

APPENDIX J

Traffic Assessment Report

**Subject: Southwest Agincourt Transportation Connections Study Environmental Assessment
Traffic Assessment (Existing & Future Traffic Evaluation)**

This report presents the traffic assessment supporting the Southwest Agincourt Transportation Connections Study Environmental Assessment. The purpose of the traffic assessment is to understand the current traffic conditions within the study area and evaluate the future traffic conditions of the four alternative alignments, as shown in **Figure 1**. It is recognized that the current traffic conditions are busy and with the planned growth, the report focuses on how each of the complete street options will handle the future traffic demand.

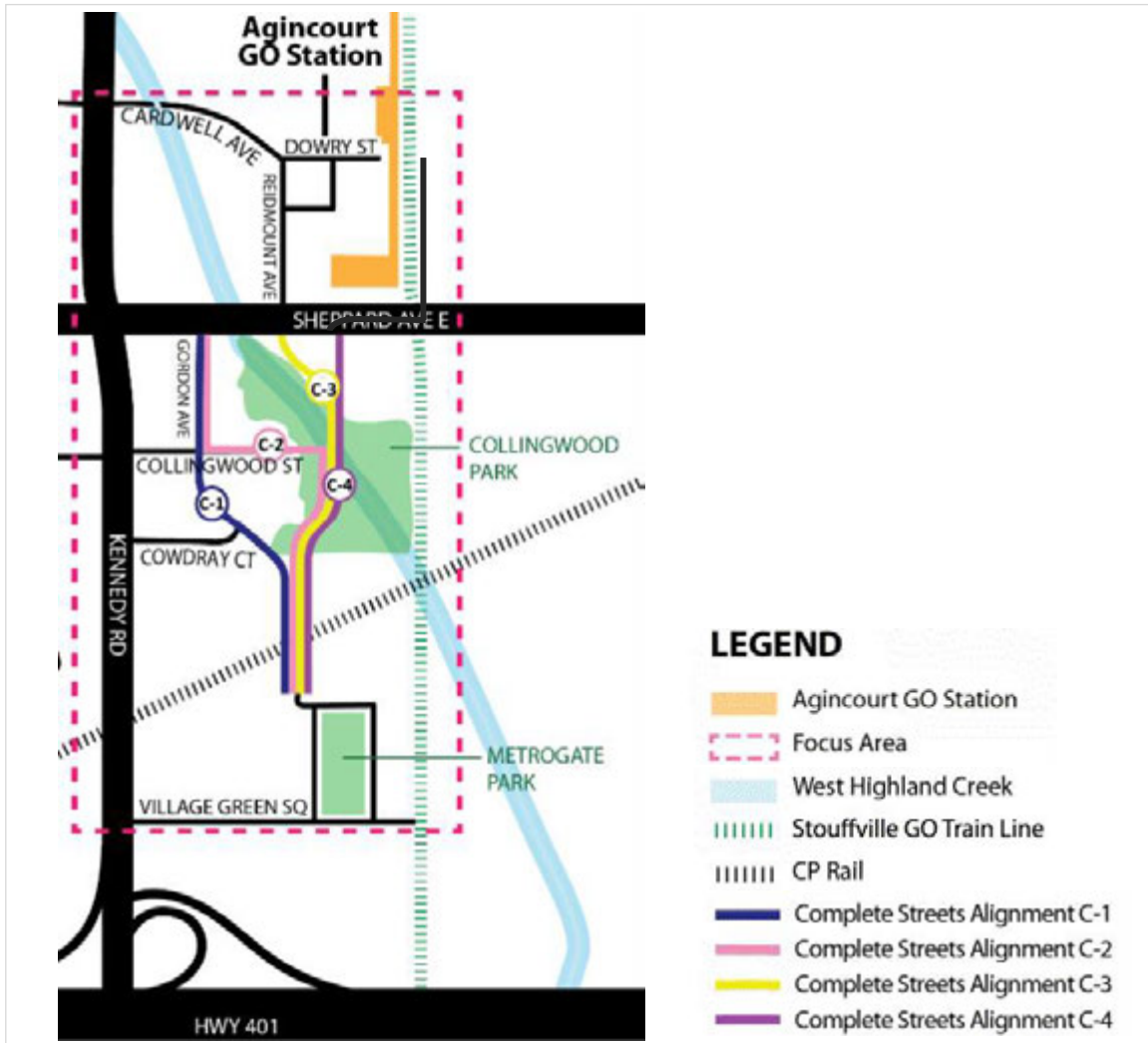


Figure 1 – North-South Street Alternative Alignments

The study area defined for this traffic analysis is illustrated in **Figure 2**, with the signalized study intersections indicated by green squares and the unsignalized intersections by the red circles. The existing lane configurations are also provided in **Figure 3**.

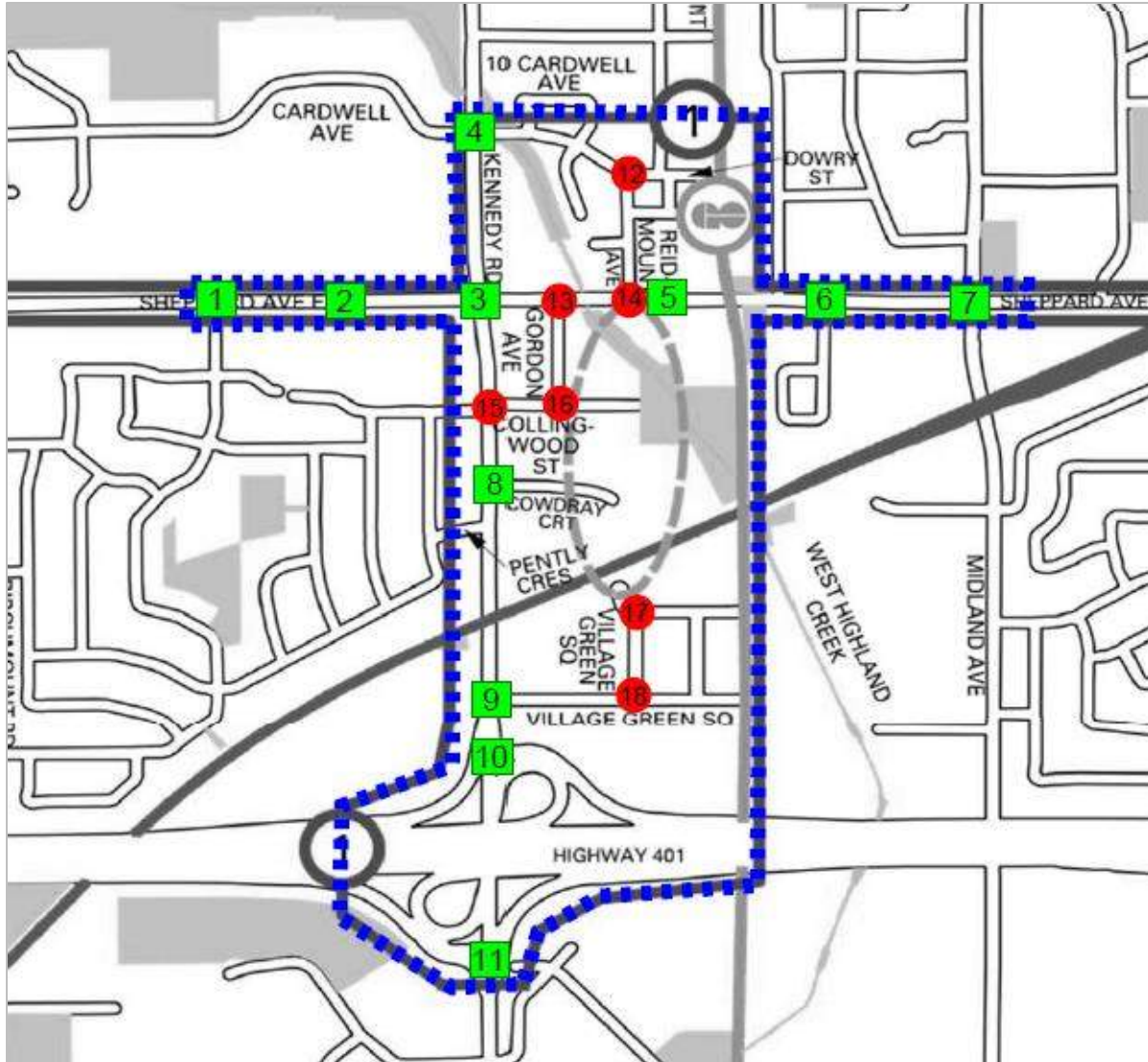
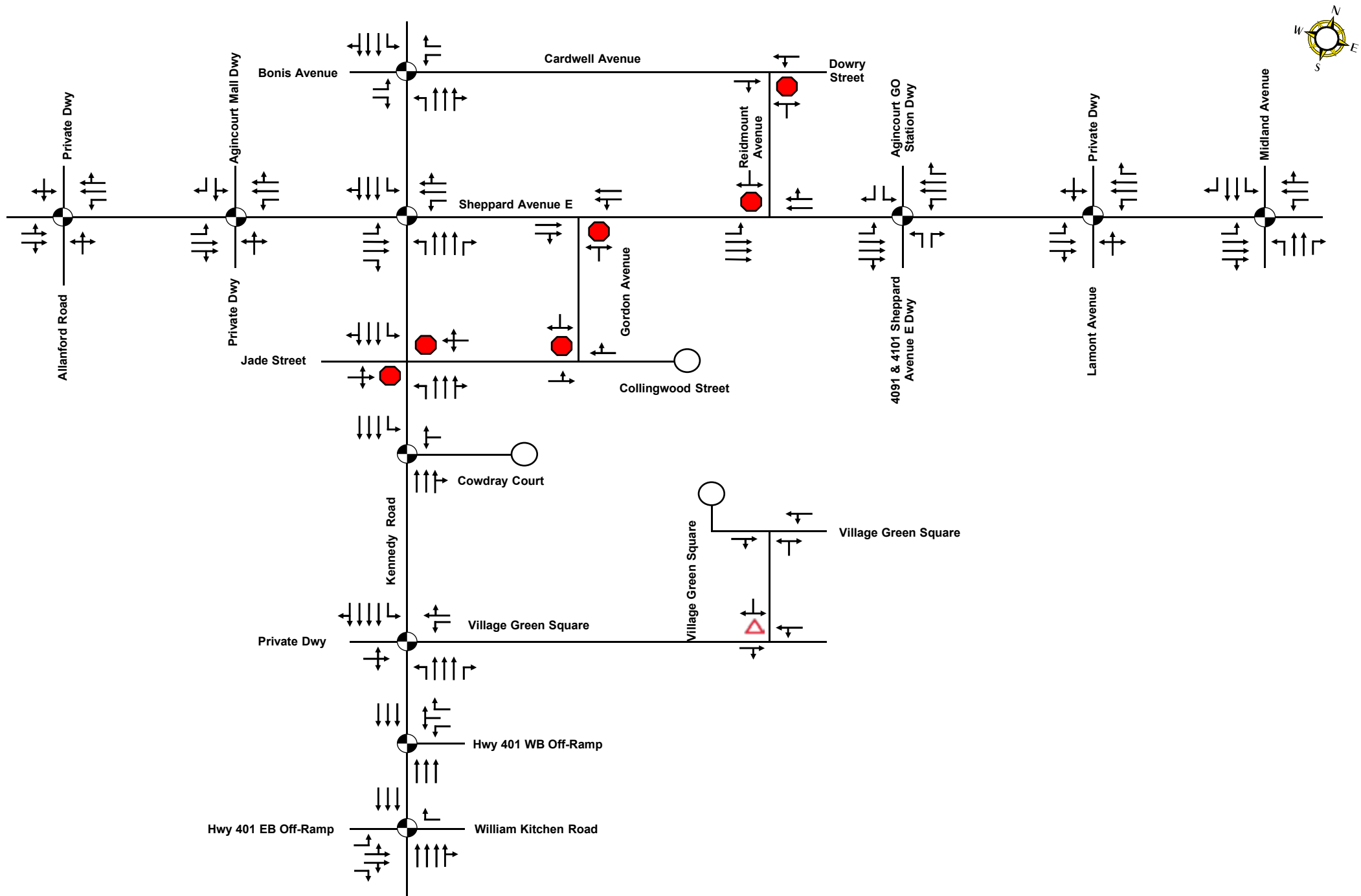


Figure 2 – Transportation Study Area

The methodology of the traffic assessment is based on the agreed-upon approach outlined in the terms of referenced (TOR) confirmed with the City of Toronto as documented in **Appendix A**.

The existing (2020) traffic conditions Synchro models were first developed to provide a baseline for the evaluation of future alternatives and to understand issues that should be considered in the future design. The weekday AM and PM peak hours, as well as the Saturday midday peak hours were modelled.

Full build-out of the future North-South Street connection is proposed by horizon year 2033. To evaluate how the current road network and proposed road improvements supports the future traffic demands, a 15-year horizon of 2035 is evaluated for all four alternative alignment designs.





1 EXISTING TRAFFIC ASSESSMENT

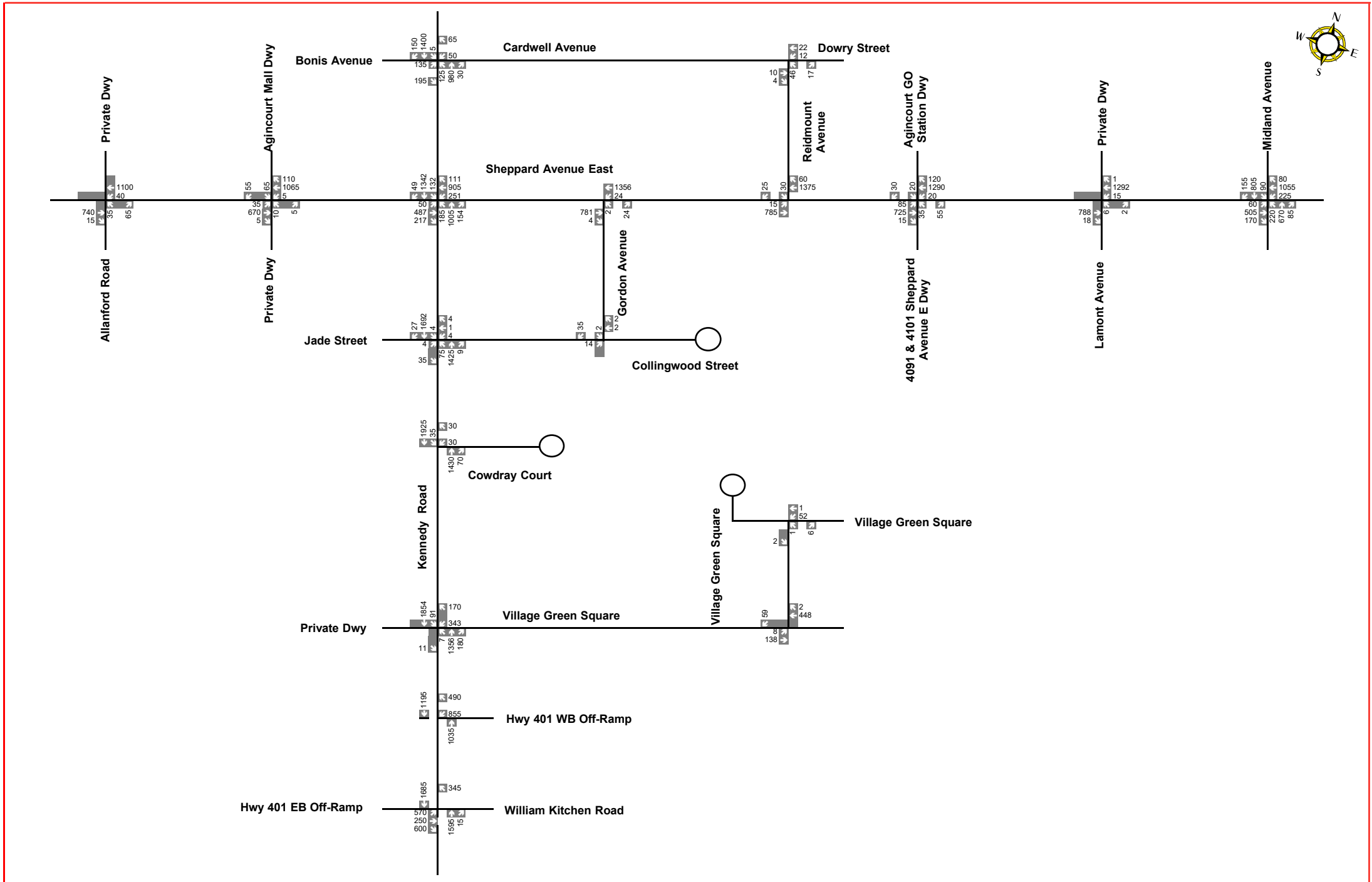
1.1 TRAFFIC DATA

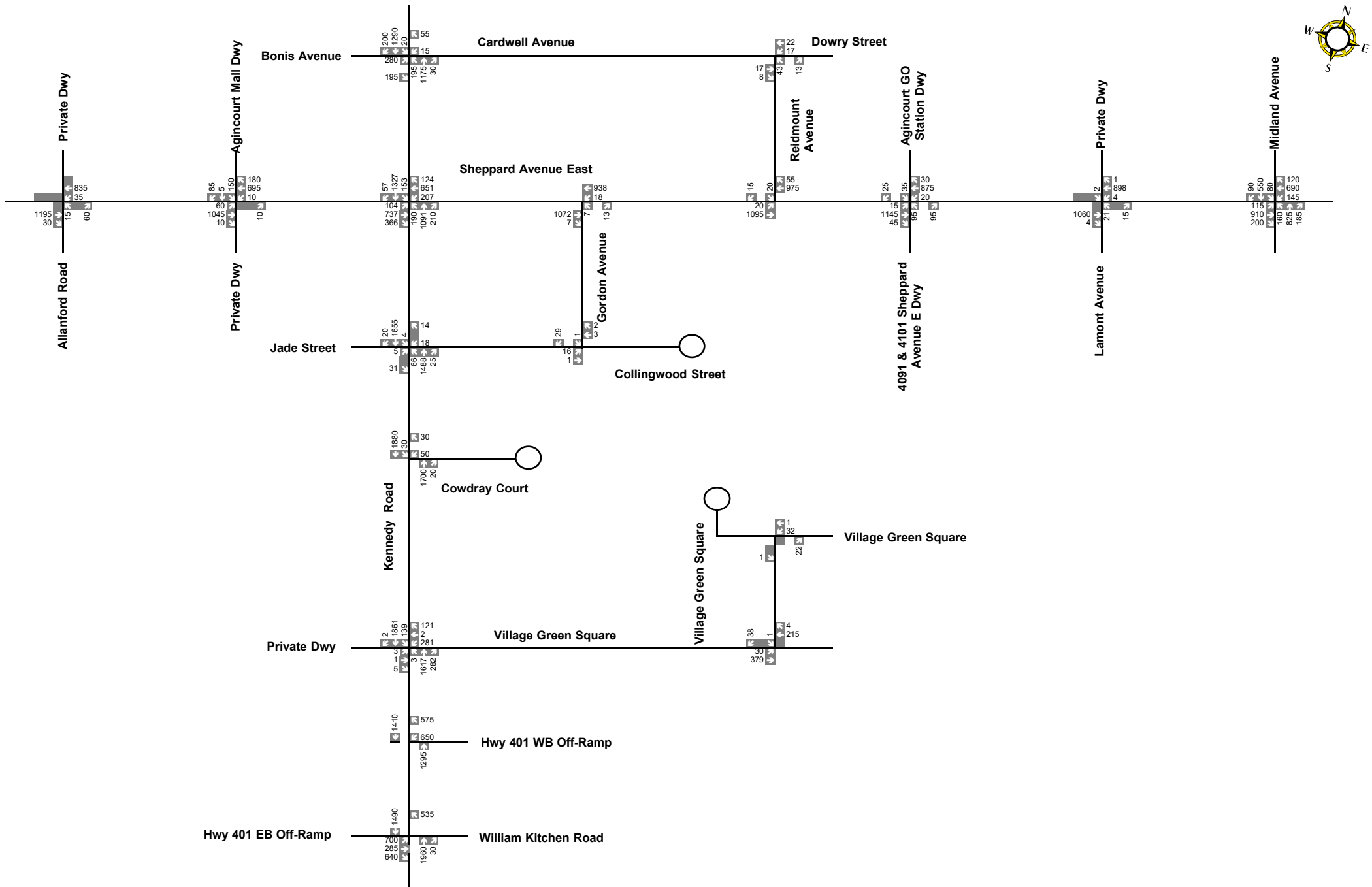
Turning movement counts (TMCs) and signal timing plans were collected for the study area intersections. The summary of the traffic data collected is presented in **Table 1**. The use of the select counts from 2016-2018 is adequate since a comparison of the 2016-2018 TMCs with the ones from 2020 indicates that the traffic volumes in the study area along Sheppard Avenue East and Kennedy Road have been stable during this period. It was also confirmed that at the time of the traffic data collection in 2020 that there were no construction activities or atypical events taking place in the study area.

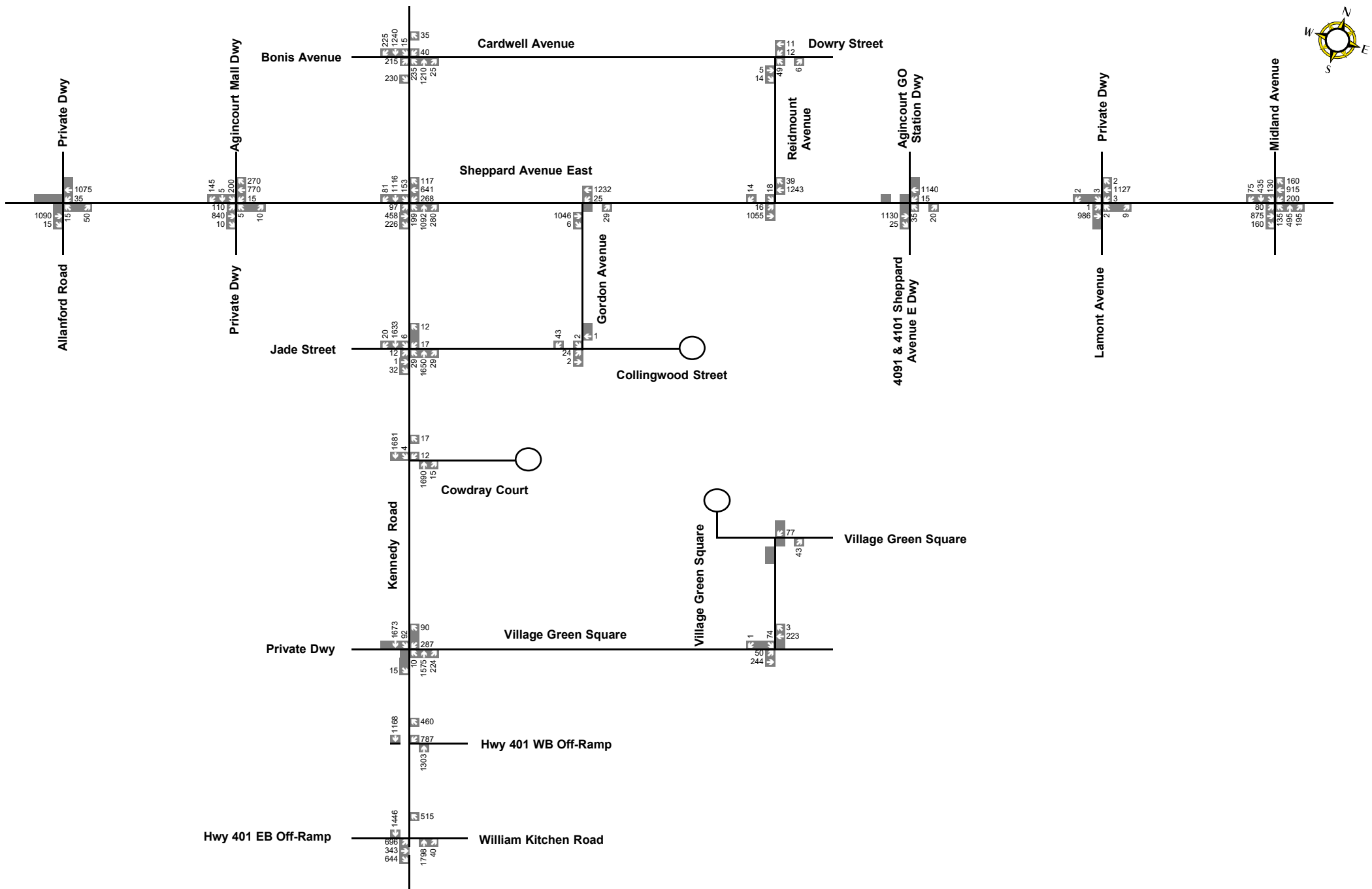
The peak hour volumes for each study intersection were identified and the resulting weekday AM, weekday PM, and Saturday midday peak hour volumes are shown in **Figure 4**, **Figure 5**, and **Figure 6**, respectively. The traffic data and signal timing plans used are documented in **Appendix B**.

Table 1: Traffic Data Information

Intersections	Date of the count	Source
Sheppard Avenue East / Allanford Road	28-Jan-16 & 30-Jan-16	Background TIS
Sheppard Avenue East / Agincourt Mall Access	28-Jan-16 & 30-Jan-16	Background TIS
Sheppard Avenue East / Kennedy Road	28-Jan-20 & 01-Feb-20	Ontario Traffic Inc.
Kennedy Road / Bonis Avenue	06-Apr-19 & 09-Apr-19	Background TIS
Sheppard Avenue East / Agincourt GO Access	06-May-17 & 09-May-17	Background TIS
Sheppard Avenue East / Lamont Avenue	29-Feb-20 & 03-Mar-20	Ontario Traffic Inc.
Sheppard Avenue East / Midland Avenue	07-Sep-17 & 09-Sept-17	Background TIS
Kennedy Road / Cowdray Court	12 Apr-17 & 29-Feb-20	Background TIS & Ontario Traffic Inc.
Kennedy Road / Village Green Square	19-Dec-18 & 29-Feb-20	Background TIS & Ontario Traffic Inc.
Kennedy Road / Hwy 401 WB Off-Ramp	12-Apr-17 & 01-Feb-20	Background TIS & Ontario Traffic Inc.
Kennedy Road / Hwy 401 EB Off-Ramp	12-Apr-17 & 01-Feb-20	Background TIS & Ontario Traffic Inc.
Reidmount Avenue / Cardwell Avenue / Dowry Street	29-Feb-20 & 03-Mar-20	Ontario Traffic Inc.
Sheppard Avenue East / Gordon Avenue	29-Feb-20 & 03-Mar-20	Ontario Traffic Inc.
Sheppard Avenue East / Reidmount Avenue	17-Jan-18 & 29-Feb-20	Background TIS & Ontario Traffic Inc.
Kennedy Road / Collingwood Street / Jade Street	31-Jan-17 & 29-Feb-20	City of Toronto & Ontario Traffic Inc.
Collingwood Street / Gordon Avenue	29-Feb-20 & 03-Mar-20	Ontario Traffic Inc.
Village Green Square / Northwest Intersection (First Access)	13-Sep-18 & 29-Feb-20	Background TIS & Ontario Traffic Inc.
Village Green Square / First Access 240m east of Kennedy Road	13-Sep-18 & 29-Feb-20	Background TIS & Ontario Traffic Inc.







Legend
xx SAT Midday Peak Hour
Traffic Volumes

Figure 6
2020 Existing
Saturday Midday Peak Hour Traffic Volumes

1.2 SYNCHRO MODEL PARAMETERS AND CALIBRATIONS

Capacity analyses were undertaken using the Synchro 11 traffic analysis software and based on the City of Toronto Synchro Guidelines. This software incorporates the methodology outlined in the Highway Capacity Manual (HCM), Transportation Research Board, 2000 and 2010. An intersection capacity analysis provides an indication of traffic operations based on calculations of volume-to-capacity (v/c) and delays for individual movements at an intersection. Level of Service (LOS) denoted by letters 'A' through 'D', represent satisfactory traffic operations. LOS denoted by the letters 'E' and 'F' represent congested traffic operations. **Appendix C** provides the LOS definitions.

The peak hour factors (PHF) for the study intersections were calculated based on the 15 minute turning movement counts (TMC) and applied to capture the current peaking patterns at each intersection. The pedestrian volumes and heavy vehicle % parameters were also incorporated based on the TMCs. In addition, a lost time of -1 second was applied to the movements at the signalized intersections along with bus blockage inputted based on the regular TTC bus headways posted on the TTC website (pre-COVID-19). As per the City's Synchro guidelines, all lane widths were modelled as 3.5 m, except for exclusive turning lanes which were coded as 3.0 m.

In addition to the baseline model inputs based on the City's Synchro Guideline, there are a couple of study intersections where additional model calibrations are required since the initial existing conditions results indicated over-capacity movements, which is theoretically impossible since all of the volumes were observed to have made it through the intersection during the peak hours. Based on the review of the videos at these locations and a review of the intersection-specific characteristics, the following calibrations were applied to the movements operating over capacity:

- ***Kennedy Road and William Kitchen Road/Hwy 401 eastbound off-ramp:*** the westbound right-turn lane width was increased to 4.7 m. The actual lane width of the westbound right lane is greater than 5.0 metres, however lanes cannot be wider than 4.8 m as per City guidelines.
- ***Kennedy Road and Hwy 401 westbound off-ramp:*** a 1.0 lane utilization and a -3% grade was applied for the westbound approach. These calibrations are required since the initial Synchro results indicate over-capacity movements in the westbound direction for the Saturday midday period. In an off-ramp environment, cars coming off of the highway are more likely to use the turning lane options evenly based on from the length of the queues.
- ***Kennedy Road and Sheppard Avenue:*** the Synchro models were showing the northbound left-turn movement operating at over capacity during all peak periods. Therefore, for calibration purposes the following measures were applied:
 - o Lost time adjustments of -1.5 seconds in the weekday AM model and -2 seconds in the Saturday model were applied. Since the intersection is relatively wide, it allows permissive left turning vehicles to proceed beyond the stop bar and wait for acceptable gaps without affecting the opposing through traffic. As such, it was observed from videos that there were instances where more than two northbound



left-turn vehicles clear the intersection during the inter-green (yellow + all red) time without affecting the lost time factor of the subsequent opposing phases.

- The protected saturation flow rate for the northbound left-turn movement was increased to 1622 vphpl in the weekday AM and Saturday midday models. This is based on the comparison of the protected turning capacity calculated by Synchro and the actual number of northbound left vehicles proceeding through the intersection observed in the TMC video review.
- A PHF of 1.0 was used for the northbound left-turn movement for the weekday AM, PM, and Saturday midday models.
- **Midland Road and Sheppard Avenue:** the weekday AM Synchro model initially showed the northbound left-turn movement operating over capacity. Similar to the calibrations done at the Kennedy/Sheppard intersection, a PHF of 1.0 and a protected saturation flow rate of 1622 vphpl were applied to the northbound left-turn movement for the weekday AM period. This is appropriate given the proximity of the two arterial-arterial intersections and the lack of video at the Midland/Sheppard intersection. Furthermore, a lost time adjustment of -2 seconds was adopted for the northbound left-turn movement in the AM model.

1.3 EXISTING TRAFFIC CONDITIONS

The resulting existing traffic conditions are summarized in **Table 2**. Detailed Synchro worksheets are provided in **Appendix E**.

Table 2: Existing Intersection Operations

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Allanford Rd/Private Dwy & Sheppard Ave	Signalized	A (3)	--	A (3)	--	A (3)	--
Private Dwy/Agincourt Mall Dwy & Sheppard Ave	Signalized	A (4)	--	B (11)	--	B (12)	--
Kennedy Rd & Sheppard Ave	Signalized	C (29)	NB-L (0.98) SB-TR (0.98)	C (34)	NB-L (0.95) SB-TR (0.94)	C (25)	NB-L (1.00)
Kennedy Rd & Bonis Ave/Cardwell Ave	Signalized	B (17)	--	B (16)	--	B (19)	--
Agincourt GO Station Dwy/4091/4101 Sheppard Ave Dwy & Sheppard Ave	Signalized	A (6)	--	B (10)	--	A (2)	--
Lamont Ave/Private	Signalized	A (1)	--	A (4)	--	A (1)	--

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Dwy & Sheppard Ave							
Midland Ave & Sheppard Ave	Signalized	C (32)	NB-L (0.99)	C (27)	--	C (28)	--
Kennedy Rd & Cowdray Crt	Signalized	A (4)	--	A (2)	--	A (2)	--
Kennedy Rd & Private Dwy/Village Green Sq	Signalized	B (18)	--	B (19)	--	B (16)	--
Kennedy Rd & Hwy 401 WB Off-ramp	Signalized	C (26)	WB-L (0.87) WB-R (0.81)	B (20)	WB-L (0.80) WB-R (0.79)	C (21)	WB-L (0.81) WB-R (0.76)
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	Signalized	C (24)	EB-L (0.81) EB-T (0.81) EB-R (0.79)	C (28)	EB-L (0.84) EB-T (0.83) EB-R (0.80) WB-R (0.88)	C (29)	EB-L (0.87) EB-T (0.88) EB-R (0.85) WB-R (0.88)
Reidmount Ave & Cardwell Ave/ Dowry St	Unsignalized	A (9)	NB-LR (0.09)	A (9)	NB-LR (0.09)	A (9)	NB-LR (0.08)
Gordon Ave & Sheppard Ave	Unsignalized	B (11)	NB-LR (0.04)	B (14)	NB-LR (0.05)	B (12)	NB-LR (0.06)
Sheppard Ave & Reidmount Ave	Unsignalized	E (41)	SB-LR (0.37)	C (22)	SB-LR (0.15)	E (43)	SB-LR (0.27)
Kennedy Rd & Jade St/ Collingwood St	Unsignalized	F (52)	WB-LTR (0.1)	D (29)	WB-LTR (0.19)	E (39)	WB-LTR (0.21)
Collingwood St & Gordon Ave	Unsignalized	A (9)	SB-LR (0.04)	A (8)	SB-LR (0.04)	A (9)	SB-LR (0.05)
Private Dwy & Village Green Sq	Unsignalized	D (28)	NB-LTR (0.27)	C (18)	NB-LTR (0.07)	C (18)	SB-LTR (0.23)

1. For signalized intersections within the City jurisdiction, the LOS is based on the overall delay of the intersection. Critical v/c ratios are listed for movements with values over 0.90. For MTO intersection, the v/c threshold is 0.75.
2. For two-way stop controlled intersections, the LOS is based on the delay associated with the critical movement.

The existing conditions SimTraffic queues are presented in **Table 3** for key intersections, such as the intersection of Kennedy Road and Sheppard Avenue, and the Kennedy and Highway 401 interchange off-ramps.

Note that according to Synchro Studio 11 User Guide, SimTraffic records the maximum back of queue observed for every two-minute period. The Average Queue is the average of all the two-minute maximum queues. The 95th Percentile Queue in SimTraffic is equal to the Average Queue plus 1.65 times of standard deviations. The 95th Percentile Queue is not necessarily ever observed during the whole simulation period since it is simply based on statistical calculations. Therefore, the average queue from SimTraffic should be considered as a more representatively indicator of the actual queues. To comply with MTO requirements, both average and 95th percentile queues are presented in this report.

Table 3: Existing SimTraffic Queues at Key Intersections

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]
Kennedy Rd & Sheppard Ave	EBL	30	20	44	24	48	18	35
	EBT	150	67	110	148	216	68	128
	EBR	35	42	70	53	65	36	66
	WBL	20	33	40	33	40	34	39
	WBT	245	84	132	77	121	82	130
	WBTR	245	82	132	69	115	73	126
	NBL	50	58	84	60	84	64	83
	NBT	295	84	168	83	137	117	210
	NBR	60	15	32	31	62	31	66
	SBL	50	45	81	46	79	35	64
	SBT	250	91	142	92	155	54	85
Kennedy Rd & Hwy 401 WB Off-ramp	SBTR	250	93	144	94	154	60	93
	WBL	380	83	113	64	89	79	111
	WBLR	380	85	113	67	94	78	109
	WBR	100	60	97	50	76	55	94
	NBT	330	38	56	44	79	48	73
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	SBT	80	95	130	93	116	57	108
	EBL	500	54	76	63	84	65	90
	EBLT	500	60	81	69	91	73	98
	EBTR	220	57	80	57	78	64	90
	EBR	105	48	74	43	65	49	78
	WBR	170	59	96	194	316	243	327
	NBT	135	89	140	115	161	107	155
	NBTR	45	1	7	5	27	6	30
	SBT	330	53	78	49	87	48	86

Based on the results in **Table 2** and **Table 3**, the key findings are summarized as follows:

1. All of the signalized study intersections are operating at acceptable LOS 'D' or better during all of the study periods.
2. With the calibrations noted in this report, all of the movements at the study intersections are operating within capacity. At the arterial-to-arterial intersections of Kennedy/Sheppard and Sheppard/Midland, there are movements that operating at or near capacity.
3. At the intersection of Kennedy Road and Sheppard Avenue, the SimTraffic queues report the average northbound left-turn queues exceeds the available 50 m storage turn-lane during all peak periods. Long queues are observed for all through movements passing through the intersections, with some queues occasionally spilling into adjacent intersections.
4. All queues at both Highway 401 off-ramps at Kennedy Road are well contained within their available storage and are queues are not expected to extend to the Highway mainline. The north/south queues on Kennedy Road between the closely spaced intersections at Village Green Square and the Highway 401 WB Off-ramp typically exceed the available storage due to the limited storage of approximately 80 m. Signal coordination of these intersections is important to minimize delays and queues at the interchange.
5. The unsignalized intersection of Reidmount Avenue at Sheppard Avenue is experiencing longer minor-street delays in the southbound approach during the weekday AM and

Saturday midday peak hours. The volumes in the southbound approach are 55 and 32 during the weekday AM and Saturday midday peak hours, respectively, and the southbound movement is still operating well within capacity.

Based on a review of the video at this intersection (screenshot shown in **Figure 7**) the southbound left-turns from Reidmount Avenue onto Sheppard Avenue are taking place generally as two-stage turns where cars would first find gaps in the westbound traffic flow to turn into the eastbound left-turn lane or the white chevron buffer, before finding gaps to change lanes into the eastbound through lane along Sheppard Avenue. There is likely a correlation between the southbound left-turn movement at this intersection with the signal at the Agincourt GO Station signalized driveway. When the eastbound left-turn queue dissipates into the GO station, there are gaps for the southbound left-turns to be completed from Reidmount Avenue. There are no turning prohibitions at the Reidmount Avenue and Sheppard Avenue intersection.



Figure 7 – Southbound left turns from Reidmount Avenue onto Sheppard Avenue

6. The unsignalized intersection of Collingwood Street/Jade Street/Kennedy Road is experiencing longer minor-street delays in the westbound approach (turns from Collingwood Street onto Kennedy Road) during the weekday AM and Saturday midday peak hours. However, the turning volumes associated with the longer delays are relatively low ranging from 9 in the weekday AM peak hour to 29 in the Saturday midday peak hour. As a result, the westbound movement is still operating well within capacity despite the longer minor-street wait time.
7. At the Village Green Square 'T' intersection (shown in **Figure 8**) near the terminus of Village Green Square near the CP Rail corridor, there are currently no signage or pavement marking indicating the right-of-way for cars approaching the intersection. There

are some private driveways in proximity of the intersection, which are not expected to generate significant traffic. However, the operations of this intersection as it relates to the complete street initiative will need to be examined to formalize the road user right-of-way at this intersection.

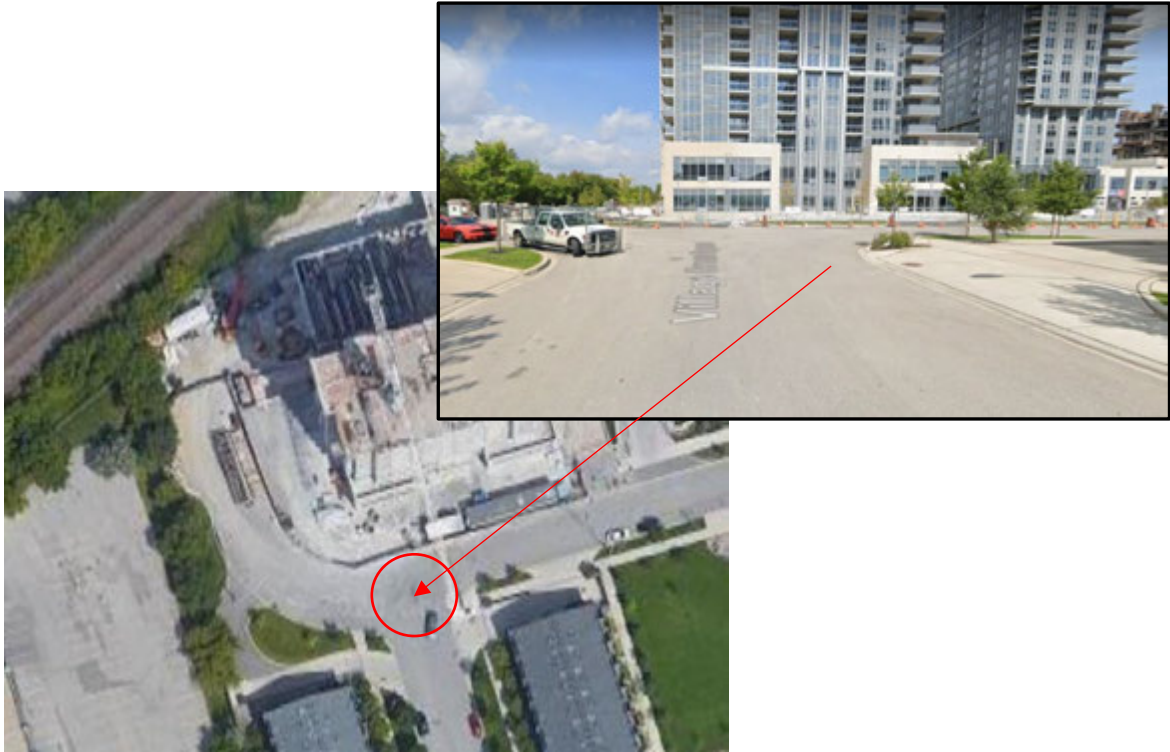


Figure 8 – Village Green Square Terminus

Based on the overall findings of the existing traffic conditions assessment, there are pinch points developing at the arterial-to-arterial intersections that result in longer queues and the impediment of traffic flow in future conditions. The busiest intersection of Kennedy Road and Sheppard Avenue is also operating close to or at capacity during the peak hour periods and need to be closely monitored with the consideration of different complete street alignment options.



2 FUTURE TRAFFIC ASSUMPTIONS

2.1 BACKGROUND DEVELOPMENTS

The planned and approved future developments by horizon year 2035 in the study area and their associated traffic studies were reviewed.

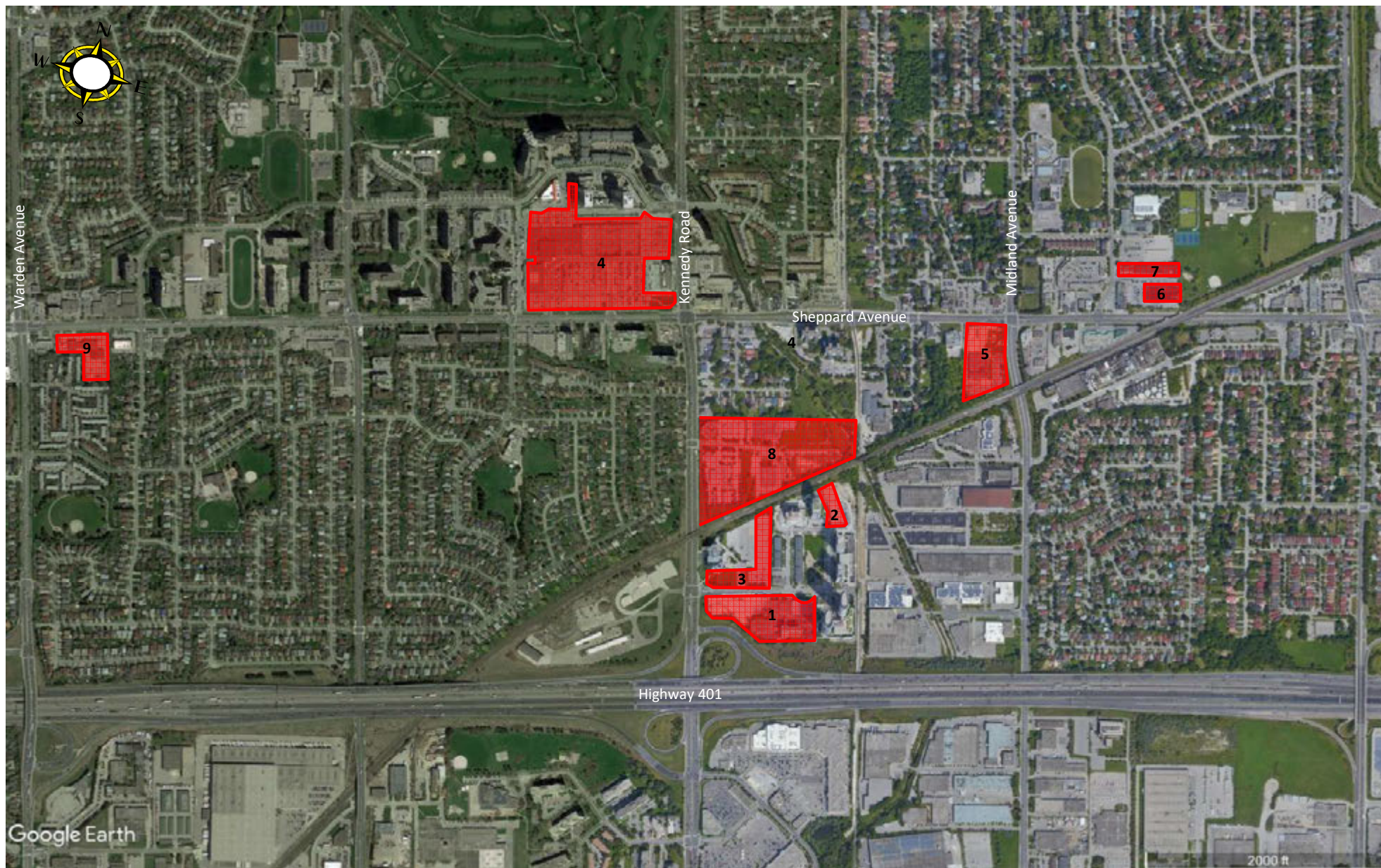
As confirmed in the ToR, nine background developments were considered in the future traffic assessment. The locations of the developments are illustrated in **Figure 9**, and the proposed land uses and densities are summarized in **Table 4**.

As shown in **Table 4**, several of the background developments are currently occupied by existing buildings. In these cases, the traffic generated from the existing land uses were removed and then the traffic generated by the future land uses were added to estimate the future 2035 volumes.

The existing and future trip generation of the developments were extracted from their associated traffic impact studies, which are detailed in **Table 4**. Many of the traffic impact studies did not include a Saturday peak period analysis. Therefore, any gaps in the background trip generation information were estimated using ITE 10th Edition trip generation rates. Note, for multi-use developments, multi-use share reduction factors calculated from NCHRP Project 8-51 were applied. Furthermore, trips were adjusted based on the Transportation Tomorrow Survey (TTS) 2016 data to reflect the non-auto mode split that is the present in the study area. This is a conservative approach since it does not consider the improvements for non-auto modes of transportation that would arise as a result of the initiatives proposed as part of this EA (i.e., improved cycling and pedestrian connections to Sheppard Avenue and the Agincourt GO station as well as other destinations). The TTS mode splits for the zones within the study area are shown in **Table 3**. The TTS data queries and detailed trip generation calculations for the background developments are provided in **Appendix D**. A summary of the resulting trips generated by the developments is provided in **Table 5**.

