570 Winterset Road Transportation Impact Assessment

Step 1 Screening Report
Step 2 Scoping Report
Step 3 Forecasting Report
Step 4 Strategy Report

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1 Screening

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

2 Existing and Planned Conditions

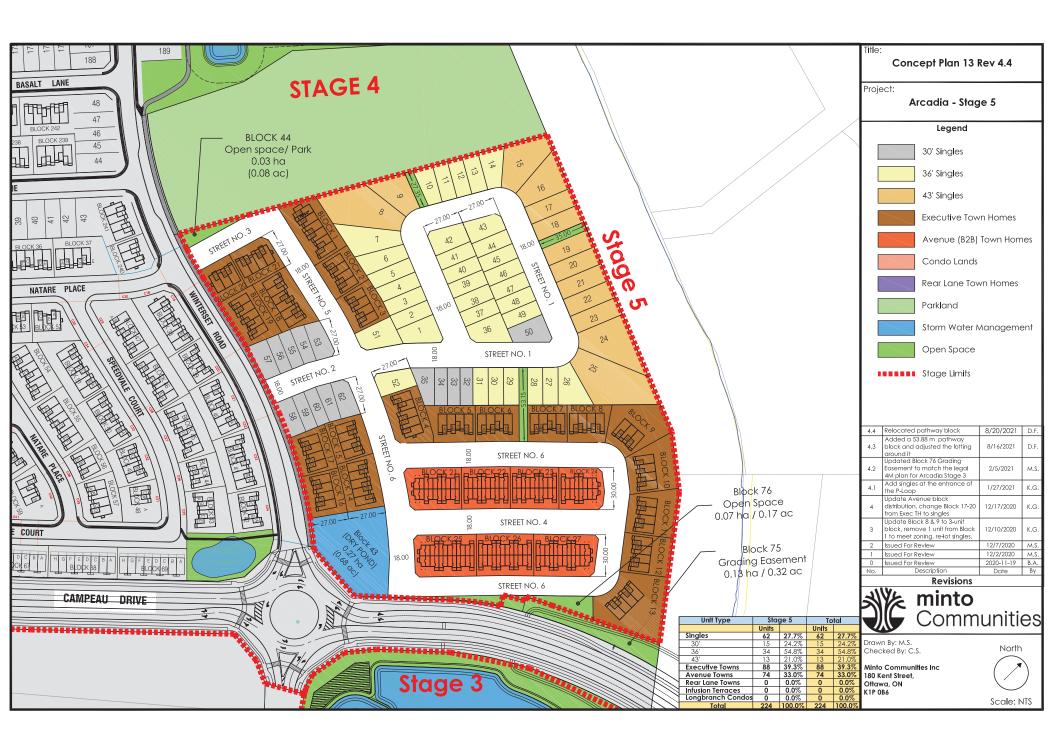
2.1 Proposed Development

The existing site, located at 570 Winterset Road, is zoned as Development Reserve Zone (DR[1932]). The proposed redevelopment consists of 62 single detached units and 162 townhome units. The concept plan includes two full-movements accesses on Winterset Road. The anticipated full build-out and occupancy horizon is 2025 with construction occurring in a single phase. The site is located within the Kanata West Secondary Plan and Community Design Plan areas. Figure 1 illustrates the Study Area Context. Figure 2 illustrates the proposed concept plan.



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: September 27, 2021





2.2 Existing Conditions

2.2.1 Area Road Network

Huntmar Drive: Huntmar Drive is a City of Ottawa arterial road with a two-lane cross-section north of Cyclone Taylor Boulevard, a divided four-lane urban cross-section between Cyclone Taylor Boulevard to Palladium Drive and transitioning to a rural two-lane cross-section south of Palladium Drive. Cycle tracks and sidewalks extend north of Campeau Drive on the east side of the roadway for 105 metres, to the south on both sides of the road for 115 metres and a sidewalk is provided on the east side of the roadway between Cyclone Taylor Boulevard and Palladium Drive. The posted speed limit is 70 km/h approximately north of Paine Avenue, 50 km/h to the south, and the City-protected right-of-way is 37.5 metres.

Campeau Drive: Campeau Drive is a City of Ottawa arterial road with a divided four-lane urban cross-section to the west and a two-lane urban cross-section to the east of Didsbury Road. Sidewalks and cycle tracks are present on the south side between Journeyman Street and Huntmar Drive, and on both sides between Huntmar Drive and Didsbury Road. A sidewalk is present on both sides of the road east of Didsbury Road. The posted speed limit is 60 km/h and the protected right-of-way is 41.0 metres to the west of Huntmar Drive, the City-protected right-of-way is 37.5 metres between Huntmar Drive and Didsbury Road, and the City-protected right-of-way is 40.0 metres east of Didsbury Road within the study area.

Terry Fox Drive: Terry Fox Drive is a City of Ottawa arterial road with a four-lane divided urban cross-section. Sidewalks are present on the east side of the roadway north of the Signature Centre signalized access, and on both sides to the south. Bike lanes are presented on both sides of the roadway north of Campeau Drive. The speed limit is 70km/h and the City-protected right-of-way is 44.5 metres. Terry Fox Drive is designated as a truck route.

Kanata Avenue: Kanata Avenue is a City of Ottawa major collector road with a two-lane urban cross-section. Sidewalks and bike lanes are present on both sides of the roadway. The speed limit is 60km/h and the City-protected right-of-way is 26.0 metres.

Country Glen Way: Country Glen Way is a City of Ottawa local road with a two-lane urban cross-section. Sidewalks are provided on both sides of the roadway. The posted speed limit is 40 km/h and the existing right-of-way is 20.0 metres.

Winterset Road: Winterset Road is a City of Ottawa local road with a two-lane cross-section, presently serving as a construction access. The unposted speed limit is assumed to be 50 km/h and the existing right-of-way is 22.0 metres.

Didsbury Road: Didsbury Road is a City of Ottawa local road with a two-lane urban cross-section. Sidewalks are present on the west side of the roadway. The unposted speed limit is assumed to be 50 km/h and the City-protected right-of-way is 26.0 metres.

2.2.2 Existing Intersections

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

Huntmar Drive at Campeau Drive

The intersection of Huntmar Drive at Campeau Drive is a four-legged roundabout intersection. The northbound consists of a left-turn lane, a shared left-turn/through lane, and a right-turn lane, and the southbound consists of a left-turn lane, a through lane, and a right-turn lane. The eastbound consists of a shared left-turn/through lane, a through lane, and an auxiliary right-turn bypass lane, and the westbound approach consists of a shared left-turn/through lane, a



through lane, and a right-turn lane. Pedestrian crossovers are provided on each leg and a MUP circulates the roundabout. No turn restrictions were noted.

Country Glen Way at Campeau Drive

The intersection of Country Glen Way at Campeau Drive is a four-legged roundabout intersection. The northbound approach consists of a left-turn lane and a shared through/right-turn lane, and the southbound approach consists of a shared all-movement lane. The eastbound and westbound approaches each consists of a shared left-turn/through lane and a shared through/right-turn lane. Pedestrian crossovers are provided on each leg and a MUP circulates the roundabout. No turn restrictions were noted.

Winterset Road at Campeau Drive

The intersection of Winterset Road at Campeau Drive is a four-legged roundabout intersection. The northbound is currently closed until Donum Lane is constructed and will consist of a left-turn land and a shared through/right-turn lane. The southbound approach consists of a shared all movement lane. The eastbound and westbound approaches each consists of a shared left-turn/through lane and a shared through/right-turn lane. Pedestrian crossovers are provided on each leg and a MUP circulates the roundabout. No turn restrictions were noted.

Kanata Commons Road at Campeau Drive

The intersection of Kanata Commons Road at Campeau Drive is a signalized intersection. The northbound approach consists of an auxiliary left-turn lane, a through lane and an auxiliary right-turn lane, and the southbound approach consists of an auxiliary left-turn lane and a shared through/right-turn lane. The eastbound approach consists of an auxiliary left-turn lane, two through lanes, and an auxiliary right-turn lane, and the westbound approach consists of dual auxiliary left-turn lanes, two through lanes, and an auxiliary right-turn lane. No turn restrictions were noted.

Didsbury Road at Campeau Drive

The intersection of Didsbury Road at Campeau Drive is a signalized intersection. The northbound and southbound approaches each consist of an auxiliary left-turn lane and a shared through/right-turn lane. The eastbound and westbound approaches each consist of an auxiliary left-turn lane, a through lane, and a shared through/right lane. No turn restrictions were noted.

Terry Fox Drive at Campeau Drive

The intersection of Terry Fox Drive at Campeau Drive is a signalized intersection. The northbound approach consists of an auxiliary left-turn lane, two through lanes, a bike lane, and an auxiliary right-turn lane, and the southbound approach consists of an auxiliary left-turn lane, two through lanes, a bike lane, and an auxiliary channelized right-turn lane. The eastbound approach consists of an auxiliary left-turn lane, a through lane, and an auxiliary channelized right-turn lane, and the westbound approach consists of an auxiliary left-turn lane, a through lane, a bike lane, and an auxiliary channelized right-turn lane.



Terry Fox Drive at Signature Centre

The intersection of Terry Fox Drive at Signature Centre is a signalized intersection. The northbound and southbound approaches each consist of an auxiliary left-turn lane, a through lane, a shared through/right-turn land and a bike lane. The eastbound approach consists of a shared all-movement lane, and the westbound approach consists of a shared left-turn/through lane and an auxiliary right-turn lane.

Terry Fox Drive at Kanata Avenue

The intersection of Terry Fox Drive at Kanata Avenue is a signalized intersection. The northbound approach consists of two through lanes, a bike lane, and an auxiliary channelized right-turn lane, and the southbound approach consists of an auxiliary left-turn lane, two through lanes, and a bike lane. The westbound approach consists of an auxiliary left-turn lane, a left-turn lane, a bike lane, and an auxiliary channelized right-turn lane.

2.2.3 Existing Driveways

Within 200 metres, driveways to 40 townhouse units are present on the west side of Winterset Road. None of the driveways within the area of consideration are significant traffic generators.

2.2.4 Cycling and Pedestrian Facilities

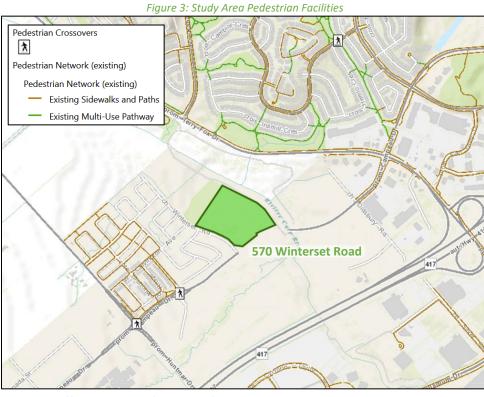
Figure 3 illustrates the pedestrian facilities in the study area and Figure 4 illustrates the cycling facilities.

Sidewalks are provided on the east side of Terry Fox Drive north of the Signature Centre signalized access and on both sides to the south. Sidewalks are provided or planned on both sides of Country Glen Way, Kanata Avenue, Campeau Drive, and Huntmar Drive. As the area is currently developing and roadways under construction/opening, some links are currently missing, such as the north side of Campeau Drive between Journeyman Street and Huntmar Drive or across the Highway 417 overpass on Huntmar Drive.

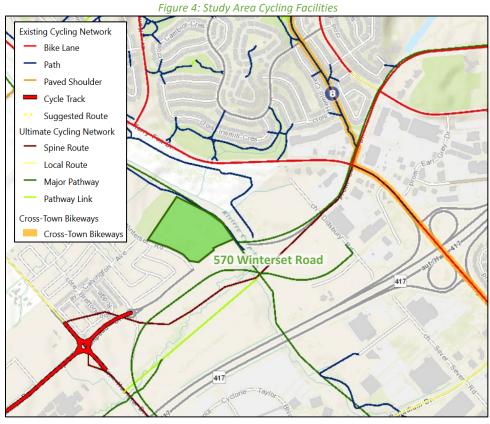
Bike lanes are presented on both sides of Kanata Avenue and Terry Fox Drive north of Campeau Drive. Cycletracks are present on Campeau Drive west of Didsbury Road.

Huntmar Drive south of Campeau Drive, Campeau Drive east of Huntmar Drive, and Terry Fox Drive are spine routes. Huntmar Drive north of Campeau Drive are local routes. Pathways are present along Carp River north of Campeau Drive and between Terry Fox and Herlihey Way connecting to Campeau Drive. This latter pathway continuing to Campeau Drive continuing to Terry Fox Drive south of Campeau Drive forms part of a cross-town bikeway.





Source: http://maps.ottawa.ca/geoOttawa/ Accessed: September 23, 2020



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: September 23, 2020



Pedestrian and cyclist volumes included in study area intersection counts, presented in Section 2.2.7, have been compiled and are illustrated in Figure 5 and Figure 6, respectively. Only the intersections of Terry Fox Drive at Campeau Drive, Terry Fox Drive at 329 N of Campeau Dr/Signature C, Terry Fox Drive at Kanata Avenue had pedestrian and cyclist volumes available.

Figure 5: Existing Pedestrian Volumes

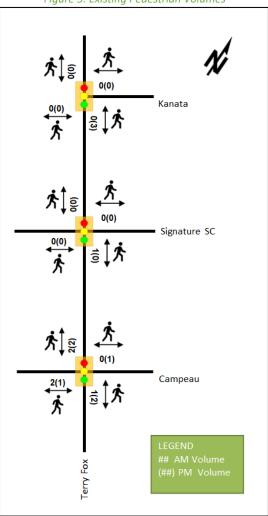
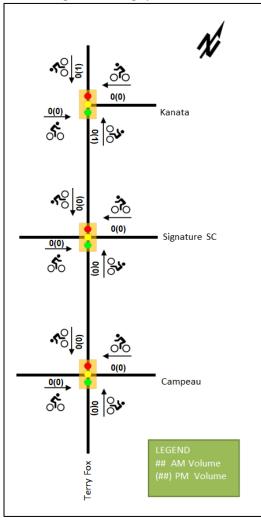


Figure 6: Existing Cyclist Volumes



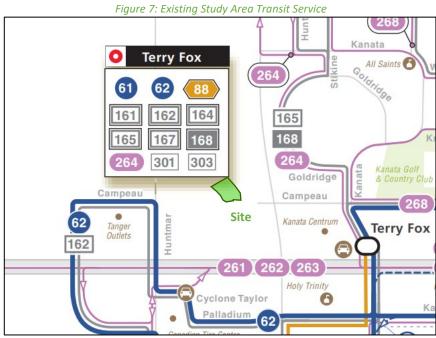
2.2.5 Existing Transit

Within the study area, routes #62 and #162 travels along Palladium Drive, Campeau Dive, and Huntmar Drive. Primary stops are located at Huntmar Drive at Campeau Dive. The frequency of these routes within proximity of the proposed site currently are:

- Route #62 30-minute service all-day
- Route # 162 Three afternoon buses and four late evening buses per day

Figure 7 illustrates the transit system map in the study area and Figure 8 illustrates nearby transit stops.





Source: http://www.octranspo.com/ Accessed: September 23, 2020



Figure 8: Existing Study Area Transit Stops

Source: http://www.octranspo.com/ Accessed: September 23, 2020

2.2.6 Existing Area Traffic Management Measures

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

2.2.7 Existing Peak Hour Travel Demand

Existing turning movement counts were acquired from the City of Ottawa and other sources for the existing study area key intersections. As the count dates are prior to the opening of Campeau Drive across the Carp River, the existing conditions assessed consider the conditions in 2020 and will model the new roadway connection in the



future background conditions. Currently, there is no data available at the intersection of Campeau Drive at Didsbury Road. Therefore, the Campeau Drive and Didsbury Road intersection was not included in the report, and it will be addressed in the adjacent site's future applications. Table 1 summarizes the intersection count dates.

Table 1: Intersection Count Date

Intersection	Count Date	Source		
Huntmar Drive at Campeau Dive	Tuesday, May 28, 2019	The Traffic Specialist		
Terry Fox Drive at Kanata Avenue	Wednesday, April 11, 2018	City of Ottawa		
Terry Fox Drive at Signature C	Wednesday, December 06, 2017	City of Ottawa		
Terry Fox Drive at Campeau Drive	Tuesday, January 21, 2020	City of Ottawa		
Country Glen Way at Campeau Drive	-	Transportation Brief – Addendum #2 Arcadia Subdivision – Stage 3 (J.L. Richards & Associates Limited, 2019)		

Figure 9 illustrates the existing traffic counts and Table 2 summarizes the existing intersection operations The level of service for signalized intersections is based on HCM 2010 v/c calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection. Synchro 11 has been used to model the signalized intersections and Sidra 8 to model the study area roundabouts. Detailed turning movement count data is included in Appendix B and the Synchro and Sidra worksheets are provided in Appendix C.

Figure 9: Existing Traffic Counts

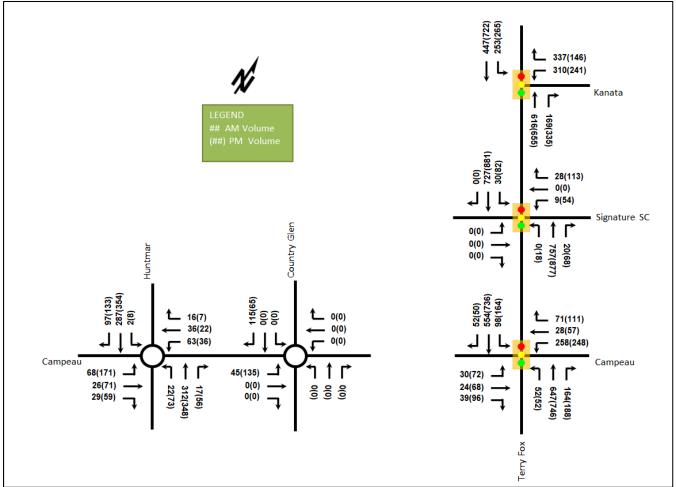




Table 2: Existing Intersection Operations

			AM Pe	ak Hour		PM Peak Hour			
Intersection	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)
	EB	Α	0.09	7.8	1.6	Α	0.23	8.2	4.8
Huntmar Drive at	WB	Α	0.09	8.0	1.6	Α	0.06	8.7	1.0
Campeau Dive	NB	Α	0.33	2.4	8.1	Α	0.42	3.7	10.9
Roundabout	SB	Α	0.16	2.3	3.3	Α	0.20	2.5	4.4
	Overall	Α	0.34	3.7	-	Α	0.42	4.5	-
	WBL	В	0.65	44.2	49.8	В	0.61	45.4	37.2
	WBR	В	0.68	11.1	26.9	Α	0.48	11.1	17.0
Terry Fox Drive at	NBT	Α	0.51	24.7	84.7	Α	0.48	20.1	69.8
Kanata Avenue	NBR	Α	0.27	4.7	14.8	Α	0.43	3.6	16.0
Signalized	SBL	С	0.76	49.0	81.5	D	0.83	56.8	#97.3
	SBT	Α	0.21	5.5	25.3	Α	0.33	5.1	35.8
	Overall	В	0.61	22.7	-	Α	0.59	19.3	-
	EB	Α	-	-	-	Α	-	-	-
	WBL/T	Α	0.04	33.6	6.2	Α	0.17	35.1	22.1
T F D.:	WBR	Α	0.09	11.0	7.0	Α	0.26	7.2	14.2
Terry Fox Drive at	NBL	Α	-	-	-	Α	0.08	5.4	m1.7
Signature C Signalized	NBT/R	Α	0.41	13.4	48.0	Α	0.51	6.0	27.2
Signanzea	SBL	Α	0.10	8.1	6.3	Α	0.38	16.8	22.4
	SBT/R	Α	0.38	9.5	49.4	Α	0.48	13.1	75.6
	Overall	Α	0.31	11.6	-	Α	0.41	10.2	-
	EBL	Α	0.09	25.5	10.7	Α	0.24	34.0	25.1
	EBT	Α	0.05	24.6	9.2	Α	0.16	32.1	23.3
	EBR	Α	0.09	0.4	0.0	Α	0.23	6.5	11.8
	WBL	D	0.81	52.9	76.9	D	0.84	62.9	84.9
	WBT	Α	0.06	24.9	10.1	Α	0.14	31.4	20.1
Terry Fox Drive at	WBR	Α	0.17	3.9	6.7	Α	0.26	6.3	12.6
Campeau Drive	NBL	Α	0.14	13.0	13.2	Α	0.16	12.4	12.5
Signalized	NBT	Α	0.49	24.3	88.7	Α	0.52	25.2	108.7
	NBR	Α	0.24	4.5	14.5	Α	0.26	4.3	15.5
	SBL	Α	0.29	29.5	37.9	Α	0.49	22.5	41.9
	SBT	Α	0.39	43.4	93.4	Α	0.46	16.1	52.7
	SBR	Α	0.08	16.3	12.1	Α	0.07	0.6	1.3
	Overall	Α	0.58	30.2		В	0.62	22.9	_

Saturation flow rate of 1800 veh/h/lane

m = metered queue

= queue exceeds storage or mid-block length

During both the AM and PM peak hours, the study area intersections operate well. No capacity issues are noted.

At the intersection of Kanata Avenue and Terry Fox Drive, the southbound left-turn movement may be subject to extended queues during PM peak hours.

2.2.8 Collision Analysis

Collision data have been acquired from the City of Ottawa open data website (data.ottawa.ca) for five years prior to the commencement of this TIA for the surrounding study are road network. Figure 10 illustrates the intersections and segments analyzed. There were no collisions within the study area from 2015 to 2019 and no further review of collisions is required.



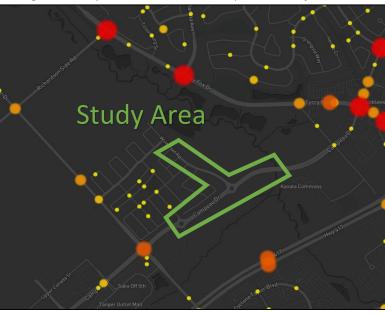


Figure 10: Study Area Collision Records – Representation of 2015-2019

2.3 Planned Conditions

2.3.1 Changes to the Area Transportation Network

The Transportation Master Plan's Rapid Transit and Transit Priority Network identify Light Rail Transit to extend Light Rail Transit (LRT) from Moodie Drive to Kanata within the Ultimate Network Concept and this project is being studied within the Kanata LRT Planning and EA Study. The future Campeau Station along this extension is planned to be located on the southern subject site boundary. In addition, the Transportation Master Plan's Road Network identifies widening of Palladium Drive from HWY 417 to Campeau Drive, the extension of Kanata west to Abbott Street by phase two (2020 to 2025) and widening of Huntmar Drive from Campeau south to Maple Grove Road by phase three (2026 to 2031).

The Campeau Drive extension was completed and open in the fall of 2021, connecting Campeau Drive across the Carp River to Didsbury Road, including the roundabout at Winterset Road and signals at both Kanata Commons and Didsbury Road. While not within the study area, Palladium Drive has been realigned to the south of Highway 417 at a new roundabout intersection to form a portion of the planned Kanata North-South Arterial.

The Palladium Drive/Robert Grant Avenue at Derreen Avenue/Palladium Drive roundabout is currently under construction and is not anticipated to impact area travel patterns.

2.3.2 Other Study Area Developments

130 Huntmar Drive

The proposed development application includes a site plan for the construction of 90 Single family homes, 226 Townhomes, 426 Stacked townhomes, 30,000 ft² of retail, and a 2.409 Ha school. The development is anticipated to be built out in 2024 and is predicted to generate 435 new AM two-way peak-hour auto trips and 507 new PM two-way peak-hour auto trips.

195 Huntmar Drive

The proposed development application includes an official plan amendment for the construction of approximately 1,237 residential dwelling units, an assumed 65,000 ft² of retail land use and three car dealerships. The



development is anticipated to be built out in 2024 and is predicted to generate 650 new AM two-way peak-hour auto trips and 802 new PM two-way peak-hour auto trips.

319 Huntmar Drive

The proposed development application includes a site plan for the construction of four, nine-storey mid-rise apartment buildings with 424 units and an amenity building for the use of the residents. No TIA is available as part of this application.

333 Huntmar Drive

The proposed development application includes a site plan for the construction of 134 hotel rooms and approximately 30,000 ft² of restaurant type land uses. The development is anticipated to be built out in 2022. The development is predicted to generate 61 new AM two-way peak-hour auto trips and 309 new PM two-way peak-hour auto trips. (Parsons, 2014)

1300 &1360 Upper Canada Street

The proposed development application includes a site plan for the construction of approximately 10,985 square metres of warehouse space and 232 square metres of office space. No TIA is available as part of this application.

1400 Upper Canada Street

The proposed development application includes a site plan for the construction of 65,400 ft² of office space and warehouse area by phase one and expands to 76,400 ft² of office space and warehouse area by phase two. The anticipated build-out horizon is 2021 for phase one and 2026 for phase two. The development is predicted to generate new 178 AM two-way peak-hour auto trips and 122 new PM two-way peak-hour auto trips by phase one and 213 new AM two-way peak-hour auto trips and 150 new PM two-way peak-hour auto trips by phase two. (Parsons, 2020)

8800 Campeau Drive

The proposed development application includes a site plan for the construction of a 66,000 ft² office/warehouse space by phase one and expands to 77,800 ft² office/warehouse space by phase two. The assumed phase one horizon year is 2021 with the facility operating at only 25% of the ultimate capacity. The assumed phase two horizon year is 2026 but could take upwards of 20 years for this level of operation to materialize depending on market conditions. The development is predicted to generate 23 new AM and PM two-way peak-hour auto trips by phase one and 26 AM two-way peak-hour auto trips and 27 new PM two-way peak-hour auto trips by phase two. (Parsons, 2021)

340 Huntmar Drive

The proposed development application includes a site plan for the construction of a hotel with approximately 108 rooms. The anticipated full build-out and occupancy horizon is 2020, and the development is predicted to generate 44 new AM two-way peak-hour auto trips and 51 new PM two-way peak-hour auto trips. (Parsons, 2018)

800 Palladium Drive

The proposed development application includes a site plan for the construction of approximately 11,000 ft² commercial space, 80,000 ft² office space, and 5,000 ft² of restaurant space. The anticipated full build-out and occupancy horizon is 2019, and the development is predicted to generate 162 new AM two-way peak-hour auto trips and 156 new PM two-way peak-hour auto trips. (Stantec, 2019)

Arcadia community Stage 3&4

The proposed development application includes a site plan for the construction of 30 single family homes and 192 townhouse units for a total of 222 residential units by stage 3 and 156 single family homes and 70 townhouse



units for a total of 226 residential units by stage 4. The stage 3 anticipated build-out horizon is 2021 and stage 4 is 2022. The development is predicted to generate 199 new AM two-way peak-hour auto trips and 252 new PM two-way peak-hour auto trips by stages 3&4. (J.L. Richards & Associates Limited, 2019)

Arcadia community Stage 6

The proposed development application includes a zoning by-law amendment for the construction of 409 townhome units. The anticipated build-out horizon is 2025, and the development is predicted to generate 111 new AM two-way peak-hour auto trips and 136 new PM two-way peak-hour auto trips. (CGH Transportation, 2021)

8600 Campeau Drive

The proposed development application includes a site plan for the construction of a four-storey building housing with 120 hotel units. The anticipated build-out horizon is 2019. The development is predicted to generate 49 new AM two-way peak-hour auto trips, 56 new PM two-way peak-hour auto trips, and 68 new Saturday peak-hour auto trips. (IBI Group, 2018)

8700 Campeau Drive

The proposed development application includes a site plan for the construction of a five-storey office building with a gross floor area of 150,000 ft². The anticipated build-out horizon is 2021, and the development is predicted to generate 129 new AM two-way peak-hour auto trips and 129 new PM two-way peak-hour auto trips. (Parsons, 2019)

471 Terry Fox Drive

The proposed development application includes a Zoning By-law Amendment to allow the construction of 22,400 ft² of retail component. No TIA is available as part of this application.

3 Study Area and Time Periods

3.1 Study Area

The study area will include the intersections of:

- Campeau Drive at:
 - o Huntmar Drive
 - Country Glen Way
 - Winterset Road (Future Conditions)
 - Terry Fox Drive
- Terry Fox Drive at:
 - Signature Centre
 - Kanata Avenue
- Winterset Road at:
 - Site Access 1 (Future Conditions)
 - Site Access 2 (Future Conditions)

The boundary road will be Campeau Drive, Country Glen Way, and Donum Lane (future). Screen lines SL44 and SL53 are present within proximity to the site but will not be analyzed as part of this study.

3.2 Time Periods

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



3.3 Horizon Years

The anticipated build-out year is 2025. As a result, the full build-out plus five years horizon year is 2030.

4 Exemption Review

Table 3 summarizes the exemptions for this TIA.

Table 3: Exemption Review

Module	Element	Explanation	Exempt/Required
Design Review Compo	nent		
4.1 Development	4.1.2 Circulation and Access	Only required for site plans	Exempt
Design	4.2.3 New Street Networks	Only required for plans of subdivision	Required
	4.2.1 Parking Supply	Only required for site plans	Exempt
4.2 Parking	4.2.2 Spillover Parking	Only required for site plans where parking supply is 15% below unconstrained demand	Exempt
Network Impact Comp	onent		
4.5 Transportation Demand Management	All Elements	Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time	Required
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Required
4.8 Network Concept		Only required when proposed development generates more than 200 person-trips during the peak hour in excess of equivalent volume permitted by established zoning	Exempt

5 Development-Generated Travel Demand

5.1 Mode Shares

Examining the mode shares recommended in the TRANS Trip Generation Manual (2020) for the subject district, derived from the most recent National Capital Region Origin-Destination survey (OD Survey), the existing average district mode shares by land use for Kanata/Stittsville have been summarized in Table 4.

Table 4: TRANS Trip Generation Manual Recommended Mode Shares – Kanata/Stittsville

Travel Mode	Single-D	etached	Multi-Unit (Low-Rise)		
Travel Wiode	AM	PM	AM	PM	
Auto Driver	52%	56%	52%	58%	
Auto Passenger	15%	19%	14%	17%	
Transit	20%	14%	22%	17%	
Cycling	1%	1%	0%	0%	
Walking	12%	9%	11%	8%	
Total	100%	100%	100%	100%	



The completion of the Campeau Drive extension provides a direct connection to the Terry Fox BRT Station and would support the area transit mode shares. Depending on the service provided by OC Transpo, this may increase as the station is only 1.65 kilometres from the proposed subdivision. Once the Kanata LRT is extended to Donum Lane, beyond the study horizons of this study, the transit mode share is expected to increase above the current 14-22% currently documented in the Kanata/Stittsville area.

5.2 Trip Generation

This TIA has been prepared using the vehicle and person trip rates for the residential dwellings using the TRANS Trip Generation Manual (2020). Table 5 summarizes the person trip rates for the proposed residential land uses for each peak period.

Table 5: Trip Generation Person Trip Rates by Peak Period

Land Use	Land Use Code	Peak Period	Person Trip Rates
Circle Detected	210	AM	2.05
Single-Detached	(TRANS)	PM	2.48
Multi-Unit Low-Rise	220	AM	1.35
widiti-Offit LOW-Rise	(TRANS)	PM	1.58

Using the above person trip rates, the total person trip generation has been estimated. Table 6 summarizes the total person trip generation for the residential land uses.

Table 6: Total Residential Person Trip Generation by Peak Period

Land Use	Units	P	AM Peak Perio	d	PM Peak Period			
Land Ose	Ullits	In	Out	Total	In	Out	Total	
Single-Detached	62	38	89	127	95	59	154	
Multi-Unit Low-Rise	162	66	153	219	143	113	256	

Using the above mode share targets for the person trip rates, the person trips by mode have been projected. Trip generation by peak hour has been forecasted using the prescribed peak period conversion factors presented in the TRANS Trip Generation Manual (2020) for the residential component. Table 7 summarizes the residential trip generation by mode.

Table 7: Residential Trip Generation by Mode

		Al	VI Peak H	lour	,	PI	∕I Peak ⊦	lour	
Travel Mode		Mode Share	In	Out	Total	Mode Share	In	Out	Total
- D	Auto Driver	52%	10	22	32	56%	23	15	38
ç	Auto Passenger	15%	3	6	9	19%	8	5	13
eta	Transit	20%	4	10	14	14%	6	4	9
Single-Detached	Cycling	1%	0	1	1	1%	0	0	0
)gr	Walking	12%	3	6	9	9%	5	3	8
Si	Total	100%	19	45	64	100%	42	26	68
	Auto Driver	52%	16	38	54	58%	37	29	66
e) ji	Auto Passenger	14%	4	10	14	17%	11	8	19
구 등	Transit	22%	8	19	26	17%	11	9	20
Multi-Unit (Low-Rise)	Cycling	0%	0	0	0	0%	0	0	0
≥ ج	Walking	11%	4	10	14	8%	6	5	11
	Total	100%	33	77	110	100%	63	50	113



		AI	VI Peak H	lour		PM Peak Hour			
	Travel Mode	Mode Share	In	Out	Total	Mode Share	ln	Out	Total
	Auto Driver	-	26	60	86	-	60	44	104
	Auto Passenger	-	7	16	24	-	19	13	32
豆	Transit	-	11	29	40	-	17	13	30
Total	Cycling	-	0	1	1	-	0	0	0
	Walking	-	7	16	23	-	11	8	17
	Total	-	52	122	174	-	105	76	181

As shown above, a total of 86 new AM and 104 PM new peak hour two-way vehicle trips are projected as a result of the proposed development.

5.3 Trip Distribution

To understand the travel patterns of the subject development, the OD Survey has been reviewed to determine the travel for the residential component, and these patterns were applied based on the build-out of Kanata/Stittsville. Table 8 below summarizes the distributions.

Table 8: OD Survey Distribution - Kanata/ Stittsville

To/From	Residential % of Trips
North	15%
South	30%
East	50%
West	5%
Total	100%

5.4 Trip Assignment

Using the distribution outlined above, turning movement splits, and access to major transportation infrastructure, the trips generated by the site have been assigned to the study area road network. Table 9 summarizes the proportional assignment to the study area roadways, and Figure 11 illustrates the new site generated volumes.

Table 9: Trip Assignment

To/From	Via
North	10% Huntmar Drive (N), 5% Terry Fox Drive(N)
South	10% Terry Fox Drive(S), 20% Huntmar Drive (S)
East	50% Terry Fox Drive(S)
West	5% Campeau Drive (W)
Total	100%



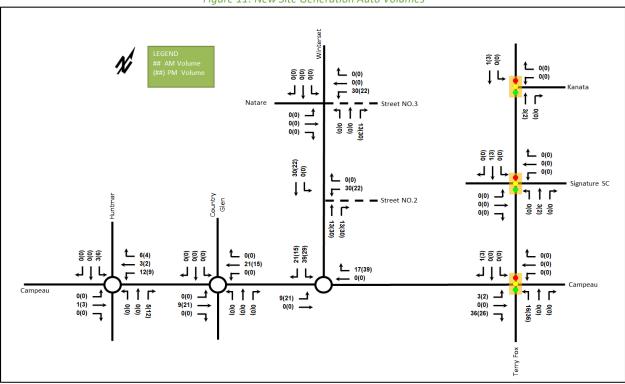


Figure 11: New Site Generation Auto Volumes

6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3. The Campeau Drive extension was completed and opened in the fall of 2021. Therefore, volumes on Campeau Drive were re-distributed in future horizons based on the existing volumes and other area developments. These are summarized in Section 6.3.

6.2 Background Growth

A review of the background projections from the City's TRANS Regional Model for the 2011 and 2031 horizons was completed to determine the background growth for each of the study area roadways.

In general, the growth rates in the study area derived from the two TRANS model horizons are projected to be positive in both east-west and north-south directions. When reviewing the existing volumes compared to the 2031 model horizon, it is noted that forecasted volumes on eastbound, westbound, and northbound movement in the study area have been exceeded.

Resultantly, growth rates derived from the two TRANS model horizons rounded to the nearest 0.25% will be peak-directionally applied to the appropriate roadway's mainline volumes and to the appropriate major turning movements at the intersections. Table 10 summarizes the growth rates applied within the study area.



Table 10: TRANS Regional Model Projections – Study Area Growth Rates

Chunch	AM Pea	ak Hour	PM Peak Hour			
Street	Eastbound	Westbound	Eastbound	Westbound		
Campeau Drive	2.00%	2.00%	2.00%	2.00%		
	Northbound	Southbound	Northbound	Southbound		
Terry Fox Drive	1.75%	2.50%	2.50%	1.75%		
Huntmar Drive	2.25%	2.00%	2.00%	2.25%		

6.3 Other Developments

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

- 130 Huntmar Drive
- 195 Huntmar Drive
- 333 Huntmar Drive
- 1400 Upper Canada Street
- 8800 Campeau Drive
- 340 Huntmar Drive
- 800 Palladium Drive
- Arcadia community Stage 3&4
- Arcadia community Stage 6
- 8600 Campeau Drive
- 8700 Campeau Drive

The background development volumes within the study area have been provided in Appendix D.

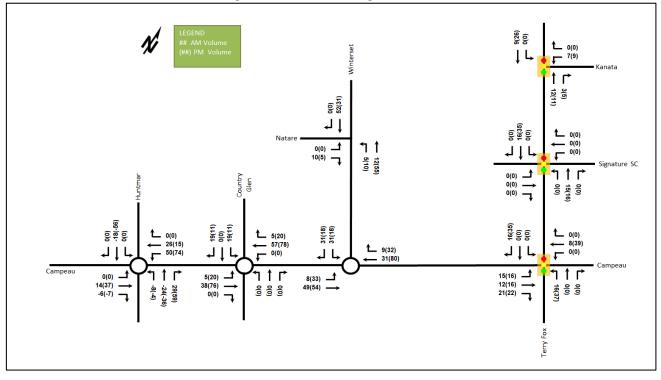
The background volumes and other study area development volumes will be re-distributed in future horizons due to the network changes associated with the Campeau Drive extension. Figure 12 illustrates the 2025 total reassigned volumes and Figure 13 illustrates the 2030 total re-assigned volumes.



9(26) 0(0) ↑ 0(0) ↑ 7(9) ↑ ٢ 3(5) 14(13) 0(0) 52(31) 14 0(0) 16(35) 0(0) ← 0(0) ← 0(0) 0(0) Natare 0(0) 1 ኅ ሰ J | L Signature SC **→** 1 1 1 0(0) 0(0) 0(0) Country Glen 0(0) 0(0) -18(-56) 0(0) 19(11) 0(0) 19(11) 16(35) 0(0) 0(0) 31(18) 31(18) 0(0) 26(14) 50(74) 5(20) 57(77) 0(0) **1** 9(32) ← 31(79) **↓** | | ↓ <u>ا إ ل</u> Ļ Campeau 1 ↑ ↑ 5(20) → 37(76) → 0(0) → 8(33) <u>1</u> 48(54) <u> 1</u> 0(0) רׄ וֹ וֹ וֹ 13(37) -5(-7) 29(59) -24(-36) -8(-3) 0(0) 0(0) 16(37) 0(0)

Figure 12: 2025 Total Re-Assigned Volumes







Demand Rationalization

2025 Future Background Operations

Since the Campeau Drive extension was completed in the fall of 2021, the intersections of Country Glen Way at Campeau Drive and Winterset Road at Campeau Drive are included in the future background conditions.

Figure 14 illustrates the 2025 background volumes and Table 11 summarizes the 2025 background intersection operations. The level of service for signalized intersections is based on HCM 2010 v/c calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection. Synchro 11 has been used to model the signalized intersections and Sidra 8 to model the study area roundabouts. The Synchro and Sidra worksheets for the 2025 future background horizon are provided in Appendix E.

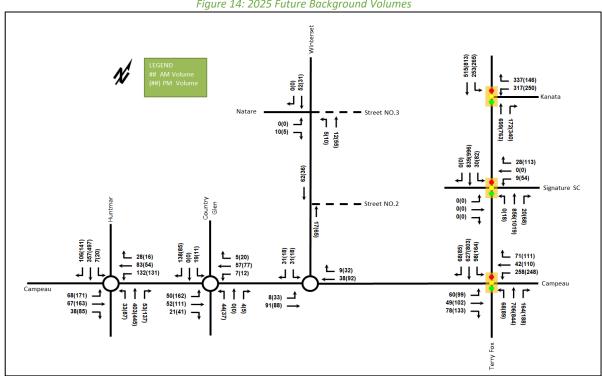


Figure 14: 2025 Future Background Volumes

Table 11: 2025 Future Background Intersection Operations

latana ati an			AM Pea	ak Hour			PM Pe	ak Hour	
Campeau Dive Roundabout Country Glen Way	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)
	EB	Α	0.09	7.2	1.7	Α	0.24	8.1	5.1
Huntmar Drive at	WB	Α	0.17	8.2	3.3	Α	0.19	9.6	3.7
Campeau Dive	NB	Α	0.40	2.7	10.4	Α	0.52	4.3	15.8
Roundabout	SB	Α	0.20	2.8	4.2	Α	0.28	3.0	6.6
	Overall	Α	0.40	4.3	10.4	Α	0.52	5.2	15.8
	EB	Α	0.06	6.0	1.4	Α	0.15	6.6	4.1
Country Glen Way	WB	Α	0.03	4.2	0.6	Α	0.06	4.6	1.1
at Campeau Dive	NB	Α	0.02	1.6	0.4	Α	0.02	2.0	0.4
Roundabout	SB	Α	0.15	0.5	3.0	Α	0.10	0.5	1.7
	Overall	Α	0.15	3.0	3.0	Α	0.15	4.8	4.1



1			AM Pe	ak Hour			PM Pe	ak Hour	
intersection	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)
	EB	Α	0.04	3.8	0.7	Α	0.05	5.0	0.9
	WB	Α	0.02	3.4	0.3	Α	0.04	3.6	0.8
-	SB	Α	0.03	0.8	0.5	Α	0.02	1.0	0.3
Intersection Winterset Road at Campeau Dive Roundabout Ferry Fox Drive at Kanata Avenue Signalized Ferry Fox Drive at Signature C Signalized	Overall	Α	0.04	2.9	0.7	Α	0.05	3.8	0.9
	WBL	В	0.63	42.8	44.6	Α	0.56	42.0	35.5
	WBR	В	0.66	11.2	24.8	Α	0.44	11.1	16.5
Terry Fox Drive at	NBT	Α	0.50	22.6	80.7	Α	0.52	21.4	82.5
•	NBR	Α	0.24	4.4	13.5	Α	0.41	4.0	17.0
Signalized	SBL	С	0.74	47.4	71.9	С	0.73	45.5	71.3
_	SBT	Α	0.22	5.2	24.8	Α	0.34	5.1	35.8
	Overall	Α	0.59	21.2	-	Α	0.59	17.9	-
	EB	Α	-	-	-	Α	-	-	-
	WBL/T	Α	0.04	33.4	5.6	Α	0.15	34.9	20.3
	WBR	Α	0.08	9.9	6.1	Α	0.23	7.4	13.6
Signature C	NBL	Α	-	-	-	Α	0.07	5.1	m0.6
	NBT/R	Α	0.42	14.0	100.8	Α	0.53	15.8	130.7
Signalizea	SBL	Α	0.09	8.0	5.9	Α	0.36	16.6	20.6
	SBT/R	Α	0.39	9.7	51.8	Α	0.48	13.3	77.3
	Overall	Α	0.32	11.9	-	Α	0.42	14.7	-
	EBL	Α	0.18	28.9	17.7	Α	0.33	37.4	30.5
	EBT	Α	0.10	27.2	14.8	Α	0.23	34.6	29.7
	EBR	Α	0.17	4.0	6.7	Α	0.28	6.4	13.0
	WBL	С	0.79	54.0	70.9	D	0.82	62.3	76.3
	WBT	Α	0.09	26.9	13.1	Α	0.26	35.2	31.8
Terry Fox Drive at	WBR	Α	0.16	3.1	5.2	Α	0.25	6.6	12.0
Campeau Drive	NBL	Α	0.16	12.0	14.3	Α	0.24	12.1	17.6
Signalized	NBT	Α	0.46	22.5	85.6	Α	0.51	23.7	109.8
	NBR	Α	0.22	4.4	13.8	Α	0.23	4.3	15.3
	SBL	Α	0.25	26.8	34.0	Α	0.44	27.1	52.3
	SBT	Α	0.39	41.7	94.8	Α	0.47	38.5	112.8
	SBR	Α	0.09	18.0	15.2	Α	0.11	17.7	19.1
	Overall	Α	0.55	28.9	-	Α	0.59	29.2	-

Notes: Saturation flow rate of 1800 veh/h/lane

PHF = 1.00 # = queue exceeds storage or mid-block length

During both the AM and PM peak hours at the 2025 future background horizon, the study area intersections operate similarly to the existing conditions. No capacity issues are noted.

7.2 2030 Future Background Operations

Figure 15 illustrates the 2030 background volumes and Table 12 summarizes the 2030 background intersection operations. The level of service for signalized intersections is based on HCM 2010 v/c calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection. Synchro 11 has been used to model the signalized intersections and Sidra 8 to model the study area roundabout. The Synchro and Sidra worksheets for the 2030 future background horizon are provided in Appendix F.



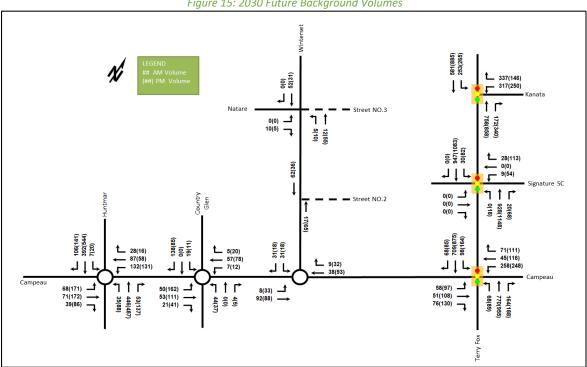


Figure 15: 2030 Future Background Volumes

Table 12: 2030 Future Background Intersection Operations

Intersection	Lane		AM Pe	ak Hour			PM Pea	ak Hour	
intersection	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)
	EB	Α	0.09	7.2	1.8	Α	0.26	8.2	5.5
Huntmar Drive at	WB	Α	0.18	8.4	3.4	Α	0.20	9.8	3.9
Campeau Dive	NB	Α	0.45	2.7	12.3	Α	0.57	4.5	19.3
Roundabout	SB	Α	0.22	2.8	4.7	Α	0.31	3.0	7.4
	Overall	Α	0.45	4.2	12.3	Α	0.57	5.3	19.3
	EB	Α	0.06	6.0	1.4	Α	0.15	6.7	4.1
Country Glen Way	WB	Α	0.03	4.2	0.6	Α	0.06	4.6	1.1
at Campeau Dive	NB	Α	0.02	1.7	0.4	Α	0.02	2.1	0.4
Roundabout	SB	Α	0.15	0.5	3.0	Α	0.16	0.6	3.0
	Overall	Α	0.15	3.0	3.0	Α	0.16	4.4	4.1
Winterest Deed at	EB	Α	0.04	3.8	0.8	Α	0.05	5.0	0.9
Winterset Road at	WB	Α	0.02	3.4	0.3	Α	0.04	3.6	0.8
Campeau Dive Roundabout	SB	Α	0.03	0.8	0.5	Α	0.02	1.0	0.3
Kounaabout	Overall	Α	0.04	2.9	0.8	Α	0.05	3.8	0.9
	WBL	В	0.63	42.8	44.6	Α	0.56	42.0	35.5
	WBR	В	0.66	11.2	24.8	Α	0.44	11.1	16.5
Terry Fox Drive at	NBT	Α	0.54	23.3	89.1	Α	0.59	22.6	95.5
Kanata Avenue Signalized	NBR	Α	0.24	4.4	13.5	Α	0.41	4.0	17.0
	SBL	С	0.74	47.4	71.9	С	0.73	45.5	71.3
	SBT	Α	0.25	5.4	28.3	Α	0.37	5.3	39.8
	Overall	Α	0.61	21.0	-	В	0.62	18.1	-



lusta na a ati a n	Lana		AM Pe	ak Hour			PM Pe	ak Hour	
Intersection Terry Fox Drive at Signature C Signalized	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)
	EB	Α	-	-	-	Α	-	-	-
	WBL/T	Α	0.04	33.4	5.6	Α	0.15	34.9	20.3
Town For Drive of	WBR	Α	0.08	9.9	6.1	Α	0.24	10.9	17.3
•	NBL	Α	-	-	-	Α	0.08	4.7	m0.4
_	NBT/R	Α	0.45	14.7	112.8	Α	0.59	16.8	155.8
Signanzea	SBL	Α	0.10	8.2	6.0	Α	0.44	20.9	24.2
	SBT/R	Α	0.44	10.2	60.6	Α	0.53	13.9	86.8
	Overall	Α	0.34	12.5	-	Α	0.46	15.8	-
	EBL	Α	0.17	28.7	17.3	Α	0.32	37.1	29.8
	EBT	Α	0.11	27.3	15.1	Α	0.24	34.8	31.2
	EBR	Α	0.17	3.7	6.2	Α	0.28	6.4	13.0
	WBL	С	0.80	54.1	70.9	D	0.82	62.4	76.2
	WBT	Α	0.10	27.0	13.7	Α	0.27	35.3	33.2
Terry Fox Drive at	WBR	Α	0.16	3.1	5.2	Α	0.25	6.6	12.0
Campeau Drive	NBL	Α	0.17	12.2	14.3	Α	0.26	12.5	17.6
Signalized	NBT	Α	0.50	23.3	95.3	Α	0.58	25.7	130.5
	NBR	Α	0.22	4.4	13.8	Α	0.24	6.0	19.4
	SBL	Α	0.27	26.8	34.3	Α	0.49	28.9	53.8
	SBT	Α	0.44	42.8	105.4	Α	0.51	40.3	123.1
	SBR	Α	0.09	17.6	15.4	Α	0.11	18.0	19.6
	Overall	Α	0.58	29.7	-	В	0.64	30.6	-

Notes: Saturation flow rate of 1800 veh/h/lane

m = metered queue

= queue exceeds storage or mid-block length

The intersections at the 2030 future background horizon are anticipated to operate similarly to the 2025 background conditions. No new capacity issues are forecasted.

7.3 Modal Share Sensitivity and Demand Rationalization Conclusions

No capacity constraints are noted within the study area. As such, no rationalization of the modal share and projected volumes is required.

8 Development Design

8.1 Design for Sustainable Modes

The proposed development is a residential subdivision where each dwelling will include a driveway and garage. Bicycle parking is assumed to be within the individual units. Figure 16 illustrates the pedestrian concept network with connections to adjacent pedestrian facilities.



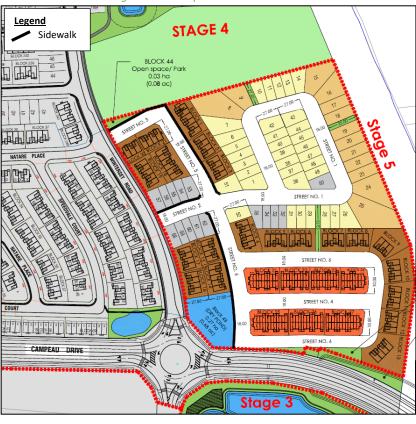


Figure 16: Concept Pedestrian Network

8.2 New Street Networks

The planned street network will include 18-metre local roadways. The local will provide parking on one side of the roadway. The local roads are proposed to be posted as 30 km/h.

To support the pedestrian and cycling connectivity within the subdivision, Figure 17 illustrates the concept traffic calming plan. Traffic calming elements are recommended at the internal intersections, including bulb-outs to narrow each approach to the intersection (e.g. reduced crossing distance). Once the road network pattern and lotting concepts are confirmed, the on-street parking can be outlined in the geometric roadway design. The location of speed humps is subject to minor changes and will need to be refined as part of the detailed engineering submission once the locations of the driveway, stormwater flows, surface ponding, and servicing elements, such as utilities and fire hydrants, have been established.

The internal road intersections are recommended to be stop-controlled on the minor approaches of all intersections



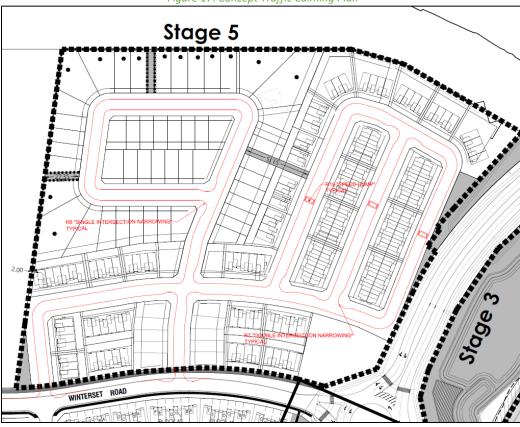


Figure 17: Concept Traffic Calming Plan

9 Boundary Street Design

Table 13 summarizes the MMLOS analysis for the boundary streets of Campeau Drive and Winterset Road. The existing and future conditions for both streets will be the same and are considered in one row. The boundary Street of Campeau Drive analysis is based on the land use designation of "Mixed Use Centre" and "General Urban Area", and Winterset Road analysis is based on the land use designation of "General Urban Area". The MMLOS worksheets have been provided in Appendix G.

Table 13: Boundary Street MMLOS Analysis

Coamont	Pedestrian LOS		Bicycle LOS		Trans	it LOS	Truck LOS	
Segment	PLOS	Target	BLOS	Target	TLOS	Target	TrLOS	Target
Campeau Drive	В	С	Α	D	N/A	N/A	N/A	N/A
Winterset Road	Α	С	D	D	N/A	N/A	N/A	N/A

The boundary streets meet the pedestrian and cycling MMLOS targets.

10 Access Intersections Design

10.1 Location and Design of Access

The residential accesses will connect to the adjacent road network via local roads connection to Winterset Road. Within the subdivision, no turn lanes are proposed for the internal intersections which will be controlled by minor stop control.



10.2 Intersection Control

Based upon the projected volumes, the site access will have stop-control on the minor approach. No further traffic control is necessary to address operational issues.

10.3 Access Intersection Design

10.3.1 2025 Future Total Access Intersection Operations

The 2025 future total intersection volumes are illustrated in Figure 18 and the access intersection operations are summarized below in Table 14. Unsignalized intersections are based on HCM average delay. The Synchro worksheets have been provided in Appendix H.

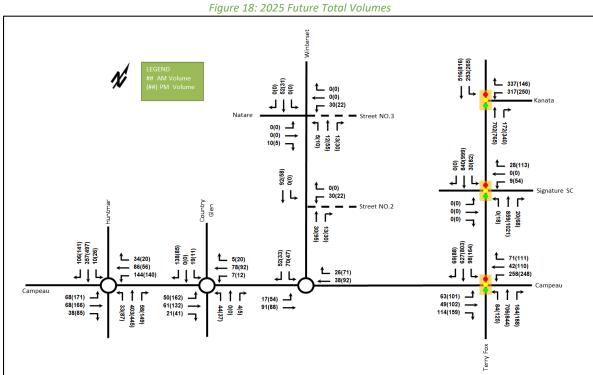


Table 14: 2025 Future Total Access Intersection Operations

Intovocation	Lana		AM Pea	ak Hour			PM Pe	ak Hour	
Intersection	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)
Winterest Deed at	WB	Α	0.04	9.3	0.8	Α	0.03	9.5	0.8
Winterset Road at No.2 Street	NB	-	-	-	-	-	-	-	-
1101=00100	SB	Α	-	0.0	0.0	Α	-	0.0	0.0
Unsignalized	Overall	Α	-	1.7	-	Α	-	1.0	-
	EB	Α	0.01	8.6	0.0	Α	0.01	8.5	0.0
Winterset Road at	WB	Α	0.03	9.2	0.8	Α	0.03	9.4	0.8
No.3 Street	NB	Α	0.00	7.3	0.0	Α	0.01	7.3	0.0
Unsignalized	SB	Α	-	0.0	0.0	Α	-	0.0	0.0
	Overall	Α	-	3.3	-	Α	-	2.1	-

Notes:

Saturation flow rate of 1800 veh/h/lane

PHF = 1.00

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

The 2025 future total access intersection operates satisfactorily.



10.3.2 2030 Future Total Access Intersection Operations

The 2030 future total intersection volumes are illustrated in Figure 19 and the access intersection operations are summarized below in Table 15. Unsignalized intersections are based on HCM average delay. The Synchro worksheets have been provided in Appendix I.

