	40.3	35.6	35.8	41.3	36.2	32.3
Incr Delay (d2), s/veh	18.7	2.2	1.2	27.4	8.1	8.2	24.3	6.4	7.3	12.9	2.1	18.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.0	1.2	3.8	5.8	4.4	3.9	2.5	2.6	2.4	1.5	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.3	27.9	23.8	68.4	37.6	36.0	64.6	42.1	43.1	54.2	38.3	50.8
LnGrp LOS	E	C	C	E	D	D	E	D	D	D	D	D
Approach Vol, veh/h		1233			1563			524			877	
Approach Delay, s/veh		37.0			40.5			50.2			48.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	24.0	16.0	40.0	17.0	22.0	17.0	39.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	16.7	11.0	32.7	12.0	14.7	12.0	31.7
Max Q Clear Time (g_c+I1), s	9.2	10.6	10.6	18.0	11.3	16.7	12.0	27.3
Green Ext Time (p_c), s	0.1	2.2	0.0	10.6	0.1	0.0	0.0	4.1

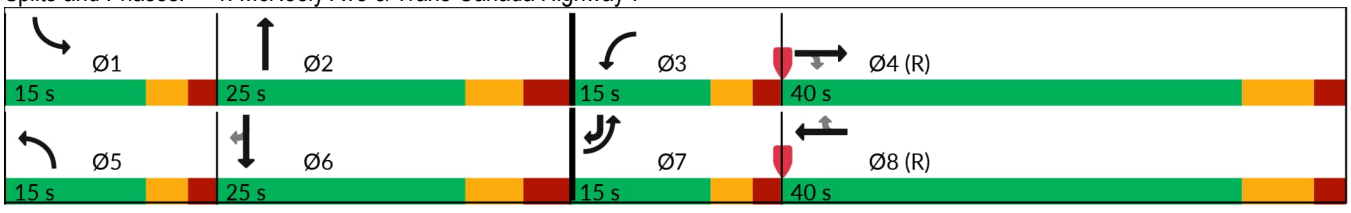
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	42.4
HCM 6th LOS	D

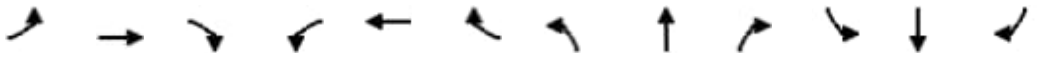
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	373	656	178	103	827	265	175	323	276	289	378
Future Volume (vph)	373	656	178	103	827	265	175	323	276	289	378
Lane Group Flow (vph)	381	669	182	105	844	270	179	447	282	295	386
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.07	0.55	0.29	0.58	0.69	0.42	0.97	0.64	0.78	0.44	0.61
Control Delay (s/veh)	109.5	27.3	6.0	54.2	30.5	11.5	102.9	36.8	57.9	36.7	22.2
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 (s/veh)	109.5	27.3	6.0	54.2	30.5	11.5	102.9	36.8	57.9	36.7	22.2
Queue Length 50th (m)	~40.2	51.6	2.2	18.7	69.3	13.4	33.2	36.0	26.4	25.4	40.8
Queue Length 95th (m)	#67.9	68.7	15.9	#37.4	90.2	33.3	#73.1	51.9	#44.9	37.8	71.2
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	356	1216	637	181	1216	644	185	695	360	665	629
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	1.07	0.55	0.29	0.58	0.69	0.42	0.97	0.64	0.78	0.44	0.61

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	656	178	103	827	265	175	323	115	276	289	378
Future Volume (veh/h)	373	656	178	103	827	265	175	323	115	276	289	378
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	381	669	182	105	844	270	179	330	117	282	295	386
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	370	1233	547	190	1233	547	190	487	169	370	673	469
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3582	1588	1810	3582	1589	1810	2615	909	3510	3610	1608
Grp Volume(v), veh/h	381	669	182	105	844	270	179	226	221	282	295	386
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1810	1791	1589	1810	1805	1719	1755	1805	1608
Q Serve(g_s), s	10.0	14.3	8.1	5.2	19.2	12.8	9.3	11.1	11.4	7.4	6.9	17.7
Cycle Q Clear(g_c), s	10.0	14.3	8.1	5.2	19.2	12.8	9.3	11.1	11.4	7.4	6.9	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	370	1233	547	190	1233	547	190	336	320	370	673	469
V/C Ratio(X)	1.03	0.54	0.33	0.55	0.68	0.49	0.94	0.67	0.69	0.76	0.44	0.82
Avail Cap(c_a), veh/h	370	1233	547	190	1233	547	190	336	320	370	673	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.1	23.1	40.4	26.7	24.6	42.2	35.9	36.1	41.3	34.2	31.4
Incr Delay (d2), s/veh	55.0	1.7	1.6	11.0	3.1	3.2	51.1	10.2	11.6	13.9	2.1	15.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	2.8	1.5	2.0	3.8	2.4	5.1	3.6	3.6	2.6	1.8	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	97.5	26.8	24.7	51.4	29.8	27.8	93.3	46.2	47.7	55.2	36.3	46.4
LnGrp LOS	F	C	C	D	C	C	F	D	D	E	D	D
Approach Vol, veh/h		1232			1219			626			963	
Approach Delay, s/veh		48.4			31.2			60.2			45.9	
Approach LOS		D			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.4	13.4	7.2	16.3	11.3	19.7	12.0	21.2
Green Ext Time (p_c), s	0.1	2.1	0.1	11.3	0.0	0.0	0.0	9.7

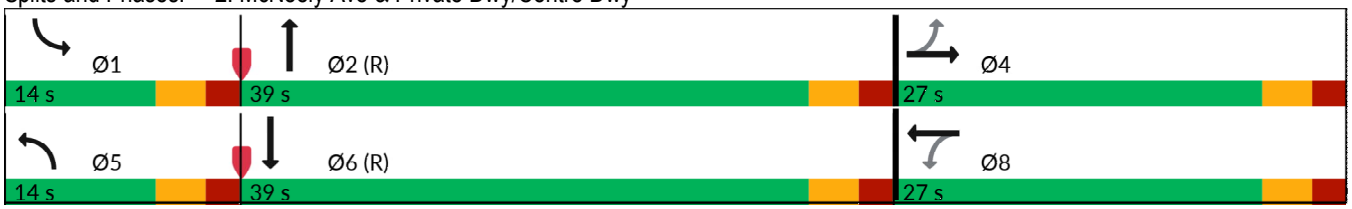
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	44.4
HCM 6th LOS	D

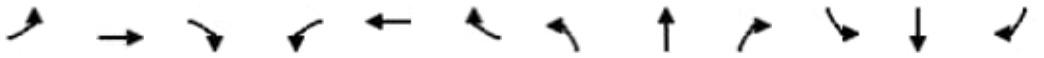
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	94	26	194	22	114	700	222	670
Future Volume (vph)	94	26	194	22	114	700	222	670
Lane Group Flow (vph)	100	115	206	140	121	749	236	857
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	27.0	27.0	27.0	27.0	14.0	39.0	14.0	39.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	17.5%	48.8%	17.5%	48.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.37	0.27	0.75	0.32	0.60	0.45	0.61	0.46
Control Delay (s/veh)	29.2	10.0	45.4	8.8	47.0	15.9	41.1	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.2	10.0	45.4	8.8	47.0	15.9	41.1	14.9
Queue Length 50th (m)	12.8	3.4	29.0	2.8	17.3	40.3	17.4	45.2
Queue Length 95th (m)	24.6	14.6	48.8	15.2	#37.0	57.4	29.0	64.3
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	335	516	344	521	213	1679	393	1848
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	0.30	0.22	0.60	0.27	0.57	0.45	0.60	0.46

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	26	82	194	22	110	114	700	4	222	670	135
Future Volume (veh/h)	94	26	82	194	22	110	114	700	4	222	670	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	100	28	87	206	23	117	121	745	4	236	713	144
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	313	100	311	336	67	339	154	1746	9	325	1435	290
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.09	0.47	0.47	0.09	0.48	0.48
Sat Flow, veh/h	1268	407	1264	1297	271	1379	1810	3682	20	3510	2980	601
Grp Volume(v), veh/h	100	0	115	206	0	140	121	365	384	236	432	425
Grp Sat Flow(s),veh/h/ln	1268	0	1671	1297	0	1650	1810	1805	1896	1755	1805	1776
Q Serve(g_s), s	5.6	0.0	4.5	12.2	0.0	5.6	5.2	10.7	10.7	5.2	13.0	13.1
Cycle Q Clear(g_c), s	11.2	0.0	4.5	16.7	0.0	5.6	5.2	10.7	10.7	5.2	13.0	13.1
Prop In Lane	1.00		0.76	1.00		0.84	1.00		0.01	1.00		0.34
Lane Grp Cap(c), veh/h	313	0	411	336	0	405	154	856	899	325	869	855
V/C Ratio(X)	0.32	0.00	0.28	0.61	0.00	0.35	0.78	0.43	0.43	0.73	0.50	0.50
Avail Cap(c_a), veh/h	350	0	459	374	0	454	204	856	899	395	869	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	0.0	24.4	31.2	0.0	24.9	35.9	13.9	13.9	35.3	14.1	14.1
Incr Delay (d2), s/veh	0.6	0.0	0.4	2.5	0.0	0.5	13.5	1.6	1.5	5.2	2.0	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.0	2.4	0.0	1.2	1.8	0.5	0.6	1.4	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.1	0.0	24.8	33.7	0.0	25.4	49.4	15.4	15.4	40.5	16.2	16.2
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		215			346			870			1093	
Approach Delay, s/veh		27.3			30.3			20.1			21.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	42.9		24.7	11.8	43.5		24.7				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	34.0		22.0	9.0	34.0		22.0				
Max Q Clear Time (g_c+I1), s	7.2	12.7		13.2	7.2	15.1		18.7				
Green Ext Time (p_c), s	0.2	11.0		1.4	0.1	11.6		1.0				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			22.7									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	95	717	224	0	952
Future Vol, veh/h	0	95	717	224	0	952
Conflicting Peds, #/hr	0	0	0	2	2	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	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	98	739	231	0	981

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	487	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	532	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	531	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	531	-
HCM Lane V/C Ratio	-	-	0.184	-
HCM Ctrl Dly (s/v)	-	-	13.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.7	-

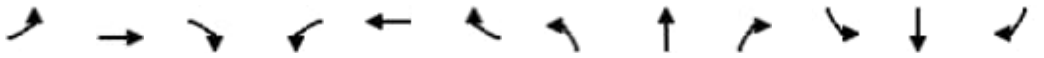
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	373	656	178	103	827	265	175	323	276	289	378
Future Volume (vph)	373	656	178	103	827	265	175	323	276	289	378
Lane Group Flow (vph)	381	669	182	105	844	270	179	447	282	295	386
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	18.0	40.0	40.0	15.0	37.0	37.0	16.0	25.0	15.0	24.0	18.0
Total Split (%)	18.9%	42.1%	42.1%	15.8%	38.9%	38.9%	16.8%	26.3%	15.8%	25.3%	18.9%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.82	0.55	0.29	0.58	0.76	0.45	0.88	0.64	0.78	0.47	0.59
Control Delay (s/veh)	55.9	27.3	6.0	54.2	34.9	13.0	80.9	36.8	57.9	38.0	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.9	27.3	6.0	54.2	34.9	13.0	80.9	36.8	57.9	38.0	20.4
Queue Length 50th (m)	35.5	51.6	2.2	18.7	73.0	14.3	32.8	36.0	26.4	25.8	39.3
Queue Length 95th (m)	#57.3	68.7	15.9	#37.4	95.0	35.4	#69.5	51.9	#44.9	38.4	68.5
Internal Link Dist (m)		649.0			226.4			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	463	1216	637	181	1105	599	204	695	360	627	659
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	0.82	0.55	0.29	0.58	0.76	0.45	0.88	0.64	0.78	0.47	0.59

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	373	656	178	103	827	265	175	323	115	276	289	378
Future Volume (veh/h)	373	656	178	103	827	265	175	323	115	276	289	378
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	381	669	182	105	844	270	179	330	117	282	295	386
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	480	1233	547	190	1120	497	210	487	169	370	635	503
Arrive On Green	0.14	0.34	0.34	0.11	0.31	0.31	0.12	0.19	0.19	0.11	0.18	0.18
Sat Flow, veh/h	3510	3582	1588	1810	3582	1589	1810	2615	909	3510	3610	1607
Grp Volume(v), veh/h	381	669	182	105	844	270	179	226	221	282	295	386
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1810	1791	1589	1810	1805	1719	1755	1805	1607
Q Serve(g_s), s	10.0	14.3	8.1	5.2	20.1	13.4	9.2	11.1	11.4	7.4	7.0	16.7
Cycle Q Clear(g_c), s	10.0	14.3	8.1	5.2	20.1	13.4	9.2	11.1	11.4	7.4	7.0	16.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	480	1233	547	190	1120	497	210	336	320	370	635	503
V/C Ratio(X)	0.79	0.54	0.33	0.55	0.75	0.54	0.85	0.67	0.69	0.76	0.46	0.77
Avail Cap(c_a), veh/h	480	1233	547	190	1120	497	210	336	320	370	635	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	25.1	23.1	40.4	29.4	27.0	41.2	35.9	36.1	41.3	35.1	29.5
Incr Delay (d2), s/veh	12.6	1.7	1.6	11.0	4.7	4.2	33.4	10.2	11.6	13.9	2.4	10.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.8	1.5	2.0	4.5	2.8	4.3	3.6	3.6	2.6	1.9	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.3	26.8	24.7	51.4	34.1	31.3	74.6	46.2	47.7	55.2	37.6	40.3
LnGrp LOS	D	C	C	D	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1232			1219			626			963	
Approach Delay, s/veh		34.4			34.9			54.8			43.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	16.0	24.0	18.0	37.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	11.0	16.7	13.0	29.7
Max Q Clear Time (g_c+I1), s	9.4	13.4	7.2	16.3	11.2	18.7	12.0	22.1
Green Ext Time (p_c), s	0.1	2.1	0.1	11.3	0.0	0.0	0.2	6.6