Table 3 – Transit Mode Split

Land Use	AM Peak Period		PM Peak Period	
	IN	OUT	IN	OUT
Residential	2%	29%	29%	17%
Non-Residential	15%	7%	15%	13%



- 1 2035 Kennedy Road
- 2 2055 Kennedy Road
- 3 2075 Kennedy Road

- 4 Agincourt Mall (3850 & 3900 Sheppard Ave E, 2350-2362 Kennedy Road)
- 5 4181 Sheppard Avenue East
- 6 23 Glen Watford Drive

- 7 25 Glen Watford Drive
- 8 20-100 Cowdray Court
- 9 3445 Sheppard Avenue East

Figure 9
Future Background
Developments

Table 4 – List of Background Developments and Proposed Densities

No.	Background Development	Existing Site	Proposed Site Statistics
1	2035 Kennedy Road Toronto East Delta Hotel (2016 Report)	Hotel Beds - 371 Units	Hotel Beds - 25 rooms addition Residential Units - 1,044 units New Office Uses - 7,150 m2 Retail Use - 664 m2
2	2055 Kennedy Road Metrogate Block 8 (2014 Report; 2016 Updated Analysis Memo)	Previously vacant. Currently Block 7 is built and partially occupied. Block 8 is under construction.	Block 7: Residential - 510 units (as-of-right) + 158 units (2016 memo) = 668 units Daycare - 735 m2 Block 8: Residential - 376 units
3	2075 Kennedy Road Mixed-Use Development (2018 Report)	Part of the parking lot area of an office complex (19,621 m2)	Residential - 930 Units Office - 775 m2 Retail Use - 868 m2
4	Agincourt Mall 3850, 3900 Sheppard Avenue E, 2350-2362 Kennedy Road (Report 2019)	One to two storey retail commercial building/mall (11,965 m2 Walmart, 3,535 No Frills', 11,450 m2 retail)	Residential - 4372 units Retail - 24,190 sq.m. Office - 10,335 sq.m. Institutional/Other - 2,175 sq.m.
5	4181 Sheppard Avenue East (Report 2012)	Vacant flea market and a large former Lumber King store.	Residential High-Rise - 200 Units Residential Townhouse - 187 Units General Office Building - 65,552 sq. ft.
6	23 Glen Watford Drive (4280 & 4288 Sheppard Avenue East) (2017 Report)	Dragon Centre - 2,200 m2 commercial mall	Residential High-Rise - 553 Units
7	25 Glen Watford Drive (2019 Report)	Retail	Retired Home - 247 Units Medical Office - 607 m2 Retail - 413.3 m2
8	20-100 Cowdray Court (2019 Report)	3-storey office building, 1-storey ICS courier office, 1-storey Montessori school, Dodge Jeep Ram dealership	Residential - 2,347 units Commercial - 384,907 ft2
9	3445 Sheppard Avenue East (2014 Report)	Commercial retail plaza	Residential - 359 Units Retail - 768 m2

Table 5 - Trips Generated by Background Developments

No.	Background Development	Proposed Site Statistics	Residential Auto Trips (IN)			Residential Auto Trips (OUT)			Office Auto Trips (IN)			Office Auto Trips (OUT)			Retail Auto Trips (IN)			Retail Auto Trips (OUT)			Commercial Auto Trips (IN)			Commercial Auto Trips (OUT)		
			AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1	2035 Kennedy Road Toronto East Delta Hotel (2016 Report)	Hotel Beds - 25 rooms addition Residential Units - 1,044 units New Office Uses - 7,150 m2 Retail Use - 664 m2	25	70	60	80	40	46	100	20	15	15	100	15	N/A			N/A			N/A			N/A		
2	2055 Kennedy Road Metrogate Block 8 (2014 Report; 2016 Updated Analysis Memo)	Block 7: Residential - 510 units (as-of-right) + 158 units (2016 memo) = 668 units Daycare - 735 m2 Block 8: Residential - 376 units	70	150	137	160	113	130	N/A			N/A			N/A			N/A			N/A			N/A		
3	2075 Kennedy Road Mixed-Use Development (2018 Report)	Residential - 930 Units Office - 775 m2 Retail Use - 868 m2	70	145	122	190	85	117	15	0	2	0	15	2	N/A			N/A			N/A			N/A		
4	Agincourt Mall 3850, 3900 Sheppard Avenue E, 2350-2362 Kennedy Road (Report 2019)	Residential - 4372 units Retail - 24,190 sq.m. Office - 10,335 sq.m. Institutional/Other - 2,175 sq.m.	290	590	465	780	260	475	130	30	15	25	110	10	480	430	720	270	450	650	N/A			N/A		
5	4181 Sheppard Avenue East (Report 2012)	Residential High-Rise - 200 Units Residential Townhouse - 187 Units General Office Building - 65,552 sq. ft.	21	86	101	94	47	89	68	13	10	10	62	12	N/A			N/A			N/A			N/A		
6	23 Glen Watford Drive (4280 & 4288 Sheppard Avenue East) (2017 Report)	Residential High-Rise - 553 Units	31	110	73	133	67	96	N/A			N/A			N/A			N/A			N/A			N/A		
7	25 Glen Watford Drive (2019 Report)	Retired Home - 247 Units Medical Office - 607 m2 Retail - 413.3 m2	31	20	50	17	30	46	13	6	11	3	17	8	2	8	10	2	9	9	N/A			N/A		
8	20-100 Cowdray Court (2019 Report)	Residential - 2,347 units Commercial - 384,907 ft2	175	365	413	490	215	338	N/A			N/A			N/A			N/A			435	75	110	60	370	94
9	3445 Sheppard Avenue East (2014 Report)	Residential - 359 Units Retail - 768 m2	18	54	54	65	43	54	N/A			N/A			21	32	11	13	34	8	N/A			N/A		

Note: Green cells indicate where information was missing from the development's TIS reports, so WSP estimated the trips using ITE trip rates.



To assign the trip generated by the background developments to the study road network, trip distribution data from TTS 2016 was reviewed to determine general traffic distribution and assignment patterns. **Table 6** outlines the trip distribution for the residential trips, and **Table 7** outlines the trip distribution for the non-residential trips within the study area. A summary of TTS queries can be found in **Appendix D**.

To methodically assign the background development trips to the network, the percentage of residential trips and non-residential trips generated by each background development were first determined. Then the trip distribution percentage for each development was calculated by taking the sum product between the residential trip percentage with the residential trip distribution and the non-residential trip percentage with the non-residential trip distributions. **Appendix D** documents the trip distributions applied for each background development and the resulting site traffic volumes. Given the calculated trip distribution percentages, the trips were assigned to the current road network based on typically assumed shortest paths.

In the future conditions assessment of the complete street options, background development volumes were redistributed to reflect the expected rerouting of trips based on the future connections available through the new North-South Street.

Table 6 – Residential Trip Distribution

Direction	A.M. Inbound	A.M. Outbound	P.M. Inbound	P.M. Outbound
Northwest	5%	9%	10%	15%
North	10%	9%	7%	8%
Northeast	15%	5%	6%	7%
East	21%	13%	13%	9%
Southeast	3%	5%	7%	15%
South	12%	12%	11%	11%
Southwest	16%	29%	29%	17%
West	17%	18%	18%	18%
Total	100%	100%	100%	100%

Table 7 – Non-Residential Trip Distribution

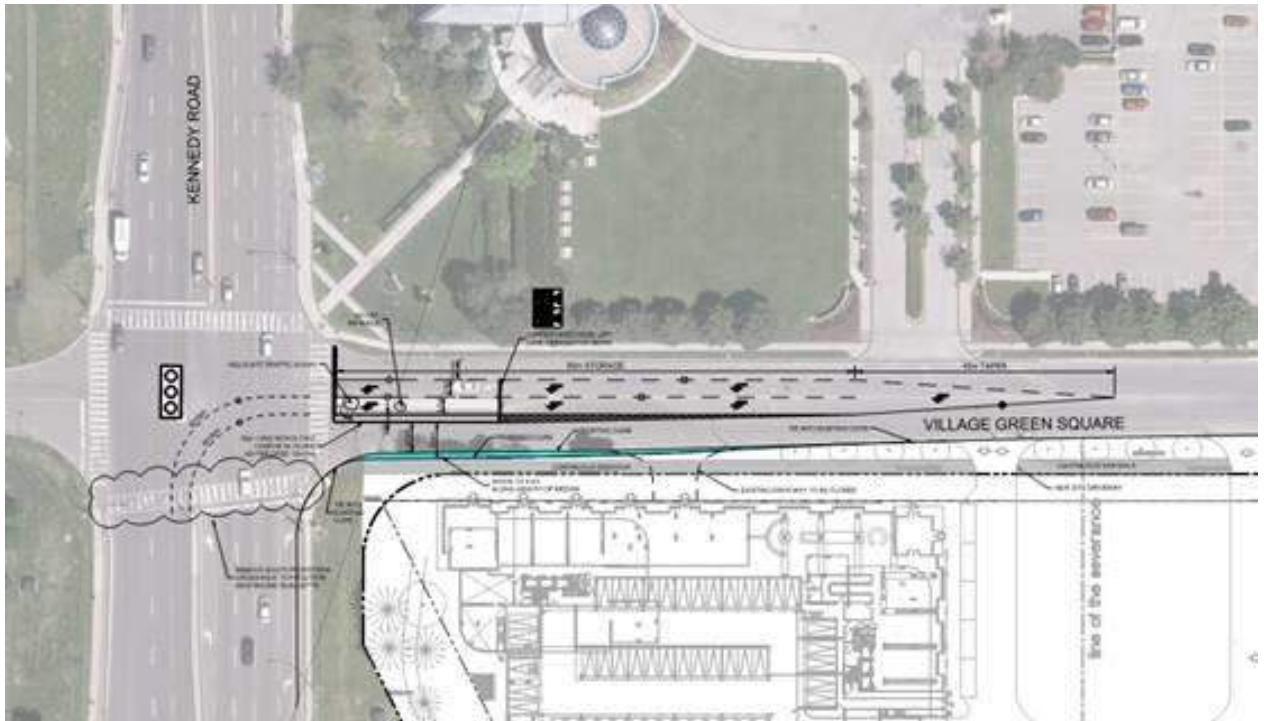
Direction	A.M. Inbound	A.M. Outbound	P.M. Inbound	P.M. Outbound
Northwest	10%	10%	12%	12%
North	11%	9%	9%	11%
Northeast	11%	5%	7%	6%
East	24%	13%	19%	15%
Southeast	12%	6%	10%	15%
South	10%	11%	10%	9%
Southwest	10%	28%	17%	16%
West	13%	18%	17%	18%
Total	100%	100%	100%	100%

2.2 FUTURE PLANNED ROAD IMPROVEMENTS

Based on the review of the background development transportation studies in the study area, the following planned improvements have been assumed in the 2035 future traffic assessment:

1. Dual westbound left-turn lanes at Village Green Square and Kennedy Road:

Dual westbound left-turn lanes from Village Green Square onto Kennedy Road is a planned road improvement that was advanced through the 2035 & 2055 Kennedy Road background development. This improvement is separate from this EA recommendation and is driven/funded by the Metrogate/Tridel development. The functional design drawing of the planned dual southbound left-turn lane configuration from the 2035 Kennedy Road TIS by BA Group dated October 2016 is shown below. The 2055 Kennedy Road TIS by HDR dated December 2016 also considers this dual westbound left-turn lane improvement at this intersection.



Proposed Dual SBL at Village Green Square and Kennedy Road (Source: "2035 Kennedy Road Toronto East Delta Hotel Proposed Redevelopment – Urban Transportation Considerations" Report by BA Group dated October 2016)

2. **Highway 401 westbound collector lane widening from Neilson Road to Warden Avenue, and the collector-to-express transfer at Kennedy Road relocation further east:**

Per discussions with MTO staff during a project meeting on September 23, 2020, the EA team was informed of the planned Highway 401 westbound collector lane widening from Neilson Road to Warden Avenue. Before the commencement of this EA study, the traffic modelling group at WSP (unrelated to the EA team) was retained by MTO to prepare a Traffic Analysis Report, dated September 2018 (herein referred to as the 2018 Widening Traffic Study), to assess the impacts of the proposed widening.

The proposed widening involves the collector-to-express transfer west of Kennedy Road to be relocated further east by horizon year 2031. WSP has been informed that the widening will not change the lane configurations of the Kennedy Road Highway 401 ramp intersections assessed in this study. In the next section of this report, the modelled traffic volume projections in the 2018 Widening Traffic Study have been reviewed to determine if the widening would result in traffic growth at the Kennedy Road Highway 401 ramp intersections.

It is also important to note that at the onset of this EA, City staff advised that LRT on Sheppard Avenue has no firm funding mechanism. Therefore, the LRT transit initiative would be a longer-term initiative beyond the timeframe of the EA and was not considered in the 2035 future traffic assessment. Therefore, the Synchro software was confirmed to be sufficient for the comparative evaluation purpose of this EA. The proposed new street and infrastructure would primarily have an influence on the local traffic pattern in the focus area rather than broader network.

2.3 FUTURE TRAFFIC GROWTH

Based on the review of historical traffic counts, the volumes along Kennedy Road and Sheppard Avenue have been stable between 2016 and 2020. A comparison of the counts is provided in **Appendix B**.

Moreover, the review of the traffic studies completed in the study area also indicate that no general growth along these two corridors were included. Moreover, with the influence of COVID-19 since March 2020, and as confirmed in the ToR, no general growth was applied. This is appropriate since traffic growth in the study area will arise as a result of new development applications and are already captured by the site traffic of the 9 background developments.

As noted earlier, MTO is planning to widen the Highway 401 westbound collector lanes and relocating the collector-to-express transfer at Kennedy Road further east. An Aimsun microsimulation analysis for the widening was completed by WSP as part of the 2018 Widening Traffic Study for MTO. The Aimsun microsimulation projections have been compared with the forecast 2035 volumes at the Kennedy Road and Highway 401 off-ramps intersections to determine if further growth is required as a result of the MTO widening project. The traffic volume comparison is summarized in **Figure 10**.

In this EA study, the existing to 2035 future do-nothing scenario growth observed at the Kennedy Road westbound off-ramp is significantly higher than the Aimsun forecasted growth. For example, a growth of 45-86% was estimated for the off-ramp's east-north movement (i.e. westbound right-turn) during peak hours, which is higher than 6-40% growth shown in the Aimsun peak hour analysis. As for the east-south movement (i.e. westbound left-turn), no growth was estimated in



this EA study, while the Aimsun analysis reports a -7% and 6% difference in volumes in the AM and PM peak hours respectively.

In order to understand how the growth estimated in the Aimsun analysis compares to the future volumes projected in this EA, the following comparisons were conducted:

1. The Aimsun existing (2016) baseline scenario westbound off-ramp volumes were compared with the existing (2020) volumes evaluated in this EA. As shown in **Figure 10**, the existing volumes used in both studies are relatively similar (i.e. approximately +/- 15% difference).
2. The Aimsun 2031 baseline scenario westbound off-ramp volumes were compared with the 2035 future do-nothing scenario traffic volumes from this EA. For the east-north movement volumes, the forecast 2035 future do-nothing scenario volumes are considerably higher than the projected volumes in the Aimsun 2031 baseline scenario (i.e. 10-43% difference). However, the east-south movement in the 2035 future do-nothing scenario volumes are marginally less in comparison (i.e. 10-43% difference).
3. The Aimsun 2031 widening scenario ramp volumes were compared with the 2035 future do-nothing scenario volumes from this EA at the westbound off-ramp. Similar findings to the 2031 baseline comparison described above was observed.

Overall, the 2035 future do-nothing volumes (as developed in Section 2.4) are generally higher than the 2031 Aimsun forecast traffic volumes.

Based on the above findings, it was determined that no additional general growth rate is required at the Kennedy Road/Highway 401 ramp intersections. The majority of the anticipated growth within the study has already been captured by the conservative inclusion of the nine background developments.

Figure 10 – Highway 401 Future Widening Growth Investigation

Kennedy WB Off-Ramp Demand - Aimsun Estimates (from WSP internal study):

Time	2016 Baseline (Aimsun)		2031 Baseline (Aimsun)		2031 Widening (Aimsun)			Growth (2031 Widening vs 2016 Baseline)	
	E-N	E-S	E-N	E-S	E-N	E-S		E-N	E-S
6-7am	277	577	353	560	383	523		38%	-9%
7-8am	385	710	488	703	538	653		40%	-8%
8-9am	538	974	679	959	754	903	A.M. Peak Hour	40%	-7%
3-4pm	496	597	512	662	504	630		2%	6%
4-5pm	501	661	535	739	527	703		5%	6%
5-6pm	555	683	597	766	586	727	P.M. Peak Hour	6%	6%

Kennedy WB Off-Ramp Volumes (in this study):

Peak Hour	Existing TMC		2035 Future Do-Nothing Scenario		Growth (2035 DN - Existing)	
	E-N	E-S	E-N	E-S	E-N	E-S
AM	490	855	747	855	52%	0%
PM	575	650	831	650	45%	0%
SAT	460	787	855	787	86%	0%

Comments:

In this study, the growth rate between 2035 to existing volumes is much larger than the Aimsun assessment growth rate (i.e. growth between the Aimsun 2031 widening scenario and it's baseline scenario shown above).

Comparison between the Aimsun Demand and this Study's Volumes

Peak Hour	2016 Baseline (Aimsun)		Existing TMC		% Difference	
	E-N	E-S	E-N	E-S	E-N	E-S
AM	538	974	490	855	-9%	-12%
PM	555	683	575	650	4%	-5%
SAT	555	683	460	787	-17%	15%

Note: Assume SAT volume is similar to PM volumes.

Comments:

The Aimsun baseline volumes and the existing TMC volumes are relatively comparable.

Peak Hour	2031 Baseline (Aimsun)		2035 Future Do-Nothing Scenario		% Difference	
	E-N	E-S	E-N	E-S	E-N	E-S
AM	679	959	747	855	10%	-11%
PM	597	766	831	650	39%	-15%
SAT	597	766	855	787	43%	3%

Note: Assume SAT volume is similar to PM volumes.

Comments:

For the E-N movement, the forecasted 2035 future do-nothing scenario volumes are considerably higher than the estimated volumes in the Aimsun 2031 baseline scenario. However, for the E-W movement the 2035 future do-nothing scenario volumes are marginally less in comparison.

Peak Hour	2031 Widening (Aimsun)		2035 Future Do-Nothing Scenario		% Difference	
	E-N	E-S	E-N	E-S	E-N	E-S
AM	754	903	747	855	-1%	-5%
PM	586	727	831	650	42%	-11%
SAT	586	727	855	787	46%	8%

Note: Assume SAT volume is similar to PM volumes.

Comments:

Similar findings as above.

Conclusions:

Do not apply additional growth rate to ramps. The forecasted 2035 future do-nothing scenario volumes are generally greater than the 2031 Aimsun generated traffic volumes.

2.4 FUTURE SCENARIO ALTERNATIVES AND VOLUMES

Four complete street alignment alternatives are proposed and evaluated as part of this EA. The four alignments are shown in **Figure 11**. To evaluate the impact of each alternative, Synchro assessment has been conducted for each alternative including a future 2035 “Do Nothing” scenario to serve as a baseline scenario for comparison.

The 2035 future traffic volumes for each of the four scenarios including the “Do Nothing” were developed by adding the background development generated volumes to the existing traffic volumes. For each complete street option, the existing and background development volumes have been distributed to reflect the rerouting of trips based on the available network connectivity of each complete street alignment. The future scenario alternatives assessed are detailed below:

- **Future 2035 Do Nothing Scenario:**

- The current lane configurations, as previously shown in **Figure 3**, were maintained. This alternative assumes no improvements will be made beyond those already planned and approved for the study area.
- The “Do Nothing” volumes were developed by adding the background development volumes onto the existing volumes (no rerouting of existing traffic). The resulting traffic volumes are illustrated in **Figure 12** to **Figure 14**.

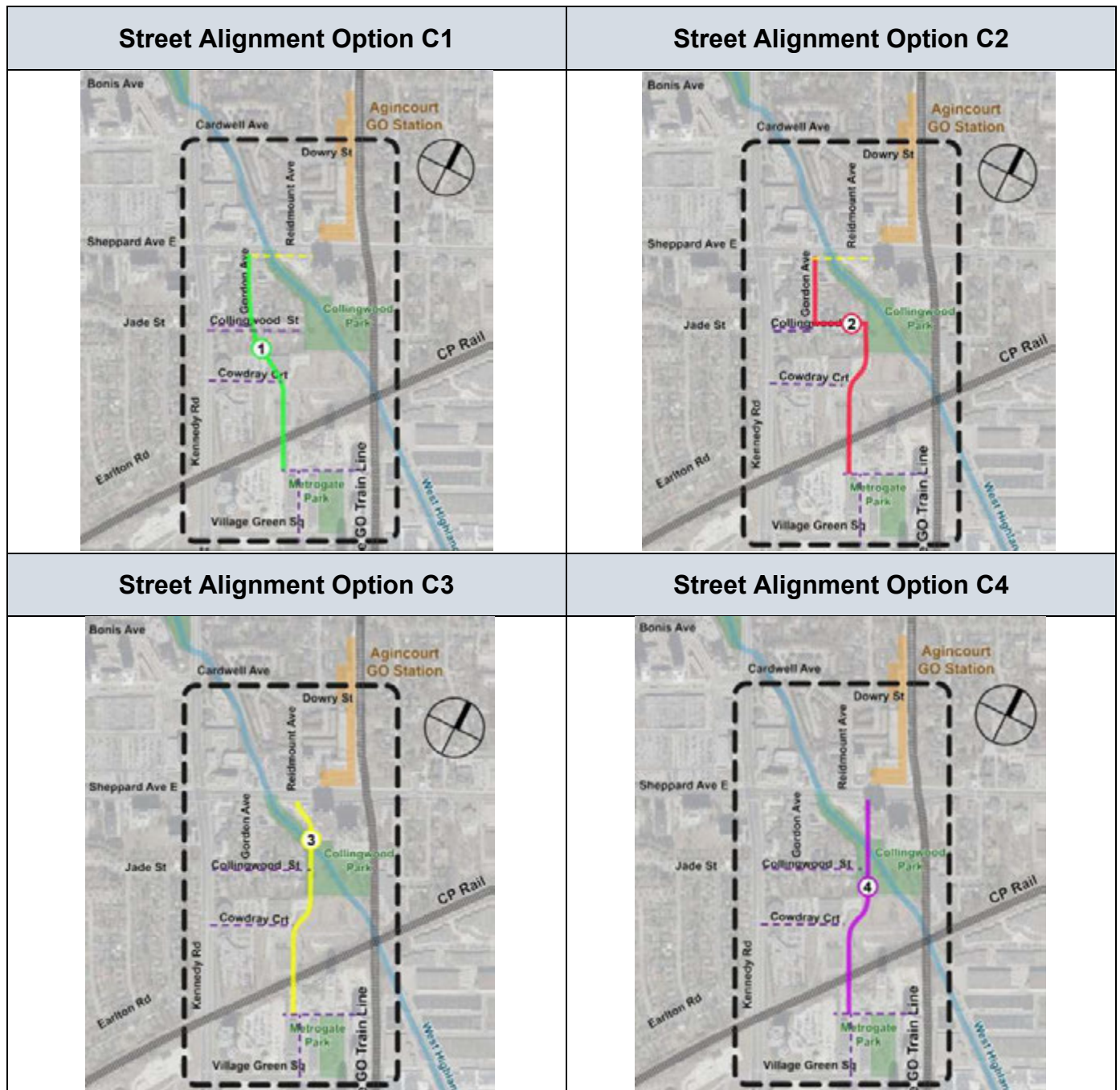
- **Option C1 Scenario:**

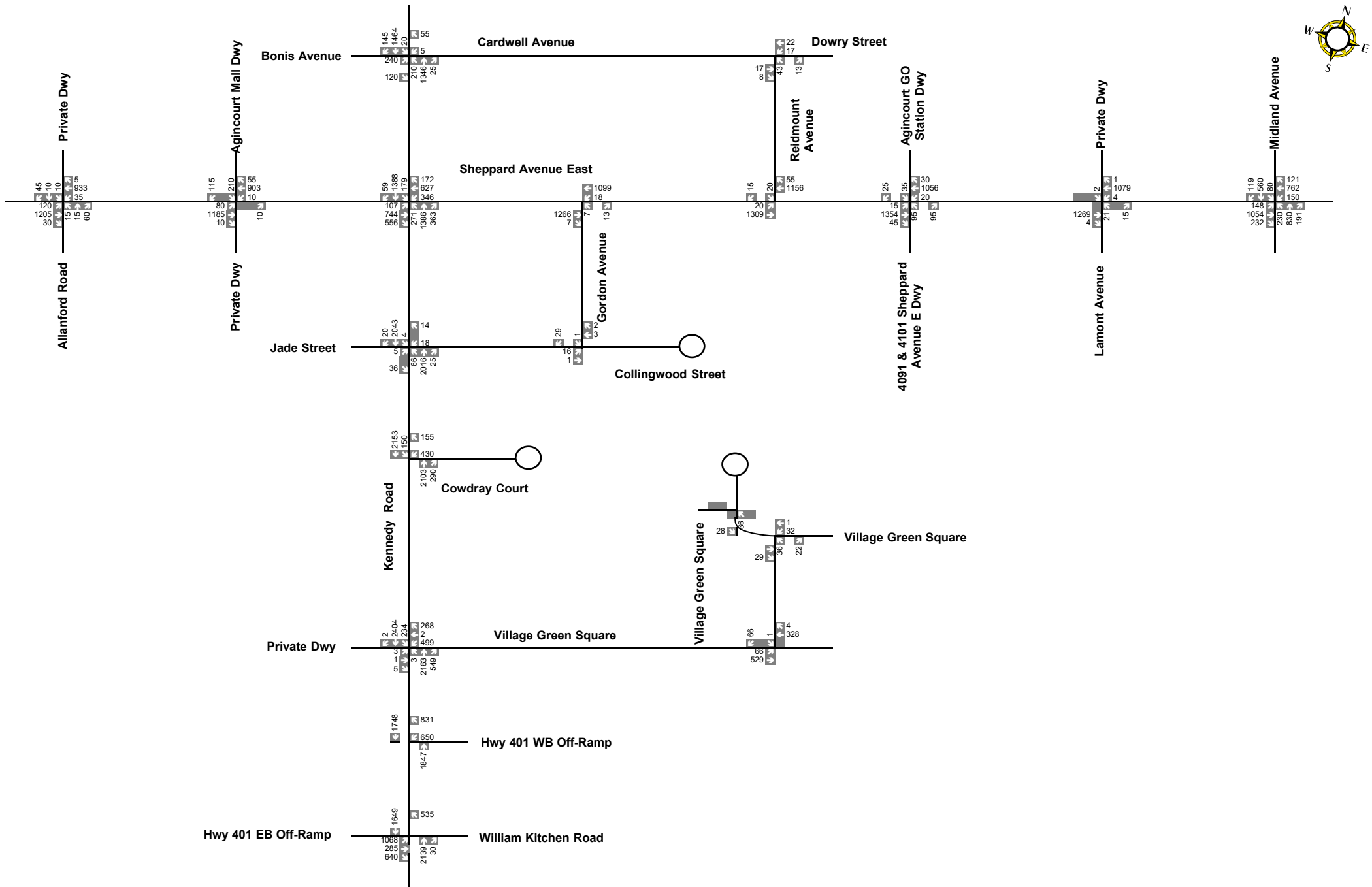
- The North-South Street connects to Gordon Avenue and Sheppard Avenue which will be converted to a signalized intersection.
- At the intersection of Gordon Avenue and Sheppard Avenue, exclusive westbound left and northbound left-turn lanes are proposed at the intersection to accommodate the increased turning volumes. A protected-permissive westbound left-turn phase was also added at the intersection during the Saturday midday peak period to improve operations.
- At the existing yield-controlled t-intersection on Village Green Square located approximately 200 metres west of Village Green Square and Kennedy Road was converted to a one-way stop-controlled intersection (i.e. stop-control for the southbound leg). Given the high volumes eastbound left volumes expected at the intersection from the addition of the North-South Street, an exclusive left-turn lane is added. Given there is currently curb-side parking on Village Green Square, it is proposed to remove the curb-side parking to make way for two eastbound lanes on Village Green Square between Kennedy and the stop-controlled intersection 200 metres west, where one of the eastbound lanes will become an exclusive left turn lane.
- Based on discussions with City staff, the intersection of Cowdray Court and North-South street is proposed to be signalized.

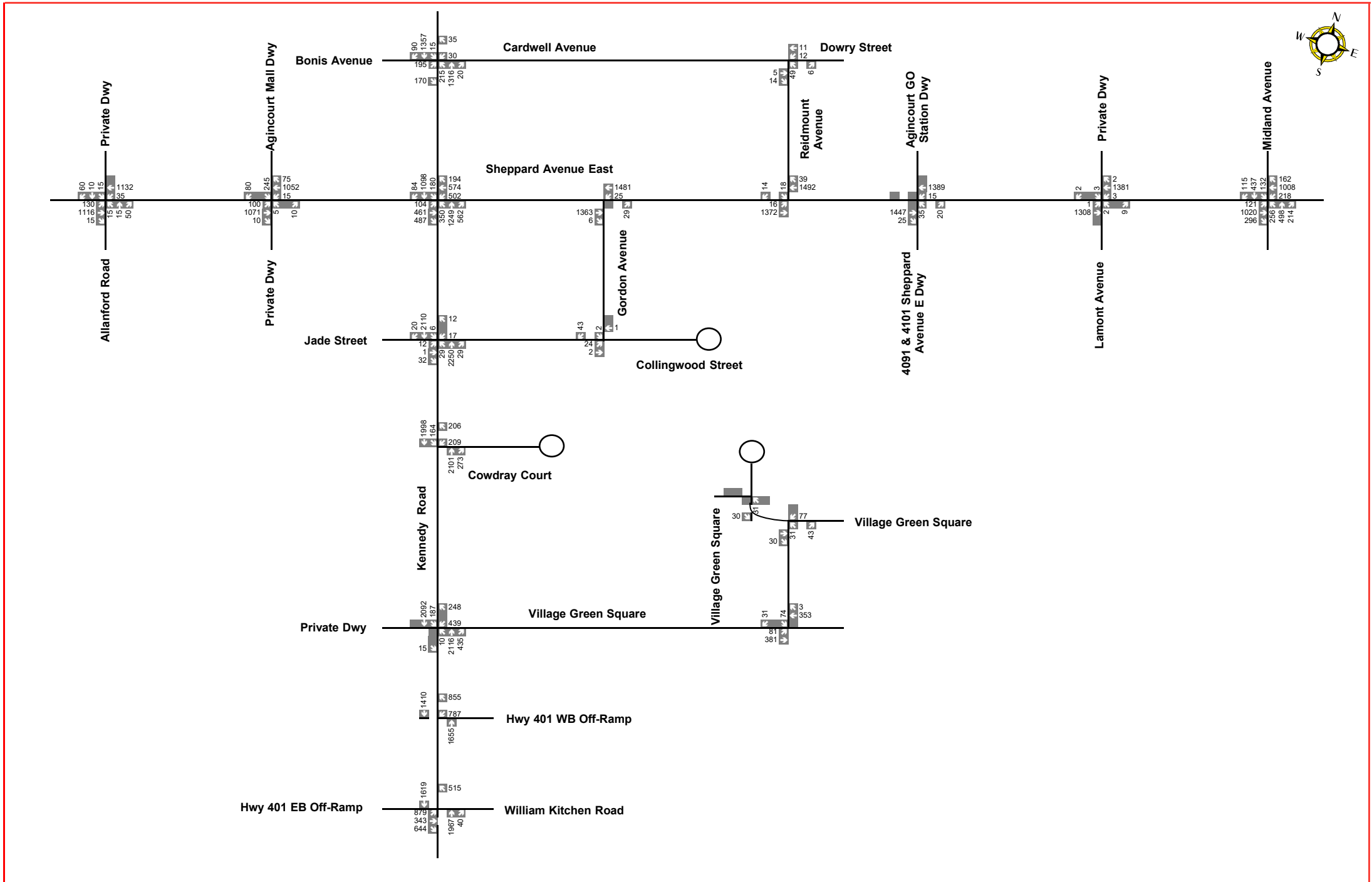
- The intersections of Collingwood Street and North-South street and North-South street at the 'T' Village Green Square (just south of the CP Rail corridor) are proposed as all-way stop controlled.
- The proposed lane configurations are shown in **Figure 15**. As shown, northbound left and westbound left-turn auxiliary lanes are added at the intersection of Gordon Avenue and Sheppard Avenue. The westbound left-turn lane along Sheppard Avenue uses the existing two-way left-turn/hatched pavement along the road.
- The resulting traffic volumes are provided in **Figure 16** to **Figure 18**.
- **Option C2 Scenario:**
 - Similar to Option C1 except the alignment of the North-South street is less direct and connects to the easterly terminus of Collingwood Street.
 - The proposed lane configurations are shown in **Figure 19**.
 - The resulting traffic volumes are shown in **Figure 20** to **Figure 22**.
- **Option C3 Scenario:**
 - The North-South street connects to Reidmount Avenue and Sheppard Avenue as a minor-street stop intersection that will be limited to right-in-right out in the south approach (due to its spacing near the signalized Agincourt GO Station access).
 - One-way stop-control for the southbound movement at the intersection on Village Green Square located approximately 200 metres west of Village Green Square and Kennedy Road, and add an exclusive eastbound left-turn lane.
 - The remaining intersection controls along the North-South street are the same as Option C1.
 - The proposed lane configurations are shown in **Figure 23**.
 - The resulting traffic volumes are provided in **Figure 24** to **Figure 26**.
- **Option C4 Scenario:**
 - Similar to Option C3 except the North-South street forms the south approach of the signalized GO Access. The existing condo driveway approach will be consolidated with the North-South street.
 - The remaining intersection controls along the North-South street are the same as Option C1.
 - One-way stop-control for the southbound movement at the intersection on Village Green Square located approximately 200 metres west of Village Green Square and Kennedy Road, and add an exclusive eastbound left-turn lane.
 - The proposed lane configurations are shown in **Figure 27**.
 - The resulting traffic volumes are shown in **Figure 28** to **Figure 30**.

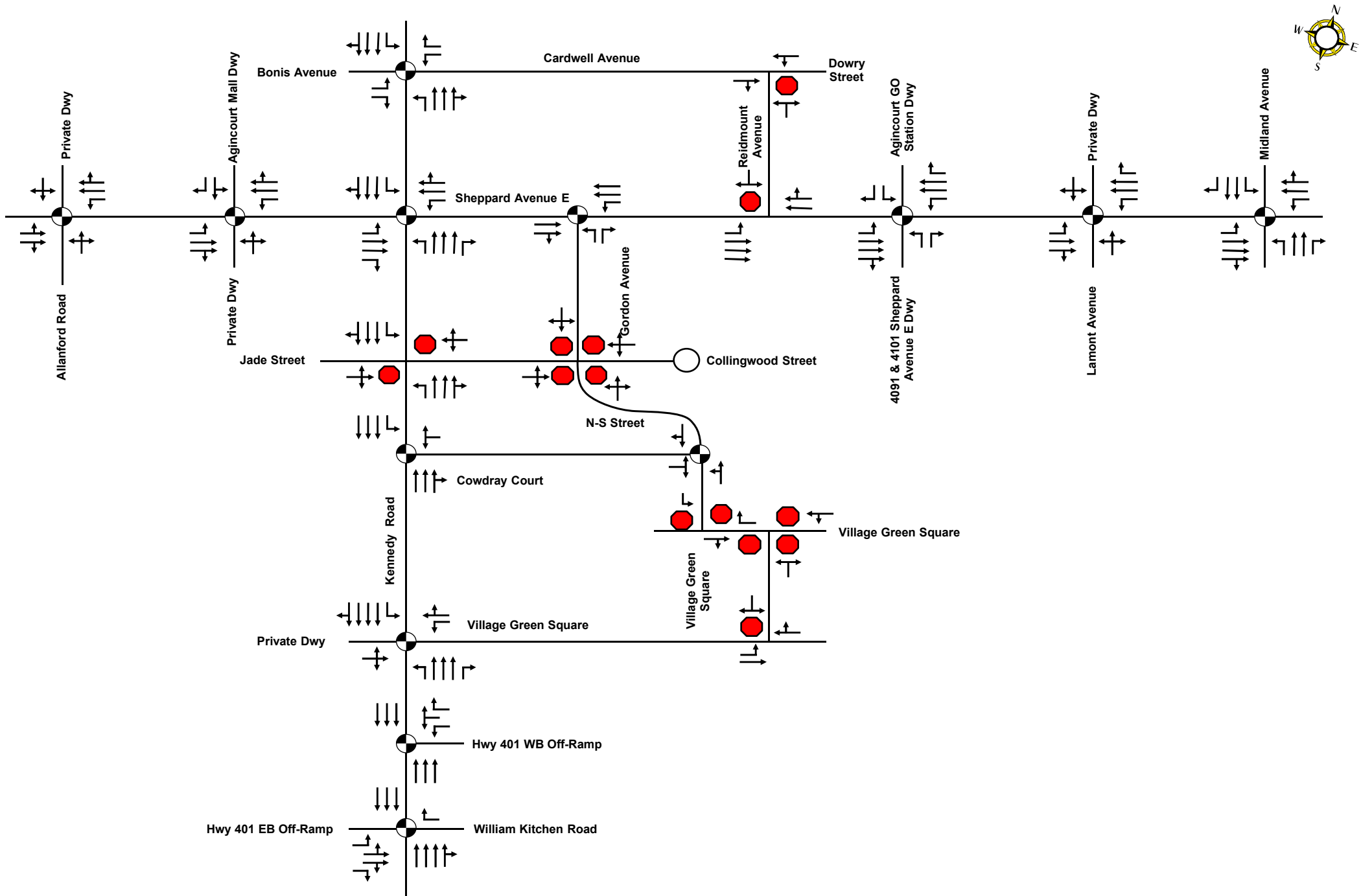
As discussed earlier, the 2035 future traffic volumes were developed by adding the background development generated volumes to the existing traffic volumes. For each complete street option, the existing traffic and background development volumes were distributed to reflect the rerouting of trips based on the given network connectivity.

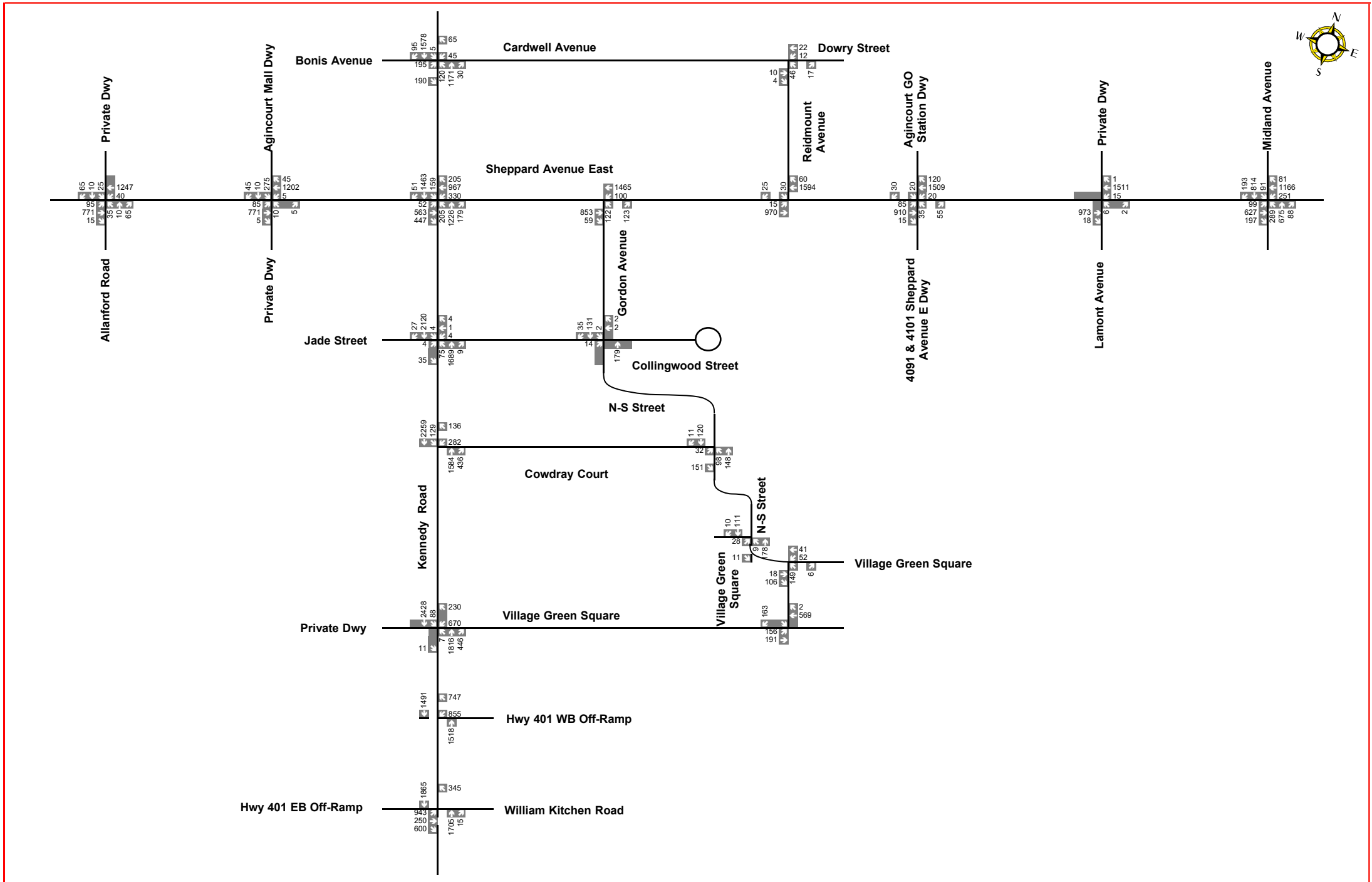
Figure 11 – Future Proposed North-South Street Alignment Options