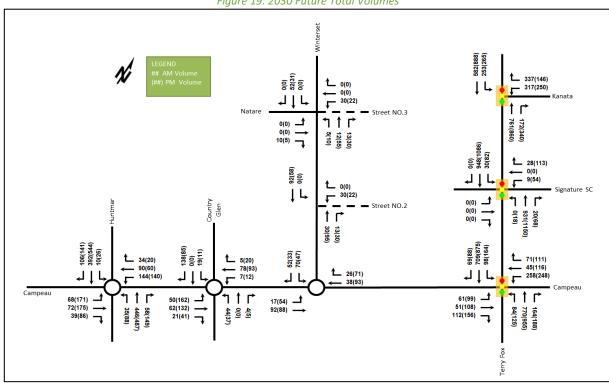


Figure 19: 2030 Future Total Volumes

Table 15: 2030 Future Total Access Intersection Operations

Intersection	Lana		AM Pea	ak Hour			PM Pe	ak Hour	
intersection	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)
Winter and December	WB	Α	0.04	9.3	0.8	Α	0.03	9.5	0.8
Winterset Road at No.2 Street	NB	-	-	-	-	-	-	-	-
	SB	Α	-	0.0	0.0	Α	-	0.0	0.0
Unsignalized	Overall	Α	-	1.7	-	Α	-	1.0	-
	EB	Α	0.01	8.6	0.0	Α	0.01	8.5	0.0
Winterset Road at	WB	Α	0.03	9.2	0.8	Α	0.03	9.4	0.8
No.3 Street	NB	Α	0.00	7.3	0.0	Α	0.01	7.3	0.0
Unsignalized	SB	Α	-	0.0	0.0	Α	-	0.0	0.0
	Overall	Α	-	3.3	-	Α	-	2.1	-

Notes:

Saturation flow rate of 1800 veh/h/lane

PHF = 1.00

m = metered queue

= queue exceeds storage or mid-block length

The 2030 future total access intersection operates satisfactorily.

10.3.3 Access Intersection MMLOS

The access intersection is unsignalized, and therefore no access intersection MMLOS analysis has been conducted.

10.3.4 Recommended Design Elements

The design elements for the site intersections are consistent with the CDP and various EA study recommendations.



11 Transportation Demand Management

11.1 Context for TDM

The mode shares used within the TIA represent the unmodified district mode shares. Overall, the modal shares are likely to be achieved and supporting TDM measures should be provided to encourage shifts towards sustainable modes.

The subject site is within the Kanata West Secondary Plan and Community Design Plan areas. The total bedroom count within the development is subject to the final unit breakdown and layout selections by purchasers. No age restrictions are noted.

11.2 Need and Opportunity

The subject site has been assumed to rely predominantly on auto travel and those assumptions have been carried through the analysis. The study area intersections are anticipated to have residual capacity, and as the unmodified district mode shares have been applied, risks to other network users from failing to meet mode share targets is low.

11.3 TDM Program

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

Provide a multimodal travel option information package to new residents

12 Neighbourhood Traffic Management

Site traffic is proposed to access the arterial network via Winterset Road. The TIA Guidelines propose a threshold of 120 vehicles per peak hour for the classification of local roads, equivalent to 2 cars per minute, which per City guidance is to be interpreted as two-way volumes.

2025 background volumes on Winterset Road are expected to be 79 two-way vehicles in the AM peak hour and 101 two-way vehicles in the PM peak hour. Overall, the site is anticipated to generate approximately 86 and 104 two-way vehicle trips during the AM and PM peak hours, respectively, accessing Winterset Road. While over the prescribed theoretical local road capacity, this volume increase is not considered a significant impact on Winterset Road or requires any traffic management.

13 Transit

13.1 Route Capacity

In Section 5.1 the trip generation by mode was estimated, including an estimate of the number of transit trips that will be generated by the proposed development. Table 16 summarizes the transit trip generation.

Table 16: Trip Generation by Transit Mode

Travel Mode	Mode Share	AN	1 Peak Peri	iod	PM Peak Period			
Tuonait	Varios	In	Out	Total	In	Out	Total	
Transit	Varies	11	29	40	17	13	30	

The proposed development is anticipated to generate an additional 40 AM peak hour transit trips and 30 PM peak hour transit trips. Of these trips, 29 outbound AM trips and 17 inbound PM trips are anticipated. From the trip distribution found in Section 5.2, these values can be further broken down.



Site-generated outbound AM trips break down to four trips to the north, nine trips to the south, 15 trips to the east, and one trip to the west. Site-generated inbound PM trips break down to three trips to the north, five trips to the south, eight trips to the east, and one trip to the west.

It is recommended that future transit service include the routing of at minimum a local route with half-hour service, and potentially include a Connexion route, along Campeau Drive connecting to Terry Fox Station. Such routes would service the many residential developments east of Huntmar Drive and provide connection to the developing retail areas west of Terry Fox Drive along Campeau Drive

13.2 Transit Priority

No transit priority is required explicitly for this study.

14 Network Concept

The subject development is in line with the intended context set by the Development Reserve zoning for the subject parcel. No future network changes are required to support the subject development, and the subject development will be making use of the existing infrastructure of the newly extended Campeau Drive.

15 Network Intersection Design

15.1 Network Intersection Control

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

15.2 Network Intersection Design

15.2.1 2025 Future Total Network Intersection Operations

The 2025 future total network intersection operations are summarized below in Table 17. The level of service for signalized intersections is based on HCM 2010 v/c calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection. Synchro 11 has been used to model the signalized intersections and Sidra 8 to model the study area roundabout. The Synchro and Sidra worksheets have been provided in Appendix H.

Table 17: 2025 Future Total Network Intersection Operations

Intersection	Lane		AM Pea	ak Hour			PM Pea	ak Hour	
intersection	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)
	EB	Α	0.09	7.2	1.7	Α	0.25	8.1	5.2
Huntmar Drive at	WB	Α	0.19	8.3	3.6	Α	0.21	9.6	4.0
Campeau Dive	NB	Α	0.40	2.7	10.4	Α	0.52	4.3	16.0
Roundabout	SB	Α	0.20	2.8	4.3	Α	0.29	3.1	6.7
	Overall	Α	0.40	4.4	10.4	Α	0.52	5.3	16.0
	EB	Α	0.05	6.1	1.3	Α	0.15	6.8	4.1
Country Glen Way	WB	Α	0.04	4.0	0.8	Α	0.07	4.5	1.2
at Campeau Dive	NB	Α	0.02	1.6	0.4	Α	0.02	2.0	0.4
Roundabout	SB	Α	0.16	0.4	3.0	Α	0.10	0.6	1.8
	Overall	Α	0.16	3.0	3.0	Α	0.15	4.8	4.1
Winterest Dead at	EB	Α	0.05	4.4	0.8	Α	0.06	5.7	1.1
Winterset Road at Campeau Dive Roundabout	WB	Α	0.02	3.7	0.4	Α	0.07	3.8	1.2
	SB	Α	0.07	1.0	1.1	Α	0.05	1.1	0.8
Roundabout	Overall	Α	0.07	2.8	1.1	Α	0.07	3.9	1.2



1			AM Pe	ak Hour			PM Pe	ak Hour	Q (95 th) 35.5 16.5 82.8 17.0 71.3			
Kanata Avenue Signalized Terry Fox Drive at Signature C Signalized	Lane	LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)			
	WBL	В	0.63	42.8	44.6	Α	0.56	42.0	35.5			
	WBR	В	0.66	11.2	24.8	Α	0.44	11.1	16.5			
Terry Fox Drive at	NBT	Α	0.50	22.6	81.3	Α	0.53	21.4	82.8			
Kanata Avenue	NBR	Α	0.24	4.4	13.5	Α	0.41	4.0	17.0			
Signalized	SBL	С	0.74	47.4	71.9	С	0.73	45.5	71.3			
	SBT	Α	0.22	5.2	24.9	Α	0.34	5.1	35.9			
	Overall	Α	0.59	21.2	-	Α	0.59	17.9	-			
	EB	Α	-	-	-	Α	-	-	-			
	WBL/T	Α	0.04	33.4	5.6	Α	0.15	34.9	20.3			
_	WBR	Α	0.08	9.9	6.1	Α	0.23	7.4	13.6			
	NBL	Α	-	-	-	Α	0.07	5.1	m0.7			
	NBT/R	Α	0.42	14.0	100.8	Α	0.53	15.8	130.1			
	SBL	Α	0.09	8.0	5.9	Α	0.36	16.7	20.7			
	SBT/R	Α	0.39	9.7	51.9	Α	0.48	13.3	77.6			
	Overall	Α	0.32	11.9	-	Α	0.42	14.7	-			
	EBL	Α	0.19	29.1	18.4	Α	0.34	37.5	31.1			
	EBT	Α	0.10	27.2	14.8	Α	0.23	34.6	29.7			
	EBR	Α	0.24	5.9	11.2	Α	0.33	6.3	14.3			
	WBL	С	0.79	54.0	70.9	D	0.82	62.3	76.3			
	WBT	Α	0.09	26.9	13.1	Α	0.26	35.2	31.8			
Terry Fox Drive at	WBR	Α	0.16	3.1	5.2	Α	0.25	6.6	12.0			
Campeau Drive	NBL	Α	0.19	12.1	16.9	Α	0.33	12.8	23.4			
Signalized	NBT	Α	0.46	22.5	85.6	Α	0.51	23.7	109.8			
	NBR	Α	0.22	4.4	13.8	Α	0.23	4.3	15.3			
	SBL	Α	0.25	26.9	33.9	Α	0.44	27.1	52.2			
	SBT	Α	0.39	42.2	94.8	Α	0.47	39.6	113.1			
	SBR	Α	0.09	18.4	15.5	Α	0.11	18.7	20.2			
	Overall	Α	0.55	28.6	-	Α	0.59	29.1	-			

Notes:

Saturation flow rate of 1800 veh/h/lane

PHF = 1.00

m = metered queue

= queue exceeds storage or mid-block length

The network intersection operations for the 2025 future total horizon are anticipated to operate similarly to the 2025 background condition.

15.2.2 2030 Future Total Network Intersection Operations

The 2030 future total network intersection operations are summarized below in Table 18. The level of service for signalized intersections is based on HCM 2010 v/c calculations for individual lane movements and HCM 2000 v/c calculations for the overall intersection. Synchro 11 has been used to model the signalized intersections and Sidra 8 to model the study area roundabout. The Synchro and Sidra worksheets have been provided in Appendix I.

Table 18: 2030 Future Total Network Intersection Operations

Intersection	Lane		AM Pea	ak Hour		PM Peak Hour				
		LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)	
	EB	Α	0.09	7.3	1.8	Α	0.26	8.3	5.6	
Huntmar Drive at	WB	Α	0.19	8.4	3.7	Α	0.21	9.8	4.2	
Campeau Dive	NB	Α	0.45	2.7	12.3	Α	0.57	4.6	19.5	
Roundabout	SB	Α	0.22	2.9	4.8	Α	0.32	3.1	7/6	
	Overall	Α	0.45	4.3	12.3	Α	0.57	5.4	19.5	



Intersection	Lane		AM Pe	ak Hour		PM Peak Hour					
		LOS	V/C	Delay	Q (95 th)	LOS	V/C	Delay	Q (95 th)		
Country Glen Way at Campeau Dive Roundabout	EB	Α	0.06	5.8	1.5	Α	0.16	6.4	4.3		
	WB	Α	0.04	4.0	0.8	Α	0.07	4.5	1.2		
	NB	Α	0.02	1.7	0.4	Α	0.02	2.1	0.4		
	SB	Α	0.16	0.6	3.0	Α	0.10	0.6	1.8		
	Overall	Α	0.16	3.0	3.0	Α	0.16	4.8	4.3		
	EB	Α	0.05	4.4	0.9	Α	0.06	5.7	1.1		
Winterset Road at	WB	Α	0.02	3.7	0.4	Α	0.07	3.8	1.2		
Campeau Dive	SB	Α	0.07	1.0	1.1	Α	0.05	1.1	0.8		
Roundabout	Overall	A	0.07	2.8	1.1	A	0.07	3.9	1.2		
	WBL	В	0.63	42.8	44.6	A	0.56	42.0	35.5		
Terry Fox Drive at Kanata Avenue Signalized	WBR	В	0.66	11.2	24.8	A	0.44	11.1	16.5		
	NBT	A	0.54	23.3	89.4	A	0.59	22.6	95.5		
	NBR	A	0.24	4.4	13.5	A	0.41	4.0	17.0		
	SBL	C	0.74	47.4	71.9	C	0.73	45.5	71.3		
	SBT	A	0.25	5.4	28.3	A	0.37	5.3	40.0		
	Overall	В	0.61	21.1	-	В	0.62	18.1	-		
Terry Fox Drive at Signature C Signalized	EB	Α	-	-	-	Α	-	-	_		
	WBL/T	Α	0.04	33.4	5.6	Α	0.15	34.9	20.3		
	WBR	Α	0.08	9.9	6.1	Α	0.24	10.9	17.3		
	NBL	Α	-	-	-	Α	0.08	4.7	m0.4		
	NBT/R	Α	0.45	14.7	112.8	Α	0.59	16.8	155.8		
	SBL	Α	0.10	8.2	6.0	Α	0.44	20.9	24.2		
	SBT/R	Α	0.44	10.2	60.8	Α	0.53	13.9	87.2		
	Overall	Α	0.34	12.4	-	Α	0.46	15.8	-		
Terry Fox Drive at Campeau Drive Signalized	EBL	Α	0.18	29.0	17.9	Α	0.33	37.3	30.5		
	EBT	Α	0.11	27.3	15.1	Α	0.24	34.8	31.2		
	EBR	Α	0.24	6.0	11.2	Α	0.32	6.3	14.0		
	WBL	С	0.80	54.1	70.9	D	0.82	62.4	76.2		
	WBT	Α	0.10	27.0	13.7	Α	0.27	35.3	33.2		
	WBR	Α	0.16	3.1	5.2	Α	0.25	6.6	12.0		
	NBL	Α	0.21	12.3	16.9	Α	0.36	13.5	23.5		
	NBT	Α	0.50	23.3	95.3	Α	0.58	25.7	130.5		
	NBR	Α	0.22	4.4	13.8	Α	0.24	6.0	19.4		
	SBL	Α	0.27	26.8	34.3	Α	0.49	28.9	53.7		
	SBT	Α	0.44	43.3	105.4	Α	0.52	41.4	123.3		
	SBR	Α	0.09	18.1	15.6	Α	0.11	18.9	20.7		
	Overall	Α	0.58	29.5	-	В	0.64	30.5	-		

PHF = 1.00

= queue exceeds storage or mid-block length

The network intersection operations for the 2030 future total horizon are anticipated to operate similarly to the 2030 background condition.

15.2.3 Network Intersection MMLOS

Table 19 summarizes the MMLOS analysis for the network intersections of Terry Fox Drive at Kanata Avenue, Terry Fox Drive at Signature C, and Terry Fox Drive at Campeau Drive. The existing and future conditions for both intersections will be the same and are considered in one row. The Terry Fox Drive at Campeau Drive intersection analysis is based on the land use designation of "Mixed Use Centre" and "General Urban Area", and other



intersections are based on the land use designation of "General Urban Area". The MMLOS worksheets have been provided in Appendix G.

Table 19: Study Area Intersection MMLOS Analysis

Intersection	Pedestrian LOS		Bicycle LOS		Transit LOS		Truck LOS		Auto LOS	
	PLOS	Target	BLOS	Target	TLOS	Target	TrLOS	Target	ALOS	Target
Terry Fox Drive at Kanata Avenue	F	С	F	В	N/A	N/A	N/A	N/A	В	D
Terry Fox Drive at Signature C	F	С	F	С	N/A	N/A	N/A	N/A	Α	D
Terry Fox Drive at Campeau Drive	F	С	F	А	N/A	N/A	N/A	N/A	В	D

The pedestrian LOS will not be met at the intersections throughout the study area. To meet pedestrian LOS targets, the maximum crossing distance on all pedestrian crossings would need to be reduced to three-lane widths.

The bicycle transit LOS will not be met at the intersection throughout the study area. To meet bicycle LOS at the intersections, the left-turn configurations would need to be two-stage or include turn boxes, and dedicated facilities would be required at the intersections.

15.2.4 Recommended Design Elements

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

16 Summary of Improvements Indicated and Modifications Options

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

Proposed Site and Screening

- The proposed site includes 62 single detached units and 162 townhome units
- Accesses are proposed onto Winterset Road via two full-movements accesses
- The development is proposed to be completed as a single phase by 2025
- The trip generation and safety triggers were met for the TIA Screening

Existing Conditions

- Huntmar Drive, Campeau Drive, and Terry Fox Drive are arterial roads, and Kanata Avenue is a major collector road in the study area
- Sidewalks are provided or planned on the east side of Terry Fox Drive, and on both sides of Country Glen Way, Campeau Drive and Huntmar Drive
- Bike lanes are presented on both sides of Kanata Avenue and Terry Fox Drive north of Campeau Drive
- Cycletracks are present on Campeau Drive and Huntmar Drive near Campeau Drive
- Huntmar Drive south of Campeau Drive, Campeau Drive east of Huntmar Drive, and Terry Fox Drive are spine routes. Huntmar Drive north of Campeau Drive is a local route. Pathways are present along Carp River north of Campeau Drive. Terry Fox Drive south of Campeau Drive is a cross-town bikeway.
- The high volumes roadways have produced a high number of collisions at the study area intersections, primarily at the Campeau Drive at Huntmar Drive intersection, which has 83% of the collisions within the study area
- No collision is within the study area from 2015 to 2019



Development Generated Travel Demand

- The proposed development is forecasted to produce 174 two-way people trips during the AM peak hour and 181 two-way people trips during the PM peak hour
- Of the forecasted people trips, 86 two-way trips will be vehicle trips during the AM peak hour and 104 two-way trips will be vehicle trips during the PM peak
- Of the forecasted trips, 15% are anticipated to travel north, 30% to the south, 50% to the east, and 5% to the west

Background Conditions

- The Campeau Drive extension was completed in the fall of 2021, and a resultant redistribution of area traffic will be applied to future horizons
- The background growth rates derived from the two TRANS model horizons and to the appropriate roadway's mainline volumes and to the appropriate major turning movements at the intersections
- The intersections at the 2030 future background condition are anticipated to operate similarly to the 2025 background conditions

Development Design

- The bike and auto parking areas are to be located at each dwelling unit
- Pedestrian connections will be made to Winterset Road
- The conceptual traffic calming elements are recommended at the future internal road intersections including bulb-outs and speed humps

Boundary Street Design

• Campeau Drive and Winterset Road meet the pedestrian and cycling MMLOS targets

Access Intersections Design

- The site will access Winterset Road via two full-movement accesses
- The site accesses will have stop-control on the minor approach
- The 2025 and 2030 future total access intersection operates satisfactorily

TDM

- Supportive TDM measures to be included within the proposed development should include:
 - o Provide a multimodal travel option information package to new residents

NTM

The site is anticipated to generate approximately 86 and 104 two-way vehicle trips during the AM and PM
peak hours, respectively accessing Winterset Road, and this volume increase is not considered a significant
impact on Winterset Road or require any traffic management

Transit

- 29 outbound AM trips and 17 inbound PM trips are anticipated from the development
- It is recommended that future transit service include the routing of at minimum a local route with halfhour service, and potentially include a Connexion route, along Campeau Drive connecting to Terry Fox Station to service area residential and commercial development



No transit priority is required explicitly for this study

Network Concept

• No future network changes are required to support the subject development, and the subject development will be making use of the existing infrastructure of the newly extended Campeau Drive

Network Intersection Design

- Generally, the network intersections operating at the future total horizons will operate similarly to the future background conditions
- The pedestrian LOS will not be met at the intersections throughout the study area, which require crossing distances to be reduced to equal or less than three-lane widths
- The bicycle transit LOS will not be met at the intersections throughout the study area, which are limited by the lack of dedicated facilities and improved left-turn configurations

17 Conclusion

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

Prepared By:

Reviewed By:

A. J. HARTE 100149314
Dec. 13, 2021

Yu-Chu Chen, B.Eng. Andrew Harte, P.Eng.

Transportation Planner Senior Transportation Engineer



Appendix A

TIA Screening Form and PM Certification Form





City of Ottawa 2017 TIA Guidelines Step 1 - Screening Form Date: 24-Sep-21
Project Number: 2021-098
Project Reference: Arcadia Stage 5

1.1 Description of Proposed Development	
Municipal Address	570 Winterset Road
Description of Location	Ward 4. Northeastcorner of the Winterset
Description of Location	Road/Donum Lane and Campeau Drive roundabout
Land Use Classification	Development Reserve Zone (DR(1932))
Development Size	62 single detached units and 162 townhome units
Accesses	Two accesses onto Winterset Road
Phase of Development	Single Phase
Buildout Year	2025
TIA Requirement	Full TIA Required

1.2 Trip Generation Trigger	
Land Use Type	Townhomes or apartments
Development Size	224 Units
Trip Generation Trigger	Yes

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

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



TIA Plan Reports

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

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

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

CERTIFICATION

- 1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
- 2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
- 3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
- 4. I am either a licensed¹ or registered² professional in good standing, whose field of expertise [check $\sqrt{\text{appropriate field(s)}}$] is either transportation engineering $\sqrt{\text{or}}$ or transportation planning \square .
- License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

Dated at Ottawa (City)	this 20 day of September	, 2018
Name:	Andrew Harte (Please Print)	_
Professional Title:	Professional Engineer	
Signature	of Individual certifier that s/he meets the above four criteria	

Office Contact Information (Please Print)
Address: 13 Markham Avenue
City / Postal Code: Ottawa / K2G 3Z1
Telephone / Extension: (613) 697-3797
E-Mail Address: Andrew.Harte@CGHTransportation.com



Appendix B

Turning Movement Counts



Turning Movement Count Summary, AM and PM Peak Hour Flow Diagrams

Campeau Drive & Huntmar Drive (ROUNDABOUT)

Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses Kanata, ON

Tuesday, 28 May 2019 0700-0900 & 1600-1800

Hour Survey City of Ottawa Ward ▶

1599

(A) 1552

Huntmar Dr.

Campeau Dr

630

1326

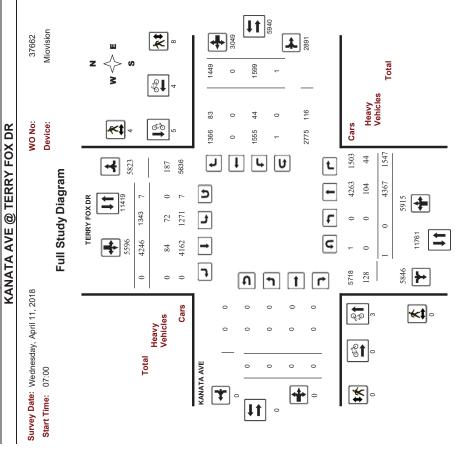
(Except Bicycles & Electric Scooters) All Vehicles

3151



Transportation Services - Traffic Services

Turning Movement Count - Study Results



18e

All Pedestrian Crossings

397

Approaching Intersection

(A+B+C+D)

696 449 86

969

Fotal Volume 3836

(D) 211

Roundabout

Campeau Dr.



September 1, 2021

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(D) 58

15

(A) 493

Huntmar Dr.

Campeau Dr. 133

Total

1377 (c)

1421

Huntmar Dr.

2798

Campeau Dr.

267 (B)

59

240 107

(C) 450

Huntmar Dr.

(C) 351

Huntmar Dr.

Flow Diagrams: AM PM Peak

Prepared by: thetrafficspecialist@gmail.com

Printed on: 5/30/2019



Turning Movement Count - Study Results KANATA AVE @ TERRY FOX DR

37662 Miovision	S S S S S S S S S S S S S S S S S S S
WO No: Device: ram	Cars Cars Vehial
ull Study Peak Hour Diag	TERRY FOX DR 1
Survey Date: Wednesday, April 11, 2018 Start Time: 07:00 F	Total Heavy Vehicles Cars Cars Cars O O O O O O O O O O O O O

Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram KANATA AVE @ TERRY FOX DR

WO No: 37662 Device: Miovision	z		314 23 337	0 0 00 00 00 00 00 00 00 00 00 00 00 00		397 25 422		Cars	Heavy Vehicles	Total
	951	— 41 910	_ •	1	L	P	Ł	596 160	18 9	
	ERRY FOX DI	15 16 0 448 237 0	1 1	7 2 2	Peak Hour 07:45 08:45		₽	0 0 26	0 0	1566
11, 2018		0 0	ָר י	U	1	1	<u>-</u>	757	26	783
Survey Date: Wednesday, April 11, 2018 Start Time: 07:00		Heavy Vehicles Cars	l	0 0	0		0	_	•	*
			KANATA AVE	— <u> </u>	0	0 0	_	1	°	

Comments

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September 1, 2021



Turning Movement Count - Peak Hour Diagram

KANATA AVE @ TERRY FOX DR

Miovision

37662

WO No: Device:

Survey Date: Wednesday, April 11, 2018

Start Time: 07:00

11 8 *****0 256 4 108 138 0 **₽**↓∘ 3 13 ₫\ **→** Cars **(<t**) -243 132 0 162 156 U Ł <u>اة</u> و 4 687 580 12 592 <u>ح</u> 1281 **TERRY FOX DR** 754 **MD Period** 12:30 13:30 Peak Hour Ł 94 0 1377 **+** Ç **♣** 888 485 474 Ξ ٦ **€**23 0 ก **L** 909 17 Cars ***** Heavy Vehicles **€ %1** -KANATA AVE 0 0 4 ***** *



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram KANATA AVE @ TERRY FOX DR 37662

11 & Miovision *** ♣** 38 1 599 146 216 **₫**↓∘ ≥ Device: WO No: ₫ **Ŏ** Cars **(<1**) -265 142 334 335 T U **₹** 802 962 653 655 <u>ح</u> د **+** 066 TERRY FOX DR 17:00 18:00 PM Period Peak Hour 263 Ł 264 0 0 0 **±** Ç 1893 **♣** 327 289 684 0 0 7 Survey Date: Wednesday, April 11, 2018 **}** 895 រា ۴ 903 Cars **€**\$0 **<**\$\circ\$ \circ\$ Heavy Vehicles **%1** -Start Time: 07:00 KANATA AVE ***** 4 ***** 0

Comments

Comments

2021-Sep-01

2021-Sep-01 Page 2 of 3

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Turning Movement Count - Study Results KANATA AVE @ TERRY FOX DR

Start Time: Survey Date:	02:00											i			Micvi	Miovision		
ırvey Date:											Device:				Š	5		
irvey Date:			ш	SIN	tudy	Sul	mma	Full Study Summary (8 HR Standard)	H K	Stan	Idarc	=						
		Wednesday, April 11, 2018	April 1	1, 201	80		_	Total Observed U-Turns	serve	J-Op	nrns					AADT	AADT Factor	L
						ž	Northbound:	d: 1		Southbound:	:puno	7			•	.90		
						ш	Eastbound:	0 ;;		Westbound:	:puno	_						
ļ		TERF	TERRY FOX DR	K DR			ı				KAN/	KANATA AVE	١٧E					
~	Northbound	pur		Sol	Southbound	Р			Ea	Eastbound			Wes	Westbound				
Period LT	TS 1	RT	TOT	П	ST	RT	SB	STR TOT	П	ST	RT 1	T0T	LT	ST	RT	WB	STR	Grand Total
07:00 08:00 0	365	123	488	218	410	0	628	1116	0	0	0	0	242	0	209	451	451	1567
0 00:60 00:80	641	166	807	220	463	0	683	1490	0	0	0	0	306	0	336	642	642	2132
09:00 10:00 0	0 462	35	224	93	444	0	537	1091	0	0	0	0	190	0	230	420	420	1511
11:30 12:30 0	469	141	610	106	222	0	993	1273	0	0	0	0	129	0	89	197	197	1470
12:30 13:30 0	0 592	162	754	\$	485	0	223	1333	0	0	0	0	138	0	108	246	246	1579
15:00 16:00 0	0 575	234	808	136	477	0	613	1422	0	0	0	0	186	0	155	341	341	1763
16:00 17:00 0	809 (294	902	212	723	0	935	1837	0	0	0	0	192	0	197	389	389	2226
7:00 18:00 0	(655	335	066	264	289	0	951	1941	0	0	0	0	216	0	146	362	362	2303
Sub Total 0	0 4367	1547	5914	1343	4246	0	5589	11503	0	0	0	0	1599	0	1449	3048	3048	14551
U Turns			1	7			7	8	0			0	1			1	1	6
Total 1	4367	1547	5915	1350	4246	0	5596	11511	0	0	0	0	1600	0	1449	3049	3049	14560
EQ 12Hr 1 6070 2150 8221 1876 5902 0 7778 15999 0 Vote: These values are calculated by multiplying the totals by the appropriate expansion factor	l 6070 s are calcul	2150 ulated by	8221 / multiply	1876 ing the t	5902 totals by t	0 the app	7778 propriate	15999 expansio	0 on factor.	0	0	0	2224	0	2014	4238	4238	20237
AVG 12Hr 1 5463 1935 7389 1688 5312 0 7000 14399 0 0 Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.	l 5463 es are cal	1935 Iculated b	7399 by multip	1688 olying the	5312 e Equival	0 ent 12	7000 hr. totals	14399 s by the A	0 VADT fac	0 stor.	0	0	2002	0	1813	3815	3815	18214
AVG 24Hr 1	7157	2535	9693	2211	69 29	0	9170	18863	0	0	0	0	2623	0	2375	4998	4998	23861
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.	es are cal	culated I	by multip	lying the	e Average	9 Daily	12 hr. to	tals by 1.	2 to 24 €	expansic	on factor		1.31					

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September 1, 2021

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Transportation Services - Traffic Services

Turning Movement Count - Study Results KANATA AVE @ TERRY FOX DR

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				Grand Total	281	297	448	542	579	497	538	518	489	388	324	312	335	392	384	359	396	390	424	370	395	442	440	488	538	570	560	260	570	599	260	575
	Miovision			STR	7.1	90	113	177	172	162	146	162	170	98	72	80	45	53	54	45	26	29	52	62	89	7.1	107	96	82	92	114	86	86	82	91	ò
:	Ĭ			× To	71	06	113	177	172	162	146	162	170	86	72	80	45	53	54	45	99	29	52	6/	89	71	107	96	82	92	114	86	86	82	91	2
			ρι	R	22	31	51	105	8	29	81	104	92	52	40	43	14	21	16	17	23	28	24	33	22	28	42	09	37	46	92	49	46	39	22	ć
		S	Westbound	ST	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	٠
	Device:	nent AVE	>	5	49	29	62	72	88	92	92	28	22	46	32	37	31	32	38	28	33	31	28	46	46	43	62	36	45	49	49	49	25	43	99	
•	De	Increment KANATA AVE		□ [2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	٥
		Full Study 15 Minute Increments KANATA AVE		R	0	Н	0	0	0	0	0	0	0	0	0	Н	0	0	0	0	0	0	0	0	0	0	0	Н	0	0	0	0	0	0	0	٥
		linut	Eastbound	ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	H	0	0	0	0	0	0	0	٥
		15 №		۳.	0	0 4	2 0	2 0	0 2	0	0	0	0	0	2 0	2 0	0	0	0	0	0	0	0	1	0 4	0	3	2 0	0 9	2 0	0 9	0	0	0 4	0	,
		, Sp		STR T TOT	124 210	118 207	178 335	3 92	4 407	3 335	160 392	176 356	160 319	1 290	Н	7 232	1 290	184 339	195 330	3 314	Н	1 331	3 372	Н	135 327	0 371	2 333	7 392	3 456	2 475	2 446	9 462	2 472	5 517	7 469	, 0,0
		Stu		RT S	0 12	Н	0 17	0 209	0 204	0 143	0 16	0 17	0 16	0 131	141	107	0 151	Н	0 19	0 133	0 149	0 151	0 163	0 117	0 13	0 160	0 142	0 177	0 223	0 252	0 212	0 249	0 232	0 265	0 217	0
		Ful	Southbound	ST) 96	Н	105 (118 (114 (110 (121 (118 (125 (105 (117 () /6	128 (155 (162 (112 (Ш	Ш	139 (102 (110 (118 (114 (135 (183 (195 (160 (185 (170 (201 (155 (Ļ
		R	South	5	28 6	27 5	73 1	91 1	90 1	33 1	39 13	58 1	35 13	26 10	1 1	10 8	23 13	29 1	33 1	21 1	27 1:	29 13	24 1:	15 1	25 1	42 1	1 1	42 1:	40 1	57 19	52 1	64 1	62 1	64 2	62 1	7.7
		FÖX		_ ≥p	. 98	89	157	156	203	192	232	180	159	159	111	125	139	155	135	181	ш	Ш	209	174	192	211 4	191	215	233	223	234	213 (240 (252 (252 (L
		TERRY FOX DR	Б	F.	24	27	41	31	52	Н	20	Н	50	. 27	. 22	Н	40	Н	30	38	41	45	40	39	46	71	48	99	92	75	74	80	92	Н	83	t
2	00:70	-	Northbound	ST	62	62	116	125	151	156	182	152	139	132	98	105	66	122	105	143	150	138	169	135	143	140	143	149	168	148	159	133	175	162	169	440
			ž	5	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	1	0	0	0	0	,
F	start Ime:			Time Period	07:15	07:30	07:45	08:00	08:15	08:30	08:45	00:60	09:15	06:30	09:45	10:00	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	40.00
,	Star			Time	00:20	07:15	02:20	07:45	08:00	08:15	08:30	08:45	00:60	09:15	09:30	09:45	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	47.4E

Note: U-Turns are included in Totals.



Turning Movement Count - Study Results KANATA AVE @ TERRY FOX DR

Miovision 37662 WO No: Device: Survey Date: Wednesday, April 11, 2018 Start Time: 07:00

Full Study Cyclist Volume

TERRY FOX DR

Grand Total	0	0	4	0	0	0	0	0	1	1	,	0	,	0	0	,	0	0	0	,	0	0	0	0	0	0	0	0	0	2	0	0	12
Street Total	0	0	1	0	0	0	0	0	1	1	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Westbound	0	0	-	0	0	0	0	0	1	٢	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Eastbound	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	О
Street Total	0	0	3	0	0	0	0	0	0	0	-	0	0	0	0	-	0	0	0	-	0	0	0	0	0	0	0	0	0	2	0	0	80
Southbound	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	22
Northbound	0	0	-	0	0	0	0	0	0	0	-	0	0	0			0	0	0	0		0	0	0	0	0	0	0	0	1	0	0	3
Time Period	07:00 07:15	07:15 07:30	07:30 07:45	07:45 08:00	08:00 08:15	08:15 08:30	08:30 08:45	08:45 09:00	09:00	09:15 09:30	09:45	09:45 10:00	11:30 11:45	11:45 12:00	12:15	12:30	2:30 12:45	2:45 13:00	13:15	13:30	15:15	5:15 15:30	5:30 15:45	15:45 16:00	16:15	16:15 16:30	16:30 16:45	16:45 17:00	17:15	17:30	17:45	17:45 18:00	
Time	02:00	07:15	07:30	07:45	08:00	08:15	08:30	08:45	00:60	09:15	08:30	09:45	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	Total



Transportation Services - Traffic Services

Turning Movement Count - Study Results KANATA AVE @ TERRY FOX DR

T 4	. 04.00	00.20					
Start lime: 07:00	00:70	1			Device:		Miovision
		Fu TERRY FOX DR	III Stud	Full Study Pedestrian Volume	η Volume Kanata ave		
Time Period (I	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	0	0	0	0	0	0
07:45 08:00	0	0	0	0	0	0	0
08:00 08:15	0	0	0	0	0	0	0
08:15 08:30	0	0	0	0	0	0	0
08:30 08:45	0	0	0	0	0	0	0
08:45 09:00	0	0	0	0	0	0	0
09:00 09:15	0	0	0	0	0	0	0
09:15 09:30	0	2	2	0	0	0	2
09:30 09:45	0	-	-	0	-	-	2
09:45 10:00	0	0	0	0	0	0	0
11:30 11:45	0	0	0	0	0	0	0
11:45 12:00	0	0	0	0	0	0	0
12:00 12:15	0	0	0	0	0	0	0
12:15 12:30	0	0	0	0	0	0	0
12:30 12:45	0	0	0	0	0	0	0
12:45 13:00	0	0	0	0	0	0	0
13:00 13:15	0	0	0	0	0	0	0
13:15 13:30	0	0	0	0	0	0	0
15:00 15:15	0	0	0	0	0	0	0
15:15 15:30	0	0	0	0	0	0	0
15:30 15:45	0	0	0	0	0	0	0
15:45 16:00	0	0	0	0	0	0	0
16:00 16:15	0	0	0	0	_	-	-
16:15 16:30	0	0	0	0	0	0	0
16:30 16:45	0	_	-	0	2	2	က
16:45 17:00	0	0	0	0	-	-	-
17:00 17:15	0	0	0	0	-	-	-
17:15 17:30	0	0	0	0	2	2	2
17:30 17:45	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	0	0	0
Total	0	4	4	0	80	8	12



Turning Movement Count - Study Results KANATA AVE @ TERRY FOX DR

Miovision 37662 Device: WO No: Survey Date: Wednesday, April 11, 2018 Start Time: 07:00

Full Study Heavy Vehicles KANATA AVE

TERRY FOX DR

		Grand Total	14	11	37	35	17	15	25	31	30	11	7	9	2	12	7	9	12	6	8	15	8	18	18	10	18	12	11	7	3	2	4	4
		STR	1	1	2	19	8	2	2	12	11	1	2	1	0	3	1	0	1	1	3	3	0	2	10	7	6	4	2	-	3	2	2	2
		W TOT	1	-	2	19	8	2	5	12	11	1	2	1	0	3	1	0	1	1	3	3	0	2	10	7	6	4	2	-	3	2	2	2
	ъ	RT	1	0	1	12	9	2	3	11	7	0	1	0	0	2	1	0	0	0	2	0	0	2	10	7	5	3	3	0	1	-	-	-
	Westbound	ST	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
۱ ۱	We	L	0	-	1	7	2	0	2	_	4	-	-	-	0	1	0	0	1	1	-	3	0	3	0	0	4	1	2	-	2	-	-	1
VANA IA AVE		T0T	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
Ž	-	RT	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
	Eastbound	ST	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
	Ea	LT	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
		STR	13	10	35	16	6	13	20	19	19	10	2	2	2	6	9	9	11	8	2	12	8	13	8	3	6	8	9	9	0	3	2	2
		STOT	6	9	21	13	2	2	11	12	10	2	2	1	1	1	3	2	2	3	1	6	4	9	9	-	4	9	0	3	0	3	0	-
	ъ	RT	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
	Southbound	ST	9	2	9	4	4	1	9	2	10	4	2	1	0	1	2	2	2	2	0	7	2	3	3	-	1	9	0	_	0	2	0	-
צ	Sou	LT	3	4	15	6	1	_	2	10	0	-	0	0	-	0	_	0	3	_	-	2	2	3	3	0	3	0	0	2	0	-	0	0
5		N TOT	4	4	14	3	4	11	6	7	6	2	3	4	4	8	3	4	9	2	4	3	4	7	2	2	2	2	9	3	0	0	2	1
ERRI FOX DR	P	RT	2	2	2	0	2	2	5	_	2	1	1	0	1	1	0	0	2	1	2	1	_	2	_	0	3	1	2	2	0	0	-	0
_	Northbound	ST	2	2	6	3	2	6	4	9	7	4	2	4	3	7	3	4	4	4	2	2	က	2	-	2	2	1	4	-	0	0	-	-
	S	LT	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
		eriod	07:15	02:30	07:45	08:00	08:15	08:30	08:45	00:60	09:15	06:30	09:45	10:00	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00
		Time Period	02:00	07:15	02:20	07:45 (08:00	08:15 (08:30	08:45 (00:60	09:15 (06:60	09:45	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45

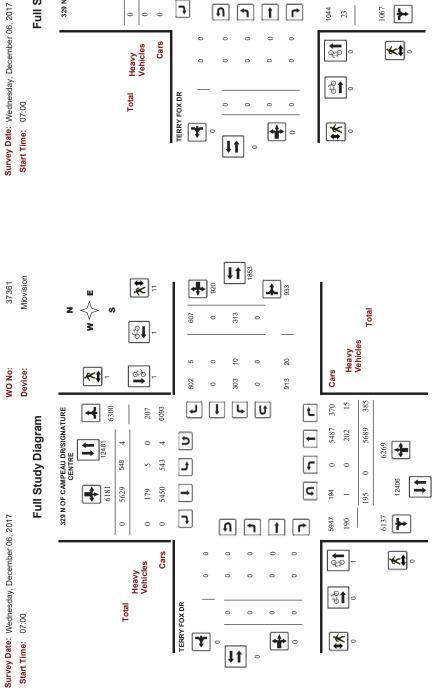


Transportation Services - Traffic Services

Turning Movement Count - Study Results KANATA AVE @ TERRY FOX DR

Survey Date:	Survey Date: Wednesday, April 11, 2018	11, 2018		W	WO No:	37662
Start Time:	07:00			De	Device:	Miovision
		Full Study TERRY FOX DR	Full Study 15 Minute U-Turn Total RRY FOX DR	ute U-Turn	ırn Total KANATA AVE	
	Time Period	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
	07:00 07:15	0	0	0	0	0
	07:15 07:30	0	-	0	0	1
	07:30 07:45	0	0	0	0	0
	07:45 08:00	0	0	0	0	0
	08:00 08:15	0	0	0	0	0
	08:15 08:30	0	0	0	0	0
	08:30 08:45	0	0	0	0	0
	08:45 09:00	0	0	0	0	0
	09:00 09:15	0	1	0	0	1
	09:15 09:30	0	0	0	0	0
	09:30 09:45	0	0	0	0	0
	09:45 10:00	0	1	0	0	1
	11:30 11:45	0	0	0	0	0
	11:45 12:00	0	0	0	0	0
	12:00 12:15	0	0	0	0	0
	12:15 12:30	0	0	0	0	0
	12:30 12:45	0	0	0	0	0
	12:45 13:00	0	1	0	0	1
	13:00 13:15	0	0	0	0	0
	13:15 13:30	0	0	0	0	0
	15:00 15:15	0	1	0	1	2
	15:15 15:30	0	0	0	0	0
	15:30 15:45	0	0	0	0	0
	15:45 16:00	0	0	0	0	0
	16:00 16:15	0	0	0	0	0
	16:15 16:30	0	0	0	0	0
	16:30 16:45	-	-	0	0	2
	16:45 17:00	0	0	0	0	0
	17:00 17:15	0	1	0	0	1
	17:15 17:30	0	0	0	0	0
	17:30 17:45	0	0	0	0	0
	17:45 18:00	0	0	0	0	0
	Total	1	7	0	1	6

Turning Movement Count - Study Results TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C





Transportation Services - Traffic Services

Turning Movement Count - Study Results

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Miovision 37361

Device: WO No:

ram	z	₩		D.	113	, ,	o 0			150	Cars	Heavy Vehicles	Total
Full Study Peak Hour Diagram	329 N OF CAMPEAU DR/SIGNATURE CENTRE	1077 1000	0 995 82 0 0 23 0 0 12	0 972 82 0 988)))	- 	Full Study	Hour:	S1:21 S1:91	t t	1044 18 0 875 67	23 0 0 12 1	1067 973
			Total Heavy Vehicles	Cars	TERRY FOX DR	•	· ·	•	0	0 0	[£		€€\$ ○

Page 2 of 8



Turning Movement Count - Peak Hour Diagram

TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

11 **#** Miovision 37361 **1** 25 Total **₽**↓-≥ WO No: Device: Heavy Vehicles ₫\ **→ ***\$ Cars 47 20 1 \$3 \$3 Ţ U 17 329 N OF CAMPEAU DR/SIGNATURE CENTRE 30 805 778 807 <u>د</u> د 29 **+** 1607 § **₹** 08:15 09:15 AM Period Peak Hour Ł 30 0 0 1622 1 G **172** 742 718 24 22 Survey Date: Wednesday, December 06, 2017 **₹** 1 ٢ 747 26 Cars Heavy Vehicles **< Q**.∞ **%1** -Start Time: 07:00 TERRY FOX DR 0 ***** * 11

Comments

2021-Sep-01

Ottawa

Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram
TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

11 8 4 Miovision 37361 **♣** ≅ Z 205 Total 118 **%**I -≥ Device: WO No: <u>ক</u>ঠ Cars **(<t** 118 202 1 Ļ U 78 4 t 725 20 705 329 N OF CAMPEAU DR/SIGNATURE CENTRE 587 209 20 ב **=** 110 Peak Hour 12:00 13:00 **MD** Period Ł £ 124 124 0 0 0 **†** Ç 1407 734 610 582 28 22 0 Survey Date: Wednesday, December 06, 2017 £69 **→** 0 299 4 30 Cars **€ <**\$ Heavy Vehicles Start Time: 07:00 **%** TERRY FOX DR *** *** 11 0

Comments

2021-Sep-01

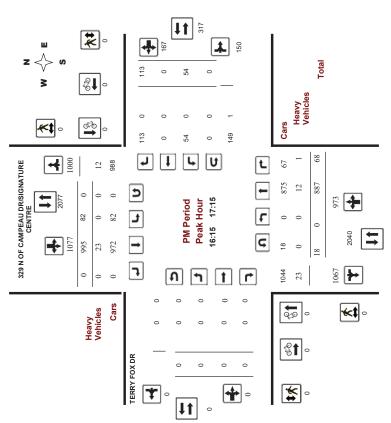
Page 2 of 3



Turning Movement Count - Peak Hour Diagram

TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

Miovision 37361 WO No: Device: Survey Date: Wednesday, December 06, 2017 Start Time: 07:00



Comments

Page 3 of 3

2021-Sep-01



Transportation Services - Traffic Services

Turning Movement Count - Study Results TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

Survey Date: Wednesday, December 06, North East 2017 329 N OF CAMPEAU DR/SIGNATURE CENTRE Northbound Southbound Northbound Northbound Southbound Northbound Southbound Northbound North Northbound N	Full St Wednesday, December 06, 2017 OF CAMPEAU DR/SIGNATUF Vorthbound South T ST RT 10T LT 0 457 5 462 8 0 0 637 31 668 53 10 0 518 79 597 115 0 0 518 79 597 115 0	rsday, nd nd RT RT s s s s s s s s s s s s s s s s s	DECETT DECETT NB TOT 462 834 668 668	ull S aber 06 SNATU Sour	tudy),	ns	mm.	Full Study Summary (8 HR Standard)	HR (Stan	idard)	i 🙃				5		
Survey Date: 329 N O Reind N Period 07:00 08:00 0	Wedne 2017 2017 ST ST 457 819 637 637	PEAU nd RT 5 15 15 72	Decem NB TOT 462 834 668	Sour	ú,	Ž	_		Serve			•						
329 N O N Period LT	F CAMI orthboun ST 819 837 637 637 672	PEAU nd RT 81 15 15 79 72	NB TOT 462 834 668 668	Sour		Ž		Total Observed U-Turns		d U-T	nrns					AADT	AADT Factor	Ŀ
929 N O Reitod LT 07:00 08:00 08:00 09:00	1F CAMI orthboun ST 457 819 837 637 672	DEAU nd RT 5 115 179 779 779	NB TOT 462 834 668 668	SOU		<u> </u>	Northbound:		16	Southbound:	:puno	4			-	8		
229 N O N	1 PF CAMI 3 TThbour 457 819 637 672	nd nd RT 5 5 31 779 779	NB TOT 462 462 834 668	Sou		Ш	Eastbound:	<u>ن</u>		Westbound:	:punc	0			-	3		
	ST 819 819 637 672	K 2 6 7 7	NB 462 834 668	Sou	JRE CE	ENTR	<u>щ</u> [TERRY FOX DR	Y FO;	V DR			ı		
_		RT 15 31 31 72 72	NB 462 462 834 668		Southbound	Р			Eas	Eastbound			×	Westbound				
		5 15 31 79 77	462 834 668	LT	ST	RT	SB	STR	LT	ST	RT	10EB	L	ST	RT .	WB	STR	Grand Total
		31 31 79	834	89	636	0	644	1106	0	0	0	0	-	0	0	-	-	1107
		31	668	56	029	0	969	1530	0	0	0	0	9	0	23	59	53	1559
09:00 10:00 0		72	297	23	989	0	738	1406	0	0	0	0	23	0	24	47	47	1453
11:30 12:30 0	672	72	3	115	949	0	761	1358	0	0	0	0	29	0	E	170	170	1528
12:30 13:30 0			744	짫	525	0	619	1363	0	0	0	0	62	0	119	181	181	1544
15:00 16:00 0	789	25	846	78	282	0	663	1509	0	0	0	0	19	0	107	168	168	1677
16:00 17:00 0	855	09	915	98	946	0	1032	1947	0	0	0	0	09	0	121	181	181	2128
17:00 18:00 0	942	99	1008	88	936	0	1024	2032	0	0	0	0	14	0	102	143	143	2175
Sub Total 0	5689	385	6074	548	5629	0	6177	12251	0	0	0	0	313	0	209	920	920	13171
U Turns 195			195	4			4	199	0			0	0			0	0	199
Total 195	5689	385	6979	552	5629	0	6181	12450	0	0	0	0	313	0	209	920	920	13370
EQ 12Hr 271 7908 535 8714 767 7824 0 8591 47305 0 Noie: These values are calculated by multiplying the totals by the appropriate expansion factor.	7908 are calcul	535 lated by	8714 multiplyi	767 ng the t	7824 otals by	0 the ap	8591 propriate	17305 expansic	0 on factor.	0 .	0	0	435	0	844	1279	1279	18584
AVG 12Hr 271	7908	535	8714	792	7824	0	8591	17305	0	0	0	0	435	0	844	1279	1279	18584
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.	s are calc	ulated t	y multipl	lying the	Equival	ent 12	hr. total	s by the A	ADT fac	tor.		_	1.00					
AVG 24Hr 355	10359	701	11415 1005		10249	0	11254	22669	0	0	0	0	920	0	1106	1676	1676	24345
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.	s are calc	ulated b	y multip	lying the	Averag	e Daily	12 hr. t	otals by 1	2 to 24 e	xpansic	on factor		1.31					

Page 3 of 8 September 1, 2021



Turning Movement Count - Study Results TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

Miovision 37361 WO No: Device: Survey Date: Wednesday, December 06, 2017 Start Time: 07:00

Full Study 15 Minute Increments

W STR Grand Westbound Eastbound S STR 329 N OF CAMPEAU
DR/SIGNATURE CENTRE
Northbound
Southbound

	_							_	_	_	_							_	_				\neg								$\overline{}$	$\overline{}$	
Grand Total	223	248	296	361	358	401	412	406	439	388	323	336	347	402	404	405	411	407	360	394	385	401	456	466	206	578	532	532	575	551	537	530	13,370
TOT	1	0	0	0	3	6	10	7	11	7	13	16	30	52	37	51	47	48	47	33	38	35	40	22	40	43	49	49	56	47	34	36	12450
ĕ₽	1	0	0	0	3	6	10	7	11	7	13	16	30	52	37	21	47	48	47	39	38	32	40	22	40	43	49	49	26	47	34	36	920
Ь	0	0	0	0	1	7	6	9	9	5	5	8	19	35	23	34	31	30	32	26	29	21	25	32	29	31	31	30	21	31	22	28	607
S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1	0	0	0	2	2	1	1	2	2	8	8	11	17	14	17	16	18	15	13	6	14	15	23	11	12	18	19	2	16	12	8	313
<u> </u> 5	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
F	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
ST	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
5	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
TOT	222	248	296	361	355	392	402	399	428	381	310	320	317	350	367	354	364	359	313	355	347	366	416	411	466	535	483	483	549	504	503	494	12450
2 TOT	149	144	168	184	154	197	175	170	230	182	155	Н	175	199	207	181	181	165	129	145	143	167	171	182	233	293	260	246	278	281	236	229	6181
₽.	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
ST	145	143	165	183	147	192	169	162	219	172	144	150	149	172	169	156	152	133	115	125	130	150	148	157	211	275	234	226	260	251	220	205	5629
5	4	1	3	_	7	2	9	8	11	10	11	22	56	27	Н	25	59	Н	14	20	13	17	23	25	22	18	56	Н	18	30	16	24	552 5
νÞ	73	104	128	177	201	195	227	229	198	199	155	148	142	151	160	173	183	194	184	210	204	199	245	229	233	242	223	237	271	223	267	265	6269
₽.	0	2	0	3	2	0	9		7	9	7	11	19	20	20	20	26	15	18	13	16	14	13	14	13	16	15	16	21	11	15	19	385 6
ST	20	95	126	166	199	191	217	212	187	182	137	131	118	121	134	145	153	175	159	185	179	177	224	209	213	224	202	216	245	207	250	240	5689
5	3	7	5	8	0	4	4	10	4	11	11	. 9	2	10	9	8	4	4		12	6	8	8	9	7	2	9	2	2	2	2	9	195 5
riod	07:15	02:30	07:45	08:00	08:15	08:30	08:45	00:60	09:15	08:30	09:45	10:00	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	
Time Period	07:00	07:15 0	07:30 0	07:45 0	08:00	08:15 0	08:30	08:45 0	00:60	09:15 0	06:30	09:45	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15 1	15:00 1	15:15	15:30	15:45	16:00	16:15 1	16:30	16:45	17:00 1	17:15 1	17:30	-	Total:
-	0	0	0	0	0	Ó	Ó	Ó	\sim	\sim																-	~	-	-		-	~	\vdash

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results
TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

Miovision 37361 TERRY FOX DR WO No: Device: Per Study Cyclist Volume 329 N OF CAMPEAU DR/SIGNATURE CENTRE Survey Date: Wednesday, December 06, 2017 Start Time: 07:00

Northbound	pu	Southbound	Street Total	Eastbound	Westbound	Street Total	- Grand Total
0	_	0	0	0	0	0	0
0	_	0	0	0	0	0	0
-	_	-	2	0	0	0	2
0	$\overline{}$	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
0		0	0	0	0	0	0
0		0	0	0	0	0	0
0	П	0	0	0	0	0	0
0	г	0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0		0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0		0	0	0	0	0	0
0	П	0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0	П	0	0	0	0	0	0
0		0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0		0	0	0	+	-	-
0	П	0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0		0	0	0	0	0	0
0	Г	0	0	0	0	0	0
0	П	0	0	0	0	0	0
0		0	0	0	0	0	0
0	П	0	0	0	0	0	0
1	П	1	2	0	1	1	3
	ı						



TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

Miovision 37361 WO No: Device: Survey Date: Wednesday, December 06, 2017 Start Time: 07:00

Device:
Full Study Pedestrian Volume
329 N OF CAMPEAU
TERRY FOX DR
DR/SIGNATURE

	5						
Time Period		NB Approach SB Approach (E or W Crossing) (E or W Crossing)	Total	EB Approach (N or S Crossing)	EB Approach WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	0	0	0	-	-	-
07:45 08:00	0 0	0	0	0	0	0	0
08:00 08:15	0	0	0	0	0	0	0
08:15 08:30	0	0	0	0	0	0	0
08:30 08:45	0	0	0	0	0	0	0
08:45 09:00	0	0	0	0	0	0	0
09:00 09:15	0	0	0	0	-	-	1
09:15 09:30	0 0	0	0	0	-	-	-
39:30 09:45	0	0	0	0	2	2	2
09:45 10:00	0	0	0	0	-	-	-
1:30 11:45	0	0	0	0	0	0	0
1:45 12:00	0	0	0	0	0	0	0
2:00 12:15	0	0	0	0	0	0	0
2:15 12:30	0 0	0	0	0	2	2	2
12:30 12:45	0	0	0	0	2	2	2
12:45 13:00		0	0	0	0	0	0
3:00 13:15	0	0	0	0	0	0	0
13:15 13:30	0	0	0	0	0	0	0
15:00 15:15	0 9	0	0	0	0	0	0
5:15 15:30	0 0	0	0	0	0	0	0
5:30 15:45	0 9	0	0	0	0	0	0
5:45 16:00	0	τ-	-	0	0	0	-
6:00 16:15	0	0	0	0	0	0	0
16:15 16:30	0	0	0	0	0	0	0
6:30 16:45	0	0	0	0	0	0	0
16:45 17:00	0 0	0	0	0	0	0	0
7:00 17:15	0 9	0	0	0	0	0	0
7:15 17:30	0	0	0	0	+	-	٢
17:30 17:45	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	0	0	0
Total	O	-	-	C	11	11	12