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	40.0
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	275	620	136	56	511	188	94	141	296	157	181
Future Volume (vph)	275	620	136	56	511	188	94	141	296	157	181
Lane Group Flow (vph)	293	660	145	60	544	200	100	238	315	167	193
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.86	0.56	0.23	0.19	0.33	0.32	0.28	0.35	0.90	0.25	0.33
Control Delay (s/veh)	66.1	27.6	3.7	40.4	23.8	4.9	41.5	22.5	72.2	34.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.1	27.6	3.7	40.4	23.8	4.9	41.5	22.5	72.2	34.2	5.9
Queue Length 50th (m)	27.6	51.3	0.0	5.2	26.7	0.0	8.8	12.4	29.8	13.8	1.8
Queue Length 95th (m)	#49.0	68.5	9.5	11.1	35.9	14.0	16.4	23.0	#53.7	23.0	15.4
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	323	1634	623	353	687	349	658	584
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	0.86	0.56	0.23	0.19	0.33	0.32	0.28	0.35	0.90	0.25	0.33

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	620	136	56	511	188	94	141	83	296	157	181
Future Volume (veh/h)	275	620	136	56	511	188	94	141	83	296	157	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	293	660	145	60	544	200	100	150	88	315	167	193
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	358	1194	545	344	1674	514	364	401	222	361	667	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	3264	4863	1495	3456	2150	1192	3428	3582	1567
Grp Volume(v), veh/h	293	660	145	60	544	200	100	119	119	315	167	193
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1632	1621	1495	1728	1735	1607	1714	1791	1567
Q Serve(g_s), s	8.0	14.6	6.3	1.6	7.8	9.6	2.5	5.7	6.2	8.6	3.8	9.5
Cycle Q Clear(g_c), s	8.0	14.6	6.3	1.6	7.8	9.6	2.5	5.7	6.2	8.6	3.8	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	344	1674	514	364	323	299	361	667	458
V/C Ratio(X)	0.82	0.55	0.27	0.17	0.32	0.39	0.27	0.37	0.40	0.87	0.25	0.42
Avail Cap(c_a), veh/h	358	1194	545	344	1674	514	364	323	299	361	667	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	25.2	22.5	38.7	23.0	23.6	39.2	33.8	34.0	41.9	33.0	27.2
Incr Delay (d2), s/veh	18.5	1.8	1.2	1.1	0.5	2.2	1.9	3.2	3.9	24.1	0.9	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.8	1.1	0.4	1.3	1.7	0.7	1.6	1.6	3.3	1.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.1	27.1	23.7	39.8	23.5	25.8	41.0	37.0	37.8	66.0	33.9	30.0
LnGrp LOS	E	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1098			804			338			675	
Approach Delay, s/veh		35.4			25.3			38.5			47.8	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.6	8.2	3.6	16.6	4.5	11.5	10.0	11.6
Green Ext Time (p_c), s	0.0	2.1	0.1	10.9	0.2	1.8	0.0	12.0

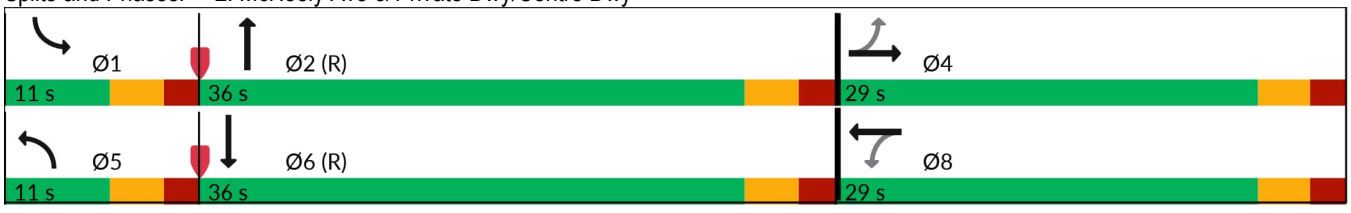
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	35.8
HCM 6th LOS	D

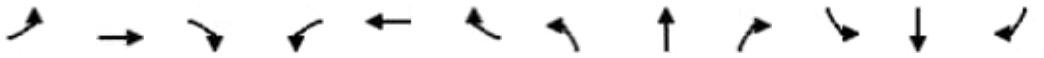
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	82	13	53	10	51	464	82	514
Future Volume (vph)	82	13	53	10	51	464	82	514
Lane Group Flow (vph)	89	75	58	50	55	507	89	685
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	29.0	29.0	29.0	29.0	11.0	36.0	11.0	36.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	14.5%	47.4%	14.5%	47.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.47	0.28	0.34	0.20	0.31	0.24	0.28	0.30
Control Delay (s/veh)	37.6	13.3	33.6	14.1	35.5	9.0	33.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.6	13.3	33.6	14.1	35.5	9.0	33.5	8.5
Queue Length 50th (m)	12.0	1.8	7.6	1.4	7.5	17.7	6.2	23.9
Queue Length 95th (m)	23.5	11.8	16.8	9.5	16.9	32.0	12.3	43.1
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	424	521	402	519	180	2115	323	2265
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	0.21	0.14	0.14	0.10	0.31	0.24	0.28	0.30

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	13	56	53	10	36	51	464	3	82	514	116
Future Volume (veh/h)	82	13	56	53	10	36	51	464	3	82	514	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1500	1856	1870	1737	1870	1811	1811	1159	1885	1811	1885
Adj Flow Rate, veh/h	89	14	61	58	11	39	55	504	3	89	559	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	27	3	2	11	2	6	6	50	1	6	1
Cap, veh/h	241	33	144	205	45	161	78	2143	13	194	1735	390
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.61	0.61	0.06	0.62	0.62
Sat Flow, veh/h	1374	244	1062	1322	334	1186	1725	3507	21	3483	2791	627
Grp Volume(v), veh/h	89	0	75	58	0	50	55	247	260	89	344	341
Grp Sat Flow(s),veh/h/ln	1374	0	1306	1322	0	1520	1725	1721	1807	1742	1721	1697
Q Serve(g_s), s	4.7	0.0	4.0	3.2	0.0	2.2	2.4	5.0	5.0	1.9	7.2	7.2
Cycle Q Clear(g_c), s	6.9	0.0	4.0	7.2	0.0	2.2	2.4	5.0	5.0	1.9	7.2	7.2
Prop In Lane	1.00		0.81	1.00		0.78	1.00		0.01	1.00		0.37
Lane Grp Cap(c), veh/h	241	0	177	205	0	206	78	1051	1104	194	1070	1055
V/C Ratio(X)	0.37	0.00	0.42	0.28	0.00	0.24	0.71	0.24	0.24	0.46	0.32	0.32
Avail Cap(c_a), veh/h	488	0	412	443	0	480	136	1051	1104	275	1070	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	30.1	33.4	0.0	29.3	35.8	6.7	6.7	34.8	6.8	6.8
Incr Delay (d2), s/veh	0.9	0.0	1.6	0.7	0.0	0.6	11.0	0.5	0.5	1.7	0.8	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.8	0.7	0.0	0.5	0.7	0.2	0.2	0.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.4	0.0	31.7	34.2	0.0	29.9	46.8	7.2	7.2	36.5	7.6	7.6
LnGrp LOS	C		C	C		C	D	A	A	D	A	A
Approach Vol, veh/h		164			108			562			774	
Approach Delay, s/veh		32.6			32.2			11.1			10.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	51.4		15.3	8.4	52.2		15.3				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	31.0		24.0	6.0	31.0		24.0				
Max Q Clear Time (g_c+I1), s	3.9	7.0		8.9	4.4	9.2		9.2				
Green Ext Time (p_c), s	0.1	7.9		1.3	0.0	10.4		0.8				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.6									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	498	95	0	625
Future Vol, veh/h	0	10	498	95	0	625
Conflicting Peds, #/hr	0	0	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	7	1	0	5
Mvmt Flow	0	11	560	107	0	702

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	335	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	667	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	666	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	666	-
HCM Lane V/C Ratio	-	-	0.017	-
HCM Ctrl Dly (s/v)	-	-	10.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.1	-

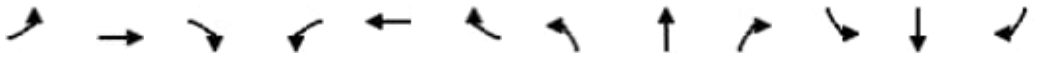
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	275	620	136	56	511	188	94	141	296	157	181
Future Volume (vph)	275	620	136	56	511	188	94	141	296	157	181
Lane Group Flow (vph)	293	660	145	60	544	200	100	238	315	167	193
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	24.0	16.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	25.3%	16.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.86	0.56	0.23	0.19	0.33	0.32	0.28	0.37	0.82	0.25	0.33
Control Delay (s/veh)	66.1	27.6	3.7	40.4	23.8	4.9	41.5	23.2	59.5	34.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.1	27.6	3.7	40.4	23.8	4.9	41.5	23.2	59.5	34.2	5.9
Queue Length 50th (m)	27.6	51.3	0.0	5.2	26.7	0.0	8.8	12.6	29.5	13.8	1.8
Queue Length 95th (m)	#49.0	68.5	9.5	11.1	35.9	14.0	16.4	23.3	#50.2	23.0	15.4
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	323	1634	623	353	652	384	658	584
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	0.86	0.56	0.23	0.19	0.33	0.32	0.28	0.37	0.82	0.25	0.33

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	620	136	56	511	188	94	141	83	296	157	181
Future Volume (veh/h)	275	620	136	56	511	188	94	141	83	296	157	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	293	660	145	60	544	200	100	150	88	315	167	193
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	358	1194	545	344	1674	514	364	378	209	397	667	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.18	0.18	0.12	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	3264	4863	1495	3456	2150	1191	3428	3582	1567
Grp Volume(v), veh/h	293	660	145	60	544	200	100	119	119	315	167	193
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1632	1621	1495	1728	1735	1607	1714	1791	1567
Q Serve(g_s), s	8.0	14.6	6.3	1.6	7.8	9.6	2.5	5.8	6.2	8.5	3.8	9.5
Cycle Q Clear(g_c), s	8.0	14.6	6.3	1.6	7.8	9.6	2.5	5.8	6.2	8.5	3.8	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	344	1674	514	364	305	282	397	667	458
V/C Ratio(X)	0.82	0.55	0.27	0.17	0.32	0.39	0.27	0.39	0.42	0.79	0.25	0.42
Avail Cap(c_a), veh/h	358	1194	545	344	1674	514	364	305	282	397	667	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	25.2	22.5	38.7	23.0	23.6	39.2	34.7	34.8	40.9	33.0	27.2
Incr Delay (d2), s/veh	18.5	1.8	1.2	1.1	0.5	2.2	1.9	3.7	4.5	15.0	0.9	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.8	1.1	0.4	1.3	1.7	0.7	1.7	1.7	2.9	1.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.1	27.1	23.7	39.8	23.5	25.8	41.0	38.4	39.4	55.9	33.9	30.0
LnGrp LOS	E	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1098			804			338			675	
Approach Delay, s/veh		35.4			25.3			39.5			43.1	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	24.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	11.0	16.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.5	8.2	3.6	16.6	4.5	11.5	10.0	11.6
Green Ext Time (p_c), s	0.1	1.9	0.1	10.9	0.2	1.8	0.0	12.0

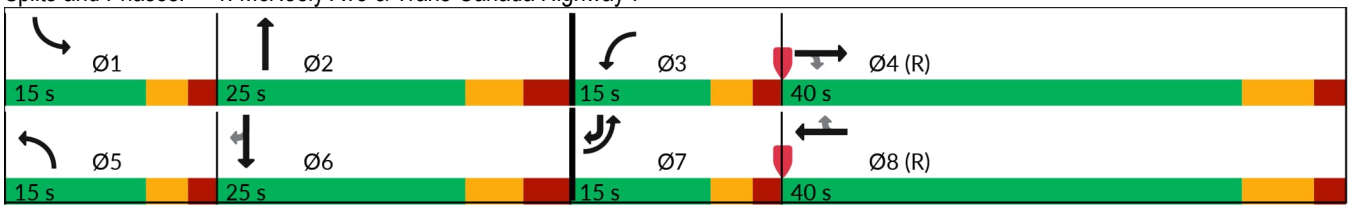
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	34.9
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	375	667	149	168	955	383	184	278	270	245	386
Future Volume (vph)	375	667	149	168	955	383	184	278	270	245	386
Lane Group Flow (vph)	399	710	159	179	1016	407	196	392	287	261	411
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.13	0.61	0.25	0.52	0.59	0.56	0.54	0.57	0.82	0.39	0.75
Control Delay (s/veh)	129.4	28.5	4.6	46.1	27.3	10.3	46.5	35.1	61.9	36.0	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	129.4	28.5	4.6	46.1	27.3	10.3	46.5	35.1	61.9	36.0	28.6
Queue Length 50th (m)	~44.1	56.1	0.0	16.2	55.4	14.2	17.8	31.0	27.0	22.3	45.6
Queue Length 95th (m)	#72.2	74.5	11.9	26.6	69.0	40.9	28.6	45.6	#47.1	34.0	#79.6
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	352	1170	627	345	1731	730	360	688	349	665	548
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	1.13	0.61	0.25	0.52	0.59	0.56	0.54	0.57	0.82	0.39	0.75

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	667	149	168	955	383	184	278	90	270	245	386
Future Volume (veh/h)	375	667	149	168	955	383	184	278	90	270	245	386
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	399	710	159	179	1016	407	196	296	96	287	261	411
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	367	1194	541	364	1758	545	370	501	159	361	673	468
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	3456	5106	1584	3510	2691	855	3428	3610	1602
Grp Volume(v), veh/h	399	710	159	179	1016	407	196	197	195	287	261	411
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1728	1702	1584	1755	1805	1741	1714	1805	1602
Q Serve(g_s), s	10.0	16.0	7.0	4.6	15.5	21.5	5.0	9.4	9.8	7.8	6.0	17.7
Cycle Q Clear(g_c), s	10.0	16.0	7.0	4.6	15.5	21.5	5.0	9.4	9.8	7.8	6.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	367	1194	541	364	1758	545	370	336	324	361	673	468
V/C Ratio(X)	1.09	0.59	0.29	0.49	0.58	0.75	0.53	0.58	0.60	0.80	0.39	0.88
Avail Cap(c_a), veh/h	367	1194	541	364	1758	545	370	336	324	361	673	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.7	22.7	40.1	25.5	27.5	40.3	35.3	35.4	41.5	33.9	32.1
Incr Delay (d2), s/veh	72.8	2.2	1.4	4.7	1.4	9.0	5.4	7.2	8.0	16.4	1.7	20.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	3.0	1.3	1.4	2.8	4.7	1.6	2.9	3.0	2.8	1.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	115.3	27.9	24.1	44.8	26.9	36.5	45.6	42.5	43.5	57.9	35.6	52.3
LnGrp LOS	F	C	C	D	C	D	D	D	D	E	D	D
Approach Vol, veh/h		1268			1602			588			959	
Approach Delay, s/veh		54.9			31.3			43.9			49.4	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.8	11.8	6.6	18.0	7.0	19.7	12.0	23.5
Green Ext Time (p_c), s	0.0	2.5	0.3	10.7	0.3	0.0	0.0	8.5