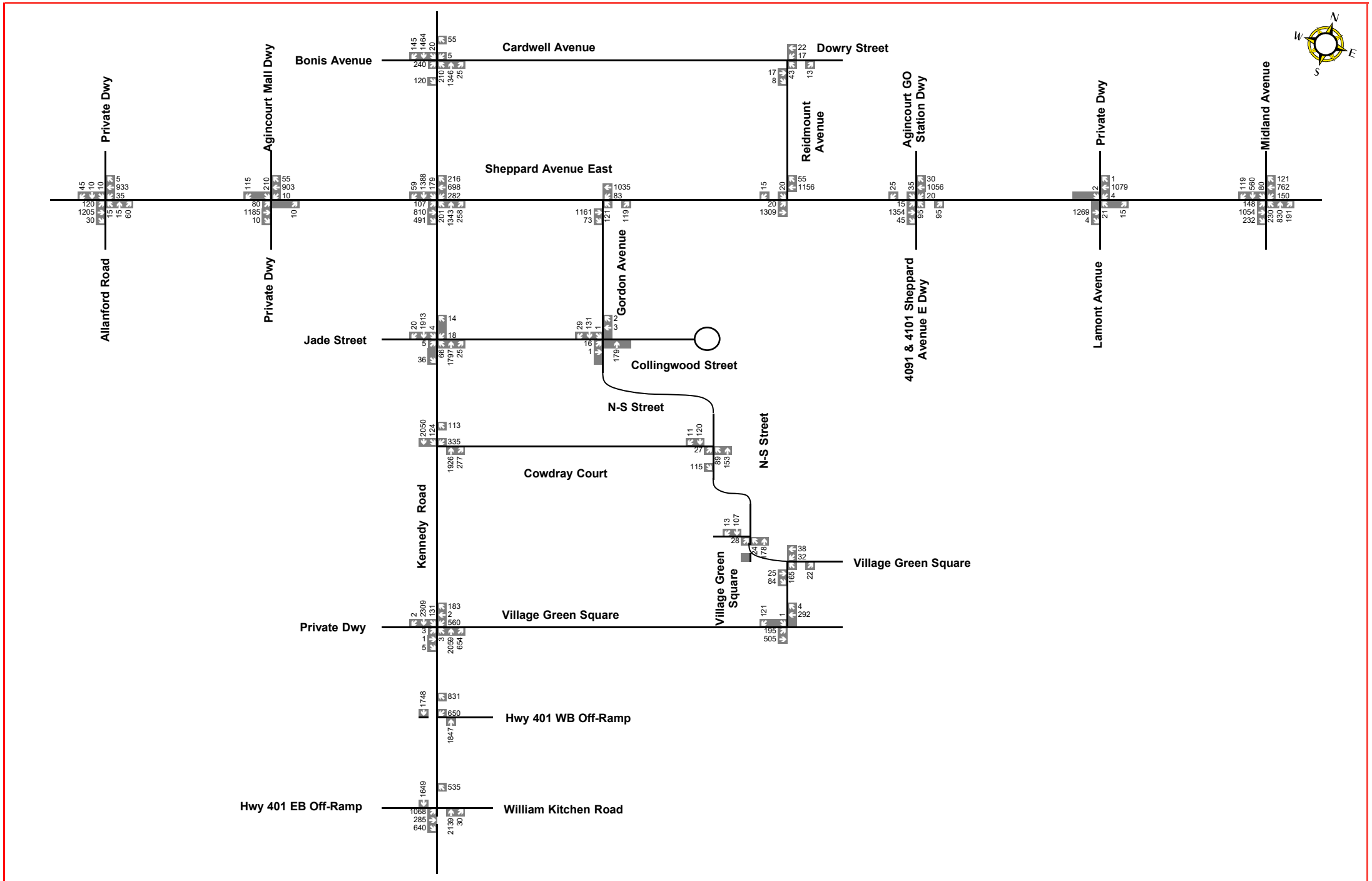


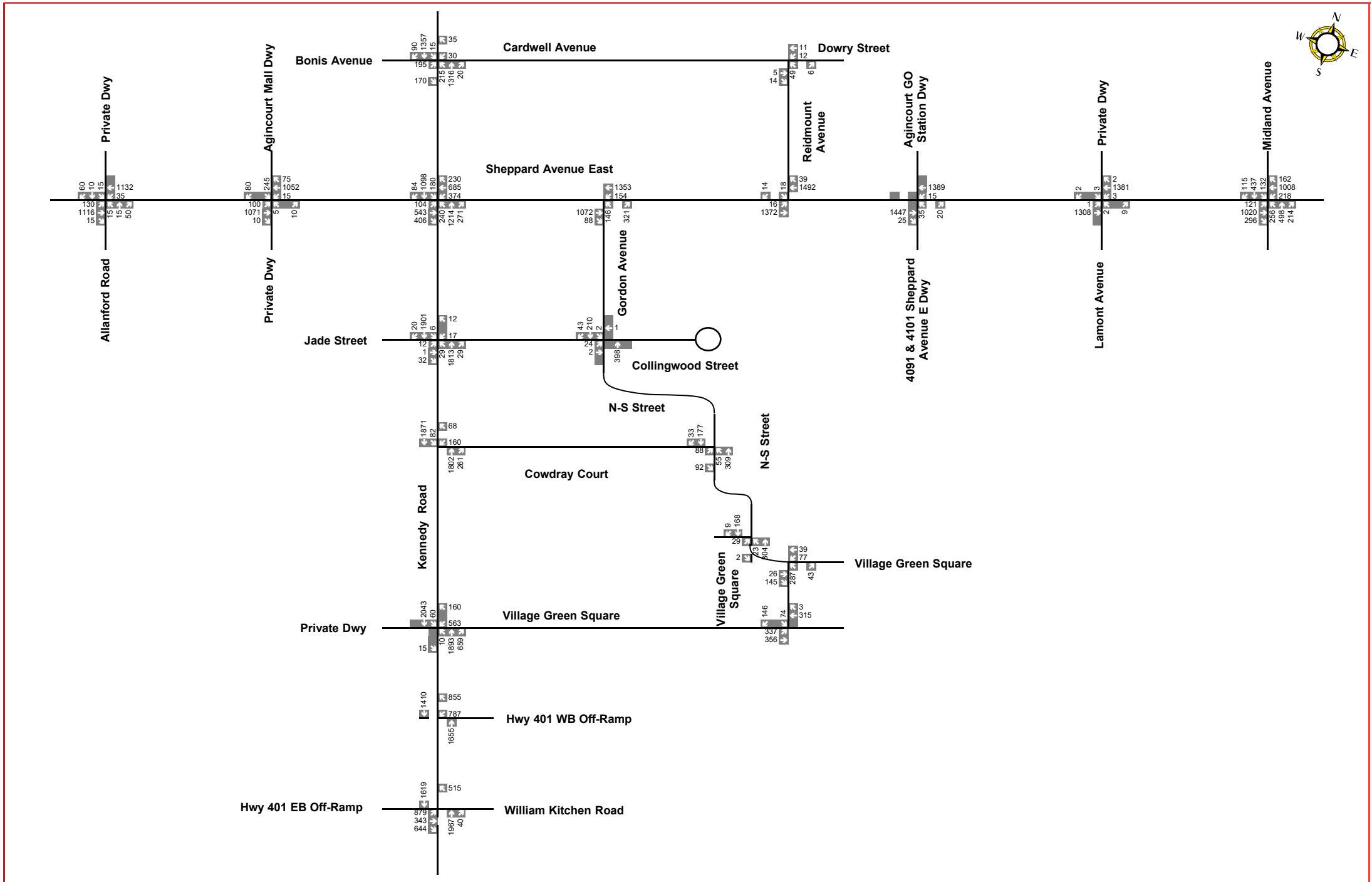


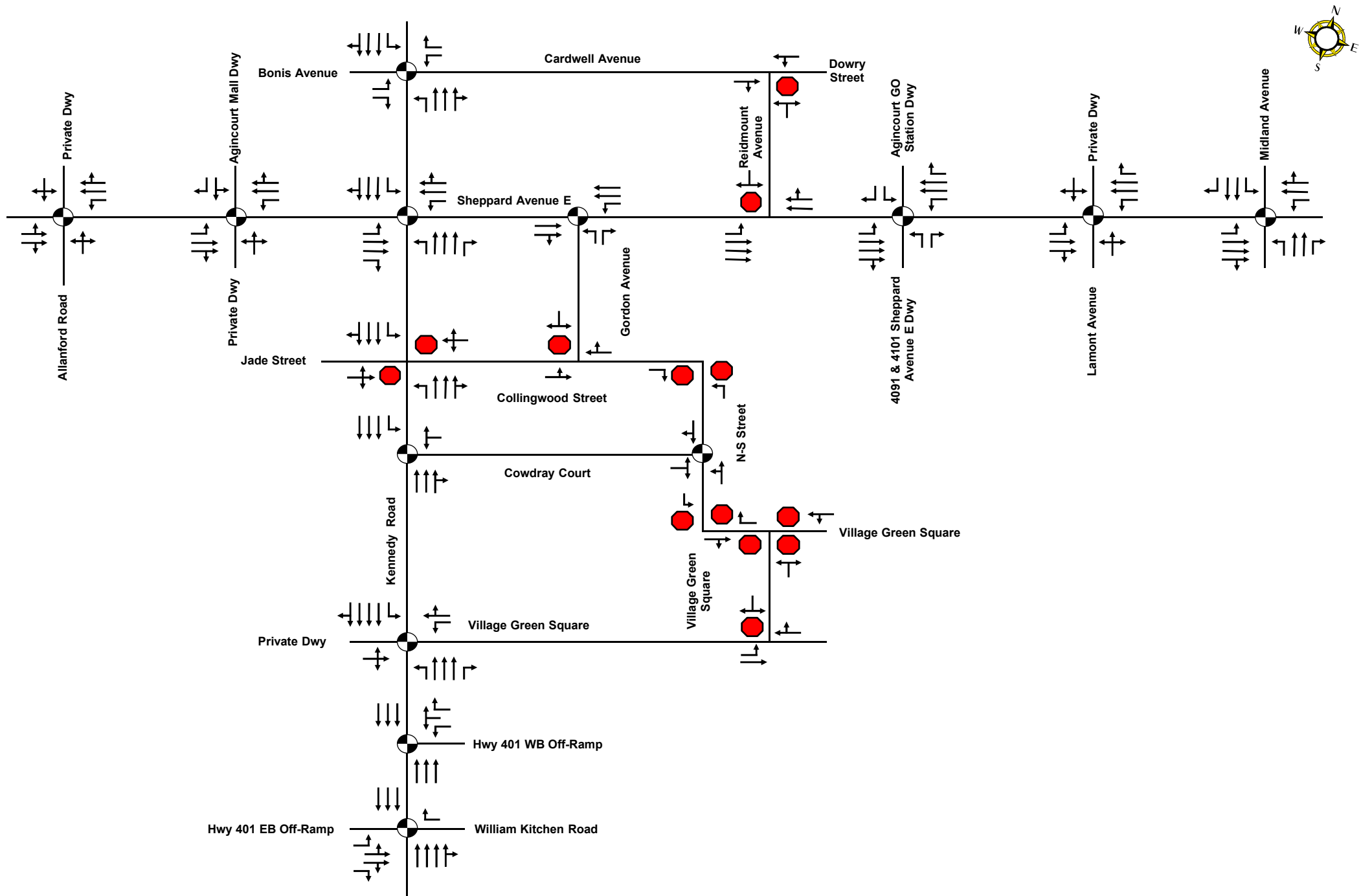


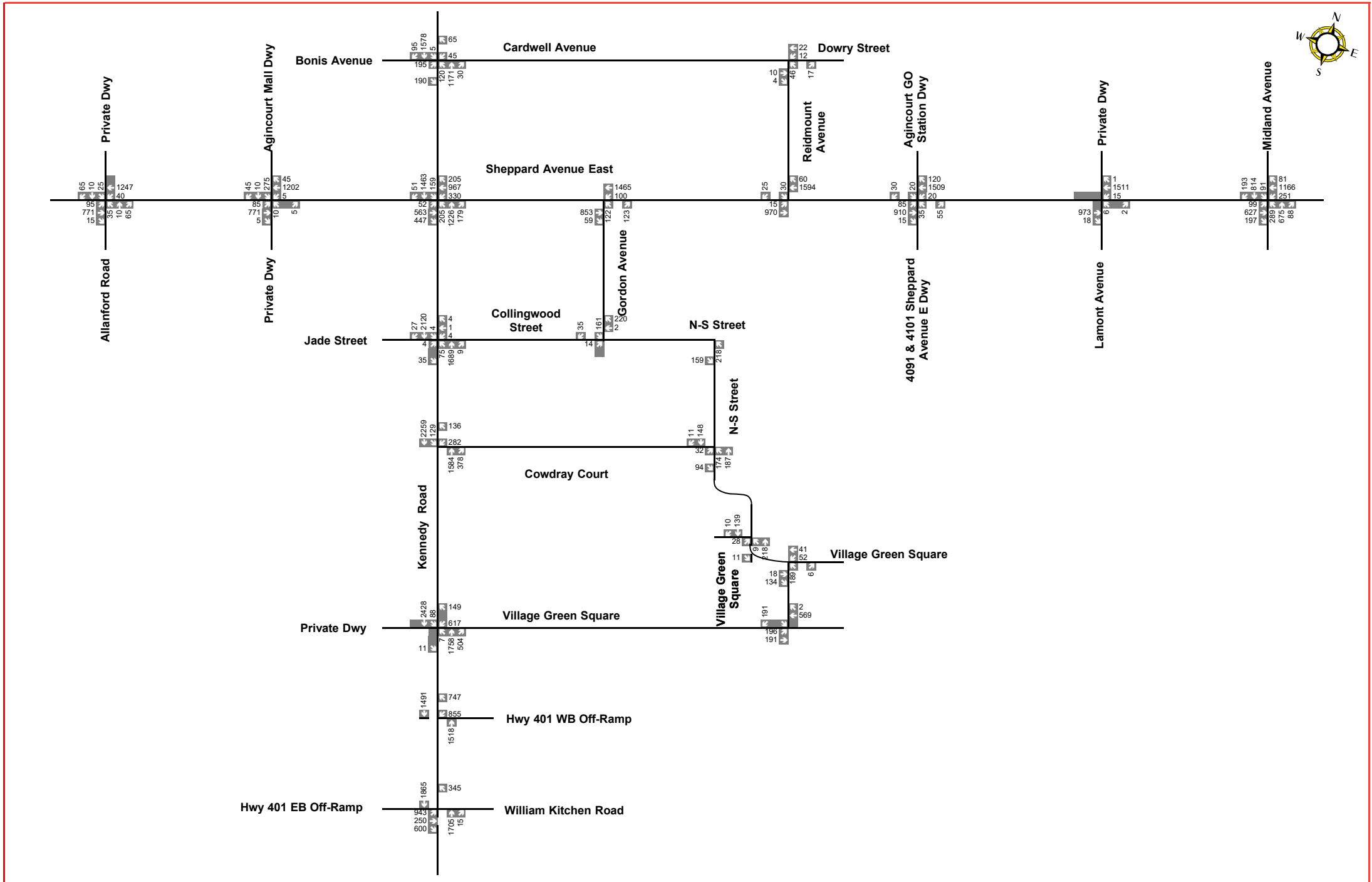


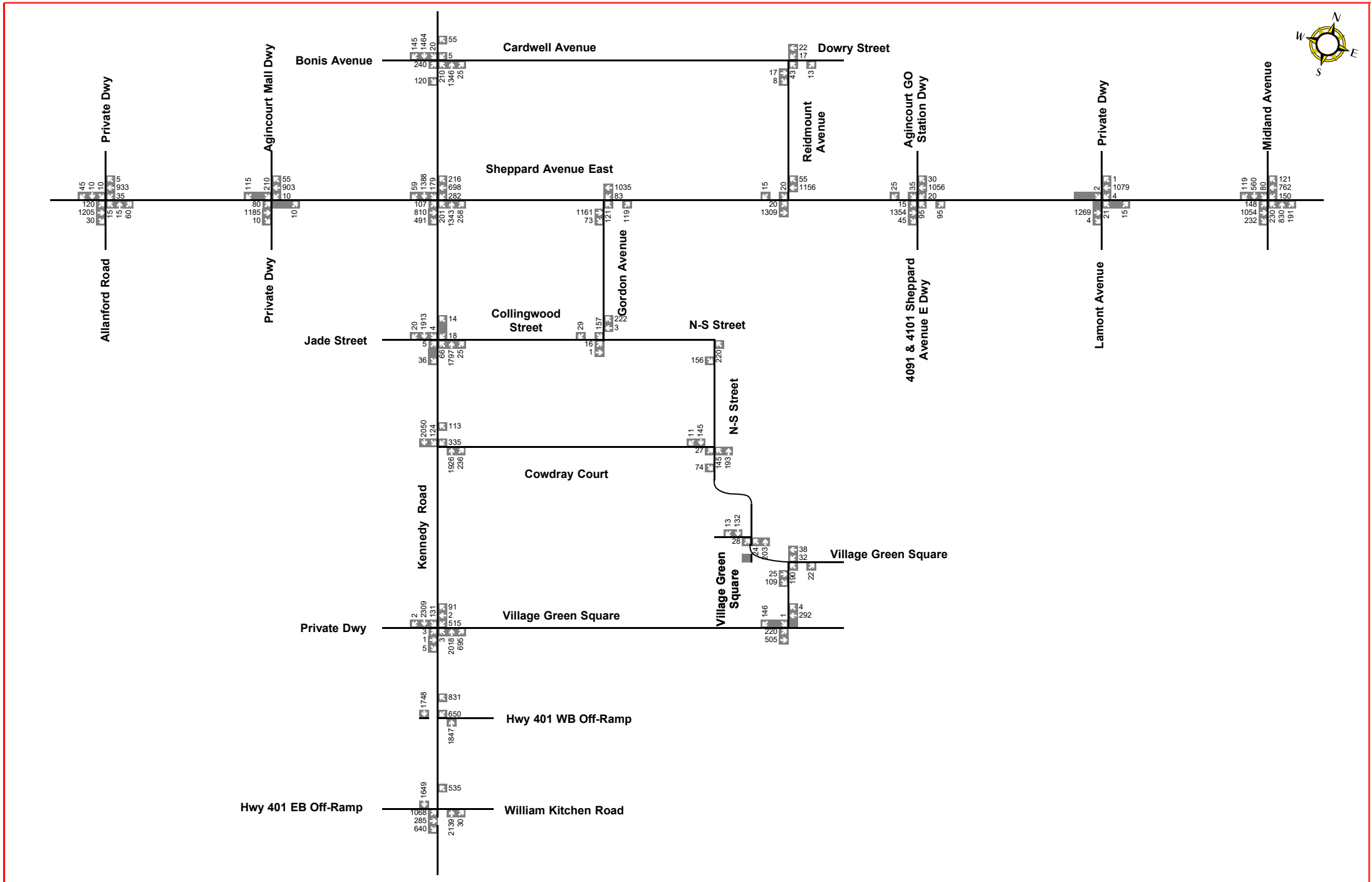


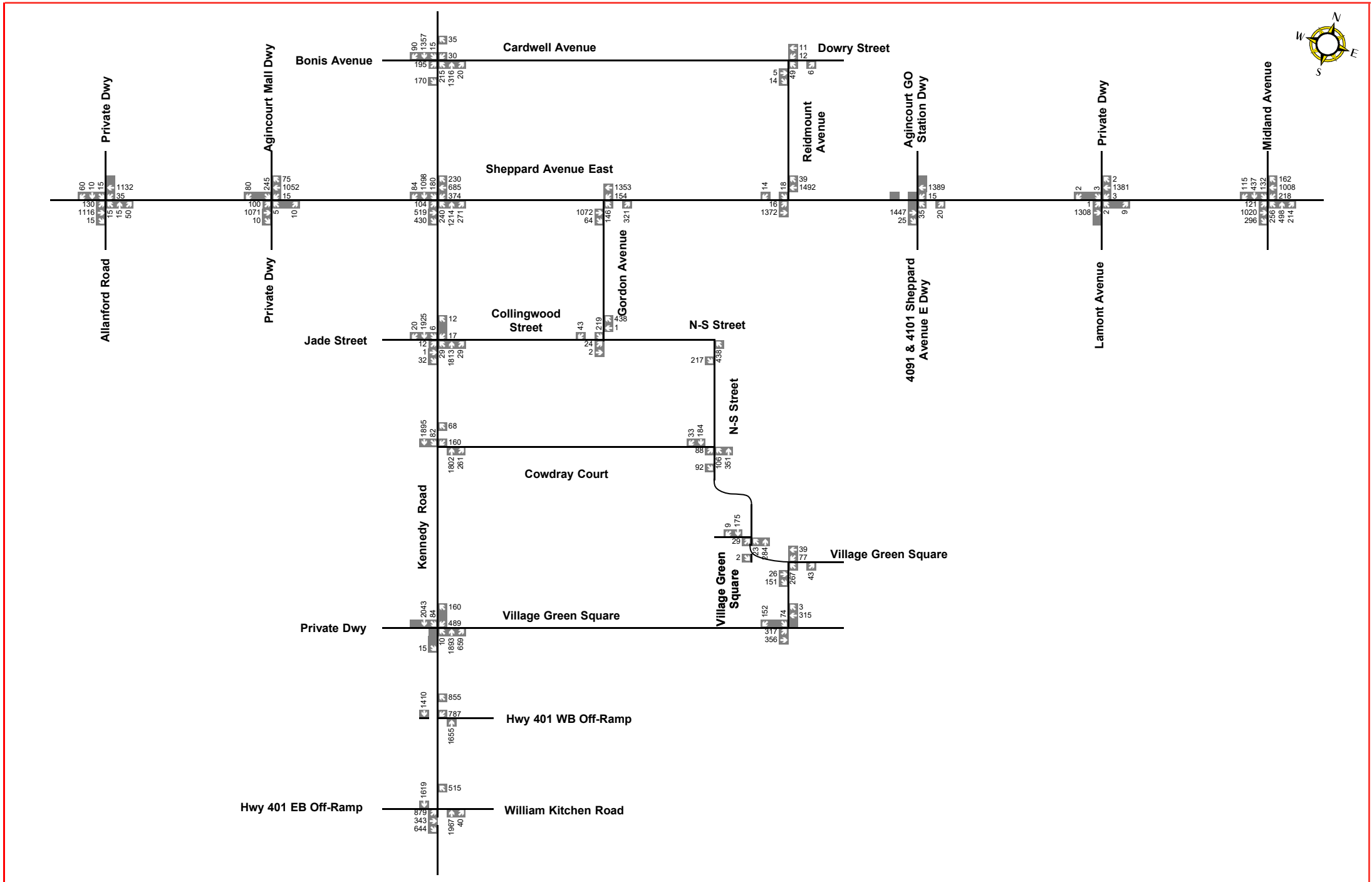


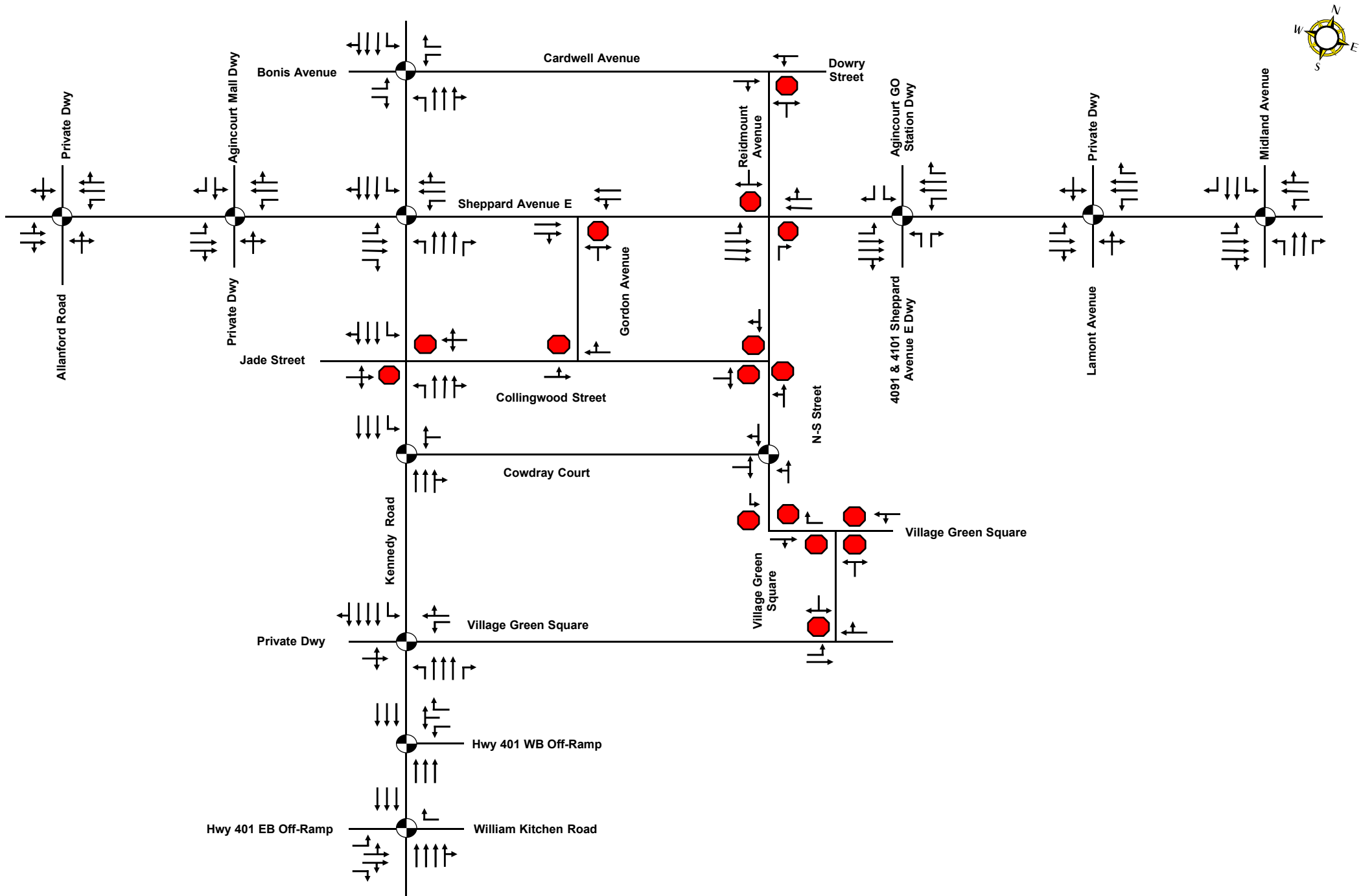


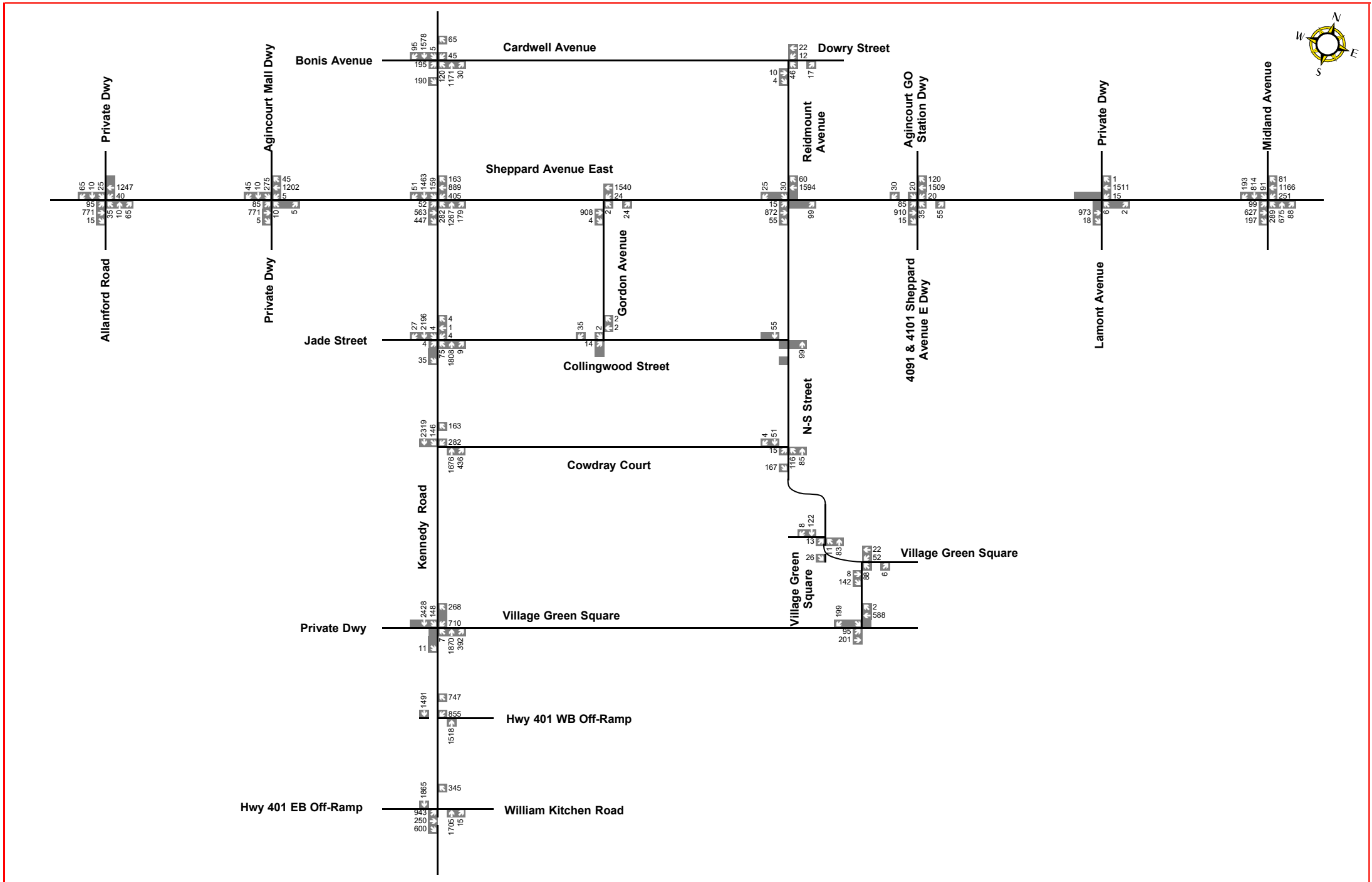


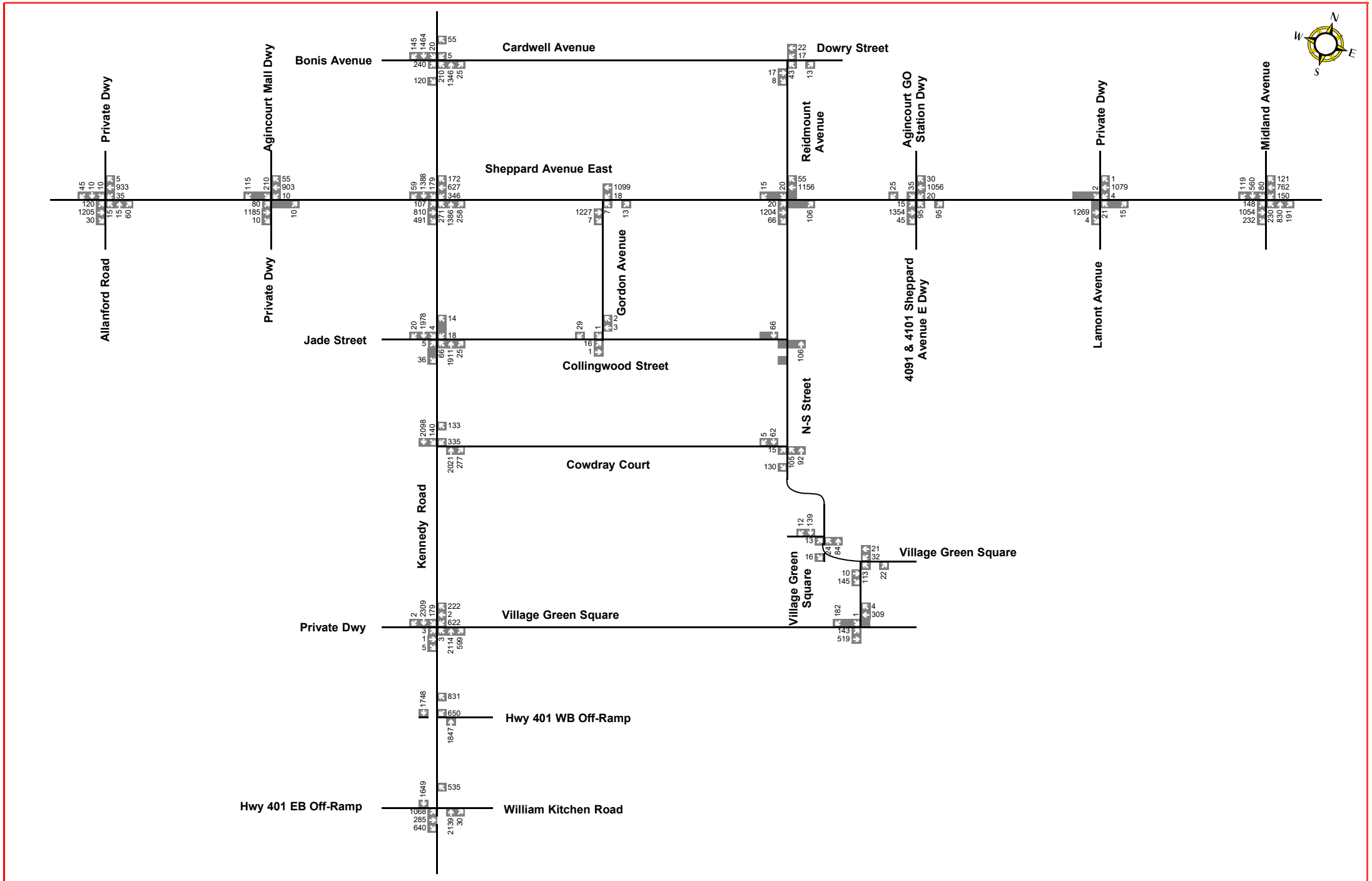


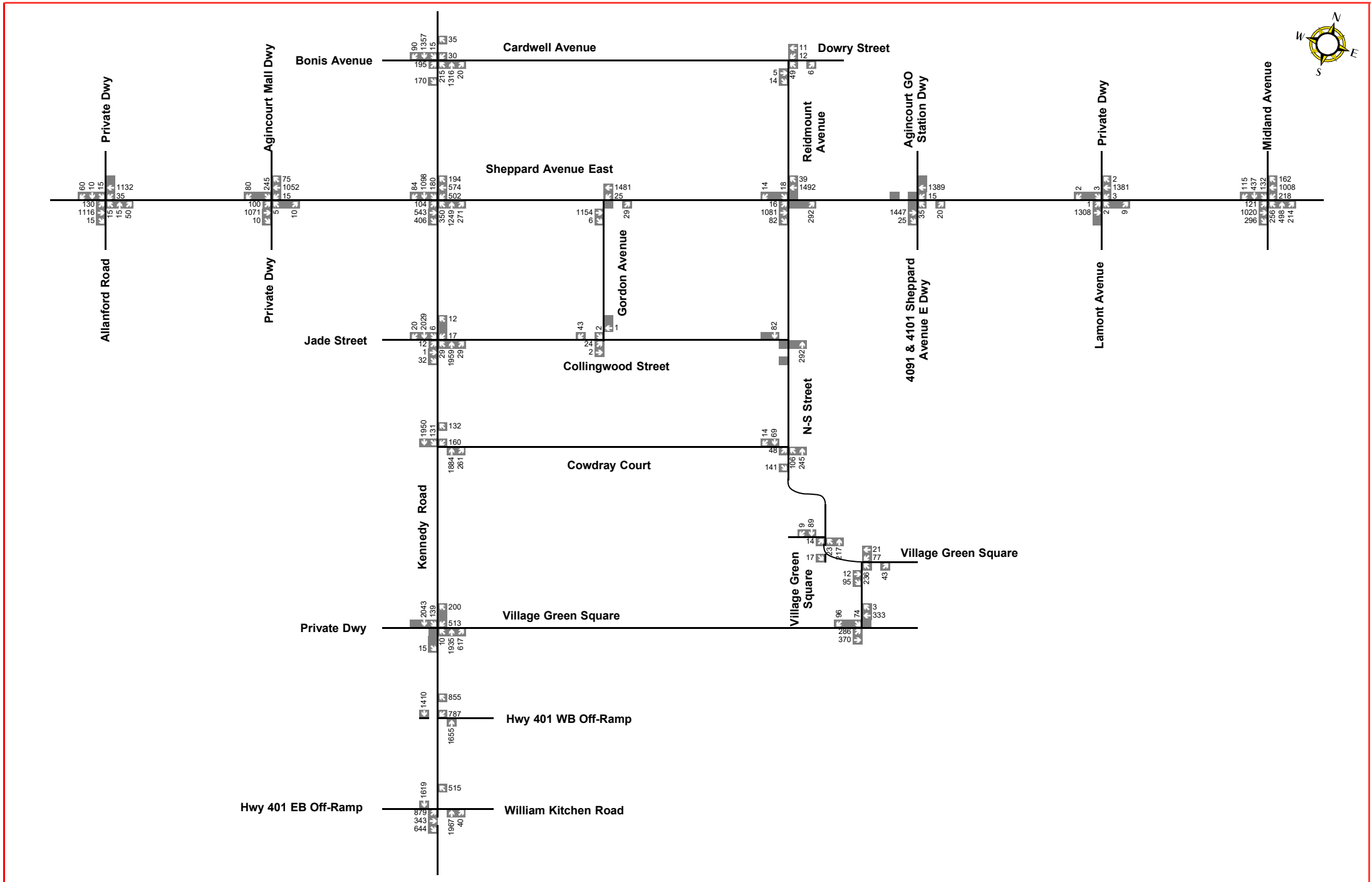


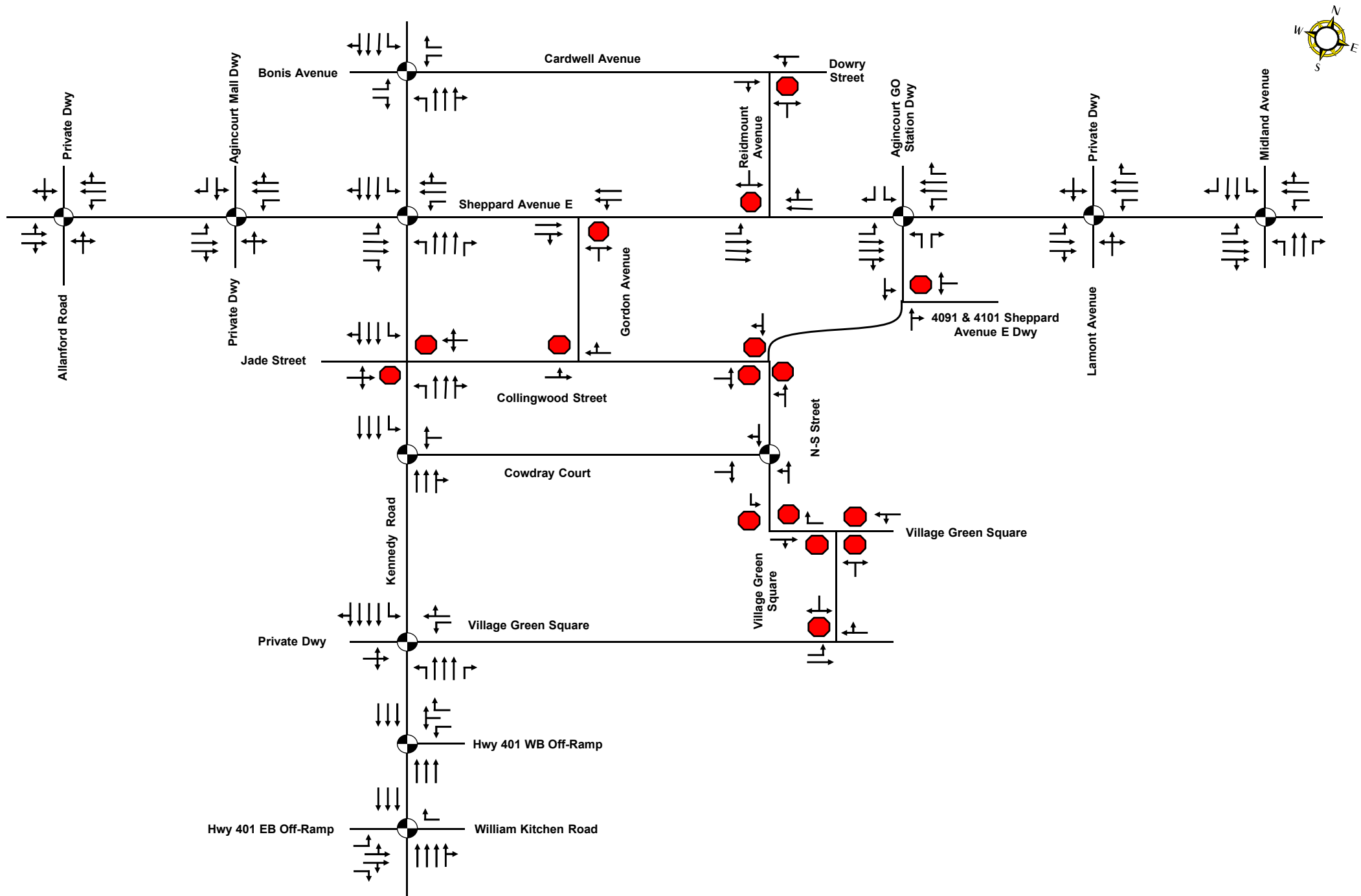


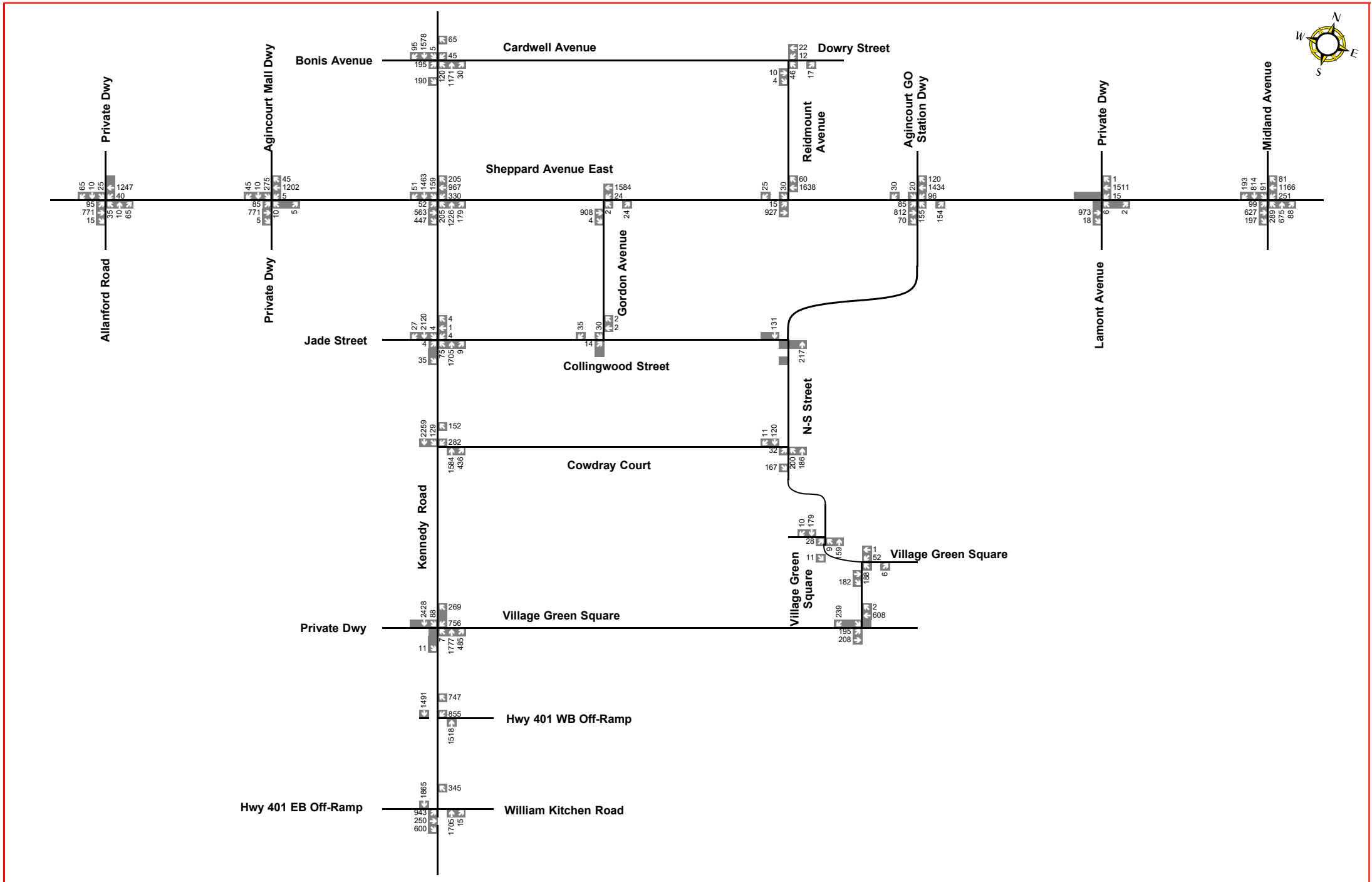


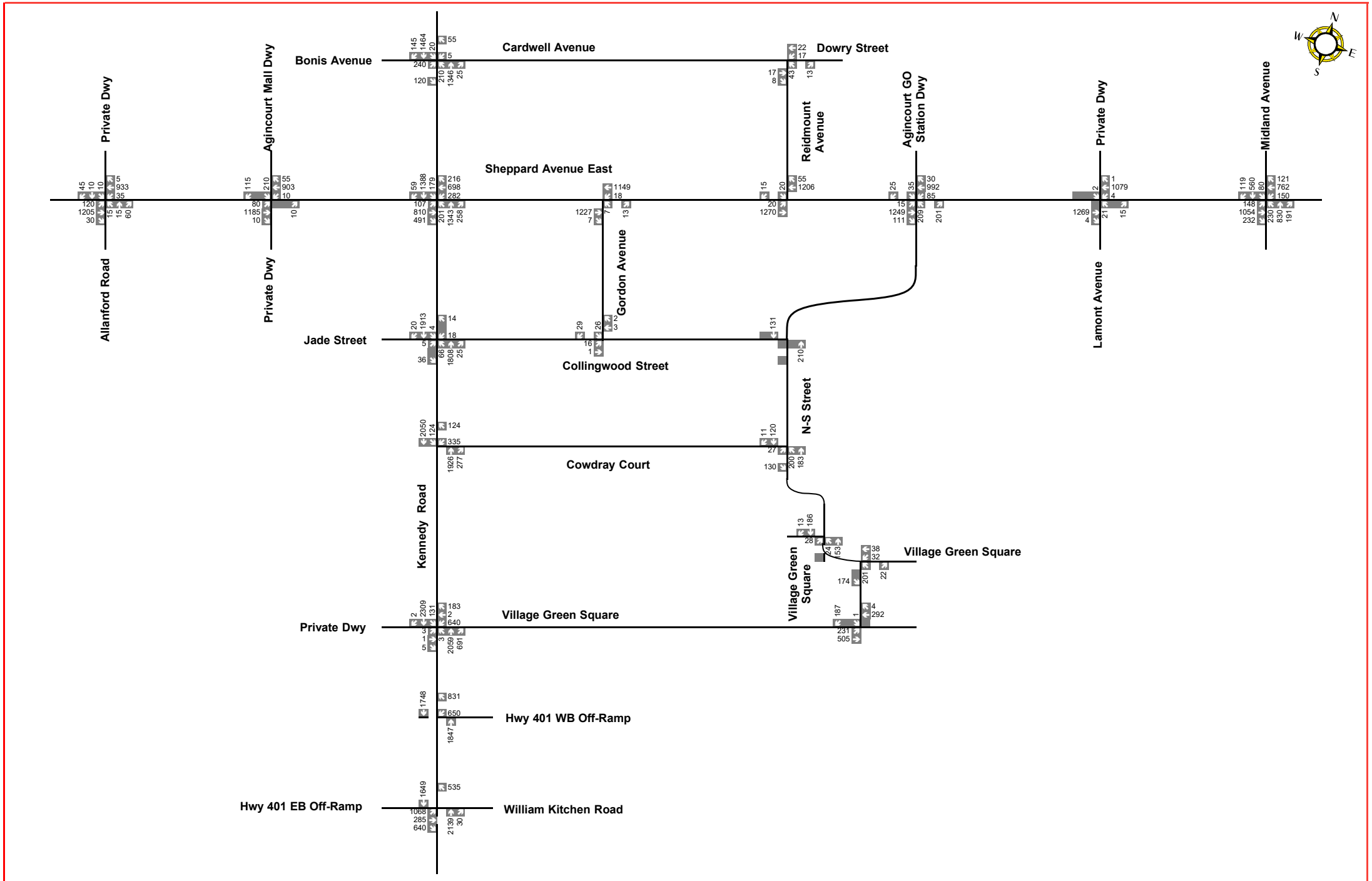












2.5 FUTURE CONDITIONS MODEL ADJUSTMENTS

Given the future traffic growth expected by 2035, traffic patterns at the study intersections are expected to evolve. Therefore, the following adjustments have been made to the future conditions Synchro models. It should be noted that these model parameters have been applied to all of the future evaluations including the Do Nothing to allow an “Apples to Apples” comparison.

- **PHF increase to 1:**

Under congested urban conditions, travel behaviour changes are expected such as people choosing to travel in the off-peaks to avoid the peak hour congestion. This change would result in the flattening of peak hour demand curve. Therefore to reflect this change in behaviour in the future resulting from the added growth and congestion in the area, the existing PHF was changed to 1.0 at all intersections in the 2035 future condition models.

- **Increase Cycle Length at Select Intersections:**

With the added growth in the area, the intersection of Kennedy Road and Sheppard Avenue is expected to operate over capacity by 2035. To improve operations at the intersection, the cycle length of the intersection was increased from 110 to 120 seconds under all future scenarios. Given the close proximity of the signalized GO station access as well as the future signalized Gordon Avenue and Kennedy Road intersection to the Kennedy Road and Sheppard Avenue intersection under Options 1 and 2, it is important to implement the same cycle lengths at all of these intersections for coordination purposes. All of the current cycle lengths at the other study intersections were maintained.

- **Signal Timing Splits and Offset Optimizations:**

Signal timing splits were optimized at all of the signalized study intersections. Offsets were also optimized along the Sheppard Avenue and Kennedy Road corridors to improve coordination of traffic signals and flow of traffic.

SimTraffic was performed to review signal timing coordination, particularly at the closely spaced intersections on Sheppard Avenue (between Kennedy Road and the Agincourt GO Station access) and on Kennedy Road (between Village Green Square and the Highway 401 ramps). For example, the signal offsets of the three closely spaced intersections along Sheppard Avenue between Kennedy Road and the Agincourt GO Station access were adjusted so that the east-west amber phase occurs at the same time. As shown in **Figure 31**, this coordination allows concurrent east-west green time at all three intersections to minimize stop-and-go conditions and unnecessary delays along the arterial road. Similarly, the concurrent red phase at these three intersections would minimize eastbound and westbound queues from spilling into downstream intersections. This in turns provides room for vehicles from side streets (i.e., Gordon Avenue and Agincourt Go Station access) to turn onto Sheppard Avenue.

SimTraffic was also observed carefully at the Highway 401 ramps on Kennedy Road to ensure the traffic queues along the off-ramp approaches do not spill back to the mainlines. Furthermore, intersection offsets were iteratively adjusted to optimize vehicle flow

between the closely spaced intersections at Village Green Square and the Highway 401 WB off-ramp.



(A) Green along Sheppard Avenue East (minimize stop-and-go at closely spaced intersections)



(B) Red along Sheppard Avenue East (minimize eastbound and westbound queues from spilling into downstream intersections and provide room for vehicles on side streets to turn onto Sheppard Avenue)

Figure 31 – Coordination of Sheppard Avenue (SimTraffic Screenshots)



3 2035 FUTURE TRAFFIC ASSESSMENT

3.1 DO NOTHING FUTURE TRAFFIC CONDITIONS

The resulting future 2035 Do Nothing traffic conditions are summarized in **Table 7**. The SimTraffic queues for the busier study intersections are presented in **Table 8**. As mentioned previously in the existing conditions traffic analysis, the average queue from SimTraffic should be considered as a more representative indicator of the actual queues for what most motorists experience. Detailed Synchro and SimTraffic worksheets are provided in **Appendix F**.

Table 7: 2035 Do Nothing Intersection Operations

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Allanford Rd/Allanford Rd Extension & Sheppard Ave E	Signalized	A (5)	--	A (5)	--	A (6)	--
Private Driveway/Agin court Mall Access & Sheppard Ave E	Signalized	C (20)	--	B (13)	--	B (16)	--
Kennedy Road & Sheppard Ave E	Signalized	F (87)	EB-R (0.97) WB-L (1.07) NB-L (1.32) SB-TR (0.99)	F (93)	EB-R (1.05) WB-L (1.06) NB-L (1.29) NB-T (0.92) SB-TR (0.98)	F (122)	EB-R (0.90) WB-L (1.21) NB-L (1.41) NB-R (0.93) SB-L (0.99)
Kennedy Road & Bonis Ave/Cardwell Avenue	Signalized	B (14)	--	B (17)	--	B (14)	--
4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E	Signalized	A (6)	--	B (11)	--	A (4)	--
Lamont Ave/Private Driveway & Sheppard Ave E	Signalized	A (1)	--	A (2)	--	A (1)	--
Midland Ave & Sheppard Ave E	Signalized	E (64)	WB-T (1.00) NB-L (1.14)	C (30)	--	D (37)	WB-T (0.92)
Kennedy Road & Cowdray Crt	Signalized	C (33)	WB-LR (0.96) NB-TR (0.98)	D (41)	WB-LR (1.07) NB-TR (0.97)	D (48)	WB-LR (1.19) SB-L (0.92)

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Kennedy Road & Private Driveway/Village Green Sq	Signalized	C (22)	--	E (64)	NB-T (0.94)	F (91)	--
Kennedy Road & Hwy 401 WB Off-ramp	Signalized	C (23)	WB-LR (0.79) WB-R (0.78)	C (34)	WB-LR (0.87) WB-R (0.88)	A (4)	WB-LR (0.81) WB-R (0.81)
Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road	Signalized	C (30)	EB-L (0.93) EB-LTR (0.90) EB-R (0.89)	C (27)	EB-L (0.82) EB-LTR (0.77) EB-R (0.75) NB-TR (0.75)	A (1)	EB-L (0.78) EB-LTR (0.78) EB-R (0.76)
Reidmount Ave & Cardwell Avenue/Dowry Street	Unsignalized	NB-LR A (9)	NB-LR (0.07)	NB-LR A (9)	NB-LR (0.06)	NB-LR A (9)	NB-LR (0.06)
Gordon Ave & Sheppard Ave E	Unsignalized	NB-LR B (11)	NB-LR (0.04)	NB-LR C (17)	NB-LR (0.06)	NB-LR B (13)	NB-LR (0.06)
Sheppard Ave E & Reidmount Ave	Unsignalized	SB-LR F (59)	SB-LR (0.46)	SB-LR D (29)	SB-LR (0.19)	SB-LR F (59)	SB-LR (0.32)
Kennedy Road & Jade Street/Colling wood Street	Unsignalized	NB-L C (17)	NB-L (0.21)	NB-L B (14)	NB-L (0.15)	NB-L C (17)	NB-L (0.09)
Collingwood Street & Gordon Ave	Unsignalized	SB-LR A (9)	SB-LR (0.04)	SB-LR A (8)	SB-LR (0.03)	SB-LR A (9)	SB-LR (0.04)
Private Access & Village Green Sq	Unsignalized	NB-TLR E (39)	NB-LTR (0.31)	NB-TLR D (28)	NB-LTR (0.11)	NB-LR B (13)	SB-LTR (0.41)

1. For signalized intersections within the City jurisdiction, the LOS is based on the overall delay of the intersection. Critical v/c ratios are listed for movements with values over 0.90. For MTO intersection, the v/c threshold is 0.75.
2. For two-way stop controlled intersections, the LOS is based on the delay associated with the critical movement.