Transportation Services - Traffic Services

Turning Movement Count - Study Results
TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

																																					Г
				Grand Total	2	16	26	22	17	11	13	14	21	14	13	15	12	16	11	16	13	13	15	10	18	18	15	10	17	15	80	9	7	3	2	2	
37361	Miovision			STR	0	0	0	0	0	1	-	0	-	-	0	3	1	က	0	-	0	-	0	0	0	-	0	0	0	0	0	0	0	1	0	0	
37	Mio			× <u>F</u>	0	0	0	0	0	1	-	0	-	-	0	3	1	3	0	-	0	-	0	0	0	-	0	0	0	0	0	0	0	1	0	0	.,
			_	R	0	0	0	0	0	0	-	0	0	-	0	-	1	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			Westbound	ST	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	,
<u>:</u>	ë	CDR	Wes	L	0	0	0	0	0	1	0	0	-	0	0	2	0	2	0	_	0	-	0	0	0	-	0	0	0	0	0	0	0	1	0	0	9,
WO No:	Device:	icles TERRY FOX DR		□ [2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,
		icles ERR		R	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	
		Full Study Heavy Vehicles	Eastbound	ST	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	
		Σ	Eas	5	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	
		Hea		STR	2	16	26	22	17	10	12	14	20	13	13	12	11	13	11	15	13	12	15	10	18	16	15	10	17	15	8	9		2	2	2	707
		ndy		S TOT	2	9	14	9	4	2	2	3	H	2	7	9	8	H	8	9	9	80	9	3	9	2	4	4	12	8	4	2	9	2	2		,,,,
7		St		R	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	,
3, 201		ਔ	ENTRE Southbound	ST	←	9	14	9	4	5	2	3	14	2	7	9	9	9	8	9	9	8	9	3	2	2	4	4	12	8	4	2	9	2	2	0	470
ber 06		PEAU	Sout	5	_	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	_	0	0	0	0	0	0	0	0	0	0	-	,
ecem		CAM	JRE (~ ₽	3	10	12	16	13	2	10	11	9	8	9	9	3		3	6	7	4	6		12	11	11	9	2	7	4	-	-	0	3	-	071
ay, D		329 N OF CAMPEAU	DR/SIGNATURE CENTRE	RT _	0	_	0	-	0	0	_	0	2	_	1	0	_	_	_	0	2	0	2	0	0	0	0	0	0	0	0	0	_	0	0	0	15
dnesd	00	329	DR/SIG Northbound	ST	3	6	12	15	13	2	6	11	4		2	9	2	9	2	6	2	4			12	11	11	9	5		4	_	0	0	3	-	COC
We	07:00		O TO	5	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	,
Date	ime:			poi	07:15	02:20	07:45	00:80	08:15	08:30	08:45	00:60	09:15	08:30	09:45	10:00	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	000
Survey Date: Wednesday, December 06, 2017	Start Time:			Time Period	07:00	07:15 07	07:30	07:45 08	08:00	08:15 08	08:30	08:45 09	00:60	09:15 09	06:30	09:45 10	1:30	11:45 12	12:00 12	12:15 12	12:30 12	12:45 13	13:00 13	13:15 13	15:00 1	15:15 18	15:30 18	15:45 16	16:00 16	16:15 16	16:30	16:45	17:00 17	17:15 17	17:30 17	17:45 18	Total, Mono



Turning Movement Count - Study Results TERRY FOX DR @ 329 N OF CAMPEAU DR/SIGNATURE C

Miovision	Total	ო	7	8	8	0	4	4	10	4	11	11	7	9	10	9	8	4	4	7	13	6	8	8	9	7	2	9	5	5	5	2	9
Device: Irn Total	TERRY FOX DR Id Westbound tal U-Turn Total	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
Device: Full Study 15 Minute U-Turn Total	TERI Eastbound U-Turn Total	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
udy 15 Min	IPEAU CENTRE Southbound U-Turn Total	0	0	-	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Full St	329 N OF CAMPEAU DR/SIGNATURE CENTRE Northbound Southbound U-Turn Total U-Turn Total	က	7	2	8	0	4	4	10	4	11	11	9	2	10	9	8	4	4	7	12	6	8	8	9	7	2	9	5	5	2	2	9
	eriod	07:15	02:30	07:45	08:00	08:15	08:30	08:45	00:60	09:15	06:30	09:45	10:00	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00
Start Time: 07:00	Time Period	00:20	07:15	02:30	07:45	08:00	08:15	08:30	08:45	00:60	09:15	06:30	09:45	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45



Transportation Services - Traffic Services

Turning Movement Count - Study Results
CAMPEAU DR @ TERRY FOX DR

39361 Miovision	z \Leftrightarrow o	31 640 4 5605 10 372 2832 63 1920 5605 0 0 74	's Heavy Vehicles Total
WO No: Device:	←	609 362 1857 0	Cars H V
	5615	1 L 0 E	1301 44 44 1345
Full Study Diagram	x DR x DR 110012	–	4398 181 4579 6359
dy Di	TERRY FOX DR 11012 97 11012 88 982 12 0 0 25 0 8 957 12	T t	422 5 427
≡ Stu	TER 5397 3988 170 3818	→ C	8 0 0 8
	10 10 405	חוור	6410 6410
uary 21, 202	Heavy Vehicles Cars	25 1189 0 0 4 380 5 341 19 475	€ 0 €€ 2 2
Tuesday, Jani 07:00	Total He Ve	AU DR	\$
Survey Date: Tuesday, January 21, 2020 Start Time: 07:00		CAMPEAU DR 1214 0 384 384 1224 494 494	10

5471861 - TUE JAN 21, 2020 - 8HRS - LORETTA

Page 1 of 8



Turning Movement Count - Study Results
CAMPEAU DR @ TERRY FOX DR

11 835 Miovision ***** 39361 z < 4 Total 248 22 **&I** -Heavy Vehicles WO No: Device: ***** ₫\ **→** Cars Full Study Peak Hour Diagram 110 417 247 188 188 0 **4** 0 6 8 Ļ 1 U 606 726 726 0 פ 1860 4 TERRY FOX DR 16:45 17:45 996 Peak Hour: Full Study Ł 163 161 49 49 0 2049 Ç \$20 736 728 0 7 ภ 1 ٢ 1074 1083 ٦ **}** 20 20 6 Survey Date: Tuesday, January 21, 2020 45 Heavy Vehicles Cars **₹**0 **←**‡ **%1** -Total CAMPEAU DR 72 89 96 Start Time: 07:00 ***** با با با 236 11 392

5471861 - TUE JAN 21, 2020 - 8HRS - LORETTA



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram CAMPEAU DR @ TERRY FOX DR

11 g Miovision *****-39361 357 **♣** 88 258 - ↓ ≥ Device: WO No: ₫ **Ŏ** Cars **(<t**) -241 277 156 164 L U 4 33 694 45 601 5 637 36 **→** 4 TERRY FOX DR 853 08:30 09:30 AM Period Peak Hour t Ł 86 51 0 51 1675 ς + 675 524 495 29 0 7 Survey Date: Tuesday, January 21, 2020 52 **}** 774 51 ก **1** ۴ 8 822 129 Cars Heavy Vehicles **₹**0 ° **<** Start Time: 07:00 **%1** -CAMPEAU DR 30 24 39 ~ ***** 4 ***** 5 93 224

Comments 5471861 - TUE JAN 21, 2020 - 8HRS - LORETTA

2021-Jul-07

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July 7, 2021



Turning Movement Count - Peak Hour Diagram

CAMPEAU DR @ TERRY FOX DR

Survey Date: Tuesday, January 21, 2020

Start Time: 07:00

Miovision

WO No: Device:

39361

z 🔷 o	° °	4 103	1 65 433	10 265 TFB		332	'S Heavy	Total	
*	ỗ →	66	64	255	0 80%		Cars	Š	
417	26	٦	1	4	U	Ł	154	158	
CDR (CDR	0 -	ב		ᄝᅕ	00:	-	527 22	549	61.1
TERRY FOX DR 1286 59 122 1	3 119	t		MD Period Peak Hour	12:00 13:00	t	7.1	72	
569 FF	362	\rightarrow		M 9	12:0	Ç	0 0	0	1506
09	1 59	٦	t	<u> 1</u>	1	r	91		727
	y cles Cars		_	0 0		74	←	0	*<† -
:	Heavy Vehicles Cars		e	0 0	0	8	l		
		SE D	_	0 2	22	92	\$1	0	
		CAMPEAU DR	t 6	Į†	392	195	*	0	

Comments 5471861 - TUE JAN 21, 2020 - 8HRS - LORETTA



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram CAMPEAU DR @ TERRY FOX DR

11 88 88 Miovision **★** 39361 416 ₩ Z **1** 614 1 248 22 **₽**• WO No: Device: **≪**‡ <u>ॐ</u> -Cars 417 110 22 188 L 188 0 U 4 6 606 <u>د</u> 726 726 1860 4 TERRY FOX DR 996 PM Period 16:45 17:45 Peak Hour Ł 161 163 49 0 49 **±** Ç 2049 \$ 050 736 728 0 ٦ Survey Date: Tuesday, January 21, 2020 **}** 50 1074 1083 4 20 1 តា 154 89 Cars **₹**0 ***** Heavy Vehicles Start Time: 07:00 **%1** -CAMPEAU DR 96 72 68 ~ ***** 156 156 392

Comments 5471861 - TUE JAN 21, 2020 - 8HRS - LORETTA

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2021-Jul-07



Turning Movement Count - Study Results CAMPEAU DR @ TERRY FOX DR

Survey Date: Tuesday, January 21, 2020	ate: T	nesda	y, Jan	uary 2	1, 202	0						WO No:	<u>:</u>			39361	91		
Start Time:		00:20										Device:	.: ::			Miovision	sion		
				ш	S III	Study	Su.	mm	Full Study Summary (8 HR Standard)	HR	Star	ıdar	6						
Survey Date:		Tuesda	ау, Ја	Tuesday, January 21, 2020	21, 20;	20		_	Total Observed U-Turns	bserve	T-U pc	nrns					AADT	AADT Factor	_
							ž	Northbound:	% :p		South	Southbound:	12			_	1.10		
							Ш	Eastbound:	0 :p		Westb	Westbound:	0						
			TERF	TERRY FOX DR	X DR							CAM	CAMPEAU DR	DR					
l	No	Northbound	pu		Sou	Southbound	Þ	l		Ea	Eastbound	Þ		We	Westbound	рı	l		
Period	₽	ST	R	TO MB	h	ST	R	SB TOT	STR	₽	ST	R	1 1 1 1	₽	ST	RT	TOT	STR	Grand Total
07:00 08:00	32	367	185	584	106	419	21	546	1130	3	10	7	20	157	14	40	211	231	1361
08:00 09:00	20	632	200	882	123	519	37	629	1561	17	17	53	83	235	8	99	318	381	1942
09:00 10:00	45	524	133	702	용	450	22	299	1301	36	8	49	119	249	36	48	333	452	1753
11:30 12:30	19	522	143	726	133	403	62	298	1324	69	46	74	189	247	89	8	396	282	1909
12:30 13:30	78	497	156	731	120	386	2	220	1301	22	51	88	196	245	27	66	401	297	1898
15:00 16:00	28	009	162	826	=	443	28	612	1438	22	83	81	201	283	69	06	442	643	2081
16:00 17:00	52	645	160	857	147	199	20	878	1735	68	19	83	233	268	89	105	44	674	2409
17:00 18:00	45	792	206	1043	148	707	48	903	1946	99	29	83	203	236	42	112	390	293	2539
Sub Total	427	4579	1345	6351	982	3988	415	5385	11736	384	346	494	1224	1920	372	640	2932	4156	15892
U Turns	∞			∞	12			12	70	0			0	0			0	0	20
Total	435	4579	1345	6329	994	3988	415	5397	11756	384	346	494	1224	1920	372	640	2932	4156	15912
EQ 12Hr 605 6365 1870 8840 1382 5543 577 7502 16342 534 Note: These values are calculated by multiplying the totals by the appropriate expansion factor.	605 values ar	6365 re calcu	1870 lated by	8840 multiply	1382 ing the	5543 totals by	577 the app	7502 propriate	16342 expansion	534 on factor	481	289	1702	2669 1.39	517	068	4076	5778	22120
AVG 12Hr 686 7/00 2057 9725 1520 6097 635 8252 17977 587 528 Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.	999 volumes	7002 are calc	2057 culated t	9725 by multip	1520 olying th	6097 e Equiva	635 Ilent 12	8252 hr. total	17977 s by the A	587 AADT fa	529 ctor.	756	1872	2936 1.10	569	626	4484	6356	24333
AVG 24Hr	872	9173	2695	12740	1991	7987	832	10810	23550	692	693	066	2452	3846	745	1282	5873	8325	31875
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.	volumes	are calc	culated I	by multip	olying th	e Averaç	je Daily	, 12 hr. t	otals by 1	2 to 24	expansi	on facto	i	1.31					
Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.	ns prov	ided fo	r appro	ach tot	als. Re	fer to 'U	-Turn	Report	for spec	oific bre	akdowi	ر.							

Ottawa

Transportation Services - Traffic Services

Turning Movement Count - Study Results CAMPEAU DR @ TERRY FOX DR

					Grand Total	296	291	313	463	453	479	496	516	482	484	432	356	441	476	491	502	469	514	457	463	513	502	513	222	565	637	585	622	623	647	929	598	15,912
39361	Miovision				STR TOT	22	22	40	81	73	91	113	104	103	130	112	107	120	148	163	154	152	159	145	141	152	182	151	158	137	176	165	196	158	146	152	137	2932 11756
ñ	Mi				× ₽	51	20	39	71	61	77	93	87	74	103	81	75	98	66	104	86	110	121	82	88	109	124	101	108	98	115	114	126	92	88	109	100	Н
				pu	R	2	12	7	16	10	7	59	19	12	11	14	11	17	21	20	23	31	58	16	23	16	31	21	22	20	22	34	59	56	27	59	30	640
		S		Westbound	ST	2	က	3	3	3	2	9	7	9	6	9	15	22	12	19	15	18	13	11	15	19	13	22	15	14	18	14	22	13	6	13	7	372
WO No:	Device:	nent	NO DR		5	41	32	29	52	48	89	28	61	26	83	61	49	26	99	92	09	61	79	22	20	74	80	28	71	52	75	99	75	23	23	29	63	1920
×	De	crer	CAMPEAU DR		□ [2	4	2	1	10	12	14	20	17	29	27	31	32	25	49	29	26	42	38	Н	23	43	28	20	20	21	61	51	70	99	22	43	37	1224
		Full Study 15 Minute Increments	S	punc		2	3	0	2	7	2	6	8	11	11	10	17	13	23	20	18	21	17	28	Н	19	23	20	19	18	16	21	28	31	23	14	15	3 494
		linu		Eastbound	r st	2	_	1	9	2	9	4	2	7	8	13	9	4	11	19	12	10	14	Н	12	9 8	1 21	16	20	14	3 22	3 7	18	19	17	14	14	4 346
		15 N			řΈ Έ	0	9	3 0	2 2	3	3	3 7	2 4	11	8	8 0:	6 6	1 8	15	8 20	8 26	7 11	2 2	2 20	2 19	18	14	14	11	19	1 23	23	6 24	16	17	15	8	56 384
		р			S STR TOT TOT	122 241	122 236	133 273	170 382	161 380	182 388	165 383	173 412	169 379	168 354	138 320	124 249	171 321	153 328	145 328	130 348	129 317	165 355	137 312	Н	167 361	131 320	150 362	165 399	201 428	235 461	203 420	239 426	237 465	231 501	243 524	194 461	5397 11756
		Str			T.	3 12	1,	8 13	6 17	12 16	3 18	12 16	10 17	13 16	17 16	16 13	9 12	16 17	15 18	17 14	14 13	13 12	16 16	15 13	Н	18 16	13 13	14 15	13 16	17 20	17 23	18 20	18 2	7 2	9 2:	16 24	16 19	415 53
0		Fu		Southbound	ST F	94	93	104	128	106 1	146	128 1	139 1	131 1	126 1	100	93	118 1	103 1	95 1	87 1	85 1	119 1	90	Н	119 1	93 1	111 1	120 1	147 1	177	155 1	182 1	188	180	186 1	153 1	3988 4
1, 202			R	Sout	5	25	25	21 1	36 1	43 1	33 1	25 1	24 1	25 1	25 1	22 1	22	37 1	35 1	33	59	31	30 1	32	Н	30 1	25	25 1	32 1	37 1	41 1	30 1	39 1	42 1	42 1	41 1	25 1	994 3
ary 2			FOX		×þ	119	114	140	212	219	206	218	239	210	ш	182	125	150	175	183	218	188	190	175	ш	194	189	212	234	227	226	217	187	228	270	281	267	6328
Tuesday, January 21, 2020			TERRY FOX DR		ᅜ	44	33	46	62	64	44	45	47	38	34	33	28	42	27	35	39	43	41	32	37	37	41	43	41	40	48	42	30	39	65	54	48	1345
iesda	07:00			Northbound	ST	92	73	87	142	151	146	163	172	163	139	136	98	06	134	140	158	128	123	123	123	140	131	156	173	179	163	158	145	174	190	217	211	4579
				ž	5	10	80	7	8	4	16	10	20	6	13	13	11	18	14	8	21	17	26	17	18	17	17	13	20	8	15	17	12	15	15	10	8	435
Survey Date:	Start Time:				Time Period	07:15	02:20	07:45	08:00	08:15	08:30	08:45	00:60	09:15	06:30	09:45	10:00	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	
Surv	Sta				Time	07:00	07:15	02:20	07:45	08:00	08:15	08:30	08:45	00:60	09:15	08:30	09:45	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	Total:

Note: U-Turns are included in Totals.

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Turning Movement Count - Study Results CAMPEAU DR @ TERRY FOX DR

Miovision 39361 WO No: Device: Survey Date: Tuesday, January 21, 2020 Start Time: 07:00

Full Study Cyclist Volume

TERRY FOX DR

F Princip	Grand Iotal	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	1	0	0	0	0	0	0	1
Cotor Total	Street Lotal	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
Mooth on the	Westbound	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
Facthound	Eastbound	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
LotoT toomto	Street lotal	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	1	0	0	0	0	0	0	1
barroddo0	Southbound	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	1	0	0	0	0	0	0	-
Mosthal	Northbound	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
Pois of	Ime Period	07:00 07:15	07:15 07:30	07:30 07:45	07:45 08:00	08:00 08:15	08:15 08:30	08:30 08:45	08:45 09:00	09:00 09:15	09:15 09:30	09:30 09:45	09:45 10:00	1:30 11:45	11:45 12:00	12:00 12:15	12:15 12:30	12:30 12:45	12:45 13:00	13:00 13:15	13:15 13:30	15:00 15:15	15:15 15:30	15:30 15:45	15:45 16:00	16:00 16:15	16:15 16:30	16:30 16:45	16:45 17:00	17:00 17:15	17:15 17:30	17:30 17:45	17:45 18:00	
Ë	E E	07:00	07:15	07:30	07:45	08:00	08:15	08:30	08:45	00:60	09:15	09:30	09:45	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	Total



Transportation Services - Traffic Services

Turning Movement Count - Study Results CAMPEAU DR @ TERRY FOX DR

Start Time:	00:20				Device:		Miovision
		Fu TERRY FOX DR	II Study	Full Study Pedestrian Volume DR	1 Volume CAMPEAU DR		
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	0	0	0	0	0	0
07:45 08:00	0	0	0	0	0	0	0
08:00 08:15	τ-	0	-	-	0	1	2
08:15 08:30	0	0	0	0	0	0	0
08:30 08:45	0	0	0	0	1	-	-
08:45 09:00	+	0	-	0	0	0	-
09:00 09:15	0	0	0	-	0	1	-
09:15 09:30	-	0	-	-	0	-	2
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	0	0	0	0
11:30 11:45	0	1	-	0	1	-	2
11:45 12:00	+	0	-	0	0	0	-
2:00 12:15	-	0	-	0	0	0	-
12:15 12:30	0	0	0	0	0	0	0
2:30 12:45	0	0	0	0	1	1	٢
12:45 13:00	0	0	0	0	2	7	2
3:00 13:15	τ-	-	2	_	0	-	3
13:15 13:30	0	0	0	_	0	-	٢
15:00 15:15	0	1	٦	-	0	1	2
15:15 15:30	2	-	က	-	-	2	2
15:30 15:45	0	0	0	0	0	0	0
15:45 16:00	0	0	0	0	0	0	0
16:00 16:15	+	0	-	0	0	0	-
16:15 16:30	0	0	0	0	0	0	0
16:30 16:45	0	0	0	0	0	0	0
16:45 17:00	0	0	0	0	0	0	0
17:00 17:15	-	-	2	-	-	2	4
17:15 17:30	0	0	0	0	1	-	٢
17:30 17:45	0	0	0	_	0	-	٢
7:45 18:00	2	0	2	_	0	-	3



Turning Movement Count - Study Results CAMPEAU DR @ TERRY FOX DR

Miovision 39361 WO No: Device: Survey Date: Tuesday, January 21, 2020 Start Time: 07:00

Full Study Heavy Vehicles
CAMPEAU DR

TERRY FOX DR

| Grand
Total | 20 | 15 | 22 | 29 | 17

 | 18

 | 32 | 30 | 16 | 26 | 16 | 20
 | 32 | 17 | 13 | 18 | 19 | 22 | 17 | 17 | 28 | 37 | 14 | 15 | 13 | 17
 | 10 | 2 | 2 | 9 | 4 | 3 | 267 |
|----------------|---|--|--|---
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---|--|--|--|--|---
--|---|--|------|------|---|--|------|------|--|--|-----------
--|------|---|------|------|------|---|---|---
--|
| STR | 1 | 1 | 1 | 2 | 3

 | 7

 | 6 | 6 | 4 | 7 | 3 | 9
 | 6 | 4 | 1 | 3 | 9 | 7 | 1 | 4 | 7 | 17 | 3 | 2 | 2 | 2
 | 3 | 1 | - | 2 | 0 | - | 132 |
| × | 1 | 1 | 1 | 4 | 1

 | 2

 | 6 | 8 | 3 | 9 | 1 | 9
 | 9 | 2 | 1 | 3 | 2 | 9 | 1 | 4 | 2 | 13 | 7 | 2 | 1 | 2
 | 2 | 1 | 1 | 2 | 0 | 0 | 104 |
| R | 0 | 0 | 0 | 0 | 0

 | 2

 | 4 | 2 | 1 | 1 | 0 | 1
 | 2 | 1 | 0 | 1 | 3 | 0 | 0 | 1 | 1 | 7 | 0 | 0 | 1 | 0
 | 2 | 1 | 0 | 0 | 0 | 0 | 31 |
| ST | 0 | 0 | 0 | 1 | 0

 | 0

 | 0 | 0 | 0 | 1 | 0 | 1
 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1
 | 0 | 0 | 0 | 2 | 0 | 0 | 10 |
| \vdash | 1 | 1 | - | 3 | 1

 | 3

 | 2 | 9 | 2 | 4 | 1 | 4
 | 3 | 1 | 1 | 1 | 2 | 9 | 1 | 3 | 3 | 9 | - | - | 0 | -
 | 0 | 0 | - | 0 | 0 | 0 | 63 |
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| | 19 | 14 | 21 | 24 | 14

 | 11

 | 23 | 21 | 12 | 19 | 13 | 14
 | 23 | 13 | 12 | 15 | 13 | 15 | 16 | 13 | 21 | 20 | 7 | 13 | 1 | 15
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T0T | 3 | 4 | 10 | 13 | 3

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 | 7 | 6 | 8 | 7 | 9 | 2
 | 16 | 9 | 2 | 7 | 7 | 6 | 9 | 9 | 11 | 13 | 4 | 9 | 2 | 12
 | 2 | 1 | - | 4 | 4 | - | 205 |
| R | 0 | 0 | 0 | 0 | 1

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 | 0 | 0 | - | 0 | 0 | 0
 | 0 | 0 | 0 | 0 | - | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | -
 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| | 1 | 1 | 8 | 11 | 0

 | 1

 | 7 | 8 | 7 | 7 | 2 | 2
 | 13 | 2 | 4 | 7 | 9 | 7 | 9 | 4 | 7 | 11 | 4 | 2 | 2 | 11
 | 2 | 1 | - | 3 | 3 | - | 170 |
| | 2 | 3 | 2 | 2 | 2

 | 0

 | 0 | - | 0 | 0 | 1 | 0
 | 3 | - | - | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | - | 0 | 0
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| | Н | Н | Н | 11 | 11

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 | L | Ш | L | Ш | Ш | Ш | None |
| Time Peri | | _ | _ | |

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 | 38:30 08: | 38:45 09: | 39:00 | 39:15 09: | 39:30 | 39:45 10:
 | | | | | _ | _ | - | | | | 15:30 15: | | | | | | | | | | | | | | | | | | | | | | | |
 | | | | | | 17:45 18: | Total: No |
| | S STR LT ST RT E LT ST RT W STR TOT TOT | LT ST RT TOT LT ST RT TOT TOT TOT ST RT TOT LT ST RT TOT TOT TOT TOT TOT TOT TOT TOT TOT | Period LT ST RT 101 ST RT 101 TO 1 S | Period IT ST RT NOT ST RT ST RT ST RT ST RT ST RT | Period IT STR N TOT IT STR IT STR IT STR N <t< td=""><td>Period I. SI TOT FI <t< td=""><td>Period L. ST RI NOT L. ST RI ST RI ST RI RI</td><td>Period T ST N</td><td>Period I.T. ST. N. T. ST. I.T. T. T.</td><td>Helida Li Str. RT 10 Str. RT 10 Str. RT 10 Li Str. RT 10 Str. RT 10 Li S</td><td>Helical Line Line Line Line Line Line Line Line</td><td>Heriod LT ST RT NOT LT ST RT ST RT ST RT NOT LT ST RT NOT</td><td>Heriod LT ST RT NOT LT ST RT ST ST RT ST ST RT NOT LT ST RT NOT LT ST RT NOT LT ST RT NOT RT</td><td>Heriod I. ST. M. ST. M.</td><td> Name</td><td> Name</td><td>Heriod LT ST RT NOT LT ST RT ST ST RT ST ST RT NOT LT ST ST RT NOT LT ST ST RT NOT LT ST RT NOT</td><td>Hericki Line Line Line Line Line Line Line Lin</td><td> Name</td><td> Name</td><td>Princip Included by the princip ST N</td><td>Hericki Line Line Line Line Line Line Line Lin</td><td> Name</td><td>Print Line Included Included Line Included Included Line Included Line</td><td> Name</td><td>Princip Included Line Included Line</td><td> Name</td><td> Name</td><td> Name</td><td> No. No.</td><td> No. No. No. No. No. No. No. No. No. No.</td><td> No. No.</td><td> Harmon Landon L</td></t<></td></t<> | Period I. SI TOT FI FI <t< td=""><td>Period L. ST RI NOT L. ST RI ST RI ST RI RI</td><td>Period T ST N</td><td>Period I.T. ST. N. T. ST. I.T. T. T.</td><td>Helida Li Str. RT 10 Str. RT 10 Str. RT 10 Li Str. RT 10 Str. RT 10 Li S</td><td>Helical Line Line Line Line Line Line Line Line</td><td>Heriod LT ST RT NOT LT ST RT ST RT ST RT NOT LT ST RT NOT</td><td>Heriod LT ST RT NOT LT ST RT ST ST RT ST ST RT NOT LT ST RT NOT LT ST RT NOT LT ST RT NOT RT</td><td>Heriod I. ST. M. ST. M.</td><td> Name</td><td> Name</td><td>Heriod LT ST RT NOT LT ST RT ST ST RT ST ST RT NOT LT ST ST RT NOT LT ST ST RT NOT LT ST RT NOT</td><td>Hericki Line Line Line Line Line Line Line Lin</td><td> Name</td><td> Name</td><td>Princip Included by the princip ST N</td><td>Hericki Line Line Line Line Line Line Line Lin</td><td> Name</td><td>Print Line Included Included Line Included Included Line Included Line</td><td> Name</td><td>Princip Included Line Included Line</td><td> Name</td><td> Name</td><td> Name</td><td> No. No.</td><td> No. No. No. No. No. No. No. No. No. No.</td><td> No. No.</td><td> Harmon Landon L</td></t<> | Period L. ST RI NOT L. ST RI ST RI ST RI | Period T ST N | Period I.T. ST. N. T. ST. I.T. T. T. | Helida Li Str. RT 10 Str. RT 10 Str. RT 10 Li Str. RT 10 Str. RT 10 Li S | Helical Line Line Line Line Line Line Line Line | Heriod LT ST RT NOT LT ST RT ST RT ST RT NOT LT ST RT NOT | Heriod LT ST RT NOT LT ST RT ST ST RT ST ST RT NOT LT ST RT NOT LT ST RT NOT LT ST RT NOT RT | Heriod I. ST. M. | Name | Name | Heriod LT ST RT NOT LT ST RT ST ST RT ST ST RT NOT LT ST ST RT NOT LT ST ST RT NOT LT ST RT NOT | Hericki Line Line Line Line Line Line Line Lin | Name | Name | Princip Included by the princip ST N | Hericki Line Line Line Line Line Line Line Lin | Name | Print Line Included Included Line Included Included Line | Name | Princip Included Line | Name | Name | Name | No. No. | No. | No. No. | Harmon Landon L |



Transportation Services - Traffic Services

Turning Movement Count - Study Results CAMPEAU DR @ TERRY FOX DR

Survey Date:	Survey Date: Tuesday, January 21, 2020	21, 2020		W	WO No:	39361
Start Time:	07:00			Dev	Device:	Miovision
		Full Study TERRY FOX DR	Full Study 15 Minute U-Turn Total RRY FOX DR CAMPEAU I	ute U-Turn	ırn Total CAMPEAU DR	
	Time Period	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
0	07:00 07:15	0	0	0	0	0
0	07:15 07:30	-	0	0	0	-
0	07:30 07:45	0	-	0	0	-
0	07:45 08:00	0	0	0	0	0
0	08:00 08:15	0	0	0	0	0
0	08:15 08:30	0	-	0	0	-
0	08:30 08:45	0	0	0	0	0
0	08:45 09:00	0	1	0	0	1
0	09:00 09:15	0	0	0	0	0
0	09:15 09:30	1	0	0	0	1
0	09:30 09:45	0	0	0	0	0
0	09:45 10:00	0	0	0	0	0
_	11:30 11:45	0	0	0	0	0
_	11:45 12:00	0	0	0	0	0
-	12:00 12:15	0	0	0	0	0
-	12:15 12:30	0	1	0	0	1
-	12:30 12:45	0	0	0	0	0
-	12:45 13:00	0	0	0	0	0
-	13:00 13:15	0	2	0	0	2
	13:15 13:30	0	3	0	0	3
	15:00 15:15	1	0	0	0	1
	15:15 15:30	0	0	0	0	0
	15:30 15:45	1	1	0	0	2
	15:45 16:00	1	0	0	0	1
	16:00 16:15	0	0	0	0	0
	16:15 16:30	0	0	0	0	0
	16:30 16:45	0	0	0	0	0
	16:45 17:00	0	0	0	0	0
	17:00 17:15	0	0	0	0	0
	17:15 17:30	2	0	0	0	2
_	17:30 17:45	1	1	0	0	2
-	17:45 18:00	0	-	0	0	-
	Total	8	12	0	0	20

TRANSPORTATION BRIEF – ADDENDUM #2 ARCADIA SUBDIVISION – STAGE 3 OTTAWA, ONTARIO

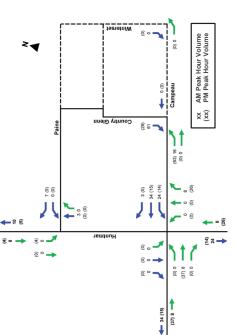


Figure 5: Site-Generated Traffic - Stage 3 Build-Out

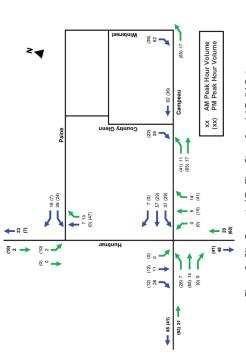


Figure 6: Site-Generated Traffic - Stage 3 and 4 Build-Out

	-11-
J.L. Richards & Associates Limited	JLR No.: 26299-01

July 10, 2019 Revision: 01

Appendix C

Synchro and Sidra Intersection Worksheets – Existing Conditions



MOVEMENT SUMMARY

♥ Site: 101 [Huntmar-Campeau AM Existing]

Arcadia Stage 5 Site Category: (None) Roundabout

Mover	nent Per	Movement Performance - Vehicles	e - Vehi	cles								
Mov	Turn	Demand Flows Total HV veh/h	Flows HV	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	of Queue Distance m	Prop. Queued	Effective Aver. No. Stop Rate Cycles	Aver. No. Cycles	Average Speed km/h
South:	South: Huntmar											
~	L2	24	2.0	0.024	7.8	LOSA	0.1	0.4	0.16	0.57	0.16	50.5
2	Ξ	347	2.0	0.336	2.1	LOSA	1.	8.1	0.21	0.24	0.21	50.3
3	R2	19	2.0	0.018	2.8	LOSA	0.0	0.3	0.16	0.36	0.16	51.8
Approach	ch	390	2.0	0.336	2.4	LOSA	-	8.1	0.21	0.27	0.21	50.4
East: C	East: Campeau											
4	L2	20	2.0	0.086	10.6	LOS B	0.2	1.6	0.35	0.72	0.35	50.5
2	Ξ	40	2.0	0.050	4.6	LOS A	0.1	0.9	0.36	0.46	0.36	57.0
9	R2	18	2.0	0.022	5.0	LOSA	0.1	0.4	0.35	0.55	0.35	51.2
Approach	ch Ch	128	2.0	0.086	8.0	LOSA	0.2	1.6	0.35	0.62	0.35	52.4
North:	North: Huntmar											
7	L2	2	2.0	0.159	7.9	LOSA	0.5	3.3	0.21	0.25	0.21	54.2
80	Ξ	319	2.0	0.159	2.1	LOSA	0.5	3.3	0.20	0.25	0.20	50.3
6	R2	108	2.0	0.107	2.9	LOSA	0.3	2.1	0.20	0.39	0.20	51.7
Approach	ch Ch	429	2.0	0.159	2.3	LOSA	0.5	3.3	0.20	0.28	0.20	50.6
West: (West: Campeau											
10	L2	9/	2.0	0.089	10.5	LOS B	0.2	1.6	0.33	0.71	0.33	50.5
£	₽	58	2.0	0.035	4.4	LOSA	0.1	9.0	0.33	0.44	0.33	57.2
12	R2	32	2.0	0.038	4.5	LOSA	0.1	0.7	0.31	0.52	0.31	51.6
Approach	당	137	2.0	0.089	7.8	LOSA	0.2	1.6	0.33	0.61	0.33	52.0
All Vehicles	icles	1083	2.0	0.336	3.7	LOSA	1.1	8.1	0.24	0.36	0.24	50.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.
LOS F will result if vic > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
SIDRA Standard Delay Model is used: Control Delay includes Geometric Delay.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: CGH PRANSPORTATION | Processed: November 12, 2021 10:43:01 AM
Project: Cil/SersAhadrewHatelCGH TRANSPORTATIONCGH Working - DocumentsProjects2021-098 Minto Arcadia Stage 5/DATA/Sidra (2021-04-24.spg)

Lanes, Volumes, Timings 4: Terry Fox & Kanata

09/29/2021

→	SBT	₩	447	447	3283		3283		497	NA NA	9		9		10.0	25.0	45.0	37.5%	4.2	1.8	0.0	0.9			Max	67.8	0.70	0.21	5.5	0:0	5.5	A	21.2	ပ	14.1	25.3	97.8		2832	0	0	0	0.18	
٠	SBL	r	253	253	1595	0.950	1595		281	Prot	_		_		2.0	11.0	43.0		4.2	1 .8	0.0	0.9	Lead	Yes	None	22.2	0.23	92.0	49.0	0.0	49.0	□				81.5		85.5	621	0	0	0	0.45	
•	NBR	W	169	169	144		1441	188	188	Perm		2	7		10.0	25.0	45.0		4.2	1.8	0.0	0.9	Lag	Yes	Max	39.5	0.41	0.27	4.7	0.0	4.7	∢			0.0	14.8		100.0	702	0	0	0	0.27	
—	NBT	₩	919	919	3283		3283		684	Α	2		2		10.0	25.0	45.0	37.5%	4.2	(0.0	0.9	Lag	Yes	Max	39.5	0.41	0.51	24.7	0.0	24.7	ပ	20.4	ပ	47.6	84.7	846.8		1348	0	0	0	0.51	
1	WBR	X	337	337	1414		1414	374	374	Perm		∞	∞		2.0	31.2	32.0	26.7%	3.7	2.5	0.0	6.2			None	16.0	0.17	0.68	1.1	0.0	11.1	ω			0.0	26.9			929	0	0	0	0.57	
-	WBL	K.	310	310	3185	0.950	3185		₹	Prot	∞		∞		2.0	31.2	32.0	26.7%	3.7	2.5	0.0	6.2			None	16.0	0.17	0.65	44.2	0.0	44.2	□	27.0	ပ	30.6	49.8	616.6		865	0	0	0	0.40	
	Lane Group	Lane Configurations	Traffic Volume (vph)	Future Volume (vph)	Satd. Flow (prot)	Flt Permitted	Satd. Flow (perm)	Satd. Flow (RTOR)	Lane Group Flow (vph)	Turn Type	Protected Phases	Permitted Phases	Detector Phase	Switch Phase	Minimum Initial (s)	Minimum Split (s)	Total Split (s)	Total Split (%)	Yellow Time (s)	All-Red Time (s)	Lost Time Adjust (s)	Total Lost Time (s)	Lead/Lag	Lead-Lag Optimize?	Recall Mode	Act Effct Green (s)	Actuated g/C Ratio	v/c Ratio	Control Delay	Queue Delay	Total Delay	FOS	Approach Delay	Approach LOS	Queue Length 50th (m)	Queue Length 95th (m)	Internal Link Dist (m)	Turn Bay Length (m)	Base Capacity (vph)	Starvation Cap Reductn	Spillback Cap Reductn	Storage Cap Reductn	Reduced v/c Ratio	

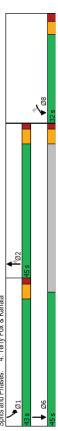
Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing AM Peak Hour

Natural Cycle: 80 Control Type: Actuated-Uncoordinated Maximum v/c Ratio: 0.76

Actuated Cycle Length: 96.2

Intersection LOS: C ICU Level of Service B Lanes, Volumes, Timings 4: Terry Fox & Kanata Intersection Signal Delay, 22.7 Intersection Capacity Utilization 57.3% Analysis Period (min) 15

Splits and Phases: 4: Terry Fox & Kanata



Lanes, Volumes, Timings 5: Terry Fox & Signature SC

09/29/2021

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			₩	*	F	4₽		F	4₽	
Traffic Volume (vph)	0	0	0	တ	0	28	0	757	20	8	727	0
Future Volume (vph)	0	0	0	6	0	28	0	757	20	8	727	0
Satd. Flow (prot)	0	1745	0	0	1386	1455	1745	3228	0	1658	3283	0
Satd Flow (nerm)	C	1745	C	c	1104	1455	1745	3228	-	0.238	3283	C
Satd. Flow (RTOR)	•	2	•	•		34	2	2	,			•
Lane Group Flow (vph)	0	0	0	0	10	31	0	863	0	33	808	0
Turn Type				Perm	¥	Perm	Perm	¥		Perm	ΑN	
Protected Phases		4			∞			2			9	
Permitted Phases	4			∞		∞	2			9		
Minimum Split (s)	31.6	31.6		31.6	31.6	31.6	31.4	31.4		32.8	32.8	
Total Split (s)	32.0	32.0		35.0	32.0	32.0	78.0	78.0		78.0	78.0	
Total Split (%)	29.1%	29.1%		29.1%	29.1%	29.1%	%6.02	%6.07		%6:02	%6:02	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.2	2.2		5.2	5.2	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		9.9			9.9	9.9	6.4	6.4		6.4	6.4	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)					25.4	25.4		71.6		71.6	71.6	
Actuated g/C Ratio					0.23	0.23		0.65		0.65	0.65	
v/c Ratio					0.04	60.0		0.41		0.10	0.38	
Control Delay					33.6	11.0		13.4		8.1	9.5	
Queue Delay					0:0	0.0		0:0		0.0	0.0	
Total Delay					33.6	11.0		13.4		8.1	9.2	
FOS					ပ	ш		В		∀	A	
Approach Delay					16.5			13.4			9.2	
Approach LOS					В			В			A	
Queue Length 50th (m)					1.7	0.0		82.2		2.4	38.6	
Queue Length 95th (m)					6.2	7.0		48.0		6.3	49.4	
Internal Link Dist (m)		19.8			92.3			301.0			846.8	
Turn Bay Length (m)										61.0		
Base Capacity (vph)					254	362		2102		338	2136	
Starvation Cap Reductn					0	0		0		0	0	
Spillback Cap Reductn					0	0		0		0	0	
Storage Cap Reductn					0	0		0		0	0	
Reduced v/c Ratio					0.04	0.09		0.41		0.10	0.38	
Intersection Summary												
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 49 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	to phase	2:NBTL a	nd 6:SB7	L, Start c	d Green							
Natural Cycle: 65												
Control Type: Pretimed												
Maximum v/c Ratio: 0.41						0						
Intersection Signal Delay: 11.6	9.			<u>=</u> 9	Intersection LOS: B	LOS: B						
Intersection Capacity Utilization 45.5%	ion 45.5%			೨	ICU Level of Service A	f Service	⋖					
Analysis Period (min) 15												

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 Existing AM Peak Hour Synchro 11 Report Page 2

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing AM Peak Hour

4 ↓ 8 4 Lanes, Volumes, Timings
5: Terry Fox & Signature SC
Splits and Phases: 5: Terry Fox & Signature SC

↑↑ Ø2 (R) ₩ Ø6 (R)

Synchro 11 Report Page 4 Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing AM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

09/29/2021

09/29/2021

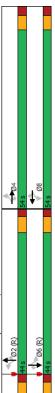
Section			t	٠					,				
30	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
30	Lane Configurations	*	*	æ	K	*	¥C.	F	*	R.	K	**	•
1274 1745 1411 1580 1712 1363 1568 3191 1411 1513 3191 1410 513 3191 3	Traffic Volume (vph)	8	24	39	258	28	71	52	647	164	86	554	25
1242 1745 1441 1550 1712 1363 1568 3191 1441 1568 3191 1 1274 1745 1421 1229 1712 1363 673 8191 1410 513 8191 1 1274 1745 1421 1229 1712 1363 673 8191 1410 513 8191 1 128 2 43 287 31 79 58 719 182 199 616 1 14 4 4 8 8 8 2 2 2 2 1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Future Volume (vph)	93	24	33	258	28	71	52	647	164	86	554	25
0.737 1274 1745 1729 1712 1363 673 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 513 513 513 513 513 513 513 513 513	Satd. Flow (prot)	1642	1745	1441	1580	1712	1363	1658	3191	1441	1658	3191	1483
1274 1745 1421 1229 1712 1383 673 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513 3191 1410 513	Flt Permitted	0.737			0.740			0.386			0.294		
33 27 37 97 100 616 Perm NA Perm Perm NA Perm pm-pt NA Perm pm-pt NA Perm Port NA Perm Port NA Perm Port NA Perm Port NA Perm NA Perm Port NA Perm	Satd. Flow (perm)	1274	1745	1421	1229	1712	1363	673	3191	1410	513	3191	1449
Perm NA Perm Perm NA P	Satd. Flow (KI OK)	33	77	43	287	2	76	αr	710	182	100	616	, g
4	Turn Type	Perm	NA N	Perm	Perm	5 ₹	Perm	pm+nt	S A	Perm	tu+ma	N AN	Perm
10.0 10.0 10.0 10.0 10.0 5.0 10.0 5.0 10	Protected Phases	5	4	5	5	00	5	2 10	2		-	9	
100 100 100 100 100 100 100 50 100 50 100 404 404 404 404 404 40.4 40.4 40.4	Permitted Phases	4		4	00	•	∞	2	1	2	9	•	9
10.0 10.0 10.0 10.0 10.0 10.0 5.0 10.0 10	Detector Phase	4	4	4	∞	80	∞	2	2	2	_	9	9
100 100 100 100 100 100 100 100 50 100 10	Switch Phase												
40.4 40.4 40.4 43.4 43.4 43.4 114 40.4 40.4 114 43.4 43.4 43.6 54.0 54.0 120. 44.0 44.0 120. 44.0 43.8 43.8 43.8 43.8 43.8 43.8 40.9 40.0 40.0 40.0 40.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	2.0	10.0	10.0	2.0	10.0	10.0
49.1% 49.1% 49.1% 49.1% 19.1% 10.9% 40.0% 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4	Minimum Split (s)	40.4	40.4	40.4	43.4	43.4	43.4	11.4	40.4	40.4	11.4	43.4	43.4
3.7 3.7 3.7 3.7 3.7 4.2 4.2 4.2 4.2 4.2 2.2 2.2 2.2 2.2 2.2	Total Split (%)	49 1%	49 1%	49 1%	49 1%	49 1%	49 1%	10.9%	40.0%	40.0%	10.9%	40.0%	40.0%
2.7 2.7 2.7 2.7 2.7 2.2 2.2 2.2 2.2 2.2	Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.2	4.2	4.2
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2
Color Colo	Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
None None None None None None None CAMBA CAMBA C	Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
None None None None None None None S Yes Yes Yes Yes Yes Yes Yes S Yes	Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
North	Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
0.09 0.029 0.299 0.299 0.299 0.53 0.46 0.46 0.46 0.09 0.09 0.099 0.299 0	Kecall Mode	None	None	None	None	None	None	None 57 o	S-Max	C-Max	None 64.4	C-Max	C-Max
25.5 24.6 0.04 52.9 24.9 3.9 13.0 24.3 4.5 29.5 43.4 0.00 0.05 0.00 0.81 0.00 0.00 0.01 0.00 0.01 0.00 0.00	Actuated of Ratio	0.10	0.10	0.10	0.10	0.10	0.10	0.73	0.00	0.00	9.10	0.46	0.40
25.5 24.6 0.4 52.9 24.9 3.9 13.0 24.3 4.5 29.5 43.4 5.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	v/c Ratio	0.09	0.05	0.09	0.81	0.06	0.17	0.14	0.49	0.24	0.29	0.39	0.08
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Control Delay	25.5	24.6	0.4	52.9	24.9	3.9	13.0	24.3	4.5	29.5	43.4	16.3
25.5 24.6 0.4 \$2.9 24.9 3.9 13.0 24.3 4.5 29.5 43.4 14.8 C A D C A B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C D B C A C A C A C A C A C A C A C A C A C	Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0
C A D C A B C A C D 14.8 4.0 B C A C D B B D B B D B B D B D B B D D B B D D C A 13.2 B A 14.3 A 14.3 B A 14.3 B A 14.3 A 14.3 B A 1	Total Delay	25.5	24.6	0.4	52.9	24.9	3.9	13.0	24.3	4.5	29.5	43.4	16.3
14.8 4.10 19.9 345. BB 25.4 Co. BB 20 B B D B B D B B D B B D D B B D D B B D D B B D D B B D D D S Co. B	TOS	O	O S	⋖	۵	O :	⋖	m	O	⋖	O	٥	ш
5.2 4.2 0.0 56.9 4.8 0.0 4.9 55.4 0.0 185 74.3 10.7 9.2 0.0 76.9 10.11 6.7 13.2 88.7 14.5 37.9 93.4 178.3 20.0 76.9 10.11 6.7 13.2 88.7 14.5 37.9 93.4 313.2 64.5 70.0 69.5 45.0 62.5 97.5 93.4 178.5 66.9 531 740 644 419 1465 745 374 1568 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Approach Delay		14.8			41.0			19.9			39.5	
5.2 4.2 0.0 56.3 4.8 0.0 4.9 55.4 0.0 18.5 74.3 10.7 6.9 10.1 6.7 13.2 88.7 14.5 37.9 33.4 10.7 6.9 10.1 6.7 13.2 88.7 14.5 37.9 33.4 20.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Approach LOS	ı	m 5	d	c	۵ ;	0	-	B :	0		0 5	3
62.5	Queue Length 50th (m)	2.5	4.2	0.0	26.9	8.4	0.0	9.4	55.4	0.0	18.5	02.4	12.1
62.5 64.5 70.0 63.5 45.0 62.5 97.5 551 755 669 531 740 644 419 1465 745 374 1568 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Internal Link Dist (m)	2	178.3	9	2	204.4	5	7.0	313.2	2	2	301.0	- 4
551 755 669 531 740 644 419 1465 745 374 1568 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Turn Bay Length (m)	62.5		64.5	70.0		63.5	45.0		62.5	97.5		50.0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Base Capacity (vph)	251	755	699	531	740	644	419	1465	745	374	1568	761
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Starvation Cap Reductn	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	Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
0.06 0.04 0.06 0.54 0.04 0.12 0.14 0.49 0.24 0.29 0.39 dbphase 2:NBTL and 6:SBTL, Start of Green	Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Summary Oycle Length: 110 Actuated Cycle Length: 110 Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 100	Reduced v/c Ratio	90.0	0.04	90.0	0.54	0.04	0.12	0.14	0.49	0.24	0.29	0.39	0.08
Cycle Length: 110 Actuated Cycle Length: 110 Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 100	Intersection Summary												
Adutated Cytole Lengur. 110 Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Matural Cytole: 100	Cycle Length: 110												
Natural Cycle: 100	Addated Cycle Length: 110 Offset: 27 (25%) Reference	od to phace	2-NRTI	and 6:SB	TI Start of	of Green							
	Noting Cigls: 100				í.								

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing AM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

Intersection LOS: C ICU Level of Service C Intersection Signal Delay: 30.2 Intersection Capacity Utilization 72.8% Analysis Period (min) 15 Maximum v/c Ratio: 0.81

6: Terry Fox & Campeau Splits and Phases:



MOVEMENT SUMMARY

09/29/2021

₩ Site: 101 [Huntmar-Campeau PM Existing]

Arcadia Stage 5 Site Category: (None) Roundabout

Mo	Movement Performance - Vehicles	formanc	e - Vehi	cles								
Mo □	Tum	Demand Flows Total HV	Flows HV	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Average Cycles Speed km/h	Average Speed km/h
Sour	South: Huntmar											
-	L2	81	2.0	0.090	8.3	LOSA	0.2	1.7	0.29	0.64	0.29	50.1
7	Ξ	387	2.0	0.423	2.8	LOS A	1.5	10.9	0.39	0.33	0.39	49.5
က	R2	62	2.0	0.069	3.3	LOS A	0.2	1.3	0.29	0.45	0.29	51.4
App	Approach	530	2.0	0.423	3.7	LOSA	1.5	10.9	0.36	0.39	0.36	49.8
East	East: Campeau											
4	L2	40	2.0	0.057	11.3	LOSB	0.1	1.0	0.41	0.77	0.41	50.3
2	Ξ	24	2.0	0.036	5.4	LOSA	0.1	0.7	0.43	0.53	0.43	56.6
9	R2	89	2.0	0.011	5.7	LOSA	0.0	0.2	0.42	0.59	0.42	50.9
App	Approach	72	2.0	0.057	8.7	LOSA	0.1	1.0	0.42	0.67	0.42	52.3
Nort	North: Huntmar											
7	L2	6	2.0	0.201	8.0	LOS A	9.0	4.4	0.23	0.27	0.23	54.0
œ	Ξ	393	2.0	0.201	2.1	LOS A	9.0	4.4	0.22	0.26	0.22	50.2
တ	R2	148	2.0	0.148	3.0	LOS A	0.4	3.0	0.22	0.40	0.22	51.6
App	Approach	220	2.0	0.201	2.5	LOSA	9.0	4.4	0.22	0:30	0.22	50.6
Wes	West: Campeau											
9	L2	190	2.0	0.233	10.8	LOSB	0.7	4.8	0.39	0.75	0.39	50.3
£	Ξ	79	2.0	0.099	4.7	LOS A	0.3	1.9	0.37	0.46	0.37	56.9
12	R2	99	2.0	0.080	4.7	LOSA	0.2	1.4	0.34	0.56	0.34	51.5
Арр	Approach	334	2.0	0.233	8.2	LOSA	0.7	4.8	0.38	0.65	0.38	52.0
¥	All Vehicles	1487	5.0	0.423	4.5	LOSA	1.5	10.9	0.32	0.43	0.32	50.7

Site Level of Service (LOS) Method: Delay & vic (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Application St. Monta. US HOM 2010.