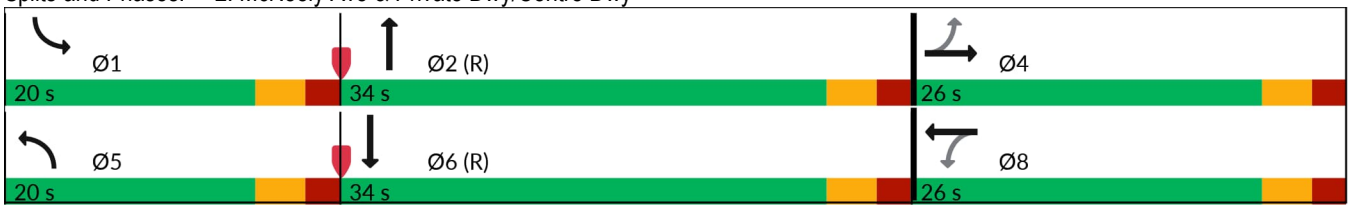
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	43.7
HCM 6th LOS	D

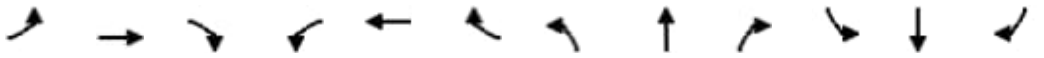
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	89	10	169	14	66	805	141	658
Future Volume (vph)	89	10	169	14	66	805	141	658
Lane Group Flow (vph)	95	81	180	128	70	862	150	836
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	26.0	26.0	26.0	26.0	20.0	34.0	20.0	34.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	25.0%	42.5%	25.0%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.41	0.22	0.70	0.32	0.37	0.49	0.41	0.44
Control Delay (s/veh)	31.9	9.7	44.1	8.9	38.0	15.6	35.9	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.9	9.7	44.1	8.9	38.0	15.6	35.9	13.9
Queue Length 50th (m)	12.6	1.4	25.5	1.9	10.1	43.4	11.1	39.3
Queue Length 95th (m)	24.2	11.0	42.8	13.9	20.9	70.4	18.9	65.9
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	309	461	339	496	332	1769	613	1899
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	0.31	0.18	0.53	0.26	0.21	0.49	0.24	0.44

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	10	66	169	14	106	66	805	6	141	658	128
Future Volume (veh/h)	89	10	66	169	14	106	66	805	6	141	658	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1841	1900	1900	1900	1856	1900	1900	1885	1870	1900
Adj Flow Rate, veh/h	95	11	70	180	15	113	70	856	6	150	700	136
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	0	4	0	0	0	3	0	0	1	2	0
Cap, veh/h	267	47	296	317	41	306	92	1949	14	245	1622	315
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.05	0.53	0.53	0.07	0.55	0.55
Sat Flow, veh/h	1220	220	1398	1335	192	1444	1767	3675	26	3483	2956	574
Grp Volume(v), veh/h	95	0	81	180	0	128	70	420	442	150	421	415
Grp Sat Flow(s),veh/h/ln	1220	0	1618	1335	0	1635	1767	1805	1895	1742	1777	1753
Q Serve(g_s), s	5.8	0.0	3.3	10.3	0.0	5.4	3.1	11.4	11.4	3.3	11.2	11.2
Cycle Q Clear(g_c), s	11.1	0.0	3.3	13.7	0.0	5.4	3.1	11.4	11.4	3.3	11.2	11.2
Prop In Lane	1.00		0.86	1.00		0.88	1.00		0.01	1.00		0.33
Lane Grp Cap(c), veh/h	267	0	342	317	0	346	92	958	1005	245	975	962
V/C Ratio(X)	0.36	0.00	0.24	0.57	0.00	0.37	0.76	0.44	0.44	0.61	0.43	0.43
Avail Cap(c_a), veh/h	329	0	425	385	0	429	331	958	1005	653	975	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	26.2	31.8	0.0	27.0	37.4	11.5	11.5	36.1	10.7	10.7
Incr Delay (d2), s/veh	0.8	0.0	0.4	1.6	0.0	0.7	12.1	1.5	1.4	2.5	1.4	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.7	2.0	0.0	1.2	1.0	0.4	0.4	0.8	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.5	0.0	26.5	33.4	0.0	27.6	49.5	13.0	12.9	38.6	12.1	12.1
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		176			308			932			986	
Approach Delay, s/veh		29.8			31.0			15.7			16.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	47.4		21.9	9.2	48.9		21.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	15.0	29.0		21.0	15.0	29.0		21.0				
Max Q Clear Time (g_c+I1), s	5.3	13.4		13.1	5.1	13.2		15.7				
Green Ext Time (p_c), s	0.5	10.0		0.9	0.2	9.9		1.3				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			18.9									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	67	807	226	0	896
Future Vol, veh/h	0	67	807	226	0	896
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	0	72	868	243	0	963

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	556	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	480	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	480	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	480	-
HCM Lane V/C Ratio	-	-	0.15	-
HCM Ctrl Dly (s/v)	-	-	13.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.5	-

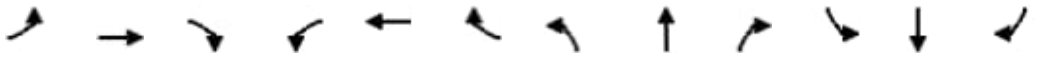
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	375	667	149	168	955	383	184	278	270	245	386
Future Volume (vph)	375	667	149	168	955	383	184	278	270	245	386
Lane Group Flow (vph)	399	710	159	179	1016	407	196	392	287	261	411
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	18.0	40.0	40.0	15.0	37.0	37.0	15.0	25.0	15.0	25.0	18.0
Total Split (%)	18.9%	42.1%	42.1%	15.8%	38.9%	38.9%	15.8%	26.3%	15.8%	26.3%	18.9%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.87	0.61	0.25	0.52	0.65	0.56	0.54	0.57	0.82	0.39	0.69
Control Delay (s/veh)	61.0	28.5	4.6	46.1	30.4	7.8	46.5	35.1	61.9	36.0	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.0	28.5	4.6	46.1	30.4	7.8	46.5	35.1	61.9	36.0	23.9
Queue Length 50th (m)	37.4	56.1	0.0	16.2	58.4	6.5	17.8	31.0	27.0	22.3	43.0
Queue Length 95th (m)	#61.7	74.5	11.9	26.6	72.6	30.4	28.6	45.6	#47.1	34.0	73.5
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		200.0	80.0		42.0		20.0
Base Capacity (vph)	458	1170	627	345	1572	732	360	688	349	665	593
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	0.87	0.61	0.25	0.52	0.65	0.56	0.54	0.57	0.82	0.39	0.69

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	667	149	168	955	383	184	278	90	270	245	386
Future Volume (veh/h)	375	667	149	168	955	383	184	278	90	270	245	386
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	399	710	159	179	1016	407	196	296	96	287	261	411
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	477	1194	541	364	1596	495	370	501	159	361	673	519
Arrive On Green	0.14	0.34	0.34	0.11	0.31	0.31	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	3456	5106	1584	3510	2691	855	3428	3610	1602
Grp Volume(v), veh/h	399	710	159	179	1016	407	196	197	195	287	261	411
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1728	1702	1584	1755	1805	1741	1714	1805	1602
Q Serve(g_s), s	10.6	16.0	7.0	4.6	16.2	22.6	5.0	9.4	9.8	7.8	6.0	17.7
Cycle Q Clear(g_c), s	10.6	16.0	7.0	4.6	16.2	22.6	5.0	9.4	9.8	7.8	6.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	477	1194	541	364	1596	495	370	336	324	361	673	519
V/C Ratio(X)	0.84	0.59	0.29	0.49	0.64	0.82	0.53	0.58	0.60	0.80	0.39	0.79
Avail Cap(c_a), veh/h	477	1194	541	364	1596	495	370	336	324	361	673	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	25.7	22.7	40.1	28.0	30.2	40.3	35.3	35.4	41.5	33.9	29.3
Incr Delay (d2), s/veh	15.9	2.2	1.4	4.7	2.0	14.3	5.4	7.2	8.0	16.4	1.7	11.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.0	1.3	1.4	3.2	5.7	1.6	2.9	3.0	2.8	1.6	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.9	27.9	24.1	44.8	30.0	44.5	45.6	42.5	43.5	57.9	35.6	41.0
LnGrp LOS	E	C	C	D	C	D	D	D	D	E	D	D
Approach Vol, veh/h		1268			1602			588			959	
Approach Delay, s/veh		36.2			35.3			43.9			44.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	18.0	37.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	13.0	29.7
Max Q Clear Time (g_c+I1), s	9.8	11.8	6.6	18.0	7.0	19.7	12.6	24.6
Green Ext Time (p_c), s	0.0	2.5	0.3	10.7	0.3	0.0	0.1	4.8

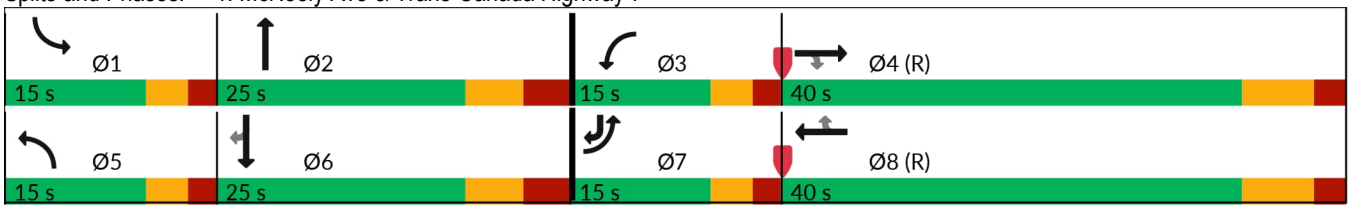
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	38.7
HCM 6th LOS	D

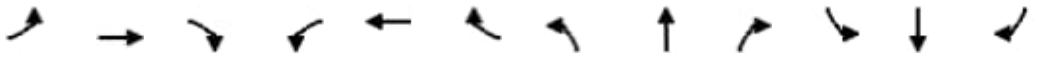
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	393	656	191	110	827	283	188	361	294	330	399
Future Volume (vph)	393	656	191	110	827	283	188	361	294	330	399
Lane Group Flow (vph)	401	669	195	112	844	289	192	495	300	337	407
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.13	0.55	0.31	0.32	0.48	0.41	0.53	0.71	0.83	0.51	0.65
Control Delay (s/veh)	126.8	27.3	6.9	42.1	25.6	6.4	46.2	39.5	62.4	37.8	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	126.8	27.3	6.9	42.1	25.6	6.4	46.2	39.5	62.4	37.8	23.6
Queue Length 50th (m)	~44.1	51.6	3.8	9.9	44.1	4.4	17.4	41.1	28.2	29.4	44.8
Queue Length 95th (m)	#72.4	68.7	18.0	17.9	55.8	22.0	28.1	58.2	#49.1	43.0	77.0
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	356	1216	637	352	1748	702	360	694	360	665	629
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	1.13	0.55	0.31	0.32	0.48	0.41	0.53	0.71	0.83	0.51	0.65

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	656	191	110	827	283	188	361	124	294	330	399
Future Volume (veh/h)	393	656	191	110	827	283	188	361	124	294	330	399
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	401	669	195	112	844	289	192	368	127	300	337	407
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	370	1233	547	370	1771	547	370	490	167	370	673	469
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3582	1588	3510	5147	1589	3510	2632	894	3510	3610	1608
Grp Volume(v), veh/h	401	669	195	112	844	289	192	251	244	300	337	407
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1755	1716	1589	1755	1805	1722	1755	1805	1608
Q Serve(g_s), s	10.0	14.3	8.7	2.8	12.2	13.9	4.9	12.5	12.8	7.9	8.0	17.7
Cycle Q Clear(g_c), s	10.0	14.3	8.7	2.8	12.2	13.9	4.9	12.5	12.8	7.9	8.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	370	1233	547	370	1771	547	370	336	321	370	673	469
V/C Ratio(X)	1.09	0.54	0.36	0.30	0.48	0.53	0.52	0.74	0.76	0.81	0.50	0.87
Avail Cap(c_a), veh/h	370	1233	547	370	1771	547	370	336	321	370	673	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.1	23.3	39.3	24.4	25.0	40.2	36.5	36.7	41.6	34.7	31.9
Incr Delay (d2), s/veh	71.6	1.7	1.8	2.1	0.9	3.6	5.1	13.9	15.7	17.4	2.7	19.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	2.8	1.6	0.8	2.2	2.7	1.5	4.3	4.3	2.9	2.1	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	114.1	26.8	25.1	41.4	25.4	28.6	45.4	50.5	52.3	59.0	37.3	51.0
LnGrp LOS	F	C	C	D	C	C	D	D	D	E	D	D
Approach Vol, veh/h		1265			1245			687			1044	
Approach Delay, s/veh		54.2			27.6			49.7			48.9	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	9.9	14.8	4.8	16.3	6.9	19.7	12.0	15.9
Green Ext Time (p_c), s	0.0	1.6	0.2	11.4	0.3	0.0	0.0	13.6

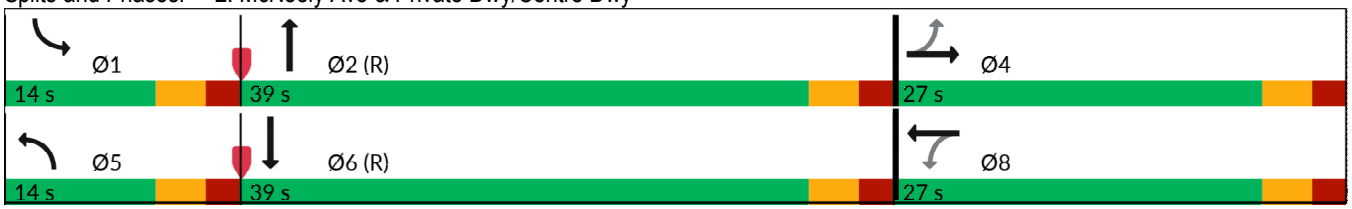
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	44.3
HCM 6th LOS	D