Table 8: 2035 Do Nothing SimTraffic Queues at Key Intersections

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]
Kennedy Rd & Sheppard Ave	EBL	30	16	38	16	40	18	38
	EBT	150	135	221	176	179	141	224
	EBR	35	55	56	54	62	55	56
	WBL	20	35	37	34	37	35	36
	WBT	245	107	110	106	119	107	110
	WBTR	245	84	142	66	131	29	124
	NBL	50	69	75	70	73	70	72
	NBT	295	160	201	165	206	171	220
	NBR	60	39	85	61	113	93	119
	SBL	50	52	97	57	95	60	95
	SBT	250	255	338	237	336	194	316
Sheppard Ave E & GO Station Access	SBTR	250	254	336	236	336	177	310
	EBL	65	15	30	3	11	-	-
	EBT	245	25	40	30	40	22	42
	EBTR	245	8	24	14	32	6	18
	WBL	25	10	41	8	34	9	39
	WBT	245	231	370	154	339	253	350
	WBR	55	20	57	5	25	-	-
	NBL	50	13	32	31	61	13	30
	NBR	50	8	16	11	26	4	11
	SBL	35	5	14	10	22	-	-
Kennedy Rd & Village Green Sq	SBR	100	8	17	7	23	-	-
	EBLTR	100	4	12	2	9	6	17
	WBL	100	60	84	53	78	38	67
	WBTR	305	39	66	34	64	49	76
	NBL	25	3	12	1	6	5	19
	NBT	80	84	116	86	122	94	136
	NBR	30	41	66	46	62	40	68
	SBL	80	34	82	23	38	22	39
Kennedy Rd & Hwy 401 WB Off-ramp	SBT	350	83	169	66	111	74	122
	SBTR	20	20	90	4	16	9	23
	WBL	380	83	139	95	159	75	105
	WBLR	380	88	147	108	182	86	151
	WBR	100	71	117	96	145	71	102
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	NBT	330	76	123	105	160	300	460
	SBT	80	100	129	92	124	84	120
	EBL	500	102	145	74	101	70	106
	EBLT	500	104	145	80	105	77	112
	EBTR	220	77	118	63	89	64	93
	EBR	105	55	83	43	68	45	72
	WBR	170	67	123	84	136	136	263
	NBT	135	96	144	149	185	145	197
	NBTR	45	3	20	48	97	44	95
	SBT	330	63	94	54	88	56	87

Based on the Synchro and SimTraffic results above, the key findings are summarized as follows:

- The following intersections are forecast to operate at over capacity:
 - Kennedy Road and Sheppard Avenue,
 - Midland Avenue and Sheppard Avenue, and
 - Kennedy Road and Cowdray Court.

2. The northbound left-turn movement at the intersection of Kennedy Road and Midland Avenue is operating over capacity at v/c of 1.14 in the AM peak hour. Since the traffic pattern changes associated with the alternative road alignment is only expected to have a localized influence on traffic routing, this boundary intersection operates the same between all of the future scenarios. The intersection could be improved with all movements within capacity by increasing the cycle length from 110 seconds to 120 seconds.
3. Similar to existing conditions, the stop-controlled approaches at Reidmount Avenue and Sheppard Avenue continue to experience long delays due to heavy traffic flow along Sheppard Avenue during peak periods. All of the other unsignalized study intersections operate at LOS C or better.
4. Traffic volumes will significantly increase along Village Green Square and Cowdray court since there is no alternative route for the existing and planned developments that are proposed within the study area.
5. If no road improvements are made to the network, the level of service and delays along Kennedy Road and Sheppard Avenue are expected to deteriorate significantly by the horizon year 2035 due the traffic growth related to the proposed developments.
6. Queues along Kennedy Road and Sheppard Avenue are shown to significantly increase under the do nothing scenario. The long queues on the arterial roads result in backed-up congestion to the side streets and vehicles will have a challenging time completing their turns onto the arterial roads.
7. As a result of the added growth and capacity issues at Kennedy Road and Village Green Square, the Highway 401 ramps operations are expected to worsen compared to existing conditions. However, the off-ramp queues are well accommodated within their available storage and are not expected to extend to the highway mainline.

Based on the Do Nothing assessment, additional capacity and routing option in the network are required to accommodate the traffic generated by the planned developments.

3.2 OPTION C1 FUTURE TRAFFIC CONDITIONS

The future 2035 traffic conditions under Option C1 are summarized in **Table 9**. The SimTraffic queues for the key intersections are presented in **Table 10**. Detailed Synchro and SimTraffic worksheets are provided in **Appendix G**.

Table 9: Option C1 Intersection Operations

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Allanford Rd/Private Dwy & Sheppard Ave	Signalized	A (5)	--	A (5)	--	A (6)	--



Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Private Dwy/Aginco urt Mall Dwy & Sheppard Ave	Signalized	C (20)	--	B (13)	--	B (16)	--
Kennedy Rd & Sheppard Ave	Signalized	D (48)	WB-L (0.93) NB-L (0.96) SB-TR (0.99)	D (54)	EB-R (0.92) WB-L (0.92) NB-L (0.96) SB-TR (0.98)	D (43)	WB-L (0.98) NB-L (0.96)
Kennedy Rd & Bonis Ave/Cardwel l Ave	Signalized	B (14)	--	B (17)	--	B (14)	--
Aginco GO Station Dwy/4091/41 01 Sheppard Ave Dwy & Sheppard Ave	Signalized	A (6)	--	A (10)	--	A (4)	--
Lamont Ave/Private Dwy & Sheppard Ave	Signalized	A (1)	--	A (2)	--	A (1)	--
Midland Ave & Sheppard Ave	Signalized	E (64)	WB-T (1.00) NB-L (1.14)	C (30)	--	D (37)	WB-T (0.92)
Kennedy Rd & Cowdray Crt	Signalized	B (20)	--	B (19)	--	B (10)	--
Kennedy Rd & Private Dwy/Village Green Sq	Signalized	B (19)	--	B (19)	--	C (23)	--
Kennedy Rd & Hwy 401 WB Off-ramp	Signalized	C (23)	WB-L (0.79) WB-R (0.78)	C (29)	WB-L (0.87) WB-R (0.88)	E (65)	WB-L (0.81) WB-R (0.81) NB-T (0.73)
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	Signalized	C (30)	EB-L (0.93) EB-LTR (0.90) EB-R (0.89)	C (27)	EB-L (0.82) EB-T (0.77) EB-R (0.75) NB-T (0.75)	C (26)	EB-L (0.78) EB-T (0.78) EB-R (0.76)
Gordon Ave & Sheppard Ave	Signalized	B (15)	--	B (17)	--	C (23)	--
N-S Street & Cowdray Court	Signalized	B (10)	--	B (10)	--	B (13)	--
Reidmount Ave & Cardwell Ave/ Dowry St	Unsignalized	NB-LR A (9)	NB-LR (0.07)	NB-LR A (9)	NB-LR (0.06)	NB-LR A (9)	NB-LR (0.06)
Sheppard Ave &	Unsignalized	SB-LR F (59)	SB-LR (0.46)	SB-LR D (29)	SB-LR (0.19)	SB-LR F (59)	SB-LR (0.32)

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Reidmount Ave							
Kennedy Rd & Jade St/Collingwood St	Unsignalized	NB-L C (15)	NB-L (0.17)	NB-L B (13)	NB-L (0.05)	NB-L B (14)	NB-L (0.07)
Collingwood St & Gordon Ave	Unsignalized	NB-LTR B (10)	NB-LTR (0.21)	NB-LTR B (10)	NB-LTR (0.21)	NB-LTR B (13)	NB-LTR (0.48)
Village Green Sq (~200 metres east of Village Green Square & Kennedy Rd)	Unsignalized	SB-LR C (20)	SB-LR (0.40)	SB-LR B (12)	SB-LR (0.20)	SB-LR E (36)	SB-LR (0.66)
Village Green Square/N-S Street	Unsignalized	EB-LR B (10)	EB-LR (0.05)	EB-LR B (11)	EB-LR (0.04)	EB-LR B (12)	EB-LR (0.06)

1. For signalized intersections within the City jurisdiction, the LOS is based on the overall delay of the intersection. Critical v/c ratios are listed for movements with values over 0.90. For MTO intersection, the v/c threshold is 0.75.
2. For two-way stop controlled intersections, the LOS is based on the delay associated with the critical movement.

Table 10: Option C1 SimTraffic Queues at Key Intersections

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]
Sheppard Ave & Kennedy Rd	EBL	30	18	41	17	39	20	41
	EBT	90	175	188	176	210	155	223
	EBR	35	54	60	54	62	52	68
	WBL	20	35	35	34	37	35	35
	WBT	245	107	111	100	134	108	111
	WBTR	245	109	117	97	136	95	137
	NBL	50	59	85	68	82	56	81
	NBT	295	101	170	153	210	164	208
	NBR	60	32	78	56	108	98	112
	SBL	50	58	90	65	86	70	71
	SBT	250	221	336	188	295	251	336
	SBTR	250	220	334	181	288	159	279
Sheppard Ave & Gordon Ave	EBT	130	20	53	14	44	10	52
	EBTR	130	57	92	63	103	107	112
	WBL	30	44	81	30	65	56	73
	WBT	90	120	146	70	131	128	147
	NBL	30	23	39	26	48	30	57
	NBR	160	17	35	18	48	52	88
Sheppard Ave E & GO Station Access	EBL	65	15	28	3	9	-	-
	EBT	130	25	36	28	43	20	40
	EBTR	245	7	22	12	28	4	15
	WBL	25	11	41	7	23	10	41
	WBT	245	206	364	44	121	252	372
	WBR	55	31	68	6	29	-	-
	NBL	50	11	23	21	38	10	21

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]
	NBR	50	7	15	11	19	4	11
	SBL	35	6	14	9	20	-	-
	SBR	100	8	19	4	11	-	-
Kennedy Rd & Village Green Sq	EBLTR	100	3	12	3	10	6	18
	WBL	100	66	91	48	71	106	177
	WBTR	305	24	44	21	36	87	222
	NBL	25	3	10	1	7	5	18
	NBT	80	74	114	59	120	88	135
	NBR	30	41	64	45	60	44	65
	SBL	80	59	144	22	48	13	24
	SBT	350	398	451	83	125	76	111
	SBTR	20	103	162	7	47	9	53
Kennedy Rd & Hwy 401 WB Off-ramp	WBL	380	73	98	93	172	78	128
	WBLR	380	77	101	105	195	89	166
	WBR	100	63	91	89	140	74	111
	NBT	330	79	132	108	171	278	471
	SBT	80	109	118	103	131	107	135
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	EBL	500	95	135	75	104	65	96
	EBLT	500	99	136	81	107	74	101
	EBTR	220	78	115	64	93	64	92
	EBR	105	57	89	45	71	49	78
	WBR	170	60	97	106	185	102	178
	NBT	135	96	147	156	164	154	191
	NBTR	45	5	33	50	99	37	90
	SBT	330	57	86	59	118	72	112



Based on the results above, the key findings are summarized as follows:

1. With the new North-South Street C1 and signal adjustments, almost all of the signalized study intersections are expected to operate within capacity. The only exception is the northbound left-turn movement at the intersection of Kennedy Road and Midland Avenue in the AM peak hour, which can be mitigated by increasing the cycle length from 110 seconds to 120 seconds.
2. The traffic generated by the planned developments to the east of Kennedy Road now have an alternative north-south route to use rather than only turning onto Kennedy Road. Therefore, compared to the Do Nothing scenario, the redistribution of traffic to the new North-South street significantly improves intersection operations along Kennedy Road. For example, the intersection of Kennedy and Cowdray Court is expected to operate at LOS of B, whereas under the Do-Nothing scenario this intersection operated at LOS D/E with over capacity movements. The intersection of Kennedy and Village Green Square also improved from a LOS D/F to LOS B/C. Furthermore, the reduced volumes at the Kennedy Road and Sheppard Avenue intersection result in all movements operating within capacity.
3. The newly signalized intersection at Gordon Avenue and Sheppard Avenue is shown to operate at LOS C or better during the peak periods. The addition of the westbound left protected-permissive phase during the Saturday midday peak hour, and exclusive northbound left-turn and westbound left-turn lanes are required to achieve acceptable levels of service. Based on the SimTraffic average queues, approximately 30 metres of storage should be provided for the auxiliary northbound left-turn lane, if possible. The storage length of the auxiliary westbound left-turn lane is likely restricted to the available right-of-way on Sheppard Avenue.
4. The eastbound and westbound through SimTraffic queues along Sheppard Avenue between Kennedy Road and the Agincourt GO Station access intersections are comparable to the queues observed in the Do Nothing scenario. Therefore, with the signal timing coordination applied, the signalization of Gordon Avenue and Sheppard Avenue is not expected to deteriorate traffic flow along Sheppard Avenue in the study vicinity.
5. All of the existing and newly formed stop-controlled intersections operate at LOS E or better, with the exception of Sheppard Avenue and Reidmount Avenue. Sheppard Avenue and Reidmount Avenue is expected to operate poorly as previously shown in the existing traffic conditions and Do Nothing conditions.
6. The operations of the Highway 401 ramps under Option C1 are shown to marginally improve from the Do-Nothing scenario, which is a result of the reduced queues along Kennedy Road. The off-ramp queues are well accommodated within their available storage and are not expected to extend to the highway mainline.

3.3 OPTION C2 FUTURE TRAFFIC CONDITIONS

The resulting future 2035 traffic conditions under Option C2 are summarized in **Table 11**. The SimTraffic queues for key intersections are presented in **Table 12**. Detailed Synchro and SimTraffic worksheets are provided in **Appendix H**.

Table 11: Option C2 Intersection Operations

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Allanford Rd/Private Dwy & Sheppard Ave	Signalized	A (5)	--	A (5)	--	A (6)	--
Private Dwy/Agincourt Mall Dwy & Sheppard Ave	Signalized	C (20)	--	B (13)	--	B (16)	--
Kennedy Rd & Sheppard Ave	Signalized	D (48)	WB-L (0.93) NB-L (0.96) SB-TR (0.99)	E (57)	EB-R (0.91) WB-L (0.94) NB-L (0.98) NB-T (0.91) SB-TR (1.00)	D (41)	WB-L (0.95) NB-L (0.96)
Kennedy Rd & Bonis Ave/Cardwell Ave	Signalized	B (14)	--	B (18)	--	B (14)	--
Agincourt GO Station Dwy/4091/4101 Sheppard Ave Dwy & Sheppard Ave	Signalized	A (6)	--	B (10)	--	A (4)	--
Lamont Ave/Private Dwy & Sheppard Ave	Signalized	A (1)	--	A (2)	--	A (1)	--
Midland Ave & Sheppard Ave	Signalized	E (64)	WB-T (1.00) NB-L (1.14)	C (31)	--	D (37)	WB-T (0.92)
Kennedy Rd & Cowdray Crt	Signalized	B (20)	--	B (19)	--	A (10)	--
Kennedy Rd & Private Dwy/Village Green Sq	Signalized	B (18)	--	B (18)	--	B (19)	--
Kennedy Rd & Hwy 401 WB Off-ramp	Signalized	C (23)	WB-L (0.79) WB-R (0.78)	C (29)	WB-L (0.86) WB-R (0.87)	C (34)	WB-L (0.81) WB-R (0.81)
Kennedy Rd & Hwy 401 EB Off-ramp/William Kitchen Rd	Signalized	C (30)	EB-L (0.93) EB-LTR (0.90) EB-R (0.89)	C (29)	EB-L (0.83) EB-LTR (0.79) EB-R (0.79) NB-T (0.80)	C (26)	EB-L (0.78) EB-LTR (0.78) EB-R (0.76)
Gordon Ave & Sheppard Ave	Signalized	B (15)	--	B (17)	--	C (23)	--

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
N-S Street & Cowdray Court	Signalized	B (12)	--	B (11)	--	C (17)	--
Reidmount Ave & Cardwell Ave/ Dowry St	Unsignalized	NB-LR A (9)	NB-LR (0.07)	NB-LR A (9)	NB-LR (0.06)	NB-LR A (9)	NB-LR (0.06)
Sheppard Ave & Reidmount Ave	Unsignalized	SB-LR F (59)	SB-LR (0.46)	SB-LR D (29)	SB-LR (0.19)	SB-LR F (59)	SB-LR (0.32)
Kennedy Rd & Jade St/Collingwood St	Unsignalized	NB-L C (15)	NB-L (0.17)	NB-L B (13)	NB-L (0.13)	NB-L B (14)	NB-L (0.07)
Collingwood St & Gordon Ave	Unsignalized	SB-LR B (11)	SB-LR (0.25)	SB-LR B (11)	SB-LR (0.25)	SB-LR B (15)	SB-LR (0.41)
Village Green Sq (~200 metres east of Village Green Square & Kennedy Rd)	Unsignalized	SB-LR C (22)	SB-LR (0.47)	SB-LR B (13)	SB-LR (0.26)	SB-LR D (34)	SB-LR (0.65)
Village Green Square/N-S Street	Unsignalized	EB-LR B (11)	EB-LR (0.06)	EB-LR B (11)	EB-LR (0.05)	EB-LR B (12)	EB-LR (0.12)

1. For signalized intersections within the City jurisdiction, the LOS is based on the overall delay of the intersection. Critical v/c ratios are listed for movements with values over 0.90. For MTO intersection, the v/c threshold is 0.75.
2. For two-way stop controlled intersections, the LOS is based on the delay associated with the critical movement.

Table 12: Option C2 SimTraffic Queues at Key Intersections

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]
Sheppard Ave & Kennedy Rd	EBL	30	20	43	22	46	20	44
	EBT	90	173	196	176	203	176	180
	EBR	35	54	61	52	66	54	63
	WBL	20	35	36	35	38	35	36
	WBT	245	107	115	105	125	108	112
	WBTR	245	109	118	105	130	103	130
	NBL	50	57	82	66	84	55	81
	NBT	295	83	143	128	188	159	215
	NBR	60	30	73	59	114	95	123
	SBL	50	57	89	63	86	68	80
Sheppard Ave & Gordon Ave	SBT	250	238	334	181	294	222	336
	SBTR	250	238	332	180	290	145	258
	EBT	130	17	44	13	42	9	48
	EBTR	130	55	87	57	91	107	111
	WBL	30	26	43	25	41	31	38
	WBT	90	120	144	98	159	126	151
	NBL	30	21	34	25	40	26	40
	NBR	160	18	40	57	145	62	99
	EBL	65	17	31	3	10	-	-
	EBT	130	24	41	31	42	21	42
Sheppard Ave E & GO Station Access	EBTR	245	7	22	14	31	5	16
	WBL	25	7	31	7	24	14	48
	WBT	245	188	348	57	130	241	373
	WBR	55	31	69	6	31	-	-
	NBL	50	10	22	23	41	12	24
	NBR	50	9	17	12	22	5	12
	SBL	35	6	16	7	17	-	-
	SBR	100	7	18	5	14	-	-
	EBLTR	100	3	11	4	13	6	18
	WBL	100	55	77	51	73	75	142
Kennedy Rd & Village Green Sq	WBTR	305	15	29	11	23	69	196
	NBL	25	4	15	1	4	7	25
	NBT	80	69	108	78	121	95	139
	NBR	30	42	62	46	61	47	62
	SBL	80	61	146	25	52	16	31
	SBT	350	233	432	93	161	78	116
	SBTR	20	84	175	13	66	3	27
	WBL	380	72	99	78	116	78	124
Kennedy Rd & Hwy 401 WB Off-ramp	WBLR	380	78	103	88	126	87	166
	WBR	100	63	91	80	119	76	110
	NBT	330	84	149	108	171	320	489
	SBT	80	109	122	106	126	127	178
	EBL	500	104	151	77	107	68	95
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	EBLT	500	107	153	82	112	75	100
	EBTR	220	84	128	63	92	63	86
	EBR	105	54	84	44	67	48	73
	WBR	170	73	117	105	178	144	280
	NBT	135	97	148	159	172	149	187
	NBTR	45	3	21	43	96	34	88
	SBT	330	59	97	66	106	69	108

Given the similarity in traffic routing between Options C1 and C2, the traffic findings presented for Option C1 also apply to C2. The main difference is that the traffic volumes along Collingwood street under C2 will be notably higher compared to C1. This is because the North-South Street connects to Collingwood Street instead of directly connecting to Gordon Avenue. Nonetheless, the 'T' intersection of Gordon Avenue/Collingwood Street will operate adequately.

3.4 OPTION C3 FUTURE TRAFFIC CONDITIONS

The future 2035 traffic conditions under Option C3 are summarized in **Table 13**. The SimTraffic queues for key intersections are presented in **Table 14**. Detailed Synchro and SimTraffic worksheets are provided in **Appendix I**.

Table 13: Option C3 Intersection Operations

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Allanford Rd/Private Dwy & Sheppard Ave	Signalized	A (5)	--	A (5)	--	A (5)	--
Private Dwy/Agincourt t Mall Dwy & Sheppard Ave	Signalized	C (20)	--	B (13)	--	B (16)	--
Kennedy Rd & Sheppard Ave	Signalized	F (93)	WB-L (1.14) NB-L (1.32) SB-TR (0.99)	F (98)	EB-R (0.96) WB-L (1.13) NB-L (1.15) SB-L (1.02) SB-TR (1.04)	F (137)	WB-L (1.31) NB-L (1.41)
Kennedy Rd & Bonis Ave/Cardwell Ave	Signalized	B (14)	--	B (17)	--	B (14)	--
Agincourt GO Station Dwy/4091/410 1 Sheppard Ave Dwy & Sheppard Ave	Signalized	A (6)	--	B (11)	--	A (3)	--
Lamont Ave/Private Dwy & Sheppard Ave	Signalized	A (1)	--	A (2)	--	A (1)	--
Midland Ave & Sheppard Ave	Signalized	E (64)	WB-T (1.00) NB-L (1.14)	C (30)	--	D (36)	WB-T (0.92)
Kennedy Rd & Cowdray Crt	Signalized	C (22)	--	C (21)	WB-LR (0.90) NB-TR (0.91)	B (15)	--
Kennedy Rd & Private Dwy/Village Green Sq	Signalized	C (22)	--	C (24)	--	F (83)	--
Kennedy Rd & Hwy 401 WB Off-ramp	Signalized	C (23)	WB-L (0.79) WB-R (0.78)	C (30)	WB-LR (0.87) WB-R (0.88)	F (93)	WB-LR (0.81) WB-R (0.81)
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	Signalized	C (30)	EB-L (0.93) EB-LTR (0.90) EB-R (0.89)	C (27)	EB-L (0.82) EB-LTR (0.77) EB-R (0.75) NB-T (0.75)	C (29)	EB-L (0.78) EB-LTR (0.78) EB-R (0.76)
N-S Street & Cowdray Court	Signalized	A (10)	--	A (10)	--	B (11)	--

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Gordon Ave & Sheppard Ave	Unsignalized	NB-LR B (11)	NB-LR (0.04)	NB-LR C (16)	NB-LR (0.06)	NB-LR B (11)	NB-LR (0.05)
Reidmount Ave & Cardwell Ave/ Dowry St	Unsignalized	NB-LR A (9)	NB-LR (0.07)	NB-LR A (9)	NB-LR (0.06)	NB-LR A (9)	NB-LR (0.06)
Sheppard Ave & Reidmount Ave	Unsignalized	SB-LTR F (207)	SB-LTR (0.80)	SB-LTR F (52)	SB-LTR (0.32)	SB-LTR F (816)	SB-LTR (1.16)
Kennedy Rd & Jade St/Collingwood St	Unsignalized	NB-L C (16)	NB-L (0.19)	NB-L B (14)	NB-L (0.14)	NB-L C (16)	NB-L (0.08)
Collingwood St & Gordon Ave	Unsignalized	SB-LR A (9)	SB-LR (0.04)	SB-LR A (9)	SB-LR (0.03)	SB-LR A (9)	SB-LR (0.04)
Village Green Sq (~200 metres east of Village Green Square & Kennedy Rd)	Unsignalized	SB-LR C (23)	SB-LR (0.51)	SB-LR B (14)	SB-LR (0.30)	SB-LR D (28)	SB-LR (0.52)
Village Green Square/N-S Street	Unsignalized	EB-LR A (9)	EB-LR (0.05)	EB-LR A (10)	EB-LR (0.04)	EB-LR A (10)	EB-LR (0.04)

1. For signalized intersections within the City jurisdiction, the LOS is based on the overall delay of the intersection. Critical v/c ratios are listed for movements with values over 0.90. For MTO intersection, the v/c threshold is 0.75.
2. For two-way stop controlled intersections, the LOS is based on the delay associated with the critical movement.

Table 14: Option C3 SimTraffic Queues at Key Intersections

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]
Kennedy Rd & Sheppard Ave	EBL	30	15	36	18	42	23	46
	EBT	150	141	218	168	206	175	183
	EBR	35	54	62	53	66	53	65
	WBL	20	35	36	35	36	35	35
	WBT	245	107	110	108	78	107	111
	WBTR	245	89	142	78	129	74	131
	NBL	50	70	70	67	80	70	70
	NBT	295	171	197	137	201	174	192
	NBR	60	26	67	48	106	40	84
	SBL	50	56	94	62	89	57	89
Sheppard Ave E & GO Station Access	SBT	250	257	332	248	333	124	224
	SBTR	250	257	332	247	333	117	214
	EBL	65	15	27	3	10	-	-
	EBT	245	26	42	33	45	23	46
	EBTR	245	10	30	18	37	14	36
	WBL	25	13	47	7	31	11	44
	WBT	245	240	361	67	173	257	360
	WBR	55	28	67	6	29	-	-
	NBL	50	11	26	25	47	9	22
	NBR	50	8	18	10	18	4	11
	SBL	35	5	15	9	18	-	-
	SBR	100	8	21	5	16	-	-

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]
Kennedy Rd & Village Green Sq	EBLTR	100	4	13	3	10	6	18
	WBL	100	71	102	67	96	71	125
	WBTR	305	32	61	29	57	42	115
	NBL	25	3	12	1	10	6	24
	NBT	80	80	119	83	124	93	144
	NBR	30	39	65	45	62	48	64
	SBL	80	49	124	29	61	24	49
	SBT	350	171	368	71	105	70	96
Kennedy Rd & Hwy 401 WB Off-ramp	SBTR	20	71	170	4	31	3	23
	WBL	380	72	108	115	205	77	117
	WBLR	380	77	114	131	234	86	123
	WBR	100	62	94	108	158	78	112
	NBT	330	75	131	101	154	293	473
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	SBT	80	104	122	102	125	90	130
	EBL	500	105	156	77	101	114	252
	EBLT	500	108	159	83	108	118	251
	EBTR	220	82	131	62	88	100	225
	EBR	105	53	83	43	68	53	99
	WBR	170	68	118	90	150	166	306
	NBT	135	136	96	153	185	135	197
	NBTR	45	3	22	49	100	39	93
	SBT	330	62	91	56	102	104	143

Based on the results above, the key findings are summarized as follows:

1. Many of the key intersections are forecast to operate with longer delays and over capacity movements similar to the do nothing scenario (i.e., Kennedy Road and Midland Avenue, and Kennedy Road and Sheppard Avenue).

Since the 2035 volumes at Kennedy Road and Midland Avenue have remained unchanged across all scenarios, the northbound left-turn movement at the intersection of Kennedy Road and Midland Avenue continues to operate over capacity at a V/C ratio of 1.14.

The redistribution of volumes from the Kennedy Road and Sheppard Avenue intersection to the Sheppard Avenue and Reidmount Avenue intersection is limited due to the northbound right-in/right-out nature of the Reidmount Avenue and Sheppard Avenue intersection. Therefore, even with signal optimization efforts and the complete street C3, the intersection operations of Kennedy Road and Sheppard Avenue will continue to operate at over-capacity conditions similar to the Do-Nothing scenario.

2. Similar to the results in the other complete street alignment options, all existing and new unsignalized intersections operate at LOS C or better, with the exception of Sheppard Avenue and Reidmount Avenue.
3. The operations of the Highway 401 ramps under Option C3 are similar to all of the other North-South Street alignment options. The off-ramp queues are well contained within their available storage and are not expected to extend to the highway mainline.
4. Given the limited nature of the right-in-right-out connection of the North-South street to Sheppard Avenue, the North-South Street will not be a very attractive routing option for



motorists compare to the other North-South street alignments that feature a full-moves connection onto Sheppard Avenue. Given less traffic would be diverted away from the congested arterial roads, Option C3 is the least favourable option from a traffic operations perspective.

3.5 OPTION C4 FUTURE TRAFFIC CONDITIONS

The resulting future 2035 traffic conditions under Option C4 are summarized in **Table 15**. The SimTraffic queues for key intersections are presented in **Table 16**. Detailed Synchro and SimTraffic worksheets are provided in **Appendix J**.

Table 15: Option C4 Intersection Operations

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Allanford Rd/Private Dwy & Sheppard Ave	Signalized	A (5)	--	A (5)	--	A (5)	--
Private Dwy/Agincourt Mall Dwy & Sheppard Ave	Signalized	C (20)	--	B (13)	--	B (16)	--
Kennedy Rd & Sheppard Ave	Signalized	D (50)	WB-L (0.93) NB-L (0.96) SB-TR (0.99)	D (54)	EB-R (0.94) WB-L (0.97) NB-L (0.96) SB-L (0.95) SB-TR (0.96)	D (43)	WB-L (0.98) NB-L (0.96)
Kennedy Rd & Bonis Ave/Cardwell Ave	Signalized	B (14)	--	B (17)	--	B (14)	--
Agincourt GO Station Dwy/4091/4101 Sheppard Ave Dwy & Sheppard Ave	Signalized	B (12)	--	B (17)	--	A (3)	--
Lamont Ave/Private Dwy & Sheppard Ave	Signalized	A (1)	--	A (2)	--	A (1)	--
Midland Ave & Sheppard Ave	Signalized	E (64)	WB-T (1.00) NB-L (1.14)	C (30)	--	D (36)	WB-T (0.92)
Kennedy Rd & Cowdray Crt	Signalized	C (20)	--	B (19)	--	B (15)	--
Kennedy Rd & Private Dwy/Village Green Sq	Signalized	C (20)	--	C (20)	--	F (83)	--
Kennedy Rd & Hwy 401 WB Off-ramp	Signalized	C (23)	WB-LR (0.79) WB-R (0.78)	C (29)	WB-LR (0.87) WB-R (0.88)	F (93)	WB-LR (0.81) WB-R (0.81)

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	Signalized	C (30)	EB-L (0.93) EB-LTR (0.90) EB-R (0.89)	C (27)	EB-L (0.82) EB-LTR (0.77) EB-R (0.75) NB-T (0.75)	C (29)	EB-L (0.78) EB-LTR (0.78) EB-R (0.76)
N-S Street & Cowdray Court	Signalized	B (12)	--	B (11)	--	B (18)	--
Gordon Ave & Sheppard Ave	Unsignalized	NB-LR B (10)	NB-LR (0.04)	NB-LR C (15)	NB-LR (0.05)	NB-LR B (11)	NB-LR (0.05)
Reidmount Ave & Cardwell Ave/ Dowry St	Unsignalized	NB-LR A (9)	NB-LR (0.07)	NB-LR A (9)	NB-LR (0.06)	NB-LR A (9)	NB-LR (0.06)
Sheppard Ave & Reidmount Ave	Unsignalized	SB-LTR F (58)	SB-LTR (0.45)	SB-LTR D (30)	SB-LTR (0.19)	SB-LTR F (51)	SB-LTR (0.29)
Kennedy Rd & Jade St/Collingwood St	Unsignalized	NB-L C (15)	NB-L (0.17)	NB-L B (13)	NB-L (0.13)	NB-L C (14)	NB-L (0.07)
Collingwood St & Gordon Ave	Unsignalized	SB-LR A (9)	SB-LR (0.07)	SB-LR A (9)	SB-LR (0.06)	SB-LR A (9)	SB-LR (0.08)
Village Green Sq (~200 metres east of Village Green Square & Kennedy Rd)	Unsignalized	SB-LR D (30)	SB-LR (0.62)	NB-TLR B (13)	NB-LTR (0.31)	SB-TLR E (39)	SB-LTR (0.64)
Village Green Square/N-S Street	Unsignalized	EB-LR B (11)	EB-LR (0.06)	EB-LR B (11)	EB-LR (0.05)	EB-LR A (12)	EB-LR (0.06)

1. For signalized intersections within the City jurisdiction, the LOS is based on the overall delay of the intersection. Critical v/c ratios are listed for movements with values over 0.90. For MTO intersection, the v/c threshold is 0.75.
2. For two-way stop controlled intersections, the LOS is based on the delay associated with the critical movement.

Table 16: Option C4 SimTraffic Queues at Key Intersections

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]	Avg Queues [m]	95 th Queue [m]
Kennedy Rd & Sheppard Ave	EBL	30	15	36	20	44	28	51
	EBT	150	136	213	176	179	171	200
	EBR	35	55	59	53	66	53	65
	WBL	20	35	36	34	38	35	35
	WBT	245	107	122	97	132	108	113
	WBTR	245	109	124	95	132	107	120
	NBL	50	56	82	54	84	53	82
	NBT	295	78	133	84	125	77	125
	NBR	60	31	73	47	96	39	80
	SBL	50	55	89	62	88	57	88
	SBT	250	220	342	185	298	100	151
	SBTR	250	218	220	182	294	95	146
Sheppard Ave E & GO Station Access	EBL	65	17	28	3	12	-	-
	EBT	245	28	39	31	40	29	36
	EBTR	245	12	28	17	32	13	24
	WBL	25	32	66	19	43	45	71
	WBT	245	206	339	51	107	229	374
	WBR	55	31	71	5	25	-	-
	NBL	50	39	67	47	76	49	90
	NBR	50	22	40	25	42	27	41
	SBL	35	5	15	8	18	-	-
	SBR	100	7	16	5	13	-	-
Kennedy Rd & Village Green Sq	EBLTR	100	4	14	2	8	6	17
	WBL	100	66	98	55	80	103	166
	WBTR	305	33	70	24	47	107	245
	NBL	25	4	14	1	7	7	25
	NBT	80	73	111	39	60	99	136
	NBR	30	42	62	45	61	49	61
	SBL	80	67	155	22	44	18	38
	SBT	350	356	458	71	115	87	121
	SBTR	20	111	151	8	51	12	64
Kennedy Rd & Hwy 401 WB Off-ramp	WBL	380	72	100	96	147	75	104
	WBLR	380	76	102	106	163	82	108
	WBR	100	61	87	97	148	71	99
	NBT	330	83	148	109	175	298	463
	SBT	80	108	118	105	117	108	129
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	EBL	500	96	146	74	102	79	135
	EBLT	500	101	147	80	106	88	140
	EBTR	220	80	125	59	84	74	121
	EBR	105	56	88	42	67	50	78
	WBR	170	77	135	89	149	158	302
	NBT	135	101	143	153	177	155	182
	NBTR	45	32	71	44	96	38	90
	SBT	330	66	96	73	115	102	158

Based on the results above, the key findings are summarized as follows:

1. All signalized study intersections are expected to operate within capacity. The only exception continues to be the northbound left-turn movement at the intersection of Kennedy Road and Midland Avenue which is forecast to operate at a V/C ratio of 1.14 during the weekday morning peak hour.

2. Similar to the results of the other alignment options, all existing and new stop-controlled intersections operate at LOS E or better, with the exception of Sheppard Avenue and Reidmount Avenue.
3. The results of Option C4 are similar to Options C1 and C2. The only exception is the interruptions the connection to the signalized Agincourt GO Station access would mean to the existing driveway of the condo at 4091 and 4101 Sheppard Ave E. There are currently pick-up/drop-off opportunities off of the private driveway. However, this private driveway and the pick-up/drop-off operation would be negatively impacted as a result of the public road that form the south approach of the signalized intersection.
4. The traffic generated by the planned developments to the east of Kennedy Road will have an alternative north-south route with option C4. Therefore, compared to the Do Nothing scenario, the redistribution of traffic to the new North-South Street improves intersection operations along Kennedy Road. For example, the intersection of Kennedy Road and Cowdray Court is expected to operate at LOS of B, while under the Do Nothing scenario the intersection operated at LOS D/E with over capacity movements. The intersection of Kennedy Road and Village Green Square also improved from a LOS D/F to LOS B/C during the peak hours. Furthermore, the reduced volumes at the Kennedy Road and Sheppard Avenue intersection result in all movements to operating within capacity.

The Highway 401 and Kennedy Road off-ramp queues are well contained within their available storage and are not expected to extend to the highway mainline.

3.6 ARTERIAL TRAVEL TIME

Another measure of effectiveness used to understand how the Do Nothing scenario compares to the 4 complete street options is the Synchro-generated arterial travel times along Sheppard Avenue and Kennedy Road. This allows an “Apples to Apples” comparison of how long motorists require to drive through both of these segments. The travel times are presented in **Table 17**.

Table 17 – Arterial Travel Time

ARTERIAL TRAVEL TIME ALONG SHEPPARD AVENUE (between Birchmount Road and Midland Avenue) [Seconds per vehicle]								
Scenario	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour		TOTAL	% Change relative to "Do Nothing"
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound		
Do Nothing	194	238	211	189	202	206	1,240	N/A
Option C1	206	248	228	200	231	218	1,330	7%
Option C2	206	248	230	201	231	218	1,334	7%
Option C3	195	238	214	189	206	203	1,244	0%
Option C4	197	245	221	197	211	211	1,282	3%

ARTERIAL TRAVEL TIME ALONG KENNEDY ROAD (between Marilyn Avenue and Progress Avenue) [Seconds per vehicle]								
Scenario	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour		TOTAL	% Change relative to "Do Nothing"
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound		
Do Nothing	269	319	297	322	281	282	1,769	N/A
Option C1	244	312	268	319	264	283	1,690	-6%
Option C2	242	311	273	331	263	281	1,701	-5%
Option C3	253	314	273	383	266	292	1,781	1%
Option C4	246	313	264	307	259	293	1,681	-7%

As shown in **Table 17**, the travel time along Sheppard Avenue appears to increase the most under Options C1 and C2 compared to the “Do Nothing” scenario because of the signalization of Gordon and Sheppard and the additional traffic funnelled to Sheppard Avenue by the new North-South Street. However, this increase in travel time is relatively marginal since it is only a 7-8% increase (i.e. approximately 1 minute and 30 second increase in travel time along the 1.5km segment of Sheppard Avenue).

Travel time along Sheppard Avenue also marginally increases under Option C4, while travel time under Option C3 remain unchanged from the “Do-Nothing” base scenario.

The arterial travel time on Kennedy reduces under Options C1, C2, and C4 because of the redistribution of some traffic on Kennedy to the new North-South Street. The reduction in travel time along Kennedy is relatively comparable across the three options.

The redistribution of traffic under Option C3 is less compared to the other options due to the limitations of the right-in-right-out connection at Sheppard. As such, arterial travel times on Kennedy and Sheppard under Option C3 appears remain relatively unchanged compared to the “Do Nothing” scenario.

Overall, Option 4 produces the largest total reduction in travel time along both Kennedy and Sheppard (i.e. sum total of 4% reduction in travel time). However, note that these statistics do not capture the impact and delays to the high density of residents in close proximity (i.e. 4091 and 4101 Sheppard Ave E) utilizing this access. These condo buildings would likely have driveway accesses in close proximity to the Sheppard and GO Station access signals, and as such the residents may have a difficult time finding gaps to turn in and out of the driveways due to the queues along North-South Street.



4 CONCLUSION

Based on the traffic assessments presented in this report, the addition of the North-South Road is expected to help alleviate traffic off Kennedy Road, and the preferred alignment of the North-South Road is Option C1.

In comparison to Option C2, Option C1 provides a more direct, linear North-South Street, which reduces delays and slowing down of vehicles at turns.

Although the results for Options C1 and C4 are similar, the North-South Street connection to Gordon and Sheppard is preferred because the connection to the signalized GO access would impact more residents due to the high density of residents in close proximity (i.e. 4091 and 4101 Sheppard Ave E) utilizing this access. This could also impact the pick-up/drop-off, parking and servicing accesses for the condos at 4091 and 4101 Sheppard Avenue East.

Option C3 is the least favourable given the limited right-in-right-out connection to Sheppard Avenue.

If Option C1 is the preferred alternative in the EA moving forward, the following traffic recommendations should be considered:

- Northbound left and westbound left auxiliary lanes should be considered in the redesign of Gordon and Sheppard as a signalized intersection. The northbound left auxiliary lane should provide about a 30-metre storage if possible. The westbound left auxiliary lane storage length would be determined by the available right-of-way on Sheppard Avenue.
- The addition of a westbound left protected-permissive phase at Gordon and Sheppard during the Saturday midday peak period may need to be considered to accommodate the westbound left traffic demand at the intersection.
- Increase cycle length from 110 seconds to 120 seconds at Kennedy and Sheppard, Gordon and Sheppard, and the GO access and Sheppard during all peak periods. To improve intersection coordination and flow of traffic, the east-west amber interval phase should be lined up for all three intersections.
- At the yield-control intersection on Village Green Square located approximately 200 metres west of Village Green Square and Kennedy Road, the southbound yield-control should be converted to a stop-control, and an exclusive eastbound left-turn lane should be added. Given there is currently curb-side parking on Village Green Square, it is proposed to remove the curb-side parking to make way for two eastbound lanes on Village Green Square between Kennedy and the stop-controlled intersection 200 metres west, where one of the eastbound lanes will become an exclusive left turn lane.

APPENDIX A

Terms of Reference



MEMO

TO: Niki Siabanis, City of Toronto
FROM: WSP
SUBJECT: Traffic Assessment Methodology, Agincourt New Street & Multi-Use Trail EA
DATE: February 14, 2020

This Memorandum summarizes our proposed traffic assessment methodology and approach to support the evaluation of the Agincourt New Street & Multi-Use Trail Environmental Assessment (EA).

1 BACKGROUND

The following modelling methodology and scope have been confirmed:

- 1) **Microscopic Simulation Aimsun Model:** We understand that the original RFP requirement featuring a hybrid Aimsun model was to analyze the future LRT along Sheppard Avenue. Since then, City staff have confirmed that the future LRT along Sheppard Avenue will not be considered as part of this EA since the timing of the transit initiative is beyond 2041. Therefore, City staff have confirmed that the Aimsun microscopic simulation modelling analysis will not be required in the EA and that all traffic analyses will be done through the Synchro/SimTraffic software.
- 2) **Saturday Midday Peak:** Based on WSP's consultation with City staff, we understand that there may be concerns from the public regarding the Saturday midday peak hour traffic conditions. Therefore, it was confirmed that the Saturday midday peak hour will be included in the traffic analyses.

Based on the understanding above, and the need to still complete a multi-modal transportation analysis, the following sections describe our proposed methodology and study design.

2 PROPOSED NEW STUDY AREA

Given the changes in the traffic assessment approach, **Attachment 1** shows the recommended study area for the Synchro/SimTraffic analyses.

Attachment 2 provides a list of intersections to be included in the traffic assessment. WSP has completed a comparison of 2020 volumes with 2016/2017 traffic volumes. The comparison results are provided in **Attachment 3**, which indicate that the 2020 traffic counts are overall very similar, and in some cases, slightly lower than the 2016/2017 counts. Therefore, traffic counts from 2016, 2017 and 2018 are proposed to be used in the study.

3 OVERALL TRAFFIC ASSESSMENT METHODOLOGY

1) Demand forecasting approaches:

Auto Traffic:

Demand forecasting to determine the future traffic volumes along the study road network is a key component of the traffic assessment. It includes four steps: trip generation, modal split, trip distribution, and trip assignment.

WSP proposes building a spreadsheet traffic model that will incorporate the following components:

Future background general traffic growth: The growth percentage on the study corridors will be established from the forecasted growth by the City's demand forecasting Emme Model and review of historical traffic counts. Based on our initial review of historical traffic counts, the volumes along Kennedy Road and Sheppard Avenue East have been stable over the past 3 to 5 years. A number of traffic studies completed in the study area assumed no general growth along these corridors. We would recommend the same approach of zero general growth, given much of the growth in volumes are a result of new development applications, which is noted in the item below.

Future area developments trip generation: The future development traffic volumes can either be based on the respective Traffic Impact Studies (TIS) submitted to the City, or through manual trip generation using the ITE trip rates. WSP will review all the background TIS reports to validate the respective trip generation, and for the studies that did not evaluate the Saturday midday peak, we will perform the manual trip generation.

Modal splits: We will review the TIS reports in the area as well as the simulated modal splits by the City's Emme Model and propose a common modal share to apply for the EA's traffic assessment, which will be submitted to the City for approval. For context, the various TIS reports in the area are using different non-auto modal split adjustments, which would not lead to a consistent evaluation of the future conditions in the study area. In addition, we will not include modal split adjustments that assumed the LRT to be in place. We will work with the team to determine if a higher non-auto modal split is required under the future improvement scenarios.

Trip distribution: We will review the current travel patterns captured in the TTS data and those that are documented in the TIS reports, analyze the future travel patterns simulated in the City's Emme Model, and propose trip distribution percentage for the study horizons. We will also consider the different types of land uses since residential, employment and commercial uses will have different distributions.

Traffic assignment: We will perform multiple scenarios of traffic assignment for the proposed developments in the study area – particularly those that will have accesses onto the north-south street being contemplated in the EA. Here are the different scenarios that will likely be evaluated:

- Existing conditions
- Future Do Nothing (with the traffic generated by all of the development applications in the study area assigned to the existing road network)
- Future Improved with the north-south street. There are anticipated to be three scenarios of road connections onto Sheppard Avenue East:
 - The north-south street connection to Sheppard Avenue East that is aligned with the existing Agincourt GO station signalized driveway;
 - The north-south street connecting to the existing terminus of Collingwood Street and connecting to Sheppard via Gordon Avenue; and
 - The north-south street connecting to Sheppard and aligned with Reidmount Avenue.

Traffic assignment will be based on the judgement of the future travel patterns and routing changes resulting from the network changes between different alternatives.

Truck:

The future truck demand will be estimated by applying the typical observed truck percentage captured in the existing traffic counts to the future auto demand.

Transit:

We will consult with the City, TTC and Metrolinx staff on the future bus services (frequency/headway) and estimate the number of buses. The same bus services will be used during the stage of alternative assessment and evaluation. From a Synchro perspective, the bus blockage parameter will be incorporated accordingly.

Pedestrian:

Pedestrian walking trips are typically of relatively short travel distance. The increase in the pedestrian demand at intersections is primarily attributed to the future population growth from the adjacent new developments. We will forecast the pedestrian demand at the study intersections by: estimating pedestrian trips based on the trip generation for new developments, assign them to the adjacent simulated/analyzed intersections, and add them to the existing pedestrian crossing counts.

Cycling:

The approach will be similar to the above forecasting methodology for pedestrians.

- 2) **Traffic assessment of design alternatives:** The traffic assessment of the different study alternatives will be based on the intersection capacity and queuing analyses using the Synchro/SimTraffic tool.
 The measures of effectiveness (MOE) from the Synchro/SimTraffic outputs will be used for the alternative evaluations. The MOE will include intersection levels of service (LOS), delays, volume to capacity (V/C) ratios, and queues.
 Based on the future traffic volume projections, we will perform signal warrants and all-way stop-control warrants based on the Ontario Traffic Manual best practices.
- 3) **Multi-modal assessment:** In addition to the Synchro/SimTraffic evaluation, a multi-modal assessment of transit, pedestrian and cycling facilities will be completed.

Transit:

From a transit capacity evaluation perspective, the future transit demand on the TTC bus network will be estimated for the future development applications in the study area and added onto the existing bus ridership from the TTC, along with the application of general growth rates. This will help inform if enhanced TTC services may be required due to the study area's intensification. We will also discuss with the TTC the feasibility of having a bus route that services the study area via the north-south street improvement. Based on our experience, TTC is most concerned about changes to intersection delays that may impact the reliability of bus services. Therefore, we will present the impact to bus services for the various scenarios evaluated.

Pedestrian:

Our recommended approach is to evaluate the level of service of the most critical segment of each of the study area road network (i.e., Dowry Street, Kennedy Road, Sheppard Avenue, the future north-south street, Collingwood Street, Cowdray Court and Village Green Square) to understand if the future pedestrian demand can be accommodated within the sidewalk facility. The pedestrian assessment methods from the Highway Capacity Manual (HCM) will be adopted.

Cycling:

We will draw upon the Region of York method of evaluating the level of service of the cycling facilities. If there is a need for signal customization related to trail facilities or turn restrictions, we will incorporate into the Synchro/SimTraffic assessments.

- 4) **Study horizon year and study periods:** based on our review of all of the developments noted in Section 5, the buildout will occur by 2033. For the purpose of this study, which is to evaluate how the future road network supports the future traffic demands, a 15 year horizon of 2035 will be evaluated. The weekday AM and PM peak hours, as well as the Saturday midday peak hours will be evaluated for all of the different scenarios to help with the evaluation of the recommended alternative for the EA.