Roundabout Capacity Model: US HOM 2010.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity. Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: CGH TRANSPORTATION | Processed: November 17, 2021 10:44:11 AM Project CAUSersAndrewHarlerCGH TRANSPORTATIONICGH Working - DocumentsIProjects2021-098 Minto Arcadia Stage 5IDATA\Sidra V0271-40:8 Sidra 2021-40:24 spig

Synchro 11 Report Page 6

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing AM Peak Hour

Lanes, Volumes, Timings 4: Terry Fox & Kanata

	-	4	←	*	•	 →	
Lane Group	WBL	WBR	NBT	NBR	SB	SBT	
Lane Configurations	E	¥.	**	æ	J.C	**	
Traffic Volume (vph)	241	146	655	335	265	722	
Future Volume (vph)	241	146	655	332	265	722	
Satd. Flow (prot)	3216	1469	3316	1483	1658	3316	
Flt Permitted	0.950				0.950		
Satd. Flow (perm)	3216	1469	3316	1452	1653	3316	
Satd. Flow (RTOR)		162		372			
Lane Group Flow (vph)	268	162	728	372	294	802	
Turn Type	Prot	Perm	Ν	Perm	Prot	NA	
Protected Phases	∞		2		_	9	
Permitted Phases		00		2			
Detector Phase	∞	∞	2	2	_	9	
Switch Phase							
Minimum Initial (s)	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	31.2	31.2	25.0	25.0	11.0	25.0	
Total Split (s)	32.0	32.0	20.0	20.0	28.0	20.0	
Total Split (%)	29.1%	29.1%	45.5%	45.5%	25.5%	45.5%	
Maximum Green (s)	25.8	25.8	44.0	0.44	22.0	0.44	
Yellow Time (s)	3.7	3.7	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.5	2.5	1.8	1.8	- 8:	1.8	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0:0	0.0	
Total Lost Time (s)	6.2	6.2	0.9	0.9	0.9	0.9	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Max	Max	None	Max	
Walk Time (s)	7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	18.0	18.0	12.0	12.0		12.0	
Pedestrian Calls (#/hr)	0	0	0	0		0	
Act Effct Green (s)	13.2	13.2	44.1	44.1	20.7	70.8	
Actuated g/C Ratio	0.14	0.14	0.46	0.46	0.21	0.74	
v/c Ratio	0.61	0.48	0.48	0.43	0.83	0.33	
Control Delay	42.4	11.1	20.1	3.6	26.8	5.1	
Queue Delay	0:0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.4	1.1	20.1	3.6	26.8	5.1	
SO		മ	ပ	∢	ш	∢ ;	
Approach Delay	32.5		14.5			19.0	
Approach LOS	O		ш			ш	
Queue Length 50th (m)	24.8	0.0	49.2	0.0	52.4	22.9	
Queue Length 95th (m)	37.2	17.0	8.69	16.0	#97.3	35.8	
Internal Link Dist (m)	616.6		846.8			487.6	
Turn Bay Length (m)				100.0	85.5		
Base Capacity (vph)	863	513	1519	998	379	2485	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.31	0.32	0.48	0.43	0.78	0.32	
Intersection Summary		ı	ı	i			

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing PM Peak Hour

Synchro 11 Report Page 1

Lanes, Volumes, Timings 4: Terry Fox & Kanata

09/29/2021

09/29/2021

Intersection LOS: B ICU Level of Service B intersection Signate Delay: 19.3 InterIntersection Capacity Utilization 57.0%
Analysis Period (min) 5
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles. Cycle Length: 110
Actuated Cycle Length: 36.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum vic Ratio: 0.83

Splits and Phases: 4: Terry Fox & Kanata

√₈₀ 902 90

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

Lane Group EBL EBT EBR WBL WBI Lane Configurations Lane Configurations Traffic Volume (vph) 0 0 54 0 Traffic Volume (vph) 0 0 1745 0 0 1658 Traffic Volume (vph) 0 0 1745 0 0 1658 Satd. Flow (prot) 0 1745 0 0 1321 Satd. Flow (vph) 0 0 0 0 60 Trun Type Traffic Split (s) 1316 316 316 316 Traffic Split (s) 1325, 225, 225, 225, 225, 225, 225, 225,								
(m) (m) (m) (m) (m) (m) (m) (m)	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
(m)	₹	*	<u>"</u>	₩		r	₽	
(m)		113	18	877	89	82	881	0
(m)				877		82	88	0
(m) (m) (m) (m) (m) (m) (m) (m)	ľ	1483		3279	0	1658	3316	0
(m)		1483	0.246	3270	_	389	3316	C
(m)				13	•	3	2	•
(m) (m) (m) (m) (m) (m) (m) (m)	09	126	50	1050	0	91	626	0
(m) (m) (m) (m) (m) (m) (m) (m)	z	Perm P	Perm	NA	_	Perm	¥	
(m) (m) (m) (m) (m) (m) (m) (m)	∞	d	c	2		d	9	
(m)			2			9		
(m) (m) (m) (m) (m) (m) (m) (m)		31.6	31.4	31.4		32.8	32.8	
(m) (m) (m) (m) (m) (m) (m) (m)	39.0			81.0			81.0	
) 32.4 32.4 32.4 32.4 32.4 32.4 3.0 3.0 3.0 3.0 3.0 0.0 0.0 6.6 7 70 70 70 7 70 70 70 (m) 18.0 18.0 18.0 (m) 19.8 (m) 19.8 (m) 19.8	32.5%	9		67.5%	9		67.5%	
(m) (m) (m) (again to the first of the first			74.6	74.6		74.6	74.6	
(m)		0.0 9.0	7.4	7.4		4.4	4.4	
(m)		0.0	0.0	0.0		0.0	0.0	
(m) (m) 19.8 (m) (m) (m) (m) 19.8 (m)	9.9	9.9	6.4	6.4		6.4	6.4	
7 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.								
(m)								
(m)	0.7	0.7	7.0	7.0		7.0	7.0	
(m) (m) (m) 19.8 (m) 19.8 (m)	18.0	18.0	18.0	18.0		18.0	18.0	
(m) 19.8 (m) 10.8 (m) 19.8 (m) 10.1 (m)			0	0		0	0	
19.8	32.4		74.6	74.6		74.6	74.6	
19.8	0.27	0.27 0	0.62	0.62		0.62	0.62	
19.8	0.17		80:0	0.51		0.38	0.48	
19.8	32.1	7.2	5.4	0.9		16.8	13.1	
19.8	0.0	0:0	0.0	0.0		0.0	0.0	
19.8	35.1	7.2	5.4	0.9		16.8	13.1	
19.8	Δ	⋖	⋖	⋖		മ	മ	
19.8	16.2			0.9			13.5	
10. 22 22 32 33 36	മ			⋖			ш	
19.8 92 35	10.8	0.0	0.7	19.8		6.6	8.09	
19.8 92. 35	22.1	14.2 m	m1.7	27.2		22.4	75.6	
35	92.3		က	301.0			846.8	
36		۵,	51.0			61.0		
01	356	492	266	2043		241	2061	
0.1	0	0	0	0		0	0	
0.1	0	0	0	0		0	0	
	0	0	0	0		0	0	
ntersection Summary	0.17		80.0	0.51		0.38	0.48	
Note I anoth: 190								
Oyole Lerigui. 120								
Actuated Cycle Length: 120 Officet 83 (69%) Referenced to phase 2:NBTI and 6:SBTI Start of Green	of Green							
Original Cycle: 65								
Software Distinct								

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 Existing PM Peak Hour

Synchro 11 Report Page 3

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

09/29/2021

09/29/2021

Intersection LOS: B ICU Level of Service B Maximum v/c Patio: 0.51
Intersection Signal Delay: 10.2
Intersection Capacity Utilization 60.7%
Intersection Capacity Utilization 60.7%
Intersection Capacity Utilization 50.7%
Intersection Capacity Utilization 50.7%
In Volume for 95th percentile queue is metered by upstream signal.

	₽ 04	39 s	80 ♣	39 s
Splits and Phases: 5: Terry Fox & Signature SC				
Splits and Phases:	[≪] √ Ø2 (R)	818	₩ Ø6 (R)	818

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing PM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

Lane Group Lane Configurations	EBL	H										
Lane Configurations		EB	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Tuniffic Volume Comb	*	*	*	r	*	*	*	‡	*	r	‡	¥.
rame volume (vpn)	72	89	96	248	22	17	25	746	188	164	736	20
Future Volume (vph)	72	89	96	248	24	7	25	746	188	164	736	20
Satd. Flow (prot)	1658	1745	1483	1658	1712	1483	1658	3316	1483	1658	3316	1483
Flt Permitted	0.716			0.708			0.304			0.238		
Satd. Flow (perm)	1248	1745	1464	1234	1712	1464	230	3316	1449	415	3316	1449
Satd. Flow (RTOR)			107			123			208			88
ane Group Flow (vph)	8	92	107	276	83	123	28	829	209	182	818	56
Turn Type	Perm	ĕ,	Perm	Perm	Υ	Perm	pm+pt	Ϋ́ Y	Perm	bm+pt	≨°	Pem
Protected Phases	,	4	•	•	×	•	<u>م</u>	7	•	- (٥	•
Permitted Phases	4		4	∞ (∞ (7	•	.7	. م	•	9
Detector Phase	4	4	4	∞	∞	x	2	2	2	_	9	9
Switch Phase		0	4	9	2	4		4	4	L	9	4
Minimum Initial (s)	10.0	10.0	0.01	10.0	10:0	10.0	2.0	0.01	10.0	2.0	0.01	10.0
Minimum Split (s)	40.4	40.4	40.4	43.4	43.4	43.4	11.4	40.4	40.4	4.1.4	43.4	43.4
l otal Split (s)		48.0	48.0	48.0	48.0	48.0	0.22	20.0	20.0	0.22.0	20.0	50.0
l otal Split (%)		40.0%	40.0%	40.0%	40.0%	40.0%	18.3%	41.7%	41.7%	18.3%	41.7%	41.7%
waximum Green (s)	41.6	41.6	41.6	41.6	0.14	41.0	0.01	43.6	43.6	0.5	43.6	43.6
rellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2
ost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
otal Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Fag
-ead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
/ehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Secall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Valk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
-lash Dont Walk (s)	27.0	27.0	27.0	30.0	30.0	30.0		27.0	27.0		30.0	30.0
Pedestrian Calls (#/hr)	—	_	-	~	τ-	-		τ-	-		2	2
Act Effct Green (s)	31.9	31.9	31.9	31.9	31.9	31.9	64.9	27.6	97.9	73.8	64.0	64.0
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.54	0.48	0.48	0.62	0.53	0.53
//c Ratio	0.24	0.16	0.23	0.84	0.14	0.26	0.16	0.52	0.26	0.49	0.46	0.07
Control Delay	34.0	35.1	6.5	62.9	31.4	6.3	12.4	25.2	4.3	22.5	16.1	9.0
∆ueue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fotal Delay	34.0	32.1	6.5	65.9	31.4	6.3	12.4	25.2	4.3	22.5	16.1	9.0
SO:	ပ	O	∢	ш	O	∢	Ф	O	∢	O	Ф	∢
Approach Delay		22.2			43.6			20.5			16.3	
Approach LOS		O						O			Ω	
Queue Length 50th (m)	14.8	13.7	0.0	61.3	1.3	0.0	2.0	69.4	0.1	16.7	43.6	0.0
Queue Length 95th (m)	25.1	23.3	11.8	84.9	20.1	12.6	12.5	108.7	15.5	41.9	52.7	1.3
ntemal Link Dist (m)		1/8.3		i	4.4			313.2			301.0 0.1	
l urn Bay Length (m)	62.5		64.5	70.0		63.5	45.0		62.5	97.5		20.0
Base Capacity (vph)	432	604	211	427	293	287	468	1591	803	421	1767	813
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	·	·						2				

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing PM Peak Hour

Synchro 11 Report Page 5

Lanes, Volumes, Timings 6: Terry Fox & Campeau

09/29/2021

09/29/2021

Cycle Length: 120
Actuated Cycle Length: 120
Offset 93 (78%), Referenced to phase 2.NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum Wic Ratio. 0.84
Intersection Signal Delay: 22.9
Intersection Capacity Utilization 75.4%
Analysis Period (min) 15

Intersection LOS: C ICU Level of Service D

₽04 80 ♣ 6: Terry Fox & Campeau * 206 (R) Ø2 (R) Splits and Phases:

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 Existing PM Peak Hour

Appendix D

Background Development Volumes



Figure 20: Trip Assignment

100 (20) 1 - 10 (2

€ 10 (45) ← 35 (60) Street 1 +28 (49)
(70) 15 + 1 (68)
(5) 35 - 1 (68)
(6) (6) (6) (6)

Street 5

oo driv

NOT TO SCALE

← AM (PM) ← peak hour turning ← movement volumes

1

4 42 (90)

(6) (15) (15) (15) (15) (15) Maple Grove Road

Residential Access Points

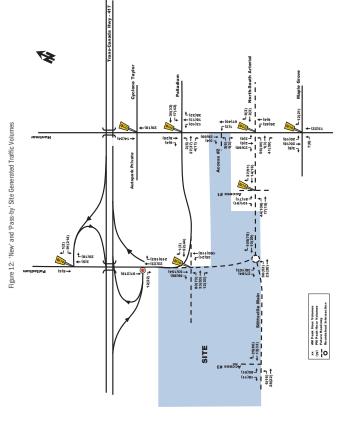
Retail Access Points
School Access Point

Hazeldean Road

DILLON

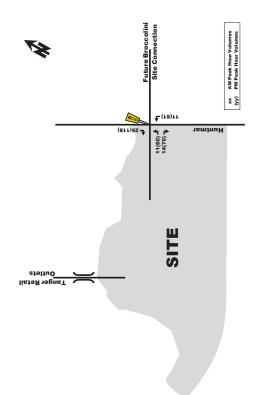
Urbandale Construction Ltd. 130 Huntmar Drive - Transportation Impact Assessment (TIA) September 2020–19-1698

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nkman/Cavanagh - Kanata West - Community Transportation Study

Figure 3: 'New' and 'Pass-by' Site-Generated Traffic Volumes

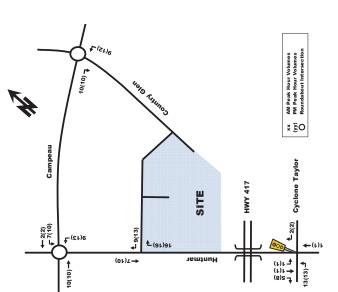


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3.1.3. TRIP DISTRIBUTION AND ASSIGNMENT

Given the low projected number of vehicle trips projected to be generated by the proposed development, the future roadway network impact is considered negligible. However, a review of the number of vehicles projected to enter/exit the site at the proposed site driveways is provided as Figure 7.

Figure 7: Site-Generated Vehicle Trips



1

TIA Strategy Report Purolator Development

August 13, 2020

800 Palladium Drive Transportation Impact Assessment	Forecasting	March 19, 2019

Figure 12 - Net Site Generated Traffic Volumes

I Peak Hour		PM Peak Hour		
		١		
0 0		0 1	o	
2 0 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Private shared Access	\$ 0	0 → 1 f Access	
3	Private Shared	2		
Site Access 1	0		Site Access 1 0 0	
Site Access 2	-		- n	
c	7 7 0	J	26 1 39 0	
	7 ~ 94	\$ 0 %	26 1 39	
0 1 7 7 7	no palladium 0 → L	0 1 7 7	loq	Palladium
27 - 1 1 - 1	29 → Drive	7 1 6 7 81	1 88	Drive
0 0 0		0 0 0		
٥		0		
Cyclone Taylor Rouleward		Cyclone Taylor Roullecored		

25

chev. (860 1844 planning) report 3. shrafegy vezi 800 polad un sta tegy (50, al 20) (96.0 cx

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 12: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 13: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 14: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 14: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 14: Purplator Fedity Site Generated Taffic (Phase 1)

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Figure 14: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 14: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 14: Purplator Fedity Site Generated Taffic (Phase 1)

Figure 14: Purplator Fedity Site

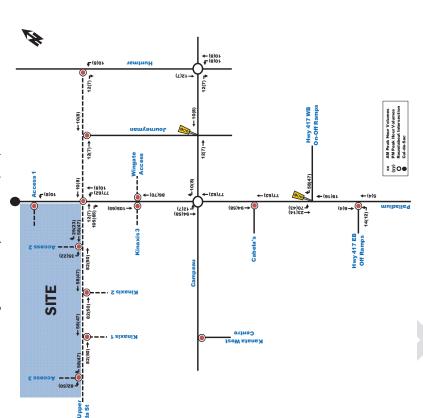
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TIA Strategy Report Purolator Development

August 13, 2020

Figure 13: Purolator Facility Site-Generated Traffic (Phase 2)



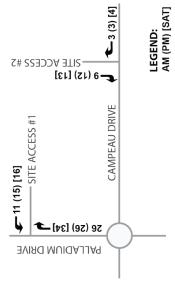
Page | 19

IBI GROUP 23TFINAL REPORT TRANSPORTATION IMPACT ASSESSMENT – 8600 CAMPEAU DRIVE (WINGATE HOTEL) Preparded Boreal Hospitality Group

3.1.7 Trip Assignment

Utilizing the estimated number of new auto trips and applying the above distribution, future site-generated traffic volumes at each of the proposed site access driveways have been illustrated in Figure 3 as follows:

Figure 3 - Site-Generated Traffic



> Based on the anticipated turning movement volumes illustrated in Figure 3 above, it is not expected that there will be any operational impacts at either of the site access driveways and therefore no further analysis is required.

May 16, 2018 16

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3.1.2. TRIP DISTRIBUTION AND ASSIGNMENT

Based on the 2011 NCR Household Origin-Destination Survey (Kanata - Stittsville district) and the location of adjacent arterial roadways and neighbourhoods, the distribution of site-generated traffic volumes was estimated as follows:

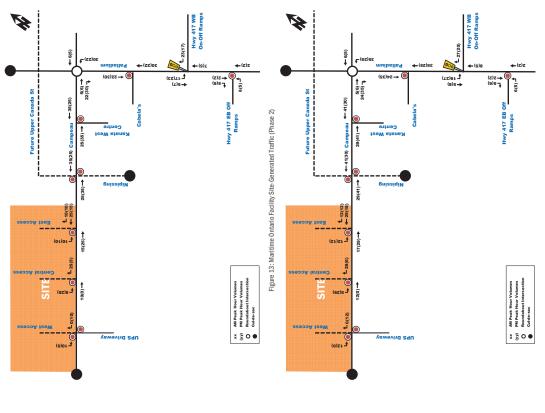
- to/from the north; 25% 10% 60% 5%
 - to/from the south;
- to/from the east; and, to/from the west.

The expected site-generated auto trips in Table 4 were then assigned to the road networks as shown in Figure 9 below, based on existing traffic volumes, estimated travel times and engineering judgement.





Figure 12: Maritime Ontario Facility Site-Generated Traffic (Phase 1)



Maritime Ontario Kanata West - TIA Report

340 Huntmar Drive Transportation Impact Assessment

Figure 11: New Site Generation Auto Volu

7(15) 0(0) 0(0)

19(42) 41 L

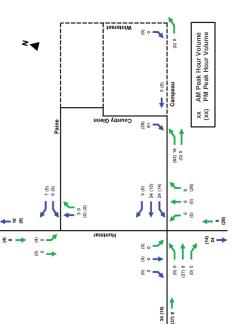
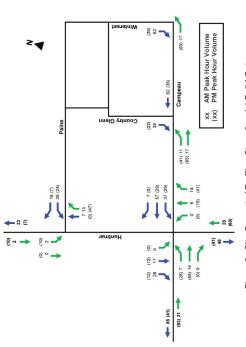


Figure 5: Site-Generated Traffic - Stage 3 Build-Out



↓ ↓ ↓

(0)0) →

† † ↑ ↑ §§§

↑↑<u></u>

¶ 1 ↑ ↑ 8 8 8

Figure 6: Site-Generated Traffic - Stage 3 and 4 Build-Out

J.L. Richards & Associates Limited JLR No.: 26299-01

-1

July 10, 2019 Revision: 01





Appendix E

Synchro and Sidra Intersection Worksheets – 2025 Future Background Conditions



¥ Site: 101 [Huntmar-Campeau AM FB2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Mover	nent Pe	Movement Performance - Vehicles	e - Vehi	cles								
Mov	Turn	Demand Flows Total HV	Flows F	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South:	South: Huntmar											
-	L2	33	2.0	0.033	7.9	LOSA	0.1	9.0	0.19	0.58	0.19	50.4
2	F	403	2.0	0.402	2.2	LOSA	1.5	10.4	0.27	0.26	0.27	50.0
3	R2	53	2.0	0.053	2.9	LOSA	0.1	1.0	0.20	0.38	0.20	51.7
Approach	ach	489	2.0	0.402	2.7	LOSA	1.5	10.4	0.26	0.30	0.26	50.2
East: C	East: Campeau											
4	L2	132	2.0	0.170	10.9	LOS B	0.5	3.3	0.40	0.76	0.40	50.3
2	Ξ	83	2.0	0.109	4.9	LOS A	0.3	2.1	0.40	0.49	0.40	56.8
9	R2	28	2.0	0.037	5.2	LOSA	0.1	0.7	0.38	0.58	0.38	51.1
Approach	ach	243	2.0	0.170	8.2	LOSA	0.5	3.3	0.39	0.65	0.39	52.4
North:	North: Huntmar											
7	L2	7	2.0	0.197	8.3	LOSA	9.0	4.2	0.30	0.31	0.30	53.6
80	7	357	2.0	0.197	2.5	LOSA	9.0	4.2	0.29	0.30	0.29	49.9
6	R2	106	2.0	0.115	3.3	LOSA	0.3	2.3	0.28	0.45	0.28	51.4
Approach	ach	470	2.0	0.197	2.8	LOSA	9.0	4.2	0.29	0.33	0.29	50.2
West: (West: Campeau											
10	L2	89	2.0	0.087	10.8	LOS B	0.2	1.6	0.37	0.74	0.37	50.4
£	Ξ	29	2.0	0.087	4.9	LOSA	0.2	1.7	0.39	0.48	0.39	56.8
12	R2	38	2.0	0.048	4.8	LOSA	0.1	0.9	0.36	0.57	0.36	51.4
Approach	ach	173	2.0	0.087	7.2	LOSA	0.2	1.7	0.37	0.60	0.37	52.9
All Vehicles	ides	1375	2.0	0.402	4.3	LOSA	1.5	10.4	0.31	0.41	0.31	50.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

Tal DRA Sannard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity. Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

₩ Site: 101 [Country Glen-Campeau AM FB2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Mover	nent Pe	Movement Performance - Vehicles	e - Vehi	cles								
Mo√	Tum	Demand Flows Total HV	Flows HV	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South:	South: Country Glen	Glen										
_	L2	44	2.0	0.024	1.8	LOSA	0.1	0.4	0.17	0.25	0.17	39.4
2	ĭ	~	2.0	0.024	0.3	LOS A	0.1	0.4	0.16	0.23	0.16	29.5
က	R2	4	2.0	0.024	0.3	LOS A	0.1	0.4	0.16	0.23	0.16	38.2
Approach	당	49	2.0	0.024	1.6	LOSA	0.1	0.4	0.17	0.25	0.17	39.0
East: C	East: Campeau											
4	L2	7	2.0	0.033	9.6	LOSA	0.1	9.0	0.15	0.42	0.15	42.9
2	Ţ	22	2.0	0.033	3.5	LOS A	0.1	9.0	0.15	0.39	0.15	57.8
9	R2	2	2.0	0.033	4.4	LOSA	0.1	9.0	0.14	0.36	0.14	38.8
Approach	유	69	2.0	0.033	4.2	LOS A	0.1	9.0	0.15	0.39	0.15	54.0
North:	North: Country Glen	Glen										
7	L2	19	2.0	0.153	1.8	LOS A	0.4	3.0	0.17	0.09	0.17	40.5
80	Ţ	_	2.0	0.153	0.3	LOSA	0.4	3.0	0.17	0.09	0.17	29.8
6	R2	138	2.0	0.153	0.3	LOS A	0.4	3.0	0.17	0.09	0.17	39.0
Approach	늉	158	2.0	0.153	0.5	LOSA	0.4	3.0	0.17	0.09	0.17	39.1
West: (West: Campeau											
10	L2	20	2.0	0.057	9.5	LOS A	0.2	1.4	0.10	0.58	0.10	41.6
£	ī	52	2.0	0.057	3.4	LOS A	0.2	4.	0.10	0.41	0.10	57.5
12	R2	21	2.0	0.057	4.3	LOS A	0.2	1.4	0.10	0.36	0.10	38.8
Approach	5	123	2.0	0.057	0.9	LOSA	0.2	4.1	0.10	0.47	0.10	46.4
All Vehicles	icles	388	2.0	0.153	3.0	LOSA	0.4	3.0	0.15	0.28	0.15	43.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS FW inssult if vic > 1 insepseudve of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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₩ Site: 101 [Winterset-Campeau AM FB2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	Movement Performance - Vehicles	formanc	e - Vehi	icles								
Mo√	Turn	Demand Flows Total HV	Flows	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles Distance	of Queue Distance	Prop. Queued	Effective Stop Rate	Effective Aver. No. Average stop Rate Cycles Speed	Average Speed
East: (East: Campeau											
2	Ξ	38	2.0	0.017	3.3	LOSA	0.0	0.3	0.03	0.32	0.03	59.0
9	R2	6	2.0	0.008	4.2	LOSA	0.0	0.1	0.03	0.45	0.03	38.5
Approach	ach	47	2.0	0.017	3.4	LOSA	0.0	0.3	0.03	0.34	0.03	53.6
North:	North: Winterset											
7	L2	31	2.0	0.029	1.6	LOSA	0.1	0.5	0.08	0.23	0.08	39.4
0	R2	31	2.0	0.014	0.1	LOSA	0.0	0.3	0.09	0.02	0.09	39.4
Approach	ach	62	2.0	0.029	0.8	LOSA	0.1	0.5	0.09	0.13	0.09	39.4
West:	West: Campeau											
9	L2	8	2.0	0.041	9.4	LOSA	0.1	0.7	0.08	0.40	0.08	43.1
£	1	91	2.0	0.041	3.3	LOSA	0.1	0.7	0.09	0.35	0.09	58.3
Approach	ach	66	2.0	0.041	3.8	LOSA	0.1	0.7	0.09	0.35	0.09	29.7
All Vehicles	nides	208	2.0	0.041	2.9	LOSA	0.1	0.7	0.07	0.28	0.07	49.6

Site Level of Service (LOS) Method: Delay & vic (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Roundabout LOS Method: SIDRA Roundabout LOS.

LOS Fewline movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS Fewlin result if vic> 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

SIDRA Standard Delay Model: US HCM 2010.

SIDRA Standard Delay Model: US control Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Lanes, Volumes, Timings 4: Terry Fox & Kanata

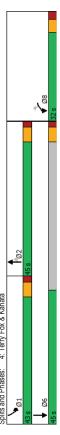
11/12/2021

	-	1	—	•	۶	→	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	F	¥L.	‡	¥	<i>y</i> -	₩	
Traffic Volume (vph)	317	337	669	172	253	515	
Future Volume (vph)	317	337	669	172	253	515	
Satd. Flow (prot)	3185	1414	3283	1441	1595	3283	
Flt Permitted	0.950				0.950		
Satd. Flow (perm)	3185	1414	3283	144	1595	3283	
Satd. Flow (RTOR)		337	0	172	c i		
Lane Group Flow (vph)	راد 1	33/	669	1/2	253	515	
Turn Type	Prot	Perm	Υ Y	Perm	Prot	¥.	
Protected Phases	œ	c	7.	d	_	9	
Permitted Phases	c	∞ α	c	.7 0	,	c	
Detector Phase	∞	∞	2	2	_	9	
Switch Phase							
Minimum Initial (s)	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	31.2	31.2	25.0	25.0	11.0	25.0	
Total Split (s)	32.0	32.0	45.0	45.0	43.0	45.0	
Total Split (%)	26.7%	26.7%	37.5%	37.5%		37.5%	
Yellow Time (s)	3.7	3.7	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.5	2.5	8:	6 .	4.	1.8	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.2	6.2	0.9	0.9	0.9	0.9	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Recall Mode	None	None	Max	Max	None	Max	
Act Effct Green (s)	14.7	14.7	39.4	39.4	20.0	65.5	
Actuated g/C Ratio	0.16	0.16	0.43	0.43	0.22	0.71	
v/c Ratio	0.63	99.0	0.50	0.24	0.74	0.22	
Control Delay	45.8	11.2	22.6	4.4	47.4	5.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0:0	
Total Delay	45.8	11.2	22.6	4.4	47.4	5.2	
SOT	۵	ш	O	⋖	۵	A	
Approach Delay	56.6		19.0			19.1	
Approach LOS	O		ш			a	
Queue Length 50th (m)	27.1	0.0	45.7	0.0	41.6	14.0	
Queue Length 95th (m)	9.44.6	24.8	80.7	13.5	71.9	24.8	
Internal Link Dist (m)	9.919		846.8			487.6	
Turn Bay Length (m)				100.0	85.5		
Base Capacity (vph)	868	640	1399	713	644	2924	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.35	0.53	0.50	0.24	0.39	0.18	
Intersection Summary							
Cycle Length: 120							
Actuated Cycle Length: 92.5							
Natural Cycle: 75							
Control Type: Actuated-Uncoordinated	ordinated						
Maximum v/c Ratio: 0.74							

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background AM Peak Hour

Intersection LOS: C ICU Level of Service B Lanes, Volumes, Timings 4: Terry Fox & Kanata Intersection Signal Delay, 21.2 Intersection Capacity Utilization 59.9% Analysis Period (min) 15

Splits and Phases: 4: Terry Fox & Kanata



Synchro 11 Report Page 5 Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background AM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

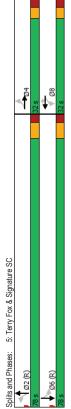
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Part		1	†	*	>	ţ	4	•	←	•	۶	→	•
1,000 1,00	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0 1745 0 9 0 28 0 856 20 30 14	Lane Configurations		4			₩	*	je-	₩		<u></u>	₹	
0 1745 0 0 186 1455 1745 3233 0 1668 37 0 1677 0 1745 0 0 1386 1455 1745 3233 0 1668 3 1 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Traffic Volume (vph)	0	0	0	တ	0	28	0	856	20	8	839	0
0 1745 0 0 1386 1455 1745 3233 0 1668 33 0 1745 0 0 1745 0 0 134 1455 1745 3233 0 1671 3 4 4 9 9 28 0 876 0 30 4 9 1 1745 0 0 1744 1455 1745 3233 0 1671 3 1 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Future Volume (vph)	0	0	0	о	0	28	0	826	20	30	839	0
1745	Satd. Flow (prot)	0	1745	0	0	1386	1455	1745	3233	0	1658	3283	0
143	Fit Permitted	c	1,11	c	c	0.757		1777		c	0.293	0000	c
10	Satd. Flow (perm)	0	1/45	0	>	1104	1455	1/45	3233	0	21.1	3283	0
10	Jana Groum Flow (vmh)	_	C	C	C	σ	5 C	C	448	C	30	830	
4 4 8 8 2 2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Turn Tyne	•	•	>	Perm	, A	Perm	Perm	N AN	•	Perm	S N	•
316 316 316 316 316 314 314 314 315 32 320 320 320 320 320 320 320 320 320	Protected Phases		4			∞			2			9	
316 316 316 316 316 314 314 3128 328 320 320 320 730, 703% 703% 703% 703% 703% 703% 703% 703%	Permitted Phases	4			œ		80	2			9		
32.0 32.0 32.0 78.0 78.0 78.0 78.0 29.1% 29.1% 29.1% 29.1% 29.1% 29.1% 70.9% 7	Minimum Split (s)	31.6	31.6		31.6	31.6	31.6	31.4	31.4		32.8	32.8	
29.1% 29.1% 29.1% 70.9%	Total Split (s)	32.0	32.0		32.0	32.0	32.0	78.0	78.0		78.0	78.0	
3.0 3.0 3.0 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2	Total Split (%)	29.1%	29.1%		29.1%	29.1%	29.1%	%6.02	%6.02		%6.02	%6:02	
10.0	Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.2	4.2		4.2	4.7	
110	All-Red Time (s)	0.0	0.0		3.0	0.0	0.0	7.7	7.7		7.7	7.7	
25.4 25.4 71.6 71.6 71.6 71.6 70.9 0.04 0.08 0.04 0.09 0.04 0.08 0.42 0.09 0.04 0.08 0.42 0.09 0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Total Lost Time (s)		9 9			9 9	9 9	5.0	5.0		6.0	6.0	
25.4 25.4 71.6 71.6 71.6 71.6 71.6 0.23 0.23 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65	lead/lan		5			2	3	5	5		5	5	
25.4 25.4 71.6 71.6 71.6 71.6 72.0 0.23 0.23 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65	Lead-Lag Optimize?												
023 023 065 065 0.65 0 004 008 042 0.09 0 034 99 140 80 00 0.0 0.0 0.0 00 0.0 0.0 0.0 00 0.0 0.	Act Effet Green (s)					25.4	25.4		71.6		71.6	71.6	
0.04 0.08 0.42 0.09 0 33.4 9.9 14.0 80 0.0 0.0 0.0 0.0 0.0 0.0 33.4 9.9 14.0 80 1.10 0.0 0.0 0.0 0.0 0.0 1.10 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Actuated g/C Ratio					0.23	0.23		0.65		0.65	0.65	
33.4 9.9 140 8.0 0.0 0.0 0.0 33.4 9.9 140 8.0 C A B A 15.6 A 140 8.0 15.6 6.1 100.8 5.9 5.5 16.10 80.4 2.2 4 25.6 6.1 100.8 5.9 5.9 19.8 92.3 30.10 61.0 10.0 0 0 0	v/c Ratio					0.04	0.08		0.42		0.09	0.39	
14.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Control Delay					33.4	6.6		14.0		8.0	9.7	
15.6 A B A A B B A A B B B B B B B B B B B	Queue Delay					0.0	0.0		0.0		0.0	0.0	
15.6 A B A 14.0 B 15.0 B B B B B B B B B B B B B B B B B B B	Total Delay					33.4	6.6		14.0		8.0	9.7	
156 140 B	SOT					O	⋖		ш		⋖	∢	
B B B B C C C C C C C C C C C C C C C C	Approach Delay					15.6			14.0			9.6	
1.5 0.0 80.4 2.2 1.5 0.0 80.4 2.2 5.6 6.1 100.8 5.9 1.0 0 0 0.1 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	Approach LOS					ш			ш			⋖	
19.8 5.6 6.1 100.8 5.9 19.8 92.3 30.1.0 61.0 19.8 92.3 30.1.0 61.0 10 254 362 2105 332 10 0 0 0 0 10 0 0 0 0 10 0 0 0 0 10 0 0 0	Queue Length 50th (m)					1.5	0.0		80.4		2.2	40.6	
19.8 92.3 301.0 61.0 10.0 10.0 10.0 10.0 10.0 10.0	Queue Length 95th (m)					2.6	6.1		100.8		5.9	21.8	
1.0	Internal Link Dist (m)		19.8			92.3			301.0			846.8	
1. 110 1. 110	Turn Bay Length (m)										61.0		
n 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Base Capacity (vph)					254	362		2105		332	2136	
1.10 1.11 1.11 1.11 1.11 1.11 1.11 1.11	Starvation Cap Reductn					0	0		0		0	0	
1. 110 1. 110	Spillback Cap Reductin					0 0	0 0		0 0		0 0	0 0	
0.08 0.42 0.09 n.108: B of Service A	Storage Cap Reductn					0	0		0 !		0	0	
Intersection Summary Oycle Length: 110 Oycle Length: 110 Offset yet (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 65 Control Type Pretimed Intersection Signal Delay: 11.9 Intersection Signal Delay: 11.9 Intersection Capacity Ulization 45.5% Intersection Capacity Ulization 45.5% Intersection (Capacity Ulization 45.5% Intersection (Capacity Ulization 45.5%) Intersection (Capa	Reduced v/c Ratio					0.04	0.08		0.42		0.09	0.39	
Oycle Length: 110 Actuated Oycle Length: 110 Offset: 49 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 65 Control Type: Pretimed Maximum vol. Fatio: 0.42 Intersection Signal Delay: 11.9 Intersection Capacity Ultization 45.5% Analysis Period (min) 15	Intersection Summary												
Actuated Cycle Length: 110 Potest 49 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 65 Control Type: Pretimed Maximum Ve Ratio: 0.42 Intersection Start Delay: 11.9 Intersection Capacity Ulization 45.5% Analysis Period (min) 15	Cycle Length: 110												
Natural Cycle: 65 Control Type: Pretimed Maximum vic Fatio: 0.42 Intersection Signal Delay: 119 Intersection Capacity Utilization 45.5% ICU Level of Service A Analysis Period (min) 15	Actuated Cycle Length: 110 Offset: 49 (45%), Reference	0 ed to phase	2:NBTL a	nd 6:SBT	L, Start	of Green							
	Natural Cycle: 65												
	Control Type: Pretimed												
	Maximum v/c Ratio: 0.42												
	Intersection Signal Delay: 1	11.9			=	tersection	LOS: B						
Analysis Period (min) 15	Intersection Capacity Utiliza	ation 45.5%			2	U Level	of Service	∢					
	Analysis Period (min) 15												

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background AM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC



₩ Ø6 (R)

Lanes, Volumes, Timings 6: Terry Fox & Campeau

11/12/2021

11/12/2021

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Lane Group	BB	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	*	×	k	*	R	k	**	R	K	**	ĸ
Traffic Volume (vph)	99	49	78	258	42	71	89	902	164	86	627	- 89
Future Volume (vph)	09	49	78	258	45	71	99	902	164	86	627	89
Satd. Flow (prot)	1642	1745	1441	1580	1712	1363	1658	3191	144	1658	3191	1483
Fit Permitted	0.730			0.725	i	000	0.383			0.310	3	007
Satd. Flow (perm)	1262	1/45	1421	1204	1/12	1363	899	3191	1410	Z Z	3191	1463
Lane Group Flow (vph)	9	49	78	258	42	7	89	902	164	86	627	89
Turn Type	Perm	Ϋ́	Perm	Perm	¥	Perm	pm+pt	¥	Perm	pm+pt	ΑN	Perm
Protected Phases		4			∞		2	2		~	9	
Permitted Phases	4		4	80		80	2		2	9		9
Detector Phase	4	4	4	∞	∞	∞	2	2	2	_	9	9
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	2.0	10.0	10.0	2.0	10.0	10.0
Minimum Split (s)	40.4	40.4	40.4	43.4	43.4	43.4	11.4	40.4	40.4	11.4	43.4	43.4
Total Split (s)	54.0	54.0	54.0	54.0	54.0	54.0	12.0	44.0	44.0	12.0	44.0	44.0
Total Split (%)	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	10.9%	40.0%	40.0%	10.9%	40.0%	40.0%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	29.7	29.7	29.7	29.7	29.7	29.7	60.2	52.7	52.7	63.2	26.0	26.0
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.55	0.48	0.48	0.57	0.51	0.51
v/c Ratio	0.18	0.10	0.17	0.79	0.09	0.16	0.16	0.46	0.22	0.25	0.39	0.09
Control Delay	28.9	27.2	4.0	54.0	26.9	3.1	12.0	22.5	4.4	26.8	41.7	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	27.2	4.0	54.0	26.9	3.1	12.0	22.5	4.4	26.8	41.7	18.0
ros	ပ	ပ	∢	Ω	ပ	⋖	В	ပ	⋖	ပ	□	Ф
Approach Delay		18.1			41.2			18.6			37.8	
Approach LOS	•	m i	4		و ۵	•		m ;	•		٥	•
Queue Length 50th (m)	9.9	6.7	0.0	51.5	8.9	0.0	5.5	51.4	0.0	16.0	75.0	2.8
Queue Length 95th (m)	17.7	14.8	2.9	6.07	13.1	2.5	14.3	85.6	13.8	34.0	94.8	15.2
Internal Link Dist (m)		128.0	į	i	204.4			313.2		į	301.0	
Turn Bay Length (m)	62.5	ŀ	64.5	0.02	i	63.5	45.0	001	62.5	97.5	0007	50.0
Base Capacity (vpn)	₹ 9	(22)	699	175	/40	044	433	1528	09/	396	1623	787
Starvation Cap Reductin	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	90.0	0.12	0.50	90.0	0.11	0.16	0.46	0.22	0.25	0.39	0.09
Intersection Summary												
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	d to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Natural Cycle: 100												
Control Type: Actuated-Coordinated	rdinated											

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background AM Peak Hour

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Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background AM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

11/12/2027

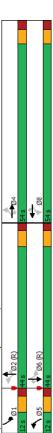
¥ Site: 101 [Huntmar-Campeau PM FB2025]

Arcadia Stage 6 Site Category: (None) Roundabout

MOVEMENT SUMMARY

Intersection LOS: C ICU Level of Service C Intersection Signal Delay: 28.9 Intersection Capacity Utilization 72.8% Maximum v/c Ratio: 0.79 Analysis Period (min) 15

6: Terry Fox & Campeau Splits and Phases:



0.33 0.53 0.35 0.46 0.46 0.45 0.44 0.46 0.35 0.47 0.42 0.42 0.67 0.45 0.50 0.49 0.81 0.56 0.63 0.73 0.35 0.33 0.46 0.36 0.80 0.57 0.65 0.68 0.51 0.33 0.48 0.35 0.43 0.35 0.47 0.49 0.42 0.46 0.46 0.45 0.46 0.41 2.0 15.8 3.3 15.8 3.7 1.6 0.4 3.7 6.6 6.6 6.6 6.6 5.1 5.1 5.1 15.8 2.2 0.3 2.2 0.5 0.5 0.1 0.5 0.9 0.7 LOSA LOS A LOS B LOSA LOSA 5.2 LOS A 3.6 11.7 5.7 6.0 9.6 8.5 2.7 3.4 3.0 5.6 5.8 7.8 1.8 0.119 0.102 0.515 0.161 0.515 0.193 0.082 0.024 0.193 0.284 0.284 0.156 0.284 0.243 0.515 Movement Performance - Vehicles 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 131 54 16 201 20 497 141 658 87 445 137 669 171 85 1947 West: Campeau South: Huntmar East: Campeau North: Huntmar R2 Z 1 Z 4 5 Z 1 L2 Z 1 Z All Vehicles Approach Approach Approach Approach 9 5

53.3 49.6 51.3 50.1

50.1 56.5 50.8 51.7

49.9 49.1 51.2 49.6

50.1 56.3 51.2 52.5

50.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOSF will result if vic > 1 imspective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

Roundabout Capacity Model: US area Control Delay includes Geometric Delay.

GDRA Absorbatione Capacity, Traditional M1.

HV (%) yalues are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background AM Peak Hour

♥ Site: 101 [Country Glen-Campeau PM FB2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	ment Pe	Movement Performance - Vehicles	e - Vehi	cles								
Mov ED	Turn	Demand Flows Total HV	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh		Prop. Queued	Effective Aver. No. Stop Rate Cycles		Average Speed km/h
South:	South: Country Glen	Glen										
_	L2	37	2.0	0.024	2.3	LOSA	0.1	0.4	0.27	0.32	0.27	39.2
2	Ξ	~	2.0	0.024	0.7	LOSA	0.1	0.4	0.26	0.29	0.26	29.5
3	R2	2	2.0	0.024	0.7	LOSA	0.1	0.4	0.26	0.29	0.26	38.1
Approach	ach	43	2.0	0.024	2.0	LOSA	0.1	0.4	0.27	0.32	0.27	38.8
East: (East: Campeau											
4	L2	12	2.0	0.057	6.6	LOSA	0.1	[:	0.24	0.46	0.24	42.6
2	Ξ	77	2.0	0.057	3.8	LOSA	0.1	[0.23	0.44	0.23	57.2
9	R2	20	2.0	0.057	4.7	LOSA	0.1	1.0	0.22	0.42	0.22	38.5
Approach	ach	109	2.0	0.057	4.6	LOSA	0.1	[:	0.23	0.44	0.23	50.8
North:	North: Country Glen	Glen										
7	L2	£	2.0	0.095	1.8	LOSA	0.2	1.7	0.18	0.10	0.18	40.5
80	F	-	2.0	0.095	0.3	LOS A	0.2	1.7	0.18	0.10	0.18	29.8
6	R2	82	2.0	0.095	0.3	LOSA	0.2	1.7	0.18	0.10	0.18	39.0
Approach	ach	26	2.0	0.095	0.5	LOSA	0.2	1.7	0.18	0.10	0.18	39.1
West:	West: Campeau	7										
10	L2	162	2.0	0.150	9.5	LOSA	9.0	4.1	0.10	0.61	0.10	1.14
=	Ξ	11	2.0	0.141	3.4	LOSA	0.5	3.8	0.10	0.35	0.10	58.4
12	R2	41	2.0	0.141	4.3	LOSA	0.5	3.8	0.10	0.35	0.10	38.8
Approach	ach	314	2.0	0.150	9.9	LOSA	9:0	1.4	0.10	0.49	0.10	45.4
All Vehicles	icles	563	2.0	0.150	4.8	LOSA	0.6	4.1	0.15	0.40	0.15	44.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS FW Mir result if Vic > 1 trespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

SIDRA Standard Delay Model is used. Confrol Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

₩ Site: 101 [Winterset-Campeau PM FB2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Mov	Movement Performance - Vehicles	rformanc	e - Veh	cles								
Mov	Tum	Demand Flows	Flows	Deg.	Average	Level of	95% Back of Queue	of Queue	Prop.		Aver. No.	Average
₽		Total veh/h	≩%	Sath v/c	Delay sec	Service	Vehicles veh	Distance m	Quened	Stop Rate	Cycles	Speed km/h
East:	East: Campeau											
2	ī	92	2.0	0.043	3.3	LOSA	0.1	0.8	0.08	0.32	0.08	58.7
9	R2	32	2.0	0.030	4.2	LOS A	0.1	0.5	0.08	0.44	0.08	38.4
Approach	oach	124	2.0	0.043	3.6	LOS A	0.1	0.8	0.08	0.35	0.08	51.8
North	North: Winterset	_										
7	L2	18	2.0	0.017	1.7	LOSA	0.0	0.3	0.14	0.25	0.14	39.3
6	R2	18	2.0	0.00	0.2	LOS A	0.0	0.2	0.15	0.05	0.15	39.3
Approach	oach	36	2.0	0.017	1.0	LOSA	0.0	0.3	0.14	0.15	0.14	39.3
West	West: Campeau											
10	L2	33	2.0	0.049	9.4	LOS A	0.1	6.0	0.06	0.54	0.06	42.1
7	T1	88	2.0	0.049	3.3	LOS A	0.1	6.0	0.07	0.37	0.07	58.0
Approach	oach	121	2.0	0.049	5.0	LOS A	0.1	6.0	0.07	0.42	0.07	52.6
All Ve	All Vehicles	281	2.0	0.049	3.8	LOSA	0.1	6:0	0.08	0.35	0.08	50.1

Site Level of Service (LOS) Method: Delay & vic (HCM 2010), Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: Traditional M1. HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Lanes, Volumes, Timings 4: Terry Fox & Kanata

Lane Group (vpt) 250 146 783 340 265 Satd. Flow (prot) 250 140 140 240 240 240 240 240 240 240 240 240 2	
250 146 763 340 250 146 763 340 250 146 763 340 3216 1489 3316 1482 1 0.950 3216 1489 3316 1482 1 14	
250 146 763 340 321 325 146 763 340 3216 1469 3316 1452 10.000 3216 1469 3316 1452 11.46 763 340 340 340 340 340 340 340 340 340 34	* * **
250 146 763 340 3216 1489 3316 1488 1 0350 3216 1469 3316 1488 1 03516 1469 3316 1488 1 03516 1469 3316 1488 1 03516 1469 3316 1462 1 03516 1469 3316 1462 1 03516 1 0	
3216 1469 3316 1488 1 0.950 0 3216 1469 3316 1488 1 1482 1 0.950 0 146 763 340	265
0.03-06 0.03-06 0.03-1	,
250 146 763 340 250 146 763 340 250 146 763 340 250 146 763 340 31.2 31.2 25.0 25.0 31.2 31.2 25.0 25.0 31.2 31.2 25.0 25.0 31.4 31.2 25.0 25.0 5.2 5.7 45.0 4.0 5.2 6.2 6.0 6.0 6.2 6.0 6.0 0.0 6.2 6.2 6.0 6.0 12.4 12.4 33.3 33.3 0.14 0.14 0.14 0.44 0.4 42.0 11.1 21.4 4.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.950
250 146 763 340 Plot Perm NA P	
Prof. Perm. NA Perm. R. 2	265
8 8 2 2 8 8 2 2 8 8 2 2 8 8 2 2 8 9 2 2 8 10.0 10.0 10.0 31.2 31.2 25.0 25.0 32.0 45.0 45.0 45.0 45.0 45.0 45.0 45.0 45	
8 8 2 2 2 2 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 6
50 50 100 100 312 312 250 450 320 320 450 450 327 287% 37.5% 37.5% 3 3.7 25 2.5 1.8 1.8 0.0 0.0 0.0 0.0 6.2 6.2 6.0 6.0 6.2 6.2 6.0 6.0 12.4 12.4 39.3 39.3 0.5 0.44 0.44 0.44 0.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
\$10 100 100 31.2 31.2 25.0 25.0 32.0 45.0 45.0 45.0 45.0 45.0 45.0 45.0 45	2 1 6
310 312 550 550 350 350 350 350 350 350 350 350	c L
31.2 31.2 31.2 31.2 32.0 32.0 32.0 32.0 45.0 45.0 45.0 32.0 32.0 32.0 45.0 45.0 45.0 32.0 32.0 32.0 45.0 45.0 45.0 45.0 45.0 45.0 45.0 45	270
257. 257. 375. 375. 375. 375. 375. 375. 375. 3	11.0
25 25 18 18 18 18 10 00 00 00 00 00 00 00 00 00 00 00 00	~
2.5 2.5 1.8 1.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	4 2
6.2 6.2 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	i C
6.2 6.2 6.0 6.0 None None Max Max 11.4 12.4 39.3 39.3 10.1 4 0.14 0.44 0.44 0.56 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0
None None Max Max 12.4 12.4 39.3 39.3 39.3 39.3 39.3 39.3 39.3 39	
None None Max Max 112.4 12.4 39.3 39.3 39.3 0.14 0.14 0.14 0.44 0.44 0.44 0.40 0.00 0.0	_
None None Max Max Max 124 124 124 124 139.3 39.3 39.3 39.3 39.3 39.3 39.3 39.	Yes
124 124 393 393 393 393 393 393 393 393 393 39	None
0.56 0.44 0.44 0.44 0.44 0.44 0.44 0.44 0.52 0	19.5
42.0 11.1 21.4 4.0 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 0.0 0.0	45.5
42.0 11.1 21.4 4.0 4.0 4.3 30.6 6.0 48.3 0.0 48.3 0.0 48.3 0.0 48.3 0.0 48.3 0.0 48.3 0.0 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0
90.6 16.0 A 16.0 C A 16.0 C B	45.5
30.6 16.0 C B B B 0.0 48.3 0.0 5.5 16.5 82.5 17.0 616.6 82.8 17.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	۵
20.8 0.0 48.3 0.0 5.5 16.5 82.5 17.0 616.6 846.8 100.0 933 530 1455 828 90 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	15.0
20.8 0.0 48.3 0.0 25.5 16.5 82.5 17.0 846.8 100.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
35.5 16.5 82.5 17.0 616.6 846.8 100.0 933 530 1455 828 0	42.3
933 530 1455 828 0	71.3
933 530 1455 828 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
933 530 1450 626 0 0 0 0 0 0 0 0 0 27 0.28 0.52 0.41	85.5
0.27 0.28 0.52 0.41	305 069
0.27 0.28 0.52 0.41	0 0
0.27 0.28 0.52 0.41	
100 000 140	0.38
Intersection Summary Cycle Length: 120 Actuated Cycle Length: 89.6 Marinal Cycle: R0	0.00
Cycle Length: 120 Actuated Cycle Length: 89.6 Mahirai Cycle: 80	
Actuated Cycle Length: 89.6 Natural Cycle: 80	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background PM Peak Hour

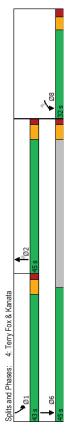
Synchro 11 Report Page 4

Lanes, Volumes, Timings 4: Terry Fox & Kanata

11/12/2021

11/12/2021

Intersection LOS: B ICU Level of Service B Intersection Signal Delay: 17.9 Intersection Capacity Utilization 60.5% Analysis Period (min) 15



Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background PM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

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Lane Group	EB	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			₩	*-	*	₩		×	₩.	
Traffic Volume (vph)	0	0	0	72	0	113	18	1019	89	82	966	0
Future Volume (vph)	0	0	0	75	0	113	18	1019	68	82	966	0
Satd. Flow (prot)	0	1745	0	0	1658	1483	1658	3286	0	1658	3316	0
Flt Permitted					0.757		0.240			0.211		
Satd. Flow (perm)	0	1745	0	0	1321	1483	419	3286	0	368	3316	0
Satd. Flow (RTOR)						113		7				
Lane Group Flow (vph)	0	0	0	0	72	113	18	1087	0	82	966	0
Turn Type				Perm	Ν	Perm	Perm	ΑA		Perm	¥	
Protected Phases		4			∞			2			9	
Permitted Phases	4			00		∞	2			9		
Minimum Split (s)	31.6	31.6		31.6	31.6	31.6	31.4	31.4		32.8	32.8	
Total Split (s)	39.0	39.0		39.0	39.0	39.0	81.0	81.0		81.0	81.0	
Total Split (%)	32.5%	32.5%		32.5%	32.5%	32.5%	%5'.2%	%5'.29		%5'.29	%5'.29	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		9.9			9.9	9.9	6.4	6.4		6.4	6.4	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)					32.4	32.4	74.6	74.6		74.6	74.6	
Actuated g/C Ratio					0.27	0.27	0.62	0.62		0.62	0.62	
v/c Ratio					0.15	0.23	0.07	0.53		0.36	0.48	
Control Delay					34.9	7.4	5.1	15.8		16.6	13.3	
Queue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay					34.9	7.4	2.1	15.8		16.6	13.3	
ROS					ပ	⋖	⋖	ш		В	В	
Approach Delay					16.3			15.6			13.5	
Approach LOS					ш			В			В	
Queue Length 50th (m)					9.7	0.0	2.4	109.2		8.8	62.3	
Queue Length 95th (m)					20.3	13.6	m0.6	130.7		20.6	77.3	
Internal Link Dist (m)		19.8			92.3			301.0			846.8	
Turn Bay Length (m)							51.0			61.0		
Base Capacity (vph)					326	482	260	2046		228	2061	
Starvation Cap Reductn					0	0	0	0		0	0	
Spillback Cap Reductn					0	0	0	0		0	0	
Storage Cap Reductn					0	0	0	0		0	0	
Reduced v/c Ratio					0.15	0.23	0.07	0.53		0.36	0.48	

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background PM Peak Hour

Intersection LOS: B ICU Level of Service C

Cycle Length: 120
Actuated Cycle Length: 130
Offset 49 (41%), Referenced to phase 2.NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Pretimed
Maximum v/c Ratio. 0.53
Intersection Signal Delay: 14.7
Intersection Capacity Utilization 64.9%
Analysis Period (min) 15

Synchro 11 Report Page 6

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

11/12/2021

11/12/2021

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

Splits and Phases: 5: Terry Fox & Signature SC

\$0 **-**₽04 *↑ Ø2 (R) ▼ Ø6 (R)

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background PM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