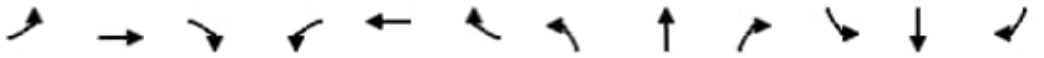
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	99	26	194	22	120	770	222	746
Future Volume (vph)	99	26	194	22	120	770	222	746
Lane Group Flow (vph)	105	119	206	140	128	823	236	945
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	27.0	27.0	27.0	27.0	14.0	39.0	14.0	39.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	17.5%	48.8%	17.5%	48.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.39	0.27	0.75	0.32	0.62	0.49	0.61	0.54
Control Delay (s/veh)	29.6	9.8	45.6	8.8	47.9	16.5	41.1	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.6	9.8	45.6	8.8	47.9	16.5	41.1	16.6
Queue Length 50th (m)	13.5	3.4	29.0	2.8	18.3	45.5	17.4	52.4
Queue Length 95th (m)	25.6	14.7	48.9	15.2	#40.2	64.3	29.0	73.3
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	335	518	343	521	216	1678	393	1735
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	0.31	0.23	0.60	0.27	0.59	0.49	0.60	0.54

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	26	86	194	22	110	120	770	4	222	746	142
Future Volume (veh/h)	99	26	86	194	22	110	120	770	4	222	746	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	105	28	91	206	23	117	128	819	4	236	794	151
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	316	97	316	335	67	342	162	1739	8	325	1432	272
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.09	0.47	0.47	0.09	0.48	0.48
Sat Flow, veh/h	1268	393	1276	1292	271	1379	1810	3684	18	3510	3014	573
Grp Volume(v), veh/h	105	0	119	206	0	140	128	401	422	236	476	469
Grp Sat Flow(s),veh/h/ln	1268	0	1669	1292	0	1650	1810	1805	1897	1755	1805	1782
Q Serve(g_s), s	5.9	0.0	4.6	12.3	0.0	5.6	5.5	12.1	12.1	5.2	15.0	15.0
Cycle Q Clear(g_c), s	11.5	0.0	4.6	16.9	0.0	5.6	5.5	12.1	12.1	5.2	15.0	15.0
Prop In Lane	1.00		0.76	1.00		0.84	1.00		0.01	1.00		0.32
Lane Grp Cap(c), veh/h	316	0	413	335	0	409	162	852	895	325	858	847
V/C Ratio(X)	0.33	0.00	0.29	0.61	0.00	0.34	0.79	0.47	0.47	0.73	0.55	0.55
Avail Cap(c_a), veh/h	350	0	459	371	0	454	204	852	895	395	858	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	0.0	24.4	31.2	0.0	24.7	35.7	14.3	14.3	35.3	15.0	15.0
Incr Delay (d2), s/veh	0.6	0.0	0.4	2.6	0.0	0.5	15.0	1.9	1.8	5.2	2.6	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.0	2.4	0.0	1.2	1.9	0.7	0.7	1.4	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.1	0.0	24.8	33.8	0.0	25.2	50.7	16.2	16.1	40.5	17.5	17.6
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		224			346			951			1181	
Approach Delay, s/veh		27.3			30.3			20.8			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	42.8		24.8	12.2	43.0		24.8				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	34.0		22.0	9.0	34.0		22.0				
Max Q Clear Time (g_c+I1), s	7.2	14.1		13.5	7.5	17.0		18.9				
Green Ext Time (p_c), s	0.2	11.5		1.4	0.1	11.6		0.9				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			23.1									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	95	793	224	0	1032
Future Vol, veh/h	0	95	793	224	0	1032
Conflicting Peds, #/hr	0	0	0	2	2	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	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	98	818	231	0	1064

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	527	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	501	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	500	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	500	-
HCM Lane V/C Ratio	-	-	0.196	-
HCM Ctrl Dly (s/v)	-	-	13.9	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.7	-

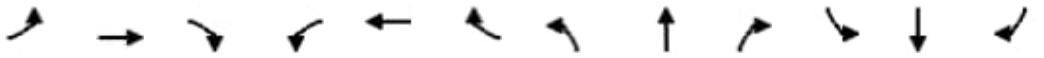
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	393	656	191	110	827	283	188	361	294	330	399
Future Volume (vph)	393	656	191	110	827	283	188	361	294	330	399
Lane Group Flow (vph)	401	669	195	112	844	289	192	495	300	337	407
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	18.0	40.0	40.0	15.0	37.0	37.0	15.0	25.0	15.0	25.0	18.0
Total Split (%)	18.9%	42.1%	42.1%	15.8%	38.9%	38.9%	15.8%	26.3%	15.8%	26.3%	18.9%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.87	0.55	0.31	0.32	0.53	0.42	0.53	0.71	0.83	0.51	0.60
Control Delay (s/veh)	60.2	27.3	6.9	42.1	28.4	5.1	46.2	39.5	62.4	37.8	20.7
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 (s/veh)	60.2	27.3	6.9	42.1	28.4	5.1	46.2	39.5	62.4	37.8	20.7
Queue Length 50th (m)	37.6	51.6	3.8	9.9	46.4	0.0	17.4	41.1	28.2	29.4	42.2
Queue Length 95th (m)	#61.9	68.7	18.0	17.9	58.7	17.2	28.1	58.2	#49.1	43.0	72.5
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		200.0	80.0		42.0		20.0
Base Capacity (vph)	463	1216	637	352	1587	685	360	694	360	665	674
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	0.87	0.55	0.31	0.32	0.53	0.42	0.53	0.71	0.83	0.51	0.60

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	393	656	191	110	827	283	188	361	124	294	330	399
Future Volume (veh/h)	393	656	191	110	827	283	188	361	124	294	330	399
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	401	669	195	112	844	289	192	368	127	300	337	407
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	480	1233	547	370	1609	497	370	490	167	370	673	520
Arrive On Green	0.14	0.34	0.34	0.11	0.31	0.31	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3582	1588	3510	5147	1589	3510	2632	894	3510	3610	1608
Grp Volume(v), veh/h	401	669	195	112	844	289	192	251	244	300	337	407
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1755	1716	1589	1755	1805	1722	1755	1805	1608
Q Serve(g_s), s	10.6	14.3	8.7	2.8	12.8	14.5	4.9	12.5	12.8	7.9	8.0	17.7
Cycle Q Clear(g_c), s	10.6	14.3	8.7	2.8	12.8	14.5	4.9	12.5	12.8	7.9	8.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	480	1233	547	370	1609	497	370	336	321	370	673	520
V/C Ratio(X)	0.83	0.54	0.36	0.30	0.52	0.58	0.52	0.74	0.76	0.81	0.50	0.78
Avail Cap(c_a), veh/h	480	1233	547	370	1609	497	370	336	321	370	673	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	25.1	23.3	39.3	26.8	27.4	40.2	36.5	36.7	41.6	34.7	29.1
Incr Delay (d2), s/veh	15.6	1.7	1.8	2.1	1.2	4.9	5.1	13.9	15.7	17.4	2.7	11.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.8	1.6	0.8	2.5	3.1	1.5	4.3	4.3	2.9	2.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.6	26.8	25.1	41.4	28.1	32.3	45.4	50.5	52.3	59.0	37.3	40.3
LnGrp LOS	E	C	C	D	C	C	D	D	D	E	D	D
Approach Vol, veh/h		1265			1245			687			1044	
Approach Delay, s/veh		35.7			30.3			49.7			44.7	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	18.0	37.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	13.0	29.7
Max Q Clear Time (g_c+I1), s	9.9	14.8	4.8	16.3	6.9	19.7	12.6	16.5
Green Ext Time (p_c), s	0.0	1.6	0.2	11.4	0.3	0.0	0.1	10.9

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	38.6
HCM 6th LOS	D

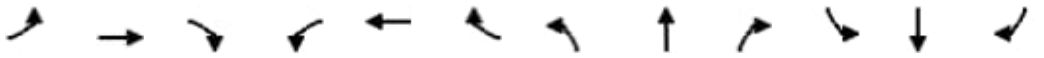
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	294	620	146	60	511	202	101	166	318	186	193
Future Volume (vph)	294	620	146	60	511	202	101	166	318	186	193
Lane Group Flow (vph)	313	660	155	64	544	215	107	273	338	198	205
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.92	0.56	0.24	0.20	0.33	0.34	0.30	0.39	0.97	0.30	0.35
Control Delay (s/veh)	74.7	27.6	4.3	40.6	23.8	4.8	41.8	24.0	84.8	34.8	7.1
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 (s/veh)	74.7	27.6	4.3	40.6	23.8	4.8	41.8	24.0	84.8	34.8	7.1
Queue Length 50th (m)	29.7	51.3	0.0	5.6	26.7	0.0	9.4	15.1	32.3	16.6	4.1
Queue Length 95th (m)	#53.8	68.5	11.3	11.7	35.9	14.5	17.4	26.5	#58.8	26.5	18.3
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	342	1170	634	323	1634	632	353	692	349	658	579
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	0.92	0.56	0.24	0.20	0.33	0.34	0.30	0.39	0.97	0.30	0.35

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	620	146	60	511	202	101	166	90	318	186	193
Future Volume (veh/h)	294	620	146	60	511	202	101	166	90	318	186	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	313	660	155	64	544	215	107	177	96	338	198	205
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	358	1194	545	344	1674	514	364	412	213	361	667	458
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	3264	4863	1495	3456	2209	1142	3428	3582	1567
Grp Volume(v), veh/h	313	660	155	64	544	215	107	137	136	338	198	205
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1632	1621	1495	1728	1735	1616	1714	1791	1567
Q Serve(g_s), s	8.6	14.6	6.8	1.7	7.8	10.5	2.7	6.6	7.1	9.3	4.5	10.1
Cycle Q Clear(g_c), s	8.6	14.6	6.8	1.7	7.8	10.5	2.7	6.6	7.1	9.3	4.5	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	358	1194	545	344	1674	514	364	323	301	361	667	458
V/C Ratio(X)	0.87	0.55	0.28	0.19	0.32	0.42	0.29	0.42	0.45	0.94	0.30	0.45
Avail Cap(c_a), veh/h	358	1194	545	344	1674	514	364	323	301	361	667	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	25.2	22.6	38.8	23.0	23.9	39.2	34.1	34.3	42.2	33.3	27.4
Incr Delay (d2), s/veh	24.4	1.8	1.3	1.2	0.5	2.5	2.0	4.0	4.8	33.8	1.1	3.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.8	1.2	0.5	1.3	1.9	0.8	1.9	1.9	4.0	1.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.3	27.1	24.0	40.0	23.5	26.3	41.3	38.2	39.2	75.9	34.4	30.6
LnGrp LOS	E	C	C	D	C	C	D	D	D	E	C	C
Approach Vol, veh/h		1128			823			380			741	
Approach Delay, s/veh		37.5			25.5			39.4			52.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	11.3	9.1	3.7	16.6	4.7	12.1	10.6	12.5
Green Ext Time (p_c), s	0.0	2.3	0.1	11.0	0.2	1.9	0.0	11.8

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	38.1
HCM 6th LOS	D

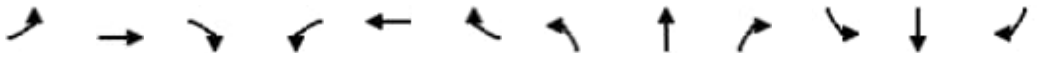
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	86	13	53	10	54	519	82	574
Future Volume (vph)	86	13	53	10	54	519	82	574
Lane Group Flow (vph)	93	78	58	50	59	567	89	757
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	29.0	29.0	29.0	29.0	11.0	36.0	11.0	36.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	14.5%	47.4%	14.5%	47.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.49	0.29	0.33	0.20	0.32	0.27	0.28	0.34
Control Delay (s/veh)	37.9	13.0	33.2	13.9	35.5	9.3	33.5	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.9	13.0	33.2	13.9	35.5	9.3	33.5	9.1
Queue Length 50th (m)	12.5	1.8	7.6	1.4	8.0	20.4	6.2	27.8
Queue Length 95th (m)	24.3	11.8	16.7	9.5	17.7	36.4	12.3	49.8
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	424	523	401	519	184	2109	323	2254
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	0.15	0.14	0.10	0.32	0.27	0.28	0.34

Intersection Summary

Cycle Length: 76
Actuated Cycle Length: 76
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	13	59	53	10	36	54	519	3	82	574	122
Future Volume (veh/h)	86	13	59	53	10	36	54	519	3	82	574	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1500	1856	1870	1737	1870	1811	1811	1159	1885	1811	1885
Adj Flow Rate, veh/h	93	14	64	58	11	39	59	564	3	89	624	133
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	27	3	2	11	2	6	6	50	1	6	1
Cap, veh/h	246	33	149	206	47	165	81	2133	11	194	1740	370
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.61	0.61	0.06	0.62	0.62
Sat Flow, veh/h	1374	234	1070	1319	335	1186	1725	3510	19	3483	2822	600
Grp Volume(v), veh/h	93	0	78	58	0	50	59	276	291	89	380	377
Grp Sat Flow(s),veh/h/ln	1374	0	1304	1319	0	1520	1725	1721	1808	1742	1721	1702
Q Serve(g_s), s	4.9	0.0	4.2	3.2	0.0	2.2	2.6	5.7	5.7	1.9	8.3	8.3
Cycle Q Clear(g_c), s	7.1	0.0	4.2	7.4	0.0	2.2	2.6	5.7	5.7	1.9	8.3	8.3
Prop In Lane	1.00		0.82	1.00		0.78	1.00		0.01	1.00		0.35
Lane Grp Cap(c), veh/h	246	0	182	206	0	212	81	1046	1099	194	1061	1049
V/C Ratio(X)	0.38	0.00	0.43	0.28	0.00	0.24	0.73	0.26	0.26	0.46	0.36	0.36
Avail Cap(c_a), veh/h	488	0	412	439	0	480	136	1046	1099	275	1061	1049
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	30.0	33.3	0.0	29.1	35.7	7.0	7.0	34.8	7.2	7.2
Incr Delay (d2), s/veh	1.0	0.0	1.6	0.7	0.0	0.6	11.9	0.6	0.6	1.7	0.9	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.8	0.7	0.0	0.5	0.8	0.2	0.2	0.4	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.3	0.0	31.6	34.1	0.0	29.7	47.6	7.6	7.6	36.5	8.1	8.1
LnGrp LOS	C		C	C		C	D	A	A	D	A	A
Approach Vol, veh/h		171			108			626			846	
Approach Delay, s/veh		32.5			32.0			11.3			11.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	51.2		15.6	8.6	51.9		15.6				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	31.0		24.0	6.0	31.0		24.0				
Max Q Clear Time (g_c+I1), s	3.9	7.7		9.1	4.6	10.3		9.4				
Green Ext Time (p_c), s	0.1	8.8		1.4	0.0	11.1		0.8				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.6									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	556	95	0	688
Future Vol, veh/h	0	10	556	95	0	688
Conflicting Peds, #/hr	0	0	0	1	1	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	89	89	89	89	89	89
Heavy Vehicles, %	0	0	7	1	0	5
Mvmt Flow	0	11	625	107	0	773