4 LIST OF FUTURE DEVELOPMENTS

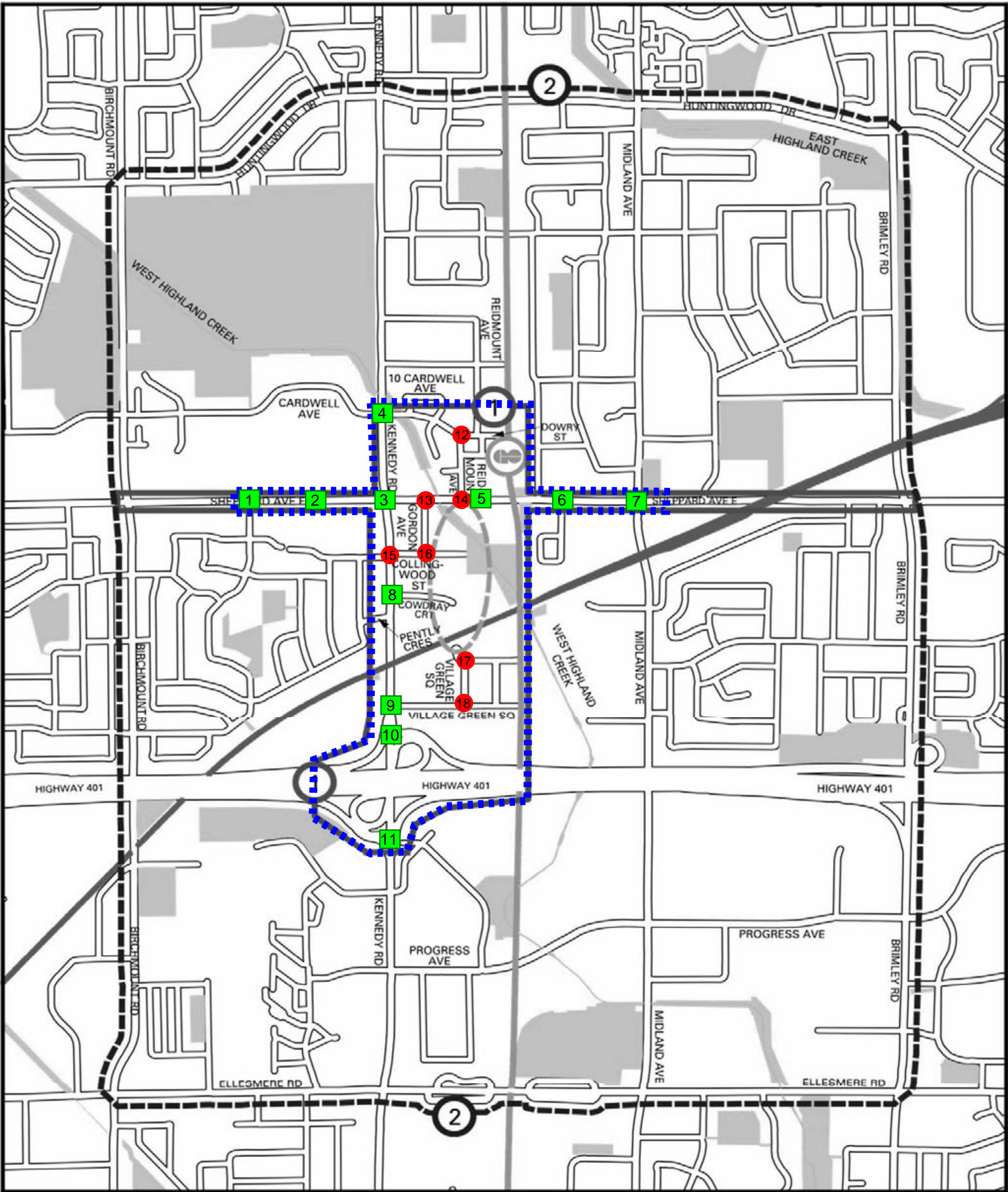
WSP has reviewed the planned and approved future developments in the study area. The locations are illustrated in the map of **Attachment 4**, and the proposed land uses and densities are summarized in the table of **Attachment 5**. These are the developments whose site-generated traffic volumes will be incorporated in the EA. Please advise if the site statistics shown in Attachment 5 are adequate.

5 SYNCHRO/SIMTRAFFIC MODELS

- 1) WSP will follow the City's most-current *Guidelines for Using Synchro 9 (including SimTraffic 9)*, dated March 18, 2016.
- 2) The calibration objective of the Synchro model is to ensure that the v/c ratio for each movement is less than 1.0 as the turning movement counts at an intersection are the traffic that goes through the intersection. Calibration parameters that are applied under existing conditions based on video review or site visit will be documented and carried forward for the future assessment to ensure an "Apples to Apples" comparison.
- 3) If the City of Toronto has target saturation flow rates to apply for the arterial road network, then we will incorporate accordingly.

Please confirm if the above-noted Synchro/Sim-Traffic assessment methodology is acceptable to the City.

Attachment 1: Proposed Study Area



LEGEND

- PRIMARY STUDY AREA
- SECONDARY STUDY AREA
- CANADIAN PACIFIC RAILWAY
- METROLINX GO STOUFFVILLE LINE RAILWAY
- AGINCOURT GO STATION
- PROPOSED (APPROXIMATE) NORTH-SOUTH STREET ALIGNMENT
- Proposed Study Intersection (Signalized)
- Proposed Study Intersection (Stop-controlled)
- Proposed New Study Area

Attachment 2: Study Intersections and TMC Inventory

Synchro / TIS ID	Intersection	Traffic Control	Weekday AM	Weekday PM	Saturday Midday
1	Sheppard Ave E / Allanford Rd	Signalized	28-Jan-16	28-Jan-16	30-Jan-16
2	Sheppard Ave E / Agincourt Mall Access	Signalized	28-Jan-16	28-Jan-16	30-Jan-16
3	Sheppard Ave E / Kennedy Rd	Signalized	28-Jan-20	28-Jan-20	01-Feb-20
4	Kennedy Rd / Bonis Ave	Signalized	09-Apr-19	09-Apr-19	06-Apr-19
5	Sheppard Ave E / Agincourt GO Access	Signalized	28-Jan-20	28-Jan-20	06-May-17
6	Sheppard Ave E / Lamont Ave	Signalized	x	x	x
7	Sheppard Ave E / Midland Ave	Signalized	07-Sep-17	07-Sep-17	09-Sep-17
8	Kennedy Rd / Cowdray Ct	Signalized	12-Apr-17	12-Apr-17	x
9	Kennedy Rd / Village Green Square	Signalized	13-Sep-18	13-Sep-18	01-Feb-20
10	Kennedy Rd / Hwy 401 WB Off-Ramp	Signalized	12-Apr-17	12-Apr-17	01-Feb-20
11	Kennedy Rd / Hwy 401 EB Off-Ramp	Signalized	12-Apr-17	12-Apr-17	01-Feb-20
12	Reidmount Ave / Cardwell Ave / Dowry St	Unsignalized	x	x	x
13	Sheppard Ave E / Gordon Ave	Unsignalized	x	x	x
14	Sheppard Ave E / Reidmount Ave	Unsignalized	17-Jan-18	17-Jan-18	x
15	Kennedy Rd / Collingwood St - Jade St	Unsignalized	31-Jan-17	31-Jan-17	x
16	Collingwood St / Gordon Ave	Unsignalized	x	x	x
17	Village Green Square / Northwest Intersection (First Access)	Unsignalized	13-Sep-18	13-Sep-18	x
18	Village Green Square / First Access 240m east of Kennedy Rd	Unsignalized	13-Sep-18	13-Sep-18	x

'x' - To be updated with new survey counts.

Attachment 3 - Intersection volume comparisons

Table 1: 2020 vs. 2016/2017 Weekday peak hour TMC comparison

ID	Intersection	Intersection Volumes					
		2020 TMC collected by WSP		2016/2017 TMC provided by the City		Difference (2020-2016/2017 TMC)	
		Weekday AM peak hour	Weekday PM peak hour	Weekday AM peak hour	Weekday PM peak hour	Weekday AM peak hour	Weekday PM peak hour
N/A	Birchmount Rd & Sheppard Ave E	4346	4327	4155	4355	191	-28
2	Kennedy Rd & Sheppard Ave E	4888	5217	5072	5187	-184	30
N/A	Brimley Rd & Sheppard Ave E	3866	3974	3980	4310	-114	-336

Table 2: Saturday vs. Weekday peak hour TMC comparison

ID	Intersection	Intersection Volumes				
		Saturday midday peak hour	Weekday AM peak hour	Weekday PM peak hour	Difference	
					(Sat - AM)	(Sat - PM)
2	Kennedy Rd & Sheppard Ave E	4728	4888	5217	-160	-489
9	Kennedy Rd / Hwy 401 WB Off-Ramp	3718	3885	4055	-167	-337
10	Kennedy Rd / Hwy 401 EB Off-Ramp	5482	4970	5529	512	-47
8	Kennedy Rd / Village Green Square	3866	4012	4317	-146	-451



Legend

- | | | | |
|---|--|---|----------------------------------|
| 1 | 2035 Kennedy Road | 5 | 4181 Sheppard Avenue East |
| 2 | 2055 Kennedy Road | 6 | 4280 & 4288 Sheppard Avenue East |
| 3 | 2075 Kennedy Road | 7 | 20-100 Cowdray Court |
| 4 | Aginccourt Mall (3850 & 3900 Sheppard Ave E, 2350-2362 Kennedy Road) | | |

Attachment 4
Future Background
Developments



Attachment 5 List of Future Background Developments

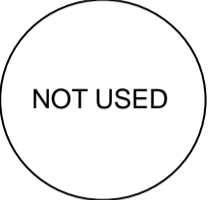
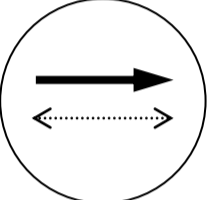
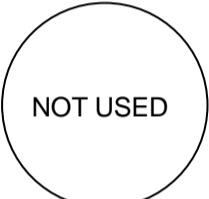
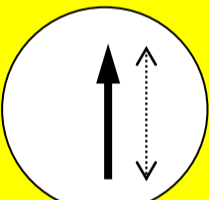
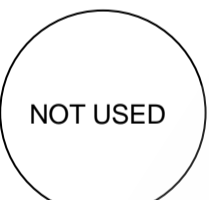
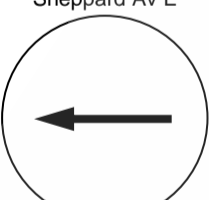
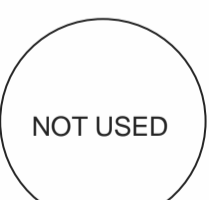
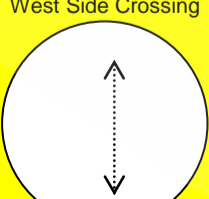
No.	Background Development	Build-out Year	Horizon Year Analysis Periods	Site Statistics
1	2035 Kennedy Road Toronto East Delta Hotel (2016 Report)	Phase 1 - 2017 Phase 2/3 - 2019	2017, 2019, 2024, 2029	Hotel Beds - 396 rooms Conference Centre - 2,555 m2 Residential Units - 1,044 units New Office Uses - 7,150 m2 Retail Use - 664 m2
2	2055 Kennedy Road Metrogate Block 8 (2016 Report)	2021	2021	Residential - 534 Units Commercial (to be removed) - 34,570 m2
3	2075 Kennedy Road Mixed-Use Development (2018 Report)	2023	2023, 2028, 2033	Residential - 930 Units Office - 9,042 sq. ft.
4	Agincourt Mall 3850, 3900 Sheppard Avenue E, 2350-2362 Kennedy Road (Report 2019)	2029	2029	Residential - 4372 units Retail - 24,190 sq.m. Office - 10,335 sq.m. Institutional/Other - 2,175 sq.m.
5	4181 Sheppard Avenue East (Report 2012)	2017 (appears to be delayed)	2017	Residential High-Rise - 200 Units Residential Townhouse - 187 Uni General Office Building - 65,552 sq. ft.
6	23 Glen Watford Drive (4280 & 4288 Sheppard Avenue East) (2017 Report)	2022	2022	Residential High-Rise - 245 Units Shopping Centre - 12,292 sq.ft
7	20-100 Cowdray Court (2019 Report)	2023 (Phase 1)-2033 (Phase 5)	2023, 2033	Residential - 2,347 units Commercial - 32,549 m2

APPENDIX B

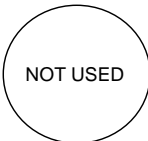
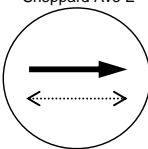
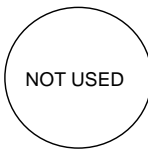
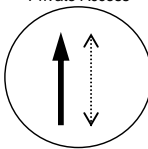
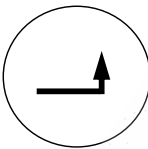
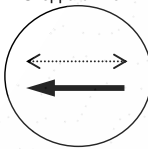
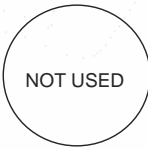
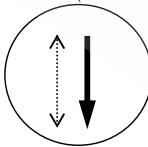
Signal Timings and Turning Movement Counts (TMCs)

LOCATION:	Sheppard Av E & Allanford Rd	DISTRICT:	Scarborough
MODE/COMMENT:	SA2-VMG with PR & 2-Wire Polara APS	COMPUTER SYSTEM:	TransSuite
TCS:	863	CONTROLLER/CABINET TYPE:	Econolite ASC/3-2100 / TS2T1
PREPARED/CHECKED BY:	AD / SQ / HL	CONFLICT FLASH:	Red & Red
PREPARATION DATE:	May 23, 2018	DESIGN WALK SPEED:	1.0 m/s (FDW based on full crossing @ 1.2 m/s)
IMPLEMENTATION DATE:	July 23, 2018	CHANNEL/DROP:	4039/57
		CONTROLLER FIRMWARE:	2.47.10



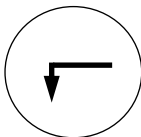
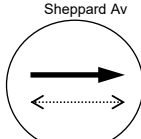
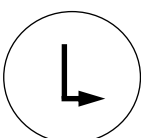
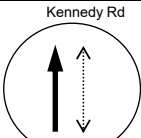
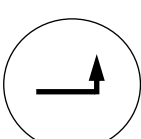
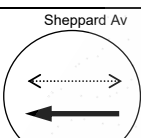

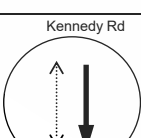
NEMA Phase		OFF	AM	PM	NIGHT	Phase Mode (Fixed/Demanded or Callable)	Remarks
		All Other Times	06:30-09:15 M-F	15:00-19:00 M-F	22:00 - 06:30 Daily		
		Pattern 1	Pattern 2	Pattern 3	Pattern 4		
	Local Plan	Plan 1	Plan 2	Plan 3	Plan 4		
	System Plan	Plan 1	Plan 2	Plan 3	Plan 4		
1		WLK FDW MIN MAX 1 AMB ALR SPLIT					Pedestrian Minimums: EWWK = 7 sec, EWFD = 9 sec NSWK = 7 sec, NSFD = 20 sec NB phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum NBG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the NBG is capable of providing vehicle extensions up to the maximum. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the EWG.
2	Sheppard Av E 	WLK 7 FDW 9 MIN 16 MAX 1 60 AMB 4 ALR 2 SPLIT				Fixed	Side Street Passage Time = 3 sec Actuated APS on during 7 sec of EWWK and NSWK periods when activated by push buttons. Extended APS Push Activation = 3 sec. APS installed waiting on 3rd party activation
3		WLK FDW MIN MAX 1 AMB ALR SPLIT					
4	Allanford Rd 	WLK 7 FDW 20 MIN 7 MAX 1 29 AMB 3 ALR 2 SPLIT				Callable by stopbar loop and/or pushbutton; Extendable by stopbar loop.	
5		WLK FDW MIN MAX 1 AMB ALR SPLIT					
6	Sheppard Av E 	WLK 7 FDW 9 MIN 16 MAX 1 60 AMB 4 ALR 2 SPLIT				Fixed	
7		WLK FDW MIN MAX 1 AMB ALR SPLIT					
8	West Side Crossing 	WLK 7 FDW 20 MIN 7 MAX 1 29 AMB 3 ALR 2 SPLIT				Callable by pushbuttons	
		CL OF VP	100 37 9	110 108 9	110 70 9	90 52 9	

Notes: T-intersection - No North Leg

LOCATION:		Sheppard Ave E & Agincourt Mall (East Entrance)/Private Access				DISTRICT:	Scarborough
MODE/COMMENT:		SA2-VMG with WRM				COMPUTER SYSTEM:	TransSuite
PX:		1444				CONTROLLER/CABINET TYPE:	Econolite ASC/3-2100 / TS2T1
PREPARED BY:		LC/TS				CONFLICT FLASH:	Red & Red
PREPARATION DATE:		June 27, 2014				DESIGN WALK SPEED:	1.0 m/s (FDW based on full crossing @ 1.2 m/s)
IMPLEMENTATION DATE:		July 22, 2014				CHANNEL/DROP:	4039 / 12
NEMA Phase	TP1	OFF All Other Times	AM 06:30-09:15 M-F	PM 15:00-19:00 M-F	NIGHT 22:00 - 06:30 Daily	Phase Mode (Fixed/Demanded or Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4		
	System Plan	1	2	3	4		
1 	WLK FDW MIN MAX1 AMB ALR SPLIT						Pedestrian Minimums: EWWK = 7 sec, EWFD = 12 sec NSWK = 7 sec, NSFD = 16 sec NS phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum NSG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the NSG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the EWG.
2 Sheppard Ave E 	WLK 7 FDW 12 MIN 19 MAX1 65 AMB 4 ALR 2 SPLIT	70	80	72	60	Fixed	
3 	WLK FDW MIN MAX1 AMB ALR SPLIT						EWFD reverts to EWWK if there is no side street demand at the end of the EWFD. Side Street Passage Time = 3 sec Left-Turn Passage Time = 2 sec If EBLA phase is not served, then that time will be allocated to EWG. Minimum call is placed on NSG if EBLA is called with no side street demand.
4 Private Access 	WLK 7 FDW 16 MIN 7 MAX1 23 AMB 3 ALR 3 SPLIT	40	30	38	30	Callable by stopbar loop and/or pushbutton; Extendable by stopbar loop.	The signal constantly cycles through main street FDW to improve response time to side street vehicle and pedestrian demand.
5 	WLK FDW MIN 6 MAX1 6 AMB 3 ALR 1 SPLIT	13	11	11		Callable/Extendable by setback loop all times except 22:00 - 06:30 daily.	
6 Sheppard Ave E 	WLK 7 FDW 12 MIN 19 MAX1 52 AMB 4 ALR 2 SPLIT	57	69	61	60	Fixed	
7 	WLK FDW MIN MAX1 AMB ALR SPLIT						
8 Agincourt Mall (East Entrance) 	WLK 7 FDW 16 MIN 7 MAX1 23 AMB 3 ALR 3 SPLIT	40	30	38	30	Callable by stopbar loop and/or pushbutton; Extendable by stopbar loop.	
	CL OF VP	110 5 12	110 97 12	110 109 12	90 59 12		

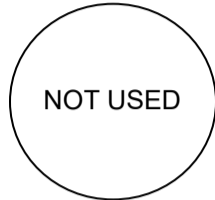
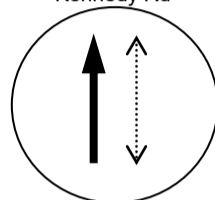
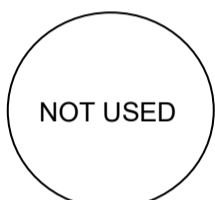
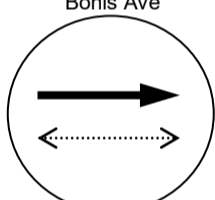
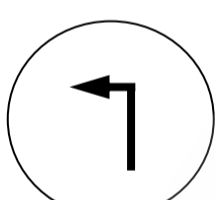
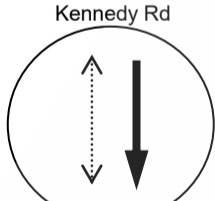
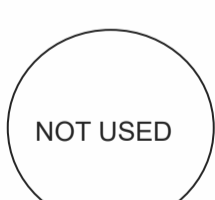
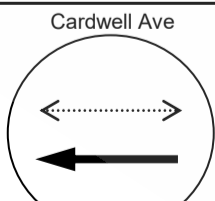
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PX1444.XLS

28/07/2014


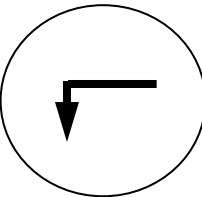
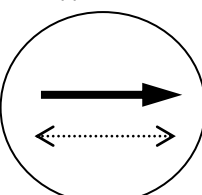
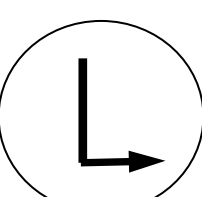
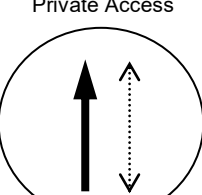
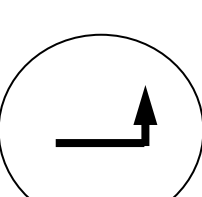

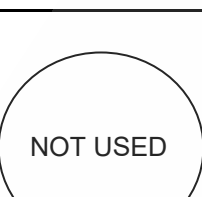

LOCATION:		Kennedy Rd & Sheppard Ave				DISTRICT: Scarborough	
TCS:		752				COMPUTER SYSTEM: TransSuite	
MODE/COMMENT:		FXT with 2 wire Polara APS				CONTROLLER/CABINET TYPE: PEEK ATC-1000 / TS2T1	
PREPARED/CHECKED BY:		RI/HL				CONFLICT FLASH: Red & Red	
PREPARATION DATE:		May 4, 2017				DESIGN WALK SPEED: 1.0 m/s(FDW based on full crossing @ 1.2m/s)	
IMPLEMENTATION DATE:		June 14, 2017				CHANNEL/DROP: 4019/90	
						Controller Firmware: 3.018.1.2976	
NEMA Phase		OFF All Other Times	AM 06:30-09:15 M-F	PM 15:00-19:00 M-F	WKND 10:00 - 19:00 Sat/Sun	Phase Mode (Fixed/Demanded/Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4		
	Split Table	Split 1	Split 2	Split 3	Split 4		
1 	WLK FDW MIN 6 MAX1 9 AMB 3 ALR 1 SPLIT					Callable/Extendable by 5.0m setback loop 24 hours.	Pedestrian Minimums: EWWK = 7 sec., EWFD = 30 sec. NSWK = 7 sec., NSFD = 26 sec. Left-Turn Passage Time = 2 secs APS during WALK periods when no arrows are displayed Extended Push Activation = 3 secs. APS protected during backup free mode as of Feb 8, 2007.
2 Sheppard Av 	WLK 7 FDW 30 MIN 37 MAX1 38 AMB 4 ALR 3 SPLIT					Fixed	Equipped with 10 system detectors (see loop drawing).
3 	WLK FDW MIN 6 MAX1 7 AMB 3 ALR 1 SPLIT					Callable/Extendable by 5.0m setback loop 24 hours.	
4 Kennedy Rd 	WLK 7 FDW 26 MIN 33 MAX1 34 AMB 4 ALR 3 SPLIT					Fixed	
5 	WLK FDW MIN 6 MAX1 9 AMB 3 ALR 1 SPLIT					Callable/Extendable by 5.0m setback loop all times except 06:30-09:15 M-F.	
6 Sheppard Av 	WLK 7 FDW 30 MIN 37 MAX1 38 AMB 4 ALR 3 SPLIT					Fixed	
7 	WLK FDW MIN 6 MAX1 7 AMB 3 ALR 1 SPLIT					Callable/Extendable by 5.0m setback loop 24 hours.	
8 Kennedy Rd 	WLK 7 FDW 26 MIN 33 MAX1 34 AMB 4 ALR 3 SPLIT					Fixed	
	CL OF	110 100	110 98	110 16	110 105		

NOTES: The above offsets are based on signal coordination along Kennedy Road in 2012 (except WKND Plan).

LOCATION:		Kennedy Rd & Cardwell Ave / Bonis Ave			DISTRICT: Scarborough	
MODE/COMMENT:		SA2-VMG with PR			COMPUTER SYSTEM: TransSuite	
TCS:		1576			CONTROLLER/CABINET TYPE: PEEK ATC-1000 / TS2 T1	
PREPARED/CHECKED BY:		TC/ HL			CONFLICT FLASH: Red & Red	
PREPARATION DATE:		December 12, 2017			DESIGN WALK SPEED: 1.0 m/s(FDW based on full crossing @ 1.2m/s)	
IMPLEMENTATION DATE:		February 20, 2018			CHANNEL/DROP: 4092 / 12	
					CONTROLLER FIRMWARE: 3.018.1.2976	

NEMA Phase		OFF All Other Times	AM 06:30-09:15 M-F	PM 15:00-19:00 M-F	Phase Mode (Fixed/Demanded/Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3		
	Split Table	Split 1	Split 2	Split 3		
1		WLK FDW MIN MAX1 AMB ALR SPLIT				<p>Pedestrian Minimums: NSWK = 7 sec., NSFD = 19 sec. EWWK = 7 sec., EWFD = 23 sec.</p> <p>EW phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum EWG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the EWG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian call is received, the pedestrian minimums will be served. The EWWK & EWFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the NSG.</p>
2		WLK 7 FDW 19 MIN 26 MAX1 68 AMB 4 ALR 2 SPLIT			Fixed	<p>Left-Turn Passage Time = 2 secs Side Street Passage Time = 3 secs</p>
3		WLK FDW MIN MAX1 AMB ALR SPLIT				
4		WLK 7 FDW 23 MIN 7 MAX1 30 AMB 4 ALR 2 SPLIT			Callable by Stopbar loop and/or Pushbutton; Extendable by Stopbar loop.	
5		WLK FDW MIN 6 MAX1 6 AMB 3 ALR 1 SPLIT			Callable/Extendable by 9.0m setback loop	
6		WLK 7 FDW 19 MIN 26 MAX1 58 AMB 4 ALR 2 SPLIT			Fixed	
7		WLK FDW MIN MAX1 AMB ALR SPLIT				
8		WLK 7 FDW 23 MIN 7 MAX1 30 AMB 4 ALR 2 SPLIT			Callable by Stopbar loop and/or Pushbutton; Extendable by Stopbar loop.	
		CL OF	110 30	110 11	110 70	

NOTES:

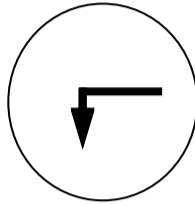
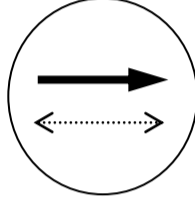
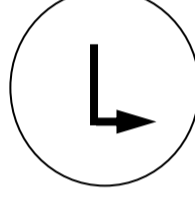
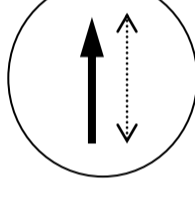
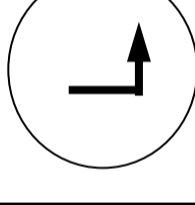
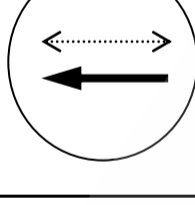
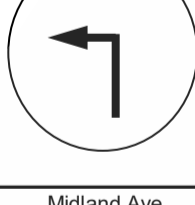
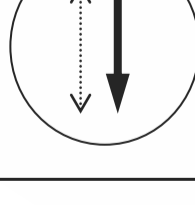
LOCATION: Sheppard Ave E & Agincourt GO Parking Lot/Private Acc TCS: 1820 MODE/COMMENT: SA2-VMG with PR & 2-wire Polara APS PREPARED/CHECKED BY: TC/DS PREPARATION DATE: December 01, 2017 IMPLEMENTATION DATE: December 01, 2017		DISTRICT: Scarborough COMPUTER SYSTEM: TransSuite CONTROLLER/CABINET TYPE: PEEK ATC-1000 / TS2T1 CONFLICT FLASH: Red & Red DESIGN WALK SPEED: 1.0 m/s (FDW based on full crossing at 1.2 m/s) CHANNEL/DROP: 4039/2 CONTROLLER FIRMWARE: 3.018.1.2976				N 	
NEMA Phase		OFF	AM	PM	NIGHT	Phase Mode (Fixed/Demanded/Callable)	Remarks
		All Other Times	06:30-09:15 M-F	15:00-19:00 M-F	22:00 - 06:30 Daily		
		Pattern 1	Pattern 2	Pattern 3	Pattern 4		
	Local Plan	Split 1	Split 2	Split 3	Split 4		
1	 WLK FDW MIN 6 MAX1 7 AMB 3 ALR 1 SPLIT					Callable and Extendable by 9m setback loop	Pedestrian Minimums: EWWK = 7 secs; EWFD = 17 secs NSWK = 7 secs; NSFD = 27 secs NS phase is callable by vehicle and/or pedestrian actuation. If a vehicle call is received, the minimum NSG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the NSG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the EWG.
2	Sheppard Ave E  WLK 7 FDW 17 MIN 24 MAX1 63 AMB 4 ALR 3 SPLIT					Fixed	
3	 WLK FDW MIN 6 MAX1 7 AMB 3 ALR 1 SPLIT					Callable and Extendable by stopbar loop	Side Street Passage Time = 3 secs APS on during 7s of EWWK and NSWK Extended Push Activation = 3 secs Left-turn Passage Time = 2 secs
4	Private Access  WLK 7 FDW 27 MIN 7 MAX1 34 AMB 3 ALR 3 SPLIT					Callable by stopbar loop and/or Pushbutton; Extendable by stopbar loop	
5	 WLK FDW MIN 6 MAX1 7 AMB 3 ALR 1 SPLIT					Callable and Extendable by 9m setback loop	
6	Sheppard Ave E  WLK 7 FDW 17 MIN 24 MAX1 63 AMB 4 ALR 3 SPLIT					Fixed	
7	 NOT USED WLK FDW MIN MAX1 AMB ALR SPLIT						
8	GO parking Lot  WLK 7 FDW 27 MIN 7 MAX1 34 AMB 3 ALR 3 SPLIT					Callable by stopbar loop and/or Pushbutton; Extendable by stopbar loop	
	CL OF	110 73	110 67	110 9	95 20		

NOTES: NB through movement is prohibited; SB through movement is prohibited.
SB Leddar video detection changed to regular stopbar loops on July 16, 2013.

LOCATION:		Sheppard Ave E & Lamont Ave / Private Access				DISTRICT:		Scarborough		<div>N</div> <div>↑</div>
MODE/COMMENT:		SA2-VMG with PR & 2-Wire Polara APS				COMPUTER SYSTEM:		TransSuite		
TCS:		2383				CONTROLLER/CABINET TYPE:		Peek ATC-1000 / TS2T1		
PREPARED/CHECKED BY:		IK / HL				CONFLICT FLASH:		Red & Red		
PREPARATION DATE:		October 22, 2015				DESIGN WALK SPEED:		1.0 m/s (FDW based on full crossing @ 1.2 m/s)		
IMPLEMENTATION DATE:		November 30, 2015				CHANNEL/DROP:		4042/55		
						CONTROLLER FIRMWARE:		3.18.1.2976		
NEMA Phase		OFF All Other Times	AM 06:30-09:15 M-F	PM 15:00-19:00 M-F	NIGHT 22:00-06:30 Daily	Phase Mode (Fixed/Demanded or Callable)	Remarks			
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4					
	Split Table	Split 1	Split 2	Split 3	Split 4					
1	<div>NOT USED</div>	WLK FDW MIN MAX 1 AMB ALR SPLIT					Pedestrian Minimums: EWWK = 7 sec, EWFD = 13 sec NSWK = 7 sec, NSFD = 21 sec			
2	<div>Sheppard Ave E</div> <div><div></div></div>	WLK 7 FDW 13 MIN 20 MAX 1 71 AMB 4 ALR 2 SPLIT				Fixed	NS phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum NBG is 7 seconds. If ongoing vehicle demand exists in the video detection zone, the NBG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the EWG.			
3	<div>NOT USED</div>	WLK FDW MIN MAX 1 AMB ALR SPLIT					APS on during 7 sec of EWWK & 7 sec of NSWK when activated by push button.			
							Extended Push Activation = 3 sec			
							Side Street Passage Time = 3 sec			
4	<div>Lamont Ave</div> <div><div></div></div>	WLK 7 FDW 21 MIN 7 MAX 1 28 AMB 4 ALR 3 SPLIT				Callable by Traficam Video Detection and/or Pushbutton; Extendable by Traficam Video Detection.				
5	<div>NOT USED</div>	WLK FDW MIN MAX 1 AMB ALR SPLIT								
6	<div>Sheppard Ave E</div> <div><div></div></div>	WLK 7 FDW 13 MIN 20 MAX 1 71 AMB 4 ALR 2 SPLIT				Fixed				
7	<div>NOT USED</div>	WLK FDW MIN MAX 1 AMB ALR SPLIT								
8	<div>Private Access</div> <div><div></div></div>	WLK 7 FDW 21 MIN 7 MAX 1 28 AMB 4 ALR 3 SPLIT				Callable by Traficam Video Detection and/or Pushbutton; Extendable by Traficam Video Detection.				
		CL OF	110 54	110 50	110 38	95 57				

NOTES: APS activated on November 30, 2015

Picked up on TransSuite system control on November 30, 2015 @ approximately 1:16 p.m.

LOCATION: Sheppard Ave E & Midland Ave		DISTRICT: Scarborough					<div>N</div> <div>↑</div>	
MODE/COMMENT: FXT		COMPUTER SYSTEM: TransSuite						
TCS: 862		CONTROLLER/CABINET TYPE: Peek ATC -1000 / TS2T1						
PREPARED/CHECKED BY: EN/CL		CONFLICT FLASH: Red & Red						
PREPARATION DATE: September 10, 2018		DESIGN WALK SPEED: 1.0 m/s (FDW based on full crossing at 1.2 m/s)						
IMPLEMENTATION DATE: September 18, 2018		CHANNEL/DROP: 5014/19					CONTROLLER FIRMWARE: 3.018.1.2976	
NEMA Phase		OFF All Other Times	AM 06:30- 09:15 M-F	PM 15:00- 19:00 M-F	NIGHT 22:00-06:30 Daily	WKND 10:00-19:00 Sat/Sun	Phase Mode (Fixed/Demanded/Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	Split Table	Split 1	Split 2	Split 3	Split 4	Split 5		
1 <div></div>	WLK FDW MIN 6 MAX 7 AMB 3 ALR 1 SPLIT						Callable & Extendable by setback loop	Pedestrian Minimums: EWWK = 7 sec, EWFD = 26 sec NSWK = 7 sec, NSFD = 27 sec Left-Turn Passage Time = 2 secs
2 <div>Sheppard Ave E<div></div></div>	WLK 7 FDW 26 MIN 33 MAX 38 AMB 4 ALR 3 SPLIT						Fixed	
3 <div></div>	WLK FDW MIN 6 MAX 7 AMB 3 ALR 1 SPLIT						Callable & Extendable by Wavetronix	
4 <div>Midland Ave<div></div></div>	WLK 7 FDW 27 MIN 34 MAX 47 AMB 4 ALR 3 SPLIT						Fixed	
5 <div></div>	WLK FDW MIN 6 MAX 7 AMB 3 ALR 1 SPLIT						Callable & Extendable by setback loop	
6 <div>Sheppard Ave E<div></div></div>	WLK 7 FDW 26 MIN 33 MAX 49 AMB 4 ALR 3 SPLIT						Fixed	
7 <div></div>	WLK FDW MIN 6 MAX 7 AMB 3 ALR 1 SPLIT						Callable & Extendable by Wavetronix	
8 <div>Midland Ave<div></div></div>	WLK 7 FDW 27 MIN 34 MAX 36 AMB 4 ALR 3 SPLIT						Fixed	
	CL OF	110 50	110 46	110 66	95 54	110 51		

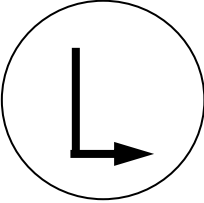
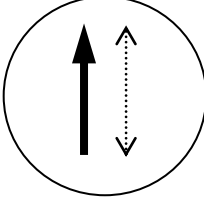
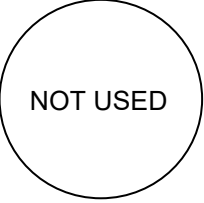
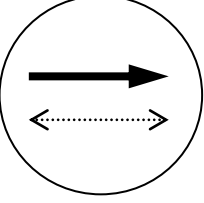
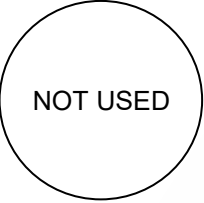
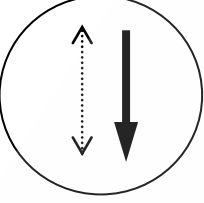
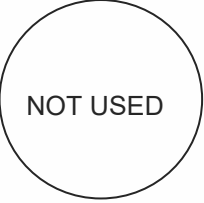
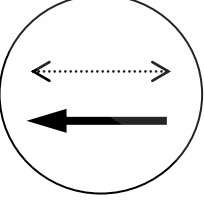
NOTES: NBLT & SBLT loops replaced by Wavetronix as of September 18, 2018.

LOCATION:		Kennedy Rd & Cowdray Ct.			DISTRICT: Scarborough		<div>N ↑</div>
MODE/COMMENT:		SA2-VMG with 2-wire Polara APS & PR			COMPUTER SYSTEM: TransSuite		
TCS:		1756			CONTROLLER/CABINET TYPE: PEEK ATC-1000 / TS2 T1		
PREPARED/CHECKED BY:		RZ/DS			CONFLICT FLASH: Red & Red		
PREPARATION DATE:		January 17, 2018			DESIGN WALK SPEED: 1.0 m/s(FDW based on full crossing @ 1.2m/s)		
IMPLEMENTATION DATE:		March 13, 2013			CHANNEL/DROP: 4004/43		
CONTROLLER FIRMWARE: 3.018.1.2976							
NEMA Phase		OFF All Other Times	AM 06:30-09:15 M-F	PM 15:00-19:00 M-F	Phase Mode (Fixed/Demanded/Callable)	Remarks	
	Local Plan	Pattern 1	Pattern 2	Pattern 3			
	Split Table	Split 1	Split 2	Split 3			
1	<div>NOT USED</div>	WLK FDW MIN MAX1 AMB ALR SPLIT				<div>Pedestrian Minimums: NSWK = 7 sec., NSFD = 15 sec. EWWK = 7 sec., EWFD = 22 sec.</div> <div>WB phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum WBG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the WBG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian call is received, the pedestrian minimums will be served. The EWWK & EWFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the NSG.</div>	
2	<div>Kennedy Rd</div> <div><div>↑</div></div>	WLK 7 FDW 15 MIN 22 MAX1 69 AMB 4 ALR 2 SPLIT			Fixed	<div>APS on during 7 sec of EWWK & NSWK when activated by pushbutton.</div>	
3	<div>NOT USED</div>	WLK FDW MIN MAX1 AMB ALR SPLIT				<div>Side Street Passage Time = 3 secs</div> <div>Extended Push Activation = 3 secs</div>	
4	<div>NOT USED</div>	WLK 7 FDW 22 MIN 7 MAX1 29 AMB 3 ALR 3 SPLIT					
5	<div>NOT USED</div>	WLK FDW MIN MAX1 AMB ALR SPLIT					
6	<div>Kennedy Rd</div> <div><div>↓</div></div>	WLK 7 FDW 15 MIN 22 MAX1 69 AMB 4 ALR 2 SPLIT			Fixed		
7	<div>NOT USED</div>	WLK FDW MIN MAX1 AMB ALR SPLIT					
8	<div>Cowdray Ct.</div> <div><div>←</div></div>	WLK 7 FDW 22 MIN 7 MAX1 29 AMB 3 ALR 3 SPLIT			Callable by Stopbar loop and/or Pushbutton; Extendable by Stopbar loop.		
	CL OF	110 26	110 26	110 109			

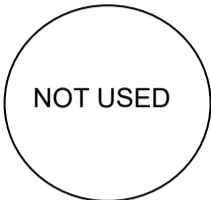
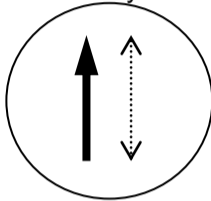
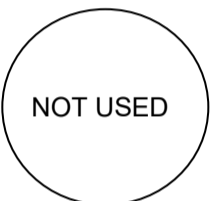
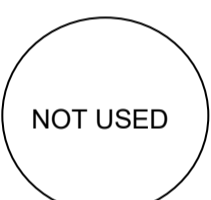
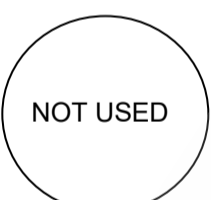
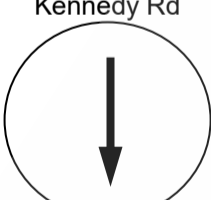
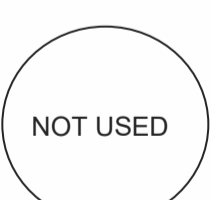
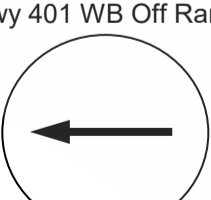
NOTES: Right Turn on Red Prohibition - from Westbound Cowdray Ct. to Northbound Kennedy Rd.
T-intersection - No West Leg. NS pedestrian crossing on East side only.

LOCATION:	Kennedy Rd & Village Green Square / MTO Entrance	DISTRICT:	Scarborough
MODE/COMMENT:	SA2-VMG with PR	COMPUTER SYSTEM:	TransSuite
TCS:	1592	CONTROLLER/CABINET TYPE:	PEEK ATC-1000 / TS2 T1
PREPARED/CHECKED BY:	TC / HL	CONFLICT FLASH:	Red & Red
PREPARATION DATE:	December 12, 2017	DESIGN WALK SPEED:	1.0 m/s(FDW based on full crossing @ 1.2m/s)
IMPLEMENTATION DATE:	February 21, 2018	CHANNEL/DROP:	4092 / 11
		CONTROLLER FIRMWARE:	3.018.1.2976



NEMA Phase		OFF	AM	PM	Phase Mode (Fixed/Demanded/Callable)	Remarks
		All Other	06:30-09:15	15:00-19:00		
		Times	M-F	M-F		
		Pattern 1	Pattern 2	Pattern 3		
	Local Plan	Split 1	Split 2	Split 3		
1		WLK FDW MIN 6 MAX1 6 AMB 3 ALR 1 SPLIT			Callable/Extendable by 9.0m setback loop	Pedestrian Minimums: NSWK = 7 sec., NSFD = 26 sec. EWWK = 7 sec., EWFD = 32 sec. EW phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum EWG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the EWG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian call is received, the pedestrian minimums will be served. The EWWK & EWFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the NSG.
2	Kennedy Rd 	WLK 7 FDW 26 MIN 33 MAX1 46 AMB 4 ALR 3 SPLIT			Fixed	Left-Turn Passage Time = 2 secs Side Street Passage Time = 3 secs
3		WLK FDW MIN MAX1 AMB ALR SPLIT				
4	MTO Entrance 	WLK 7 FDW 32 MIN 7 MAX1 39 AMB 4 ALR 3 SPLIT			Callable by Stopbar loop and/or Pushbutton; Extendable by Stopbar loop.	
5		WLK FDW MIN MAX1 AMB ALR SPLIT				
6	Kennedy Rd 	WLK 7 FDW 26 MIN 33 MAX1 57 AMB 4 ALR 3 SPLIT			Fixed	
7		WLK FDW MIN MAX1 AMB ALR SPLIT				
8	Village Green Square 	WLK 7 FDW 32 MIN 7 MAX1 39 AMB 4 ALR 3 SPLIT			Callable by Stopbar loop and/or Pushbutton; Extendable by Stopbar loop.	
		CL OF	110 94	110 91	110 100	

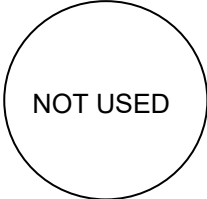
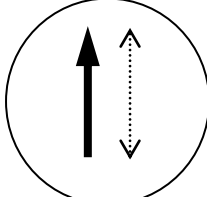
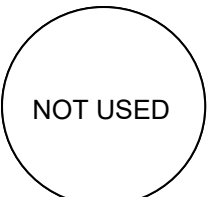
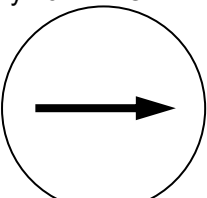
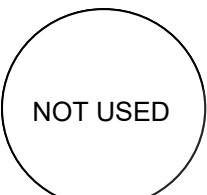
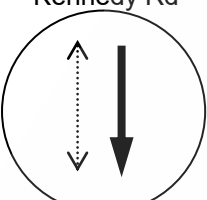
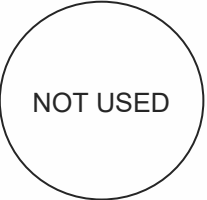
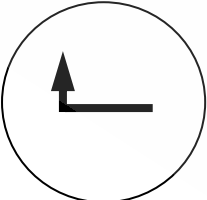
NOTES:

LOCATION:		Kennedy Rd & Hwy 401 WB Off Ramp (MTO Signal)			DISTRICT: Scarborough		<div>N ↑</div>
TCS:		919			COMPUTER SYSTEM: TransSuite		
MODE / COMMENT:		SAV with PR			CONTROLLER / CABINET TYPE: Econolite ASC/3-1000/TS2T1		
PREPARED / CHECKED BY:		SP/DS			CONFLICT FLASH: Red & Red		
PREPARATION DATE:		September 25, 2017			DESIGN WALK SPEED: 1.0 m/s (FDW based on full crossing @ 1.2 m/s)		
IMPLEMENTATION DATE:		October 16, 2017			CHANNEL / DROP: 4004 / 5		
NEMA Phase		OFF	AM	PM	Phase Mode (Fixed/Demanded/ Callable)	Remarks	
		All Other Times	06:30-09:15 M-F	15:00-19:00 M-F			
	Local Plan System Plan	Pattern 1 (Plan 1)	Pattern 2 (Plan 2)	Pattern 3 (Plan 3)			
1 	WLK FDW MIN MAX1 AMB ALR SPLIT					Pedestrian Minimums: NSWK = 7 sec., NSFD = 19 sec. WB phase is callable by vehicle detection only. If a vehicle is detected, the minimum WBG is 7 seconds. If ongoing vehicle demand exists in the Wavetronix detection zone, the WBG is capable of providing vehicle extensions up to the maximum green split. Extension time is based on vehicle demand and unused extension time is given to the NSG.	
2 Kennedy Rd 	WLK 7 FDW 19 MIN 26 MAX1 26 AMB 4 ALR 3 SPLIT				Fixed	Side Street Passage Time = 3 sec T-Intersection. No West Leg.	
3 	WLK FDW MIN MAX1 AMB ALR SPLIT						
4 	WLK FDW MIN 7 MAX1 33 AMB 3 ALR 3 SPLIT						
5 	WLK FDW MIN MAX1 AMB ALR SPLIT						
6 Kennedy Rd 	WLK 7 FDW 19 MIN 26 MAX1 26 AMB 4 ALR 3 SPLIT				Fixed		
7 	WLK FDW MIN MAX1 AMB ALR SPLIT						
8 Hwy 401 WB Off Ramp 	WLK FDW MIN 7 MAX1 33 AMB 3 ALR 3 SPLIT				Callable & Extendable by Wavetronix		
	CL OF VP	110 96 19	110 109 19	110 104 19			

Notes: Prohibited vehicle movements: SBLT & NBRT

Pedestrian crossings are prohibited on both North & South side (crossing Kennedy Rd)

Picked up system control on Jan 23, 2013 at approximately 9:59 am.

LOCATION:		Kennedy Rd & Hwy 401 EB Off-Ramp (South TCS) / William Kitchen Rd (MTO Signal)			DISTRICT: Scarborough		<div>N</div> <div>↑</div>
MODE/COMMENT:		SAV with PR & RLC (NB)			COMPUTER SYSTEM: TransSuite		
TCS:		920			CONTROLLER/CABINET TYPE: Econolite ASC/3-2100 / TS2 T1		
PREPARED/CHECKED BY:		SS/HL			CONFLICT FLASH: Red & Red		
PREPARATION DATE:		October 14, 2015			DESIGN WALK SPEED: 1.0 m/s (FDW baed on full crossing at 1.2 m/s)		
IMPLEMENTATION DATE:		December 19, 2017			CHANNEL/DROP: 4019/76		
CONTROLLER FIRMWARE: 2.47.10							
NEMA Phase		OFF All Other Times	AM 06:30-09:15 M-F	PM 15:00-19:00 M-F	Phase Mode (Fixed/Demanded/Callable)	Remarks	
	Local Plan	Pattern 1	Pattern 2	Pattern 3			
	System Plan	Plan 1	Plan 2	Plan 3			
1		WLK FDW MIN MAX AMB ALR SPLIT				Pedestrian Minimums: NSWK = 7 sec., NSFD = 21 sec. No East/West pedestrian crossing. EW phase is callable by vehicle actuations. If a vehicle call is received, the minimum EBG/WBRA is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the EBG/WBRA is capable of providing vehicle extensions up to the maximum. Extension time is based on vehicle demand and is taken from the NSG.	
2	Kennedy Rd 	WLK 7 FDW 21 MIN 28 MAX 53 AMB 4 ALR 3 SPLIT 64			Fixed	Side Street Passage Time = 3 sec	
3		WLK FDW MIN MAX AMB ALR SPLIT					
4	Hwy 401 EB Off-Ramp 	WLK FDW MIN 7 MAX 28 AMB 4 ALR 3 SPLIT 46			Callable/Extendable by stopbar loop		
5		WLK FDW MIN MAX AMB ALR SPLIT					
6	Kennedy Rd 	WLK 7 FDW 21 MIN 28 MAX 53 AMB 4 ALR 3 SPLIT 64			Fixed		
7		WLK FDW MIN MAX AMB ALR SPLIT					
8	William Kitchen Rd 	WLK FDW MIN 7 MAX 28 AMB 4 ALR 3 SPLIT 46			Callable/Extendable by stopbar loop		
		CL OF VP	110 80 21	110 16 21	110 96 21		

Notes:

13.0 VEHICULAR TRAFFIC VOLUMES

13.1 EXISTING TRAFFIC VOLUMES

Existing baseline vehicular traffic and pedestrian volumes were established at key intersections within the study area for the weekday morning, weekday afternoon and Saturday peak periods using traffic count information obtained from surveys undertaken by the Spectrum Traffic Data Inc. on behalf of BA Group.