Particular Par	FBI FBI FBI FBI WBI	Lane Group Lane Configurations Traffic Volume (vph)	Ē	ŀ	EBR	WBI	WBT	WBR	QN		NBR	S.	TOO	CDD
9 102 133 248 110 111 89 844 188 164 803 166 102 133 248 110 111 89 844 188 164 803 166 102 133 248 110 111 89 844 188 164 803 166 106 102 133 248 110 111 89 844 188 164 803 166 106 106 103 13 248 110 111 89 844 188 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 164 803 16 148 16 14	99 102 133 248 110 111 89 844 188 164 803 16 165 102 103 124 110 111 89 844 188 164 803 16 166 803 10 10 13 133 145 146 110 111 89 844 188 164 803 16 166 10 10 10 10 11 11 11 11 11 11 11 11 11	Lane Configurations Traffic Volume (vph)	EBL	ERI		101			NDL	NBT		200	100	רסט
99 102 133 248 110 111 89 844 188 164 803 168 146 803 168 148 1688 1745 1483 1688 3316 1483 1688 3316 1483 1688 3316 1483 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1745 1484 1688 1748 1888 1688 3316 1449 3316 144 184 1684 173 248 1710 110 110 110 110 110 111 89 844 188 164 803 148 164 803 148 164 803 1484 164 803 1484 164 803 1484 164 803 1484 164 803 1484 164 803 1484 164 804 1484 164 1494 1404 1404 1404 1404 1404 1404 140	99 102 133 248 110 111 89 844 188 164 803 1668 1745 1484 1483 1658 3316 1443 1658 3316 1484 1688 1712 1484 518 3316 1443 1658 3316 1489 1745 1484 1205 1712 1464 518 3316 1443 1658 3316 1489 1745 1484 1205 1712 1464 518 3316 1443 1658 3316 148 189 164 803 1712 1484 518 184 184 164 803 1712 1484 518 184 184 164 803 1712 1484 1718 184 184 164 803 1712 1484 1718 184 184 164 803 1712 1484 1718 184 184 164 803 1712 1484 1718 184 184 164 803 1712 1713 1713 1713 1713 1713 1713 171	Fraffic Volume (vph)	*	*	R.	F	*	R.	F	*	¥C.	r	*	×-
99 102 133 248 110 111 89 844 188 1648 3316 1449 438 316 141 1156 1745 1483 1658 316 1742 1484 1205 1712 1484 518 3316 1449 438 316 144 141 141 141 89 844 188 164 803 316 144 141 141 89 844 188 164 803 316 144 141 141 89 844 188 164 803 316 144 184 141 141 89 844 188 164 803 316 144 184 141 141 141 141 89 844 188 164 803 316 144 184 141 141 141 141 141 141 141 141	99 102 133 248 110 111 89 844 188 164 803 1668 1745 1483 1658 316 1483 1658 316 1483 1658 316 1483 1658 316 1483 1658 316 1483 1658 316 1483 1658 316 1483 1658 316 1483 1658 316 1483 1658 316 1484 438 316 1186 1745 1484 1205 1712 1464 518 316 1449 438 316 1189 112 133 248 110 111 89 844 188 164 803 165 167 167 167 167 167 167 167 167 167 167		66	102	133	248	110	11	88	844	188	164	803	85
1668 1745 1483 1656 1712 1484 0.237 0.237 0.0597	1688 1745 1483 1658 1712 1483 1658 3316 1489 1483 1658 1745 1464 1205 1712 1464 518 3316 1449 438 3316 1484 133 1484 133 1484 1484 188 1484 188	-uture Volume (vph)	66	102	133	248	110	111	88	844	188	164	803	85
1156 1464 1205 1712 1464 518 3316 1449 438 3316 1449 1718 189 144 188 164 803 161 141 189 142 1484 188 164 803 161 141 141 141 141 141 141 141 141 141	196 1745 1464 1205 1712 1464 518 3316 1449 438 3316 149 14	Satd. Flow (prot)	1658	1745	1483	1658	1712	1483	1658	3316	1483	1658	3316	1483
199 102 133 246 110 111 89 844 188 164 803 110 110 110 110 110 110 110 110 110 1	1196 1745 1464 1205 1712 1464 518 3316 1449 438 3316 1449 438 3316 1449 438 44 184 44 48 8 5 2 2 6 6 6 6 6 6 6 6	It Permitted	0.686			0.691			0.297			0.251		
Permi NA Perm Perm NA Perm pm+pt NA Perm pm+pt NA Perm Profile 11 11 11 11 11 11 11 11 11 11 11 11 11	Permi NA Permi Permi NA Permi pm+pt NA Permi pm+pt NA Permi NA Per	Satd. Flow (perm)	1196	1745	1464	1205	1712	1464	218	3316	1449	438	3316	1463
99 102 133 248 110 111 89 844 188 164 803 1	99 102 133 248 110 111 89 844 188 164 803 4 4 4 4 8 8 8 5 2 2 6 6 6 10.0 100 100 100 100 100 100 100 50 100 10.0 5.0 10.0 100 100 100 100 100 100 100 5.0 10.0 10.	satd. Flow (RTOR)			33			111			184			88
Perm NA Perm Perm NA Perm Purpt	Perm NA Perm NA Perm NA Perm Print NA Perm Perm Print NA Perm Pr	ane Group Flow (vph)	8	102	133	248	110	1	8	844	188	164	803	82
100 100 100 100 100 100 50 100 50 100 40.4 4.4 4 8 8 8 5 2 2 2 6 6 6 6 4 4 4 4 4 8 8 8 5 2 2 2 1 6 6 6 6 4 4 40.4 40.4 40.4 40.4 40.4 40	10.0 10.0 10.0 10.0 10.0 5.0 10.0 5.0 10.0 40.4 40.4 40.4 40.4 40.4 40.4 40	Turn Type	Perm	Y Y	Perm	Perm	×	Perm	pm+pt	NA C	Perm	pm+pt	ĕ "	Pem
100 100 100 100 100 100 100 50 100 50 100 10	100 100 100 100 100 100 50 100 50 100 50 100 404 404 404 404 404 404 404 404 40	Dermitted Phases	4	٠	4	œ	0	œ	0	7	0	- (C	0	œ
100 100 100 100 100 100 100 100 100 100	100 100 100 100 100 100 100 100 100 100	Defector Phase	4	4	4	0 00	00	0 00	יין ע	0	7 0	· -	Ç	2
100 100 100 100 100 100 100 50 100 50 100 60	100 100 100 100 100 100 100 50 100 50 100 60 100 404 404 404 404 404 404 404 404 40	Switch Phase	-	-						1	1			•
400 4 40.4 40.4 43.4 43.4 43.4 11.4 40.4 40.4 11.4 43.4 43.4 48.0 48.0 48.0 48.0 48.0 48.0 48.0 48	480 480 480 490 494 434 434 414 404 404 114 434 434 480 480 480 480 480 480 480 480 480 80 800 80	Ainimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	2.0	10.0	10.0
48.0 48.0 48.0 48.0 48.0 48.0 22.0 50.0 50.0 22.0 50.0 40.0 40.0 40.0 40.0 40.0 40.0 40	48.0 48.0 48.0 48.0 48.0 22.0 50.0 50.0 22.0 50.0 40.0% 40.0	Ainimum Split (s)	40.4	40.4	40.4	43.4	43.4	43.4	11.4	40.4	40.4	11.4	43.4	43.4
40.0% 40.0% 40.0% 40.0% 40.0% 18.3% 41.7% 41.7% 18.3% 41.7% 41.7% 41.7% 18.3% 41.7% 41.7% 41.7% 18.3% 41.7% 41.7% 41.7% 18.3% 41.7% 41.7% 41.7% 18.3% 41.7% 41.7% 41.7% 18.3% 41.7%	40.0% 40.0% 40.0% 40.0% 40.0% 18.3% 41.7% 41.7% 18.3% 41.7%	otal Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	22.0	20.0	20.0	22.0	20.0	50.0
37 37 37 37 37 37 37 42 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2	37 37 37 37 37 37 37 42 42 42 42 42 42 42 42 42 42 42 42 42	otal Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	18.3%	41.7%	41.7%	18.3%	41.7%	41.7%
27 27 27 27 27 22 22 22 22 22 22 20 00 00 00 00 00 00	27 27 27 27 27 27 22 2.2 2.2 2.2 2.2 2.2	'ellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.2	4.2	4.2
None	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	II-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2
None	None None None None None None CMax	ost Time Adjust (s)	0:0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
None	None	otal Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
None None None None None Over C-Yes Yes Yes Yes Yes Yes Yes S 30.2 30.2 30.2 30.2 30.2 30.2 30.2 30.2	None None None None None Over C-Max C-Max None C-Max C-Max None C-Max None C-Max None C-Max None C-Max None C-Max C-Max None C-Max None C-Max C-Max None C-Max N	.ead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
None None None None None None Over G-Max C-Max None C-Max C-Max None C-Max C-Max None S 30.2 30.2 30.2 30.2 30.2 30.2 30.2 30.2	None None None None None None Over G-Max C-Max None C-Max C-Max None C-Max C-Max None S 30.2 30.2 30.2 30.2 30.2 30.2 30.2 30.2	.ead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
302 302 302 302 302 302 861 600 600 730 624 0.35 0.25 0.25 0.25 0.25 0.57 0.50 0.50 0.50 0.50 0.52 0.37.4 34.6 6.4 62.3 35.2 6.6 12.1 23.7 4.3 27.1 38.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	302 302 302 302 302 861 600 600 73.0 62.4 (2.4 c) 2.5 (2.5 c) 2.5	Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
0.25 0.25 0.25 0.25 0.25 0.24 0.51 0.52 0.55 0.54 0.51 0.52 0.25 0.25 0.24 0.51 0.52 0.55 0.24 0.51 0.52 0.55 0.24 0.51 0.52 0.25 0.24 0.51 0.52 0.55 0.24 0.51 0.52 0.44 0.47 0.47 0.60 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	0.25 0.25 0.25 0.25 0.25 0.24 0.51 0.60 0.60 0.60 0.61 0.62 0.25 0.25 0.24 0.51 0.50 0.60 0.60 0.60 0.61 0.62 0.60 0.60 0.60 0.60 0.60 0.60 0.60	ct Effct Green (s)	30.2	30.2	30.2	30.2	30.2	30.2	68.1	0.09	0.09	73.0	62.4	62.4
0.33 0.23 0.28 0.82 0.25 0.24 0.51 0.23 0.44 0.47 0.47 0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.33 0.23 0.28 0.82 0.25 0.24 0.51 0.23 0.44 0.47 0.47 0.00 0.00 0.00 0.00 0.00	vctuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.25	0.57	0.50	0.50	0.61	0.52	0.52
37.4 34,6 64 623 352 666 12.1 23.7 4.3 27.1 38.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	37.4 34,6 64 62.3 35.2 6.6 12.1 23.7 4.3 27.1 38.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	/c Kato	0.33	0.23	0.28	0.82	0.26	0.25	0.24	0.51	0.23	0.44	0.47	0.11
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 0.0 0.0 0.0	control Delay	37.4	34.6	6.4	62.3	35.2	9.9	12.1	23.7	4.3	27.1	38.5	17.7
19.1 19.1 19.1 19.2 19.5	191 191 191 00 552 00 74 77 670 150 150 160 160 160 160 160 160 160 160 160 16	Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.2 42.8 19.5 35.0 2 24.2 19.5 35.0 2 24.2 19.5 2 24.	19.1 19.1 19.1 0.0 55.2 20.8 0.0 74 67.7 0.5 26.7 87.7 0.5 20.8 0.0 74 67.7 0.5 26.7 87.7 0.5 20.8 0.0 74 67.7 0.5 26.7 87.7 0.5 20.8 0.0 74 67.7 0.5 26.7 87.7 0.5 20.8 0.0 74 67.7 0.5 26.7 87.7 0.5 20.4 4.7 59.3 580 47.2 1656 816 438 1724 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	olal Delay	4. 70	0.4.0	4.0	02.30	7.00	0.0	- 7		5. <	. /3	0.00	
19.1 19.1 19.1 0.0 55.2 20.8 0.0 7.4 67.7 0.5 26.7 87.7 13.0 76.3 31.8 12.0 17.6 109.8 15.3 52.3 112.8 12.0 17.6 109.8 15.3 52.3 112.8 12.0 17.6 109.8 15.3 52.3 112.8 12.0 17.6 109.8 15.3 52.3 112.8 12.0 12.6 12.5 12.6 12.6 12.6 12.6 12.6 12.6 12.6 12.6	19.1 19.1 19.1 0.0 55.2 20.8 0.0 7.4 67.7 0.5 26.7 87.7 13.0 20.3 12.8 12.8 12.0 17.6 109.8 15.3 52.3 112.8 12.8 12.0 17.6 109.8 15.3 52.3 112.8 12.8 12.0 17.6 109.8 15.3 52.3 112.8 12.8 12.8 12.8 12.0 17.6 109.8 15.3 52.3 112.8 12.8 12.8 12.0 17.6 109.8 15.3 52.3 112.8 12.8 12.8 12.8 12.0 12.8 112.8 12.8 12.8 12.8 12.0 12.8 112.8 12.8 12.8 12.8 12.8 12.8 12.	US Delan	2	ى د	₹	ш	2 0	₹	מ	5	₹	د	2 0	מ
191 191 0.0 55.2 20.8 0.0 7.4 67.7 0.5 26.7 87.7 3.5.5 20.8 1.2 3.0 20.4 128.0 128.0 120.4 128.0 120.4 128.0 120.4 128.0 120.4 128.0 120.4	19.1 19.1 0.0 55.2 20.8 0.0 7.4 67.7 0.5 26.7 87.7 30.5 29.7 13.0 76.3 31.8 12.0 17.6 109.8 15.3 52.3 112.8 12.0 17.6 109.8 15.3 52.3 112.8 12.0 17.6 109.8 15.3 52.3 112.8 12.0 17.6 109.8 15.3 52.3 112.8 12.8 12.8 12.8 13.8 12.0 17.8 13.12 2.5 37.5 12.8 13.12 12.8 13.12 12.8 13.12 12.8 12.8 12.8 12.8 12.8 12.8 12.8 1	pproach Delay		7.4.7			47.8			<u>.</u>			0.00	
1931 1931 000 5952 2018 010 176 1098 15.3 52.3 112.8 12.0 176 1098 15.3 52.3 112.8 12.0 176 1098 15.3 52.3 112.8 12.0 176 1098 15.3 52.3 112.8 12.0 176 1098 15.3 52.3 112.8 12.0 176 1098 15.3 52.3 112.8 12.0 176 1098 15.3 52.3 112.8 12.8 12.8 12.8 12.8 12.8 12.8 12.	19.1 19.1 1 0.0 35.2 20.8 0.0 74 60.1 0.5 26.1 87.1 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12	Approach LOS		, د	0		0 0	0	ì	ם נ		5	ם נ	C
8.0.5 29.7 13.0 76.3 31.8 72.0 77.6 109.8 15.3 52.3 172.8 62.5 172.0 62.5 172.0 62.5 172.0 62.5 172.0 62.5 172.0 62.5 172.0 62.5 172.0 62.5 172.0 62.5 172.0 62.5 172.0 62.0 62.0 62.0 62.0 62.0 62.0 62.0 6	62.5 29.7 13.0 76.3 31.8 72.0 77.6 109.8 15.3 25.3 172.8 62.5 128.0 64.5 70.0 204.4 63.5 45.0 62.5 97.5 301.0 62.5 97.5 97.5 90.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jueue Length 50th (m)	19.1	19.1	0.0	22.5	20.8	0.0	4.7	1.79	0.5	7.97	1.78	3.7
62.5 (4.5 70.0 204.4 63.5 45.0 62.5 97.5 97.5 67.0 62.5 97.5 97.5 67.0 62.5 97.5 97.5 97.5 97.5 97.5 97.5 97.5 97	62.5 17.5 301.0 62.5 64.5 70.0 244.4 63.5 45.0 62.5 97.5 97.5 n	Jueue Length 95th (m)	30.5	7.87	13.0	76.3	81.8	15.0	97/	109.8	15.3	57.3	112.8	19.1
62.5 64.5 70.0 63.5 45.0 62.5 97.5 70.0 63.5 45.0 62.5 97.5 70.0 63.5 45.0 62.5 97.5 70.0 63.5 45.0 62.5 97.5 70.0 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	62.5 64.5 70.0 63.5 45.0 62.5 97.5 70.0 63.5 45.0 62.5 97.5 70.0 63.5 45.0 62.5 97.5 70.0 63.5 45.0 62.5 97.5 70.0 63.0 63.0 63.0 63.0 63.0 63.0 63.0 6	nternal Link Dist (m)		128.0			204.4			313.2			301.0	
144 604 594 417 593 580 412 1656 816 438 1724 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	n 414 604 594 417 593 580 472 1656 816 438 1724 n 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	urn Bay Length (m)	62.5		64.5	70.0		63.5	42.0		62.5	97.5		50.0
n 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	n 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	sase Capacity (vph)	414	604	294	417	293	280	472	1656	816	438	1724	803
0.24 0.17 0.22 0.59 0.19 0.19 0.51 0.23 0.37 0.47 0.20 0.90 0.19 0.19 0.51 0.23 0.37 0.47 0.120	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tarvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0 0
0.24 0.17 0.22 0.59 0.19 0.19 0.51 0.23 0.37 0.47 0.120	0.24 0.17 0.22 0.59 0.19 0.19 0.51 0.23 0.37 0.47 0.130 phase 2:NBTL and 6:SBTL, Slart of Green	spillback Cap Reductin	0	0	0	0	0	0	0	0	0	0	0	0 0
0.19 0.51 0.23 0.37 0.47	0.19 0.51 0.23 0.37 0.4 <i>f</i>	storage Cap Reducth	0 :		0 8	0 0	0 9	0 9	0 9	0 1	0 8	0 [0 !	0 ;
ntersection Summary yorle Length: 120 strated Oyde Length: 120 stress 2.NBTL and 6:SBTL, Start of Green latural Cycle: 100	ntersection Summary yoel Length: 120 custed Cyde Length: 120 History Z (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green latural Cycle: 100	keduced v/c Katio	0.24	0.1/	0.77	0.59	0.19	0.19	0.19	0.51	0.23	0.37	0.47	0.11
yyde Length: 120 Kutuled Cyde Length: 120 Affres L27 (23%), Referenced to phase 2.NBTL and 6:SBTL, Start of Green Jahural Cycle: 100	ykcle Length: 120 kctuated Cycle Length: 120 Offset 27 (23%), Referenced to phase 2.NBTL and 6:SBTL, Start of Green latural Cycle: 100	ntersection Summary												
cctuated Cycle Length: 120 Offset. 27 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Jatural Cycle: 100	ccuated Cyde Length: 120 Offset 27 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green latural Cycle: 100	Sycle Length: 120												
Offset. 27 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Jatural Cycle: 100	Offset 27 (23%), Referenced to phase 2.NBTL and 6:SBTL, Start of Green latural Cycle: 100	Actuated Cycle Length: 120												
Vatural Cycle: 100	Natural Cycle: 100	Offset 27 (23%), Reference	d to phase	2:NBTL a	Ind 6:SB1	rl, Start (of Green							
		Natural Cycle: 100												

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background PM Peak Hour

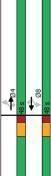
Synchro 11 Report Page 8

Lanes, Volumes, Timings 6: Terry Fox & Campeau

11/12/2021

11/12/2021

Maximum v/c Ratio: 0.82
Intersection Signal Delay: 29.2
Intersection Capacity Utilization 75.4%
ICU Level of Service D
Analysis Period (min) 15



Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Background PM Peak Hour

Appendix F

Synchro and Sidra Intersection Worksheets – 2030 Future Background Conditions



¥ Site: 101 [Huntmar-Campeau AM FB2030]

Arcadia Stage 6 Site Category: (None) Roundabout

Mover	nent Pe	Movement Performance - Vehicles	e - Vehi	cles								
Mov	Turn	Demand Flows Total HV veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	of Queue Distance m	Prop. Queued	Effective Aver. No. Stop Rate Cycles	Aver. No. Cycles	Average Speed km/h
South:	South: Huntmar											
~	L2	32	2.0	0.035	7.9	LOSA	0.1	9.0	0.20	0.58	0.20	50.4
2	F	446	2.0	0.447	2.3	LOSA	1.7	12.3	0.29	0.27	0.29	49.9
3	R2	23	2.0	0.053	2.9	LOSA	0.1	1.0	0.20	0.38	0.20	51.7
Approach	lch	534	2.0	0.447	2.7	LOSA	1.7	12.3	0.28	0.30	0.28	50.1
East: C	East: Campeau											
4	L2	132	2.0	0.175	11.1	LOS B	0.5	3.4	0.41	0.77	0.41	50.3
2	ī	87	2.0	0.119	5.1	LOSA	0.3	2.3	0.42	0.51	0.42	299
9	R2	28	2.0	0.038	5.4	LOSA	0.1	0.7	0.39	09:0	0.39	51.0
Approach	lch	247	2.0	0.175	8.4	LOSA	0.5	3.4	0.41	0.66	0.41	52.4
North:	North: Huntmar											
7	L2	7	2.0	0.217	8.4	LOS A	0.7	4.7	0.31	0.32	0.31	53.6
80	Ţ	392	2.0	0.217	2.5	LOS A	0.7	4.7	0.30	0.30	0.30	49.8
6	R2	106	2.0	0.116	3.3	LOSA	0.3	2.3	0.28	0.45	0.28	51.4
Approach	lch	202	2.0	0.217	2.8	LOSA	0.7	4.7	0.30	0.33	0:30	50.2
West: (West: Campeau											
10	L2	89	2.0	0.092	1.1	LOS B	0.2	1.8	0.40	0.76	0.40	50.3
£	Ξ	71	2.0	0.092	4.8	LOSA	0.2	1.8	0.38	0.48	0.38	56.8
12	R2	39	2.0	0.051	4.9	LOS A	0.1	0.9	0.37	0.58	0.37	51.4
Approach	ich	178	2.0	0.092	7.2	LOSA	0.2	1.8	0.39	0.61	0.39	53.0
All Vehides	icles	1464	2.0	0.447	4.2	LOSA	1.7	12.3	0.32	0.41	0.32	50.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.
IDIDA Samadro Delay, Model is used: Control Delay includes Geometric Delay.
Gap-Acceptance Capacity. Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

♥ Site: 101 [Country Glen-Campeau AM FB2030]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	Movement Performance - Vehicles	ormance	- Vehi	cles							
Mo√	Tum	Demand Flows Total HV veh/h %	swol- HV	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South:	South: Country Glen	ue									
-	L2	44	2.0	0.024	1.8	LOS A	0.1 0.4	0.17	0.25	0.17	39.4
2	Ţ	~	2.0	0.024	0.3	LOS A	0.1 0.4	0.16	0.23	0.16	29.5
က	R2	4	2.0	0.024	0.3	LOS A	0.1 0.4	0.16	0.23	0.16	38.2
Approach	ach	49	2.0	0.024	1.7	LOSA	0.1 0.4	0.17	0.25	0.17	39.0
East: (East: Campeau										
4	L2	7	2.0	0.033	9.6	LOS A	0.1 0.6	0.15	0.42	0.15	42.9
2	Ţ	22	2.0	0.033	3.5	LOS A	0.1 0.6	0.15	0.39	0.15	57.8
9	R2	2	2.0	0.033	4.4	LOS A	0.1 0.6	0.14	0.36	0.14	38.8
Approach	ach	69	5.0	0.033	4.2	LOSA	0.1 0.6	0.15	0.39	0.15	54.0
North:	North: Country Glen	u									
7	L2	19	2.0	0.153	1.8	LOS A	0.4 3.0	0.17	0.09	0.17	40.5
80	Ţ	~	2.0	0.153	0.3	LOS A	0.4 3.0	0.17	0.09	0.17	29.8
6	R2	138	2.0	0.153	0.3	LOS A	0.4 3.0	0.17	0.09	0.17	39.0
Approach	ach	158	2.0	0.153	0.5	LOSA	0.4 3.0	0.17	0.09	0.17	39.1
West:	West: Campeau										
10	L2	20	2.0	0.058	9.5	LOS A	0.2	0.10	0.58	0.10	41.6
£	Ţ	53	2.0	0.058	3.4	LOS A	0.2	0.10	0.41	0.10	57.5
12	R2	21	2.0	0.058	4.3	LOS A	0.2	0.10	0.36	0.10	38.8
Approach	ach	124	2.0	0.058	0.9	LOSA	0.2	0.10	0.47	0.10	46.5
All Vehicles	nicles	400	2.0	0.153	3.0	LOSA	0.4 3.0	0.15	0.28	0.15	43.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS FW inssult if vic > 1 insepseudve of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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₩ Site: 101 [Winterset-Campeau AM FB2030]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	Movement Performance - Vehicles	formanc	e - Vehi	cles								
Mo	Turn	Demand Flows	Flows	Deg.	Average	Level of	95% Back of Queue	of Queue	Prop.	Effective	Effective Aver. No. Average	Average
⊇		veh/h	<u></u> %	satti v/c	Sec	ani inc	vernicies	Distance	nanan	Stop Nate	Cycles	speed km/h
East: (East: Campeau											
2	Ξ	38	2.0	0.017	3.3	LOSA	0.0	0.3	0.03	0.32	0.03	59.0
9	R2	6	2.0	0.008	4.2	LOSA	0.0	0.1	0.03	0.45	0.03	38.5
Approach	ach	47	2.0	0.017	3.4	LOSA	0.0	0.3	0.03	0.34	0.03	53.6
North:	North: Winterset											
7	L2	31	2.0	0.029	1.6	LOSA	0.1	0.5	0.08	0.23	0.08	39.4
6	R2	31	2.0	0.014	0.1	LOSA	0.0	0.3	0.09	0.02	0.09	39.4
Approach	ach	62	2.0	0.029	0.8	LOSA	0.1	0.5	0.09	0.13	0.09	39.4
West:	West: Campeau											
10	L2	80	2.0	0.041	9.4	LOSA	0.1	0.8	0.08	0.40	0.08	43.1
1	11	95	2.0	0.041	3.3	LOSA	0.1	0.8	0.09	0.35	0.09	58.3
Approach	ach	100	2.0	0.041	3.8	LOSA	0.1	0.8	0.09	0.35	0.09	26.7
All Vehicles	nides	209	2.0	0.041	2.9	LOSA	0.1	0.8	0.07	0.28	0.07	49.6

Site Level of Service (LOS) Method: Delay & vic (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Roundabout LOS Method: SIDRA Roundabout LOS.

LOS Fewline movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS Fewlin result if vic> 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

SIDRA Standard Delay Model: US HCM 2010.

SIDRA Standard Delay Model: US control Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Lanes, Volumes, Timings 4: Terry Fox & Kanata

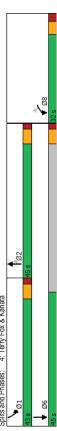
11/12/2021

→	SBT	₩	581	281	3283		3283		281	≸	9		9		10.0	25.0	45.0	37.5%	4.2	1.8	0.0	0.9			Max	65.5	0.71	0.25	5.4	0:0	5.4	Α ;	18.1	m ;	16.1	28.3 487.6	2	2924	0	0	0	0.20						
۶	SBL	F	253	253	1595	0.950	1595		253	Prot	-		_		2.0	11.0	43.0	35.8%	4.2	1.8	0.0	0.9	Lead	Yes	None	20.0	0.22	0.74	47.4	0.0	47.4	٥		3	41.6	9.	85.5	644	0	0	0	0.39						
•	NBR	¥C	172	172	144		144	172	172	Perm		5	5		10.0	25.0	45.0	37.5%	4.2	. 8	0.0	0.9	Lag	Yes	Max	39.4	0.43	0.24	4.4	0.0	4.4	⋖		0	0.0	13.5	100.0	713	0	0	0	0.24						
-	NBT	₩	758	758	3283		3283		758	¥	2		7		10.0	25.0	45.0	37.5%	4.2	1 .8	0.0	0.9	Lag	Yes	Max	39.4	0.43	0.54	23.3	0.0	23.3	0	9.8	n 1	20.7	846.8	5.5	1399	0	0	0	0.54						
/	WBR	¥C	337	337	1414		1414	337	337	Perm		∞	∞		2.0	31.2	32.0	26.7%	3.7	2.5	0.0	6.2			None	14.7	0.16	99.0	11.2	0.0	11.2	m		0	0.0	24.0		040	0	0	0	0.53						
-	WBL	14	317	317	3185	0.950	3185		317	Prot	∞		∞		2.0	31.2	32.0	26.7%	3.7	2.5	0.0	6.2			None	14.7	0.16	0.63	45.8	0.0	45.8	۵ و	9.97	ر د د	27.1	616.6	2	868	0	0	0	0.35					oordinated	
	Lane Group	Lane Configurations	Traffic Volume (vph)	Future Volume (vph)	Satd. Flow (prot)	Flt Permitted	Satd. Flow (perm)	Satd. Flow (RTOR)	Lane Group Flow (vph)	Turn Type	Protected Phases	Permitted Phases	Detector Phase	Switch Phase	Minimum Initial (s)	Minimum Split (s)	Total Split (s)	Total Split (%)	Yellow Time (s)	All-Red Time (s)	Lost Time Adjust (s)	Total Lost Time (s)	Lead/Lag	Lead-Lag Optimize?	Recall Mode	Act Effct Green (s)	Actuated g/C Ratio	v/c Ratio	Control Delay	Queue Delay	Total Delay	SOT	Approach Delay	Approach LOS	Queue Length 50th (m)	Queue Length 95th (m)	Turn Bay Length (m)	Base Capacity (vph)	Starvation Cap Reductn	Spillback Cap Reductn	Storage Cap Reductn	Reduced v/c Ratio	Intersection Summary	Cycle Lenath: 120	Actuated Cycle Length: 92.5	Natural Cycle: 80	Control Type: Actuated-Uncoordinated	Maximum v/c Ratio: 0.74

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background AM Peak Hour

Intersection LOS: C ICU Level of Service B Lanes, Volumes, Timings 4: Terry Fox & Kanata Intersection Signal Delay, 21.0 Intersection Capacity Ulization 61.6% Analysis Period (min) 15

Splits and Phases: 4: Terry Fox & Kanata



Synchro 11 Report Page 5 Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background AM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

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	1	†	~	-	Ļ	4	•	←	•	۶	→	*
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4	*	r	₩.		<u>, </u>	₩.	
Traffic Volume (vph)	0	0	0	တ (0	28	0	928	20	8	947	0
Future Volume (vph)	0	1745	0 0	o c	1206	28	1745	928	50	30	947	0
Satu. Flow (prot)	>	140	>	>	0 757	1400	140	2233	>	0.00	2203	>
Satd. Flow (perm)	0	1745	0	0	1104	1455	1745	3233	0	466	3283	0
Satd. Flow (RTOR)						34		4				
Lane Group Flow (vph)	0	0	0	0	တ	28	0	948	0	8	947	0
Turn Type				Perm	≸	Perm	Perm	¥		Perm	Α	
Protected Phases		4			∞			2			9	
Permitted Phases	4			∞		∞	2			9		
Minimum Split (s)	31.6	31.6		31.6	31.6	31.6	31.4	31.4		32.8	32.8	
Total Split (s)	32.0	32.0		32.0	32.0	32.0		78.0		78.0	78.0	
lotal Split (%)	29.1%	29.1%		29.1%	29.1%	29.1%		%6.07		%6.07	%6.0/	
Yellow I'me (s)	3.0	3.0		3.0	3.0	3.0	4.2	7.4		4.7	4.2	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	7.7	7.7		7.7	7.7	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		9.9			9.9	9.9	6.4	6.4		6.4	6.4	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)					25.4	25.4		71.6		71.6	71.6	
Actuated g/C Ratio					0.23	0.23		0.65		0.65	0.65	
v/c Ratio					0.04	0.08		0.45		0.10	4.0	
Control Delay					33.4	6.6		14.7		8.2	10.2	
Queue Delay					0:0	0:0		0:0		0:0	0.0	
Total Delay					33.4	9.9		14.7		8.2	10.2	
FOS					ပ	⋖		ш		⋖	В	
Approach Delay					15.6			14.7			10.2	
Approach LOS					ш			В			ш	
Queue Length 50th (m)					1.5	0.0		90.4		2.2	47.9	
Queue Length 95th (m)					9.6	6.1		112.8		0.9	9.09	
Internal Link Dist (m)		19.8			92.3			301.0			846.8	
Turn Bay Length (m)										61.0		
Base Capacity (vph)					254	362		2105		303	2136	
Starvation Cap Reductn					0	0		0		0	0	
Spillback Cap Reductn					0	0		0		0	0	
Storage Cap Reductn					0	0		0		0	0	
Reduced v/c Ratio					0.04	0.08		0.45		0.10	0.44	
Intersection Summary												
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 49 (45%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	d to phase	2:NBTL a	nd 6:SB	rL, Start	of Green							
Natural Cycle: 65												
Control Type: Pretimed												
Maximum v/c Ratio: 0.45	ı			-		0						
Intersection Signal Delay: 12.5	7.5 ion 46 00/			<u>=</u> ⊆	Intersection LOS: B	LOS: B	<					
Intersection Capacity Utilization 46.9%	ion 46.9%			2	O Level o	ICU Level of Service A	⋖					
Analysis Period (min) 15												

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background AM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

Splits and Phases: 5: Terry Fox & Signature SC

Q Q (R)

◆ Ø6 (R)

Lanes, Volumes, Timings 6: Terry Fox & Campeau

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FBR V 76 76 76 76 76 76 76 76 76 76 76 76 76	WBL WBT 28 45 268 45 1580 1712 20.724 1712 228 45 10.0 10.0 43.4 43.4 43.4 43.7 49.7% 3.7 3.7 2.7 2.7 0.0 0.0 6.4 6.4		NBL 68 68 68 68 68 68 68 68 68 68 68 68 68 6	NBT 770 770 770 3191 3191 2 2 2 40.0% 44.0 44.0 40.0% 42.0 6.4 6.4 6.4	NBR 164 1441 1441 164 164 Perm 2 2 2 2 2 2 2 40.4 44.0 4.0 4.0 2 2.2 2.2	SBL 98 98 98 1658 0.279 487 11.4 12.0 10.9% 4.2 2.2 2.2	SBT 709 709 709 709 709 709 709 709 709 709	SBR 68 68 68 68 68 68 68 68 68 68 68 68 68
(a) 58 51 76 76 76 76 76 76 76 76 76 76 76 76 76			68 68 68 0.338 0.338 590 68 pm+pt 5 2 5 5 11.4 12.0 4.2 2.2 0.0 6.4 6.4	770 770 3191 3191 770 NA 2 2 2 40.0 40.0 44.0 44.0 44.0 42.2 6.4 6.4	164 164 164 164 164 Perm 2 2 2 2 2 2 40.4 44.0 40.0 40.0 8	98 98 98 1658 0.279 487 98 pm+pt 1 1.4 12.0 10.9% 4.2 2.2	709 709 3191 3191 709 NA 6 6 6 43.4 44.0 44.0 44.0 40.0% 40.0% 6.4 6.4 6.4 6.4 6.4 6.6 6.4 6.6 6.6 6.6	68 68 1463 97 68 Perm 6 6 6 43.4 44.0 40.0% 42.2 2.2 0.0 0.0
(c) 58 51 76 51 76 76 78 78 78 78 78 78 78 78 78 78 78 78 78			68 68 0.338 590 68 68 68 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	770 770 3191 3191 2 2 2 2 2 44.0 44.0 44.0 44.0 44.0 47.0 64.6 64.6	164 164 1410 164 164 164 164 10.0 40.0 40.0% 42.2 2.2	98 98 1658 0.279 487 98 pm+pt 1 1 1.4 12.0 4.2 4.2 2.2	709 3191 3191 709 NA 6 6 6 10.0 44.0 44.0 44.0 44.0 40.0% 6.4 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2	68 68 1483 1463 97 68 Perm 64 43.4 44.0 44.0 44.0 44.0 47.2 6.0 66 66 66 66 66 66 67 68 68 68 68 68 68 68 68 68 68 68 68 68
(a) 1642 1745 1441 176 1745 1745 1745 1745 1745 1745 1745 1745	4		68 0.338 0.338 0.338 68 68 68 5 5 5 11.0 11.0 10.9% 4.2 2.2 0.0 6.4 1.0 6.4 1.0 6.4 1.0 6.4 1.0 6.4 1.0 6.4 1.0 6.4 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	770 3191 3191 770 NA 2 2 2 2 40.4 40.4 44.0 40.0% 40.0% 40.0% 6.4 6.4	164 1410 164 164 164 Perm 2 2 2 2 2 10.0 40.0 40.0% 42.2 2.2	98 0.279 487 487 98 pm+pt 1 1.4 11.0 10.9% 4.2 4.2 2.2	709 3191 709 NA 6 6 6 43.4 44.0 40.0% 40.0% 40.0% 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.6 6.4 6.6 6.6	68 1463 97 68 68 Perm 10.0 43.4 44.0 44.0 47.2 2.2 2.2 2.2 6.0
1642 1745 1441 0.728 128 1745 1421 0,728 176 177 178 178 178 178 178 178 178 178 178			1658 0.338 590 68 68 70 11.4 12.0 11.9% 4.2 2.2 2.2 2.2 2.2 6.4 1.09%	3191 3191 770 NA 2 2 2 40.4 40.4 44.0 44.0 44.0 47.2 2.2 2.2 2.2 0.0 0.0 6.4 6.4 6.4 6.4	1441 164 164 164 Perm 2 2 2 2 2 40.0 40.0 40.0% 4.2 2.2	1658 0.279 487 98 pm+pt 1 1 11.4 12.0 10.9% 4.2 2.2	3191 709 NA 6 6 6 43.0 44.0 43.0 44.0 42.2 2.2 2.2 2.2 6.4 6.4 6.4 6.4 6.4 6.4 6.6 6.6 6.6 6.6	1463 97 68 Perm 6 6 6 6 43.4 44.0 40.0% 40.0% 6.0 6.0
97 (128 1745 1421 176 197 176 176 176 176 176 176 176 176 176 17	4		68 pm+pt 590 590 11.4 12.0 10.9% 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4	3191 770 NA 2 2 2 40.0 40.0 40.0% 40.0% 40.0% 64.6 64.6	1410 164 164 Perm 2 2 2 2 2 40.0 40.4 44.0 42.0 42.2 2.2	0.279 487 98 pm+pt 1 6 6 11.4 12.0 10.9% 4.2 2.2	3191 709 NA 6 6 6 43.4 44.0 43.4 44.0 4.2 2.2 2.2 0.0 6.4 6.4 6.4 6.6 6.6 6.6 6.6 6.6	1463 97 68 Perm 6 6 6 43.4 44.0 40.0% 4.2 2.2 2.2 2.2 6.0 6.0
(ph) 88 51 76 76 76 76 76 76 76 76 76 76 76 76 76			590 688 688 50 750 750 750 750 750 750 750 750 750	3191 770 NA 2 2 2 40.0 40.0 40.0% 40.0% 6.4 6.4	164 164 164 Perm 2 2 2 10.0 40.4 44.0 44.0 44.0 42.2 2.2	98 98 98 98 98 98 98 98 98 98 98 98 98 9	NA N	1463 97 68 Perm 10.0 43.4 44.0 44.0 47.2 2.2 2.2 2.2 2.2 6.4
yeh) 58 51 76 Perm NA Perm 4 54.0 54.0 54.0 54.0 54.0 54.0 54.0 57.0 27 2.7 2.7 58 None None None S27 27 29.7 59.7 29.7 29.7 50.0 0.0 50.0	4		68 5 2 2 2 5.0 11.4 12.0 12.0 4.2 2.2 2.2 2.2 2.2 0.0 6.4 1.ead	NA 2 2 2 10.0 40.0% 44.0 42.2 2.2 2.2 2.2 2.2 6.4 6.4	164 Perm 2 2 2 10.0 40.4 44.0 44.0 44.0 42.2 2.2	98 pm+pt 1 1 5.0 11.4 11.4 12.0 4.2 2.2	709 NA NA 10.0 10.0 43.4 43.4 44.0 44.0 64.0 64.0 64.0 64.0 64.0 64	97 68 68 10.0 10.0 43.4 44.0 47.2 2.2 2.2 2.2 2.2 64
yph) 88 51 76 Perm NA Perm A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4		68 68 5 7 7 10.9% 12.0 10.9% 12.2 2.2 2.2 2.2 0.0 6.4 1.ead	NA 2 2 2 40.0% 44.0 42.2 2.2 2.2 2.2 2.2 6.4 6.4	164 Perm 2 2 2 2 2 2 40.4 40.4 44.0 40.0% 40.0% 42.2 2.2	98 98 1 1 10.00 10.30 10	0.07 0.07 0.07 0.08 0.09 0.09 0.09 0.09 0.09	Perm 6 6 6 6 6 6 43.4 44.0 44.0 40.0% 42.2 2.2 2.2 2.2 2.2 6.4 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6
Perm NA Perm 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4		5 2 2 2 2 2 2 11.4 12.0 10.9% 4.2 2.2 2.2 2.2 0.0 6.4 lead	10.0 40.4 40.0% 40.0% 40.0% 40.0% 6.4	Perm 2 2 2 2 2 40.4 44.0 44.0% 42.2% 2.2	5.0 11.4 12.0 10.9% 4.2 2.2	0.01 43.4 44.0 40.0% 42.2 2.2 2.2 2.2 6.4 6.4	Perm 6 6 6 6 43.4 44.0 40.0% 4.2 2.2 2.2 2.2 2.2 6.4
10.0 10.0 10.0 10.0 10.0 40.4 40.4 40.4	4		5.0 11.4 12.0 10.9% 4.2 2.2 0.0 6.4 6.4 1.6ad	10.0 40.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	2 2 2 40.0 40.4 44.0 44.0 4.2 2.2	5.0 11.4 12.0 10.9% 4.2 2.2	43.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	10.0 43.4 44.0 40.0% 4.2 2.2 2.2 2.2 6.4
100 10.0 10.0 10.0 10.0 10.0 10.0 10.0	4		5.0 11.4 12.0 10.9% 4.2 2.2 0.0 6.4 6.4 1.6ad	10.0 40.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	10.0 40.4 44.0 40.0% 4.2 2.2	5.0 11.4 12.0 10.9% 4.2 2.2	6 43.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	6 6 6 43.4 44.0 40.0% 4.2 2.2 2.2 2.2 6.4 6.4
10.0 10.0 10.0 10.0 40.4 40.4 40.4 40.4	4		5.0 11.4 12.0 10.9% 4.2 2.2 2.2 0.0 6.4 Lead	10.0 40.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	10.0 40.4 44.0 40.0% 4.2 4.2 2.2	5.0 11.4 12.0 10.9% 4.2 2.2	43.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	10.0 43.4 44.0 40.0% 4.2 2.2 2.2 0.0
10.0 10.0 10.0 10.0 40.4 40.4 40.4 40.4	4		5.0 11.4 12.0 10.9% 4.2 2.2 0.0 6.4 Lead	10.0 40.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	10.0 40.4 44.0 40.0% 4.2 2.2	5.0 11.4 12.0 10.9% 4.2 2.2	10.0 43.4 44.0 40.0% 4.2 2.2 0.0 6.4	10.0 43.4 44.0 40.0% 6.4 6.4
100 100 100 100 100 404 404 404 404 404	4		5.0 11.4 12.0 10.9% 4.2 2.2 2.2 0.0 6.4 Lead	40.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	40.4 44.0 40.0% 4.2 2.2	11.4 12.0 10.9% 4.2 2.2	43.4 44.0 40.0% 4.2 2.2 0.0 6.4	43.4 44.0 40.0% 4.2 2.2 2.2 0.0
40.4 40.4 40.4 40.4 40.4 40.4 40.4 40.4	4		11.4 12.0 10.9% 4.2 2.2 0.0 6.4 Lead	40.04 44.0 40.0% 4.2 2.2 0.0 6.4	40.4 44.0 40.0% 4.2 2.2	11.4 12.0 10.9% 4.2 2.2	43.4 44.0 40.0% 4.2 2.2 2.2 0.0 6.4	43.4 44.0 40.0% 4.2 2.2 0.0
94.0 94.0 94.0 94.0 94.0 94.0 94.0 94.1% 91.1% 9	4		12.0 10.9% 4.2 2.2 0.0 6.4 Lead	44.0 40.0% 4.2 2.2 0.0 6.4	44.0 40.0% 4.2 2.2	12.0	44.0 40.0% 4.2 2.2 0.0 6.4	44.0 40.0% 4.2 2.2 0.0 6.4
s) 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4			10.9% 4.2 2.2 0.0 6.4	40.0% 4.2 2.2 0.0 6.4	40.0%	10.9% 4.2 2.2	40.0% 4.2 2.2 0.0 6.4	40.0% 4.2 2.2 0.0 6.4
3.7 3.7 3.7 3.7 3.7 2.7 2.7 2.7 2.7 2.7 2.9 5.9 None None None 29.7 29.7 29.7 29.7 29.7 29.7 29.7 29.7	ž	3.7 2.7 0.0 6.4	2.2 0.0 6.4 Lead	2.2 0.0 0.0	2.2	2.2	2.2 2.2 0.0 6.4	2.2
5) 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.9.7 29.7 2	ž	2.7 0.0 6.4	0.0 6.4 Lead	0.0	2.2	2.2	0.0 6.4	0.0
5) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	ž	6.4	6.4 Lead	6.4	0		0.0 6.4	0.0
7. None None None 29.7 29.7 29.7 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.	ž	4.0	Lead	4.0	0.0	0.0	9.0	4
None None None 29.7 29.7 29.7 29.7 29.7 29.7 29.7 29.7			רכמת	0	t 5	4.0		6
None None None 29.7 29.7 29.7 0.27 0.27			Yes	Yes	Yes	Yes	Yes	Yes
29.7 29.7 29.7 29.7 0.27		None	None	C-Max	C-Max	None	C-Max	C-Max
0.27 0.27 0.27	29.7 29.7	29.7	60.2	52.7	52.7	63.2	26.0	56.0
11:0		0.27	0.55	0.48	0.48	0.57	0.51	0.51
0.17 0.11 0.17		0.16	0.17	0.50	0.22	0.27	0.44	0.09
28.7 27.3 3.7		3.1	12.2	23.3	4.4	26.8	42.8	17.6
ty 0.0 0.0 0.0		0:0	0.0	0.0	0.0	0:0	0.0	0.0
Delay 28.7 27.3 3.7	27	3.1	12.2	23.3	4.4	26.8	42.8	17.6
ပ	O O	⋖	ш	ပ	A	ပ	Ω	ш
y 18.	41.2			19.4			39.1	
В				Δ.			Δ ;	
9.5 8.2 0.0	51.4 7.2	0.0	5.5	27.7	0.0	16.2	86.4	3.1
m) 17.3 15.1 6.2	70.9 13.7	5.2	14.3	95.3	13.8	34.3	105.4	15.4
128.0	204.4			313.2			301.0	
62.5 64.5		63.5	45.0		62.5	97.5		20.0
544 755 669	4	644	395	1527	09/	369	1623	رو/
0 0		0	0	0 0	0 0	0	0	0
Splilipack Cap Reducin 0 0 0		o o	> c	0	0	0	0	0
0 0 0	0	0 11	0 17	0 20	0 00	0 27	0 44	0 0
1000		-	5	9	4	4	į	5
Intersection Summary								
Cycle Length: 110								
Addate Cycle Length: 110 Officet: 27 (25%) Defended to phase 2:NBTI and 6:CBTI Start of Crean	Chart of Groon							
Natural Cycle: 100								
Control Type: Actuated-Coordinated								

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background AM Peak Hour

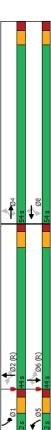
Synchro 11 Report Page 7

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background AM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

Intersection LOS: C ICU Level of Service C Intersection Signal Delay: 29.7 Intersection Capacity Utilization 72.8% Analysis Period (min) 15 Maximum v/c Ratio: 0.80

6: Terry Fox & Campeau Splits and Phases:



MOVEMENT SUMMARY

11/12/2021

₩ Site: 101 [Huntmar-Campeau PM FB2030]

Arcadia Stage 6 Site Category: (None) Roundabout

October All Police	er. No. Average Cycles Speed km/h		49.9	48.9	51.1	49.4		50.0	56.4	50.7	51.6		53.2	49.6	51.3	50.0		49.8	56.3	51.1	52.5	50.5
	No.								4,	2	2		ĽΩ	4	Ċ	2		4	5	ĽΩ	4)	Ω
			0.34	0.59	0.36	0.51		0.48	0.47	0.45	0.47		0.36	0.35	0.31	0.34		0.51	0.48	0.44	0.48	0.44
	Effective A		0.67	0.50	0.51	0.52		0.81	0.58	0.64	0.74		0.36	0.33	0.47	0.36		0.83	0.57	0.67	0.69	0.52
	Prop. Queued		0.34	0.52	0.36	0.46		0.48	0.47	0.45	0.47		0.36	0.35	0.31	0.34		0.51	0.48	0.44	0.48	0.43
	or Queue Distance m		2.0	19.3	3.3	19.3		3.9	1.7	0.5	3.9		7.4	7.4	3.2	7.4		5.5	5.1	2.3	5.5	19.3
7050 7000	95% back of Queue Vehicles Distance veh rr		0.3	2.7	0.5	2.7		0.5	0.2	0.1	0.5		1.0	1.0	0.5	1.0		0.8	0.7	0.3	0.8	2.7
	Level of Service		LOSA	LOSA	LOS A	LOSA		LOSB	LOSA	LOS A	LOSA		LOSA	LOSA	LOSA	LOSA		LOSB	LOSA	LOSA	LOSA	LOSA
V	Average Delay sec		8.6	4.0	3.8	4.5		11.9	5.9	6.1	9.8		8.6	2.7	3.4	3.0		12.1	5.7	5.6	8.2	5.3
cles	Sath V/c		0.104	0.567	0.162	0.567		0.199	0.091	0.025	0.199		0.311	0.311	0.157	0.311		0.260	0.252	0.124	0.260	0.567
e - Vehi	s Nows		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
rformanc	Demand Flows Total HV veh/h %		88	487	137	712		131	28	16	205		20	544	141	705		171	172	98	429	2051
Movement Performance - Vehicles		South: Huntmar	L2	Τ	R2	ach	East: Campeau	L2	Ξ	R2	ach	North: Huntmar	L2	Ţ	R2	ach	West: Campeau	L2	Τ	R2	ach	All Vehicles
Move	<u>0</u>	South	_	7	က	Approach	East:	4	2	9	Approach	North	7	œ	о	Approach	West	9	₽	12	Approach	All Ve

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Application St. Monta. US HOM 2010.

Roundabout Capacity Model: US HOM 2010.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity. Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Synchro 11 Report Page 9

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background AM Peak Hour

♥ Site: 101 [Country Glen-Campeau PM FB2030]

Arcadia Stage 5 Site Category: (None) Roundabout

Mover	nent Pe	Movement Performance - Vehicles	e - Vehi	icles							
Mov ID	Turn	Demand Flows Total HV	Flows H> %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued		Effective Aver. No. Average Stop Rate Cycles Speed km/h	Average Speed km/h
South:	South: Country Glen	Glen									
-	L2	37	2.0	0.024	2.3	LOSA	0.1 0.4	0.28	0.32	0.28	39.2
2	Ξ	~	2.0	0.024	0.7	LOSA	0.1 0.4	0.27	0.29	0.27	29.5
က	R2	2	2.0	0.024	0.7	LOSA	0.1 0.4	0.27	0.29	0.27	38.1
Approach	ach	43	2.0	0.024	2.1	LOSA	0.1 0.4	0.28	0.32	0.28	38.8
East: C	East: Campeau										
4	L2	12	2.0	0.057	6.6	LOSA	0.2	0.24	0.46	0.24	42.6
2	1	78	2.0	0.057	3.8	LOS A	0.2 1.1	0.23	0.44	0.23	57.2
9	R2	20	2.0	0.057	4.7	LOSA	0.1 1.0	0.22	0.42	0.22	38.5
Approach	ach	110	2.0	0.057	4.6	LOSA	0.2 1.1	0.23	0.44	0.23	50.8
North:	North: Country Glen	Glen									
7	L2	19	2.0	0.155	1.9	LOSA	0.4 3.0	0.19	0.10	0.19	40.5
80	Ţ	~	2.0	0.155	0.4	LOSA	0.4 3.0	0.19	0.10	0.19	29.7
6	R2	138	2.0	0.155	0.4	LOSA	0.4 3.0	0.19	0.10	0.19	39.0
Approach	sch sch	158	2.0	0.155	9.0	LOSA	0.4 3.0	0.19	0.10	0.19	39.1
West: (West: Campeau	_									
10	L2	162	2.0	0.151	9.5	LOS A	0.6 4.1	0.12	0.61	0.12	41.1
£	7	£	2.0	0.142	3.4	LOSA	0.5 3.8	0.12	0.35	0.12	58.3
12	R2	4	2.0	0.142	4.3	LOSA	0.5 3.8	0.12	0.35	0.12	38.8
Approach	ach	314	2.0	0.151	6.7	LOSA	0.6 4.1	0.12	0.49	0.12	45.4
All Vehicles	ides	625	2.0	0.155	4.4	LOSA	0.6 4.1	0.17	0.37	0.17	43.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

Tal DRA Sannard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity. Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

₩ Site: 101 [Winterset-Campeau PM FB2030]

Arcadia Stage 5 Site Category: (None) Roundabout

Š M	ement Pe	Movement Performance - Venicles	e - veni	cles								
Mov	Turn	Demand Flows	Flows	Ded.	Average	Level of	95% Back of Queue	of Queue	Prop.	Effective Aver. No. Average	Aver. No.	Average
		Total veh/h		Sath v/c	Delay		Vehicles veh	Distance m	Quened	Stop Rate		Speed km/h
East:	East: Campeau											
2	Ξ	93	2.0	0.043	3.3	LOSA	0.1	0.8	0.08	0.32	0.08	58.7
9	R2	32	2.0	0.030	4.2	LOS A	0.1	0.5	0.08	0.44	0.08	38.4
Approach	ach	125	2.0	0.043	3.6	LOSA	0.1	0.8	0.08	0.35	0.08	51.8
North	North: Winterset	ı,										
7	L2	18	2.0	0.017	1.7	LOSA	0.0	0.3	0.14	0.25	0.14	39.3
6	R2	18	2.0	0.009	0.2	LOS A	0.0	0.2	0.15	0.05	0.15	39.3
Approach	ach	36	2.0	0.017	1.0	LOS A	0.0	0.3	0.14	0.15	0.14	39.3
West	West: Campeau	_										
10	L2	33	2.0	0.049	9.4	LOSA	0.1	0.9	0.06	0.54	0.06	42.1
7	1	88	2.0	0.049	3.3	LOS A	0.1	0.9	0.07	0.37	0.07	58.0
Approach	ach	121	2.0	0.049	5.0	LOS A	0.1	6.0	0.07	0.42	0.07	52.6
All Ve	All Vehicles	282	2.0	0.049	3.8	LOSA	0.1	6.0	0.08	0.35	0.08	50.1

Site Level of Service (LOS) Method: Delay & vic (HCM 2010), Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: Traditional M1. HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Lanes, Volumes, Timings 4: Terry Fox & Kanata

Lane Group Lane Group How (puh) Sati Heb 838 340 265 Sati Flow (pun) Sati Flow (RTOR) Sati Flow (RTO		SBT SBS SBS SBS SBS NA NA 6 6 6 6 6 6 6 6 6 6 6 7.50 4.2 1.8 0.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0
250 146 888 340 250 146 888 340 250 146 888 340 3216 1469 3316 1483 1 0.950 3216 1469 3316 1482 1 146 858 340 146 858 340 250 146 858 340 260 146 858 340 270 146 858 340 2712 31.2 25.0 25.0 31.2 31.2 25.0 25.0 25.0 31.2 31.2 25.0 25.0 25.0 31.2 31.2 25.0 25.0 25.0 25.0 31.2 31.2 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25		### 885 885 885 885 885 885 885 885 885
250 146 858 340 3240 146 858 340 3276 1469 3316 1482 1 0.950 146 858 340 0.950 146 858 340 0.950 146 858 340 0.950 146 858 340 0.950 146 858 340 0.140 12 250 250 0.00		885 885 885 885 NA 6 6 6 6 6 6 60 60 60 60 60 60 60 60 60
256 146 858 340 3216 1469 3316 1452 1 3216 1469 3316 1452 1 250 146 858 340 Prof. Perm. NA Perm. 8 8 2 2 8 8 2 2 2 8 8 2 2 2 8 8 2 2 2 31.2 31.2 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25		885 3316 885 NA 6 6 6 6 6 6 0.0 6.0 6.0 6.0 6.0 6.0 6.0
32-16 1469 3316 1488 1 0.0950 0.0950 146 888 340 146 340 146 146 146 146 146 146 146 146 146 146		3316 885 NA 6 6 6 6 10.0 10.0 11.8 0.0 6.0 0.7 0.77 0.77 0.77 0.77 0.77 0.
250 1469 3316 1452 1 146		885 NA 6 6 6 77.5% 42 1.8 0.0 6.0 6.0 6.0 6.0 6.2 0.37 5.3
250 146 858 340 Prof. Perm NA		885 NA 6 6 6 6 77.5% 42 1.8 0.0 6.0 6.0 6.0 6.0 6.0 6.3 7.2 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3
250 146 868 340 Prof Perm NA Perm 8 2 2 8 8 2 2 8 8 2 2 8 8 2 2 2 2 8 8 2 2 2 2		885 NA 6 6 6 77.5% 42 14 42 14 42 14 42 18 0.00 6.0 6.0 6.0
Prof. Perm. NA Perm. 8 8 2 2 2 8 8 8 2 2 2 2 2 2 2 2 2 2 2		NA 6 6 6 77.5% 42 42 42 42 42 42 42 60 60 60 60 61 61 62 63 63 63 63 63 63 63 63 63 63 63 63 63
8 8 2 2 2 8 8 2 2 2 8 9 8 9 9 9 9 9 9 9		6 6 6 45.0 7.5% 4.2 1.8 0.0 6.0 6.0 6.0 6.0 6.0 6.0 5.3
8 8 2 2 2 2 3 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4		6 10.0 25.0 25.0 44.2 42 42 0.0 6.0 6.0 6.0 0.0 7.2 0.37 5.3
\$ 8 8 2 2 2 5 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		6 25.0 25.0 45.0 42.4 1.8 0.0 6.0 6.0 6.0 6.0 5.3
5.0 5.0 10.0 10.0 31.2 31.2 25.0 25.0 32.0 32.0 32.0 37.5% 3		10.0 25.0 45.0 4.2 4.2 1.8 0.0 6.0 6.0 6.0 6.0 6.3 7.2 0.37 5.3
5.0 100 010 010 010 010 010 010 010 010 0		25.0 45.0 7.5% 14.2 1.8 0.0 6.0 6.1 Max 64.9 0.37 0.37
31.2 31.2 25.0 25.0 32.0 32.0 32.0 45.0 32.0 45.0 32.0 45.0 32.0 45.0 32.0 45.0 32.0 45.0 32.0 45.0 32.0 45.0 32.0 45.0 32.0 42.0 42.0 42.0 42.0 42.0 42.0 42.0 4		25.0 45.0 1.5% 1.8 1.8 0.0 6.0 6.0 6.1 6.9 0.37 0.37
32.0 32.0 45.0 45.0 45.0 45.0 45.0 45.0 45.0 45		45.0 77.5% 42.2 1.8 0.0 6.0 64.9 0.72 0.37 5.3
25. 25. 1.8 1.5% 35.5% 3		4.2 4.2 1.8 0.0 6.0 6.9 6.4.9 0.37 5.3
3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7		14.2 10.0 6.0 64.9 67.2 0.37 5.3
2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	7.4	1.0 6.0 Max Max 0.72 0.37 5.3
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 Max 64.9 0.37 0.53
0.2 0.2 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0:0	6.0 Max 64.9 0.37 5.3
None None Max Max Nax Nax Nax Nax Nax Nax Nax Nax Nax N	0.0	Max 64.9 67.2 0.37 5.3
None None Max Max Nat 12.4 12.4 39.3 39.3 39.3 12.4 12.4 39.3 39.3 39.3 10.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4	Voc	Max 64.9 0.72 0.37 5.3
124 124 39.3 39.3 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2		64.9 0.72 0.37 5.3
0.14 0.14 0.44 0.44 0.56 0.44 0.59 0.41 0.05 0.44 0.59 0.41 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		0.72 0.37 5.3 2.3
0.56 0.44 0.59 0.41 42.0 11.1 22.6 4.0 0.0 42.0 11.1 22.6 4.0 0.0 D B C A O O O O O O O O O O O O O O O O O O		0.37 5.3
420 11.1 22.6 4.0		5.3
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	45.5	•
420 11.1 226 4.0 D B C A A 30.6 C B B C A 6.0 20.8 0.0 56.4 0.0 35.5 16.5 96.5 17.0 616.6 94.5 828 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 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0	0.0
0 D B C A 0.06 17.3 0.06 17.3 0.08 0.0 56.4 0.0 0.35.5 16.5 95.5 17.0 0.105.0 0.0	45.5	5.3
30.6 17.3 C B C C B B C C B B C C C B B C C C C	۵	A
20.8 0.0 56.4 0.0 35.5 16.5 95.5 17.0 100.0 933 530 1455 828 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		14.6
20.8 0.0 56.4 0.0 25.5 16.5 96.5 17.0 93.5 530 1455 828 93.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		a
35.5 16.5 95.5 17.0 616.6 846.8 100.0 933 530 1455 828 0 0 0 0 0 0 0 0 0 0 0 0 0 0		24.8
oth 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		399.8
ctn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		487.0
tch 333 330 1435 0.66 trh 0 0 0 0		0000
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		3023
0.27 0.28 0.59 0.41	0 0	
0.27 0.28 0.59 0.41	o c	
		0.29
Interception Summary		
mersecular summary		
Cycle Length: 1/20		
Actuated Cycle Letigiii. 09.0		
Control Type: Activated I Incoordinated		
Control Type. Actuated-Unoondinated		