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	367	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	636	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	635	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.8	0	0
HCM LOS	B		

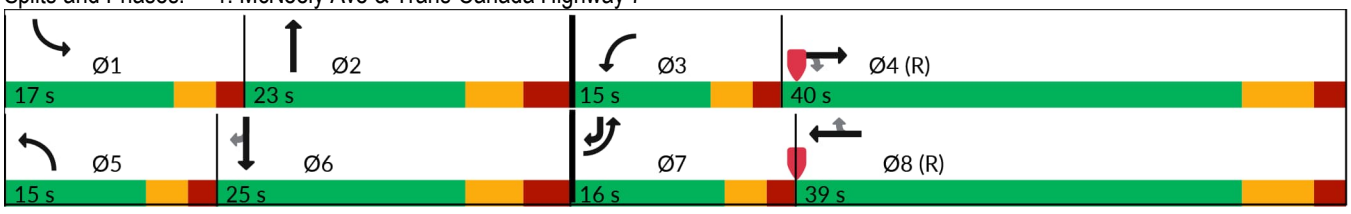
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	635	-
HCM Lane V/C Ratio	-	-	0.018	-
HCM Ctrl Dly (s/v)	-	-	10.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.1	-

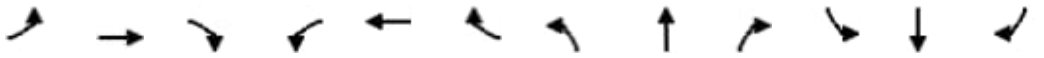
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	294	620	146	60	511	202	101	166	318	186	193
Future Volume (vph)	294	620	146	60	511	202	101	166	318	186	193
Lane Group Flow (vph)	313	660	155	64	544	215	107	273	338	198	205
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	27.3	27.3	12.0	27.3	27.3	12.0	17.3	12.0	17.3	12.0
Total Split (s)	16.0	40.0	40.0	15.0	39.0	39.0	15.0	23.0	17.0	25.0	16.0
Total Split (%)	16.8%	42.1%	42.1%	15.8%	41.1%	41.1%	15.8%	24.2%	17.9%	26.3%	16.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.83	0.56	0.24	0.20	0.34	0.35	0.30	0.44	0.81	0.30	0.35
Control Delay (s/veh)	61.1	27.6	4.3	40.6	24.6	5.0	41.8	26.0	56.5	34.8	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 (s/veh)	61.1	27.6	4.3	40.6	24.6	5.0	41.8	26.0	56.5	34.8	7.2
Queue Length 50th (m)	29.4	51.3	0.0	5.6	27.1	0.0	9.4	15.6	31.4	16.6	4.7
Queue Length 95th (m)	#50.4	68.5	11.3	11.7	36.5	14.7	17.4	27.5	#51.9	26.5	18.9
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	376	1170	634	323	1584	620	353	622	419	658	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	0.83	0.56	0.24	0.20	0.34	0.35	0.30	0.44	0.81	0.30	0.35

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 70
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	294	620	146	60	511	202	101	166	90	318	186	193
Future Volume (veh/h)	294	620	146	60	511	202	101	166	90	318	186	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1870	1767	1781	1767	1870	1826	1826	1856	1885	1856
Adj Flow Rate, veh/h	313	660	155	64	544	215	107	177	96	338	198	205
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	5	2	9	8	9	2	5	5	3	1	3
Cap, veh/h	394	1194	545	344	1623	499	364	365	189	433	667	474
Arrive On Green	0.12	0.34	0.34	0.11	0.33	0.33	0.11	0.17	0.17	0.13	0.19	0.19
Sat Flow, veh/h	3401	3469	1582	3264	4863	1494	3456	2208	1142	3428	3582	1567
Grp Volume(v), veh/h	313	660	155	64	544	215	107	137	136	338	198	205
Grp Sat Flow(s),veh/h/ln	1700	1735	1582	1632	1621	1494	1728	1735	1615	1714	1791	1567
Q Serve(g_s), s	8.5	14.6	6.8	1.7	8.0	10.6	2.7	6.8	7.3	9.1	4.5	10.0
Cycle Q Clear(g_c), s	8.5	14.6	6.8	1.7	8.0	10.6	2.7	6.8	7.3	9.1	4.5	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	394	1194	545	344	1623	499	364	287	267	433	667	474
V/C Ratio(X)	0.79	0.55	0.28	0.19	0.34	0.43	0.29	0.48	0.51	0.78	0.30	0.43
Avail Cap(c_a), veh/h	394	1194	545	344	1623	499	364	287	267	433	667	474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	25.2	22.6	38.8	23.7	24.6	39.2	35.9	36.1	40.2	33.3	26.6
Incr Delay (d2), s/veh	15.2	1.8	1.3	1.2	0.6	2.7	2.0	5.6	6.8	13.1	1.1	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.8	1.2	0.5	1.4	2.0	0.8	2.0	2.1	3.0	1.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.1	27.1	24.0	40.0	24.3	27.3	41.3	41.6	42.9	53.3	34.4	29.5
LnGrp LOS	E	C	C	D	C	C	D	D	D	D	C	C
Approach Vol, veh/h		1128			823			380			741	
Approach Delay, s/veh		34.7			26.3			42.0			41.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	23.0	15.0	40.0	15.0	25.0	16.0	39.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	12.0	15.7	10.0	32.7	10.0	17.7	11.0	31.7
Max Q Clear Time (g_c+I1), s	11.1	9.3	3.7	16.6	4.7	12.0	10.5	12.6
Green Ext Time (p_c), s	0.2	1.8	0.1	11.0	0.2	1.9	0.1	11.3

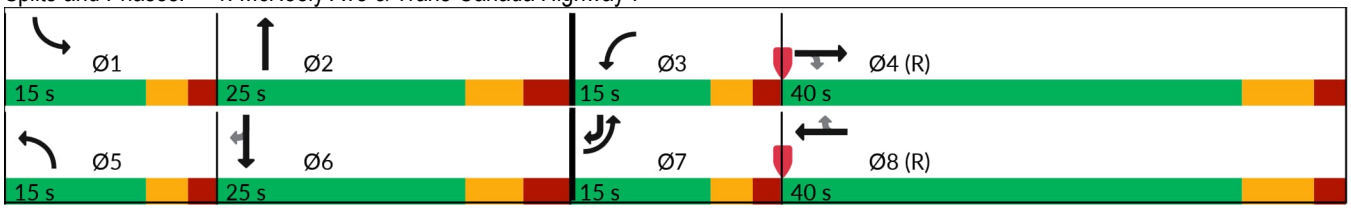
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	35.0
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	398	667	160	181	955	411	198	318	290	280	410
Future Volume (vph)	398	667	160	181	955	411	198	318	290	280	410
Lane Group Flow (vph)	423	710	170	193	1016	437	211	441	309	298	436
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.20	0.61	0.27	0.56	0.59	0.59	0.59	0.64	0.89	0.45	0.80
Control Delay (s/veh)	153.1	28.5	5.3	47.2	27.3	10.6	47.7	37.5	69.5	36.8	31.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	153.1	28.5	5.3	47.2	27.3	10.6	47.7	37.5	69.5	36.8	31.9
Queue Length 50th (m)	~48.8	56.1	0.7	17.6	55.4	15.3	19.3	36.3	29.3	25.7	50.6
Queue Length 95th (m)	#77.6	74.5	13.8	28.5	69.0	44.2	30.5	52.2	#52.1	38.3	#96.1
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	352	1170	627	345	1731	745	360	686	349	665	548
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	1.20	0.61	0.27	0.56	0.59	0.59	0.59	0.64	0.89	0.45	0.80

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	667	160	181	955	411	198	318	97	290	280	410
Future Volume (veh/h)	398	667	160	181	955	411	198	318	97	290	280	410
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	423	710	170	193	1016	437	211	338	103	309	298	436
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	367	1194	541	364	1758	545	370	509	153	361	673	468
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	3456	5106	1584	3510	2733	820	3428	3610	1602
Grp Volume(v), veh/h	423	710	170	193	1016	437	211	221	220	309	298	436
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1728	1702	1584	1755	1805	1748	1714	1805	1602
Q Serve(g_s), s	10.0	16.0	7.6	5.0	15.5	23.7	5.4	10.8	11.1	8.4	7.0	17.7
Cycle Q Clear(g_c), s	10.0	16.0	7.6	5.0	15.5	23.7	5.4	10.8	11.1	8.4	7.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	367	1194	541	364	1758	545	370	336	326	361	673	468
V/C Ratio(X)	1.15	0.59	0.31	0.53	0.58	0.80	0.57	0.66	0.67	0.86	0.44	0.93
Avail Cap(c_a), veh/h	367	1194	541	364	1758	545	370	336	326	361	673	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.7	22.9	40.3	25.5	28.2	40.5	35.8	36.0	41.8	34.3	32.7
Incr Delay (d2), s/veh	95.8	2.2	1.5	5.5	1.4	11.8	6.3	9.7	10.7	22.1	2.1	27.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	3.0	1.4	1.5	2.8	5.4	1.7	3.5	3.5	3.2	1.9	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	138.3	27.9	24.4	45.7	26.9	40.0	46.7	45.5	46.6	63.9	36.4	60.3
LnGrp LOS	F	C	C	D	C	D	D	D	D	E	D	E
Approach Vol, veh/h		1303			1646			652			1043	
Approach Delay, s/veh		63.3			32.6			46.3			54.6	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.4	13.1	7.0	18.0	7.4	19.7	12.0	25.7
Green Ext Time (p_c), s	0.0	2.2	0.3	10.7	0.3	0.0	0.0	6.5

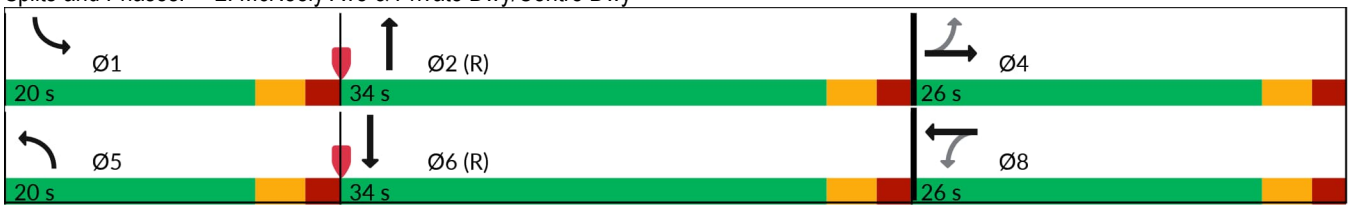
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	48.1
HCM 6th LOS	D

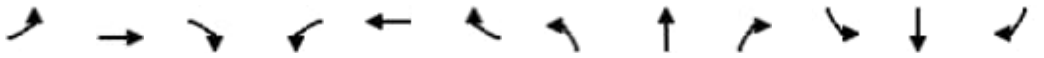
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	94	10	169	14	69	893	141	734
Future Volume (vph)	94	10	169	14	69	893	141	734
Lane Group Flow (vph)	100	84	180	128	73	956	150	925
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	26.0	26.0	26.0	26.0	20.0	34.0	20.0	34.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	25.0%	42.5%	25.0%	42.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.43	0.23	0.71	0.32	0.38	0.54	0.41	0.49
Control Delay (s/veh)	32.5	9.5	44.3	8.9	38.3	16.4	35.9	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.5	9.5	44.3	8.9	38.3	16.4	35.9	14.6
Queue Length 50th (m)	13.3	1.4	25.5	1.9	10.5	49.9	11.1	45.3
Queue Length 95th (m)	25.2	11.2	42.8	13.9	21.6	80.4	18.9	75.4
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	309	463	338	496	332	1769	613	1896
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.18	0.53	0.26	0.22	0.54	0.24	0.49

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	10	69	169	14	106	69	893	6	141	734	135
Future Volume (veh/h)	94	10	69	169	14	106	69	893	6	141	734	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1841	1900	1900	1900	1856	1900	1900	1885	1870	1900
Adj Flow Rate, veh/h	100	11	73	180	15	113	73	950	6	150	781	144
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	0	4	0	0	0	3	0	0	1	2	0
Cap, veh/h	269	45	300	317	41	308	96	1945	12	245	1626	300
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.05	0.53	0.53	0.07	0.54	0.54
Sat Flow, veh/h	1220	212	1405	1332	192	1444	1767	3678	23	3483	2984	550
Grp Volume(v), veh/h	100	0	84	180	0	128	73	466	490	150	465	460
Grp Sat Flow(s),veh/h/ln	1220	0	1617	1332	0	1635	1767	1805	1896	1742	1777	1758
Q Serve(g_s), s	6.1	0.0	3.4	10.4	0.0	5.3	3.3	13.1	13.1	3.3	12.9	12.9
Cycle Q Clear(g_c), s	11.4	0.0	3.4	13.8	0.0	5.3	3.3	13.1	13.1	3.3	12.9	12.9
Prop In Lane	1.00		0.87	1.00		0.88	1.00		0.01	1.00		0.31
Lane Grp Cap(c), veh/h	269	0	345	317	0	349	96	955	1003	245	968	958
V/C Ratio(X)	0.37	0.00	0.24	0.57	0.00	0.37	0.76	0.49	0.49	0.61	0.48	0.48
Avail Cap(c_a), veh/h	329	0	424	382	0	429	331	955	1003	653	968	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	26.1	31.9	0.0	26.9	37.3	12.0	12.0	36.1	11.2	11.2
Incr Delay (d2), s/veh	0.9	0.0	0.4	1.6	0.0	0.6	11.6	1.8	1.7	2.5	1.7	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.8	2.0	0.0	1.2	1.0	0.5	0.5	0.8	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.6	0.0	26.5	33.5	0.0	27.5	48.9	13.8	13.7	38.6	12.9	12.9
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		184			308			1029			1075	
Approach Delay, s/veh		29.8			31.0			16.2			16.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	47.3		22.1	9.3	48.6		22.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	15.0	29.0		21.0	15.0	29.0		21.0				
Max Q Clear Time (g_c+I1), s	5.3	15.1		13.4	5.3	14.9		15.8				
Green Ext Time (p_c), s	0.5	9.9		1.0	0.2	9.8		1.2				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			19.1									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	67	898	226	0	975
Future Vol, veh/h	0	67	898	226	0	975
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	1
Mvmt Flow	0	72	966	243	0	1048