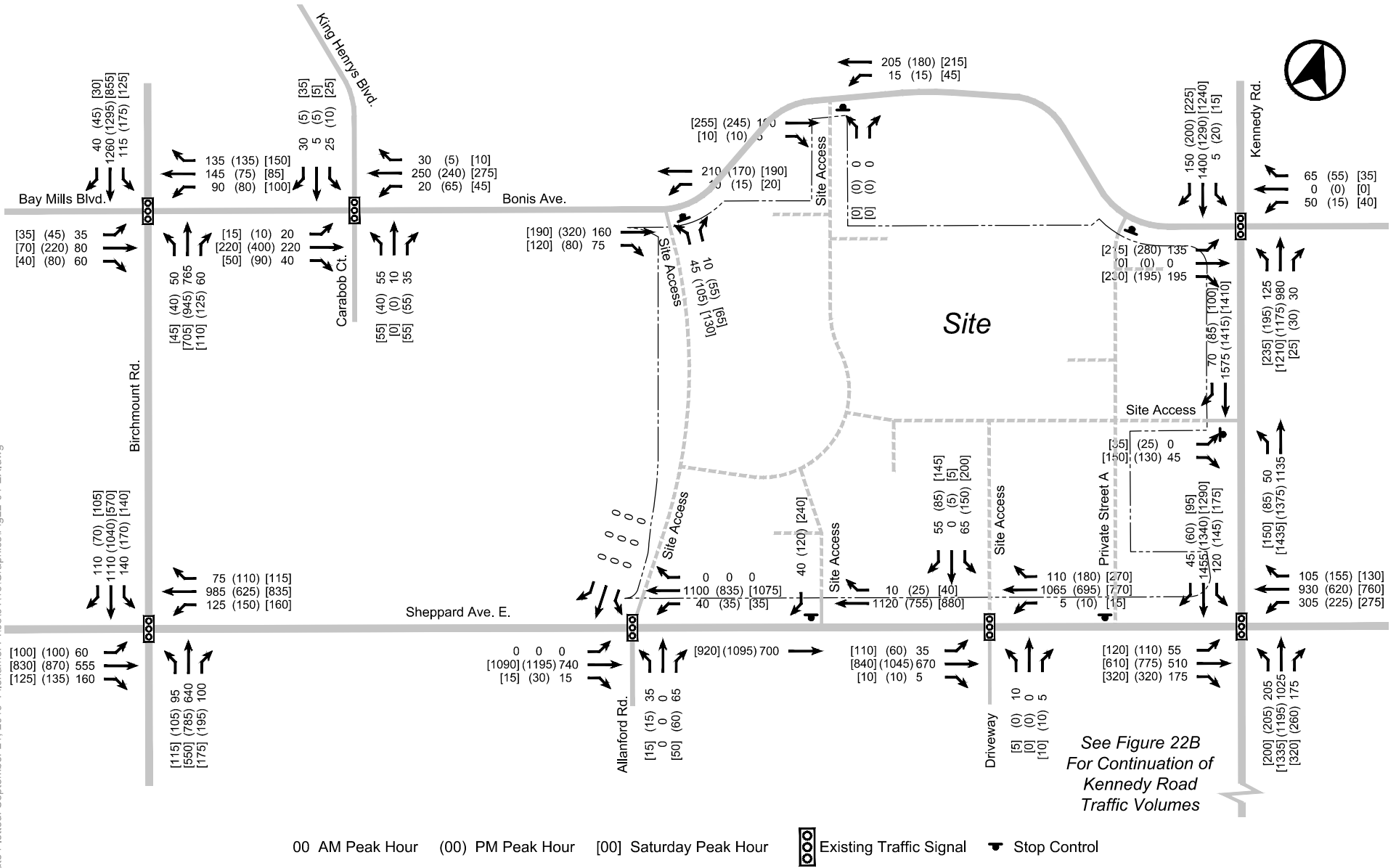
The date and source of traffic count data used for existing traffic analysis is summarized in Table 44. Existing traffic count data are included in **Appendix N**.

The existing traffic count information was reviewed in detail to ensure a general consistency between intersections. Conservative (positive) adjustments were made to traffic volumes at various intersections within the study area along the Kennedy Road and Sheppard Avenue East corridors to provide a balanced and representative traffic volume base for the purpose of these traffic operations analyses.

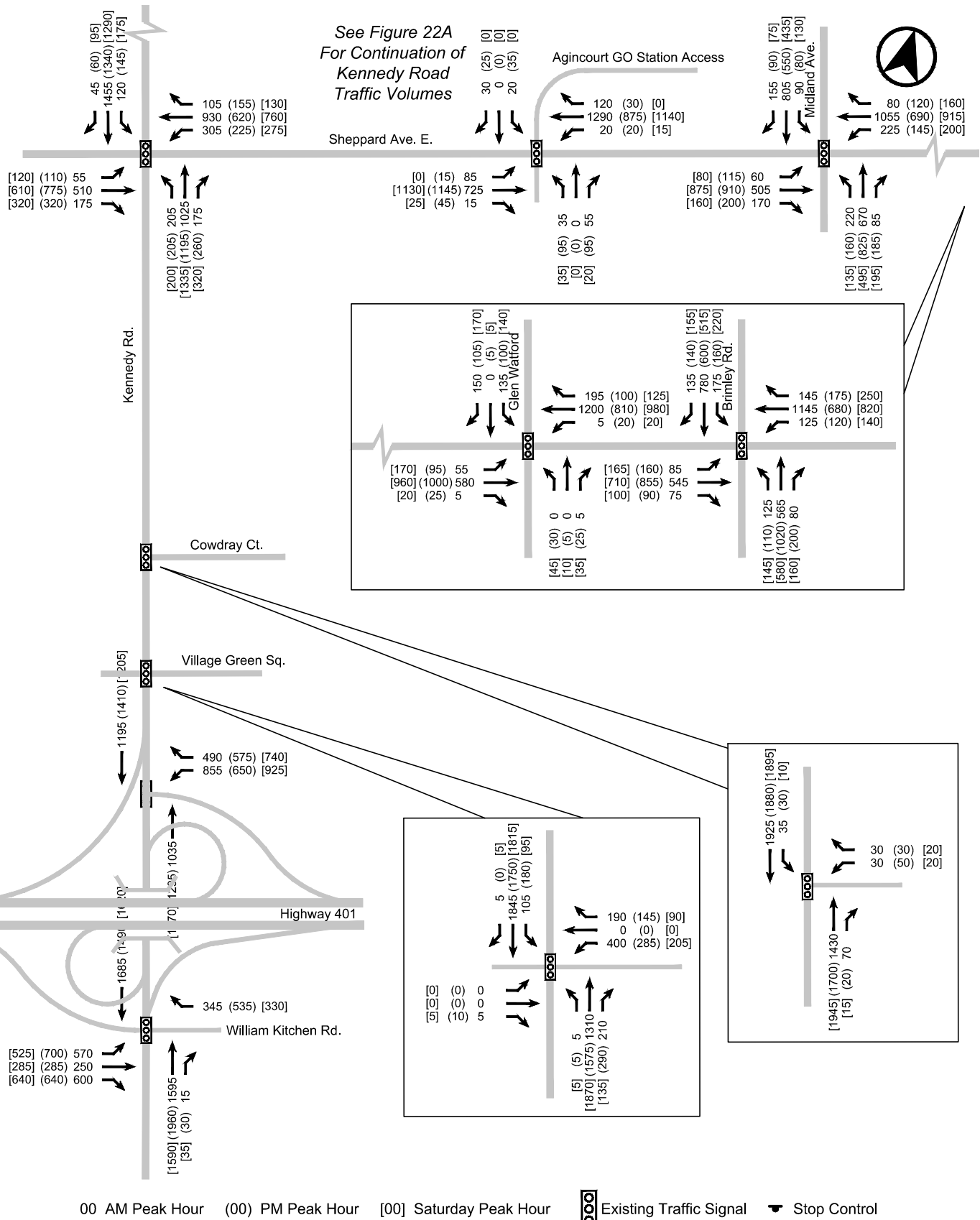
Existing baseline area traffic volumes for the weekday morning and afternoon peak hours and the Saturday mid-day peak hour adopted for the purpose of this analysis are illustrated in Figure 22.

TABLE 44 EXISTING TRAFFIC VOLUMES

Intersection	Date	Source
Signalized Intersections		
Bonis Avenue / Birchmount Road	April 6 & 9, 2019	Spectrum Traffic Data Inc.
Bonis Avenue / King Henry Boulevard – Carabob Court	April 6 & 9, 2019	Spectrum Traffic Data Inc.
Bonis Avenue - Cardwell Avenue / Kennedy Road	April 6 & 9, 2019	Spectrum Traffic Data Inc.
Kennedy Road / Cowdray Crescent	April 21 & 12, 2017	Accu-Traffic Inc.
Kennedy Road / Village Green Square	April 21 & 12, 2017	Accu-Traffic Inc.
Kennedy Road / Highway 401 EB Off-Ramp	April 21 & 12, 2017	Accu-Traffic Inc.
Kennedy Road / Highway 401 WB Off-Ramp	April 21 & 12, 2017	Accu-Traffic Inc.
Sheppard Avenue / Agincourt Mall SE Access	January 28 & 30, 2016	Spectrum Traffic Data Inc.
Sheppard Avenue / Allanford Road	January 28 & 30, 2016	Spectrum Traffic Data Inc.
Birchmount Road / Sheppard Avenue	December 7 & 9, 2017	Spectrum Traffic Data Inc.
Sheppard Avenue / Kennedy Road	December 7 & 9, 2017	Spectrum Traffic Data Inc.
Sheppard Avenue / Agincourt GO Access	May 6 & 9, 2017	Spectrum Traffic Data Inc.
Sheppard Avenue / Midland Avenue	September 7 & 9, 2017	Spectrum Traffic Data Inc.
Sheppard Avenue / Glen Watford Drive	September 7 & 9, 2017	Spectrum Traffic Data Inc.
Sheppard Avenue / Brimley Road	September 7 & 9, 2017	Spectrum Traffic Data Inc.
Unsignalized Intersections		
Bonis Avenue / Agincourt Library Access	April 10, 2019 January 28 & 30, 2016	Spectrum Traffic Data Inc.
Bonis Avenue / Agincourt Mall NE Access	January 28 & 30, 2016	Spectrum Traffic Data Inc.
Bonis Avenue / Agincourt Mall NW Access	January 28 & 30, 2016	Spectrum Traffic Data Inc.
Kennedy Road / Agincourt Mall East Access	January 28 & 30, 2016	Spectrum Traffic Data Inc.
Kennedy Road / Collingwood Street	April 21 & 12, 2017	Accu-Traffic Inc.
Sheppard Avenue / Allanford Road - Agincourt Mall SW Access	January 28 & 30, 2016	Spectrum Traffic Data Inc.
Sheppard Avenue / Mall SW (No Frills') Access	January 28 & 30, 2016	Spectrum Traffic Data Inc.



EXISTING TRAFFIC VOLUMES



EXISTING TRAFFIC VOLUMES



Queues

2: Allanford Rd. & Sheppard Ave. E.

Existing Traffic Conditions

Weekday AM Peak Hour

	→	↖	←	↙
Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↑↑	↖	↑↑	↙
Traffic Volume (vph)	740	40	1100	35
Future Volume (vph)	740	40	1100	35
Lane Group Flow (vph)	868	46	1264	115
Turn Type	NA	Perm	NA	Prot
Protected Phases	4		8	2
Permitted Phases		8		
Detector Phase	4	8	8	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	22.0	22.0	33.0
Total Split (s)	73.0	73.0	73.0	37.0
Total Split (%)	66.4%	66.4%	66.4%	33.6%
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	Max
v/c Ratio	0.42	0.17	0.61	0.23
Control Delay	7.5	9.4	9.9	13.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.5	9.4	9.9	13.3
Queue Length 50th (m)	30.6	2.9	42.8	6.6
Queue Length 95th (m)	36.4	4.4	43.5	19.5
Internal Link Dist (m)	365.1		0.1	106.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2049	278	2082	496
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.17	0.61	0.23

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 37 (34%), Referenced to phase 4:EBT and 8:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

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

Splits and Phases: 2: Allanford Rd. & Sheppard Ave. E.













HCM Signalized Intersection Capacity Analysis

2: Allanford Rd. & Sheppard Ave. E.

Existing Traffic Conditions

Weekday AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	740	15	40	1100	35	65
Future Volume (vph)	740	15	40	1100	35	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5	3.5	3.5
Total Lost time (s)	5.0		5.0	5.0	5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	0.95	
Flpb, ped/bikes	1.00		0.96	1.00	1.00	
Frt	1.00		1.00	1.00	0.91	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3314		1518	3368	1525	
Flt Permitted	1.00		0.28	1.00	0.98	
Satd. Flow (perm)	3314		451	3368	1525	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	851	17	46	1264	40	75
RTOR Reduction (vph)	1	0	0	0	53	0
Lane Group Flow (vph)	867	0	46	1264	62	0
Confl. Peds. (#/hr)		49	49		27	59
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	7%	7%	7%	6%	9%	2%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	67.0		67.0	67.0	31.0	
Effective Green, g (s)	68.0		68.0	68.0	32.0	
Actuated g/C Ratio	0.62		0.62	0.62	0.29	
Clearance Time (s)	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2048		278	2082	443	
v/s Ratio Prot	0.26			c0.38	c0.04	
v/s Ratio Perm			0.10			
v/c Ratio	0.42		0.17	0.61	0.14	
Uniform Delay, d1	10.9		8.9	12.8	28.8	
Progression Factor	0.63		0.87	0.67	1.00	
Incremental Delay, d2	0.6		1.1	1.1	0.7	
Delay (s)	7.4		8.9	9.8	29.5	
Level of Service	A		A	A	C	
Approach Delay (s)	7.4			9.7	29.5	
Approach LOS	A			A	C	

Intersection Summary

HCM 2000 Control Delay 9.9 HCM 2000 Level of Service A

HCM 2000 Volume to Capacity ratio 0.46

Actuated Cycle Length (s) 110.0 Sum of lost time (s) 10.0

Intersection Capacity Utilization 61.2% ICU Level of Service B

Analysis Period (min) 15

c Critical Lane Group

Queues
2: Allanford Rd. & Sheppard Ave. E.

Existing Traffic Conditions
Weekday PM Peak Hour

	→	↖	←	↗
Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↗↗	↖	↗↗	↖↖
Traffic Volume (vph)	1195	35	835	15
Future Volume (vph)	1195	35	835	15
Lane Group Flow (vph)	1263	36	861	77
Turn Type	NA	Perm	NA	Prot
Protected Phases	4		8	2
Permitted Phases		8		
Detector Phase	4	8	8	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	22.0	22.0	33.0
Total Split (s)	76.0	76.0	76.0	34.0
Total Split (%)	69.1%	69.1%	69.1%	30.9%
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	Max
v/c Ratio	0.57	0.19	0.39	0.18
Control Delay	20.8	10.5	9.0	11.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.8	10.5	9.0	11.9
Queue Length 50th (m)	100.5	2.4	31.6	2.5
Queue Length 95th (m)	123.5	m5.1	37.5	14.5
Internal Link Dist (m)	365.1		0.1	106.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2204	189	2215	428
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.57	0.19	0.39	0.18

Intersection Summary











Cycle Length: 110
Actuated Cycle Length: 110
Offset: 34 (31%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Allanford Rd. & Sheppard Ave. E.



HCM Signalized Intersection Capacity Analysis
2: Allanford Rd. & Sheppard Ave. E.

Existing Traffic Conditions
Weekday PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1195	30	35	835	15	60
Future Volume (vph)	1195	30	35	835	15	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5	3.5	3.5
Total Lost time (s)	5.0		5.0	5.0	5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frpb, ped/bikes	1.00		1.00	1.00	0.88	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	1.00		1.00	1.00	0.89	
Flt Protected	1.00		0.95	1.00	0.99	
Satd. Flow (prot)	3414		1685	3433	1452	
Flt Permitted	1.00		0.16	1.00	0.99	
Satd. Flow (perm)	3414		293	3433	1452	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1232	31	36	861	15	62
RTOR Reduction (vph)	2	0	0	0	46	0
Lane Group Flow (vph)	1261	0	36	861	31	0
Confl. Peds. (#/hr)		26	26		23	119
Heavy Vehicles (%)	4%	0%	0%	4%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	70.0		70.0	70.0	28.0	
Effective Green, g (s)	71.0		71.0	71.0	29.0	
Actuated g/C Ratio	0.65		0.65	0.65	0.26	
Clearance Time (s)	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2203		189	2215	382	
v/s Ratio Prot	c0.37			0.25	c0.02	
v/s Ratio Perm			0.12			
v/c Ratio	0.57		0.19	0.39	0.08	
Uniform Delay, d1	11.0		7.9	9.2	30.5	
Progression Factor	1.82		0.96	0.91	1.00	
Incremental Delay, d2	0.5		2.1	0.5	0.4	
Delay (s)	20.5		9.7	8.9	30.9	
Level of Service	C		A	A	C	
Approach Delay (s)	20.5			8.9	30.9	
Approach LOS	C			A	C	

Intersection Summary

HCM 2000 Control Delay 16.2 HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio 0.43
Actuated Cycle Length (s) 110.0 Sum of lost time (s) 10.0
Intersection Capacity Utilization 64.9% ICU Level of Service C
Analysis Period (min) 15
c Critical Lane Group

Queues
2: Allanford Rd. & Sheppard Ave. E.

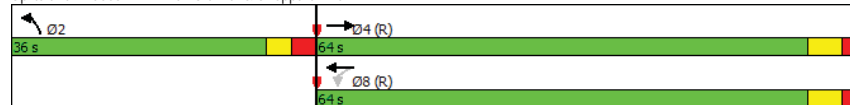
Existing Traffic Conditions
Saturday Peak Hour

	→	↖	←	↗
Lane Group	EBT	WBL	WBT	NBL
Lane Configurations	↗↘	↖	↗↘	↖↗
Traffic Volume (vph)	1090	35	1075	15
Future Volume (vph)	1090	35	1075	15
Lane Group Flow (vph)	1127	36	1097	66
Turn Type	NA	Perm	NA	Prot
Protected Phases	4		8	2
Permitted Phases		8		
Detector Phase	4	8	8	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	22.0	22.0	33.0
Total Split (s)	64.0	64.0	64.0	36.0
Total Split (%)	64.0%	64.0%	64.0%	36.0%
Yellow Time (s)	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	Max
v/c Ratio	0.55	0.19	0.53	0.14
Control Delay	20.6	12.5	13.4	10.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.6	12.5	13.4	10.6
Queue Length 50th (m)	81.4	3.2	65.5	2.1
Queue Length 95th (m)	107.7	9.1	82.8	11.9
Internal Link Dist (m)	365.1		0.1	106.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2058	193	2065	487
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.19	0.53	0.14

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 36 (36%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: Allanford Rd. & Sheppard Ave. E.



HCM Signalized Intersection Capacity Analysis
2: Allanford Rd. & Sheppard Ave. E.

Existing Traffic Conditions
Saturday Peak Hour

	→	↖	←	↗	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗↘		↖	↗↘	↖↗	
Traffic Volume (vph)	1090	15	35	1075	15	50
Future Volume (vph)	1090	15	35	1075	15	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.0	3.5	3.5	3.5
Total Lost time (s)	5.0		5.0		5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frbp, ped/bikes	1.00		1.00	1.00	0.88	
Flpb, ped/bikes	1.00		0.98	1.00	1.00	
Frt	1.00		1.00	1.00	0.90	
Flt Protected	1.00		0.95	1.00	0.99	
Satd. Flow (prot)	3487		1659	3500	1457	
Flt Permitted	1.00		0.19	1.00	0.99	
Satd. Flow (perm)	3487		328	3500	1457	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1112	15	36	1097	15	51
RTOR Reduction (vph)	1	0	0	0	35	0
Lane Group Flow (vph)	1126	0	36	1097	31	0
Confl. Peds. (#/hr)		44	44		20	137
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%
Turn Type	NA		Perm	NA	Prot	
Protected Phases	4			8	2	
Permitted Phases				8		
Actuated Green, G (s)	58.0		58.0	58.0	30.0	
Effective Green, g (s)	59.0		59.0	59.0	31.0	
Actuated g/C Ratio	0.59		0.59	0.59	0.31	
Clearance Time (s)	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2057		193	2065	451	
v/s Ratio Prot	c0.32			0.31	c0.02	
v/s Ratio Perm			0.11			
v/c Ratio	0.55		0.19	0.53	0.07	
Uniform Delay, d1	12.4		9.4	12.2	24.3	
Progression Factor	1.58		1.00	1.00	1.00	
Incremental Delay, d2	0.7		2.1	1.0	0.3	
Delay (s)	20.3		11.6	13.2	24.6	
Level of Service	C		B	B	C	
Approach Delay (s)	20.3			13.2	24.6	
Approach LOS	C			B	C	

Intersection Summary

HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues
3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

Existing Traffic Conditions
Weekday AM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↩	↩↩	↩	↩↩		↩↩	↩	↩
Traffic Volume (vph)	35	670	5	1065	10	0	65	0
Future Volume (vph)	35	670	5	1065	10	0	65	0
Lane Group Flow (vph)	38	725	5	1263	0	16	70	59
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	7	4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	25.0	25.0	25.0	29.0	29.0	29.0	29.0
Total Split (s)	11.0	80.0	69.0	69.0	30.0	30.0	30.0	30.0
Total Split (%)	10.0%	72.7%	62.7%	62.7%	27.3%	27.3%	27.3%	27.3%
Yellow Time (s)	3.5	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes				
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max	Max
v/c Ratio	0.15	0.32	0.01	0.61		0.04	0.24	0.13
Control Delay	10.9	13.1	6.0	6.3		0.2	37.4	0.6
Queue Delay	0.0	0.0	0.0	0.1		0.0	0.0	0.0
Total Delay	10.9	13.1	6.0	6.4		0.2	37.4	0.6
Queue Length 50th (m)	3.2	37.1	0.2	34.0		0.0	13.0	0.0
Queue Length 95th (m)	8.2	49.4	m0.3	m38.7		0.0	26.3	0.0
Internal Link Dist (m)		133.5		159.5		75.9		90.9
Turn Bay Length (m)	30.0		30.0					
Base Capacity (vph)	263	2292	391	2061		399	293	467
Starvation Cap Reductn	0	0	0	113		0	0	0
Spillback Cap Reductn	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0		0	0	0
Reduced v/c Ratio	0.14	0.32	0.01	0.65		0.04	0.24	0.13

Intersection Summary							
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 41 (37%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green							
Natural Cycle: 70							
Control Type: Actuated-Coordinated							
m Volume for 95th percentile queue is metered by upstream signal.							

Splits and Phases: 3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

↩	↩	↩	↩	↩	↩	↩	↩
02	04 (R)	06	07	08 (R)			
30 s	30 s	30 s	11 s	69 s			

HCM Signalized Intersection Capacity Analysis
3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

Existing Traffic Conditions
Weekday AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩		↩	↩↩			↩↩		↩	↩	
Traffic Volume (vph)	35	670	5	5	1065	110	10	0	5	65	0	55
Future Volume (vph)	35	670	5	5	1065	110	10	0	5	65	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Total Lost time (s)	3.5	5.0		5.0	5.0			5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			0.99		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		0.94	1.00			0.98		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.96		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1604	3362		1590	3303			1693		1645	1494	
Flt Permitted	0.15	1.00		0.38	1.00			0.86		0.75	1.00	
Satd. Flow (perm)	245	3362		630	3303			1507		1293	1494	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	38	720	5	5	1145	118	11	0	5	70	0	59
RTOR Reduction (vph)	0	0	0	0	7	0	0	12	0	0	46	0
Lane Group Flow (vph)	38	725	0	5	1256	0	0	4	0	70	13	0
Confl. Peds. (#/hr)	26		53	53		26	24		3	3		24
Heavy Vehicles (%)	5%	6%	0%	0%	6%	2%	0%	0%	0%	2%	0%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	74.0	74.0		65.6	65.6			24.0		24.0	24.0	
Effective Green, g (s)	75.0	75.0		66.6	66.6			25.0		25.0	25.0	
Actuated g/C Ratio	0.68	0.68		0.61	0.61			0.23		0.23	0.23	
Clearance Time (s)	4.5	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	227	2292		381	1999			342		293	339	
v/s Ratio Prot	0.01	c0.22			c0.38						0.01	
v/s Ratio Perm	0.11			0.01				0.00		c0.05		
v/c Ratio	0.17	0.32		0.01	0.63			0.01		0.24	0.04	
Uniform Delay, d1	8.6	7.1		8.6	13.8			32.9		34.7	33.1	
Progression Factor	1.86	1.78		0.61	0.40			1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		0.0	1.0			0.1		1.9	0.2	
Delay (s)	16.3	13.0		5.3	6.5			33.0		36.6	33.4	
Level of Service	B	B		A	A			C		D	C	
Approach Delay (s)		13.1			6.5			33.0			35.1	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Queues

3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

Existing Traffic Conditions

Weekday PM Peak Hour

	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	60	1045	10	695	0	150	5
Future Volume (vph)	60	1045	10	695	0	150	5
Lane Group Flow (vph)	62	1087	10	902	10	155	93
Turn Type	pm+pt	NA	Perm	NA	NA	Perm	NA
Protected Phases	7	4		8	2		6
Permitted Phases	4		8			6	
Detector Phase	7	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	25.0	25.0	25.0	29.0	29.0	29.0
Total Split (s)	11.0	72.0	61.0	61.0	38.0	38.0	38.0
Total Split (%)	10.0%	65.5%	55.5%	55.5%	34.5%	34.5%	34.5%
Yellow Time (s)	3.5	4.0	4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max
v/c Ratio	0.19	0.52	0.05	0.52	0.02	0.40	0.18
Control Delay	10.2	12.0	11.4	10.8	0.1	34.4	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	12.0	11.4	10.8	0.1	34.4	7.7
Queue Length 50th (m)	4.3	41.6	0.7	33.7	0.0	27.8	0.8
Queue Length 95th (m)	m7.0	43.6	m1.0	m39.7	0.0	47.7	13.0
Internal Link Dist (m)		133.5		159.5	75.9		90.9
Turn Bay Length (m)	30.0		30.0				
Base Capacity (vph)	335	2087	217	1750	533	388	526
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.52	0.05	0.52	0.02	0.40	0.18

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

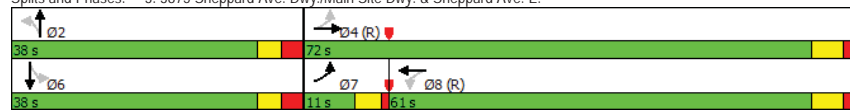
Offset: 49 (45%). Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

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

Splits and Phases: 3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

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HCM Signalized Intersection Capacity Analysis

3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

Existing Traffic Conditions

Weekday PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1045	10	10	695	180	0	0	10	150	5	85
Future Volume (vph)	60	1045	10	10	695	180	0	0	10	150	5	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Total Lost time (s)	3.5	5.0		5.0	5.0			5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.98			0.97		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		0.98	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.97			0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1682	3425		1646	3270			1578		1640	1551	
Flt Permitted	0.23	1.00		0.24	1.00			1.00		0.75	1.00	
Satd. Flow (perm)	399	3425		413	3270			1578		1296	1551	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	1077	10	10	716	186	0	0	10	155	5	88
RTOR Reduction (vph)	0	0	0	0	21	0	0	7	0	0	62	0
Lane Group Flow (vph)	62	1087	0	10	881	0	0	3	0	155	31	0
Confl. Peds. (#/hr)	19		42	42		19	20		12	12		20
Heavy Vehicles (%)	0%	4%	0%	0%	5%	1%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA			NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	66.0	66.0		56.3	56.3			32.0		32.0	32.0	
Effective Green, g (s)	67.0	67.0		57.3	57.3			33.0		33.0	33.0	
Actuated g/C Ratio	0.61	0.61		0.52	0.52			0.30		0.30	0.30	
Clearance Time (s)	4.5	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	315	2086		215	1703			473		388	465	
v/s Ratio Prot	0.01	c0.32			0.27			0.00			0.02	
v/s Ratio Perm	0.11			0.02						c0.12		
v/c Ratio	0.20	0.52		0.05	0.52			0.01		0.40	0.07	
Uniform Delay, d1	10.3	12.3		12.9	17.3			27.0		30.6	27.5	
Progression Factor	1.11	0.89		0.79	0.61			1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.8		0.3	0.8			0.0		3.1	0.3	
Delay (s)	11.7	11.8		10.5	11.3			27.0		33.7	27.8	
Level of Service	B	B		B	B			C		C	C	
Approach Delay (s)		11.8			11.3			27.0			31.5	
Approach LOS		B			B			C			C	

Intersection Summary

HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

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Queues
3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

Existing Traffic Conditions
Saturday Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	110	840	15	770	5	0	200	5
Future Volume (vph)	110	840	15	770	5	0	200	5
Lane Group Flow (vph)	112	867	15	1062	0	15	204	153
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	7	4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	25.0	25.0	25.0	29.0	29.0	29.0	29.0
Total Split (s)	13.0	70.0	57.0	57.0	40.0	40.0	40.0	40.0
Total Split (%)	11.8%	63.6%	51.8%	51.8%	36.4%	36.4%	36.4%	36.4%
Yellow Time (s)	3.5	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes				
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max	Max
v/c Ratio	0.40	0.42	0.06	0.66	0.03	0.49	0.26	
Control Delay	13.7	13.1	11.3	11.5	0.1	35.3	6.1	
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	0.0	
Total Delay	13.7	13.1	11.3	11.8	0.1	35.3	6.1	
Queue Length 50th (m)	10.0	52.6	1.0	35.8	0.0	37.1	0.8	
Queue Length 95th (m)	18.0	66.8	m1.3	42.2	0.0	60.8	15.4	
Internal Link Dist (m)		133.5		159.5		75.9		90.9
Turn Bay Length (m)	30.0		30.0					
Base Capacity (vph)	285	2040	262	1606		541	413	585
Starvation Cap Reductn	0	0	0	143	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.42	0.06	0.73	0.03	0.49	0.26	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 53 (48%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

↖ Ø2	↗ Ø4 (R)
40 s	70 s
↖ Ø6	↗ Ø7
40 s	13 s
	57 s

HCM Signalized Intersection Capacity Analysis
3: 3875 Sheppard Ave. Dwy./Main Site Dwy. & Sheppard Ave. E.

Existing Traffic Conditions
Saturday Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	110	840	10	15	770	270	5	0	10	200	5	145
Future Volume (vph)	110	840	10	15	770	270	5	0	10	200	5	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Total Lost time (s)	3.5	5.0		5.0	5.0			5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.98			0.98		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		0.95	1.00			0.99		0.98	1.00	
Frt	1.00	1.00		1.00	0.96			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1685	3453		1594	3292			1628		1652	1522	
Flt Permitted	0.15	1.00		0.33	1.00			0.93		0.75	1.00	
Satd. Flow (perm)	270	3453		549	3292			1543		1300	1522	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	112	857	10	15	786	276	5	0	10	204	5	148
RTOR Reduction (vph)	0	1	0	0	32	0	0	10	0	0	101	0
Lane Group Flow (vph)	112	866	0	15	1030	0	0	5	0	204	52	0
Confl. Peds. (#/hr)	19		62	62		19	30		14	14		30
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	64.0	64.0		51.6	51.6			34.0		34.0	34.0	
Effective Green, g (s)	65.0	65.0		52.6	52.6			35.0		35.0	35.0	
Actuated g/C Ratio	0.59	0.59		0.48	0.48			0.32		0.32	0.32	
Clearance Time (s)	4.5	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	274	2040		262	1574			490		413	484	
v/s Ratio Prot	0.03	c0.25			c0.31						0.03	
v/s Ratio Perm	0.21			0.03				0.00		c0.16		
v/c Ratio	0.41	0.42		0.06	0.65			0.01		0.49	0.11	
Uniform Delay, d1	13.4	12.3		15.4	21.8			25.6		30.3	26.5	
Progression Factor	1.00	1.00		0.68	0.49			1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.6		0.3	1.3			0.0		4.2	0.4	
Delay (s)	14.4	12.9		10.7	11.9			25.7		34.5	26.9	
Level of Service	B	B		B	B			C		C	C	
Approach Delay (s)	13.1			11.9			25.7			31.3		
Approach LOS	B			B			C			C		

Intersection Summary	
HCM 2000 Control Delay	15.3
HCM 2000 Volume to Capacity ratio	0.58
Actuated Cycle Length (s)	110.0
Intersection Capacity Utilization	67.3%
Analysis Period (min)	15
c Critical Lane Group	



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 08:00:00
To: 09:00:00

Intersection: Kennedy Rd & Sheppard Ave E
Site ID: 2002300001
Count Date: Jan 29, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Kennedy Rd runs N/S

North Approach

	Out	In	Total
	1434	1090	2524
	89	76	165
Totals	1523	1166	2689

Kennedy Rd

	5	78	6	0
	44	1264	126	0
Totals	49	1342	132	0

East Approach

	Out	In	Total
	1166	707	1873
	101	66	167
Totals	1267	773	2040

Sheppard Ave E

	Totals	
	0	
	49	
43	444	
7	210	
Totals	217	

Peds: 97

Peds: 93



Peds: 102







Peds: 80

Sheppard Ave E

Totals		
0	0	0
111	98	13
905	836	69
251	232	19

West Approach

	Out	In	Total
	703	1050	1753
	51	89	140
Totals	754	1139	1893

				
Totals	185	1005	154	0
	170	943	137	0
	15	62	17	0

Kennedy Rd

South Approach

	Out	In	Total
	1250	1706	2956
	94	104	198
Totals	1344	1810	3154

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Kennedy Rd & Sheppard Ave E

Count Date: Jan 29, 2020

Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Kennedy Rd						South Approach Kennedy Rd						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
08:00	24	353	13	0	17	390	37	214	41	0	23	292	64	227	24	0	31	315	8	106	46	0	28	160	1157
08:15	31	317	12	0	23	360	47	247	46	0	20	340	64	227	26	0	16	317	9	118	46	0	21	173	1190
08:30	37	321	13	0	19	371	45	263	36	0	19	344	64	247	30	0	27	341	12	115	57	0	12	184	1240
08:45	40	351	11	0	38	402	56	281	31	0	18	368	59	204	31	0	28	294	21	148	68	0	32	237	1301
Grand Total	132	1342	49	0	97	1523	185	1005	154	0	80	1344	251	905	111	0	102	1267	50	487	217	0	93	754	4888
Approach %	8.7	88.1	3.2	0	-	-	13.8	74.8	11.5	0	-	-	19.8	71.4	8.8	0	-	-	6.6	64.6	28.8	0	-	-	-
Totals %	2.7	27.5	1	0	31.2	-	3.8	20.6	3.2	0	27.5	-	5.1	18.5	2.3	0	25.9	-	1	10	4.4	0	15.4	-	-
PHF	0.83	0.95	0.94	0	0.95	-	0.83	0.89	0.84	0	0.91	-	0.98	0.92	0.9	0	0.93	-	0.6	0.82	0.8	0	0.8	-	0.94
Cars	126	1264	44	0	-	1434	170	943	137	0	-	1250	232	836	98	0	-	1166	49	444	210	0	-	703	4553
% Cars	95.5	94.2	89.8	0	-	94.2	91.9	93.8	89	0	-	93	92.4	92.4	88.3	0	-	92	98	91.2	96.8	0	-	93.2	93.1
Trucks	6	78	5	0	-	89	15	62	17	0	-	94	19	69	13	0	-	101	1	43	7	0	-	51	335
% Trucks	4.5	5.8	10.2	0	-	5.8	8.1	6.2	11	0	-	7	7.6	7.6	11.7	0	-	8	2	8.8	3.2	0	-	6.8	6.9
Peds	-	-	-	-	97	-	-	-	-	-	80	-	-	-	-	-	102	-	-	-	-	-	93	-	372
% Peds	-	-	-	-	26.1	-	-	-	-	-	21.5	-	-	-	-	-	27.4	-	-	-	-	-	25	-	-



Peak Hour Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:45:00

To: 17:45:00

Intersection: Kennedy Rd & Sheppard Ave E

Site ID: 2002300001

Count Date: Jan 29, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Kennedy Rd runs N/S

North Approach

	Out	In	Total
	1463	1264	2727
	74	55	129
Totals	1537	1319	2856

Kennedy Rd

	0	63	11	0
	57	1264	142	0
Totals	57	1327	153	0

East Approach

	Out	In	Total
	924	1027	1951
	58	73	131
Totals	982	1100	2082

Sheppard Ave E

	Out	In	Total
	0	0	0
	2	102	104
	54	683	737
	12	354	366

Peds: 184

Peds: 131



Peds: 106

Peds: 100

Sheppard Ave E

	Out	In	Total
	0	0	0
	124	121	245
	651	608	1259
	207	195	402

West Approach

	Out	In	Total
	1139	850	1989
	68	48	116
Totals	1207	898	2105

	190	1091	210	1
	185	1041	202	1
	5	50	8	0

Kennedy Rd

South Approach

	Out	In	Total
	1429	1814	3243
	63	87	150
Totals	1492	1901	3393

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Kennedy Rd & Sheppard Ave E

Count Date: Jan 29, 2020

Period: 16:00 - 18:00

Peak Hour Data (16:45 - 17:45)

Start Time	North Approach Kennedy Rd						South Approach Kennedy Rd						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:45	38	287	15	0	45	340	45	263	48	0	23	356	59	172	35	0	25	266	27	178	81	0	35	286	1248
17:00	39	343	13	0	58	395	49	281	58	0	27	388	54	158	31	0	28	243	32	177	88	0	42	297	1323
17:15	36	352	18	0	38	406	48	270	64	1	20	383	51	159	31	0	28	241	21	195	98	0	18	314	1344
17:30	40	345	11	0	43	396	48	277	40	0	30	365	43	162	27	0	25	232	24	187	99	0	36	310	1303
Grand Total	153	1327	57	0	184	1537	190	1091	210	1	100	1492	207	651	124	0	106	982	104	737	366	0	131	1207	5218
Approach %	10	86.3	3.7	0	-	-	12.7	73.1	14.1	0.1	-	-	21.1	66.3	12.6	0	-	-	8.6	61.1	30.3	0	-	-	-
Totals %	2.9	25.4	1.1	0	-	29.5	3.6	20.9	4	0	-	28.6	4	12.5	2.4	0	-	18.8	2	14.1	7	0	-	23.1	-
PHF	0.96	0.94	0.79	0	-	0.95	0.97	0.97	0.82	0.25	-	0.96	0.88	0.95	0.89	0	-	0.92	0.81	0.94	0.92	0	-	0.96	0.97
Cars	142	1264	57	0	-	1463	185	1041	202	1	-	1429	195	608	121	0	-	924	102	683	354	0	-	1139	4955
% Cars	92.8	95.3	100	0	-	95.2	97.4	95.4	96.2	100	-	95.8	94.2	93.4	97.6	0	-	94.1	98.1	92.7	96.7	0	-	94.4	95
Trucks	11	63	0	0	-	74	5	50	8	0	-	63	12	43	3	0	-	58	2	54	12	0	-	68	263
% Trucks	7.2	4.7	0	0	-	4.8	2.6	4.6	3.8	0	-	4.2	5.8	6.6	2.4	0	-	5.9	1.9	7.3	3.3	0	-	5.6	5
Peds	-	-	-	-	184	-	-	-	-	-	100	-	-	-	-	-	106	-	-	-	-	-	131	-	521
% Peds	-	-	-	-	35.3	-	-	-	-	-	19.2	-	-	-	-	-	20.3	-	-	-	-	-	25.1	-	-



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 11:30:00
To: 12:30:00

Intersection: Kennedy Rd & Sheppard Ave E

Site ID: 2002300007

Count Date: Feb 01, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Kennedy Rd runs N/S

North Approach

	Out	In	Total
	1285	1242	2527
	65	64	129
Totals	1350	1306	2656

Kennedy Rd

	4	56	5	0
	77	1060	148	0
Totals	81	1116	153	0

East Approach

	Out	In	Total
	975	852	1827
	51	39	90
Totals	1026	891	1917

Sheppard Ave E

	Out	In	Total
	0	0	0
	2	95	97
	28	430	458
	6	220	226

Peds: 144

Peds: 96



Peds: 72

Peds: 75

Sheppard Ave E

	Totals	Out	In
	0	0	0
	117	114	3
	641	605	36
	268	256	12

West Approach

	Out	In	Total
	745	874	1619
	36	47	83
Totals	781	921	1702

	199	1092	280	0
	192	1033	274	0
	7	59	6	0

Kennedy Rd

South Approach

	Out	In	Total
	1499	1536	3035
	72	74	146
Totals	1571	1610	3181

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Kennedy Rd & Sheppard Ave E

Count Date: Feb 01, 2020

Period: 11:30 - 14:00

Peak Hour Data (11:30 - 12:30)

Start Time	North Approach Kennedy Rd						South Approach Kennedy Rd						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
11:30	34	288	28	0	27	350	48	282	82	0	16	412	68	118	28	0	23	214	24	106	47	0	21	177	1153
11:45	36	276	16	0	42	328	50	277	66	0	21	393	58	152	29	0	20	239	27	117	61	0	21	205	1165
12:00	43	276	20	0	41	339	51	257	61	0	15	369	73	207	21	0	21	301	17	125	56	0	33	198	1207
12:15	40	276	17	0	34	333	50	276	71	0	23	397	69	164	39	0	8	272	29	110	62	0	24	201	1203
Grand Total	153	1116	81	0	144	1350	199	1092	280	0	75	1571	268	641	117	0	72	1026	97	458	226	0	99	781	4728
Approach %	11.3	82.7	6	0	-	-	12.7	69.5	17.8	0	-	-	26.1	62.5	11.4	0	-	-	12.4	58.6	28.9	0	-	-	-
Totals %	3.2	23.6	1.7	0	-	28.6	4.2	23.1	5.9	0	-	33.2	5.7	13.6	2.5	0	-	21.7	2.1	9.7	4.8	0	-	16.5	-
PHF	0.89	0.97	0.72	0	-	0.96	0.98	0.97	0.85	0	-	0.95	0.92	0.77	0.75	0	-	0.85	0.84	0.92	0.91	0	-	0.95	0.98
Cars	148	1060	77	0	-	1285	192	1033	274	0	-	1499	256	605	114	0	-	975	95	430	220	0	-	745	4504
% Cars	96.7	95	95.1	0	-	95.2	96.5	94.6	97.9	0	-	95.4	95.5	94.4	97.4	0	-	95	97.9	93.9	97.3	0	-	95.4	95.3
Trucks	5	56	4	0	-	65	7	59	6	0	-	72	12	36	3	0	-	51	2	28	6	0	-	36	224
% Trucks	3.3	5	4.9	0	-	4.8	3.5	5.4	2.1	0	-	4.6	4.5	5.6	2.6	0	-	5	2.1	6.1	2.7	0	-	4.6	4.7
Peds	-	-	-	-	144	-	-	-	-	-	75	-	-	-	-	-	72	-	-	-	-	-	99	-	390
% Peds	-	-	-	-	36.9	-	-	-	-	-	19.2	-	-	-	-	-	18.5	-	-	-	-	-	25.4	-	-

Queues
11: Kennedy Rd. & Bonis Ave./Cardwell Ave.

Existing Traffic Conditions
Weekday AM Peak Hour

	EBL	EBR	WBL	WBR	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	135	195	50	65	125	980	5	1400
Future Volume (vph)	135	195	50	65	125	980	5	1400
Lane Group Flow (vph)	138	199	51	66	128	1031	5	1582
Turn Type	Perm	Perm	Perm	Perm	pm+pt	NA	Perm	NA
Protected Phases					5	2		6
Permitted Phases	4	4	8	8	2		6	
Detector Phase	4	4	8	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.0	36.0	36.0	36.0	10.0	32.0	32.0	32.0
Total Split (s)	37.0	37.0	37.0	37.0	14.0	73.0	59.0	59.0
Total Split (%)	33.6%	33.6%	33.6%	33.6%	12.7%	66.4%	53.6%	53.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.0	5.0	5.0	5.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.48	0.50	0.18	0.21	0.50	0.29	0.02	0.53
Control Delay	43.5	9.9	35.4	8.4	35.8	2.0	13.8	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	9.9	35.4	8.4	35.8	2.0	13.8	14.9
Queue Length 50th (m)	29.6	2.2	10.3	0.0	15.4	6.4	0.4	59.6
Queue Length 95th (m)	42.4	19.9	18.5	10.0	m30.5	11.4	2.7	110.9
Internal Link Dist (m)						111.3		263.9
Turn Bay Length (m)			30.0	35.0		45.0		
Base Capacity (vph)	453	525	434	461	281	3517	285	2965
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.38	0.12	0.14	0.46	0.29	0.02	0.53

Intersection Summary								
Cycle Length: 110								
Actuated Cycle Length: 110								
Offset: 14 (13%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green								
Natural Cycle: 80								
Control Type: Actuated-Coordinated								
m Volume for 95th percentile queue is metered by upstream signal.								



HCM Signalized Intersection Capacity Analysis
11: Kennedy Rd. & Bonis Ave./Cardwell Ave.

Existing Traffic Conditions
Weekday AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	0	195	50	0	65	125	980	30	5	1400	150
Future Volume (vph)	135	0	195	50	0	65	125	980	30	5	1400	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Total Lost time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00		0.91	1.00		0.96	1.00	1.00		1.00	1.00	
Fipb, ped/bikes	0.97		1.00	0.92		1.00	1.00	1.00		0.99	1.00	
Frt	1.00		0.85	1.00		0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1559		1349	1495		1419	1589	4856		1670	4841	
Flt Permitted	0.95		1.00	0.95		1.00	0.11	1.00		0.27	1.00	
Satd. Flow (perm)	1559		1349	1495		1419	184	4856		467	4841	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	138	0	199	51	0	66	128	1000	31	5	1429	153
RTOR Reduction (vph)	0	0	153	0	0	54	0	2	0	0	9	0
Lane Group Flow (vph)	138	0	46	51	0	12	128	1029	0	5	1573	0
Confl. Peds. (#/hr)	26		70	70		26	31		17	17		31
Heavy Vehicles (%)	5%	0%	2%	4%	0%	2%	6%	5%	4%	0%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	6	0	0	0
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	19.3		19.3	19.3		19.3	78.7	78.7		66.3	66.3	
Effective Green, g (s)	20.3		20.3	20.3		20.3	79.7	79.7		67.3	67.3	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.72	0.72		0.61	0.61	
Clearance Time (s)	6.0		6.0	6.0		6.0	4.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	287		248	275		261	253	3518		285	2961	
v/s Ratio Prot							c0.04	0.21			c0.32	
v/s Ratio Perm	c0.09		0.03	0.03		0.01	0.32			0.01		
v/c Ratio	0.48		0.18	0.19		0.05	0.51	0.29		0.02	0.53	
Uniform Delay, d1	40.1		37.9	37.9		36.9	7.7	5.3		8.4	12.3	
Progression Factor	1.00		1.00	1.00		1.00	4.17	0.29		1.00	1.00	
Incremental Delay, d2	1.3		0.4	0.3		0.1	1.3	0.2		0.1	0.7	
Delay (s)	41.4		38.2	38.2		37.0	33.3	1.7		8.5	13.0	
Level of Service	D		D	D		D	C	A		A	B	
Approach Delay (s)		39.5			37.5			5.2			13.0	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

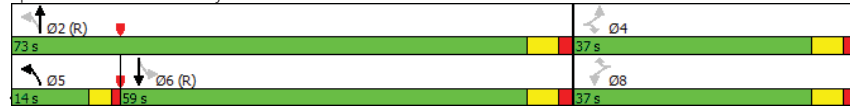
Queues
11: Kennedy Rd. & Bonis Ave./Cardwell Ave.

Existing Traffic Conditions
Weekday PM Peak Hour

	EBL	EBR	WBL	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↱	↰	↱	↰	↱	↰	↱
Traffic Volume (vph)	280	195	15	55	195	1175	20	1290
Future Volume (vph)	280	195	15	55	195	1175	20	1290
Lane Group Flow (vph)	292	203	16	57	203	1255	21	1552
Turn Type	Perm	Perm	Perm	Perm	pm+pt	NA	Perm	NA
Protected Phases					5	2		6
Permitted Phases	4	4	8	8	2		6	
Detector Phase	4	4	8	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.0	36.0	36.0	36.0	10.0	32.0	32.0	32.0
Total Split (s)	37.0	37.0	37.0	37.0	14.0	73.0	59.0	59.0
Total Split (%)	33.6%	33.6%	33.6%	33.6%	12.7%	66.4%	53.6%	53.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.0	5.0	5.0	5.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.74	0.42	0.04	0.14	0.75	0.38	0.11	0.58
Control Delay	49.2	7.9	29.1	6.1	49.5	2.7	16.9	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	7.9	29.1	6.1	49.5	2.7	16.9	18.8
Queue Length 50th (m)	57.7	1.5	2.6	0.0	33.1	10.6	2.5	89.8
Queue Length 95th (m)	87.2	19.1	8.1	7.6	m#60.0	19.5	7.7	106.1
Internal Link Dist (m)					111.3		263.9	
Turn Bay Length (m)			30.0	35.0		45.0		
Base Capacity (vph)	473	534	452	467	274	3329	198	2659
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.38	0.04	0.12	0.74	0.38	0.11	0.58

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 104 (95%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 11: Kennedy Rd. & Bonis Ave./Cardwell Ave.