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background PM Peak Hour

Synchro 11 Report Page 4

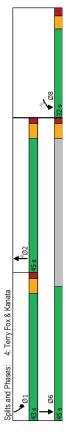
Lanes, Volumes, Timings 4: Terry Fox & Kanata

11/22/2021

11/22/2021

LOS: B	arvice B	
Intersection LC	" ICU Level of Service	
Intersection Signal Delay: 18.1	Intersection Capacity Utilization 63.2%	Analysis Period (min) 15

Alialysis Fellod (IIIII) 13



Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background PM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

Part		•	†	<i>></i>	>	ţ	4	•	—	•	۶	→	•
100	ane Group	EBF	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0 0 0 54 0 113 18 1148 68 82 82 0 1745 0 0 54 0 113 148 168 82 82 168 1745 0 0 1556 1483 1668 1668 182 0 1745 0 0 1327 1483 370 3289 0 302 182 1745 0 0 1327 1483 370 3289 0 302 182 1745 0 0 1321 1483 370 3289 0 302 182 1745 0 0 1745 0 0 184 1748 1748 1748 1748 1748 1748 1748	ane Configurations		4			4	R	F	4		r	4	
0 1745 0 0 1638 1483 1688 3289 0 1688 0 1745 0 0 1638 1483 1483 370 3289 0 1075 0 17	raffic Volume (vph)	0	0	0	72	0	113	- 82	1148	89	82	1083	0
175	uture Volume (vph)	0	0	0	72	0	113	80	1148	89	82	1083	0
0 1745 0 0 1321 1483 370 3289 0 302 39 4 148 3 370 3289 0 302 39 4 148 3 370 3289 0 302 39 4 148 3 310 380 39 0 39 39 39 0 39 0 39 0 39 0 39	Satd. Flow (prot)	0	1745	0	0	1658	1483	1658	3289	0	1658	3316	0
10 1745 0 0 1321 1483 370 3289 0 302 39	Flt Permitted					0.757		0.212			0.173		
10 0 0 0 0 54 113 18 121 0 82 11	satd. Flow (perm)	0	1745	0	0	1321	1483	370	3289	0	302	3316	0
116 316 316 316 317 8 10 1210 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	satd. Flow (RTOR)	c	c	c	c	2	8 5	5	0 0	c	S	000	c
100	ane Group Flow (vpn)	0	0	0	0	<u>ጀ</u>	7.13	20.00	1216	0	82	1083	0
316 316 316 316 314 314 32.8 310 330 330 330 340 340 375% 675% 675% 675% 675% 675% 675% 675% 6	urn Type		_		E	×α	E	E	Y C		E	₹ «	
316 316 316 316 314 314 328 325% 325% 325% 325% 325% 675% 675% 675% 675% 675% 675% 675% 67	Permitted Phases	4	t		00	0	00	0	7		œ	5	
39.0 39.0 39.0 39.0 61.0 61.0 61.0 82.2 22.2 3.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	Ainimum Split (s)	31.6	31.6		31.6	31.6	31.6	31.4	31.4		32.8	32.8	
32.5% 32.5% 32.5% 32.5% 67.5%	otal Split (s)	39.0	39.0		39.0	39.0	39.0	81.0	81.0		81.0	81.0	
3.0 3.0 3.0 3.0 4.2 4.2 4.2 3.6 3.6 3.6 3.6 3.6 4.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2	otal Split (%)	32.5%	32.5%		32.5%	32.5%	32.5%	%5'.29	%5'.29		%5'.29	%5'.29	
36 36 36 36 36 36 36 36 36 36 36 36 36 3	(ellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.2	4.2		4.2	4.2	
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	II-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.2	2.2		2.2	2.2	
22.4 22.4 74.6 74.6 74.6 74.6 74.6 74.6 74.6 74	ost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
32.4 32.4 746 74.6 74.6 74.6 74.6 74.6 0.22 0.25 0.25 0.25 0.25 0.25 0.25 0.25	oral Lost IIIIIe (s)		0.0			0.0	0.0	4.0	4.0		4.0	4.0	
32.4 32.4 74.6 74.6 74.6 74.6 0.02 0.02 0.02 0.05 0.05 0.05 0.05 0.05	ead/Lag												
0.27 0.27 0.62 0.62 0.62 0.15 0.24 0.08 0.59 0.44 0.49 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.1	of Effor Groon (c)					30.4	30.4	24.6	24.6		9 1/2	24.6	
0.15 0.24 0.06 0.59 0.44 34.9 10.9 4.7 16.8 20.9 4.0 0.0 0.0 0.0 0.0 34.9 10.9 4.7 16.8 20.9 C B A B C 18.7 16.8 20.9 C B A B C 19.8 92.3 2.1 131.3 9.4 20.3 17.3 m0.4 155.8 24.2 20.3 17.3 m0.4 155.8 24.2 20.0 0 0 0 0 C C D C D C D C C D C D C D C D C C D C D	oct Ellot Green (s)					0.27	0.27	0.4.0	0.4.0		0.4.0	0.4.0	
34.9 10.9 4.7 16.8 20.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	/c Ratio					0.15	0.24	0.08	0.59		0.44	0.53	
19.8 20.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	ontrol Delay					34.9	10.9	4.7	16.8		20.9	13.9	
34.9 10.9 4.7 16.8 20.9 C B A B C 18.7 18.7 B B B B B C 20.3 17.3 m0.4 155.8 24.2 20.3 17.3 m0.4 155.8 24.2 19.8 92.3 17.3 m0.4 155.8 24.2 61.0 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 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 0 15 0.24 0.08 0.59 0.44 3y. 15.8 httersection LOS: B	Jueue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
18.7 16.7 16.7 16.7 18.8 C 18.8 A 18.8 C 18.8 18.9 C 18.9	otal Delay					34.9	10.9	4.7	16.8		20.9	13.9	
19.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16	SO					ပ	ш	⋖	ш		ပ	ш	
9.7 3.3 2.1 131.3 9.4 20.3 17.3 m0.4 155.8 24.2 20.4 20.0 20.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	pproach Delay					18.7			16.7			14.4	
9.7 3.3 2.1 131.3 9.4 20.3 17.3 m.0.4 155.8 24.2 81.0 m.0 m.0 m.0 m.0 81.0 m.0 m.0 m.0 m.0 81.0 m.0 m.0 m.0 m.0 82.1 m.0 m.0 m.0 m.0 m.0 83.0 m.0 m.0 m.0 m.0 m.0 83.0 m.0 m.0 m.0 m.0 m.0 83.0 m.0 m.0 m.0 m.0 m.0 m.0 83.0 m.0 m.0 m.0 m.0 m.0 m.0 m.0 83.0 m.0 m.0 m.0 m.0 m.0 m.0 m.0 m.0 m.0 83.0 m.0 m.0 m.0 m.0 m.0 m.0 m.0 m.0 m.0 m	pproach LOS					മ			ω :			ω	
19.8 20.3 17.3 m04 155.8 24.2 20.3 17.3 m04 155.8 24.2 20.4 20.4 20.4 20.4 20.4 20.4 20.4	lueue Length 50th (m)					9.7	3.3	2.1	131.3		9.4	70.4	
19.8 92.3 51.0 61.0 61.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7	Jueue Length 95th (m)					20.3	17.3	m0.4	155.8		24.2	86.8	
356 469 230 2048 61.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ntemal Link Dist (m)		19.8			92.3			301.0			846.8	
350 469 230 2048 187 230 2048 187 230 2048 187 230 2048 187 230 2048 187 230 2048 187 230 2048 230 204	urn Bay Length (m)					C L	007	51.0	0.00		61.0	7000	
120 enced to phase 2.NBTL and 6:SBTL, Start of Green sy, 15.8 httersection LOS: B litzation 68.6% ICU Level of Service C	sase Capacity (vph)					356	469	230	2048		187	2061	
1.20 enced to phase 2:NBTL and 6:SBTL, Start of Green sy. 15.8 intrastion 68.6% ICU Level of Service C	starvation Cap Reductn					0	0	0	0		0	0	
1.120 arenced to phase 2:NBTL and 6:SBTL, Slart of Green d 4 5.9 iny, 15.8 iny, 15.8 intersection LOS: B intersection Cos: B i	torade Can Reductin					o c	o c	0 0	0 0		o c	o	
Itersection Summary yole Length: 120 ccusted Cyde Length: 120 Hises 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Attainst Cycle: 75 John Viel Cycle: 75 Analysis Charter of the Cycle Cycle Intersection Signal Delay; 15.8	Reduced v/c Ratio					0.15	0.24	0.08	0.59		0.44	0.53	
yole Length: 120 ccuated Cyde Length: 120 lifest 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green that I Cycle: 75 control Type, Pretimed flaximum vic Ratio: 0.59 Intersection Signal Delay; 15.8	ntersection Summary												
When 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Shart of Green bard Cycle 7. The formal cycle 7. The	Cycle Length: 120 Actuated Cycle Length: 120												
: 15.8 :zation 68.6%	Offset 49 (41%), Reference Natural Cycle: 75	ed to phase	2:NBTL a	nd 6:SBT	L, Start o	of Green							
: 15.8 ization 68.6%	Sontrol Type: Pretimed												
	laximum v/c Ratio: 0.59						9						
	ntersection Signal Delay: 10	5.8			⊆ 9	tersection	LOS: B						
	ntersection Capacity Utiliza	tion 68.6%			2	O Level o	of Service	c					

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background PM Peak Hour

Synchro 11 Report Page 6

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

11/22/2021

11/22/2021

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

Splits and Phases: 5: Terry Fox & Signature SC

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background PM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

Particular Par		١.	Ť	>	•	,	/	_	-			+	7
1	ane Group	BB	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
97 108 130 248 116 111 89 955 188 164 875 1658 1745 1483 1658 3316 1493 1658 1658 1658 1658 1658 1658 1658 1658	-ane Configurations	*	*	*-	*	*	*-	*	‡	*-	*	‡	*
97 108 130 148 116 111 89 955 188 164 875 168 1745 1483 1658 3316 143 1658 3316 1483 1658 1658 1658 1658 1658 1658 1658 1658	raffic Volume (vph)	26	108	130	248	116	111	88	922	188	164	875	85
1658 7745 1488 1658 1772 1464 466 3316 1449 354 3316 1489 1745 1464 1199 1712 1464 466 3316 1449 354 3316 1489 1745 1464 1199 1712 1464 466 3316 1449 354 3316 1489 130 248 116 111 89 955 188 164 875 188 148 188 148 188 1	uture Volume (vph)	26	108	9	248	110	= =	8	922	188	164	875	82
1189 1745 1464 1189 1712 1464 466 3316 1449 354 3316 1489 1745 1464 1189 1741 1464 466 136 1449 354 3316 1489 1364 1364 1489	Satd. Flow (prot)	1658	1745	1483	1658	1712	1483	1658	3316	1483	1658	3316	1483
100	Tirrenning	1100	17.AE	1464	1100	1710	1464	102.0	2246	1440	0.203	2246	1462
97 108 130 248 116 111 89 955 188 164 875 4 4 4 8 8 8 5 2 2 1 6 4 4 4 4 8 8 8 5 2 2 1 6 4 4 4 4 8 8 8 5 2 2 1 6 4 0.4 40.4 40.4 43.4 43.4 43.4 114 40.4 40.4 11.4 43.4 11.6 10.0 10.0 10.0 10.0 10.0 10.0 10.0 5.0 10.0 5.0 10.0 40.0 40.0 4 0.0 4 0.0 4 0.0 4 0.0 4 11.4 43.4 11.6 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4	Satd. Flow (perm)	80	542	120	8	71 /1	4 + + + + + + + + + + + + + + + + + + +	400	2210	16.3	200	2210	204
Perm NA Perm P	ane Group Flow (vph)	6	108	8 8	248	116	=======================================	8	955	188	164	875	85
4	Turn Type	Perm	Α̈́	Perm	Perm	Ä	Perm	pm+pt	Ą	Perm	pm+pt	¥	Perm
100	Protected Phases		4			∞		2	2		τ-	9	
100 100 100 100 100 100 50 100	Permitted Phases	4		4	∞		80	2		2	9		9
10.0 10.0 10.0 10.0 10.0 10.0 5.0 10.0 5.0 10.0 4.0.4 40.4 40.4 40.4 40.4 40.4 4	Detector Phase	4	4	4	00	∞	∞	2	2	2	_	9	9
40.4 40.4 40.4 43.4 43.4 43.4 114 40.4 40.4 114 43.4 43.4 40.0 40.0 40.0 40.0 40.0 40.	Witch Priase	000	000	000	400	400	000	4	000	000	4	45	40.0
480 480 480 480 480 480 480 220 220 500 500 220 650 400% 400% 40.0	Minimum Calit (s)	70.0	70.0	40.0	73.7	73.7	73.7	0.0	40.0	70.0	11.0	73.7	73.7
400% 400% 400% 400% 400% 813% 417% 417% 813% 417% 417% 313 37 37 37 37 37 37 42 42 42 42 42 42 42 42 42 42 42 42 42	fotal Split (s)	100	180	100	100	48.0	197	20.0	10.07	10.7	22.0	1.07	1.07
3.7 3.7 3.7 3.7 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 2.2 <td>Total Split (%)</td> <td>40.0%</td> <td>40.0%</td> <td>40.0%</td> <td>40.0%</td> <td>40.0%</td> <td>40.0%</td> <td>18.3%</td> <td>41.7%</td> <td>41.7%</td> <td>18.3%</td> <td>41.7%</td> <td>41.7%</td>	Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	18.3%	41.7%	41.7%	18.3%	41.7%	41.7%
27 27 27 27 27 27 27 22 22 22 22 22 22 2	rellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.2	4.2	4.2
Color Colo	All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2
Color Colo	ost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
None	otal Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
None None Ves Yes Yes </td <td>-ead/Lag</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Lead</td> <td>Lag</td> <td>Lag</td> <td>Lead</td> <td>Lag</td> <td>Lag</td>	-ead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
None None None None None None None None	.ead-Lag Optimize?							Xes	Xes	Xes	Xes :	Yes	Yes
30.4 30.4 30.4 30.4 30.4 30.4 6/7.5 59.3 59.3 73.4 62.3 30.5 0.25 0.25 0.25 0.25 0.25 0.25 0.26 0.49 0.61 0.52 0.25 0.25 0.25 0.26 0.49 0.61 0.52 0.35 0.25 0.26 0.29 0.49 0.61 0.52 0.35 0.26 0.28 0.28 0.24 0.49 0.61 0.52 0.30 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
0.25 0.25 0.25 0.25 0.25 0.25 0.26 0.49 0.49 0.49 0.61 0.52 0.27 0.25 0.26 0.28 0.49 0.49 0.49 0.51 0.51 0.20 0.20 0.20 0.20 0.20 0.20 0.20 0.2	Act Effet Green (s)	30.4	30.4	30.4	30.4	30.4	30.4	67.5	59.3	59.3	73.4	62.3	62.3
17.1 34.8 6.4 62.4 35.3 6.6 12.5 25.7 6.0 28.9 40.3 0.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	ctuated g/C Katio	0.25	0.25	0.25	0.25	0.25	0.25	0.56	0.49	0.49	0.61	0.52	0.52
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	/c Railo	37.1	3.7 B	0.20	0.02	35.3	0.23	12.5	0.30	9.24	0.49 0 ac	0.0	120
37.1 34.8 6.4 6.24 35.3 6.6 12.5 25.7 6.0 28.9 40.3 C. 2.2 C. 2 C.	Junio Delay		0.00	† C	4.20	3 0	9 0	0.2	7.00	0.0	0.03	5.0	0.0
24.5 A E D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C D D A B C A C A C D D A B C A C A C D D A B C A C A C D D A B C A C A C A C A C A C A C A C A C A	otal Delay	37.1	34.8	5. 4	62.4	35.3	9 6	12.5	25.7	9.0	28.9	40.3	18.0
24.5	OS COLEY		5 0	† 4	F III	3	9 4	3 00		0.0 A	S C	2	5 2
186 20.3 0.0 55.2 22.0 0.0 7.4 81.1 3.1 27.9 100.4 29.8 31.2 13.0 76.2 33.2 12.0 17.6 130.5 19.4 53.8 123.1 12.0 17.6 130.5 19.4 53.8 123.1 12.0 0.0 1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Annroach Delay	1	24.5	:	J	42.7	:	1	2 8			36.9	1
18.6 20.3 0.0 55.2 22.0 0.0 74 81.1 3.1 27.9 100.4 29.8 31.2 13.0 76.2 33.2 12.0 17.6 130.5 19.4 53.8 173.1 128.0 2044 5 70.0 62.5 41.2 604 592 415 593 580 443 1639 798 395 1720 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Approach LOS		O						C				
29.8 31.2 13.0 76.2 33.2 12.0 17.6 130.5 19.4 53.8 123.1 128.0 204.4 313.2 313.2 313.2 313.2 313.2 313.2 313.2 313.2 313.0 313	Queue Length 50th (m)	18.6	20.3	0.0	55.2	22.0	0.0	7.4	81.1	3.1	27.9	100.4	4.2
62.5 (44.5 70.0 83.5 45.0 82.5 97.5 301.0 62.5 (44.5 70.0 83.5 45.0 82.5 97.5 97.5 97.5 97.5 97.5 97.5 97.5 97	Queue Length 95th (m)	29.8	31.2	13.0	76.2	33.2	12.0	17.6	130.5	19.4	53.8	123.1	19.6
62.5 64.5 70.0 63.5 45.0 62.5 97.5 41.2 64.5 70.0 63.5 45.0 62.5 97.5 64.5 70.0 63.5 45.0 62.5 97.5 64.5 64.5 64.5 64.5 64.3 64.3 64.3 64.3 64.3 64.3 64.3 64.3	ntemal Link Dist (m)		128.0			204.4			313.2			301.0	
412 604 592 415 593 580 443 1639 798 395 1720 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Furn Bay Length (m)	62.5		64.5	70.0		63.5	42.0		62.5	97.5		20.0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sase Capacity (vph)	412	604	265	415	593	280	443	1639	798	395	1720	801
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
0.24 0.18 0.22 0.60 0.20 0.19 0.20 0.58 0.24 0.42 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51	Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
0.24 0.18 0.22 0.60 0.20 0.19 0.20 0.58 0.24 0.42 0.51 0.50 0.59 0.24 0.42 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51	Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
ntersection Summary ycle Length: 120 Actualed Cycle Length: 120 Siftes £7 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	Reduced v/c Ratio	0.24	0.18	0.22	09.0	0.20	0.19	0.20	0.58	0.24	0.42	0.51	0.11
yyde Length: 120 Kulaidd Cyde Length: 120 Offset 27 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Jahural Cycle: 100	ntersection Summary												
ctuated Cycle Length: 120 Diffset 27 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Jahural Cycle: 100	Sycle Length: 120												
Jahrnal Cycle: 100	Actuated Cycle Length: 120 Offset, 27 (23%). Reference	d to phase	2.NBTL	and 6:SB	TL. Start	of Green							
	100 Journal												

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background PM Peak Hour

Synchro 11 Report Page 8

Lanes, Volumes, Timings 6: Terry Fox & Campeau

11/22/2021

11/22/2021

Maximum v/c Ratio: 0.82		
Intersection Signal Delay: 30.6	Intersection LOS: C	
Intersection Capacity Utilization 75.4%	ICU Level of Service D	
Analysis Period (min) 15		

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Background PM Peak Hour

Appendix G

MMLOS Analysis



Multi-Modal Level of Service - Intersections Form

Consultant Scenario Comments

Transportation Inc.	ng/Future	
CGH Transporta	-utu	

570 Winterset Road	10/8/2021	
Project	Date	

	INTERSECTIONS	×	Kanata Avenue at	Avenue at Terry Fox Drive			Terry Fox Drive at Signature C	at Signature C		J	Campeau Drive at Terry Fox Drive	t Terry Fox Drive	•
	Crossing Side	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	Lanes	7		2		7	7	7	7	7	80	7	7
	Median	No Median - 2.4 m		No Median - 2.4 m		No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
	Conflicting Left Turns	Protected		Protected		Permissive	Permissive	Permissive	Permissive	Permissive	Permissive	Protected/ Permissive	Protected/ Permissive
	Conflicting Right Turns	Permissive or yield control		Permissive or yield control		Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
	Right Turns on Red (RToR)?	RTOR allowed		RTOR allowed		RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
	Ped Signal Leading Interval?	°Z		Š		o _N	§.	8	o _N	2	°Z	^o Z	Ŷ.
ue	Right Turn Channel	Conv'tl without Receiving Lane		No Channel		No Channel	No Channel	No Channel	No Channel	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	No Channel	Conv'tl without Receiving Lane
irte	Corner Radius	~25m		>25m		10-15m	10-15m	10-15m	10-15m	15-25m	15-25m	15-25m	15-25m
əpə	Crosswalk Type	Std transverse markings		Std transverse markings		Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
4	PETSI Score	13		42		4	4	4	4	9	-10	2	9
	Ped. Exposure to Traffic LoS	ш		ш		L	ш	ш	ш	ш	ш	ш	ш
	Cyde Length Effective Walk Time												
	Average Pedestrian Delay												
	Pedestrian Delay LoS												
		ш		ш		ш	ш	ш	ш	ш	ш	ш	ш
	Level of Service		-					L					
	Approach From	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	Bicycle Lane Arrangement on Approach	Pocket Bike Lane	Pocket Bike Lane	Pocket Bike Lane		Pocket Bike Lane	Pocket Bike Lane	Mixed Traffic	Mixed Traffic	Pocket Bike Lane	Pocket Bike Lane	Pocket Bike Lane	Mixed Traffic
	Right Turn Lane Configuration		Bike lane shifts to the left of right turn	Bike lane shifts to the left of right turn				≥ 50 m		Bike lane shifts to the left of right turn	Bike lane shifts to the left of right turn	Bike lane shifts to the left of right turn	> 50 m
	Right Turning Speed		>25 to 30 km/h	>25 to 30 km/h				≤ 25 km/h		>25 to 30 km/h		>25 to 30 km/h	>25 km/h
a	Cyclist relative to RT motorists	#N/A	F	F		#N/A	#N/A	D	#N/A	F	F	F	ш
ojo/	Separated or Mixed Traffic	Separated	Separated	Separated		Separated	Separated	Mixed Traffic	Mixed Traffic	Separated	Separated	Separated	Mixed Traffic
Bic	Left Turn Approach	≥ 2 lanes crossed		No lane crossed		≥ 2 lanes crossed	≥ 2 lanes crossed	One lane crossed	No lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	1 lane crossed	≥ 2 lanes crossed
	Operating Speed	≥ 60 km/h		≥ 60 km/h		≥ 60 km/h	≥ 60 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	≥ 60 km/h	≥ 60 km/h	≥ 60 km/h	≥ 60 km/h
	Left Turning Cyclist	н		၁		В	н	D	В	н	Ь	Е	ш
		#N/A		F		#N/A	#N/A	D	#N/A	В	В	F	F
	Level of Service		W/N#	/A			W/N#	/A				4	
11	Average Signal Delay												
isut						٠			-				
sтТ	Level of Service												
ск	Effective Corner Radius Number of Receiving Lanes on Departure from Intersection												
nı⊥		•				٠			-				
	Level of Service												
O	Volume to Capacity Ratio		0.61 - 0.70	0.70			0.0 - 0.0	09:0			0.61	0.61 - 0.70	
ìυA	Level of Service		В	8			1	٨			_	В	

Multi-Modal Level of Service - Segments Form

	570 Winterset Road	10/8/2021		
1	Project	Date		
	CGH Transportation Inc.	Existing/Future		
•	Consultant	Scenario	Comments	

			Campeau	Winterset	Section	Section	Section	Section	Section	Cotion	Section
SEGMENTS			-	2	e	4	2	9	7	80	6
	Sidewalk Width Boulevard Width		≥2 m 0.5 - 2 m	1.8 m > 2 m							
	Avg Daily Curb Lane Traffic Volume		≥ 3000	> 3000							
rian	Operating Speed On-Street Parking		> 60 km/h no	> 50 to 60 km/h no							
186	Exposure to Traffic PLoS	,	В	4							
әрә	Effective Sidewalk Width										
Ы	Pedestrian Volume										
	Crowding PLoS										
	Level of Service					-	-			-	
	Type of Cycling Facility		Physically Separated	Mixed Traffic							
	Number of Travel Lanes			\$ 2 (no centreline)							
	Operating Speed			≥ 50 to 60 km/h							
	# of Lanes & Operating Speed LoS		1	D							
əjo	Bike Lane (+ Parking Lane) Width										
cλ	Bike Lane Width LoS	۵	t	•							
Bi	Bike Lane Blockages										
	Blockage LoS		¢	•							
	Median Refuge Width (no median = < 1.8 m)			< 1.8 m refuge							
	No. of Lanes at Unsignalized Crossing			≤ 3 lanes							
	Sidestreet Operating Speed			≤ 40 km/h							
	Unsignalized Crossing - Lowest LoS		∢	4							
	Level of Service		4	D	-	-	-	-			
ţįţ	Facility Type										
sue	Friction or Ratio Transit:Posted Speed	ı									
зт	Level of Service								-		
>	Truck Lane Width										
ıсү	Travel Lanes per Direction	ı									
иT	Level of Service			•							

Appendix H

Synchro and Sidra Intersection Worksheets – 2025 Future Total Conditions



¥ Site: 101 [Huntmar-Campeau AM FT2025]

Arcadia Stage 6 Site Category: (None) Roundabout

Mover	nent Pe	Movement Performance - Vehicles	e - Vehi	cles								
Mov ID	Turn	Demand Flows Total HV	Flows H≷	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	f Queue Distance m	Prop. Queued	Effective Aver. No. Stop Rate Cycles	Aver. No. Cycles	Average Speed km/h
South:	South: Huntmar											
-	7	33	2.0	0.033	7.9	LOSA	0.1	9.0	0.19	0.58	0.19	50.4
2	Ţ	403	2.0	0.403	2.3	LOSA	1.5	10.4	0.28	0.26	0.28	50.0
က	R2	28	2.0	0.058	2.9	LOSA	0.2	1.1	0.20	0.38	0.20	51.7
Approach	ach	494	2.0	0.403	2.7	LOSA	1.5	10.4	0.26	0:30	0.26	50.2
East: C	East: Campeau											
4	7	4	2.0	0.185	11.0	LOS B	0.5	3.6	0.40	0.76	0.40	50.3
2	1	98	2.0	0.113	4.9	LOSA	0.3	2.2	0.40	0.49	0.40	56.8
9	R2	g	2.0	0.045	5.3	LOSA	0.1	0.8	0.38	0.59	0.38	51.1
Approach	ach	264	2.0	0.185	8.3	LOSA	0.5	3.6	0.40	0.65	0.40	52.3
North:	North: Huntmar											
7	L2	10	2.0	0.201	8.4	LOS A	9.0	4.3	0.31	0.33	0.31	53.5
80	1	357	2.0	0.201	2.5	LOS A	9.0	4.3	0.30	0.31	0.30	49.8
6	R2	106	2.0	0.117	3.3	LOSA	0.3	2.3	0.29	0.45	0.29	51.4
Approach	ach.	473	2.0	0.201	2.8	LOSA	9.0	4.3	0.30	0.34	0.30	50.2
West: (Campeau											
10	L2	89	2.0	0.090	11.0	LOS B	0.2	1.7	0.40	0.75	0.40	50.3
£	Ξ	89	2.0	0.088	4.7	LOSA	0.2	1.6	0.37	0.47	0.37	56.9
12	R2	39	2.0	0.050	4.8	LOSA	0.1	0.9	0.36	0.57	0.36	51.4
Approach	ach	175	2.0	0.090	7.2	LOSA	0.2	1.7	0.38	0.60	0.38	52.9
All Vehides	ides	1406	2.0	0.403	4.4	LOSA	1.5	10.4	0.31	0.42	0.31	50.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.
IDIDA Samadro Delay, Model is used: Control Delay includes Geometric Delay.
Gap-Acceptance Capacity. Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

₩ Site: 101 [Country Glen-Campeau AM FT2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	ment Pe	Movement Performance - Vehicles	e - Vehi	cles								
Mov	Tum	Demand Flows Total HV veh/h %	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South:	South: Country Glen	Glen										
—	L2	44	2.0	0.024	1.8	LOS A	0.1	4.0	0.16	0.25	0.16	39.4
2	Ţ	~	2.0	0.024	0.3	LOS A	0.1	4.0	0.16	0.23	0.16	29.5
က	R2	4	2.0	0.024	0.3	LOS A	0.1	0.4	0.16	0.23	0.16	38.2
Approach	ach	49	2.0	0.024	1.6	LOSA	0.1	0.4	0.16	0.25	0.16	39.0
East: C	East: Campeau											
4	L2	7	2.0	0.044	9.6	LOSA	0.1	0.8	0.15	0.40	0.15	43.0
2	1	78	2.0	0.044	3.5	LOS A	0.1	8.0	0.15	0.38	0.15	67.9
9	R2	2	2.0	0.044	4.4	LOSA	0.1	0.8	0.14	0.35	0.14	38.8
Approach	g	06	2.0	0.044	4.0	LOSA	0.1	0.8	0.15	0.38	0.15	54.9
North:	North: Country Glen	Glen										
7	L2	19	2.0	0.155	1.9	LOS A	0.4	3.0	0.19	0.11	0.19	40.5
80	1	-	2.0	0.155	0.4	LOS A	0.4	3.0	0.19	0.11	0.19	29.7
6	R2	138	2.0	0.155	0.4	LOS A	0.4	3.0	0.19	0.11	0.19	39.0
Approach	ach ach	158	2.0	0.155	9.0	LOSA	0.4	3.0	0.19	0.11	0.19	39.1
West:	West: Campeau	_										
10	L2	20	2.0	0.054	9.4	LOS A	0.2	1.3	0.10	0.59	0.10	41.5
=	Ξ	46	2.0	0.054	3.4	LOS A	0.2	1.3	0.10	0.40	0.10	97.6
12	R2	21	2.0	0.054	4.3	LOSA	0.2	1.3	0.10	0.36	0.10	38.8
Approach	tg.	117	2.0	0.054	6.1	LOS A	0.2	6.	0.10	0.47	0.10	45.9
All Vehicles	icles	414	5.0	0.155	3.0	LOS A	0.4	3.0	0.15	0.29	0.15	43.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS FW inssult if vic > 1 insepseudve of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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♥ Site: 101 [Winterset-Campeau AM FT2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	ment Per	Movement Performance - Vehicles	e - Vehi	cles								
Mov	Turn	Demand Flows	Flows	Deg.	Average	Level of	95% Back of Queue	of Queue	Prop.	Effective	Effective Aver. No. Average	Average
□		Total veh/h	≧%	Satn v/c	Delay		Vehicles veh	Distance	Quened		Cycles	Speed km/h
East: (East: Campeau											
2	Ε	38	2.0	0.017	3.3	LOSA	0.0	0.3	0.05	0.31	0.05	58.9
9	R2	56	2.0	0.024	4.2	LOSA	0.1	0.4	0.05	0.44	0.05	38.4
Approach	ach	8	2.0	0.024	3.7	LOSA	0.1	0.4	0.05	0.37	0.05	48.6
North:	North: Winterset											
7	L2	70	2.0	0.065	1.6	LOSA	0.2	1.	0.09	0.23	0.09	39.4
6	R2	52	2.0	0.024	0.1	LOSA	0.1	0.4	0.09	0.02	0.09	39.4
Approach	ach	122	2.0	0.065	1.0	LOSA	0.2	1:	0.09	0.14	0.09	39.4
West:	West: Campeau											
9	L2	17	2.0	0.046	9.5	LOSA	0.1	0.8	0.13	0.47	0.13	42.6
1	11	91	2.0	0.046	3.4	LOSA	0.1	0.8	0.13	0.38	0.13	57.8
Approach	ach	108	2.0	0.046	4.4	LOSA	0.1	0.8	0.13	0.39	0.13	54.7
All Vehicles	nicles	294	2.0	0.065	2.8	LOSA	0.2	1.	0.10	0.28	0.10	46.0

Site Level of Service (LOS) Method: Delay & vic (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Roundabout LOS Method: SIDRA Roundabout LOS.

LOS Fewline movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS Fewlin result if vic> 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

SIDRA Standard Delay Model: US HCM 2010.

SIDRA Standard Delay Model: US control Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Lanes, Volumes, Timings 4: Terry Fox & Kanata

11/12/2021

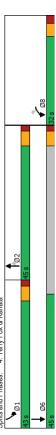
	-	1	—	4	۶	→	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	1	*	₩	¥C	×	**	
Traffic Volume (vph)	317	337	702	172	253	516	
Future Volume (vph)	317	337	702	172	253	516	
Satd. Flow (prot)	3185	1414	3283	1441	1595	3283	
Flt Permitted	0.950				0.950		
Satd. Flow (perm)	3185	1414	3283	1441	1595	3283	
Satd. Flow (RTOR)		337		172			
Lane Group Flow (vph)	317	337	702	172	253	516	
Turn Type	Prot	Perm	ĕ	Perm	Prot	¥	
Protected Phases	∞	,	2	•	_	9	
Permitted Phases		∞ .		2			
Detector Phase	∞	∞	5	7	_	9	
Switch Phase							
Minimum Initial (s)	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	312	31.2	25.0	25.0	11.0	25.0	
Total Split (s)	32.0	32.0	45.0	45.0	43.0	45.0	
Total Split (%)	26.7%	26.7%	37.5%	37.5%		37.5%	
Yellow Time (s)	3.7	3.7	4.2	4.2	4.2	4.2	
All-Red Time (s)	2.5	2.5	(1 .8	1.8	1.8	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.2	6.2	0.9	0.9	0.9	0.9	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Recall Mode	None	None	Max	Max	None	Max	
Act Effct Green (s)	14.7	14.7	39.4	39.4	20.0	65.5	
Actuated g/C Ratio	0.16	0.16	0.43	0.43	0.22	0.71	
v/c Ratio	0.63	99.0	0.50	0.24	0.74	0.22	
Control Delay	45.8	11.2	22.6	4.4	47.4	5.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.8	11.2	22.6	4.4	47.4	5.2	
ros	۵	ш	ပ	⋖	Ω	A	
Approach Delay	56.6		19.0			19.1	
Approach LOS	ပ		ш			В	
Queue Length 50th (m)	27.1	0.0	46.0	0.0	41.6	14.0	
Queue Length 95th (m)	44.6	24.8	81.3	13.5	71.9	24.9	
Internal Link Dist (m)	616.6		846.8			487.6	
Turn Bay Length (m)				100.0	85.5		
Base Capacity (vph)	868	640	1399	713	644	2924	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.35	0.53	0.50	0.24	0.39	0.18	
Intersection Summary							
Oxcle Lenath: 120							
Actuated Cycle Length: 92.5							
Natural Cycle: 75							
Control Type: Actuated-Uncoordinated	ordinated						
Maximum v/c Ratio: 0.74							

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total AM Peak Hour

Synchro 11 Report Page 4

Intersection LOS: C ICU Level of Service B Lanes, Volumes, Timings 4: Terry Fox & Kanata Intersection Signal Delay, 21.2 Intersection Capacity Utilization 60.0% Analysis Period (min) 15

Splits and Phases: 4: Terry Fox & Kanata



Lanes, Volumes, Timings 5: Terry Fox & Signature SC

11/12/2021

11/12/2021

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			₹	¥C	<u>, -</u>	₩		<u>, -</u>	₩.	
Traffic Volume (vph)	0	0	0	တ	0	28	0	829	20	8	840	0
Future Volume (vph)	0	0	0	6	0	28	0	829	20	30	840	0
Satd. Flow (prot)	0	1745	0	0	1386	1455	1745	3233	0	1658	3283	0
FIt Permitted					0.757					0.292		
Satd. Flow (perm)	0	1745	0	0	1104	1455	1745	3233	0	209	3283	0
Satd. Flow (RTOR)						34		4				
Lane Group Flow (vph)	0	0	0	0	တ	28	0	879	0	8	840	0
Turn Type				Perm	≨	Perm	Perm	≨		Perm	ΑN	
Protected Phases		4			∞			2			9	
Permitted Phases	4			∞		∞	2			9		
Minimum Split (s)	31.6	31.6		31.6	31.6	31.6	31.4	31.4		32.8	32.8	
Total Split (s)	32.0	32.0		32.0	32.0	32.0	78.0	78.0		78.0	78.0	
Total Split (%)	29.1%	29.1%		29.1%	29.1%	29.1%	%6.07	%6.07		%6:02	%6:02	
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.2	4.2		4.2	4.2	
All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		9.9			9.9	9.9	6.4	6.4		6.4	6.4	
Lead/Lag												
Lead-Lag Optimize?												
Act Effet Green (s)					25.4	25.4		71.6		71.6	71.6	
Actuated o/C Ratio					0.23	0.23		0.65		0.65	0.65	
v/c Ratio					0.04	0.08		0.42		0.09	0.39	
Control Delay					33.4	6.6		14.0		8.0	9.7	
Olielle Delav					00	00		00		00	0.0	
Total Delay					33.4	000		140		0 0	2.0	
I OS					. C	8		2		9. 4	. d	
Approach Delay					15.6	:		140			96	
Approach I OS					2 0			2			25	
Original apath 60th (m)					7	0		0 0		00	407	
Guede Length Sour (III)						0.0		4.00		7.7	20.7	
Queue Length 95th (m)		9			0.0	ö		100.8		9.G	5.5	
Internal Link Dist (m)		19.8			92.3			301.0		3	846.8	
Turn Bay Length (m)										61.0		
Base Capacity (vph)					254	362		2105		331	2136	
Starvation Cap Reductn					0	0		0		0	0	
Spillback Cap Reductn					0	0		0		0	0	
Storage Cap Reductn					0	0		0		0	0	
Reduced v/c Ratio					0.04	0.08		0.42		0.09	0.39	
Infersection Summary												
Microscoto Collinary												
Oycle Length: 110												
Addated Cycle Letigin. 110 Affact 40 (AFW) Defermed to phase 2-NDTI and 6-SDTI Start of Green	nd to phoco	2-NIDTI	- GO- PG	Ctot	of Conces							
Natural Cyclo: 65	ad to pridade	Z.INDIL A	10 0.0D	ב, סומוני								
Natural Cycle: 03												
Maximum 1/0 Batio: 0.42												
Information Cianal Dolant	0			3	-citoconot	00.00						
Intersection Signal Delay. 11.3	5			= 9	Intersection LOS. B	. COS. B						
Intersection Capacity Utilization 45.5%	ation 45.5%			2	n Level	ICU Level of Service A	V					
Analysis Period (min) 15												

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total AM Peak Hour

Synchro 11 Report Page 5

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total AM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

4 ↓ 8 4 Splits and Phases: 5: Terry Fox & Signature SC

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Lanes, Volumes, Timings 6: Terry Fox & Campeau

11/12/2021

11/12/2021

	1	†	<u> </u>	-	Ļ	4	•	←	*	۶	→	*
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	J F	*	¥	F	*	¥C	F	#	¥C	<u></u>	#	¥C
Traffic Volume (vph)	63	49	114	258	45	71	84	902	164	86	627	69
Future Volume (vph)	83	49	114	258	42	71	84	206	164	86	627	69
Satd. Flow (prot)	1642	1745	1441	1580	1712	1363	1658	3191	144	1658	3191	1483
Flt Permitted	0.730			0.725			0.379			0.312		
Satd. Flow (perm)	1262	1745	1421	1204	1712	1363	991	3191	1410	244	3191	1463
Satd. Flow (RTOR)			114			97			<u>\$</u>			26
Lane Group Flow (vph)	83	49	114	258	42	71	84	902	164	86	627	69
Turn Type	Perm	Ϋ́	Perm	Perm	≨	Perm	pm+pt	≨	Perm	pm+pt	ΑN	Perm
Protected Phases		4			∞		2	2		_	9	
Permitted Phases	4		4	00		∞	2		2	9		9
Detector Phase	4	4	4	∞	∞	∞	2	2	2	_	9	9
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	2.0	10.0	10.0	2.0	10.0	10.0
Minimum Split (s)	40.4	40.4	40.4	43.4	43.4	43.4	11.4	40.4	40.4	11.4	43.4	43.4
Total Split (s)	54.0	54.0	54.0	54.0	54.0	54.0	12.0	44.0	44.0	12.0	44.0	44.0
Total Split (%)	49.1%	49.1%	49.1%	49.1%	49.1%	49.1%	10.9%	40.0%	40.0%	10.9%	40.0%	40.0%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	29.7	29.7	29.7	29.7	29.7	29.7	2.09	52.7	52.7	62.8	55.5	55.5
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.55	0.48	0.48	0.57	0.50	0.50
v/c Ratio	0.19	0.10	0.24	0.79	0.09	0.16	0.19	0.46	0.22	0.25	0.39	0.09
Control Delay	29.1	27.2	5.9	54.0	56.9	3.1	12.1	22.5	4.4	26.9	42.2	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0	0.0
Total Delay	29.1	27.2	5.9	54.0	56.9	3.1	12.1	22.5	4.4	26.9	42.2	18.4
FOS	ပ	ပ	⋖	□	ပ	⋖	ш	ပ	⋖	ပ	□	ш
Approach Delay		17.0			41.2			18.5			38.2	
Approach LOS		ω ;			_			<u>m</u>			_	
Queue Length 50th (m)	10.4	7.9	0.0	51.5	8.9	0.0	8.9	51.4	0.0	16.1	75.4	3.0
Queue Length 95th (m)	18.4	14.8	11.2	70.9	13.1	2.5	16.9	85.6	13.8	33.9	94.8	15.5
Internal Link Dist (m)		128.0		i	204.4			313.2			301.0	
Turn Bay Length (m)	62.5	ŀ	64.5	0.02	1	63.5	45.0	0	62.5	97.5	7	50.0
Base Capacity (vpn)	₹ 9	(22	6/9	27.1	/40	044	437	1528	09/	382	1611	98/
Starvation Cap Reductin	> 0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reducti	> 0	0	o o	o o	> 0	0	0	0	0	0	> 0	0
Storage Cap Reductn	0 9	0 0	0 !	0 6	0 0	0 ;	0 9	0 9	0 0	0 10	0 8	0 00
Reduced v/c Ratio	0.12	0.06	0.17	0.50	0.06	0.11	0.19	0.46	0.22	0.25	0.39	0.09
Intersection Summary												
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	d to phase	2:NBTL	and 6:SB	rL, Start o	of Green							
Natural Cycle: 100												
Control Type: Actuated-Coordinated	rainated											
												١

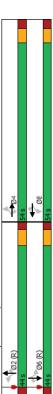
Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total AM Peak Hour

Synchro 11 Report Page 7

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total AM Peak Hour

Intersection LOS: C ICU Level of Service D Lanes, Volumes, Timings 6: Terry Fox & Campeau Maximum vCRatio. 0.79 Intersection Signal Delay, 28.6 Intersection Capacity Utilization 73.5% Analysis Period (min) 16

Splits and Phases: 6: Terry Fox & Campeau



HCM 2010 TWSC 7: Winterset & No.2

11/12/2021

11/12/2021

Intersection							
Int Delay, s/veh	1.7						
Movement	WBL	WBL WBR NBT NBR SBL	NBT	NBR		SBT	
Lane Configurations	>		43			₩.	
Traffic Vol, veh/h	8	0	8	13	0	92	
Future Vol, veh/h	೫	0	೫	13	0	92	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop Free Free	Free	Free	Free	Free	
RT Channelized	•	None	•	None	•	None	
Storage Length	0	•		•	•	٠	
Veh in Median Storage, # 0	0 #	•	0	•	•	0	
Grade, %	0	٠	0	٠	٠	0	
Peak Hour Factor	100	100	100	100	100	100	
Heavy Vehicles, %	7	2	2	2	2	2	
Mvmt Flow	೫	0	30	13	0	92	

	0																		SBT			,	
Major2	43			4.12			2.218	1566		ì		1566				SB	0		SBL	1566		0	⋖
	0 0	•				•	,					•		•		NB R	0		NBRWBLn1		- 0.035	- 9.3	Α .
Major1	37			6.22			3.318	1035				1035				2			NBT NB				
Minor1	129	37	92	6.42	5.42	5.45	3.518 3.318	865 1035	982	932		865	865	985	932	WB	9.3	⋖					
Major/Minor N	Conflicting Flow All	Stage 1	Stage 2	Critical Hdwy	Critical Hdwy Stg 1	Critical Hdwy Stg 2	Follow-up Hdwy	Pot Cap-1 Maneuver	Stage 1	Stage 2	Platoon blocked, %	Mov Cap-1 Maneuver	Mov Cap-2 Maneuver	Stage 1	Stage 2	Approach	HCM Control Delay, s	HCM LOS	Minor Lane/Major Mvmt	Capacity (veh/h)	HCM Lane V/C Ratio	HCM Control Delay (s)	HCM Lane LOS

e Total	
:1 2025 Futur	
om 09/03/202	
Road 11:59 p	
Winterset F	
Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total	AM Peak Hour
,	4

Synchro 11 Report Page 9

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total AM Peak Hour

HCM 2010 TWSC 8: Winterset & Natare/No.3

Int Delay, s/veh	3.3												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
-ane Configurations		4			4			4			4		
raffic Vol, veh/h	0	0	10	8	0	0	2	12	13	0	25	0	
uture Vol, veh/h	0	0	9	೫	0	0	2	12	13	0	25	0	
Conflicting Peds, #/hr		0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	ì	1	None	1	1	None	1	1	None	ì	1	None	
Storage Length		٠	٠	٠	٠	٠	٠	٠	٠	٠	٠		
Veh in Median Storage,	+	0	1	1	0	•	٠	0	٠	٠	0		
Grade, %		0	•	•	0	٠	•	0	٠	٠	0		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	
Heavy Vehicles, %	2	7	7	7	7	2	7	7	7	2	7	2	
Mvmt Flow	0	0	10	8	0	0	2	12	13	0	25	0	
Major/Minor M	Minor2		2	Minor1		2	Major1		2	Major2			
Conflicting Flow All	8	87	52	88	8	19	52	0	0	25	0	0	
Stage 1	52	25	٠	23	53	1	٠	•	٠	٠	٠		
Stage 2		33	٠	22	25	'	٠	'	٠	,	٠		
Critical Hdwy		6.52	6.22	7.12	6.52	6.22	4.12	٠	٠	4.12	٠		
Critical Hdwy Stg 1		5.52	•	6.12	5.52	٠	•	'	٠	•	٠		
Critical Hdwy Stg 2		5.52	1	6.12	5.52	1	1	1	1	ì	1		
Follow-up Hdwy						3.318	2.218	٠	•	2.218	٠		
Pot Cap-1 Maneuver	206	803	1016	006	808	1059	1554	1	٠	1589	1		
Stage 1	961	852	٠	886	871	'	٠	٠	٠	٠	٠		
Stage 2	886	998	1	922	852	1	1	1	1	1	1		
Platoon blocked, %								٠	٠		٠		
Mov Cap-1 Maneuver	902	801	1016	888	807	1059	1554	٠	٠	1589	٠		
Mov Cap-2 Maneuver	902	801	•	68 88	807	٠	٠	٠	٠	٠	٠		
Stage 1	928	852	•	982	898	٠	•	٠	٠	٠	•		
Stage 2	982	863	٠	946	852	٠	٠	٠	٠	٠	٠		
Approach	B			WB			R			SB			
HCM Control Delay, s	9.8			9.5			1.2			0			
HCM LOS	⋖			⋖									
Minor Lane/Major Mvmt		NBL	NBT	NBRE	NBR EBLn1WBLn1	BLn1	SBL	SBT	SBR				
Capacity (veh/h)	Ì	1554	1		1016	88	1589						
HCM Lane V/C Ratio	0	0.003	•	•	0.01	0.034	•	٠	٠				
HCM Control Delay (s)		7.3	0	•	9.8	9.5	0	٠	٠				
HCM Lane LOS		⋖	A	٠	⋖	A	A	٠	٠				
HCM 95th %tile Q(veh)		0	1	1	0	0.1	0	1	1				

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total AM Peak Hour

Synchro 11 Report Page 13

MOVEMENT SUMMARY

11/12/2021

₩ Site: 101 [Huntmar-Campeau PM FT2025]

Arcadia Stage 6 Site Category: (None) Roundabout

Move	Movement Performance - Vehicles	rormance	- Veni	cles								
Mov D	Tum	Demand Flows Total HV veh/h %	swol: WH %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Average Cycles Speed km/h	Average Speed km/h
South	South: Huntmar											
—	L2	87	2.0	0.103	8.6	LOSA	0.3	2.0	0.34	0.67	0.34	49.9
2	Ξ	445	2.0	0.518	3.7	LOSA	2.2	16.0	0.49	0.46	0.54	49.1
3	R2	149	2.0	0.177	3.8	LOS A	0.5	3.7	0.36	0.51	0.36	51.1
Approach	ach	681	2.0	0.518	4.3	LOSA	2.2	16.0	0.44	0.50	0.47	49.6
East: (East: Campeau											
4	L2	140	2.0	0.206	11.8	LOSB	9.0	4.0	0.47	0.81	0.47	50.1
2	Ξ	26	2.0	0.086	5.7	LOSA	0.2	1.6	0.46	0.56	0.46	56.5
9	R2	20	2.0	0.031	0.9	LOS A	0.1	9.0	0.44	0.64	0.44	50.8
Approach	ach	216	2.0	0.206	9.6	LOSA	9.0	4.0	0.46	0.73	0.46	51.6
North:	North: Huntmar											
7	L2	26	2.0	0.290	9.8	LOSA	6.0	6.7	0.36	0.37	0.36	53.1
80	F	497	2.0	0.290	2.7	LOS A	6.0	6.7	0.34	0.34	0.34	49.5
6	R2	141	5.0	0.158	3.5	LOSA	0.5	3.2	0.31	0.47	0.31	51.3
Approach	ach	664	2.0	0.290	3.1	LOSA	6:0	6.7	0.34	0.37	0.34	50.0
West:	West: Campeau											
9	L2	171	2.0	0.246	11.7	LOSB	0.7	5.0	0.47	0.81	0.47	50.1
₽	Ξ	166	2.0	0.246	5.8	LOSA	0.7	5.2	0.49	0.58	0.49	56.2
12	R2	85	2.0	0.120	5.4	LOSA	0.3	2.2	0.42	0.66	0.42	51.2
Approach	ach	422	2.0	0.246	8.1	LOSA	0.7	5.2	0.47	0.69	0.47	52.6
All Vehicles	hicles	1983	2.0	0.518	5.3	LOSA	2.2	16.0	0.41	0.52	0.43	50.6

Site Level of Service (LOS) Method: Delay & v/o (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Roundabout LOS Method: SIDRA Roundabout LOS.

LOS Fewlire movement LOS values are based on average delay and v/o ratio (degree of saturation) per movement.