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	605	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	446	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	446	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.6	0	0
HCM LOS	B		

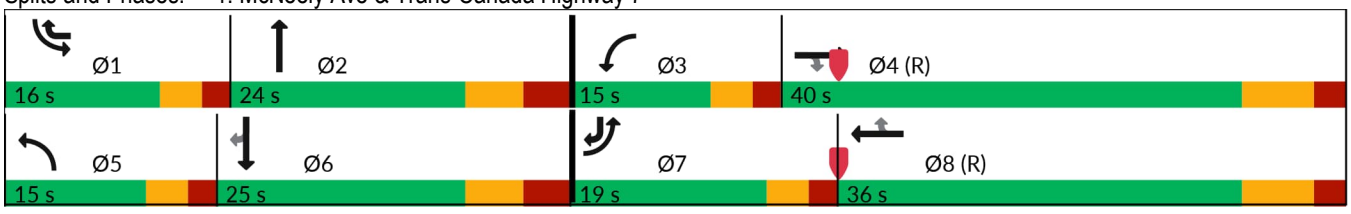
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	446	-
HCM Lane V/C Ratio	-	-	0.162	-
HCM Ctrl Dly (s/v)	-	-	14.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.6	-

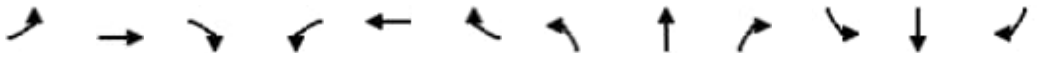
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	398	667	160	181	955	411	198	318	290	280	410
Future Volume (vph)	398	667	160	181	955	411	198	318	290	280	410
Lane Group Flow (vph)	423	710	170	193	1016	437	211	441	309	298	436
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	12.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	19.0	40.0	40.0	15.0	36.0	16.0	15.0	24.0	16.0	25.0	19.0
Total Split (%)	20.0%	42.1%	42.1%	15.8%	37.9%	16.8%	15.8%	25.3%	16.8%	26.3%	20.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.0	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	5.0	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.86	0.61	0.27	0.56	0.67	0.58	0.59	0.68	0.80	0.45	0.72
Control Delay (s/veh)	57.8	28.5	5.3	47.2	31.6	15.8	47.7	39.4	58.1	36.8	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.8	28.5	5.3	47.2	31.6	15.8	47.7	39.4	58.1	36.8	24.8
Queue Length 50th (m)	39.5	56.1	0.7	17.6	59.3	38.6	19.3	36.8	28.9	25.7	46.8
Queue Length 95th (m)	#63.6	74.5	13.8	28.5	73.8	65.1	30.5	52.9	#48.6	38.3	79.0
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	493	1170	627	345	1519	751	360	650	384	665	608
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	0.86	0.61	0.27	0.56	0.67	0.58	0.59	0.68	0.80	0.45	0.72

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 75
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	667	160	181	955	411	198	318	97	290	280	410
Future Volume (veh/h)	398	667	160	181	955	411	198	318	97	290	280	410
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1885	1870	1870	1900	1900	1900	1856	1856	1900	1900
Adj Flow Rate, veh/h	423	710	170	193	1016	437	211	338	103	309	298	436
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	5	1	2	2	0	0	0	3	3	0	0
Cap, veh/h	513	1194	541	364	1543	665	370	480	144	397	673	536
Arrive On Green	0.15	0.34	0.34	0.11	0.30	0.30	0.11	0.18	0.18	0.12	0.19	0.19
Sat Flow, veh/h	3483	3469	1571	3456	5106	1583	3510	2733	820	3428	3610	1602
Grp Volume(v), veh/h	423	710	170	193	1016	437	211	221	220	309	298	436
Grp Sat Flow(s),veh/h/ln	1742	1735	1571	1728	1702	1583	1755	1805	1747	1714	1805	1602
Q Serve(g_s), s	11.2	16.0	7.6	5.0	16.5	21.1	5.4	10.9	11.3	8.3	7.0	17.7
Cycle Q Clear(g_c), s	11.2	16.0	7.6	5.0	16.5	21.1	5.4	10.9	11.3	8.3	7.0	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	513	1194	541	364	1543	665	370	317	307	397	673	536
V/C Ratio(X)	0.82	0.59	0.31	0.53	0.66	0.66	0.57	0.70	0.71	0.78	0.44	0.81
Avail Cap(c_a), veh/h	513	1194	541	364	1543	665	370	317	307	397	673	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	25.7	22.9	40.3	28.9	22.2	40.5	36.8	36.9	40.8	34.3	29.0
Incr Delay (d2), s/veh	14.0	2.2	1.5	5.5	2.2	5.0	6.3	12.0	13.3	14.0	2.1	12.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.0	1.4	1.5	3.3	3.4	1.7	3.7	3.8	2.8	1.9	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.3	27.9	24.4	45.7	31.1	27.3	46.7	48.8	50.2	54.8	36.4	41.7
LnGrp LOS	D	C	C	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1303			1646			652			1043	
Approach Delay, s/veh		35.7			31.8			48.6			44.1	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	24.0	15.0	40.0	15.0	25.0	19.0	36.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	11.0	16.7	10.0	32.7	10.0	17.7	14.0	28.7
Max Q Clear Time (g_c+I1), s	10.3	13.3	7.0	18.0	7.4	19.7	13.2	23.1
Green Ext Time (p_c), s	0.1	1.7	0.3	10.7	0.3	0.0	0.2	5.3

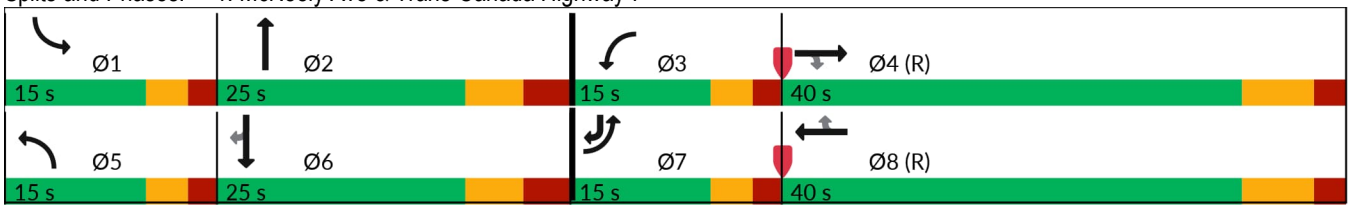
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	38.0
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	415	656	206	119	827	302	203	401	314	374	422
Future Volume (vph)	415	656	206	119	827	302	203	401	314	374	422
Lane Group Flow (vph)	423	669	210	121	844	308	207	545	320	382	431
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	15.0	25.0	15.0
Total Split (%)	15.8%	42.1%	42.1%	15.8%	42.1%	42.1%	15.8%	26.3%	15.8%	26.3%	15.8%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	1.19	0.55	0.33	0.34	0.48	0.43	0.57	0.79	0.89	0.57	0.69
Control Delay (s/veh)	148.0	27.3	7.8	42.5	25.6	6.5	47.4	43.2	69.4	39.1	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	148.0	27.3	7.8	42.5	25.6	6.5	47.4	43.2	69.4	39.1	25.3
Queue Length 50th (m)	~48.5	51.6	5.6	10.7	44.1	4.6	18.9	46.7	30.3	33.8	49.6
Queue Length 95th (m)	#77.2	68.7	21.0	19.1	55.8	22.9	30.1	#66.3	#53.6	48.4	84.1
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	356	1216	637	352	1748	713	360	693	360	665	629
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	1.19	0.55	0.33	0.34	0.48	0.43	0.58	0.79	0.89	0.57	0.69

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
~ 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: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	656	206	119	827	302	203	401	133	314	374	422
Future Volume (veh/h)	415	656	206	119	827	302	203	401	133	314	374	422
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	423	669	210	121	844	308	207	409	136	320	382	431
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	370	1233	547	370	1771	547	370	495	163	370	673	469
Arrive On Green	0.11	0.34	0.34	0.11	0.34	0.34	0.11	0.19	0.19	0.11	0.19	0.19
Sat Flow, veh/h	3510	3582	1588	3510	5147	1589	3510	2658	873	3510	3610	1608
Grp Volume(v), veh/h	423	669	210	121	844	308	207	276	269	320	382	431
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1755	1716	1589	1755	1805	1726	1755	1805	1608
Q Serve(g_s), s	10.0	14.3	9.5	3.0	12.2	15.0	5.3	14.0	14.3	8.5	9.1	17.7
Cycle Q Clear(g_c), s	10.0	14.3	9.5	3.0	12.2	15.0	5.3	14.0	14.3	8.5	9.1	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	370	1233	547	370	1771	547	370	336	322	370	673	469
V/C Ratio(X)	1.14	0.54	0.38	0.33	0.48	0.56	0.56	0.82	0.84	0.87	0.57	0.92
Avail Cap(c_a), veh/h	370	1233	547	370	1771	547	370	336	322	370	673	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	25.1	23.5	39.4	24.4	25.3	40.4	37.1	37.3	41.8	35.2	32.6
Incr Delay (d2), s/veh	92.3	1.7	2.0	2.4	0.9	4.2	6.0	19.7	22.0	22.8	3.5	25.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	2.8	1.8	0.9	2.2	2.9	1.7	5.2	5.2	3.3	2.5	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	134.8	26.8	25.6	41.7	25.4	29.5	46.4	56.9	59.2	64.7	38.6	58.1
LnGrp LOS	F	C	C	D	C	C	D	E	E	E	D	E
Approach Vol, veh/h		1302			1273			752			1133	
Approach Delay, s/veh		61.7			27.9			54.8			53.4	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.0	15.0	40.0	15.0	25.0	15.0	40.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	10.0	17.7	10.0	32.7	10.0	17.7	10.0	32.7
Max Q Clear Time (g_c+I1), s	10.5	16.3	5.0	16.3	7.3	19.7	12.0	17.0
Green Ext Time (p_c), s	0.0	0.9	0.2	11.5	0.3	0.0	0.0	12.9

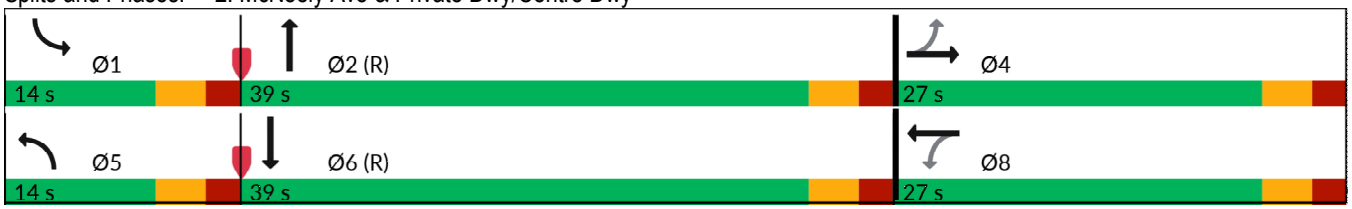
Intersection Summary	
HCM 6th Ctrl Delay, s/veh	48.8
HCM 6th LOS	D

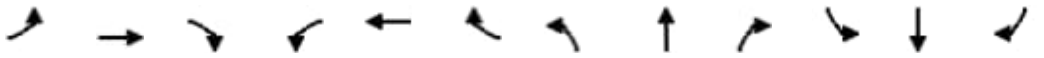
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	104	26	194	22	126	845	222	828
Future Volume (vph)	104	26	194	22	126	845	222	828
Lane Group Flow (vph)	111	125	206	140	134	903	236	1040
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	28.0	10.0	28.0
Total Split (s)	27.0	27.0	27.0	27.0	14.0	39.0	14.0	39.0
Total Split (%)	33.8%	33.8%	33.8%	33.8%	17.5%	48.8%	17.5%	48.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
v/c Ratio	0.41	0.29	0.75	0.32	0.64	0.54	0.61	0.60
Control Delay (s/veh)	30.2	9.6	45.9	8.8	48.8	17.2	41.1	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.2	9.6	45.9	8.8	48.8	17.2	41.1	17.7
Queue Length 50th (m)	14.3	3.4	29.0	2.7	19.1	51.6	17.4	60.8
Queue Length 95th (m)	26.9	15.0	49.0	15.2	#42.8	72.1	29.0	83.2
Internal Link Dist (m)		38.7		45.0		61.2		74.2
Turn Bay Length (m)	15.0		30.0		45.0		37.0	
Base Capacity (vph)	335	522	341	521	219	1677	393	1727
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.24	0.60	0.27	0.61	0.54	0.60	0.60