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HCM Signalized Intersection Capacity Analysis
11: Kennedy Rd. & Bonis Ave./Cardwell Ave.

Existing Traffic Conditions
Weekday PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱	↰		↱	↰	↱		↰	↱	↱
Traffic Volume (vph)	280	0	195	15	0	55	195	1175	30	20	1290	200
Future Volume (vph)	280	0	195	15	0	55	195	1175	30	20	1290	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Total Lost time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00		0.91	1.00		0.95	1.00	1.00		1.00	1.00	
Fipb, ped/bikes	0.97		1.00	0.92		1.00	1.00	1.00		0.99	1.00	
Frt	1.00		0.85	1.00		0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1627		1363	1557		1439	1668	5005		1672	4920	
Flt Permitted	0.95		1.00	0.95		1.00	0.10	1.00		0.21	1.00	
Satd. Flow (perm)	1627		1363	1557		1439	176	5005		370	4920	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	292	0	203	16	0	57	203	1224	31	21	1344	208
RTOR Reduction (vph)	0	0	147	0	0	43	0	2	0	0	17	0
Lane Group Flow (vph)	292	0	56	16	0	14	203	1253	0	21	1535	0
Confl. Peds. (#/hr)	31		69	69		31	15		20	20		15
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	1%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	6	0	0	0
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.8		25.8	25.8		25.8	72.2	72.2		58.1	58.1	
Effective Green, g (s)	26.8		26.8	26.8		26.8	73.2	73.2		59.1	59.1	
Actuated g/C Ratio	0.24		0.24	0.24		0.24	0.67	0.67		0.54	0.54	
Clearance Time (s)	6.0		6.0	6.0		6.0	4.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	396		332	379		350	267	3330		198	2643	
v/s Ratio Prot							c0.08	0.25			0.31	
v/s Ratio Perm	c0.18		0.04	0.01		0.01	c0.43			0.06		
v/c Ratio	0.74		0.17	0.04		0.04	0.76	0.38		0.11	0.58	
Uniform Delay, d1	38.4		32.8	31.8		31.8	17.8	8.2		12.5	17.1	
Progression Factor	1.00		1.00	1.00		1.00	2.34	0.28		1.00	1.00	
Incremental Delay, d2	7.0		0.2	0.0		0.0	8.9	0.2		1.1	0.9	
Delay (s)	45.4		33.1	31.8		31.8	50.5	2.5		13.6	18.1	
Level of Service	D		C	C		C	D	A		B	B	
Approach Delay (s)		40.3			31.8			9.2			18.0	
Approach LOS		D			C			A			B	

Intersection Summary	
HCM 2000 Control Delay	17.8
HCM 2000 Volume to Capacity ratio	0.78
Actuated Cycle Length (s)	110.0
Intersection Capacity Utilization	70.4%
Analysis Period (min)	15
c Critical Lane Group	

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Queues
11: Kennedy Rd. & Bonis Ave./Cardwell Ave.

Existing Traffic Conditions
Saturday Peak Hour

	EBL	EBR	WBL	WBR	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	215	230	40	35	235	1210	15	1240
Future Volume (vph)	215	230	40	35	235	1210	15	1240
Lane Group Flow (vph)	222	237	41	36	242	1273	15	1510
Turn Type	Perm	Perm	Perm	Perm	pm+pt	NA	Perm	NA
Protected Phases					5	2		6
Permitted Phases	4	4	8	8	2		6	
Detector Phase	4	4	8	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	36.0	36.0	36.0	36.0	10.0	32.0	32.0	32.0
Total Split (s)	37.0	37.0	37.0	37.0	11.0	73.0	62.0	62.0
Total Split (%)	33.6%	33.6%	33.6%	33.6%	10.0%	66.4%	56.4%	56.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	3.0	5.0	5.0	5.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
v/c Ratio	0.59	0.55	0.11	0.09	0.78	0.37	0.08	0.57
Control Delay	43.3	17.7	31.2	2.1	50.7	2.8	14.9	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	17.7	31.2	2.1	50.7	2.8	14.9	17.8
Queue Length 50th (m)	41.6	14.9	6.8	0.0	42.5	15.9	1.6	80.2
Queue Length 95th (m)	65.8	39.0	15.7	2.3	m#65.3	17.7	5.6	94.9
Internal Link Dist (m)					111.3		263.9	
Turn Bay Length (m)			30.0	35.0		45.0		
Base Capacity (vph)	483	512	463	476	312	3420	183	2658
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.46	0.09	0.08	0.78	0.37	0.08	0.57

Intersection Summary							
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 104 (95%), Referenced to phase 2:NBT and 6:SBTL, Start of Green							
Natural Cycle: 80							
Control Type: Actuated-Coordinated							
# 95th percentile volume exceeds capacity, queue may be longer.							
Queue shown is maximum after two cycles.							
m Volume for 95th percentile queue is metered by upstream signal.							

Splits and Phases: 11: Kennedy Rd. & Bonis Ave./Cardwell Ave.



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HCM Signalized Intersection Capacity Analysis
11: Kennedy Rd. & Bonis Ave./Cardwell Ave.

Existing Traffic Conditions
Saturday Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	0	230	40	0	35	235	1210	25	15	1240	225
Future Volume (vph)	215	0	230	40	0	35	235	1210	25	15	1240	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Total Lost time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00		0.93	1.00		0.98	1.00	1.00		1.00	0.99	
Fipb, ped/bikes	0.99		1.00	0.94		1.00	1.00	1.00		1.00	1.00	
Frt	1.00		0.85	1.00		0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662		1394	1592		1470	1684	5011		1583	4935	
Flt Permitted	0.95		1.00	0.95		1.00	0.11	1.00		0.21	1.00	
Satd. Flow (perm)	1662		1394	1592		1470	189	5011		344	4935	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	222	0	237	41	0	36	242	1247	26	15	1278	232
RTOR Reduction (vph)	0	0	117	0	0	28	0	2	0	0	23	0
Lane Group Flow (vph)	222	0	120	41	0	8	242	1271	0	15	1487	0
Confl. Peds. (#/hr)	12		50	50		12	26		11	11		26
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	2%	0%	6%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	6	0	0	0
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	24.0		24.0	24.0		24.0	74.0	74.0		57.7	57.7	
Effective Green, g (s)	25.0		25.0	25.0		25.0	75.0	75.0		58.7	58.7	
Actuated g/C Ratio	0.23		0.23	0.23		0.23	0.68	0.68		0.53	0.53	
Clearance Time (s)	6.0		6.0	6.0		6.0	4.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	377		316	361		334	309	3416		183	2633	
v/s Ratio Prot							c0.09	0.25			0.30	
v/s Ratio Perm	c0.13		0.09	0.03		0.01	c0.44			0.04		
v/c Ratio	0.59		0.38	0.11		0.02	0.78	0.37		0.08	0.56	
Uniform Delay, d1	37.9		36.0	33.7		33.0	20.0	7.5		12.5	17.1	
Progression Factor	1.00		1.00	1.00		1.00	2.64	0.31		1.00	1.00	
Incremental Delay, d2	2.3		0.8	0.1		0.0	8.2	0.2		0.9	0.9	
Delay (s)	40.3		36.7	33.9		33.1	61.1	2.5		13.4	18.0	
Level of Service	D		D	C		C	E	A		B	B	
Approach Delay (s)		38.4			33.5			11.9			18.0	
Approach LOS		D			C			B			B	

Intersection Summary		
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.76	
Actuated Cycle Length (s)	110.0	Sum of lost time (s) 14.0
Intersection Capacity Utilization	69.7%	ICU Level of Service C
Analysis Period (min)	15	
c Critical Lane Group		

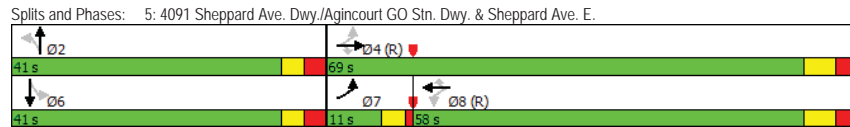
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Queues Existing Traffic Conditions
5: 4091 Sheppard Ave. Dwy./Agincourt GO Stn. Dwy. & Sheppard Ave. E. Weekday AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↰	↰↰	↰	↰	↰↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	85	725	15	20	1290	120	35	0	20	0
Future Volume (vph)	85	725	15	20	1290	120	35	0	20	0
Lane Group Flow (vph)	88	747	15	21	1330	124	36	57	21	31
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4			8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	31.0	31.0	31.0	31.0	31.0	40.0	40.0	40.0	40.0
Total Split (s)	11.0	69.0	69.0	58.0	58.0	58.0	41.0	41.0	41.0	41.0
Total Split (%)	10.0%	62.7%	62.7%	52.7%	52.7%	52.7%	37.3%	37.3%	37.3%	37.3%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lag				
Lead-Lag Optimize?	Yes			Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	C-Max	C-Max	C-Max	Max	Max	None	None
v/c Ratio	0.44	0.39	0.02	0.07	0.79	0.18	0.09	0.09	0.05	0.05
Control Delay	31.8	7.3	1.1	24.5	33.2	13.9	26.5	0.3	25.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	7.3	1.1	24.5	33.2	13.9	26.5	0.3	25.9	0.2
Queue Length 50th (m)	7.6	23.4	0.0	3.4	126.9	9.2	5.6	0.0	3.2	0.0
Queue Length 95th (m)	25.1	35.5	m0.2	m4.2	m131.0	m10.8	13.5	0.0	9.2	0.0
Internal Link Dist (m)		265.1			489.4			73.6		76.9
Turn Bay Length (m)	60.0		40.0	25.0		55.0			35.0	
Base Capacity (vph)	202	1928	709	303	1691	701	410	607	412	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.39	0.02	0.07	0.79	0.18	0.09	0.09	0.05	0.05

Intersection Summary										
Cycle Length: 110										
Actuated Cycle Length: 110										
Offset: 52 (47%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green										
Natural Cycle: 85										
Control Type: Actuated-Coordinated										
m Volume for 95th percentile queue is metered by upstream signal.										



HCM Signalized Intersection Capacity Analysis Existing Traffic Conditions
5: 4091 Sheppard Ave. Dwy./Agincourt GO Stn. Dwy. & Sheppard Ave. E. Weekday AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	85	725	15	20	1290	120	35	0	55	20	0	30
Future Volume (vph)	85	725	15	20	1290	120	35	0	55	20	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.92	1.00	1.00	0.91	1.00	0.97	1.00	0.97	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1685	3368	1217	1590	3433	1333	1616	1495	1662	1557	1662	1557
Flt Permitted	0.09	1.00	1.00	0.37	1.00	1.00	0.74	1.00	0.72	1.00	0.72	1.00
Satd. Flow (perm)	151	3368	1217	616	3433	1333	1254	1495	1259	1557	1259	1557
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	747	15	21	1330	124	36	0	57	21	0	31
RTOR Reduction (vph)	0	0	6	0	0	45	0	38	0	0	21	0
Lane Group Flow (vph)	88	747	9	21	1330	79	36	19	0	21	10	0
Confl. Peds. (#/hr)	30		25	25		30	14		15	15		14
Heavy Vehicles (%)	0%	6%	12%	10%	4%	1%	9%	0%	4%	0%	0%	0%
Bus Blockages (#/hr)	0	0	19	0	0	19	0	0	0	0	0	0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4			8			2		6		
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	62.0	62.0	62.0	52.4	52.4	52.4	35.0	35.0		35.0	35.0	
Effective Green, g (s)	63.0	63.0	63.0	53.4	53.4	53.4	36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.57	0.57	0.57	0.49	0.49	0.49	0.33	0.33		0.33	0.33	
Clearance Time (s)	4.0	7.0	7.0	7.0	7.0	7.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	178	1928	697	299	1666	647	410	489		412	509	
v/s Ratio Prot	c0.03	0.22			c0.39			0.01			0.01	
v/s Ratio Perm	0.25		0.01	0.03		0.06	c0.03			0.02		
v/c Ratio	0.49	0.39	0.01	0.07	0.80	0.12	0.09	0.04		0.05	0.02	
Uniform Delay, d1	17.1	12.9	10.1	15.1	23.8	15.5	25.6	25.2		25.3	25.1	
Progression Factor	2.54	0.52	0.68	1.48	1.27	2.23	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.5	0.0	0.3	2.6	0.2	0.4	0.1		0.1	0.0	
Delay (s)	45.5	7.3	6.9	22.6	32.8	34.7	26.0	25.4		25.4	25.1	
Level of Service	D	A	A	C	C	C	C	C		C	C	
Approach Delay (s)		11.2			32.9			25.6			25.2	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

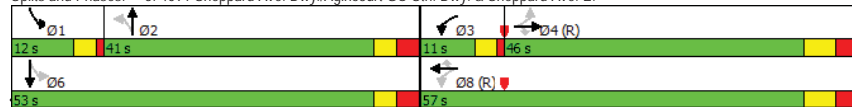
c Critical Lane Group

Queues Existing Traffic Conditions
5: 4091 Sheppard Ave. Dwy./Agincourt GO Stn. Dwy. & Sheppard Ave. E. Weekday PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↩	↩↩	↩	↩	↩↩	↩	↩	↩	↩	↩
Traffic Volume (vph)	15	1145	45	20	875	30	95	0	35	0
Future Volume (vph)	15	1145	45	20	875	30	95	0	35	0
Lane Group Flow (vph)	16	1258	49	22	962	33	104	104	54	38
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+pt	NA
Protected Phases		4		3	8			2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	4	4	4	3	8	8	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	31.0	31.0	31.0	10.0	31.0	31.0	40.0	40.0	10.0	40.0
Total Split (s)	46.0	46.0	46.0	11.0	57.0	57.0	41.0	41.0	12.0	53.0
Total Split (%)	41.8%	41.8%	41.8%	10.0%	51.8%	51.8%	37.3%	37.3%	10.9%	48.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0	3.0	3.0	3.0	1.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0	6.0	5.0	5.0	3.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	Max	Max	None	None
v/c Ratio	0.10	0.86	0.08	0.12	0.61	0.05	0.22	0.14	0.10	0.05
Control Delay	17.4	24.5	0.2	24.1	34.3	6.8	27.9	0.4	17.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	24.5	0.2	24.1	34.3	6.8	27.9	0.4	17.5	0.5
Queue Length 50th (m)	1.1	51.8	0.0	3.0	85.9	0.4	16.9	0.0	6.7	0.0
Queue Length 95th (m)	m2.6	#199.4	m0.0	m5.5	111.6	m2.2	31.3	0.0	10.1	0.0
Internal Link Dist (m)		265.1			489.4			73.6		76.9
Turn Bay Length (m)	60.0		40.0	25.0		55.0			35.0	
Base Capacity (vph)	163	1456	640	197	1576	619	479	730	557	725
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.86	0.08	0.11	0.61	0.05	0.22	0.14	0.10	0.05

Intersection Summary										
Cycle Length: 110										
Actuated Cycle Length: 110										
Offset: 64 (58%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green										
Natural Cycle: 95										
Control Type: Actuated-Coordinated										
# 95th percentile volume exceeds capacity, queue may be longer.										
Queue shown is maximum after two cycles.										
m Volume for 95th percentile queue is metered by upstream signal.										

Splits and Phases: 5: 4091 Sheppard Ave. Dwy./Agincourt GO Stn. Dwy. & Sheppard Ave. E.



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HCM Signalized Intersection Capacity Analysis Existing Traffic Conditions
5: 4091 Sheppard Ave. Dwy./Agincourt GO Stn. Dwy. & Sheppard Ave. E. Weekday PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩	↩	↩	↩↩	↩	↩	↩	↩	↩	↩	↩
Traffic Volume (vph)	15	1145	45	20	875	30	95	0	95	35	0	25
Future Volume (vph)	15	1145	45	20	875	30	95	0	95	35	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.0
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	3.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.92	1.00	1.00	0.85	1.00	0.98	1.00	1.00	0.98	1.00
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1640	3433	1360	1785	3400	1257	1767	1560	1675	1561	1675	1561
Flt Permitted	0.22	1.00	1.00	0.09	1.00	1.00	0.73	1.00	0.64	1.00	0.64	1.00
Satd. Flow (perm)	387	3433	1360	162	3400	1257	1362	1560	1129	1561	1129	1561
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.65	0.65	0.65
Adj. Flow (vph)	16	1258	49	22	962	33	104	0	104	54	0	38
RTOR Reduction (vph)	0	0	30	0	0	18	0	67	0	0	21	0
Lane Group Flow (vph)	16	1258	19	22	962	15	104	37	0	54	17	0
Confl. Peds. (#/hr)	57		26	26		57	11		11	11		11
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	19	0	0	19	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+pt	NA	NA	NA
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2		6			
Actuated Green, G (s)	42.5	42.5	42.5	49.2	49.2	49.2	37.8	37.8	47.8	47.8		
Effective Green, g (s)	43.5	43.5	43.5	50.2	50.2	50.2	38.8	38.8	48.8	48.8		
Actuated g/C Ratio	0.40	0.40	0.40	0.46	0.46	0.46	0.35	0.35	0.44	0.44		
Clearance Time (s)	7.0	7.0	7.0	4.0	7.0	7.0	6.0	6.0	4.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	153	1357	537	128	1551	573	480	550	535	692		
v/s Ratio Prot		c0.37		0.01	c0.28		0.02		c0.01	0.01		
v/s Ratio Perm	0.04		0.01	0.07		0.01	c0.08		0.04			
v/c Ratio	0.10	0.93	0.04	0.17	0.62	0.03	0.22	0.07	0.10	0.02		
Uniform Delay, d1	21.0	31.7	20.4	22.4	22.7	16.5	24.9	23.6	17.6	17.2		
Progression Factor	0.72	0.56	1.00	1.58	1.47	12.15	1.00	1.00	1.00	1.00		
Incremental Delay, d2	1.1	10.6	0.1	0.5	1.6	0.1	1.0	0.2	0.1	0.0		
Delay (s)	16.2	28.3	20.5	36.1	34.8	200.0	26.0	23.8	17.7	17.2		
Level of Service	B	C	C	D	C	F	C	C	B	B		
Approach Delay (s)		27.9			40.2		24.9			17.5		
Approach LOS		C			D		C			B		

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

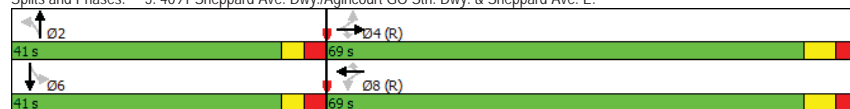
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Queues Existing Traffic Conditions
5: 4091 Sheppard Ave. Dwy./Agincourt GO Stn. Dwy. & Sheppard Ave. E. Saturday Peak Hour

	→	↘	↙	←	↖	↑	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	Ø6
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑	
Traffic Volume (vph)	1130	25	15	1140	35	0	
Future Volume (vph)	1130	25	15	1140	35	0	
Lane Group Flow (vph)	1189	26	16	1200	37	21	
Turn Type	NA	Perm	Perm	NA	Perm	NA	
Protected Phases	4			8		2	6
Permitted Phases		4	8		2		
Detector Phase	4	4	8	8	2	2	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	31.0	31.0	31.0	31.0	40.0	40.0	40.0
Total Split (s)	69.0	69.0	69.0	69.0	41.0	41.0	41.0
Total Split (%)	62.7%	62.7%	62.7%	62.7%	37.3%	37.3%	37%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max	C-Max	C-Max	C-Max	Max	Max	None
v/c Ratio	0.60	0.03	0.09	0.60	0.08	0.04	
Control Delay	11.6	2.4	22.3	28.6	26.3	0.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	11.6	2.4	22.3	28.6	26.3	0.1	
Queue Length 50th (m)	53.4	0.2	2.5	109.1	5.8	0.0	
Queue Length 95th (m)	73.3	m1.3	m4.4	120.4	13.7	0.0	
Internal Link Dist (m)	265.1			489.4		73.6	
Turn Bay Length (m)		40.0	25.0				
Base Capacity (vph)	1985	840	178	2004	464	554	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.60	0.03	0.09	0.60	0.08	0.04	

Intersection Summary							
Cycle Length: 110							
Actuated Cycle Length: 110							
Offset: 41 (37%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green							
Natural Cycle: 75							
Control Type: Actuated-Coordinated							
m Volume for 95th percentile queue is metered by upstream signal.							

Splits and Phases: 5: 4091 Sheppard Ave. Dwy./Agincourt GO Stn. Dwy. & Sheppard Ave. E.



HCM Signalized Intersection Capacity Analysis Existing Traffic Conditions
5: 4091 Sheppard Ave. Dwy./Agincourt GO Stn. Dwy. & Sheppard Ave. E. Saturday Peak Hour

	↖	→	↘	↙	←	↖	↗	↑	↘	↙	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↑	↘	↑↑	↑	↘	↑	↘	↘	↑	↘
Traffic Volume (vph)	0	1130	25	15	1140	0	35	0	20	0	0	0
Future Volume (vph)	0	1130	25	15	1140	0	35	0	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.0
Total Lost time (s)		6.0	6.0	6.0	6.0		5.0	5.0				
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00	1.00				
Fltpb, ped/bikes		1.00	0.95	1.00	1.00		1.00	0.98				
Fltpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00				
Fltpb, ped/bikes		1.00	0.85	1.00	1.00		1.00	0.85				
Fltpb, ped/bikes		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		3466	1445	1778	3500		1780	1566				
Fltpb, ped/bikes		1.00	1.00	0.17	1.00		0.76	1.00				
Satd. Flow (perm)		3466	1445	310	3500		1419	1566				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1189	26	16	1200	0	37	0	21	0	0	0
RTOR Reduction (vph)	0	0	11	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	1189	15	16	1200	0	37	7	0	0	0	0
Confl. Peds. (#/hr)	46		15	15		46	3		8	8		3
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	11	0	0	11	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8		2			6	
Actuated Green, G (s)		62.0	62.0	62.0	62.0		35.0	35.0				
Effective Green, g (s)		63.0	63.0	63.0	63.0		36.0	36.0				
Actuated g/C Ratio		0.57	0.57	0.57	0.57		0.33	0.33				
Clearance Time (s)		7.0	7.0	7.0	7.0		6.0	6.0				
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0				
Lane Grp Cap (vph)		1985	827	177	2004		464	512				
v/s Ratio Prot		c0.34			0.34			0.00				
v/s Ratio Perm			0.01	0.05			c0.03					
v/c Ratio		0.60	0.02	0.09	0.60		0.08	0.01				
Uniform Delay, d1		15.3	10.1	10.6	15.3		25.6	25.0				
Progression Factor		0.67	0.73	1.91	1.77		1.00	1.00				
Incremental Delay, d2		1.2	0.0	0.8	1.1		0.3	0.0				
Delay (s)		11.4	7.5	21.0	28.1		25.9	25.0				
Level of Service		B	A	C	C		C	C				
Approach Delay (s)		11.3			28.0		25.6				0.0	
Approach LOS		B			C		C				A	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Peak Hour Diagram

Specified Period

From: 07:00:00

To: 09:00:00

One Hour Peak

From: 08:00:00

To: 09:00:00

Intersection: Sheppard Ave E & Lamont Ave-Commercial Access

Site ID: 2005400001

Count Date: Mar 03, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Sheppard Ave E runs E/W

North Approach

	Out	In	Total
	0	1	1
	0	0	0
Totals	0	1	1

Commercial Access

	0	0	0	0
	0	0	0	0
Totals	0	0	0	0

East Approach

	Out	In	Total
	1199	716	1915
	109	74	183
Totals	1308	790	2098

Sheppard Ave E

	Out	In	Total	
	0	0	0	
	0	0	0	
	73	715	788	
	3	15	18	

Peds: 7

Peds: 28



Peds: 25

Peds: 45

Sheppard Ave E

	Totals		
	0	0	0
	1	1	0
	1292	1187	105
	15	11	4

West Approach

	Out	In	Total
	730	1192	1922
	76	106	182
Totals	806	1298	2104

	6	0	2	0
	5	0	1	0
	1	0	1	0

Lamont Ave

South Approach

	Out	In	Total
	6	26	32
	2	7	9
Totals	8	33	41

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Sheppard Ave E & Lamont Ave-Commercial Access
 Count Date: Mar 03, 2020
 Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Commercial Access						South Approach Lamont Ave						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
08:00	0	0	0	0	3	0	1	0	1	0	4	2	1	327	1	0	2	329	0	180	3	0	1	183	514
08:15	0	0	0	0	2	0	1	0	1	0	19	2	4	339	0	0	8	343	0	181	6	0	9	187	532
08:30	0	0	0	0	2	0	4	0	0	0	15	4	7	326	0	0	9	333	0	211	4	0	15	215	552
08:45	0	0	0	0	0	0	0	0	0	0	7	0	3	300	0	0	6	303	0	216	5	0	3	221	524
Grand Total	0	0	0	0	7	0	6	0	2	0	45	8	15	1292	1	0	25	1308	0	788	18	0	28	806	2122
Approach %	0	0	0	0	-	-	75	0	25	0	-	-	1.1	98.8	0.1	0	-	-	0	97.8	2.2	0	-	-	-
Totals %	0	0	0	0	0	0	0.3	0	0.1	0	0.4	0.4	0.7	60.9	0	0	61.6	61.6	0	37.1	0.8	0	38	38	
PHF	0	0	0	0	0	0	0.38	0	0.5	0	0.5	0.5	0.54	0.95	0.25	0	0.95	0.95	0	0.91	0.75	0	0.91	0.91	0.96
Cars	0	0	0	0	0	0	5	0	1	0	6	6	11	1187	1	0	1199	1199	0	715	15	0	730	730	1935
% Cars	0	0	0	0	0	0	83.3	0	50	0	75	75	73.3	91.9	100	0	91.7	91.7	0	90.7	83.3	0	90.6	90.6	91.2
Trucks	0	0	0	0	0	0	1	0	1	0	2	2	4	105	0	0	109	109	0	73	3	0	76	76	187
% Trucks	0	0	0	0	0	0	16.7	0	50	0	25	25	26.7	8.1	0	0	8.3	8.3	0	9.3	16.7	0	9.4	9.4	8.8
Peds					7	-					45	-					25	-					28	-	105
% Peds					6.7	-					42.9	-					23.8	-					26.7	-	



Peak Hour Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:15:00

To: 17:15:00

Intersection: Sheppard Ave E & Lamont Ave-Commercial Access

Site ID: 2005400001

Count Date: Mar 03, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Sheppard Ave E runs E/W

North Approach

	Out	In	Total
	2	1	3
	0	0	0
Totals	2	1	3

Commercial Access

	0	0	0	0
	2	0	0	0
Totals	2	0	0	0

East Approach

	Out	In	Total
	834	975	1809
	69	100	169
Totals	903	1075	1978

Sheppard Ave E

	Out	In	Total
	0	0	0
	0	0	0
Totals	100	960	1060

Peds: 4

Peds: 6



Peds: 1

Peds: 15

Sheppard Ave E

	Out	In	Total
	0	0	0
	1	1	0
Totals	898	829	69

West Approach

	Out	In	Total
	964	852	1816
	100	69	169
Totals	1064	921	1985

	21	0	15	0
	21	0	15	0
Totals	0	0	0	0

Lamont Ave

South Approach

	Out	In	Total
	36	8	44
	0	0	0
Totals	36	8	44

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Sheppard Ave E & Lamont Ave-Commercial Access
 Count Date: Mar 03, 2020
 Period: 16:00 - 18:00

Peak Hour Data (16:15 - 17:15)

Start Time	North Approach Commercial Access						South Approach Lamont Ave						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:15	0	0	0	0	0	0	7	0	2	0	0	9	1	248	0	0	0	249	0	241	1	0	0	242	500
16:30	0	0	2	0	2	2	4	0	3	0	6	7	0	238	1	0	0	239	0	248	0	0	0	248	496
16:45	0	0	0	0	0	0	5	0	8	0	5	13	3	199	0	0	1	202	0	316	2	0	1	318	533
17:00	0	0	0	0	2	0	5	0	2	0	4	7	0	213	0	0	0	213	0	255	1	0	5	256	476
Grand Total	0	0	2	0	4	2	21	0	15	0	15	36	4	898	1	0	1	903	0	1060	4	0	6	1064	2005
Approach %	0	0	100	0	-	-	58.3	0	41.7	0	-	-	0.4	99.4	0.1	0	-	-	0	99.6	0.4	0	-	-	-
Totals %	0	0	0.1	0	-	0.1	1	0	0.7	0	-	1.8	0.2	44.8	0	0	-	45	0	52.9	0.2	0	-	53.1	-
PHF	0	0	0.25	0	-	0.25	0.75	0	0.47	0	-	0.69	0.33	0.91	0.25	0	-	0.91	0	0.84	0.5	0	-	0.84	0.94
Cars	0	0	2	0	-	2	21	0	15	0	-	36	4	829	1	0	-	834	0	960	4	0	-	964	1836
% Cars	0	0	100	0	-	100	100	0	100	0	-	100	100	92.3	100	0	-	92.4	0	90.6	100	0	-	90.6	91.6
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	69	0	0	-	69	0	100	0	0	-	100	169
% Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	7.7	0	0	-	7.6	0	9.4	0	0	-	9.4	8.4
Peds	-	-	-	-	4	-	-	-	-	-	15	-	-	-	-	-	1	-	-	-	-	-	6	-	26
% Peds	-	-	-	-	15.4	-	-	-	-	-	57.7	-	-	-	-	-	3.8	-	-	-	-	-	23.1	-	-



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 12:00:00
To: 13:00:00

Intersection: Sheppard Ave E & Lamont Ave-Commercial Access

Site ID: 2005400005

Count Date: Feb 29, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Sheppard Ave E runs E/W

North Approach

	Out	In	Total
	5	3	8
	0	0	0
Totals	5	3	8

Commercial Access

	0	0	0	0
	3	0	2	0
Totals	3	0	2	0

East Approach

	Out	In	Total
	1077	947	2024
	58	53	111
Totals	1135	1000	2135

Sheppard Ave E

	Out	In	Total	
	0	1	1	
	0	1	1	
Totals	53	933	986	
	0	0	0	

Peds: 12

Peds: 7



Peds: 3

Peds: 31

Sheppard Ave E

	Totals		
	3	3	0
	2	2	0
Totals	1127	1069	58
	3	3	0

West Approach

	Out	In	Total
	935	1075	2010
	53	58	111
Totals	988	1133	2121

	2	0	9	0
	2	0	9	0
	0	0	0	0
Totals	2	0	9	0

Lamont Ave

South Approach

	Out	In	Total
	11	3	14
	0	0	0
Totals	11	3	14

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Sheppard Ave E & Lamont Ave-Commercial Access

Count Date: Feb 29, 2020

Period: 11:30 - 14:00

Peak Hour Data (12:00 - 13:00)

	North Approach Commercial Access						South Approach Lamont Ave						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicl es
Start Time	👈	⬆️	👉	👈	Peds	Total	👈	⬆️	👉	👈	Peds	Total	👈	⬆️	👉	👈	Peds	Total	👈	⬆️	👉	👈	Peds	Total	
12:00	0	0	2	0	2	2	2	0	8	0	3	10	2	296	1	0	0	299	0	254	0	0	1	254	565
12:15	0	0	0	0	1	0	0	0	0	0	7	0	0	258	0	0	2	258	1	230	0	0	1	231	489
12:30	2	0	1	0	5	3	0	0	0	0	11	0	0	266	0	1	0	267	0	222	0	0	4	222	492
12:45	0	0	0	0	4	0	0	0	1	0	10	1	1	307	1	2	1	311	0	280	0	1	1	281	593
Grand Total	2	0	3	0	12	5	2	0	9	0	31	11	3	1127	2	3	3	1135	1	986	0	1	7	988	2139
Approach %	40	0	60	0	-	-	18.2	0	81.8	0	-	-	0.3	99.3	0.2	0.3	-	-	0.1	99.8	0	0.1	-	-	-
Totals %	0.1	0	0.1	0	0.2	0.2	0.1	0	0.4	0	0.5	0.5	0.1	52.7	0.1	0.1	53.1	53.1	0	46.1	0	0	46.2	46.2	46.2
PHF	0.25	0	0.38	0	0.42	0.42	0.25	0	0.28	0	0.28	0.28	0.38	0.92	0.5	0.38	0.91	0.91	0.25	0.88	0	0.25	0.88	0.88	0.9
Cars	2	0	3	0	5	5	2	0	9	0	11	11	3	1069	2	3	1077	1077	1	933	0	1	935	935	2028
% Cars	100	0	100	0	100	100	100	0	100	0	100	100	100	94.9	100	100	94.9	94.9	100	94.6	0	100	94.6	94.6	94.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0	0	58	58	0	53	0	0	53	53	111
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	5.1	0	0	5.1	5.1	0	5.4	0	0	5.4	5.4	5.2
Peds	12					-	31					-	3					-	7					-	53
% Peds	22.6					-	58.5					-	5.7					-	13.2					-	-

Queues

6: Midland Ave. & Sheppard Ave. E.

Existing Traffic Conditions

Weekday AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩	↩	↩	↩↩	↩	↩↩	↩	↩	↩↩	↩
Traffic Volume (vph)	60	505	170	225	1055	220	670	85	90	805	155
Future Volume (vph)	60	505	170	225	1055	220	670	85	90	805	155
Lane Group Flow (vph)	60	549	185	245	1234	220	728	92	98	875	168
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8	5	2		1	6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	40.0	40.0	40.0	9.5	40.0	9.5	41.0	41.0	9.5	41.0	41.0
Total Split (s)	46.0	46.0	46.0	11.0	57.0	11.0	42.0	42.0	11.0	42.0	42.0
Total Split (%)	41.8%	41.8%	41.8%	10.0%	51.8%	10.0%	38.2%	38.2%	10.0%	38.2%	38.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0	1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	Max	Max	None	Max	Max
v/c Ratio	0.75	0.44	0.33	0.69	0.79	0.97	0.65	0.18	0.40	0.78	0.32
Control Delay	92.6	39.4	14.9	22.6	14.1	77.3	34.9	3.3	22.5	39.2	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.6	39.4	14.9	22.6	14.1	77.3	34.9	3.3	22.5	39.2	11.1
Queue Length 50th (m)	13.2	43.4	13.1	9.0	27.4	30.5	73.6	0.0	12.5	93.4	7.7
Queue Length 95th (m)	#37.2	53.8	25.2	m26.2	57.7	#73.9	95.0	7.1	23.2	118.3	24.7
Internal Link Dist (m)		489.4			193.8		341.4			280.5	
Turn Bay Length (m)	25.0		55.0	90.0		60.0		20.0	60.0		25.0
Base Capacity (vph)	80	1236	554	354	1564	227	1116	498	249	1123	518
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.44	0.33	0.69	0.79	0.97	0.65	0.18	0.39	0.78	0.32

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 64 (58%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Natural Cycle: 100

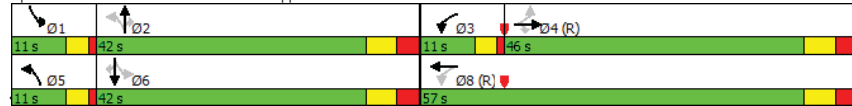
Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 6: Midland Ave. & Sheppard Ave. E.

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HCM Signalized Intersection Capacity Analysis

6: Midland Ave. & Sheppard Ave. E.

Existing Traffic Conditions

Weekday AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩	↩	↩	↩↩		↩	↩↩	↩	↩	↩↩	↩
Traffic Volume (vph)	60	505	170	225	1055	80	220	670	85	90	805	155
Future Volume (vph)	60	505	170	225	1055	80	220	670	85	90	805	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.93	1.00	0.99		1.00	1.00	0.92	1.00	1.00	0.92
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1575	3400	1200	1608	3364		1653	3400	1275	1583	3433	1339
Flt Permitted	0.13	1.00	1.00	0.34	1.00		0.18	1.00	1.00	0.23	1.00	1.00
Satd. Flow (perm)	223	3400	1200	574	3364		306	3400	1275	384	3433	1339
Peak-hour factor, PHF	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	549	185	245	1147	87	220	728	92	98	875	168
RTOR Reduction (vph)	0	0	118	0	5	0	0	0	62	0	0	80
Lane Group Flow (vph)	60	549	67	245	1229	0	220	728	30	98	875	88
Confl. Peds. (#/hr)	135		59	59		135	68		69	69		68
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	5%	8%	4%	4%	3%	7%	5%	6%	6%	4%	1%
Bus Blockages (#/hr)	0	0	19	0	0	19	0	0	7	0	0	7
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	39.0	39.0	39.0	50.0	50.0		42.1	35.1	35.1	41.9	35.0	35.0
Effective Green, g (s)	40.0	40.0	40.0	51.0	51.0		44.1	36.1	36.1	43.9	36.0	36.0
Actuated g/C Ratio	0.36	0.36	0.36	0.46	0.46		0.40	0.33	0.33	0.40	0.33	0.33
Clearance Time (s)	7.0	7.0	7.0	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	81	1236	436	341	1559		220	1115	418	239	1123	438
v/s Ratio Prot		0.16		0.05	c0.37		c0.07	0.21		0.03	0.25	
v/s Ratio Perm	0.27		0.06	0.28			c0.33		0.02	0.13		0.07
v/c Ratio	0.74	0.44	0.15	0.72	0.79		1.00	0.65	0.07	0.41	0.78	0.20
Uniform Delay, d1	30.5	26.6	23.6	21.7	24.9		24.9	31.6	25.4	22.2	33.4	26.6
Progression Factor	1.38	1.43	3.61	0.82	0.45		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	43.9	1.1	0.7	4.6	2.7		60.7	3.0	0.3	1.1	5.4	1.0
Delay (s)	86.0	39.0	85.9	22.3	14.0		85.5	34.6	25.8	23.4	38.8	27.7
Level of Service	F	D	F	C	B		F	C	C	C	D	C
Approach Delay (s)		53.5			15.4			44.6			35.8	
Approach LOS		D			B			D			D	

Intersection Summary

HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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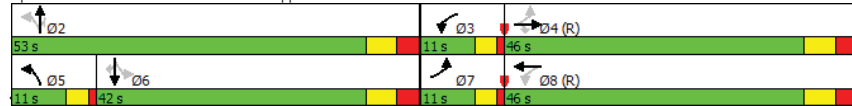
Queues
6: Midland Ave. & Sheppard Ave. E.

Existing Traffic Conditions
Weekday PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	115	910	200	145	690	160	825	185	80	550	90
Future Volume (vph)	115	910	200	145	690	160	825	185	80	550	90
Lane Group Flow (vph)	117	929	204	148	826	163	842	189	82	561	92
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8	5	2		6		
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	7	4	4	3	8	5	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	40.0	40.0	9.5	40.0	9.5	41.0	41.0	41.0	41.0	41.0
Total Split (s)	11.0	46.0	46.0	11.0	46.0	11.0	53.0	53.0	42.0	42.0	42.0
Total Split (%)	10.0%	41.8%	41.8%	10.0%	41.8%	10.0%	48.2%	48.2%	38.2%	38.2%	38.2%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	Max	Max	Max	Max	Max
v/c Ratio	0.46	0.74	0.38	0.67	0.66	0.55	0.57	0.30	0.49	0.50	0.18
Control Delay	33.5	46.4	21.3	44.7	12.9	26.7	25.7	12.5	41.2	31.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	46.4	21.3	44.7	12.9	26.7	25.7	12.5	41.2	31.7	3.3
Queue Length 50th (m)	14.8	72.8	15.4	13.4	19.6	21.9	74.2	14.3	14.7	53.4	0.0
Queue Length 95th (m)	m24.0	m108.6	m30.7	#36.1	26.2	36.8	94.2	30.9	31.9	70.7	7.0
Internal Link Dist (m)		489.4			193.8		341.4			280.5	
Turn Bay Length (m)	25.0		55.0	90.0		60.0		20.0	60.0		25.0
Base Capacity (vph)	257	1260	535	220	1245	294	1480	628	169	1112	517
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.74	0.38	0.67	0.66	0.55	0.57	0.30	0.49	0.50	0.18

Intersection Summary											
Cycle Length: 110											
Actuated Cycle Length: 110											
Offset: 64 (58%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green											
Natural Cycle: 105											
Control Type: Actuated-Coordinated											
# 95th percentile volume exceeds capacity, queue may be longer.											
Queue shown is maximum after two cycles.											
m Volume for 95th percentile queue is metered by upstream signal.											

Spits and Phases: 6: Midland Ave. & Sheppard Ave. E.



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HCM Signalized Intersection Capacity Analysis
6: Midland Ave. & Sheppard Ave. E.

Existing Traffic Conditions
Weekday PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (vph)	115	910	200	145	690	120	160	825	185	80	550	90
Future Volume (vph)	115	910	200	145	690	120	160	825	185	80	550	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.93	1.00	0.99		1.00	1.00	0.94	1.00	1.00	0.91
Ftbp, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1663	3466	1176	1634	3387		1506	3466	1357	1630	3400	1337
Flt Permitted	0.20	1.00	1.00	0.15	1.00		0.31	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	353	3466	1176	263	3387		493	3466	1357	518	3400	1337
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	117	929	204	148	704	122	163	842	189	82	561	92
RTOR Reduction (vph)	0	0	108	0	13	0	0	0	49	0	0	62
Lane Group Flow (vph)	117	929	96	148	813	0	163	842	140	82	561	30
Confl. Peds. (#/hr)	79		60	60		79	79		45	45		79
Confl. Bikes (#/hr)			1						1			
Heavy Vehicles (%)	1%	3%	10%	3%	2%	0%	11%	3%	2%	2%	5%	0%
Bus Blockages (#/hr)	0	0	19	0	0	19	0	0	7	0	0	7
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2		6		
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	46.0	39.0	39.0	46.0	39.0		46.0	46.0	46.0	35.0	35.0	35.0
Effective Green, g (s)	48.0	40.0	40.0	48.0	40.0		47.0	47.0	47.0	36.0	36.0	36.0
Actuated g/C Ratio	0.44	0.36	0.36	0.44	0.36		0.43	0.43	0.43	0.33	0.33	0.33
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0		4.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	249	1260	427	214	1231		284	1480	579	169	1112	437
v/s Ratio Prot	0.03	c0.27		c0.05	0.24		0.04	c0.24			0.17	
v/s Ratio Perm	0.17		0.08	0.25			c0.20		0.10	0.16		0.02
v/c Ratio	0.47	0.74	0.23	0.69	0.66		0.57	0.57	0.24	0.49	0.50	0.07
Uniform Delay, d1	20.3	30.4	24.3	21.8	29.3		21.0	23.8	20.1	29.6	29.8	25.5
Progression Factor	1.92	1.43	3.25	1.86	0.36		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	2.4	0.7	8.2	2.5		2.8	1.6	1.0	9.6	1.6	0.3
Delay (s)	39.8	45.8	79.5	48.6	13.1		23.8	25.4	21.1	39.2	31.4	25.8
Level of Service	D	D	E	D	B		C	C	C	D	C	C
Approach Delay (s)		50.7			18.5			24.5			31.6	
Approach LOS		D			B			C			C	

Intersection Summary											
HCM 2000 Control Delay		32.3		HCM 2000 Level of Service		C					
HCM 2000 Volume to Capacity ratio		0.67									
Actuated Cycle Length (s)		110.0		Sum of lost time (s)		18.0					
Intersection Capacity Utilization		89.4%		ICU Level of Service		E					
Analysis Period (min)		15									
c Critical Lane Group											

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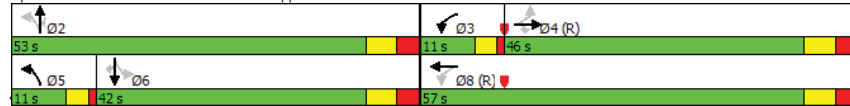
Queues
6: Midland Ave. & Sheppard Ave. E.

Existing Traffic Conditions
Saturday Peak Hour

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩	↩	↩	↩↩	↩	↩↩	↩	↩	↩↩	↩
Traffic Volume (vph)	80	875	160	200	915	135	495	195	130	435	75
Future Volume (vph)	80	875	160	200	915	135	495	195	130	435	75
Lane Group Flow (vph)	82	893	163	200	1097	138	505	199	133	444	77
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4		3	8	5	2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	3	8	5	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	40.0	40.0	40.0	9.5	40.0	9.5	41.0	41.0	41.0	41.0	41.0
Total Split (s)	46.0	46.0	46.0	11.0	57.0	11.0	53.0	53.0	42.0	42.0	42.0
Total Split (%)	41.8%	41.8%	41.8%	10.0%	51.8%	10.0%	48.2%	48.2%	38.2%	38.2%	38.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	Max	Max	Max	Max	Max
v/c Ratio	0.68	0.71	0.30	0.86	0.70	0.38	0.34	0.30	0.51	0.39	0.15
Control Delay	58.5	35.9	12.0	63.0	9.2	21.4	21.9	7.1	38.1	29.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	35.9	12.0	63.0	9.2	21.4	21.9	7.1	38.1	29.8	2.0
Queue Length 50th (m)	9.5	54.7	7.8	24.4	20.0	18.1	39.3	6.5	24.1	40.4	0.0
Queue Length 95th (m)	m#34.9	87.8	19.5	#67.7	45.1	31.3	52.6	21.6	45.3	55.0	3.9
Internal Link Dist (m)		489.4			193.8		341.4			280.5	
Turn Bay Length (m)	25.0		55.0	90.0		60.0		20.0	60.0		25.0
Base Capacity (vph)	120	1260	552	233	1578	359	1495	669	262	1145	527
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.71	0.30	0.86	0.70	0.38	0.34	0.30	0.51	0.39	0.15

Intersection Summary											
Cycle Length: 110											
Actuated Cycle Length: 110											
Offset: 64 (58%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green											
Natural Cycle: 100											
Control Type: Actuated-Coordinated											
# 95th percentile volume exceeds capacity, queue may be longer.											
Queue shown is maximum after two cycles.											
m Volume for 95th percentile queue is metered by upstream signal.											

Splits and Phases: 6: Midland Ave. & Sheppard Ave. E.



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HCM Signalized Intersection Capacity Analysis
6: Midland Ave. & Sheppard Ave. E.

Existing Traffic Conditions
Saturday Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↩↩	↩	↩	↩↩	↩	↩	↩↩	↩	↩	↩↩	↩
Traffic Volume (vph)	80	875	160	200	915	160	135	495	195	130	435	75
Future Volume (vph)	80	875	160	200	915	160	135	495	195	130	435	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.92	1.00	0.99		1.00	1.00	0.95	1.00	1.00	0.93
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00		0.99	1.00	1.00	0.98	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1660	3466	1273	1649	3375		1574	3500	1365	1634	3500	1368
Flt Permitted	0.19	1.00	1.00	0.16	1.00		0.39	1.00	1.00	0.47	1.00	1.00
Satd. Flow (perm)	331	3466	1273	274	3375		651	3500	1365	802	3500	1368
Peak-hour factor, PHF	0.98	0.98	0.98	1.00	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	82	893	163	200	934	163	138	505	199	133	444	77
RTOR Reduction (vph)	0	0	89	0	13	0	0	0	86	0	0	52
Lane Group Flow (vph)	82	893	74	200	1084	0	138	505	113	133	444	25
Confl. Peds. (#/hr)	81		71	71		81	59		42	42		59
Heavy Vehicles (%)	0%	3%	4%	2%	2%	2%	6%	2%	3%	1%	2%	1%
Bus Blockages (#/hr)	0	0	11	0	0	11	0	0	4	0	0	4
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4		3			5	2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	39.0	39.0	39.0	50.0	50.0		46.0	46.0	46.0	35.0	35.0	35.0
Effective Green, g (s)	40.0	40.0	40.0	51.0	51.0		47.0	47.0	47.0	36.0	36.0	36.0
Actuated g/C Ratio	0.36	0.36	0.36	0.46	0.46		0.43	0.43	0.43	0.33	0.33	0.33
Clearance Time (s)	7.0	7.0	7.0	4.0	7.0		4.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	120	1260	462	227	1564		345	1495	583	262	1145	447
v/s Ratio Prot		0.26		c0.06	0.32		c0.03	0.14			0.13	
v/s Ratio Perm	0.25		0.06	c0.34			0.14		0.08	c0.17		0.02
v/c Ratio	0.68	0.71	0.16	0.88	0.69		0.40	0.34	0.19	0.51	0.39	0.06
Uniform Delay, d1	29.6	30.0	23.6	21.7	23.3		20.1	21.1	19.7	29.9	28.5	25.4
Progression Factor	1.08	1.09	1.83	1.95	0.30		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.7	2.8	0.6	26.9	2.2		0.8	0.6	0.7	6.9	1.0	0.2
Delay (s)	54.7	35.5	43.8	69.2	9.2		20.9	21.7	20.4	36.7	29.5	25.6
Level of Service	D	D	D	E	A		C	C	C	D	C	C
Approach Delay (s)		38.1			18.5			21.3			30.5	
Approach LOS		D			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

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Synchro 9 Report
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Queues
12: Kennedy Rd. & Cowdray Ct.