LOS Fewlir result if v/o > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay vibr (all movements (v/o not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

SIDRA Standard Delay Model: used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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₩ Site: 101 [Country Glen-Campeau PM FT2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	nent Pe	Movement Performance - Vehicles	e - Vehi	cles							
Mo D	Turn	Demand Flows Total HV	Flows HV	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Aver. No. Stop Rate Cycles	Aver. No. Cycles	Average Speed km/h
South:	South: Country Glen	Glen									
-	L2	37	2.0	0.024	2.2	LOSA	0.1 0.4	0.26	0.31	0.26	39.2
2	F	-	2.0	0.024	0.7	LOSA	0.1 0.4	0.26	0.28	0.26	29.5
က	R2	2	2.0	0.024	0.7	LOSA	0.1 0.4	0.26	0.28	0.26	38.1
Approach	lch	43	2.0	0.024	2.0	LOSA	0.1 0.4	0.26	0.31	0.26	38.8
East: C	East: Campeau										
4	L2	12	2.0	0.065	6.6	LOSA	0.2 1.2	0.24	0.45	0.24	42.6
2	F	92	2.0	0.065	3.8	LOSA	0.2 1.2	0.23	0.43	0.23	57.2
9	R2	20	2.0	0.065	4.7	LOSA	0.2 1.1	0.22	0.41	0.22	38.5
Approach	ch	124	2.0	0.065	4.5	LOSA	0.2 1.2	0.23	0.43	0.23	51.5
North:	North: Country Glen	Slen									
7	L2	#	2.0	0.096	1.9	LOSA	0.2 1.8	0.19	0.11	0.19	40.5
80	F	-	2.0	0.096	0.4	LOSA	0.2 1.8	0.19	0.11	0.19	29.7
6	R2	82	2.0	0.096	0.4	LOSA	0.2 1.8	0.19	0.11	0.19	39.0
Approach	lch	26	2.0	0.096	9.0	LOSA	0.2 1.8	0.19	0.11	0.19	39.0
West: (West: Campeau										
10	L2	162	2.0	0.150	9.5	LOSA	0.6 4.1	0.10	0.61	0.10	41.1
£	F	26	2.0	0.128	3.4	LOSA	0.5 3.4	0.10	0.35	0.10	58.4
12	R2	41	2.0	0.128	4.3	LOSA	0.5 3.4	0.10	0.35	0.10	38.8
Approach	ich	300	2.0	0.150	6.8	LOSA	0.6 4.1	0.10	0.49	0.10	45.0
All Vehicles	icles	564	2.0	0.150	4.8	LOSA	0.6 4.1	0.16	0.40	0.16	44.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

Tal DRA Sannard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity. Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

¥ Site: 101 [Winterset-Campeau PM FT2025]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	ement Per	Movement Performance - Vehicles	e - Vehi	cles								
Mov	Tum	Demand Flows	Flows	Deg.	Average	Level of	95% Back of Queue	of Queue	Prop.	Effective Aver. No. Average	Aver. No.	Average
		Total veh/h		Sath v/c	Delay		Vehicles veh	Distance m	Quened	Stop Rate		Speed km/h
East:	East: Campeau											
2	Ξ	92	2.0	0.043	3.4	LOSA	0.1	0.8	0.11	0.33	0.11	58.5
9	R2	71	2.0	0.067	4.3	LOSA	0.2	1.2	0.11	0.45	0.11	38.3
Approach	ach	163	2.0	0.067	3.8	LOSA	0.2	1.2	0.11	0.38	0.11	47.7
North	North: Winterset											
7	L2	47	2.0	0.045	1.7	LOS A	0.1	0.8	0.14	0.26	0.14	39.3
6	R2	33	2.0	0.016	0.2	LOS A	0.0	0.3	0.15	0.05	0.15	39.3
Approach	ach	80	2.0	0.045	1.	LOS A	0.1	0.8	0.14	0.17	0.14	39.3
West:	West: Campeau											
10	L2	54	2.0	0.059	9.5	LOS A	0.2	1.	0.10	09.0	0.10	4.14
7	1	88	2.0	0.059	3.4	LOS A	0.2	1.1	0.11	0.36	0.11	58.1
Approach	ach	142	2.0	0.059	5.7	LOS A	0.2	<u>+</u> :	0.11	0.45	0.11	50.3
All Ve	All Vehicles	385	2.0	0.067	3.9	LOSA	0.2	12	0.12	0.36	0.12	46.5

Site Level of Service (LOS) Method: Delay & vic (HCM 2010), Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: Traditional M1. HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Lanes, Volumes, Timings 4: Terry Fox & Kanata

Main Configurations	WBL 280 280 280 3216 0.980 3216 3216 3216 31.2 31.2 32.0 26.7% 26.7% 26.7% 26.7% 26.7% 27.1 27.4 27.4 0.00 0.00 0.01 0.05 0.00 0.00 0.00 0.00				SBT \$16 816 816 816 816 816 6 6 6 6 6 6 6 6 6 6 8 9 9 9 9 9 9 9 9 9 9 9 9 9
146 765 340 265 146 765 340 265 1469 3316 1483 1688 1990 1469 3316 1482 1688 1990 1469 3316 1482 1682 148 148 148 148 148 148 148 148 148 148	250 250 3216 0.950 3216 0.950 3216 33.0 26.7 37.7 37.7 37.7 37.7 37.7 37.7 37.7 3				816 816 816 816 816 NA 6 6 6 6 6 6 0.0 6.0 6.0
146 765 340 265 1469 316 1469 3316 1482 1688 1469 3316 1482 1688 146 146 765 340 265 146 146 765 340 265 146 146 765 340 265 146 146 765 340 265 146 146 765 340 265 146 146 765 340 265 146 146 76 14	250 280 3316 0.950 3216 8 8 8 8 8 8 8 8 8 8 8 8 8				816 816 816 NA 6 6 6 6 6 6 6 6 0.0 6.0 6.0
146 765 340 265 1469 3316 1483 1688 1469 3316 1483 1688 1466 1467 1469 3316 1468 1468 1467 1469 3316 1468 1467 1469 3316 1468 1467 1467 1467 1467 1467 1467 1467 1467	h) 250 3216 0,950 3216) 250 hph 250 8 8 8 8 8 8 8 8 8 31.2 32.0 26.7% 26.7% 37.2 37.2 37.2 37.2 37.2 37.0 6.2 6.2 6.2 6.2 6.0 6.2 6.0 6.2 6.0 6.2 6.0 6.0 6.2 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0				816 816 NA NA 10.0 55.0 55.0 55.0 6 6 6 6 0.0 6.0
1469 3316 1483 1688 1469 1469 3316 1482 0.058 146 146 146 146 146 146 146 146 146 146	3216 (950 3216 (950 3216 (950 (950 (950 (950 (950 (950 (950 (950				816 NA NA 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
1469 3316 1452 1652 1466 1467 1467 1468 1467 1468 1468 1468 1468 1468 1468 1468 1468	90,950 90,950 90,950 90,050 90,00				3316 NA 6 6 6 6 7550 250 250 250 250 100 60 60 60 843 843 843
146 765 340 265 Perm NA Perm Prot 265 340 265	yph) 250 yph) 250 Prot 8 8 8 8 8 8 3.12 32.0 26.78 0.00 0.00 0.14 0.144 0.056 42.0 0.00 0.00 0.00 0.00 0.00 0.00 0.00				816 NA 6 6 6 750 75% 75% 118 0.0 6.0 6.0
H46 765 340 265 Perm NA Perm Prot 1 8 2 2 1 8 2 2 1 8 2 2 1 1 25.0 25.0 11.0 32.0 45.0 45.0 45.5 25 18 18 18 18 25 1.0 0.0 0.0 0.0 6.2 6.0 6.0 6.0 6.2 6.0 6.0 6.0 6.1 6.0 6.0 6.0 6.2 6.0	(vph) 250 Prot 8 8 8 8 8 8 8 3.1.2 3.1.2 3.2.0 0.0 0.0 0.0 0.14 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.				816 NA 6 6 6 6 100 100 0.0 6.0 6.0 Max Max
Perm NA Perm Prot 1	Prot 8 8 8 8 3.10 3.10 26.7% 3.7 2.56.7% 3.7 2.56 7.7 2.5				6 6 6 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
8 2 2 1 8 2 2 1 50 10.0 10.0 5.0 32.0 45.0 45.0 43.0 26.7% 37.5% 37.5% 35.8% 37 37.4 42 42 42 25 18 18 18 18 0.0 0.0 0.0 0.0 6.2 6.0 6.0 6.0 6.2 6.0 6.0 6.0 6.2 6.0 6.0 6.0 1.4 42 42 1.8 18 18 18 1.8 18 18 1.9 Lead Yes Yes Yes Yes Yes 1.1 21.4 4.0 45.5 1.1 21.4 4.0 42.3 1.1 21.4 4.0 45.5 1.1 21.4 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4	8 8 310 312 32.7% 3.7 2.5 3.7 8) 6.2 0.0 0.14 42.0 0.0 42.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0				6 6 6 550 550 550 14 42 18 60 60
50 100 100 5.0 31.2 25.0 11.0 32.0 45.0 45.0 45.0 32.7 37.5% 37.5% 35.8% 33.3 3.7 42 42 42 3.5 18 18 18 18 0.0 0.0 0.0 0.0 6.2 6.0 6.0 6.0 6.2 6.0 6.0 6.0 0.14 0.44 0.44 0.45 0.14 0.44 0.44 0.45 0.14 0.44 0.44 0.45 0.14 0.44 0.45 0.16 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	8 5.0 3.1.2 3.2.2 3.7.8 3.7.7 2.5.7% 3.7 2.5 0.0 0.14 0.0 4.2.0 0.0 4.2.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0				6 25.0 25.0 5.5% 1.5% 1.18 6.0 6.0 6.0
50 100 100 50 31.2 25.0 25.0 11.0 32.0 45.0 45.0 45.0 43.0 32.0 45.0 45.0 45.0 45.0 45.0 45.0 45.0 45	s) 5.0 3.20 2.6.7% 3.7 3.7 2.5 (s) 0.0 5.2 (s) 6.2 2.5 None s) 1.2.4 ito 0.14 42.0 42.0 0.0 42.0 0.0 42.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0				0100 25.0 45.0 45.0 1.18 0.0 6.0 6.0
5.0 10.0 10.0 5.0 3.1.2 25.0 25.0 11.0 3.2.0 43.0 45.0 45.0 6.2 6.0 6.0 6.0 6.2 6.0 6.0 6.0 6.2 6.0 6.0 6.0 12.4 39.3 39.3 19.5 11.1 21.4 4.0 45.5 10.0 0.0 0.0 0.0 11.1 21.4 4.0 45.5 1	(s) 5.0 (s) 32.0 3.12 3.12 (s) 2.5 (s) 2.5 (st) 0.2 (st) 0.				10.0 25.0 55.0 55.0 15.0 0.0 6.0 6.0 Max
31.2 25.0 25.0 11.0 32.0 45.0 45.0 45.0 45.0 45.0 45.0 45.0 45	(s) 31.2 32.0 37.8 s) 26.7% (s) 2.5 ust (s) 0.0 te (s) 6.2 imize? None an (s) 12.4 Ratio 0.44 Ratio 0.56 42.0 D D				25.0 45.0 5.8% 1.4.2 0.0 6.0 Max
32.0 45.0 45.0 43.0 33.7 37.5% 35.8% 31.3 3.7 37.5% 35.8% 31.3 3.7 37.5% 35.8% 31.3 3.7 37.5% 35.8% 31.3 3.7 37.5% 35.8% 31.3 37.3 37.3 37.3 37.3 37.3 37.3 37.3	s) 25.7% s) 25.7% (s) 2.5 ust (s) 0.0 ne (s) 6.2 imize? None nn (s) 0.14 Ratio 0.44 Ratio 0.44 0.00 42.0 b D				55.8 5.8 11.8 0.0 6.0 Max Max
25.7% 31.2% 35.8% 35.7% 35.8% 35.7% 35.8% 35.7% 35.8% 35.9%	(s) 26.7% (s) 2.5 (s) 2.5 (s) 2.5 (s) 6.2 (imize? None nn (s) 12.4 Ratio 0.14 42.0 0.0 42.0 9 0.0				5.5% 0.0 6.0 Max MAx
3.4 42 4.2 4.2 4.2 6.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	(s) 3.7 (s) 2.5 (s) 2.		1.8 0.0 6.0 Fes Max	4.2 1.8 0.0 6.0 Yes Yes	4.2 1.8 6.0 6.0 Max Max 64.9
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	(s) 6.2 imize? None N n (s) 12.4 1 Retio 0.14 0 42.0 1 42.0 1 42.0 1 42.0 1 42.0 1	_, _, _, ,	6.0 6.0 7 Yes Max	0.0 6.0 Yes Yes	6.0 6.0 Max Max 64.9
C. C	imize? None N nn (s) 6.2 nn (s) 12.4 1 Ratio 0.14 (0.26 1 42.0 1 42.0 1 ey 30.6		6.0 Yes Max	6.0 Yes None	6.0 Max 64.9
None Max None Ves Yes Yes Yes Old	imize? None N (s) 124 (0) Ratio 0.36 (0) 42.0 1 42.0 1 42.0 1 42.0 1 42.0 1 42.0 1 42.0 1 42.0 1 43.0 1	_, _ (0)	Lag Yes Max	Yes None	Max M4x 64.9
None Max Max	Imize? None 12.4 Ratio 0.14 0.06 42.0 0.0 42.0 D D sy 30.6		Yes	Yes	Max 64.9
None Max None 124 39.3 39.3 19.5 10.14 0.44 0.42 0.42 0.44 0.42 0.44 0.42 0.40 0.00 0.0	None 12.4 Ratio 0.14 0.56 42.0 0.0 42.0 D B		Max	None	Max 64.9
124 39.3 39.3 195 0.14 0.44 0.22 0.14 0.53 0.41 0.73 11.1 21.4 4.0 45.5 0.0 0.0 0.0 0.0 0.0 11.1 21.4 4.0 45.5 16.1 21.4 4.0 45.5 16.1 21.4 4.0 42.3 16.5 82.8 17.0 71.3 846.8 100.0 85.5 530 1455 828 630 3 0	Ratio 12.4 Ratio 0.14 42.0 0.0 42.0 0.0 ay 30.6		000	L .	64.9
0.14 0.44 0.42 0.22 0.14 0.13 0.14 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15	Ratio 0.14 0.56		39.3	19.5	
0.44 0.53 0.41 0.73 0.0 0.0 0.0 0.0 0.0 11.1 21.4 4.0 45.5 0.0 0.0 0.0 0.0 0.0 16.5 82.8 17.0 71.3 846.8 17.0 71.3 846.8 17.0 71.3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.56 42.0 0.0 42.0 D ay 30.6		0.44	0.22	0.72
11.1 214 4.0 45.5 11.1 214 4.0 45.5 B C A D 16.1 82.8 17.0 71.3 16.5 82.8 17.0 71.3 16.5 82.8 17.0 71.3 16.5 82.8 17.0 71.3 16.5 0.0 0.0 0 0 0 0 0 0 0 0	42.0 0.0 42.0 D D ay 30.6		0.41	0.73	0.34
11.1 21.4 4.0 0.0 11.1 21.4 4.0 45.5 B C A D 16.1 82.8 17.0 71.3 846.8 100.0 85.5 530 1455 828 690 3 0 0 0 0 0 0 0 0 0.28 0.53 0.41 0.38	0.0 42.0 1 D D ay 30.6		4.0	45.5	5.1
1.1 214 4.0 45.3 B C A D 16.1 B C A D 16.5 82.8 17.0 71.3 846.8 100.0 85.5 530 1455 828 690 5 0 0 0 0 0 0 0 0	D Acron 42.0 ach Delay 30.6	Ì	0.0	0.0	0.0
16.7 A D D D D D D D D D D D D D D D D D D	oach Delay 30.6		0.4	0.04	0.1
0.0 48.5 0.0 42.3 16.5 82.8 17.0 71.3 846.8 17.0 71.3 100.0 85.5 530 1455 828 690 3 0			₹	٥	4 C
0.0 48.5 0.0 42.3 16.5 82.8 17.0 71.3 846.8 100.0 85.5 530 1455 828 690 0		<u>.</u> a			9 a
16.5 82.8 17.0 77.3 846.8 100.0 85.5 530 1455 828 828 690 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	208		00	42.3	22.2 22.2
846.8 100.0 85.5 530 1455 828 690 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	35.5		17.0	713	35.9
100.0 85.5 530 1455 828 690 0 0 0 0 0 0 0 0 0.28 0.53 0.41 0.38	616.6	ω	2	2	97.6
530 1455 828 690 0 0 0 0 0 0 0 0 0.28 0.53 0.41 0.38			100.0	85.5	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	933		828	069	3029
0 0 0 0 0 0 0 0 0.28 0.53 0.41 0.38 0.2	0		0	0	0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0		0	0	0
0.28 0.53 0.41 0.38	0		0	0	0
ntersection Summary yole Length: 120 Authority Cele. 80 Antiral Cycle. 80 Control Type: Attuated Uncoordinated	0.27	0	0.41	0.38	0.27
Jyde Length: 120 Vatural Cycle: 80 Zontrol Type: Actuated Uncoordinated	ntersection Summary				
Actuated Cycle Length: 89.6 Vatural Cycle: 80 Sontrol Type: Actuated-Uncoordinated	Sycle Length: 120				
Vatural Cycle: 80 Sontrol Type: Actuated-Uncoordinated	Actuated Cycle Length: 89.6				
Sontrol Type: Actuated-Uncoordinated	Vatural Cycle: 80				
_	Sontrol Type: Actuated-Uncoordinated				

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total PM Peak Hour

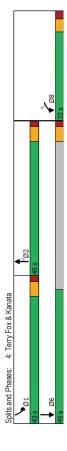
Synchro 11 Report Page 4

Lanes, Volumes, Timings 4: Terry Fox & Kanata

11/12/2021

11/12/2021

Intersection LOS: B ICU Level of Service B Intersection Signal Delay: 17.9 Intersection Capacity Utilization 60.5% Analysis Period (min) 15



Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total PM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

Lead Coupting Apple Appl	WBR NBL 13		•	†	<i>></i>	-	ţ	4	•	←	•	۶	→	•
1 1 1 1 1 1 1 1 1 1	113 18 113 18 113 18 1483 1688 1483 47 113 18 0.239 1483 47 113 18 316 314 39.0 32.5% 67.5% 6 32.5% 67.5% 6 32.5% 67.5% 6 32.5% 67.5% 6 32.4 7 4 5.1 0.0 0.0 7.4 5.1 0.0 0.0 7.4 5.1 0.0	ne Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
113 18 1021 68 82 999 1483 1688 3286 0 1658 3316 0 239 0 239 0 2299 1483 417 3286 0 366 3316 0 239 0 24 2 22 22 22 22 22 22 22 22 22 22 22 2	113 18 1483 1688 1488 417 113 168 0.239 390 675% 6 32,5 675% 6 0.27 0.62 0.27 0.62 0.27 0.67 0.0 0.0 7.4 5.1 0.0 0.0 7.4 5.1 0.0 0.0 0.0 0.0	ne Configurations		4			4	¥c.	F	₩		r	₩	
1483 148 1021 68 82 999 1483 168 3286 0 1658 3316 0 10239 1483 417 3286 0 0 366 3316 1483 417 3286 0 0 366 3316 1483 417 3286 0 366 3316 1483 417 3286 0 366 3316 1483 418 1089 0 82 999 148 148 148 148 148 148 148 148 148 148	113 18 18 1483 417 113 18 1658 2239 1483 417 113 18 2 31.6 31.6 31.6 32.5% 67.5% 65 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4	ffic Volume (vph)	0	0	0	\$	0	113	18	1021	89	82	666	0
1483 1688 3286 0 1658 118 0 1239 0 10219 0 1858 119 113 11 11 118 1089 0 182 119 119 119 119 119 119 119 119 119 11	1483 1483 1483 1483 1483 1413 1413 1413	ure Volume (vph)	0	0	0	72	0	113	9	1021	89	82	666	0
1483	1488 0.7.23 113 118 113 18 2 31 8 2 31 8 34 39.0 81.0 32.5% 67.5% 6 3.0 42 3.0 42 3.0 22 0.0 0.0 7.4 5.1 7.4 5.1 7.4 5.1 7.4 5.1 7.4 5.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 13.6 m0.2,4 13.6 m0.2,4 13	td. Flow (prot)	0	1745	0	0	1658	1483	1658	3286	0	1658	3316	0
113 18 1089 0 82 Perm Perm NA Perm NA Perm NA 1316 314 314 31.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8 32	113 18 113 18 113 18 31.6 31.4 39.0 32.5% 67.5% 6 32.6 67.5% 6 32.4 74.6 0.0 0.0 7.4 5.1 0.0 0.0 7.4 5.1 0.0 0.0 0.0 2.4 13.6 m0.7 1 13.6	Permitted at the company of the comp	c	17.AE	c	c	1224	1402	0.239	3000	c	0.210	2246	C
113 18 1089 0 82 Perm Perm NA Perm NA Perm 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	113 18 18 3.4 3.9 6.5 6.6 6.4 6.6 6.4 6.6 6.4 6.6 6.4 6.6 6.4 6.6 6.4 6.6 6.4 6.6 6.6	d. Flow (RTOR)	>	2	>	>	1351	113	+	11	>	000	0100	>
Perm Perm NA Perm R 2 2 6 6 8 316 314 314 314 32.8 8 17.8 8 10.0 32.8 8 17.8 8	9 316 314 339.0 81.0 32.5% 67.5% 6.4 6.4 6.0 0.0 0.0 0.27 0.62 0.27 0.62 0.07 7.4 5.1 0.0 0.0 7.4 5.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	ne Group Flow (vph)	0	0	0	0	72	113	18	1089	0	82	666	0
8 2 6 316 314 314 32.8 39.0 81.0 81.0 81.0 32.5% 67.5% 67.5% 67.5% 67.5% 6 30 42 4.2 2.2 30 0.0 0.0 0.0 6.6 6.4 6.4 6.4 6.4 6.7 74.6 74.6 74.6 0.23 0.07 0.53 0.36 7.4 5.1 15.8 16.7 7.4 5.1 15.8 16.7 7.4 5.1 15.8 16.7 7.4 6.4 109.2 8.8 13.6 m0.7 130.1 20.7 8.8 15.6 8.8 13.6 m0.7 130.1 20.7 13.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 2 316 314 32.5% 67.5% 67.5% 67.5% 67.5% 67.5% 67.5% 67.5% 67.5% 67.5% 67.5% 60.00 00.00 00.27 00.00	n Type				Perm	A	Perm	Perm	NA		Perm	¥	
8 2 2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 316 314 390 810 32.5% 67.5% 67.5% 67.5% 67.5% 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4	ntected Phases		4			∞			2			9	
316 314 314 328 328 339 34 314 314 328 328 328 328 32 32 32 32 32 32 32 32 32 32 32 32 32	316 314 314 39.0 32.5% 67.5% 6 3.0 4.2 3.0 0.0 6.6 6.4 6.4 6.6 6.4 6.4 6.6 6.4 6.2 0.2 0.2 0.2 0.2 0.0 0.0 0.0 0.0 0.0 0	mitted Phases	4			∞		∞	2			9		
32.5% 67.5% 67.5% 67.5% 67.3% 67.5%	32.5% 67.5% 6 3.6 2.2 3.6 2.2 3.6 2.2 3.6 2.2 0.0 0.0 0.27 0.62 0.23 0.07 7.4 5.1 0.0 0 13.6 m0.7 13.6 m0.7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	imum Split (s)	31.6	31.6		31.6	31.6	31.6	31.4	31.4		32.8	32.8	
32.5% 67.5%	32.5% 67.5% 6 3.6 42 3.6 42 0.0 0.0 6.6 6.4 0.27 0.62 0.27 0.62 0.23 0.07 7.4 5.1 0.0 0 13.6 m0.7 6.0 0 0 0 0 0 0.23 0.07 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	al Split (s)	39.0	39.0		39.0	39.0	39.0	81.0	81.0		81.0	81.0	
3.0 4.2 4.2 4.2 3.8 3.6 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6	3.0 4.2 3.6 6.4 6.6 6.4 0.0 0.0 0.27 0.62 0.23 0.07 7.4 5.1 A A A 13.6 m0.7 13.6 m0.7 51.0 0	al Split (%)	32.5%	32.5%		32.5%	32.5%	32.5%	67.5%	67.5%		67.5%	67.5%	
3.6 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2	3.6 2.2 0.0 0.0 6.6 6.4 0.27 0.62 0.23 0.07 7.4 5.1 0.0 0.0 7.4 5.1 A A A 13.6 m0.7 13.6 m0.7 0	low Time (s)	3.0	3.0		3.0	3.0	3.0	4.2	4.2		4.2	4.2	
6.6 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4	32.4 74.6 6.4 6.6 0.27 0.62 0.07 0.62 0.07 0.62 0.07 7.4 5.1 0.0 7.4 5.1 0.0 2.4 13.6 m0.7 7.4 5.1.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Ked lime (s)	3.6	3.6		3.6	3.6	3.6	7.7	7.7		7.7	7.7	
32.4 74.6 74.6 74.6 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	32.4 74.6 0.27 0.62 0.23 0.07 7.4 5.1 0.0 7.4 5.1 A A A 13.6 m0.7 61.0 0 0 0 0 0 0 0.23 0.07 0.03 0.07 0.03 0.07	al lost Time (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
32.4 74.6 74.6 74.6 0.27 0.05.2 0.05.2 0.05.2 0.05.2 0.05.2 0.05.2 0.05.2 0.05.2 0.05.2 0.05.2 0.07 0.05.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	32.4 746 0.27 0.62 0.27 0.62 0.07 0.62 0.0 0.0 7.4 5.1 A A A 0.0 2.4 7 13.6 m0.7 13.6 0.0 0	id/l ad		5			9.0	5	t.	t.		t.	†.	
32.4 74.6 74.6 74.6 74.6 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	32.4 74.6 0.27 0.62 0.07 7.4 5.1 0.0 0.0 7.4 5.1 A A A 0.0 2.4 13.6 m0.7 13.6 m0.7 13.6 0.0 0	10/Lag												
0.27 0.62 0.62 0.62 0.62 0.27 0.60 0.63 0.36 0.36 0.36 0.36 0.36 0.36	0.27 0.62 0.27 0.62 0.23 0.07 74 5.1 0.0 24 13.6 m0.7 13.6 m0.7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Effort Green (s)					32.4	32.4	74.6	74.6		74.6	74.6	
0.23 0.07 0.53 0.36 7.4 5.1 15.8 16.7 0.0 0.0 0.0 0.0 7.4 5.1 15.8 16.7 A A B B B 0.0 2.4 109.2 8.8 13.6 m0.7 130.1 20.7 13.6 m0.7 130.1 20.7 0 0 0 0 0 0 0.23 0.07 0.53 0.36 0 0.23 0.07 0.53 0.36 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.23 0.07 7.4 5.1 0.0 7.4 5.1 7.4 5.1 A A A 13.6 m0.7 61.0 0 0 0 0 0.23 0.07 0.23 0.07 0.23 0.07	uated o/C Ratio					0.27	0.27	0.62	0.62		0.62	0.62	
7.4 5.1 15.8 16.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	74 5.1 0.0 0.0 74 5.1 A A A 13.6 m0.7 13.6 m0.7 61.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ratio					0.15	0.23	0.07	0.53		0.36	0.48	
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 7.4 5.1 A A A 0.0 2.4 13.6 m0.7 51.0 482 259 0 0 0 0 0 0 0.23 0.07 0.23 0.07	ntrol Delav					34.9	7.4	5.1	15.8		16.7	13.3	
7.4 5.1 15.8 16.7 A A B B B 15.6 D.0 2.4 109.2 8.8 13.6 m0.7 130.1 20.7 51.0 0	7.4 5.1 A A A A A 13.6 m0.7 13.6 m0.7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	eue Delay					0.0	0.0	0.0	0.0		0.0	0.0	
A A 15.6 B B B 15.6 B B 15.6 B B B B 15.6 B B B B B B B B B B B B B B B B B B B	0.0 2.4 13.6 m0.7 51.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	al Delay					34.9	7.4	5.1	15.8		16.7	13.3	
15.6 0.0 2.4 109.2 8.8 13.6 m0.7 130.1 20.7 51.0 61.0 0 0 0 0 0.23 0.07 0.53 0.36 of Service C	0.0 2.4 13.6 m0.7 13.6 m0.7 13.6 m0.7 13.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	S					O	⋖	⋖	m		ш	В	
0.0 2.4 109.2 8.8 13.6 m0.7 130.1 20.7 8 51.0 61.0 61.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13.6 m0.7 13.6 m0.7 51.0 482 259 0 0 0 0 0 0 0.23 0.07	proach Delay					16.3			15.6			13.5	
13.6 m0.7 130.1 20.7 130.1 20.7 130.1 20.7 130.1 20.7 130.1 20.7 130.1 20.7 130.1 20.7 130.1 20.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13.6 m0.7 13.6 m0.7 51.0 0 0 0 0 0.23 0.07 0.23 0.07 0.23 0.07	proach LOS					ω			В			ш	
13.6 m0.7 130.1 20.7 8.7 130.1 20.7 130.1 20.7 130.1 20.7 148.2 259 2046 22.7 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13.6 m0.7 51.0 482 259 0	eue Length 50th (m)					9.7	0.0	2.4	109.2		8.8	9.79	
301.0 61.0 482 559 2046 227 0 0 0 0 0 0 0 0 0 0 0.23 0.07 0.53 0.36 nLOS: B	51.0 482 259 0 0 0 0 0 0 0 23 0.07 nLOS: B	eue Length 95th (m)					20.3	13.6	m0.7	130.1		20.7	9.77	
51.0 61.0 61.0 61.0 61.0 61.0 61.0 61.0 6	51.0 482 259 0 0 0 0 0 0 0.23 0.07 nLOS: B	emal Link Dist (m)		19.8			92.3			301.0			846.8	
482 259 2046 227 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0.23 0.07 0.53 0.36 nLOS: B	482 259 0 0 0 0 0 0 0.23 0.07 nLOS: B	n Bay Length (m)							51.0			61.0		
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 0 0 0 0 0	se Capacity (vph)					326	482	259	2046		227	2061	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.23 0.0 0.23 0.0 0.23 0.0	rvation Cap Reductn					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	0.23 0.0 0.23 0.0 nLOS: B	Ilback Cap Reductn					0	0	0	0		0	0	
0.23 0.07 0.53 0.36 n.1CoS: B of Service C	0.23 n LOS: B of Service C	rage Cap Reducth					0	0	0	0		0	0	
Intersection Summary Cycle Length: 120 Actuated Cycle Length: 120 Offset 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 65 Control Type: Pretimed Maximum v/c Ratio: 0,53 Intersection Signal Delay: 14.7 Intersection Capacity Utilization 64.9% Include Capacity Utilization 64.9%	Intersection Summary Cycle Length: 120 Oycle Length: 120 Offset 49 (41%). Referenced to phase 2:NBTL and 6:SBTL, Start of Green Offset 49 (41%). Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 65 Control Type: Pretimed Maximum V/c Ratio. 0.53 Intersection Signal Delay: 14.7 Intersection Cycle appacity Unlization 64.9% Analysis Period (min) 15	duced v/c Ratio					0.15	0.23	0.02	0.53		0.36	0.48	
Cycle Length: 120 Actualed Cycle Length: 120 Actualed Cycle Length: 120 Offset 49 (41%). Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle. 65 Control Type: Pretimed Maximum VR Ratio: 0.53 Intersection Signal Delay: 14.7 Intersection Capacity Utilization 64.9% Intersection Capacity Utilization 64.9% Intersection Capacity Utilization 64.9% Intersection Capacity Utilization 64.9%	Cycle Length: 120 Actualed Cycle Length: 120 Actualed Cycle Length: 120 Actualed Cycle Length: 120 Actual Cycle: 55 Control Type: Pretimed Maximum V/c Ratio. 0.53 Intersection Signal Delay: 14.7 Intersection Cycle Cy	Prsection Summary												
Offset 49 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 65 Control Type: Particle 0.53 Maximum V. Rafio: 0.53 Intersection Signal Delay: 14.7 Intersection Capacity Utilization 64.9% Include 1 of Service C	Offset 49 (41%), Referenced to phase 2.NBTL and 6.SBTL, Start of Green Natural Cycle. 65 Control Type. Pretimed Maximum vic Ratio. 0.53 Intersection Signal Delay. 14.7 Intersection Depactly Utilization 64.9% Intersection Cycle Carrier Control Cycle Control Cycle C	cle Length: 120 uated Cycle Length: 120												
: 14.7 ization 64.9%	: 14.7 Izaton 64.9%	set 49 (41%), Referenced	to phase	2:NBTL a	nd 6:SBT	L, Start	of Green							
: 14.7 ization 64.9%	. 14.7 Ization 64.9%	tural Cycle: 65												
: 14.7 ization 64.9%	: 14.7 ization 64.9%	ntrol Type: Pretimed												
		ximum v/c Ratio: 0.53						0						
		ersection Signal Delay: 14.7	00			⊆ 9	tersection	LOS: B						
	Analysis Period (min) 15	ersection Capacity Utilizatio	n 64.9%			٥	n Level	of Service	2					

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total PM Peak Hour

Synchro 11 Report Page 6

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

11/12/2021

11/12/2021

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

Splits and Phases: 5: Terry Fox & Signature SC

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total PM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

Lane Group			,								•	
Laire Group	0	FOI	000	Q/W	TOW	QQ/V		FOIN	QQN	ā	Tao	CDD
		9	YOU !	WDL	I GAA	YOM N	JQN M	QN 4	YON N	J OBL	100	VIDS I
-are cornigurations	- 5	- 5	<u>-</u> 2	- 010	- ¢		- 10	E 770	- 00	- 707		_ 0
Fifting Volume (vph)	5 5	102	150	248	110	7	3 5	844	28 28	164	803	8 8
Satd Flow (nrot)	1658	1745	1/83	1658	1710	1/183	1658	3316	1/83	1658	3316	1/83
Fit Permitted	0.686	2	3	0.691	1	3	0.288	2	2	0.255	2	2
Satd. Flow (perm)	1196	1745	1464	1205	1712	1464	502	3316	1449	445	3316	1463
Satd. Flow (RTOR)			159			11			184			88
ane Group Flow (vph)	101	102	159	248	110	111	125	8 4	188	164	803	88
Furn Type	Perm	ΑN	Perm	Perm	Α	Perm	pm+pt	ΑN	Perm	pm+pt	¥	Perm
Protected Phases		4			∞		2	2		-	9	
Permitted Phases	4		4	∞		∞	2		2	9		9
Detector Phase	4	4	4	∞	∞	∞	2	2	2	~	9	9
Switch Phase			9	9	9	9	1	9	9		9	9
Vinimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	2.0	10.0	10.0
Minimum Split (s)	40.4	40.4	40.4	43.4	43.4	43.4	11.4	40.4	40.4	4.1.4	43.4	43.4
otal Split (s)	48.0	48.0	48.0	48.0	48.0	48.0	22.0	20.0	20.0	22.0	20.0	50.0
otal Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	18.3%	41.7%	41.7%	18.3%	41.7%	41.7%
reliow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	7.4	7.4	7.4	4.2	7.7	4.7
All-Ked lime (s)	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	2.7
ost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
oral Lost IIIIIe (3)	†	† Ö	t.	t.	t: O	t.	1.0	5 6	1. 6	1.00	1. 6	5 -
ond log Ontimized							\ \ \ \	, Lag	, rag	\ \ \ \	9 0	20,
ead-Lag Opumize?	None	None	Nono	Nono	None	Mond	S Les	S 20	S L C	S 2	Les Mor	Tes
Kecall Mode	None	None	None	None	None	None	None	-Max	- Max	None	S-IMax	C-Max
Act Elict Gleen (s)	20.2	30.2	30.2 0.25	200.2	200.2	200.2	0.50	0.00	0.00	6.1.9	0.10	0.10
Actuated g/C hatto	0.23	0.23	0.23	0.83	0.25	0.23	0.33	0.30	0.30	0.00	0.0	0.0
Pontrol Delay	37.5	37.6	8 %	60.02	35.2	9.50	10 a ct	23.7	7.20	1 70	30.5	127
Duelle Delay	0.0	0.50	000	0.50	300	0.0	0.0	0.0	2 0	0.0	0.00	0
vede Delay	37.5	34.6	9 6	62.3	35.2	9 6	10.0	23.7	0.0	27.1	30.0	18.7
OS	2 0	0	9	ВП	3 0	₹ 4	9 8	C	2	C	2	
oproach Delay		23.0			42.8			19.4			35.9	
Approach LOS		O			۵			ш			۵	
Queue Length 50th (m)	19.5	19.1	0.0	55.2	20.8	0.0	10.6	2.79	0.5	26.6	88.4	3.9
Queue Length 95th (m)	31.1	29.7	14.3	76.3	31.8	12.0	23.4	109.8	15.3	52.2	113.1	20.2
nternal Link Dist (m)		128.0			204.4			313.2			301.0	
urn Bay Length (m)	62.5		64.5	70.0		63.5	45.0		62.5	97.5		50.0
Base Capacity (vph)	414	604	611	417	593	280	463	1656	816	439	1692	790
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.17	0.26	0.59	0.19	0.19	0.27	0.51	0.23	0.37	0.47	0.11
ntersection Summary												
Sycle Length: 120												
Actuated Cycle Length: 120		i		č	9							
Ouset, 27 (23%), Referenced to phase 2:NBTL and 6:3BTL, Start of Green Matural Ousle: 400	d to pnase	Z:NB IL 8	and other	L, Start	or Green							
Natural Cycle. 100												

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total PM Peak Hour

Synchro 11 Report Page 8

Lanes, Volumes, Timings 6: Terry Fox & Campeau

11/12/2021

11/12/2021

Maximum vic Ratio: 0.82
Intersection Signal Delay; 29.1
Intersection Capacity Utilization 75.6%
ICU Level of Service D
Analysis Period (min) 15

48 × 404 × 604

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2025 Future Tolal PM Peak Hour

HCM 2010 TWSC 7: Winterset & NO.2

		SBT	÷	28	28	0	Free	None		0	0	100	2	28		•	י כ									ì									SBT			٠		
		SBL		0	0	0	Free	1	'	•	٠	100	2	0	Major	405	24		4 12	1 '		' 6	2.218	1462	٠	•		1462	•	•	٠	SB	0		SBL	1462	! '	0	⋖	0
		NBR		8	9	0	Free	None	'	1	'	100	2	8	_	0	۱ د		ľ	ľ			•	•	'	1	١	•	•	1	•				WBLn1	822	0	9.5	⋖	0.1
		NBT	æ	92	92	0	Free	1		0	0	100	2	92	Major1	- 0	ا د			ľ			1	•	'	1	1	•	•		'	9	0		NBRWBLn1		ľ	•	'	•
		WBR		0	0	0	Stop	None	'	1	'	100	2	0	_	4	2 '		6 22	1 '			2	943	'	1		943	•	•	•				NBT		ľ	•		•
	-	WBL	>	22	22	0	Stop		0	0 #	0	100	2	22	Minor1	100	2 5	82	6 42	5.42	5 42	247	3.518	822	915	965		822	822	915	965	WB	9.5	⋖	الى					
Intersection	Int Delay, s/veh	Movement	Lane Configurations	Traffic Vol, veh/h	Future Vol, veh/h	Conflicting Peds, #/hr	Sign Control	RT Channelized	Storage Length	Veh in Median Storage,	Grade, %	Peak Hour Factor	Heavy Vehicles, %	Mvmt Flow	Major/Minor	V	State 1	Stane 2	Critical Howy	Critical Holay Ota 1	Critical Low, Ctg 2			Pot Cap-1 Maneuver	Stage 1	Stage 2	Platoon blocked, %	Mov Cap-1 Maneuver	Mov Cap-2 Maneuver	Stage 1	Stage 2	Approach	HCM Control Delay, s	HCM LOS	Minor Lane/Major Mvmt	Capacity (veh/h)	HCM Lane V/C Ratio	HCM Control Delay (s)	HCM Lane LOS	HCM 95th %tile Q(veh)

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total PM Peak Hour

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HCM 2010 TWSC 8: Winterset & Natare/NO.3

11/12/2021

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Winterset & Natare/NO.3	ı
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Int Delay, s/veh	2.1												
Movement	EB	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		€			4			4			4		
Traffic Vol, veh/h	0	0	2	22	0	0	10	22	30	0	3	0	
Future Vol, veh/h	0	0	2	22	0	0	10	S	9	0	31	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	•	•	None	٠	1	None	•	•	None	•	1	None	
Storage Length	'	'	'	'	•	,	•	•	'	•	•		
Veh in Median Storage	- #,6	0	1	1	0	1	1	0	1	1	0		
Grade. %	•	0	ľ	•	0	•	•	0	١	١	0		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	
Heavy Vehicles, %	2	2	2	2	7	2	2	7	7	7	7	7	
Mvmt Flow	0	0	2	22	0	0	10	22	30	0	31	0	
Major/Minor	Minor2		_	Minor1		2	Major1		2	Major2			
Conflicting Flow All	121	136	ઝ	124	121	2	31	0	0	85	0	0	
Stage 1	31	31		90	8	•	•	•	•	•	1		
Stage 2	6	105	'	34	સ	'	'	٠	'	٠	1		
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	1	1	4.12	1		
Critical Hdwy Stg 1	6.12	5.52	'	6.12	5.52		'	•		•	•		
Critical Hdwy Stg 2	6.12	5.52	•	6.12	5.52	1	٠	٠	1	٠	1		
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	1	1	2.218	1		
Pot Cap-1 Maneuver	854	755	1043	820	769	993	1582	٠	٠	1512	•		
Stage 1	986	869	'	917	820	٠	'	٠	٠	٠	•		
Stage 2	917	808	1	982	869	1	1	1	1	1	1		
Platoon blocked, %								•	'		•		
Mov Cap-1 Maneuver	820	750	1043	845	764	993	1582	1	1	1512	1		
Mov Cap-2 Maneuver	820	750	•	845	764	•	٠	٠	٠	٠	•		
Stage 1	979	869	•	911	814	•	•	•	•	•	1		
Stage 2	911	802	•	977	869	٠	•	٠	٠	٠	•		
Approach	B			WB			R			SB			
HCM Control Delay, s	8.5			9.4			8.0			0			
HCM LOS	∢			⋖									
Minor Lane/Major Mvmt	±	NBL	NBT	NBRE	NBR EBLn1WBLn1	/BLn1	SBL	SBT	SBR				
Capacity (veh/h)		1582	•	•	1043	842	1512	٠	•				
HCM Lane V/C Ratio		900.0	•		0.005 0.026	0.026	٠	٠	٠				
HCM Control Delay (s)		7.3	0	•	8.5	9.4	0	٠	٠				
HCM Lane LOS		⋖	⋖	٠	⋖	A	⋖	٠	٠				
HCM 95th %tile O(veh)	_	С	٠	١	C	0	c						

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2025 Future Total PM Peak Hour

Appendix I

Synchro and Sidra Intersection Worksheets – 2030 Future Total Conditions



MOVEMENT SUMMARY

¥ Site: 101 [Huntmar-Campeau AM FT2030]

Arcadia Stage 6 Site Category: (None) Roundabout

Mover	nent Pe	Movement Performance - Vehicles	e - Vehi	cles								
Mov ID	Turn	Demand Flows Total HV veh/h	Flows H≷	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	f Queue Distance m	Prop. Queued	Effective Aver. No. Stop Rate Cycles	Aver. No. Cycles	Average Speed km/h
South:	South: Huntmar											
_	L2	32	2.0	0.035	7.9	LOSA	0.1	0.7	0.20	0.58	0.20	50.4
2	Ţ	446	2.0	0.448	2.3	LOSA	1.7	12.3	0.30	0.27	0.30	49.9
က	R2	28	2.0	0.059	2.9	LOSA	0.2	1.1	0.20	0.39	0.20	51.7
Approach	ach	539	2.0	0.448	2.7	LOSA	1.7	12.3	0.28	0:30	0.28	50.1
East: C	East: Campeau											
4	7	4	2.0	0.191	1.1	LOS B	0.5	3.7	0.42	0.77	0.42	50.2
2	1	06	2.0	0.123	5.1	LOSA	0.3	2.4	0.42	0.51	0.42	29.7
9	R2	8	2.0	0.046	5.4	LOSA	0.1	6.0	0.40	0.61	0.40	51.0
Approach	ach	268	2.0	0.191	8.4	LOSA	0.5	3.7	0.42	0.66	0.42	52.3
North:	North: Huntmar											
7	L2	10	2.0	0.221	8.4	LOSA	0.7	4.8	0.32	0.33	0.32	53.5
80	1	392	2.0	0.221	2.6	LOS A	0.7	4.8	0.31	0.31	0.31	49.7
6	R2	106	2.0	0.117	3.4	LOS A	0.3	2.3	0.29	0.46	0.29	51.4
Approach	ach	208	2.0	0.221	2.9	LOSA	0.7	4.8	0.31	0.34	0.31	50.1
West: (Campeau											
10	L2	89	2.0	0.094	11.2	LOS B	0.3	1.8	0.41	0.76	0.41	50.3
£	Ξ	72	2.0	0.094	4.9	LOSA	0.3	1.8	0.39	0.49	0.39	56.8
12	R2	33	2.0	0.051	5.0	LOSA	0.1	6.0	0.37	0.59	0.37	51.4
Approach	ach	179	2.0	0.094	7.3	LOSA	0.3	1.8	0.39	0.61	0.39	53.0
All Vehides	ides	1494	2.0	0.448	4.3	LOSA	1.7	12.3	0.33	0.42	0.33	50.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.
IDIDA Samadro Delay, Model is used: Control Delay includes Geometric Delay.
Gap-Acceptance Capacity. Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

₩ Site: 101 [Country Glen-Campeau AM FT2030]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	ment Per	Movement Performance - Vehicles	e - Vehi	cles							
Mov ID	Tum	Demand Flows Total HV veh/h	Flows HV	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	te Prop. se Queued m	Effective Stop Rate	Aver. No. Average Cycles Speed km/h	Average Speed km/h
South	South: Country Glen	Slen									
_	L2	44	2.0	0.024	1.8	LOSA	0.1 0.4	4 0.18	0.26	0.18	39.4
7	F	~	2.0	0.024	0.3	LOSA	0.1 0.4	4 0.17	0.23	0.17	29.5
က	R2	4	2.0	0.024	0.3	LOS A	0.1 0.4	4 0.17	0.23	0.17	38.2
Approach	ach	49	2.0	0.024	1.7	LOS A	0.1 0.4	4 0.18	0.25	0.18	39.0
East:	East: Campeau										
4	L2	7	2.0	0.044	9.6	LOSA	0.1	0.8 0.15	0.40	0.15	43.0
2	Ţ	78	2.0	0.044	3.5	LOSA	0.1 0.	0.8 0.15	0.38	0.15	57.9
9	R2	2	2.0	0.044	4.4	LOSA	0.1 0.8	8 0.14	0.35	0.14	38.8
Approach	ach	06	2.0	0.044	4.0	LOS A	0.1 0.8	.8 0.15	0.38	0.15	54.9
North:	North: Country Glen	len									
7	L2	19	2.0	0.155	1.9	LOSA	0.4 3.0	0.19	0.11	0.19	40.5
œ	Ţ	-	2.0	0.155	0.4	LOSA	0.4	3.0 0.19	0.11	0.19	29.7
6	R2	138	2.0	0.155	0.4	LOSA	0.4 3.	3.0 0.19	0.11	0.19	39.0
Approach	ach	158	2.0	0.155	9.0	LOS A	0.4	3.0 0.19	0.11	0.19	39.1
West:	West: Campeau										
9	L2	20	2.0	0.062	9.5	LOSA	0.2	.5 0.10	0.57	0.10	41.7
F	F	62	2.0	0.062	3.4	LOSA	0.2	1.5 0.10	0.41	0.10	57.4
12	R2	21	2.0	0.062	4.3	LOSA	0.2	.5 0.10	0.36	0.10	38.8
Approach	ach	133	2.0	0.062	2.8	LOSA	0.2	1.5 0.10	0.46	0.10	47.1
All Vehicles	hicles	430	2.0	0.155	3.0	LOSA	0.4 3.	3.0 0.15	0.29	0.15	4.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS FW inssult if vic > 1 insepseudve of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

♥ Site: 101 [Winterset-Campeau AM FT2030]

Arcadia Stage 5 Site Category: (None) Roundabout

Move	ment Pe	Movement Performance - Vehicles	e - Vehi	cles								
Mov	Turn	Demand Flows Total HV	Flows HV	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No Cycles	Average Speed km/h
East: (East: Campeau											
2	F	38	2.0	0.017	3.3	LOSA	0.0	0.3	0.05	0.31	0.05	58.9
9	R2	56	2.0	0.024	4.2	LOSA	0.1	0.4	0.05	0.44	0.05	38.4
Approach	ach	49	2.0	0.024	3.7	LOSA	0.1	0.4	0.05	0.37	0.05	48.6
North:	North: Winterset											
7	L2	20	2.0	0.065	1.6	LOSA	0.2	1.1	0.09	0.23	0.09	39.4
6	R2	25	2.0	0.024	0.1	LOSA	0.1	0.4	0.09	0.02	0.09	39.4
Approach	ach	122	2.0	0.065	1.0	LOSA	0.2	- -	0.09	0.14	0.09	39.4
West:	West: Campeau											
10	L2	17	2.0	0.046	9.5	LOSA	0.1	6.0	0.13	0.47	0.13	42.6
7	Ţ	35	2.0	0.046	3.4	LOSA	0.1	0.0	0.13	0.38	0.13	57.8
Approach	ach	109	2.0	0.046	4.4	LOSA	0.1	0.9	0.13	0.39	0.13	54.7
All Vel	All Vehicles	295	2.0	0.065	2.8	LOSA	0.2	1.	0.10	0.28	0.10	46.0

Site Level of Service (LOS) Method: Delay & vic (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Roundabout LOS Method: SIDRA Roundabout LOS.

LOS Fewline movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS Fewlin result if vic> 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (vic not used as specified in HCM 2010).

SIDRA Standard Delay Model: US HCM 2010.

SIDRA Standard Delay Model: US control Delay includes Geometric Delay.

Gap-Acceptance Capacity, Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 8.0 | Copyright © 2000-2019 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: CGH TRANSPORTATION | Processed: November 17.2 2021 10:44:32 AM Protessed: November 17.2 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:32 2021 10:44:

Lanes, Volumes, Timings 4: Terry Fox & Kanata

11/12/2021

	/	4	—	•	۶	→
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	K.	¥	ŧ	¥	r	**
Traffic Volume (vph)	317	337	761	172	253	582
Future Volume (vph)	317	337	761	172	253	582
Satd. Flow (prot)	3185	1414	3283	1441	1595	3283
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3185	1414	3283	144	1595	3283
Satd. Flow (RTOR)	2	337	707	172	CLC	COL
Lane Group Flow (vpn)	راد د اد	, 55, 1	0/	7/1	727	790
Turn Type	Prot	Perm	Y C	Perm	Prot	NA W
Protected Phases	×	c	7	c	_	٥
Permitted Phases	c	0 0	c	7 0	•	c
Detector Phase	œ	œ	7	7	_	٥
Switch Phase				9		
Minimum Initial (s)	9.0	9.0	10.0	10.0	2.0	10.0
Minimum Split (s)	31.2	31.2	25.0	25.0	11.0	25.0
Total Split (s)	32.0	32.0	45.0	45.0		45.0
Total Split (%)	26.7%	26.7%	37.5%	37.5%		37.5%
Yellow Time (s)	3.7	3.7	4.2	4.2	4.2	4.2
All-Red Time (s)	2.5	2.5	.	<u></u> 60	-0.	1.8
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	6.2	0.9	0.9	0.9	0.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effct Green (s)	14.7	14.7	39.4	39.4	20.0	65.5
Actuated g/C Ratio	0.16	0.16	0.43	0.43	0.22	0.71
v/c Ratio	0.63	99.0	0.54	0.24	0.74	0.25
Control Delay	42.8	11.2	23.3	4.4	47.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	11.2	23.3	4.4	47.4	5.4
TOS	۵	В	O	⋖	۵	A
Approach Delay	56.6		19.8			18.1
Approach LOS	O ;	d	e e	d	3	B C
Queue Length 50th (m)	1.12	0.0	50.3	0.0	0.14	16.2
Queue Length 95th (m)	0.44.0	24.8	69.4	13.3	6.1	28.3 487 6
Internal clink Dist (III)	0.010		040.0	9		407.0
Turn Bay Length (m)		9	0007	100.0	82.5	7000
Base Capacity (vpri)	000) to	660	2 9	440	2924
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.53	0.54	0.24	0.39	0.20
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 92.5						
Natural Cycle: 80						
Control Type: Actuated-Uncoordinated	ordinated					
Maximum v/c Ratio: 0.74						

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total AM Peak Hour

Intersection LOS: C ICU Level of Service B Lanes, Volumes, Timings
4: Terry Fox & Kanata
Intersection Signal Delay, 21.1
Intersection Capacity Utilization 61.7%
Analysis Period (min) 15 Splits and Phases: 4: Terry Fox & Kanata

Synchro 11 Report Page 5 Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total AM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

11/12/2021

11/12/2021

Comparison EBI EBT EBB WBI		1	†	<i>></i>	-	ţ	4	•	←	•	۶	→	•
0 1745 0 9 0 1 28 0 931 20 30 946 0 0 1 28 0 931 20 30 946 0 0 1 28 0 931 20 30 946 0 0 1 28 0 931 20 30 948 0 0 1745 0 0 0 1386 1455 1745 3233 0 1658 3283 0 0.266 3 0.266 0 0 0 0 0 0 9 0 0 9 10 4 4 4 4 4 4 5 1745 3233 0 0.266 3 0 0.266 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0 1745 0 9 0 28 0 331 20 30 948 0 0 1745 0 0 1386 1455 1745 3233 0 1658 3283 0 1745 0 0 1745 0 0 1104 1455 1745 3233 0 1658 3283 0 1658 3283 0 1745 0 0 1104 1455 1745 3233 0 1658 3283 0 1658 3283 0 1658 3283 0 1658 3283 0 1658 3283 0 1658 3283 0 1658 328 328 328 320 320 320 320 320 320 320 320 320 320	Lane Configurations		4			4	*	r	₩		r	₩	
0 1745 0 0 9 0 28 1 20 38 948 0 1745 0 1745 0 0 1386 1455 1745 3233 0 1688 3283 0 1745 0 0 1386 1455 1745 3233 0 1688 3283 0 1688 3283 0 1745 0 0 1104 1455 1745 3233 0 1688 3283 0 1688 3283 0 1848 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Traffic Volume (vph)	0	0	0	တ	0	28	0	931	20	30	948	0
0 1745 0 0 1386 1455 1745 3233 0 1658 3 0 1745 0 0 1104 1455 1745 3233 0 0 1658 3 0 0 0 0 9 28 0 951 0 30 9 9 9 1 9 9 9 9 1 9 9 9 9 9 1 9 9 9 9	Future Volume (vph)	0	0	0	6	0	28	0	931	20	30	948	0
0 1745 0 0 1104 1455 1745 3233 0 0,266 0 0 0 0 9 28 0 951 0 30 9 9 1	Satd. Flow (prot)	0	1745	0	0	1386	1455	1745	3233	0	1658	3283	0
10 0 0 0 9 28 0 951 0 30 147 2 220 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Fit Permitted	c	1745	c	c	0.757	1455	17/6	2002	c	0.266	2002	
14	Satd Flow (RTOR)	>	1/43	0	>	104	34	1/40	5233	>	\$	2203	0
A 4 8 8 2 6 6 6 8 8 2 8 8 8 8 8 8 8 8 8 8 8	Lane Group Flow (vph)	0	0	0	0	6	28	0	951	0	30	948	0
4	Turn Type				Perm	¥	Perm	Perm	≨		Perm	Α̈́	
13.6 3.6 3.6 3.6 3.6 3.6 3.6 3.6 3.7 8.0 2.2 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Protected Phases		4			00			2			9	
316 316 316 316 314 314 318 328 320 320 320 320 780 780 780 780 780 780 780 780 780 78	Permitted Phases	4			∞		∞	2			9		
23.0 32.0 32.0 78.0 78.0 78.0 78.0 32.0 32.0 32.0 78.0 78.0 73.0 3.0 3.0 3.0 3.0 70.9% 70.	Minimum Split (s)	31.6	31.6		31.6	31.6	31.6	31.4	31.4		32.8	32.8	
23.1% 29.1% 29.1% 70.9%	Total Split (s)	32.0	32.0		32.0	32.0	32.0	78.0	78.0		78.0	78.0	
3.0 3.0 3.0 4.2 4.2 4.2 3.6 3.6 3.6 3.6 3.6 3.6 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2	Total Split (%)	29.1%	29.1%		29.1%	29.1%	29.1%	%6:02	%6.02		%6:02	%6:02	
3.6 3.6 3.6 3.6 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2	Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.2	4.2		4.2	4.2	
6.6 6.6 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4	All-Red Time (s)	3.6	3.6		3.6	3.6	3.6	2.2	2.2		2.2	2.2	
25.4 25.4 71.6 71.6 71.6 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4	Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
25.4 25.4 71.6 71.6 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25	lotal Lost Time (s)		0.0			0.0	0.0	0.4	4.0		0.4	4.0	
25.4 25.4 71.6 71.6 0.65 0.65 0.65 0.06 0.04 0.08 0.45 0.10 0.00 0.00 0.00 0.00 0.00 0.00 0.0	Lead/Lag												
25.4 25.4 71.6 71.6 71.6 71.6 71.6 71.6 71.6 71.6	Lead-Lag Optimize?								1			1	
10.20 10.20	Act Effet Green (s)					25.4	25.4		71.6		71.6	71.6	
19.8	Actuated g/C Katto					0.23	0.23		0.65		0.65	0.65	
19.8 19.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	V/c Katio					0.04	0.08		0.45		00	44.0	
33.4 0.00 0.00 0.00 0.00 0.00 0.00 0.00	Control Delay					4.00	n c		7.4		0.2	7.01	
24 9.9 14.7 8.2 15.6 A B B B B B B B B B B B B B B B B B B	Queue Delay					0.0	0.0		0.0		0.0	0.0	
19.8 14.7 7 7 7 7 8 8 14.7 7 7 7 8 8 15 8 9 1 8 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1	lotal Delay					33.4	D. <		14.7		8.2	70.Z	
19.8 92.2 5.6 6.1 112.8 6.0 5.6 6.1 112.8 6.0 5.6 6.1 112.8 6.0 8.23 30.0 6.10 0	Annroach Delay					7 6	1		14.7		1	10.2	
15 00 904 22 56 6.1 1128 60 23.3 3010 6110 610 0	Approach I OS					2 00			α			ď	
5.6 6.1 1128 6.0 82.3 30.10 61.0 0	Oriente Length 50th (m)					7 7	0		90.4		22	48.0	
49.8 92.3 301.0 61.0 61.0 61.0 61.0 61.0 61.0 61.0	Queue Length 95th (m)					5.6	6.1		112.8		9.0	8.09	
61.0 25.4 36.2 2.105 30.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Internal Link Dist (m)		19.8			92.3			301.0			846.8	
254 362 2105 302 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Turn Bay Length (m)										61.0		
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Base Capacity (vph)					254	362		2105		302	2136	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Starvation Cap Reductn					0	0		0		0	0	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Spillback Cap Reductn					0	0		0		0	0	
0.04 0.08 0.45 0.10 d to phase 2:NBTL and 6:SBTL, Start of Green 2.4 Intersection LOS: B 1CU Level of Service A	Storage Cap Reductn					0	0		0		0	0	
d to phase 2:NBTL and 6:SBTL, Star 2.4 iron 47.0%	Reduced v/c Ratio					0.04	0.08		0.45		0.10	0.44	
d to phase 2:NBTL and 6:SBTL, Star 2.4 iton 47,0%	Intersection Summary												
d to phase 2:NBTL and 6:SBTL, Star 2.4 ton 47.0%	Cycle Length: 110												
Natural Cycle: 65, Verteerroad to phrase ZiNot I. and b:SBIL, Start of Green Natural Cycle: 65 Control Type: Pretimed Maximum vic Raino: 0.45 Maximum vic Raino: 0.45 Intersection Capacity Utilization 47.0% Analysis Period (min) 15	Actuated Cycle Length: 110	0	i	-	č	9							
5 17.7.2.4 Ilization 47.0% 5	Offiset: 49 (45%), Reference	sed to bhase	Z:NB1L a	nd 6:5B	IL, Start	of Green							
5 17: 12.4 tilization 47.0% 5	Natural Cycle: 65 Control Type: Pretimed												
	Maximum v/c Ratio: 0.45												
	Intersection Signal Delay: 1	12.4			드	tersection	LOS: B						
Analysis Period (min) 15	Intersection Capacity Utiliza	ation 47.0%			2	:U Level	of Service	۷					
	Analysis Period (min) 15												