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: McNeely Ave & Private Dwy/Centre Dwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	26	91	194	22	110	126	845	4	222	828	149
Future Volume (veh/h)	104	26	91	194	22	110	126	845	4	222	828	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	111	28	97	206	23	117	134	899	4	236	881	159
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	320	94	324	334	68	346	169	1729	8	325	1426	257
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.09	0.47	0.47	0.09	0.47	0.47
Sat Flow, veh/h	1268	373	1292	1285	271	1379	1810	3686	16	3510	3043	549
Grp Volume(v), veh/h	111	0	125	206	0	140	134	440	463	236	523	517
Grp Sat Flow(s),veh/h/ln	1268	0	1666	1285	0	1650	1810	1805	1897	1755	1805	1787
Q Serve(g_s), s	6.3	0.0	4.9	12.4	0.0	5.6	5.8	13.7	13.7	5.2	17.3	17.3
Cycle Q Clear(g_c), s	11.8	0.0	4.9	17.2	0.0	5.6	5.8	13.7	13.7	5.2	17.3	17.3
Prop In Lane	1.00		0.78	1.00		0.84	1.00		0.01	1.00		0.31
Lane Grp Cap(c), veh/h	320	0	418	334	0	414	169	847	890	325	846	837
V/C Ratio(X)	0.35	0.00	0.30	0.62	0.00	0.34	0.79	0.52	0.52	0.73	0.62	0.62
Avail Cap(c_a), veh/h	351	0	458	365	0	454	204	847	890	395	846	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	0.0	24.3	31.3	0.0	24.5	35.5	14.9	14.9	35.3	15.9	15.9
Incr Delay (d2), s/veh	0.6	0.0	0.4	2.7	0.0	0.5	16.2	2.3	2.2	5.2	3.4	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.0	2.4	0.0	1.2	2.0	0.8	0.9	1.4	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.0	0.0	24.7	34.0	0.0	25.0	51.7	17.2	17.1	40.5	19.3	19.3
LnGrp LOS	C		C	C		C	D	B	B	D	B	B
Approach Vol, veh/h		236			346			1037			1276	
Approach Delay, s/veh		27.2			30.3			21.6			23.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	42.5		25.1	12.5	42.5		25.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	34.0		22.0	9.0	34.0		22.0				
Max Q Clear Time (g_c+I1), s	7.2	15.7		13.8	7.8	19.3		19.2				
Green Ext Time (p_c), s	0.2	11.7		1.4	0.1	11.0		0.8				

Intersection Summary												
HCM 6th Ctrl Delay, s/veh			23.8									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	95	874	224	0	1119
Future Vol, veh/h	0	95	874	224	0	1119
Conflicting Peds, #/hr	0	0	0	2	2	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	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	98	901	231	0	1154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	568	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	471	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	470	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.7	0	0
HCM LOS	B		

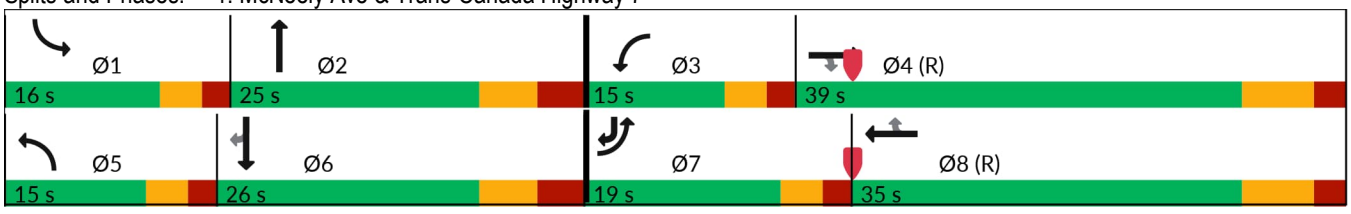
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	470	-
HCM Lane V/C Ratio	-	-	0.208	-
HCM Ctrl Dly (s/v)	-	-	14.7	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q (veh)	-	-	0.8	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	415	656	206	119	827	302	203	401	314	374	422
Future Volume (vph)	415	656	206	119	827	302	203	401	314	374	422
Lane Group Flow (vph)	423	669	210	121	844	308	207	545	320	382	431
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2	1	6	7
Permitted Phases			4			8					6
Minimum Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	12.0	20.3	12.0	20.3	12.0
Total Split (s)	19.0	39.0	39.0	15.0	35.0	35.0	15.0	25.0	16.0	26.0	19.0
Total Split (%)	20.0%	41.1%	41.1%	15.8%	36.8%	36.8%	15.8%	26.3%	16.8%	27.4%	20.0%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.1	3.0	4.1	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.3	2.3	2.0	3.2	2.0	3.2	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.3	7.3	5.0	7.3	7.3	5.0	7.3	5.0	7.3	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?											
v/c Ratio	0.85	0.57	0.34	0.34	0.57	0.49	0.57	0.79	0.81	0.54	0.61
Control Delay (s/veh)	56.7	28.3	8.1	42.5	30.4	9.2	47.4	43.2	58.0	37.7	20.2
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 (s/veh)	56.7	28.3	8.1	42.5	30.4	9.2	47.4	43.2	58.0	37.7	20.2
Queue Length 50th (m)	39.4	52.5	5.7	10.7	48.0	7.8	18.9	46.7	29.9	33.4	44.9
Queue Length 95th (m)	#63.1	70.0	21.4	19.1	60.7	29.3	30.1	#66.3	#50.1	47.7	76.1
Internal Link Dist (m)		649.0			536.0			187.6		89.8	
Turn Bay Length (m)	65.0		27.0	105.0		28.0	80.0		42.0		20.0
Base Capacity (vph)	498	1179	622	352	1480	631	360	693	396	702	704
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	0.85	0.57	0.34	0.34	0.57	0.49	0.58	0.79	0.81	0.54	0.61

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 95
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: McNeely Ave & Trans-Canada Highway 7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	656	206	119	827	302	203	401	133	314	374	422
Future Volume (veh/h)	415	656	206	119	827	302	203	401	133	314	374	422
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1900	1885	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	423	669	210	121	844	308	207	409	136	320	382	431
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	517	1195	530	370	1501	463	370	495	163	406	711	554
Arrive On Green	0.15	0.33	0.33	0.11	0.29	0.29	0.11	0.19	0.19	0.12	0.20	0.20
Sat Flow, veh/h	3510	3582	1588	3510	5147	1588	3510	2658	873	3510	3610	1608
Grp Volume(v), veh/h	423	669	210	121	844	308	207	276	269	320	382	431
Grp Sat Flow(s),veh/h/ln	1755	1791	1588	1755	1716	1588	1755	1805	1726	1755	1805	1608
Q Serve(g_s), s	11.1	14.5	9.6	3.0	13.2	16.2	5.3	14.0	14.3	8.4	9.0	18.7
Cycle Q Clear(g_c), s	11.1	14.5	9.6	3.0	13.2	16.2	5.3	14.0	14.3	8.4	9.0	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	517	1195	530	370	1501	463	370	336	322	406	711	554
V/C Ratio(X)	0.82	0.56	0.40	0.33	0.56	0.67	0.56	0.82	0.84	0.79	0.54	0.78
Avail Cap(c_a), veh/h	517	1195	530	370	1501	463	370	336	322	406	711	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	25.9	24.3	39.4	28.5	29.6	40.4	37.1	37.3	40.9	34.3	27.9
Incr Delay (d2), s/veh	13.4	1.9	2.2	2.4	1.5	7.4	6.0	19.7	22.0	14.3	2.9	10.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.9	1.8	0.9	2.7	3.8	1.7	5.2	5.2	2.9	2.4	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.7	27.8	26.5	41.7	30.0	36.9	46.4	56.9	59.2	55.1	37.2	38.3
LnGrp LOS	D	C	C	D	C	D	D	E	E	E	D	D
Approach Vol, veh/h		1302			1273			752			1133	
Approach Delay, s/veh		35.7			32.8			54.8			42.7	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	25.0	15.0	39.0	15.0	26.0	19.0	35.0
Change Period (Y+Rc), s	5.0	7.3	5.0	7.3	5.0	7.3	5.0	7.3
Max Green Setting (Gmax), s	11.0	17.7	10.0	31.7	10.0	18.7	14.0	27.7
Max Q Clear Time (g_c+I1), s	10.4	16.3	5.0	16.5	7.3	20.7	13.1	18.2
Green Ext Time (p_c), s	0.1	0.9	0.2	10.8	0.3	0.0	0.2	8.2

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	39.9
HCM 6th LOS	D

APPENDIX E

Functional Design Review

ACCESS RIGHT-IN/RIGHT-OUT ISLAND
DESIGN FROM TAC FIGURE 8.9.1

PART 17 PLAN 27R-7378

SUBJECT

EXISTING PARKING TO REMAIN UNCHANGED

EXTENT OF SPA

PART 10 PLAN 27R-7378

PART 9 PLAN 27R-7378

EXISTING PARKING TO REMAIN UNCHANGED

PER CARLETON PLACE BY-LAW 53-2025,
SETBACK OF 6m REQUIRED (S.4.7.3).

14m SETBACK REQUIRED ALONG HWY. 7
FRONTAGE.

6m SETBACK

46 CARS

FIRE TRUCK ROUTE
HEAVY DUTY ASPHALT

TOE WALL W/ RAILING
REFER TO CIVIL DWGS

FIRE HYDRANT
REFER TO CIVIL DWGS

PART 18 PLAN 27R-7378

PART 15 PLAN 27R-7378

CURBS AND PARKING SPACES TO BE
DEMOLISHED/REPLACED

N 38° 44' 50" W

N 51° 59' 45" E

N 87° 44' 20" E

N44°48'10"W
0.30

R=29.70
A=43.88
C=39.05

140.26

48.21

129.39

LEA Consulting Ltd.
Consulting Engineers
and Planners
www.LEA.ca

Project No.
26155

Date
DEC 18, 2025

455 MCNEELY AVENUE
CARLETON PLACE ONTARIO

5 0 5 10 15m
1:500

SITE PLAN
SETBACK & ACCESS REVIEW

Drawing No.
001

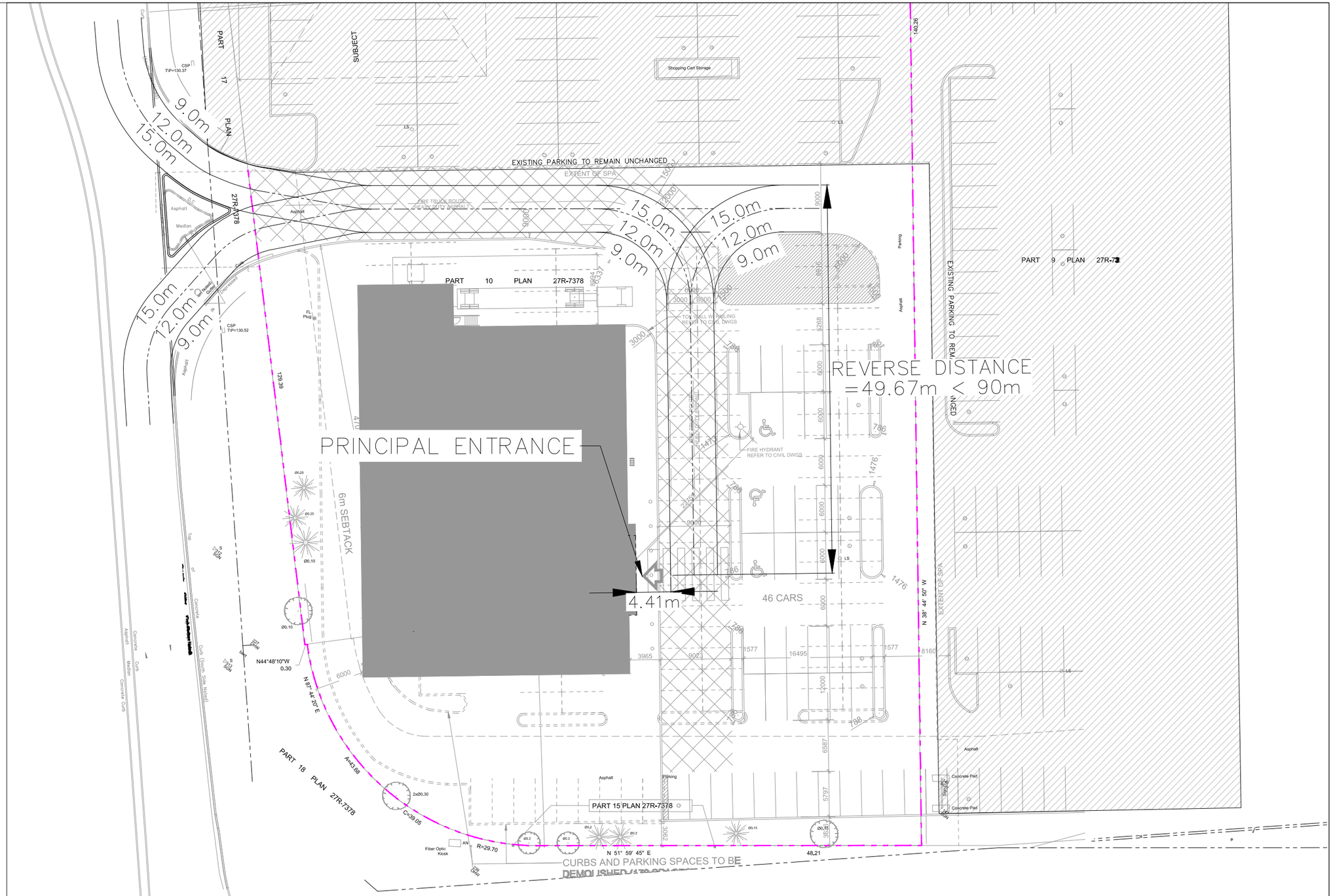
DRAWN BY: AELSHARKAWY PLOT DATE: December 18, 2025

DRAWING NAME: F:\26155\Drafting\26155WF006.dwg

NOTES:

AS PER THE ONTARIO BUILDING CODE 3.2.5

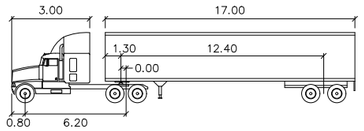
1. 5.1 LOCATION OF ACCESS ROUTES – ACCESS ROUTES SHALL BE LOCATED SO THAT THE PRINCIPAL ENTRANCE AND EVERY ACCESS OPENING ARE LOCATED NOT LESS THAN 3m AND NOT MORE THAN 15m FROM THE CLOSEST PORTION OF THE ACCESS ROUTE
2. 6.1 ACCESS ROUTE DESIGN – A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
   - (i) 6.1.a HAVE A CLEAR WIDTH NOT LESS THAN 6m,
   - (ii) 6.1.b HAVE A CENTRELINE RADIUS NOT LESS THAN 12m
   - (iii) 6.1.c HAVE AN OH CLEARANCE OF NOT LESS THAN 5m
   - (iv) 6.1.g BE CONNECTED WITH A PUBLIC THOROUGHFARE



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DRAWN BY: AELSHARKAWY PLOT DATE: December 18, 2025

DRAWING NAME: F:\26155\Drafting\26155WF006.dwg



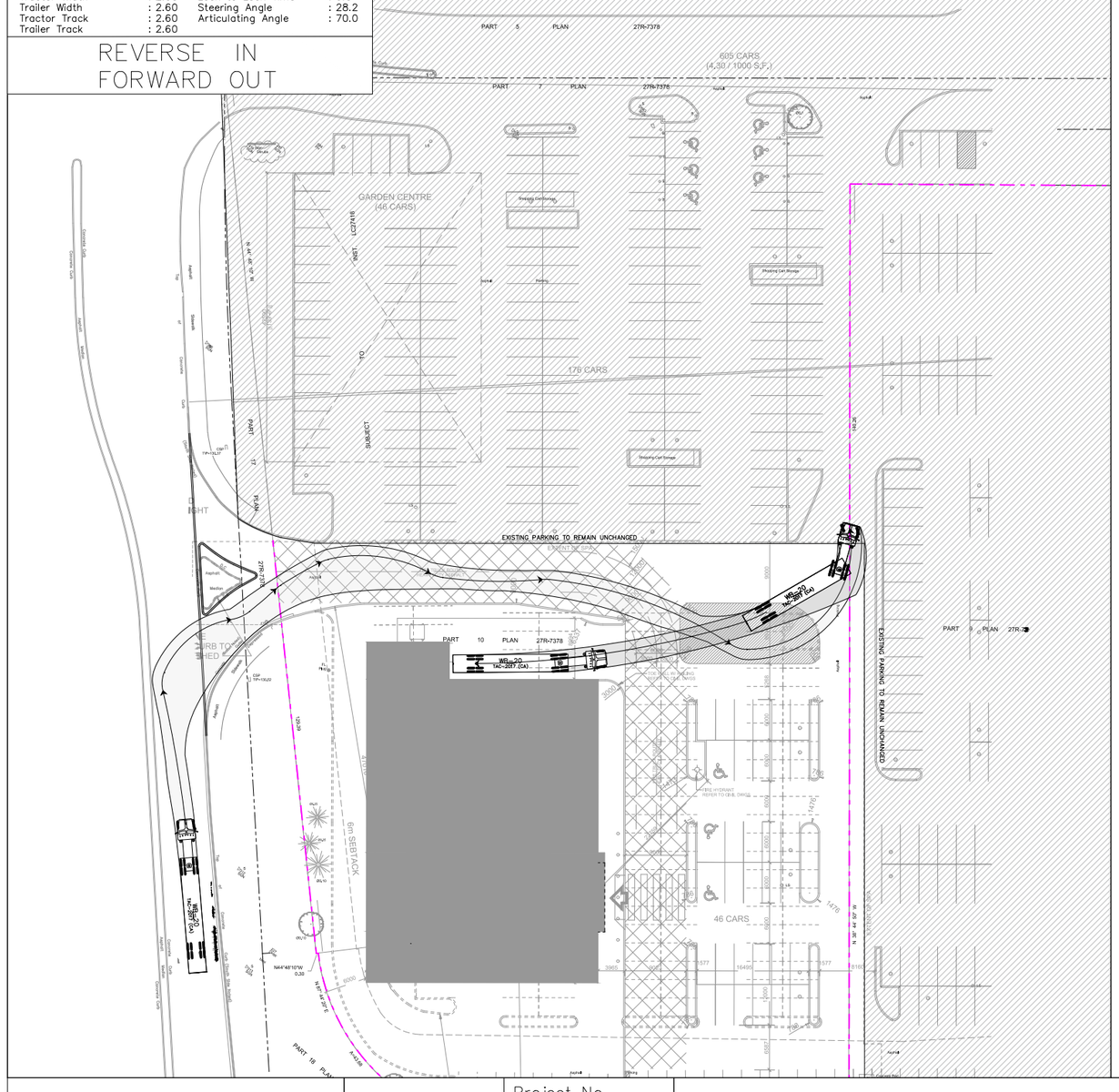
WB–20

meters

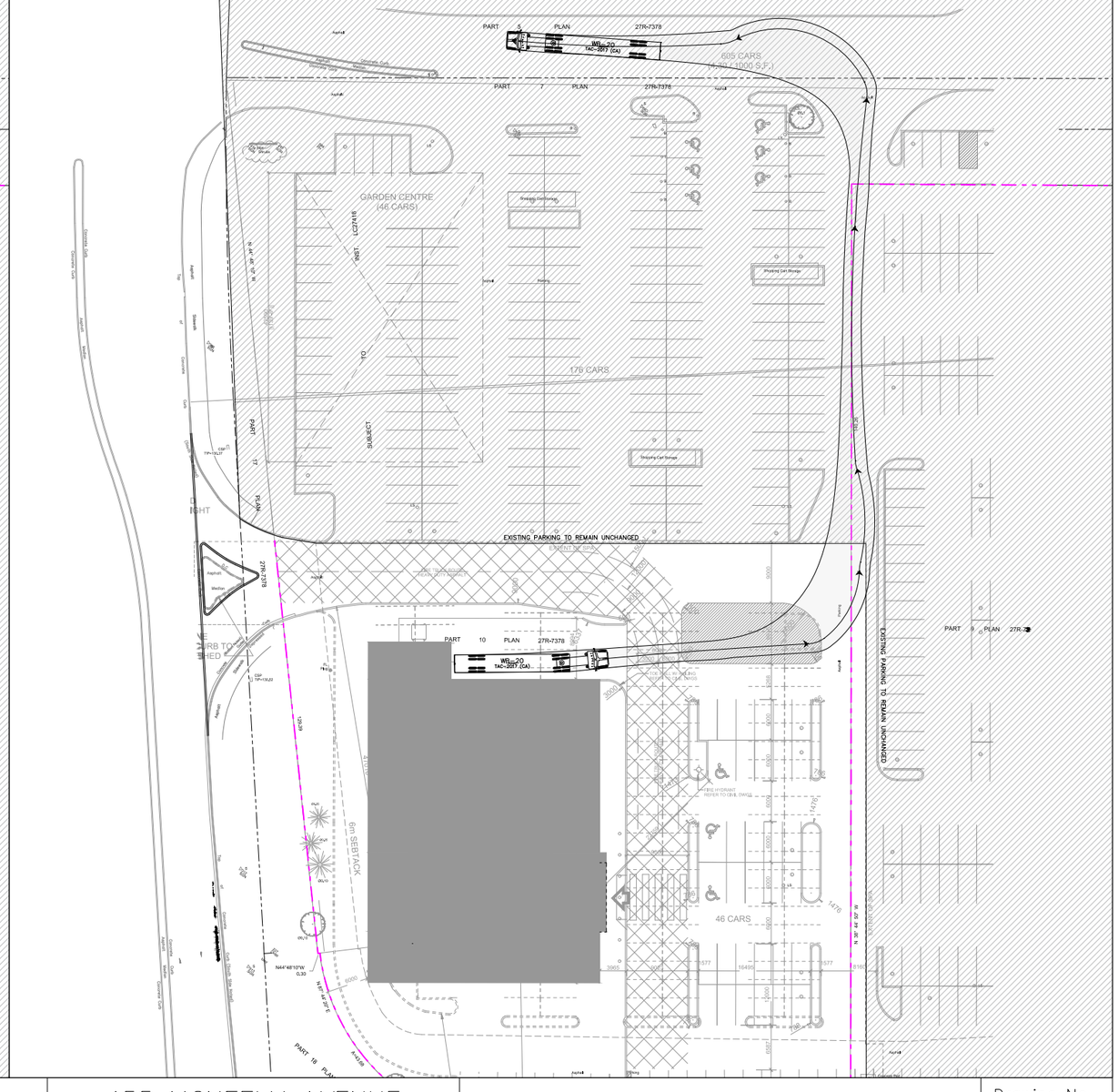
Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

REVERSE IN
FORWARD OUT

ENTRY PATH



EXIT PATH



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Project No.
26155

Date
DEC 18, 2025

455 MCNEELY AVENUE
CARLETON PLACE ONTARIO

5 0 10 15 20
1:250

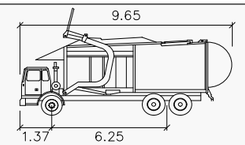
SITE PLAN
LOADING REVIEW WB–20
ENTRY PATH & EXIT PATHS

Drawing No.
003

DRAWING NAME: F:\26155\Drafting\26155WF006.dwg

ENTRY PATH

EXIT PATH



Garbage Miller

Width	: 2.60m
Track	: 2.60m
Lock to Lock Time	: 6.00'
Steering Angle	: 30.0°

- VEHICLE CREATED PER "MILLER WASTE SOLUTION GROUP" SKETCH
- USED TO REPRESENT THE 'PRIVATE' GARBAGE PICK-UP TRUCK

REVERSE IN FORWARD OUT

PLOT DATE: December 18, 2025

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CARLETON PLACE ONTARIO

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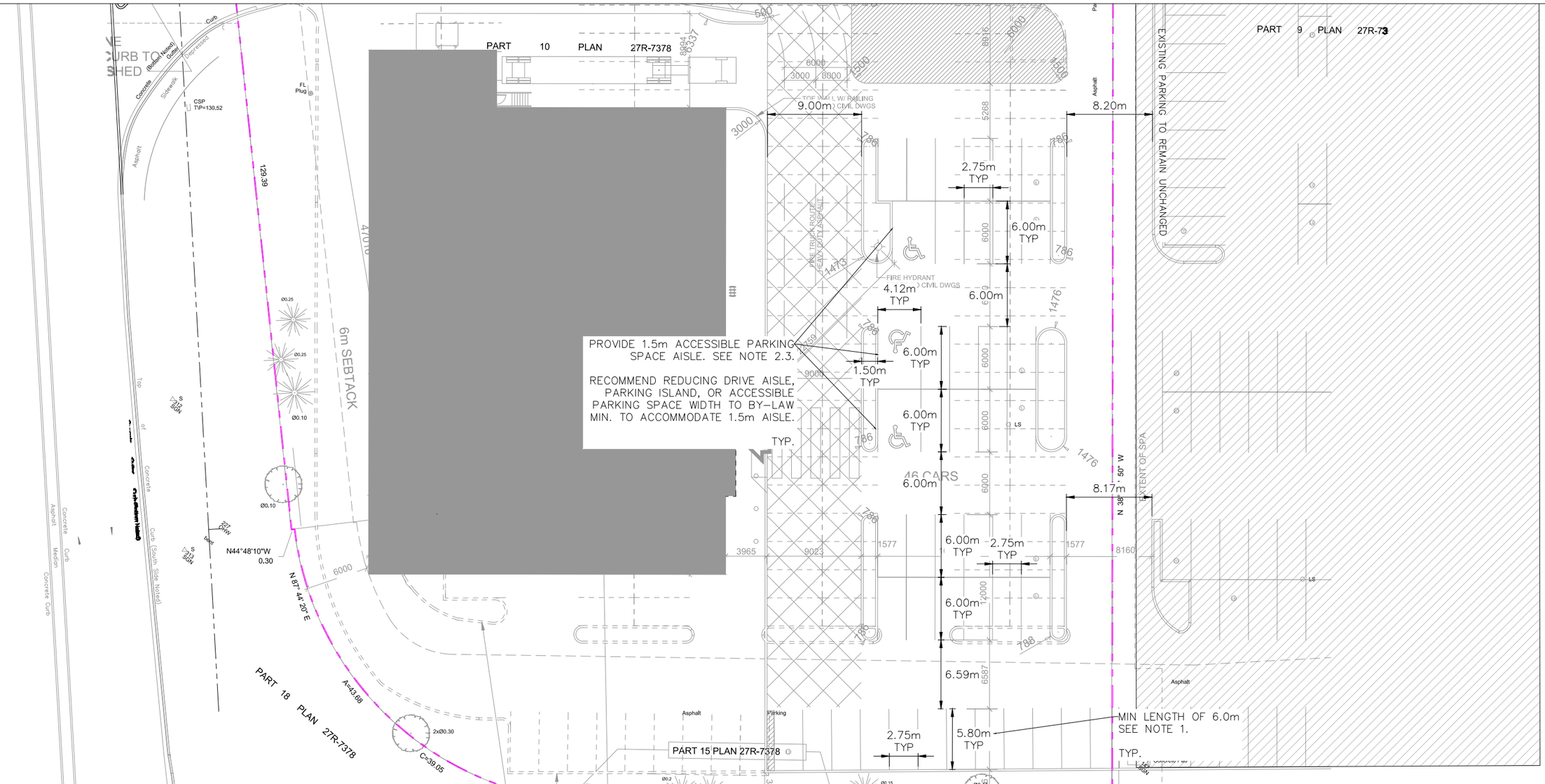
SITE PLAN
LOADING REVIEW MILLER GARBAGE
ENTRY PATH & EXIT PATHS

Drawing No. 004

DRAWING NAME: F:\26155\Drafting\26155WF006.dwg

NOTES: TOWN OF CARLETON PLACE DEVELOPMENT PERMIT BY-LAW 53-2025:

1. A PARKING SPACE MUST HAVE THE FOLLOWING MINIMUM DIMENSIONS (S.3.33.2):
   (i) LENGTH OF 6 METRES;
   (II) WIDTH OF 2.7 METRES;
   (III) LENGTH OF 6.7M & WIDTH OF 2.85 METRES FOR PARALLEL PARKING;
2. A DESIGNATED BARRIER-FREE PARKING SPACE SHALL THE FOLLOWING MINIMUM DIMENSIONS (S.3.33.4):
   2.1. TYPE A:
   (i) LENGTH OF 6 METRES;
   (ii) WIDTH OF 3.4 METRES;
   2.2 TYPE B:
   (i) LENGTH OF 6 METRES;
   (ii) WIDTH OF 2.75 METRES;
   2.3 ADJACENT 1.5M WIDE AISLE THAT IS HATCH MARKED ON THE PARKING LOT.
   2.4 TWO DESIGNATED ACCESSIBLE PARKING SPACES MAY SHARE A SINGLE 1.5 M WIDE HATCHED AISLE.
3. MINIMUM AISLE WIDTH OF 6 METRES FOR TWO-WAY TRAFFIC AND 3.5 METRES FOR ONE-WAY TRAFFIC (S3.33.1).



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DRAWN BY: AELSHARKAWY PLOT DATE: December 18, 2025

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