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total AM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

Splits and Phases: 5: Terry Fox & Signature SC

Q Q (R)

₩ Ø6 (R)

Synchro 11 Report Page 7 Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total AM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

11/12/2021

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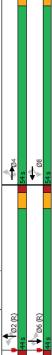
Febraria	FBL FBT FBR WBL WBT WBR NBL NBT 61	(fo	EBL 61 642 642 728 258 258 61 61 4 4 4	EBT ← 12	EB	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	CDI
77 84 770 164 98 709 77 84 770 164 98 709 77 84 770 164 98 709 78 3 191 1441 1688 3191 1703 71 84 770 164 98 709 97 71 84 770 164 98 709 97 188 2 2 2 2 1 6 8 2 2 2 2 2 2 2 27 22 2 2 2 2 2 27 22 2 2 2	1542 172 258 45 71 84 770 61 51 112 258 45 71 84 770 1642 1745 1441 1280 1712 1383 1688 3191 10728 1745 1441 1280 1712 1383 1688 3191 1078 1745 1441 1280 1712 1383 1688 3191 1078 1745 1441 1280 1712 1383 1688 3191 1078 1745 1441 1280 1712 1383 1688 3191 108 1745 1441 1280 1712 1383 1688 3191 109 61 51 112 258 45 71 84 770 40 4 40.4 40.4 43.4 43.4 43.4 43.4 11.4 40.4 40 4 40.4 40.4 43.4 43.4 43.4 43.4 11.4 40.4 40 5	(d) (d) (4) (4) (4) (4) (4) (4) (4	642 642 642 728 258 258 61 erm 4 4	← 12 ½	%_ 9	*	ľ		×		*-	<u></u>	ŀ	opp
77 84 770 164 98 709 77 84 770 164 98 709 78 3 191 1441 1668 3191 97 71 84 770 164 98 709 77 84 770 164 98 709 77 84 770 164 98 709 77 84 770 164 98 709 77 84 770 164 98 709 77 84 770 164 98 709 77 84 770 164 98 709 8 2 2 2 2 6 8 5 2 2 1 6 8 5 2 2 1 6 8 4 700 100 50 100 43.4 11.4 40.4 40.4 11.4 43.4 54.0 12.0 40.0 0.0 0.0 0.0 6.4 6.4 6.4 6.4 6.4 6.6 6.4 6.4 6.4 6.4 6.7 6.0 0.0 0.0 0.0 6.4 6.4 6.4 6.4 6.4 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 0.0 0.0 0.0 70 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	6 i 5i 112 258 45 71 84 770 6 f	(de	61 642 642 728 258 258 61 61 4 4 4	51.		-	-	*		‡			+	_
71 84 770 164 98 709 108 1383 168 3191 1411 1441 1688 3191 1363 863 3191 1410 490 3191 1363 863 3191 1410 490 3191 197 84 770 164 98 709 170 164 98 709 170 164 98 709 170 164 98 709 170 164 98 709 170 170 164 98 709 170 170 170 170 170 170 170 170 170 170	1642 1745 1441 1860 1712 1363 3191 0.728	(r) (du) (642 642 728 258 258 61 erm 4 4	7	112	258	45	7.1	84	0//	164	86	200	-8
1363 1658 3191 1441 1658 3191 1363 0.334 1.441 1658 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 490 3191 1410 491 1410	1642 1745 1441 1860 1712 1363 1658 3191 1258 1745 1421 1202 1712 1363 653 3191 1258 1745 1421 1202 1712 1363 653 3191 1258 1745 1421 1202 1712 1363 653 3191 1258 1745 1421 1202 1712 1363 653 3191 1258 1745 1421 1202 1712 1363 653 3191 140	(ph)	642 728 258 61 erm 4 4 4	0	112	258	45	71	84	770	164	86	709	69
1363 583 191 1410 490 3191 171 172 172 173 174 1770 164 98 709 172 174 1770 164 98 709 172 173 173 173 173 173 173 173 173 173 173	0.728 0.728 0.728 1256 1745 1421 1202 1712 1363 583 3191 112 112 258 45 71 84 770 112 258 45 71 84 770 113 258 45 71 84 770 114 4 4 8 8 8 5 2 115 24 4 4 8 8 8 5 2 115 24 4 4 4 8 8 8 5 2 115 24 4 4 4 8 8 8 5 2 115 24 4 4 4 4 8 8 8 5 2 115 24 4 4 4 4 4 8 8 8 5 2 115 24 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	(hg)	728 258 61 erm 4 4 4	1745	1441	1580	1712	1363	1658	3191	1441	1658	3191	1483
1963 583 3191 1410 490 3191 97 97 184 770 164 98 709 8 709 8 709 8 70 164 98 709 97 97 97 97 97 97 97 97 97 97 97 97 97	1258 1745 1421 1202 1712 1383 583 3191	(ph)	258 erm 61 4 4 4 70.0			0.724			0.334			0.281		
Perm pm+pt NA Perm pm+pt NA F N Perm pm+pt NA Perm pm+pt N	h) 61 51 112 258 45 77 84 770 4 4 4 8 8 8 5 2 4 4 4 8 8 8 5 2 4 4 4 4 8 8 8 5 2 100 10.0 10.0 10.0 10.0 10.0 10.0 5.0 10.0 40.4 40.4 40.4 43.4 43.4 43.4 114 40.4 54.0 54.0 54.0 54.0 54.0 12.0 44.0 49.1% 49.1% 49.1% 49.1% 49.1% 10.9% 40.0% 40.4 54.0 54.0 54.0 54.0 54.0 54.0 12.0 44.0 27. 27. 27. 27. 27. 27. 27. 27. 22. 22. 27. 27. 27. 27. 27. 27. 27. 27. 27. 22. 22	46 (61 erm 4 4 4 10.0	1745	1421	1202	1712	1363	283	3191	1410	490	3191	1463
Name	None	(vpn) F 400	erm 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	ī	112	C	Ļ	9.	3	4	\$ 5	ć	1	5 6
Perim pri-pi NA Perim pri-pi N	Perm	(s) (erm 4 4 4 000	51	112	7.28	45	Ξ.	84	2	164	86	80 5	<u>چ</u>
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100 50 100	100 100 100 100 100 100 50 100 40.4 40.4 40.4 43.4 43.4 43.4 11.4 40.4 540. 540 54.0 54.0 54.0 54.0 54.0 120 40.0 49.1% 49.1% 49.1% 49.1% 49.1% 10.9% 40.0% 40.0 3.7 3.7 3.7 3.7 3.7 2.7 2.7 2.7 2.2 2.2 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.2 2.2 2.9.7 29.7 29.7 29.7 29.7 29.7 29.7 60.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	e (\$) (\$) (\$) (\$) (\$) (\$) (\$) (\$) (\$) (\$)	4 40.0		4	∞		∞	2		2	9		9
10.0 5.0 10.0 10.0 5.0 10.0 43.4 11.4 40.4 40.4 11.4 43.4 54.0 12.0 44.0 12.0 44.0 49.1% 10.9% 40.0% 40.0% 10.9% 10.9% 40.0% 2.7 2.2 2.2 2.2 2.2 2.2 2.2 5.0 0.0 0.0 0.0 0.0 0.0 0.0 5.4 6.4 6.4 6.4 6.4 6.4 1.6 6.4 6.4 6.4 6.4 6.4 1.6 0.0 0.0 0.0 0.0 0.0 2.7 2.5 2.2 2.2 2.2 2.2 2.7 2.2 2.2 2.2 2.2 2.2 2.0 0.0 0.0 0.0 0.0 0.0 2.7 6.0 5.7 5.7 6.28 55.5 0.1 0.2 0.5 0.48 0.5 0.44 3.1 12.3 2.3 4.4 2.8 43.3 4.1 2.3 2.3 4.4 2.8 43.3 4.1 2.3 2.3 4.4 2.8 84.4 5.2 16.9 95.3 138 34.3 105.4 6.4 5.5 6.9 95.3 138 34.3 165.4 6.4 6.9 6.9 5.3 138 34.3 165.4 6.9 6.9 6.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	100 10.0 10.0 10.0 10.0 10.0 5.0 10.0 40.4 40.4 40.4 40.4 43.4 43.4 43.4 11.4 40.4 40.4 40.4 40.4 43.4 43.4 43.4 43	(s) 4(c) 2) 1 2) 2) 2) 2) 3) 2) 3) 2) 3) 3) 3) 3) 3) 3) 3) 3) 3) 3) 3) 3) 3)	10.0	4	4	∞	∞	∞	2	2	2	-	9	w
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54.0 12.0 44.0 44.0 12.0 44.0 12.0 44.1 41.0 12.0 44.1 41.0 12.0 44.1 41.0 12.0 44.1 41.0 12.0 42.1 42.2 42.2 42.2 42.2 42.2 42.2 42.2	State	4(s) (s)	t. 0	40.4	40.4	43.4	43.4	43.4	11.4	40.4	40.4	11.4	43.4	43.4
49.1% 10.9% 40.0% 40.0% 10.9% 40.0% 44 3.7 2.2 2.2 2.2 2.2 2.2 0.0 0.0 0.0 0.0 0.0 0.0 6.4 6.4 6.4 6.4 6.4 6.4 1.ead Lead Lead Leag Yes Yes Yes Yes Yes None CMax C-Max None C-Max C-29.7 0.50 0.16 0.21 0.50 0.22 0.27 0.50 0.16 0.21 0.50 0.22 0.27 0.40 3.1 12.3 2.3.3 4.4 26.8 43.3 0.0 0.0 0.0 0.0 0.0 0.0 3.1 12.3 23.3 4.4 26.8 43.3 A B C A C D B C A C D C C C C C C C C C C C C C C C C C C	49,1% 49,1% 49,1% 49,1% 49,1% 10,9% 40,0% 44 3,7 3,7 3,7 3,7 3,7 3,7 3,7 3,7 4,2 4,2 2,7 2,7 2,7 2,7 2,7 2,7 2,7 2,7 2,2 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,1% 0,1% 0,2% 0,2% 0,2% 0,2% 0,1% 0,2% 0,2% 0,1% 0,1% 0,1% 0,1% 0,1% 0,1% 0,1% 0,1	(s)		54.0	54.0	54.0	54.0	54.0	12.0	44.0	44.0	12.0	44.0	44.0
3.7 4.2 4.2 4.2 4.2 4.2 4.2 2.2 2.2 2.2 2.2	3.7 3.7 3.7 3.7 3.7 3.7 3.7 2.2 2.2 2.2 2.2 2.0 0.0 0.0 0.0 0.0 0.0	low Time (s) Red Time (s) st Time Adjust (s)		19.1%	49.1%	49.1%	49.1%	49.1%	10.9%	40.0%	40.0%	10.9%	40.0%	40.0%
2.7 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2	27 27 27 27 27 27 27 27 22 22 20 00 00 00 00 00 00 00 00 00 00	Red Time (s) st Time Adjust (s) al Lost Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.2	4.2	4.2
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	None	st Time Adjust (s) al Lost Time (s)	2.7	2.7	2.7	2.7	2.7	2.7	2.2	2.2	2.2	2.2	2.2	2.2
None None C-Max C-Max None C-Max C- 29,7 60,7 52,7 52,7 62,8 55,5 0.7 0.55 0.48 0.48 0.57 0.60 0.16 0.21 0.50 0.22 0.27 0.44 3.1 12,3 23,3 4,4 26,8 43,3 0.0 0.0 0.0 0.0 0.0 0.0 3.1 12,3 23,3 4,4 26,8 43,3 0.0 6,9 57,7 0.0 16,2 86,4 5.2 16,9 95,3 13,8 34,3 105,4 5.2 16,9 95,3 13,8 34,3 105,4 63,5 45,0 62,5 97,5 64,4 399 15,7 760 386 1610 0	None None None None None None None CARA CS 7 29.7 29.7 29.7 29.7 29.7 29.7 29.7 29	al Lost Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
None None C-Max C-Max None C-Max None C-Max C-Max None C-Max C-Max None C-Max	None None None None None None One CMax C 29.7 29.7 29.7 29.7 29.7 29.7 29.7 29.7		6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	0.4	6.4	7.0
None None C-Max C-Max None C-Max C-Max None	None	ad/Lag							Lead	Lag	Lag	Lead	Lag	Ľać
Norte Chief	Morie Notice Not								Yes	Yes	Yes	Yes	Yes	Yes
29.7 0.55 0.48 0.48 0.57 0.60 0.16 0.21 0.55 0.48 0.48 0.57 0.60 0.16 0.21 0.50 0.22 0.27 0.44 0.16 0.21 0.20 0.20 0.10 0.10 0.10 0.10 0.10	D27		one	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Ma
0.16 0.21 0.50 0.20 0.27 0.30 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.18 0.11 0.24 0.80 0.10 0.16 0.21 0.50 0.18 0.19 0.18 0.11 0.24 0.80 0.10 0.16 0.21 0.50 0.10 0.10 0.10 0.10 0.10 0.10 0.1		7.67	7.67	7.67	72.0	7.67	7.67	00.7	0.40	0.40	07.0	00.0	00.00
3.1 12.3 23.3 4.4 26.8 43.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	290 27.3 6.0 54.1 27.0 31.0 23.0 23.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	g/c Railo	177	0.27	0.27	0.27	0.10	0.16	0.00	0.40	0.40	0.27	0.00	2.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		0 0	27.3	47.0	20.00	0.10	2.5	12.2	22.20	770	26.8	13.3	2 0
3.1 12.3 23.3 4.4 26.8 43.3 A B C A C D 19.3 39.5 19.3 39.5 19.3 39.5 19.3 39.5 19.3 39.5 19.3 39.5 10.0 6.9 57.7 0.0 16.2 86.4 25.2 16.9 95.3 13.8 34.3 105.4 63.5 45.0 62.5 97.5 64. 399 1527 760 368 1610 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	290 27.3 6.0 54.1 270 31.1 12.3 23.3 (C C A D C A B C C A D C A B C C A D C A B C C A D C A B C C A D C A B C C A D C A B C C C A D C A B C C C C A D C C A B C C C C C C C C C C C C C C C C		9 0	0.0	0.0	- 0	0.0	0	0.0	0.07	0	0.0	0.0	<u>i</u> C
A B C A C D 193 385 85 0.0 6.9 57.7 0.0 16.2 88.4 5.2 16.9 95.3 13.8 34.3 105.4 63.5 45.0 62.5 97.5 644 399 1527 760 388 1610 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0	C C A D C A B C 193		29.0	27.3	0.0	54.5	27.0		12.3	23.3	4.4	26.8	43.3	<u> </u>
19.3 39.5 19.3 39.5 10.0 6.9 57.7 0.0 16.2 86.4 105.4	17.1 41.2 19.3		ပ	O	∢	۵	O	⋖	ш	O	٧	O	٥	Ш
0.0 6.9 577 0.0 16.2 86.4 5.2 16.9 95.3 13.8 34.3 105.4 63.5 45.0 62.5 97.5 64.4 399 1527 760 368 1610 0 0 0 0 0 0 0.11 0.21 0.50 0.22 0.27 0.44	m) 100 8 B B B B B B B B B B B B B B B B B B	proach Delay		17.1			41.2			19.3			39.5	
63.5 45.0 6.9 57.7 0.0 16.2 864 63.5 45.0 63.5 45.0 62.5 97.5 644 399 1527 760 368 1610 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	m) 100 8.2 0.0 51.4 7.2 0.0 6.9 57.7 m) 17.9 15.1 11.2 70.9 13.7 5.2 16.9 95.3 m) 17.9 15.1 11.2 70.9 13.7 5.2 16.9 95.3 13.2 64.5 70.0 204.4 399 1527 64.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			В			Ω			ш			Ω	
5.2 16.9 95.3 13.8 34.3 105.4 63.5 45.0 62.5 97.5 644 399 1527 760 368 1610 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 11 021 0.50 0.22 0.27 0.44	m) 17.9 15.1 11.2 70.9 13.7 5.2 16.9 95.3 12.2 16.5 16.9 95.3 13.2 16.5 16.9 95.3 13.2 16.5 16.9 95.3 13.2 16.5 16.9 95.3 13.2 16.5 16.9 95.3 13.2 16.5 16.5 16.5 16.5 16.5 16.5 16.5 16.5		10.0	8.2	0.0	51.4	7.2	0.0	6.9	27.7	0.0	16.2	86.4	ć.
313.2 301.0	128.0 204.4 313.2		17.9	12.1	11.2	6.07	13.7	5.2	16.9	95.3	13.8	34.3	105.4	12.
63.5 45.0 62.5 97.5 644 399 1527 760 368 1610 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0.11 021 0.50 0.22 0.27 0.44	Carlo Control			128.0			204.4			313.2			301.0	
644 389 1527 760 368 1610 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0.11 021 050 022 027 0.44	cdn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		32.5		64.5	0.07		63.5	45.0		62.5	97.5		20.0
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 0 0 0 0 0		\$	755	829	220	740	644	366	1527	200	368	1610	786
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 0 0 0 0	irvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
0.11 0.21 0.50 0.22 0.27 0.44	0.11 0.07 0.17 0.50 0.06 0.11 0.21 0.50	Ilback Cap Reductn	0	0 0	0	0 0	0 0	0	0 0	0 0	0	0 0	0 0	
0.11 0.21 0.50 0.22 0.27 0.44	ary (1,11 0.07 0.17 0.50 0.00 0.11 0.21 0.50		0 ;	0 [0 !	0	0 0	0 ;	0	0	0 8	0 0		0
Intersection Summary Ocycle Length: 110 Actuated Cycle Length: 110 Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle : 100	Intersection Summary		0.11	0.07	0.17	0.50	90.0	0.11	0.21	0.50	0.22	0.27	0.44	0.0
Oycle Length: 110 Actuated Cycle Length: 110 Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 100	Ovola Landh: 110	ersection Summary												
Aduated Cycle Length: 110 Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 100	Oyde Feligili. Tio	cle Length: 110												
Offset: 27 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 100	Actuated Cycle Length: 110	uated Cycle Length: 110		į										
Natural Cycle: 100	Offiset: 27 (25%), Kererenced to phase 2:NBTL and 6:3BTL, Start of Green	set: 27 (25%), Referenced to p	onase 2	:NBIL a	nd 6:5B	L, Start o	or Green							
	Natural Cycle: 100	tural Cycle: 100												
TAN I AAMINAAA		Ted-Coordina	Iea											

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total AM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

Intersection LOS: C ICU Level of Service D Maximum v/c Ratio: 0.80 Intersection Signal Delay: 29.5 Intersection Capacity Utilization 73.5% Analysis Period (min) 15

Splits and Phases: 6: Terry Fox & Campeau



HCM 2010 TWSC 7: Winterset & NO.2

11/12/2021

11/12/2021

Int Delay, s/veh	1.7						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations			43			4	
Traffic Vol, veh/h	8	0	ణ	13	0	92	
Future Vol, veh/h	೫	0	೫	13	0	35	
Conflicting Peds, #/hr	0	0	0	0	0	0	
	Stop	Stop	Free	Free	Free	Free	
pez		None	1	None	1	None	
Storage Length	0			٠			
Veh in Median Storage, #	0 #	٠	0	٠	٠	0	
Grade, %	0	٠	0	٠	1	0	
Peak Hour Factor	100	100	100	100	100	100	
Heavy Vehides, %	7	7	7	7	2	2	
Mvmt Flow	ළ	0	ജ	13	0	92	
Major/Minor Mi	Minor1	2	Major1	2	Major2		
Conflicting Flow All	129	37	0	0	43	0	
Stage 1	37	1	1	1	1	ì	
Stage 2	35	٠	•	'	٠		
Critical Hdwy	6.42	6.22	1	1	4.12	ì	
	5.42	٠	•	•	٠		
Critical Hdwy Stg 2		1	1	1	1	ì	
		3.318	•	1	2.218	•	
Pot Cap-1 Maneuver	865	1035	1	•	1566	·	
Stage 1	982	٠	•	١	٠		
Stage 2	932	1	1	1	1	ì	
Platoon blocked, %			•	٠			
Mov Cap-1 Maneuver	865	1035	1	٠	1566	ì	
Mov Cap-2 Maneuver	865	•	•	1	•	•	
Stage 1	982	•	1	•	1		
Stage 2	932	٠	•	٠	٠		
Approach	WB		NB		SB		
HCM Control Delay, s	9.3		0		0		
HCM LOS	⋖						
Minor Lane/Major Mvmt		NBT	NBRWBLn1	/BLn1	SBL	SBT	
Capacity (veh/h)		٠	•	865	1566	٠	
HCM Lane V/C Ratio		1	1	- 0.035	1		
HCM Control Delay (s)		1	1	9.3	0		
HCM Lane LOS		٠	•	⋖	⋖		
HCM 95th %tile Q(veh)		•	•	0.1	0	·	

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total AM Peak Hour

Synchro 11 Report Page 9

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total AM Peak Hour

HCM 2010 TWSC 8: Winterset & Natare/NO.3

11/12/2021

	SBR		0	0	0	Free	None				100	2	0		0											,	,	i										
	SBT	4	25	25	0	Free	1	٠	0	0	100	7	25		0	1	٠	1	•	1	•	1	٠	•	•	1	٠	1	٠									
	SBL		0	0	0	Free	1	٠	٠	٠	100	7	0	Major2	25	1	٠	4.12	٠	٠	2.218	1589	٠	٠		1589	٠	•	٠	SB	0							
	NBR		13	3	0	Free	None	٠	٠	٠	100	7	13	Σ	0	ì	٠	ŕ	٠	٠	,	٠	٠	٠	٠	٠	٠	ì	٠				SBR	٠	٠	٠	٠	•
	NBT	4	12	12		Free	-	٠	0	0	100	7	12		0	٠	٠	÷		٠	٠	٠	٠	٠		٠	٠	í	٠				SBT	٠	٠	٠	٠	
	NBL		2	ა		Free	٠	٠	٠	٠	100	5	2	Major1	52	ì	٠	4.12	٠	ì	2.218	1554	٠	٠		1554		í	٠	NB	1.2		SBL	1589	٠	0	∢ '	0
	WBR		0	0		Stop	None		٠		100	5	0	Ma	19	ì		6.22		ì	3.318 2	1059				1059		ï	٠				3Ln1	889	0.034	9.5	⋖ ;	0.1
	WBT \	4	0	0		Stop	-		0	0	100	5	0		81	59	25	6.52	5.52	5.52			871	852			807	898	825				NBR EBLn1WBLn1		0.01	9.8	∢ '	0
	WBL \		8	೫		Stop	ì		٠		100	5	99	Minor1	98	83	22	7.12		6.12		006	88	922		889	889	985	946	WB	9.5	⋖	NBR E E	•	٠	٠	٠	
	EBR \		10	9		Stop	None				100	7	10	≊	52	÷		6.22		٠	3.318 3	1016				1016		í	٠				NBT	٠		0	⋖	
	EBT	4	0	0		Stop	-		0	0	100	7	0		87	25		6.52	5.52	5.52		803	852	998			801	852	863				NBL	1554	0.003	7.3	⋖ '	0
	EBL		0	0		Stop 3	÷		,		100	7	0	Minor2	81	52								888		902	902	928	982	EB	9.8	⋖		_	O			
Int Delay, s/veh	Movement	Lane Configurations	Traffic Vol, veh/h	Future Vol, veh/h	eds, #/hr	Sign Control (RT Channelized	Storage Length	Veh in Median Storage, #	Grade, %	Peak Hour Factor	Heavy Vehicles, %	Mvmt Flow	Major/Minor Mir	Conflicting Flow All	Stage 1	Stage 2			Critical Hdwy Stg 2	Follow-up Hdwy 3.	Pot Cap-1 Maneuver	Stage 1	Stage 2	Platoon blocked, %	Mov Cap-1 Maneuver	Mov Cap-2 Maneuver	Stage 1	Stage 2	Approach	HCM Control Delay, s	HCM LOS	Minor Lane/Major Mvmt	Capacity (veh/h)	HCM Lane V/C Ratio	HCM Control Delay (s)	HCM Lane LOS	HCM 95th %tile Q(veh)

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total AM Peak Hour

Synchro 11 Report Page 13

MOVEMENT SUMMARY

♥ Site: 101 [Huntmar-Campeau PM FT2030]

Arcadia Stage 6 Site Category: (None) Roundabout

Move	Movement Performance - Vehicles	tormance	- ven	cles								
Mov D	Tum	Demand Flows Total HV veh/h %	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South:	South: Huntmar											
-	L2	88	2.0	0.105	8.7	LOSA	0.3	2.0	0.34	0.67	0.34	49.9
2	Ξ	487	2.0	0.571	4.0	LOS A	2.7	19.5	0.52	0.51	09.0	48.9
က	R2	149	2.0	0.178	3.8	LOS A	0.5	3.7	0.36	0.52	0.36	51.1
Approach	ach	724	2.0	0.571	4.6	LOSA	2.7	19.5	0.47	0.53	0.52	49.4
East: (East: Campeau											
4	L2	140	2.0	0.213	11.9	LOSB	9.0	4.2	0.48	0.82	0.48	49.9
2	Ξ	09	2.0	0.095	5.9	LOSA	0.3	1.8	0.47	0.58	0.47	56.4
9	R2	20	2.0	0.032	6.1	LOSA	0.1	9.0	0.45	0.65	0.45	50.7
Approach	ach	220	5.0	0.213	9.8	LOSA	9.0	4.2	0.48	0.74	0.48	51.6
North:	North: Huntmar											
7	L2	26	2.0	0.317	8.6	LOS A	1.1	7.6	0.37	0.37	0.37	53.1
80	Ξ	544	2.0	0.317	2.8	LOS A	1.1	7.6	0.36	0.34	0.36	49.5
6	R2	141	2.0	0.158	3.5	LOS A	0.5	3.2	0.32	0.47	0.32	51.3
Approach	ach	711	2.0	0.317	3.1	LOSA	1.1	7.6	0.35	0.37	0.35	50.0
West:	West: Campeau											
10	L2	171	2.0	0.263	12.2	LOSB	0.8	5.6	0.51	0.83	0.51	49.8
F	Ξ	175	2.0	0.259	5.8	LOS A	0.7	5.3	0.49	0.57	0.49	56.3
12	R2	98	2.0	0.125	5.6	LOS A	0.3	2.3	0.44	0.67	0.44	51.1
Approach	ach	432	2.0	0.263	8.3	LOSA	0.8	5.6	0.49	0.69	0.49	52.5
All Vehicles	hicles	2087	2.0	0.571	5.4	LOSA	2.7	19.5	0.43	0.53	0.45	50.5

Site Level of Service (LOS) Method: Delay & v/o (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Roundabout LOS Method: SIDRA Roundabout LOS.

LOS Fewlire movement LOS values are based on average delay and v/o ratio (degree of saturation) per movement.

LOS Fewlir result if v/o > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay vibr (all movements (v/o not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

SIDRA Standard Delay Model: used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

₩ Site: 101 [Country Glen-Campeau PM FT2030]

Arcadia Stage 5 Site Category: (None) Roundabout

Mover	nent Pe	Movement Performance - Vehicles	e - Vehi	icles							
Mo D	Turn	Demand Flows Total HV	Flows H> %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles Distance veh m	Prop. Queued	Effective Aver. No. Stop Rate Cycles	Aver. No. Cycles	Average Speed km/h
South:	South: Country Glen	Glen									
_	L2	37	2.0	0.024	2.3	LOSA	0.1 0.4	0.28	0.33	0.28	39.2
2	F	~	2.0	0.024	0.8	LOSA	0.1 0.4	0.27	0.30	0.27	29.4
က	R2	2	2.0	0.024	0.8	LOSA	0.1 0.4	0.27	0.30	0.27	38.1
Approach	lch	43	2.0	0.024	2.1	LOSA	0.1 0.4	0.28	0.33	0.28	38.8
East: C	East: Campeau										
4	L2	12	2.0	0.065	6.6	LOSA	0.2 1.2	0.24	0.45	0.24	42.6
2	F	93	2.0	0.065	3.8	LOSA	0.2 1.2	0.23	0.43	0.23	57.2
9	R2	20	2.0	0.065	4.7	LOSA	0.2 1.2	0.22	0.41	0.22	38.5
Approach	ch	125	2.0	0.065	4.5	LOSA	0.2 1.2	0.23	0.43	0.23	51.6
North:	North: Country Glen	Slen									
7	L2	£	2.0	0.096	1.9	LOSA	0.2 1.8	0.19	0.11	0.19	40.5
80	F	~	2.0	0.096	0.4	LOSA	0.2 1.8	0.19	0.11	0.19	29.7
6	R2	82	2.0	960.0	0.4	LOSA	0.2 1.8	0.19	0.11	0.19	39.0
Approach	lch	26	2.0	0.096	9.0	LOSA	0.2 1.8	0.19	0.11	0.19	39.0
West: (West: Campeau										
10	L2	162	2.0	0.155	9.5	LOSA	0.6 4.3	0.10	0.61	0.10	41.2
=	F	132	2.0	0.155	3.4	LOSA	0.6 4.3	0.10	0.36	0.10	58.2
12	R2	4	2.0	0.155	4.3	LOSA	0.6 4.3	0.10	0.35	0.10	38.9
Approach	ich	335	2.0	0.155	6.4	LOSA	0.6 4.3	0.10	0.48	0.10	46.1
All Vehicles	icles	009	2.0	0.155	4.8	LOSA	0.6 4.3	0.16	0.40	0.16	45.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and vic ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

Tal DRA Sannard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity. Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

₩ Site: 101 [Winterset-Campeau PM FT2030]

Arcadia Stage 5 Site Category: (None) Roundabout

Mov	ement Pe	Movement Performance - Vehicles	e - Veh	icles								
Mov	Turn	Demand Flows	Flows	Deg.	Average	Level of		fQueue	Prop.	Effective Aver. No. Average	Aver. No.	Average
		Total veh/h		Satn v/c	Delay sec		Vehicles I	Distance	Quened	Stop Rate	Cycles	Speed km/h
East:	East: Campeau											
2	Ξ	93	2.0	0.044	3.4	LOSA	0.1	0.8	0.11	0.33	0.11	58.5
9	R2	71	2.0	0.067	4.3	LOSA	0.2	1.2	0.11	0.45	0.11	38.3
Approach	ach	164	2.0	0.067	3.8	LOS A	0.2	1.2	0.11	0.38	0.11	47.8
North	North: Wintersel	+										
7	L2	47	2.0	0.045	1.7	LOSA	0.1	0.8	0.14	0.26	0.14	39.3
6	R2	33	2.0	0.016	0.2	LOSA	0.0	0.3	0.15	0.05	0.15	39.2
Approach	ach	80	2.0	0.045	<u>+</u> :	LOS A	0.1	0.8	0.14	0.17	0.14	39.3
West	West: Campeau											
10	L2	54	2.0	0.059	9.5	LOSA	0.2	1.1	0.10	09.0	0.10	4.14
Ŧ	11	88	2.0	0.059	3.4	LOS A	0.2	1.1	0.11	0.36	0.11	58.1
Approach	ach	142	2.0	0.059	5.7	LOS A	0.2	-	0.11	0.45	0.11	50.3
All Ve	All Vehicles	386	2.0	0.067	3.9	LOSA	0.2	1.2	0.12	0.36	0.12	46.6

Site Level of Service (LOS) Method: Delay & vic (HCM 2010), Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: SIDRA Roundabout LOS.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: US HCM 2010.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay. Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

Gap-Acceptance Capacity: Traditional M1. HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Lanes, Volumes, Timings 4: Terry Fox & Kanata

11/12/2021

→	SBT	‡	888	888	3316	3316	2	888	Ϋ́	9		9		75.0	45.0	37.5%	4.2	1.8	0.0	0.9		Max	64.9	0.72	0.37	5.3	0.0	5.3	4 A	2 00	24.9	40.0	487.6		3029	0	0	0 0	0.23				
۶	SBL	r	265	265	1658	0.950	3	265	Prot	_		_		11.0	43.0	35.8%	4.2	6.	0.0	0.9	Lead	None a	19.5	0.22	0.73	45.5	0.0	45.5	۵		42.3	71.3		85.5	069	0	0	0 00	0.38				
•	NBR	*	340	340	1483	1452	340	340	Perm		2	7		70.0 25.0	45.0	37.5%	4.2	6.	0.0	0.9	Lag	May 7	39.3	0.44	0.41	4.0	0.0	4.0	⋖		0.0	17.0		100.0	828	0	0	0 2	0.41				
←	NBT	‡	860	860	3316	33.16	2	860	¥	2		2		75.0	45.0	37.5%	4.2	1.8	0.0	0.9	Lag	S A	39.3	0.44	0.59	22.6	0:0	22.6	2 °	2 00	56.6	95.5	846.8		1455	0	0		0.59				
4	WBR	*	146	146	1469	1469	146	146	Perm		œ	∞		34.2	32.0	26.7%	3.7	2.5	0.0	6.2		None	12.4	0.14	0.44	11.1	0.0	11.1	20		0.0	16.5			530	0	0	0 00	0.20				
>	WBL	K.	250	250	3216	3216	02.70	250	Prot	∞		∞	1	31.0	32.0	26.7%	3.7	2.5	0:0	6.2		None	12.4	0.14	0.56	45.0	0.0	42.0	30.6	S C	20.8	35.5	616.6		933	0	0 0	0 6	0.27			9.	
	Lane Group	Lane Configurations	Traffic Volume (vph)	Future Volume (vph)	Satd. Flow (prot)	Satd Flow (nerm)	Satd Flow (RTOR)	Lane Group Flow (vph)	Turn Type	Protected Phases	Permitted Phases	Detector Phase	Switch Phase	Minimum Initial (s)	Total Split (s)	Total Split (%)	Yellow Time (s)	All-Red Time (s)	Lost Time Adjust (s)	Total Lost Time (s)	Lead/Lag	Lead-Lag Optimizer	Act Effet Green (s)	Actuated g/C Ratio	v/c Ratio	Control Delay	Queue Delay	Total Delay	LOS Approach Delay	Approach LOS	Queue Length 50th (m)	Queue Length 95th (m)	Internal Link Dist (m)	Turn Bay Length (m)	Base Capacity (vph)	Starvation Cap Reductn	Spillback Cap Reductn	Storage Cap Reducin	Reduced V/C Ratio	Intersection Summary	Cycle Length: 120	Actuated Cycle Length: 89.6	Natural Cycle: 80

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total PM Peak Hour

Synchro 11 Report Page 4

Lanes, Volumes, Timings 4: Terry Fox & Kanata

11/12/2021

Intersection LOS: B ICU Level of Service B Intersection Signal Delay: 18.1 Intersection Capacity Utilization 63.3% Analysis Period (min) 15

Splits and Phases: 4: Terry Fox & Kanata **♦** Ø6

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total PM Peak Hour

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

itions (vph)		EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
rph) 33		c	75	€	¥c.	,			,	١	
(rph)		<	V 2		-		<u>₹</u>		-	₽	
7) 7ph)		0	ż	0	113	9	1150	89	82	1086	0
7ph)		0	75	0	113	18	1150	99	82	1086	0
7ph)		0	0	1658	1483	1658	3289	0	1658	3316	0
rph)				0.757		0.211			0.173		
/ph)	1/45	0	0	1321	1483	368	3289	0	302	3316	0
(vpn)		c	c	ī	क्र	5	o 6	c	S	0007	•
, in the second	0	0	-	¥ :	113	9	1218	0	85	1086	0
, in the second	•		Ferm	Z C	Ferm	Ferm	A C		Ferm	₹ (
8	4		٥	×	0	c	7		G	٥	
ĸ			0 0	2	0 6	7 7	7		0 0	c	
37	0.00		0.10	0.10	0.10	2 α 4. C	4. La		32.0 84.0	32.0 84.0	
	č		32.5%	32.5%	32.5%	67.5%	67.5%		67.5%	67.5%	
rellow lime (s)			3.0	3.0	3.0	4.2	4.2		4.2	4.2	
			3.6	3.6	3.6	2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
otal Lost Time (s)	9.9			9.9	9.9	6.4	6.4		6.4	6.4	
Lead/Lag											
ead-Lag Optimize?											
Act Effct Green (s)				32.4	32.4	74.6	74.6		74.6	74.6	
Actuated g/C Ratio				0.27	0.27	0.62	0.62		0.62	0.62	
//c Ratio				0.15	0.24	0.08	0.59		0.44	0.53	
Control Delay				24.0 0.0	10.9	4.7	16.8		20.9	13.9	
Queue Delay				0.0	0.0	0.0	0.0		0.0	0.0	
l otal Delay				2. 2. (9.0L	7.4	8.0		50.9	73.9 13.9	
LOS				2 0	מ	<	מ מ		د	מ :	
Approach Delay				/ <u>0</u>			0.0			4.4	
Approach LOS				ם מ	c	č	2 2			1 œ	
Queue Length 50th (m)				9.7	5.5	2.1	131.3		4.6	70.7	
Queue Length 95th (m)				20.3	17.3	m0.4	155.8		24.2	87.2	
ntemal Link Dist (m)	19.8			92.3		1	301.0		3	846.8	
l urn Bay Length (m)						51.0	0.00		61.0		
Base Capacity (vph)				356	469	228	2048		187	2061	
Starvation Cap Reductn				0	0	0	0		0	0	
Spillback Cap Reductn				0	0	0 (0		0	0	
Storage Cap Reductn				0	0	0	0		0	0	
Reduced v/c Ratio				0.15	0.24	0.08	0.59		0.44	0.53	
ntersection Summary											
Cycle Length: 120											
Actuated Cycle Length: 120 Offset 49 (41%) Referenced to phase 2:NBTI and 6:SBTI Start of Green	SP 2-NRTI	and 6:SBT	Start	of Green							
Natural Cycle: 75			î								
Sontrol Type: Pretimed											
Maximum v/c Ratio: 0.59											
ntersection Signal Delay: 15.8			ī	tersection	Intersection LOS: B						
ntersection Capacity Utilization 68.7%	%		೦	U Level	ICU Level of Service C	ပ					

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total PM Peak Hour

Synchro 11 Report Page 6

Lanes, Volumes, Timings 5: Terry Fox & Signature SC

11/12/2021

11/12/2021

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

Splits and Phases: 5: Terry Fox & Signature SC

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total PM Peak Hour

Lanes, Volumes, Timings 6: Terry Fox & Campeau

Group EBL EBT EB EB Conditions (vph) 99 108 15 15 140 140 140 140 140 140 140 140 140 140		MBT 116 1712 1712 1712 8 8 8 8 8 8 8 8 43.4 48.0 40.0% 3.7 2.7 2.7 2.7 6.4 6.4	MBR 1111 1483 1111 1483 8 8 8 8 8 8 8 8 8 8 8 8 8 9 3.7 2 2.7 2 2.7 2 2.7 2 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3	NBL 125 1688 450 0258 450 175 5 5 5 5 5 5 7 8 1133 4 220 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NBT 955 955 9316 3316 2 2 2 10.0 40.4 50.0 41.7% 41.7% 6.4 Lag 10.0 6.4 Lag 10.0 6.4 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10	NBR 188 188 188 1449 162 1449 162 2 2 2 2 2 2 2 2 47.7% 47.7	SBL 164 1658 0.207 361 164 pm+pt 164 pm+pt 11.4 22.0 11.4 22.0 11.4 22.0 11.3 8.0 0.0 6.4 Lead	SBT 875 875 875 875 875 10.0 43.4 66.4 6.4	SBR 88 88 88 89 89 89 88 88 89 42 43,4 50,0 0.0 0.0 0.0 0.1 149 177 177 188 188 142 142 142 142 143 143 143 143 143 143 143 144 143 144 144
(ph) 99 108 108 1745 1745 1745 1745 1745 1745 1745 1745		116 1712 1712 1712 1712 10.0 43.4 48.0 49.0% 3.7 2.7 2.7 6.4	111 1111 11464 1164 117 117 117 117 117 117 117 117 117 11	125 126 127 1628 450 0.258 111.4 5 5 5 5 5 6 4 11.4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	955 955 955 3316 3316 955 NA 2 2 2 40.4 50.0 41.7% 41.7% 41.7% 50.0 6.4 6.4 Lag	1448 1488 1449 162 182 2 2 2 2 40.4 50.0 41.7% 4.2 2.2 2.2 2.2 6.4 1.3%	164 1658 1658 0.207 361 164 pm+pt 164 5.0 11.4 22.0 18.3% 4.2 2.2 0.0 6.4 18.3%	875 875 875 3316 875 NA 875 NA 6 6 43.4 50.0 41.7% 6.4 6.4	1483 88 88 88 88 89 89 88 89 89 43.4 43.4 43.7 43.4 43.7 60.0 66.4 66.4 66.4 66.4 66.4 7.7 7.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7
(ph) 99 108 108 108 108 108 108 1745 1745 1745 1745 1745 1745 1745 1745		116 1712 1712 1712 8 8 8 8 8 8 43.4 48.0 40.0% 23.7 2.3.7 2.3.7 2.3.7 2.0.0 6.4 6.4	111 1483 1484 111 110 8 8 8 8 8 8 48.0 40.0% 3.7 2.7 2.7 0.0 6.4 None	125 1658 0.258 450 125 pm+pt 125 pm+pt 125 137 5.0 11.4 22.0 11.4 22.0 11.3 22.0 11.3 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 11.4 22.0 22.0 20.0 20.0 20.0 20.0 20.0 20	955 955 3316 955 NA 2 2 2 40.4 50.0 6.4 1.7% 4.1.7% 4.2.2 0.0 6.4 Lag	188 1483 1483 162 188 Perm 2 2 2 2 2 40.4 60.0 6.4 6.4 1.7% 7.7% 10.0 6.0 6.4 1.7% 7.8 1.7% 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.	164 1658 0.207 381 164 pm+pt 164 11.4 22.0 11.3% 4.2 22.0 0.0 6.4 Lead	875 875 3316 3316 875 NA NA 6 6 6 43.4 43.4 43.4 43.4 50.0 41.7% 42.2 2.2 2.2 2.2 6.4 6.4	88 88 88 88 88 88 88 88 88 88 70 43.4 43.4 43.4 43.7 60.0 60.0 60.0 60.0
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Perm NA 4 4 4 4 4 4 4 4 4 4 4 4 4 0.04 40.4 40.0 40.0		116 NA 8 8 8 8 8 10.0 43.4 48.0 48.0 49.0% 3.7 2.7 0.0 6.4	111 1110 8 8 8 8 8 8 43.4 48.0 40.0% 3.7 2.7 0.0 6.4	125 pm+pt 5 2 2 11.4 22.0 18.3% 4.2 22.0 0.0 6.4 Lead Yes	955 NA 2 2 2 2 40.4 50.0 41.7% 41.2 2.2 2.2 2.2 0.0 6.4 Eag	162 188 188 2 2 2 2 50.0 40.4 40.4 40.4 47.7 47.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2	164 pm+pt 1 1 6 6 1 11.4 22.0 11.8.3% 4.2 22.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	875 NA 6 6 6 43.4 50.0 47.7% 4.2 2.2 2.2 6.4	88 88 88 88 66 6 6 43.4 50.0 43.4 50.0 6.4 1.7% 1.7% 1.7% 1.7% 1.7% 1.7% 1.7% 1.7%
Perm NA 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		116 NA 8 8 8 8 8 43.4 48.0 40.0% 3.7.7 2.7 0.0 6.4	111 8 8 8 8 8 43.4 48.0 40.0% 3.7 2.7 2.7 0.0 6.4 0.0 6.4	125 pm+pt 5 2 5.0 11.4 22.0 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 19.00 10.00 10	955 NA 10.0 40.4 50.0 41.7% 41.7% 6.4 6.4 12.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.	188 Perm 10.0 40.4 50.0 41.7% 4.2 2.2 2.2 0.0 6.4 Lag	164 pm+pt 1 6 6 6.4 22.0 18.3% 4.22 22.2 22.2 22.2 22.2 6.4 6.4 Lead	875 NA 6 6 6 73.4 50.0 47.7% 4.2 2.2 2.2 6.4	88 88 66 66 67 43.4 50.0 41.7% 41.7% 41.7% 6.4 1.7% 1.
Perm NA 4 4 4 4 4 4 4 4 4 4 4 4 40.0 10.0 40.4 40.4 40.8 40.8 6 40.0% 40.0% 40.0% 40.0% 6 3.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2		10.0 43.4 48.0 40.0% 3.7 2.7 6.4 6.4	10.0 10.0 43.4 48.0 40.0% 3.7 2.7 2.7 0.0 6.4 0.0 6.4	50 11.4 22.0 11.4 22.0 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 18.3% 19.00 10.00 1	10.0 40.4 50.0 41.7% 41.7% 6.4 6.4 Cag	10.0 40.4 50.0 41.7% 4.2 2.2 2.2 0.0 6.4 Lag	5.0 11.4 22.0 18.3% 4.2 2.2 2.2 2.2 2.2 6.4 Lead	43.4 4.2 4.2 6.4 6.4 6.4 6.4	10.0 43.4 50.0 41.7% 4.2 2.2 2.2 2.2 0.0 6.4 Lag Yes
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10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0	7 4 4 00 X	10.0 43.4 48.0 40.0% 3.7 2.7 2.7 0.0 6.4	10.0 43.4 48.0 40.0% 3.7 2.7 0.0 6.4 0.0	5.0 11.4 22.0 18.3% 4.2 2.2 0.0 6.4 Lead Yes	10.0 40.4 50.0 41.7% 4.2 2.2 2.2 0.0 6.4 Lag	2 10.0 40.4 50.0 50.0 41.7% 4.2 2.2 2.2 2.2 0.0 6.4 Lag	5.0 11.4 22.0 18.3% 4.2 2.2 2.2 0.0 6.4 Lead	6.4 43.4 50.0 41.7% 4.2 2.2 0.0 6.4	10.0 43.4 50.0 50.0 41.7% 4.2 2.2 2.2 2.2 0.0 6.4 Lag
100 100 1 40.4 40.4 4 40.0% 40.0% 40 3.7 3.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7	7 4 4 0 N	10.0 43.4 48.0 40.0% 3.7 2.7 0.0 6.4	10.0 43.4 48.0 40.0% 3.7 2.7 0.0 6.4 None	5.0 11.4 22.0 22.0 2.2 0.0 6.4 Lead Yes	10.0 40.4 50.0 41.7% 4.2 2.2 0.0 6.4 Lag	10.0 40.4 50.0 41.7% 4.2 2.2 2.2 0.0 6.4 Lag	5.0 11.4 22.0 18.3% 4.2 2.2 2.2 0.0 6.4 Lead	10.0 43.4 50.0 41.7% 4.2 2.2 0.0 6.4	10.0 43.4 50.0 50.0 41.7% 4.2 2.2 2.2 2.2 0.0 6.4 Lag Yes
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480 480 4 40.0% 40.0% 40 3.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2	4 00 X	48.0 40.0% 3.7 2.7 0.0 6.4	48.0 40.0% 3.7 2.7 0.0 6.4 None	22.0 18.3% 4.2 2.2 2.2 0.0 6.4 Lead Yes	50.0 41.7% 4.2 2.2 0.0 6.4 Lag	41.7% 4.2 2.2 0.0 6.4 Lag	22.0 18.3% 4.2 2.2 0.0 6.4 Lead	50.0 41.7% 4.2 2.2 0.0 6.4	50.0 41.7% 4.2 2.2 2.2 0.0 6.4 Lag Yes
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None None N 30.4 30.4 3 0.25 0.25 0 0.33 0.24 0 37.3 34.8 3 37.3 34.8	_	None	None 30.4	Yes	Yes	Vac		Lag	Yes
None None No	_	None	None 30.4	None		3	Yes	Yes	
30.4 30.4 3 0.25 0.25 0.25 0.33 0.24 0.37 3.3 34.8 0.0 0.0 37.3 34.8 37.3 34.8			30.4		C-Max	C-Max	None	C-Max	C-Max
0.25 0.25 0.25 0.25 0.33 0.24 0.33 0.24 0.0 0.0 0.0 0.0 37.3 34.8		30.4		9.89	59.3	59.3	72.2	61.1	61.1
0.33 0.24 (37.3 34.8 0.0 0.0 37.3 34.8		0.25	0.25	0.57	0.49	0.49	09.0	0.51	0.51
37.3 34.8 0.0 0.0 37.3 34.8		0.27	0.25	0.36	0.58	0.24	0.49	0.52	0.11
0.0 0.0 37.3 34.8		35.3	9.9	13.5	25.7	0.9	28.9	41.4	18.9
Delay 37.3 34.8		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	62.4	35.3	9.9	13.5	25.7	0.9	28.9	41.4	18.9
OS D C A	ш	Ω	×	ω	O	⋖	O	Ω	ш
Approach Delay 23.2		42.7			21.6			37.9	
Approach LOS C		Ω			O			۵	
19.1 20.3		22.0	0.0	10.7	81.1	3.1	27.8	101.5	4.5
30.5	76.2	33.2	12.0	23.5	130.5	19.4	53.7	123.3	20.7
nternal Link Dist (m) 128.0		204.4			313.2			301.0	
urn Bay Length (m) 62.5 64.5	70.0		63.5	45.0		62.5	97.5		50.0
Sase Capacity (vph) 412 604 609	4	293	280	436	1639	798	397	1688	788
Starvation Cap Reductn 0 0 0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn 0 0 0	0	0	0	0	0	0	0	0	0
0		0	0	0	0	0	0	0	0
Reduced v/c Ratio 0.24 0.18 0.26	09:0	0.20	0.19	0.29	0.58	0.24	0.41	0.52	0.11
ntersection Summary									
Ovole Length: 120									
Actuated Cycle Length: 120									
Offset 27 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	BTL, Start	of Green							
Natural Cycle: 100									
Total Times And the stand									

Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total PM Peak Hour

Synchro 11 Report Page 8

Lanes, Volumes, Timings 6: Terry Fox & Campeau

11/12/2021

11/12/2021

Maximum v/c Patio: 0.82
Intersection LOS: C
Intersection Capacity Utilization 75.6%
ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6. Terry Fox & Campeau

22.5

22.5

23.5

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Scenario 1570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total PM Peak Hour

HCM 2010 TWSC 7: Winterset & NO.2

		SBT	4	28	28	0	Free	None		0	0	100	2	28		0														
		SBL		0	0	0	Free		Ċ			100	2	_	Major2	125		Ċ	4.12			2.218	1462	į			. 1462	Ċ		
		NBR		9		0	Free	None	ľ	ľ		100	7	8		0	ľ	ľ	ľ		ľ	ľ	Ì		İ	'	İ	ľ		
		NBT	æ	92	92	0	Free			0	0	100	7	92	Major1	0					•		1				•			
		WBR		0	0	0	Stop	None		•	1	100	7	0	_	110		•	6.22	•	•	3.318	943	•	•		943	٠		
	-	WBL WBR	>	22	22	0	Stop	•	0	0 #.	0	100	2	22	Minor1	168	110	28	6.42	5.42	5.42		822	915	965		822	822	2	0
Intersection	Int Delay, s/veh	Movement	Lane Configurations	Traffic Vol, veh/h	Future Vol, veh/h	Conflicting Peds, #/hr	Sign Control	RT Channelized	Storage Length	Veh in Median Storage, #	Grade, %	Peak Hour Factor	Heavy Vehicles, %	Mvmt Flow	Major/Minor N	Conflicting Flow All	Stage 1	Stage 2	Critical Hdwy	Critical Hdwy Stg 1	Critical Hdwy Stg 2	Follow-up Hdwy	Pot Cap-1 Maneuver	Stage 1	Stage 2	Platoon blocked, %	Mov Cap-1 Maneuver	Mov Cap-2 Maneuver	Ctono 1	olage

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total PM Peak Hour

NBRWBLn1 SBL 8 - 822 1462 - 0.027 - 9.5 0 - A A A - 0.1 0

Minor LaneMajor Mvmt
Capadiy (vehh)
HCM Lane V/C Ratio
HCM Control Delay (s)
HCM Lane LOS
HCM Lane LOS

NBT

SB 0

图 0

9.5 A

Approach
HCM Control Delay, s
HCM LOS

Synchro 11 Report Page 11

HCM 2010 TWSC 8: Winterset & Natare/NO.3

11/12/2021

11/12/2021

Intersection													
Int Delay, s/veh	2.1												
Movement	盟	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4			4			4		
Traffic Vol, veh/h	0	0	2	22	0	0	10	22	30	0	3	0	
Future Vol, veh/h	0	0	വ	22	0	0	9	32	9	0	33	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	•	•	None	•	•	None	٠	٠	None	٠		None	
Storage Length	'			'			•	•	•		•		
Veh in Median Storage, #	#,	0	1	٠	0	٠	•	0	•	٠	0		
Grade, %	•	0			0	•	•	0	•	٠	0		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	
Heavy Vehicles, %	7	7	7	7	7	7	7	7	7	7	7	2	
Mvmt Flow	0	0	2	22	0	0	10	22	30	0	31	0	
Major/Minor N	Minor2		_	Minor1		2	Major1		2	Major2			
Conflicting Flow All	121	136	3	124	121	2	31	0	0	82	0	0	
Stage 1	31	31	•	90	8	٠	٠	٠	٠	٠			
Stage 2	6	105		34	ઝ		٠	٠	٠	٠			
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	٠	٠	4.12	•		
Critical Hdwy Stg 1	6.12	5.52		6.12	5.52		•	•	•				
Critical Hdwy Stg 2	6.12	5.52	•	6.12	5.52	٠	٠	•	٠	٠	•		
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	٠	•	2.218	٠		
Pot Cap-1 Maneuver	854	755	1043	820	269	993	1582	1	1	1512	1		
Stage 1	986	869	'	917	820	'	'	•	'	'	'		
Stage 2	917	808	1	982	869	1	1	1	1	1	•		
Platoon blocked, %								•	'		'		
Mov Cap-1 Maneuver	820	750	1043	845	764	993	1582	1	1	1512	•		
Mov Cap-2 Maneuver	820	750	•	845	764	•	•	•	•	•	•		
Stage 1	979	869	1	911	814	1	1	1	1	1	1		
Stage 2	911	802	•	977	869	•	٠	٠	٠	٠	٠		
Approach	B			WB			乮			SB			
HCM Control Delay, s	8.5			9.4			8.0			0			
HCM LOS	⋖			∢									
Minor Lane/Major Mvmt	+	NBL	NBT	NBRE	NBR EBLn1WBLn1	/BLn1	SBL	SBT	SBR				
Capacity (veh/h)		1582	•	•	1043	842	1512	•	•				
HCM Lane V/C Ratio		900.0		•	0.005 0.026	0.026	٠	٠	٠				
HCM Control Delay (s)		7.3	0	•	8.5	9.4	0	1	•				
HCM Lane LOS		⋖	A	١	⋖	V	⋖	٠	٠				
HCM 95th %tile Q(veh)		0	•	•	0	0.1	0	•	•				

Scenario 1 570 Winterset Road 11:59 pm 09/03/2021 2030 Future Total PM Peak Hour

Appendix J

TDM Checklist



TDM Measures Checklist:

Residential Developments (multi-family, condominium or subdivision)

Legend The measure is generally feasible and effective, and in most cases would benefit the development and its users The measure could maximize support for users of sustainable modes, and optimize development performance The measure is one of the most dependably effective tools to encourage the use of sustainable modes

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

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

TDM measures: Residential developments		Check if proposed & add descriptions
6. TDM MARKETING & COMMUNICATIONS		
6.1	Multimodal travel information	
BASIC ★ 6.1.1	Provide a multimodal travel option information package to new residents	\square
6.2	Personalized trip planning	
BETTER ★ 6.2.1	Offer personalized trip planning to new residents	