Existing Traffic Conditions
Weekday AM Peak Hour

	WBL	NBT	SBL	SBT
Lane Group	WBL	NBT	SBL	SBT
Lane Configurations	↑↑↑	↑↑↑	↑↑↑	↑↑↑
Traffic Volume (vph)	30	1430	35	1925
Future Volume (vph)	30	1430	35	1925
Lane Group Flow (vph)	66	1667	39	2139
Turn Type	Prot	NA	Perm	NA
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phase	8	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	35.0	28.0	28.0	28.0
Total Split (s)	36.0	74.0	74.0	74.0
Total Split (%)	32.7%	67.3%	67.3%	67.3%
Yellow Time (s)	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Max	C-Max	C-Max
v/c Ratio	0.30	0.41	0.21	0.52
Control Delay	27.4	1.4	4.1	2.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	27.4	1.4	4.1	2.6
Queue Length 50th (m)	7.6	4.1	0.7	14.8
Queue Length 95th (m)	16.9	13.4	m2.0	m38.3
Internal Link Dist (m)	171.8	352.5		116.9
Turn Bay Length (m)			20.0	
Base Capacity (vph)	499	4070	184	4149
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.41	0.21	0.52

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Kennedy Rd. & Cowdray Ct.



HCM Signalized Intersection Capacity Analysis
12: Kennedy Rd. & Cowdray Ct.

Existing Traffic Conditions
Weekday AM Peak Hour

	WBL	WBR	NBT	NBR	SBL	SBT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑↑↑	↑↑↑	↑↑↑	↑↑↑	↑↑↑	↑↑↑
Traffic Volume (vph)	30	30	1430	70	35	1925
Future Volume (vph)	30	30	1430	70	35	1925
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.0	3.5
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.91		1.00	0.91
Frbp, ped/bikes	0.99		1.00		1.00	1.00
Fipb, ped/bikes	1.00		1.00		0.99	1.00
Frt	0.93		0.99		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1694		4931		1674	5029
Flt Permitted	0.98		1.00		0.13	1.00
Satd. Flow (perm)	1694		4931		223	5029
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	33	33	1589	78	39	2139
RTOR Reduction (vph)	28	0	3	0	0	0
Lane Group Flow (vph)	38	0	1664	0	39	2139
Confl. Peds. (#/hr)	4	5		29	29	
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Bus Blockages (#/hr)	0	0	0	6	0	0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	10.4		87.6		87.6	87.6
Effective Green, g (s)	11.4		88.6		88.6	88.6
Actuated g/C Ratio	0.10		0.81		0.81	0.81
Clearance Time (s)	6.0		6.0		6.0	6.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	175		3971		179	4050
v/s Ratio Prot	c0.02		0.34			c0.43
v/s Ratio Perm					0.17	
v/c Ratio	0.22		0.42		0.22	0.53
Uniform Delay, d1	45.2		3.1		2.5	3.6
Progression Factor	1.00		0.26		0.43	0.46
Incremental Delay, d2	0.6		0.3		1.6	0.3
Delay (s)	45.8		1.1		2.7	1.9
Level of Service	D		A		A	A
Approach Delay (s)	45.8		1.1			2.0
Approach LOS	D		A			A

Intersection Summary

HCM 2000 Control Delay	2.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Queues
12: Kennedy Rd. & Cowdray Ct.

Existing Traffic Conditions
Weekday PM Peak Hour

	WBL	NBT	SBL	SBT
Lane Group	WBL	NBT	SBL	SBT
Lane Configurations	↑↑↑	↑↑↑	↑↑↑	↑↑↑
Traffic Volume (vph)	50	1700	30	1880
Future Volume (vph)	50	1700	30	1880
Lane Group Flow (vph)	85	1810	32	1979
Turn Type	Prot	NA	Perm	NA
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phase	8	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	35.0	28.0	28.0	28.0
Total Split (s)	36.0	74.0	74.0	74.0
Total Split (%)	32.7%	67.3%	67.3%	67.3%
Yellow Time (s)	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Max	C-Max	C-Max
v/c Ratio	0.37	0.44	0.21	0.48
Control Delay	36.1	0.9	4.5	2.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.1	0.9	4.5	2.2
Queue Length 50th (m)	14.3	2.0	0.6	16.3
Queue Length 95th (m)	24.3	8.6	m1.7	38.0
Internal Link Dist (m)	171.8	352.5		116.9
Turn Bay Length (m)			20.0	
Base Capacity (vph)	498	4125	150	4138
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.44	0.21	0.48

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Kennedy Rd. & Cowdray Ct.



HCM Signalized Intersection Capacity Analysis
12: Kennedy Rd. & Cowdray Ct.

Existing Traffic Conditions
Weekday PM Peak Hour

	WBL	WBR	NBT	NBR	SBL	SBT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑↑↑	↑↑↑	↑↑↑	↑↑↑	↑↑↑	↑↑↑
Traffic Volume (vph)	50	30	1700	20	30	1880
Future Volume (vph)	50	30	1700	20	30	1880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.0	3.5
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		0.91		1.00	0.91
Frbp, ped/bikes	0.99		1.00		1.00	1.00
Fipb, ped/bikes	1.00		1.00		0.99	1.00
Frt	0.95		1.00		1.00	1.00
Flt Protected	0.97		1.00		0.95	1.00
Satd. Flow (prot)	1719		5064		1676	5079
Flt Permitted	0.97		1.00		0.11	1.00
Satd. Flow (perm)	1719		5064		186	5079
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	32	1789	21	32	1979
RTOR Reduction (vph)	17	0	1	0	0	0
Lane Group Flow (vph)	68	0	1809	0	32	1979
Confl. Peds. (#/hr)	5	3		33	33	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	0	6	0	0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	11.6		86.4		86.4	86.4
Effective Green, g (s)	12.6		87.4		87.4	87.4
Actuated g/C Ratio	0.11		0.79		0.79	0.79
Clearance Time (s)	6.0		6.0		6.0	6.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	196		4023		147	4035
v/s Ratio Prot	c0.04		0.36			c0.39
v/s Ratio Perm					0.17	
v/c Ratio	0.35		0.45		0.22	0.49
Uniform Delay, d1	44.9		3.6		2.8	3.8
Progression Factor	1.00		0.13		0.41	0.39
Incremental Delay, d2	1.1		0.3		1.9	0.2
Delay (s)	46.0		0.7		3.0	1.7
Level of Service	D		A		A	A
Approach Delay (s)	46.0		0.7			1.7
Approach LOS	D		A			A

Intersection Summary

HCM 2000 Control Delay	2.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 11:45:00
To: 12:45:00

Intersection: Kennedy Rd & Cowdray Ct
Site ID: 2005400006
Count Date: Feb 29, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Kennedy Rd runs N/S

North Approach

	Out	In	Total
	1586	1631	3217
	99	76	175
Totals	1685	1707	3392

Kennedy Rd

	97	2	0
	1584	2	0
Totals	1681	4	0

East Approach

	Out	In	Total
	28	15	43
	1	4	5
Totals	29	19	48

Peds: 0

Peds: 0



Peds: 8

Peds: 2

Cowdray Ct

Totals		
0	0	0
17	16	1
12	12	0

South Approach

	Out	In	Total
	1631	1599	3230
	77	97	174
Totals	1708	1696	3404

	1615	13	3
	75	2	0
Totals	1690	15	3

Kennedy Rd

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Kennedy Rd & Cowdray Ct

Count Date: Feb 29, 2020

Period: 11:30 - 14:00

Peak Hour Data (11:45 - 12:45)

	North Approach Kennedy Rd						South Approach Kennedy Rd						East Approach Cowdray Ct						West Approach						Total Vehicl es
Start Time	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
11:45	2	406		0	0	408		427	4	1	0	432	0		7	0	3	7					0		847
12:00	0	423		0	0	423		429	6	0	0	435	3		6	0	3	9					0		867
12:15	0	436		0	0	436		424	2	1	1	427	6		4	0	1	10					0		873
12:30	2	416		0	0	418		410	3	1	1	414	3		0	0	1	3					0		835
Grand Total	4	1681		0	0	1685		1690	15	3	2	1708	12		17	0	8	29					0	0	3422
Approach %	0.2	99.8		0		-		98.9	0.9	0.2		-	41.4		58.6	0		-							-
Totals %	0.1	49.1		0		49.2		49.4	0.4	0.1		49.9	0.4		0.5	0		0.8						0	
PHF	0.5	0.96		0		0.97		0.98	0.63	0.75		0.98	0.5		0.61	0		0.73					0		0.98
Cars	2	1584		0		1586		1615	13	3		1631	12		16	0		28					0		3245
% Cars	50	94.2		0		94.1		95.6	86.7	100		95.5	100		94.1	0		96.6					0		94.8
Trucks	2	97		0		99		75	2	0		77	0		1	0		1					0		177
% Trucks	50	5.8		0		5.9		4.4	13.3	0		4.5	0		5.9	0		3.4					0		5.2
Peds					0	-					2	-					8	-					0	-	10
% Peds					0	-					20	-					80	-					0	-	



City of Toronto - Traffic Safety Unit

Turning Movement Count Summary Report

KENNEDY RD AT MTO DRIVEWAY & VILLAGE GREEN SQ (PX 1592)

Survey Date: 2018-Dec-19 (Wednesday)

Survey Type: Routine Hours

Time Period	Vehicle Type	Exits	NORTHBOUND					EASTBOUND					SOUTHBOUND					WESTBOUND					Peds	Bike	Other
			Left	Thru	Right	Total	Exits	Left	Thru	Right	Total	Exits	Left	Thru	Right	Total	Exits	Left	Thru	Right	Total				
08:00-09:00 AM PEAK	CAR	1,471	7	1,303	176	1,486	266	0	0	10	10	2,156	90	1,807	0	1,897	7	339	0	168	507	N	55	0	0
	TRK	47	0	46	3	49	4	0	0	1	1	43	1	38	0	39	0	4	0	1	5	S	0	1	0
	BUS	8	0	7	1		8	1	0	0	0	9	0	9	0	9	0	0	0	1	1	E	9	0	0
																					W	2	0	0	
	TOTAL:	1,526	7	1,356	180	1,543	271	0	0	11	11	2,208	91	1,854	0	1,945	7	343	0	170	513				
17:00-18:00 PM PEAK	CAR	1,717	2	1,594	282	1,878	420	3	1	5	9	2,124	137	1,839	2	1,978	6	280	2	120	402	N	16	2	0
	TRK	14	1	13	0	14	2	0	0	0	0	13	2	12	0	14	1	1	0	1	2	S	1	2	0
	BUS	10	0	10	0		10	0	0	0	0	10	0	10	0	10	0	0	0	0	0	E	8	0	0
																					W	0	1	0	
	TOTAL:	1,741	3	1,617	282	1,902	422	3	1	5	9	2,147	139	1,861	2	2,002	7	281	2	121	404				
OFF HR AVG	CAR	1,547	8	1,461	141	1,610	218	2	0	9	11	1,724	77	1,521	3	1,601	11	194	0	84	278	N	13	1	0
	TRK	46	3	43	4	50	6	0	0	2	2	58	2	52	0	54	3	4	0	3	7	S	1	1	0
	BUS	7	0	7	0		7	0	0	0	0	7	0	7	0	7	0	0	0	0	0	E	13	0	0
																					W	5	0	0	
	TOTAL:	1,600	11	1,511	145	1,667	224	2	0	11	13	1,789	79	1,580	3	1,662	14	198	0	87	285				
07:30-09:30 2 HR AM	CAR	2,776	11	2,475	344	2,830	530	1	0	19	20	4,038	186	3,392	1	3,579	12	627	0	300	927	N	100	1	0
	TRK	83	2	82	6	90	8	0	0	2	2	77	2	69	0	71	2	6	0	1	7	S	1	1	0
	BUS	20	0	19	1		20	1	0	0	0	19	0	19	0	19	0	0	0	1	1	E	12	0	0
																					W	5	0	0	
	TOTAL:	2,879	13	2,576	351	2,940	539	1	0	21	22	4,134	188	3,480	1	3,669	14	633	0	302	935				
16:00-18:00 2 HR PM	CAR	3,409	10	3,158	468	3,636	730	3	2	8	13	3,985	260	3,457	8	3,725	20	520	2	248	770	N	45	2	0
	TRK	41	1	36	1	38	5	0	0	0	0	42	4	41	0	45	1	1	0	5	6	S	1	5	0
	BUS	19	0	19	0		19	0	0	0	0	17	0	17	0	17	0	0	0	0	0	E	24	1	0
																					W	0	1	0	
	TOTAL:	3,469	11	3,213	469	3,693	735	3	2	8	13	4,044	264	3,515	8	3,787	21	521	2	253	776				
07:30-18:00 8 HR SUM	CAR	12,370	53	11,477	1,374	12,904	2,128	10	2	64	76	14,920	752	#####	19	13,704	74	#####	2	883	2,808	N	198	5	0
	TRK	307	14	290	23	327	37	0	0	9	9	346	14	316	0	330	14	21	0	17	38	S	4	9	0
	BUS	68	0	67	1		68	1	0	0	0	64	0	64	0	64	0	0	0	1	1	E	89	1	0
																					W	25	1	0	
	TOTAL:	12,745	67	11,834	1,398	13,299	2,166	10	2	73	85	15,330	766	#####	19	14,098	88	1,944	2	901	2,847				

Total 8 Hour Vehicle Volume: 30,329

Total 8 Hour Bicycle Volume: 16

Total 8 Hour Intersection Volume: 30,345

Comment:



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 12:15:00
To: 13:15:00

Intersection: Village Green Square-Commercial Access & Kennedy Rd

Site ID: 2002300008

Count Date: Feb 01, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Kennedy Rd runs N/S

North Approach

	Out	In	Total
	1710	1603	3313
	55	62	117
Totals	1765	1665	3430

Kennedy Rd

	0	55	0	0
	0	1618	92	0
Totals	0	1673	92	0

← ↓ → ↻

East Approach

	Out	In	Total
	371	310	681
	6	6	12
Totals	377	316	693

Commercial Access

	Out	In	Totals	
	0	0	0	↻
	0	0	0	↑
	0	0	0	→
	7	8	15	↓

Peds: 19

Peds: 1



Peds: 16

Peds: 1

Village Green Square

	Totals		
↻	0	0	0
↑	90	90	0
→	0	0	0
↓	287	281	6

West Approach

	Out	In	Total
	8	6	14
	7	4	11
Totals	15	10	25

	10	1575	224	1
	6	1513	218	1
	4	62	6	0

Kennedy Rd

South Approach

	Out	In	Total
	1738	1908	3646
	72	68	140
Totals	1810	1976	3786

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Village Green Square-Commercial Access & Kennedy Rd
 Count Date: Feb 01, 2020
 Period: 11:30 - 14:00

Peak Hour Data (12:15 - 13:15)

Start Time	North Approach Kennedy Rd						South Approach Kennedy Rd						East Approach Village Green Square						West Approach Commercial Access						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
12:15	25	434	0	0	5	459	4	418	58	0	0	480	68	0	24	0	3	92	0	0	2	0	0	2	1033
12:30	23	421	0	0	2	444	1	370	53	0	0	424	68	0	18	0	3	86	0	0	3	0	1	3	957
12:45	21	389	0	0	3	410	3	418	55	0	0	476	75	0	25	0	7	100	0	0	2	0	0	2	988
13:00	23	429	0	0	9	452	2	369	58	1	1	430	76	0	23	0	3	99	0	0	8	0	0	8	989
Grand Total	92	1673	0	0	19	1765	10	1575	224	1	1	1810	287	0	90	0	16	377	0	0	15	0	1	15	3967
Approach %	5.2	94.8	0	0	-	-	0.6	87	12.4	0.1	-	-	76.1	0	23.9	0	-	-	0	0	100	0	-	-	-
Totals %	2.3	42.2	0	0	-	44.5	0.3	39.7	5.6	0	-	45.6	7.2	0	2.3	0	-	9.5	0	0	0.4	0	-	0.4	-
PHF	0.92	0.96	0	0	-	0.96	0.63	0.94	0.97	0.25	-	0.94	0.94	0	0.9	0	-	0.94	0	0	0.47	0	-	0.47	0.96
Cars	92	1618	0	0	-	1710	6	1513	218	1	-	1738	281	0	90	0	-	371	0	0	8	0	-	8	3827
% Cars	100	96.7	0	0	-	96.9	60	96.1	97.3	100	-	96	97.9	0	100	0	-	98.4	0	0	53.3	0	-	53.3	96.5
Trucks	0	55	0	0	-	55	4	62	6	0	-	72	6	0	0	0	-	6	0	0	7	0	-	7	140
% Trucks	0	3.3	0	0	-	3.1	40	3.9	2.7	0	-	4	2.1	0	0	0	-	1.6	0	0	46.7	0	-	46.7	3.5
Peds	-	-	-	-	19	-	-	-	-	-	1	-	-	-	-	-	-	16	-	-	-	-	1	-	37
% Peds	-	-	-	-	51.4	-	-	-	-	-	2.7	-	-	-	-	-	-	43.2	-	-	-	-	2.7	-	-

Queues
14: Kennedy Rd. & Hwy. 401 WB Off-Ramp

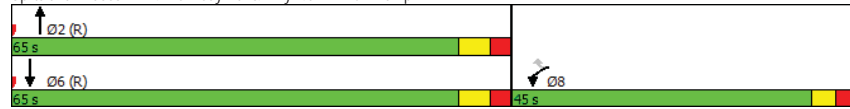
Existing Traffic Conditions
Weekday AM Peak Hour

	WBL	WBR	NBT	SBT
Lane Group	WBL	WBR	NBT	SBT
Lane Configurations	WBL	WBR	NBT	SBT
Traffic Volume (vph)	855	490	1035	1195
Future Volume (vph)	855	490	1035	1195
Lane Group Flow (vph)	1032	462	1150	1328
Turn Type	Prot	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phase	8	8	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	33.0	33.0
Total Split (s)	45.0	45.0	65.0	65.0
Total Split (%)	40.9%	40.9%	59.1%	59.1%
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
v/c Ratio	0.87	0.86	0.42	0.48
Control Delay	42.2	45.8	10.9	13.0
Queue Delay	0.0	0.2	0.1	0.4
Total Delay	42.2	46.0	11.0	13.4
Queue Length 50th (m)	107.5	91.3	46.7	89.2
Queue Length 95th (m)	134.8	#154.3	49.1	91.4
Internal Link Dist (m)	349.0		349.4	71.7
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1245	561	2757	2784
Starvation Cap Reductn	0	0	0	846
Spillback Cap Reductn	0	4	345	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.83	0.83	0.48	0.69

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Kennedy Rd. & Hwy. 401 WB Off-Ramp



HCM Signalized Intersection Capacity Analysis
14: Kennedy Rd. & Hwy. 401 WB Off-Ramp

Existing Traffic Conditions
Weekday AM Peak Hour

	WBL	WBR	NBT	NBR	SBL	SBT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT			SBT
Traffic Volume (vph)	855	490	1035	0	0	1195
Future Volume (vph)	855	490	1035	0	0	1195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0			6.0
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.99	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3409	1439	4980			5029
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3409	1439	4980			5029
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	950	544	1150	0	0	1328
RTOR Reduction (vph)	6	39	0	0	0	0
Lane Group Flow (vph)	1026	423	1150	0	0	1328
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	1%	1%	3%	0%	0%	2%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	37.1	37.1	59.9			59.9
Effective Green, g (s)	38.1	38.1	60.9			60.9
Actuated g/C Ratio	0.35	0.35	0.55			0.55
Clearance Time (s)	6.0	6.0	7.0			7.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	1180	498	2757			2784
v/s Ratio Prot	c0.30		0.23			c0.26
v/s Ratio Perm		0.29				
v/c Ratio	0.87	0.85	0.42			0.48
Uniform Delay, d1	33.6	33.3	14.2			14.9
Progression Factor	1.00	1.00	0.72			0.82
Incremental Delay, d2	7.0	12.7	0.4			0.5
Delay (s)	40.7	46.0	10.6			12.6
Level of Service	D	D	B			B
Approach Delay (s)	42.3		10.6			12.6
Approach LOS	D		B			B

Intersection Summary

HCM 2000 Control Delay 23.2 HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio 0.63
Actuated Cycle Length (s) 110.0 Sum of lost time (s) 11.0
Intersection Capacity Utilization 61.8% ICU Level of Service B
Analysis Period (min) 15
c Critical Lane Group

Queues
14: Kennedy Rd. & Hwy. 401 WB Off-Ramp

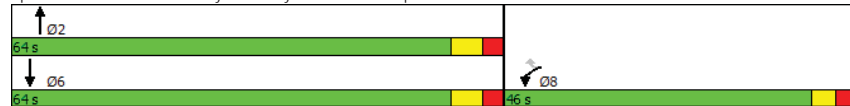
Existing Traffic Conditions
Weekday PM Peak Hour

	WBL	WBR	NBT	SBT
Lane Group	WBL	WBR	NBT	SBT
Lane Configurations	WBL	WBR	NBT	SBT
Traffic Volume (vph)	650	575	1295	1410
Future Volume (vph)	650	575	1295	1410
Lane Group Flow (vph)	884	405	1363	1484
Turn Type	Prot	Perm	NA	NA
Protected Phases	8		2	6
Permitted Phases		8		
Detector Phase	8	8	2	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	33.0	33.0
Total Split (s)	46.0	46.0	64.0	64.0
Total Split (%)	41.8%	41.8%	58.2%	58.2%
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	Max	Max
v/c Ratio	0.79	0.83	0.48	0.52
Control Delay	35.5	44.6	14.9	15.5
Queue Delay	0.0	0.0	0.0	9.5
Total Delay	35.5	44.6	14.9	25.1
Queue Length 50th (m)	83.3	80.0	61.3	69.0
Queue Length 95th (m)	106.5	123.9	82.7	92.4
Internal Link Dist (m)	349.0		349.4	71.7
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1350	582	2859	2859
Starvation Cap Reductn	0	0	0	1353
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.65	0.70	0.48	0.99

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 103.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Kennedy Rd. & Hwy. 401 WB Off-Ramp



HCM Signalized Intersection Capacity Analysis
14: Kennedy Rd. & Hwy. 401 WB Off-Ramp

Existing Traffic Conditions
Weekday PM Peak Hour

	WBL	WBR	NBT	NBR	SBL	SBT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT			SBT
Traffic Volume (vph)	650	575	1295	0	0	1410
Future Volume (vph)	650	575	1295	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0			6.0
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	0.98	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3345	1417	5079			5079
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3345	1417	5079			5079
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	684	605	1363	0	0	1484
RTOR Reduction (vph)	21	21	0	0	0	0
Lane Group Flow (vph)	863	384	1363	0	0	1484
Confl. Peds. (#/hr)	7	4		12	12	
Heavy Vehicles (%)	1%	1%	1%	0%	0%	1%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	33.2	33.2	57.2			57.2
Effective Green, g (s)	34.2	34.2	58.2			58.2
Actuated g/C Ratio	0.33	0.33	0.56			0.56
Clearance Time (s)	6.0	6.0	7.0			7.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	1106	468	2858			2858
v/s Ratio Prot	0.26		0.27			c0.29
v/s Ratio Perm		c0.27				
v/c Ratio	0.78	0.82	0.48			0.52
Uniform Delay, d1	31.2	31.8	13.5			14.0
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	3.6	11.0	0.6			0.7
Delay (s)	34.9	42.8	14.1			14.6
Level of Service	C	D	B			B
Approach Delay (s)	37.4		14.1			14.6
Approach LOS	D		B			B

Intersection Summary

HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	103.4	Sum of lost time (s)	11.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 13:00:00
To: 14:00:00

Intersection: Hwy 401 WB Off-Ramp & Kennedy Rd

Site ID: 2002300010

Count Date: Feb 01, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Kennedy Rd runs N/S

North Approach

	Out	In	Total
	1867	1696	3563
	71	67	138
Totals	1938	1763	3701

Kennedy Rd

	34	37	0	0
	736	1131	0	0
Totals	770	1168	0	0

East Approach

	Out	In	Total
	1171	878	2049
	76	36	112
Totals	1247	914	2161

Hwy 401 WB On-Ramp

	Out	In	Totals
	0	0	0
	0	0	0
	0	0	0
	0	0	0

Peds: 0

Peds: 4



Peds: 12

Peds: 0

Hwy 401 WB Off-Ramp

	Totals		
	0	0	0
	460	437	23
	0	0	0
	787	734	53

West Approach

	Out	In	Total
	0	736	736
	0	34	34
Totals	0	770	770

	0	1303	914	0
	0	1259	878	0
	0	44	36	0

Kennedy Rd

South Approach

	Out	In	Total
	2137	1865	4002
	80	90	170
Totals	2217	1955	4172

- Cars

- Trucks

Comments



















Peak Hour Summary

Intersection: Hwy 401 WB Off-Ramp & Kennedy Rd

Count Date: Feb 01, 2020

Period: 11:30 - 14:00

Peak Hour Data (13:00 - 14:00)

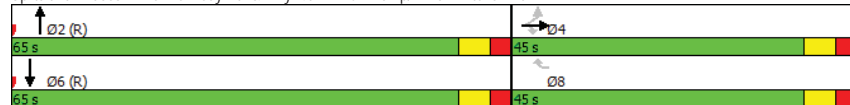
	North Approach Kennedy Rd						South Approach Kennedy Rd						East Approach Hwy 401 WB Off-Ramp						West Approach Hwy 401 WB On-Ramp						Total Vehicl es				
Start Time					Peds	Total					Peds	Total					Peds	Total					Peds	Total					
13:00	0	313	201	0	0	514	0	313	188	0	0	501	201	0	117	0	3	318	0	0	0	0	1	0	1333				
13:15	0	282	201	0	0	483	0	318	234	0	0	552	206	0	117	0	4	323	0	0	0	0	0	0	1358				
13:30	0	276	188	0	0	464	0	322	249	0	0	571	193	0	125	0	4	318	0	0	0	0	3	0	1353				
13:45	0	297	180	0	0	477	0	350	243	0	0	593	187	0	101	0	1	288	0	0	0	0	0	0	1358				
Grand Total	0	1168	770	0	0	1938	0	1303	914	0	0	2217	787	0	460	0	12	1247	0	0	0	0	4	0	5402				
Approach %	0	60.3	39.7	0		-	0	58.8	41.2	0		-	63.1	0	36.9	0		-	0	0	0	0		-					
Totals %	0	21.6	14.3	0		35.9	0	24.1	16.9	0		41	14.6	0	8.5	0		23.1	0	0	0	0		0					
PHF	0	0.93	0.96	0		0.94	0	0.93	0.92	0		0.93	0.96	0	0.92	0		0.97	0	0	0	0		0	0.99				
Cars	0	1131	736	0		1867	0	1259	878	0		2137	734	0	437	0		1171	0	0	0	0		0	5175				
% Cars	0	96.8	95.6	0		96.3	0	96.6	96.1	0		96.4	93.3	0	95	0		93.9	0	0	0	0		0	95.8				
Trucks	0	37	34	0		71	0	44	36	0		80	53	0	23	0		76	0	0	0	0		0	227				
% Trucks	0	3.2	4.4	0		3.7	0	3.4	3.9	0		3.6	6.7	0	5	0		6.1	0	0	0	0		0	4.2				
Peds	0						-	0						-	12						-	4						-	16
% Peds	0						-	0						-	75						-	25						-	

Queues Existing Traffic Conditions
15: Kennedy Rd. & Hwy. 401 EB Off-Ramp/William Kitchen Rd. Weekday AM Peak Hour

	EBL	EBT	EBR	WBR	NBT	SBT
Lane Group	EBL	EBT	EBR	WBR	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	570	250	600	345	1595	1685
Future Volume (vph)	570	250	600	345	1595	1685
Lane Group Flow (vphpl)	386	749	344	359	1677	1755
Turn Type	Perm	NA	Perm	Perm	NA	NA
Protected Phases		4			2	6
Permitted Phases	4		4	8		
Detector Phase	4	4	4	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	25.0	25.0	35.0	35.0
Total Split (s)	45.0	45.0	45.0	45.0	65.0	65.0
Total Split (%)	40.9%	40.9%	40.9%	40.9%	59.1%	59.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	None	C-Max	C-Max
v/c Ratio	0.76	0.81	0.74	0.70	0.49	0.63
Control Delay	43.6	40.7	39.2	36.0	15.5	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	40.7	39.2	36.0	15.5	7.3
Queue Length 50th (m)	82.3	85.0	64.7	60.5	66.7	65.6
Queue Length 95th (m)	122.1	110.7	103.5	93.9	77.9	66.0
Internal Link Dist (m)		384.2			229.6	349.4
Turn Bay Length (m)			100.0			
Base Capacity (vph)	548	1002	498	554	3403	2806
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	0.70	0.75	0.69	0.65	0.49	0.63

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	

Splits and Phases: 15: Kennedy Rd. & Hwy. 401 EB Off-Ramp/William Kitchen Rd.



HCM Signalized Intersection Capacity Analysis Existing Traffic Conditions
15: Kennedy Rd. & Hwy. 401 EB Off-Ramp/William Kitchen Rd. Weekday AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	570	250	600	0	0	345	0	1595	15	0	1685	0
Future Volume (vph)	570	250	600	0	0	345	0	1595	15	0	1685	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lane Util. Factor	0.91	0.86	0.91			1.00		0.86			0.91	
Frpb, ped/bikes	1.00	1.00	1.00			1.00		1.00			1.00	
Flpb, ped/bikes	1.00	1.00	1.00			1.00		1.00			1.00	
Frpt	1.00	0.94	0.85			0.86		1.00			1.00	
Fltp Protected	0.95	0.99	1.00			1.00		1.00			1.00	
Satd. Flow (prot)	1547	2806	1333			1491		6034			4980	
Fltp Permitted	0.95	0.99	1.00			1.00		1.00			1.00	
Satd. Flow (perm)	1547	2806	1333			1491		6034			4980	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	594	260	625	0	0	359	0	1661	16	0	1755	0
RTOR Reduction (vph)	0	8	27	0	0	27	0	1	0	0	0	0
Lane Group Flow (vph)	386	741	317	0	0	332	0	1676	0	0	1755	0
Confl. Peds. (#/hr)							9		13	13		9
Heavy Vehicles (%)	5%	7%	9%	0%	0%	9%	0%	7%	0%	0%	3%	0%
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Actuated Green, G (s)	35.0	35.0	35.0			35.0		61.0			61.0	
Effective Green, g (s)	36.0	36.0	36.0			36.0		62.0			62.0	
Actuated g/C Ratio	0.33	0.33	0.33			0.33		0.56			0.56	
Clearance Time (s)	7.0	7.0	7.0			7.0		7.0			7.0	
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lane Grp Cap (vph)	506	918	436			487		3400			2806	
v/s Ratio Prot								0.28			0.35	
v/s Ratio Perm	0.25	0.26	0.24			0.22						
v/c Ratio	0.76	0.81	0.73			0.68		0.49			0.63	
Uniform Delay, d1	33.2	33.8	32.7			32.0		14.5			16.2	
Progression Factor	1.00	1.00	1.00			1.00		1.00			0.39	
Incremental Delay, d2	6.7	5.3	6.0			3.9		0.5			0.8	
Delay (s)	39.9	39.1	38.6			36.0		15.0			7.1	
Level of Service	D	D	D			D		B			A	
Approach Delay (s)		39.2			36.0			15.0			7.1	
Approach LOS		D			D			B			A	

Intersection Summary	
HCM 2000 Control Delay	20.6
HCM 2000 Volume to Capacity ratio	0.70
Actuated Cycle Length (s)	110.0
Intersection Capacity Utilization	79.7%
Analysis Period (min)	15
c Critical Lane Group	

Queues
15: Kennedy Rd. & Hwy. 401 EB Off-Ramp/William Kitchen Rd.

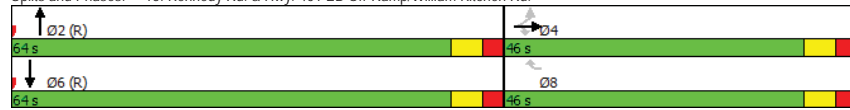
Existing Traffic Conditions
Weekday PM Peak Hour

	EBL	EBT	EBR	WBR	NBT	SBT
Lane Configurations						
Traffic Volume (vph)	700	285	640	535	1960	1490
Future Volume (vph)	700	285	640	535	1960	1490
Lane Group Flow (vph)	428	845	385	546	2031	1520
Turn Type	Perm	NA	Perm	Perm	NA	NA
Protected Phases		4			2	6
Permitted Phases	4		4	8		
Detector Phase	4	4	4	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	25.0	25.0	35.0	35.0
Total Split (s)	46.0	46.0	46.0	46.0	64.0	64.0
Total Split (%)	41.8%	41.8%	41.8%	41.8%	58.2%	58.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	None	C-Max	C-Max
v/c Ratio	0.77	0.81	0.74	0.93	0.59	0.56
Control Delay	41.9	38.7	37.4	56.9	18.2	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	38.7	37.4	56.9	18.2	17.9
Queue Length 50th (m)	91.5	95.6	73.4	108.7	88.7	81.6
Queue Length 95th (m)	135.3	124.1	115.2	176.8	100.7	96.1
Internal Link Dist (m)		384.2			229.6	349.4
Turn Bay Length (m)			100.0			
Base Capacity (vph)	578	1077	538	604	3420	2718
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.78	0.72	0.90	0.59	0.56

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 15: Kennedy Rd. & Hwy. 401 EB Off-Ramp/William Kitchen Rd.



HCM Signalized Intersection Capacity Analysis
15: Kennedy Rd. & Hwy. 401 EB Off-Ramp/William Kitchen Rd.

Existing Traffic Conditions
Weekday PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	700	285	640	0	0	535	0	1960	30	0	1490	0
Future Volume (vph)	700	285	640	0	0	535	0	1960	30	0	1490	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lane Util. Factor	0.91	0.86	0.91			1.00		0.86			0.91	
Frpb, ped/bikes	1.00	1.00	1.00			1.00		1.00			1.00	
Flpb, ped/bikes	1.00	1.00	1.00			1.00		1.00			1.00	
Frpt	1.00	0.95	0.85			0.86		1.00			1.00	
Fltp Protected	0.95	0.98	1.00			1.00		1.00			1.00	
Satd. Flow (prot)	1592	2929	1411			1593		6322			5029	
Fltp Permitted	0.95	0.98	1.00			1.00		1.00			1.00	
Satd. Flow (perm)	1592	2929	1411			1593		6322			5029	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	714	291	653	0	0	546	0	2000	31	0	1520	0
RTOR Reduction (vph)	0	14	26	0	0	26	0	2	0	0	0	0
Lane Group Flow (vph)	428	831	359	0	0	520	0	2029	0	0	1520	0
Confl. Peds. (#/hr)							3		5	5		3
Heavy Vehicles (%)	2%	5%	3%	0%	0%	2%	0%	2%	0%	0%	2%	0%
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Actuated Green, G (s)	37.5	37.5	37.5			37.5		58.5			58.5	
Effective Green, g (s)	38.5	38.5	38.5			38.5		59.5			59.5	
Actuated g/C Ratio	0.35	0.35	0.35			0.35		0.54			0.54	
Clearance Time (s)	7.0	7.0	7.0			7.0		7.0			7.0	
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lane Grp Cap (vph)	557	1025	493			557		3419			2720	
v/s Ratio Prot								c0.32			0.30	
v/s Ratio Perm	0.27	0.28	0.25			c0.33						
v/c Ratio	0.77	0.81	0.73			0.93		0.59			0.56	
Uniform Delay, d1	31.8	32.4	31.2			34.5		17.1			16.6	
Progression Factor	1.00	1.00	1.00			1.00		1.00			1.00	
Incremental Delay, d2	6.3	5.0	5.3			22.9		0.8			0.8	
Delay (s)	38.1	37.4	36.5			57.4		17.8			17.4	
Level of Service	D	D	D			E		B			B	
Approach Delay (s)		37.4			57.4			17.8			17.4	
Approach LOS		D			E			B			B	

Intersection Summary

HCM 2000 Control Delay 27.1 HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio 0.73
Actuated Cycle Length (s) 110.0 Sum of lost time (s) 13.0
Intersection Capacity Utilization 100.4% ICU Level of Service G
Analysis Period (min) 15
c Critical Lane Group



Ontario Traffic Inc.

TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 12:45:00
To: 13:45:00

Intersection: Hwy 401 EB Off-Ramp-William Kitchen Rd & Kennedy Rd
Site ID: 2002300009
Count Date: Feb 01, 2020

Weather conditions:

**** Signalized Intersection ****

Major Road: Kennedy Rd runs N/S

North Approach

	Out	In	Total
	1369	2855	4224
	77	154	231
Totals	1446	3009	4455

Kennedy Rd

	77	0	0
	1369	0	0
Totals	1446	0	0

↓ ↘ ↻

East Approach

	Out	In	Total
	482	355	837
	33	28	61
Totals	515	383	898

Hwy 401 EB Off-Ramp

	Out	In	Totals
	22	674	696
	26	317	343
	36	608	644

↗ ↘ ↻

Peds: 0



Peds: 6

Peds: 20

Peds: 0

William Kitchen Rd

	Totals	Out	In
	0	0	0
	515	482	33
	0	0	0

↗ ↘ ↻

West Approach

	Out	In	Total
	1599	0	1599
	84	0	84
Totals	1683	0	1683

	1798	40	0
	1699	38	0
	99	2	0
Totals	1798	40	0

↑ ↘ ↻

Kennedy Rd

South Approach

	Out	In	Total
	1737	1977	3714
	101	113	214
Totals	1838	2090	3928

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Hwy 401 EB Off-Ramp-William Kitchen Rd & Kennedy Rd

Count Date: Feb 01, 2020

Period: 11:30 - 14:00

Peak Hour Data (12:45 - 13:45)

Start Time	North Approach Kennedy Rd						South Approach Kennedy Rd						East Approach William Kitchen Rd						West Approach Hwy 401 EB Off-Ramp						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
12:45	0	364		0	0	364		451	13	0	0	464	0		129	0	1	129	202	87	178		2	467	1424
13:00	0	366		0	0	366		420	12	0	0	432	0		110	0	11	110	166	80	160		0	406	1314
13:15	0	379		0	0	379		467	8	0	0	475	0		135	0	3	135	164	91	161		4	416	1405
13:30	0	337		0	0	337		460	7	0	0	467	0		141	0	5	141	164	85	145		0	394	1339
Grand Total	0	1446		0	0	1446		1798	40	0	0	1838	0		515	0	20	515	696	343	644		6	1683	5482
Approach %	0	100		0	-	-		97.8	2.2	0	-	-	0		100	0	-	-	41.4	20.4	38.3		-	-	-
Totals %	0	26.4		0	-	26.4		32.8	0.7	0	-	33.5	0		9.4	0	-	9.4	12.7	6.3	11.7		-	30.7	-
PHF	0	0.95		0	-	0.95		0.96	0.77	0	-	0.97	0		0.91	0	-	0.91	0.86	0.94	0.9		0.9	0.9	0.96
Cars	0	1369		0	-	1369		1699	38	0	-	1737	0		482	0	-	482	674	317	608		-	1599	5187
% Cars	0	94.7		0	-	94.7		94.5	95	0	-	94.5	0		93.6	0	-	93.6	96.8	92.4	94.4		-	95	94.6
Trucks	0	77		0	-	77		99	2	0	-	101	0		33	0	-	33	22	26	36		-	84	295
% Trucks	0	5.3		0	-	5.3		5.5	5	0	-	5.5	0		6.4	0	-	6.4	3.2	7.6	5.6		-	5	5.4
Peds					0	-					0	-					20	-					6	-	26
% Peds					0	-					0	-					76.9	-					23.1	-	-



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 07:45:00
To: 08:45:00

Intersection: Reidmount Ave & Cardwell Ave-Dowry St

Site ID: 2005400002

Count Date: Mar 03, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Dowry St runs E/W

East Approach

	Out	In	Total
	29	25	54
	5	2	7
	34	27	61

Cardwell Ave

	Out	In	Totals
	0	0	0
	0	10	10
	1	3	4

Peds: 0



Peds: 1

Dowry St

	Totals		
	0	0	0
	22	21	1
	12	8	4

Peds: 0

West Approach

	Out	In	Total
	13	63	76
	1	5	6
	14	68	82

Totals	46	17	0
	42	15	0
	4	2	0

Reidmount Ave

South Approach

	Out	In	Total
	57	11	68
	6	5	11
	63	16	79

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Reidmount Ave & Cardwell Ave-Dowry St
 Count Date: Mar 03, 2020
 Period: 07:00 - 09:00

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

	North Approach						South Approach Reidmount Ave						East Approach Dowry St						West Approach Cardwell Ave						Total Vehicl es						
Start Time	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total							
07:45					0		13			5	0	0	18	6	7		0	0	13		6	0	0	0	6	37					
08:00					0		6			1	0	0	7	0	4		0	0	4		1	2	0	0	3	14					
08:15					0		14			6	0	0	20	3	8		0	1	11		3	1	0	0	4	35					
08:30					0		13			5	0	0	18	3	3		0	0	6		0	1	0	0	1	25					
Grand Total						0	0	46				17	0	0	63	12	22			0	1	34				10	4	0	0	14	111
Approach %						-	-	73				27	0	-	-	35.3	64.7			0	-	-				71.4	28.6	0	-	-	
Totals %						0	-	41.4				15.3	0	-	-	10.8	19.8			0	-	-				9	3.6	0	-	-	
PHF						0	-	0.82				0.71	0	-	-	0.5	0.69			0	-	-				0.42	0.5	0	-	-	0.75
Cars						0	-	42				15	0	-	-	8	21			0	-	-				10	3	0	-	-	99
% Cars						0	-	91.3				88.2	0	-	-	66.7	95.5			0	-	-				100	75	0	-	-	89.2
Trucks						0	-	4				2	0	-	-	4	1			0	-	-				0	1	0	-	-	12
% Trucks						0	-	8.7				11.8	0	-	-	33.3	4.5			0	-	-				0	25	0	-	-	10.8
Peds						0	-						0	-	-					1	-	-						0	-	-	1
% Peds						0	-						0	-	-					100	-	-						0	-	-	



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 17:00:00
To: 18:00:00

Intersection: Reidmount Ave & Cardwell Ave-Dowry St

Site ID: 2005400002

Count Date: Mar 03, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Dowry St runs E/W

East Approach

	Out	In	Total
	37	27	64
	2	3	5
	39	30	69

Cardwell Ave

	Out	In	Totals
	0	0	0
	0	17	17
	0	8	8

Peds: 1

Peds: 0



Peds: 0

Dowry St

	Totals	Out	In
	0	0	0
	22	22	0
	17	15	2

West Approach

	Out	In	Total
	25	63	88
	0	2	2
	25	65	90

Totals	43	13	0
	41	10	0
	2	3	0

Reidmount Ave

South Approach

	Out	In	Total
	51	23	74
	5	2	7
	56	25	81

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Reidmount Ave & Cardwell Ave-Dowry St
Count Date: Mar 03, 2020
Period: 16:00 - 18:00

Peak Hour Data (17:00 - 18:00)

	North Approach						South Approach Reidmount Ave						East Approach Dowry St						West Approach Cardwell Ave						Total Vehicl es			
Start Time	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total				
17:00					0		7			3	0	0	10	2	1		0	0	3		3	0	0	0	3	16		
17:15					0		17			3	0	0	20	3	5		0	0	8		3	2	0	0	5	33		
17:30					0		6			3	0	0	9	5	6		0	0	11		6	3	0	0	9	29		
17:45					0		13			4	0	0	17	7	10		0	0	17		5	3	0	1	8	42		
Grand Total						0	0	43				13	0	0	56	17	22			0	0	39	17	8	0	1	25	120
Approach %						-	76.8				23.2	0	-	43.6	56.4			0	-	68	32	0			-			
Totals %						0	35.8				10.8	0	46.7	14.2	18.3			0	32.5	14.2	6.7	0			20.8			
PHF						0	0.63				0.81	0	0.7	0.61	0.55			0	0.57	0.71	0.67	0			0.69	0.71		
Cars						0	41				10	0	51	15	22			0	37	17	8	0			25	113		
% Cars						0	95.3				76.9	0	91.1	88.2	100			0	94.9	100	100	0			100	94.2		
Trucks						0	2				3	0	5	2	0			0	2	0	0	0			0	7		
% Trucks						0	4.7				23.1	0	8.9	11.8	0			0	5.1	0	0	0			0	5.8		
Peds						0	-					0	-						0	-						1	-	1
% Peds						0	-					0	-						0	-						100	-	



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 12:15:00
To: 13:15:00

Intersection: Reidmount Ave & Cardwell Ave-Dowry St
Site ID: 2005400007
Count Date: Feb 29, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Dowry St runs E/W

East Approach

	Out	In	Total
	23	9	32
	0	2	2
	23	11	34

Cardwell Ave

	Out	In	Totals
	0	0	0
	0	5	5
	0	14	14

Peds: 0

Peds: 2



Peds: 0

Dowry St

	Totals		
	0	0	0
	11	11	0
	12	12	0

Peds: 6

West Approach

	Out	In	Total
	19	59	78
	0	1	1
	19	60	79

	Totals		
	49	48	1
	6	4	2
	2	2	0

Reidmount Ave

South Approach

	Out	In	Total
	54	28	82
	3	0	3
	57	28	85

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Reidmount Ave & Cardwell Ave-Dowry St
Count Date: Feb 29, 2020
Period: 11:30 - 14:00

Peak Hour Data (12:15 - 13:15)

	North Approach						South Approach Reidmount Ave						East Approach Dowry St						West Approach Cardwell Ave						Total Vehic es	
Start Time	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total		
12:15					0		6			1	1	1	8	3	0		0	0	3		2	3	0	0	5	16
12:30					0		8			3	0	1	11	1	4		0	0	5		0	8	0	0	8	24
12:45					0		19			1	1	2	21	8	3		0	0	11		1	2	0	0	3	35
13:00					0		16			1	0	2	17	0	4		0	0	4		2	1	0	2	3	24
Grand Total	0 0						49	6 2			6	57	12	11			0	0	23	5 14			0	2	19	99
Approach %	-						86	10.5 3.5			-	52.2 47.8	0	-			26.3 73.7	0	-							
Totals %	0						49.5	6.1 2			57.6	12.1 11.1	0	23.2			5.1 14.1	0	19.2							
PHF	0						0.64	0.5 0.5			0.68	0.38 0.69	0	0.52			0.63 0.44	0	0.59	0.71						
Cars	0						48	4 2			54	12 11	0	23			5 14	0	19	96						
% Cars	0						98	66.7 100			94.7	100 100	0	100			100 100	0	100	97						
Trucks	0						1	2 0			3	0 0	0	0			0 0	0	0	3						
% Trucks	0						2	33.3 0			5.3	0 0	0	0			0 0	0	0	3						
Peds	0 -						6 -						0 -						2 -						8	
% Peds	0 -						75 -						0 -						25 -							



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 07:45:00
To: 08:45:00

Intersection: Sheppard Ave E & Gordon Ave
Site ID: 2005400003
Count Date: Mar 03, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Sheppard Ave E runs E/W

East Approach

	Out	In	Total
	1262	718	1980
	118	87	205
	1380	805	2185

Sheppard Ave E

		Totals	
0	1	1	
84	697	781	
0	4	4	

Peds: 0



Peds: 1

Peds: 0

Peds: 22

Sheppard Ave E

Totals		
0	0	0
1356	1240	116
24	22	2

West Approach

	Out	In	Total
	702	1243	1945
	84	116	200
	786	1359	2145

Totals			
	2	24	0
	2	21	0
	0	3	0

Gordon Ave

South Approach

	Out	In	Total
	23	26	49
	3	2	5
	26	28	54

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Sheppard Ave E & Gordon Ave
Count Date: Mar 03, 2020
Period: 07:00 - 09:00

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

	North Approach						South Approach Gordon Ave						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehic es	
Start Time	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total		
07:45					0		1		6	0	2	7	6	335		0	0	341		188	0	0	0	188	536	
08:00					0		1		3	0	5	4	8	334		0	0	342		166	1	0	0	167	513	
08:15					0		0		8	0	7	8	3	347		0	0	350		208	0	1	0	209	567	
08:30					0		0		7	0	8	7	7	340		0	1	347		219	3	0	0	222	576	
Grand Total						0	0	2	24		0	22	26	24	1356		0	1	1380	781	4	1	0	786	2192	
Approach %						-	7.7	92.3		0	-		1.7	98.3	0		-		99.4	0.5	0.1	-				
Totals %						0	0.1	1.1		0	1.2		1.1	61.9	0		63		35.6	0.2	0	35.9				
PHF						0	0.5	0.75		0	0.81		0.75	0.98	0		0.99		0.89	0.33	0.25	0.89		0.95		
Cars						0	2	21		0	23		22	1240	0		1262		697	4	1	702		1987		
% Cars						0	100	87.5		0	88.5		91.7	91.4	0		91.4		89.2	100	100	89.3		90.6		
Trucks						0	0	3		0	3		2	116	0		118		84	0	0	84		205		
% Trucks						0	0	12.5		0	11.5		8.3	8.6	0		8.6		10.8	0	0	10.7		9.4		
Peds						0	-	22					-	1					-	0					-	23
% Peds						0	-	95.7					-	4.3					-	0					-	



Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:00:00
To: 17:00:00

Intersection: Sheppard Ave E & Gordon Ave
Site ID: 2005400003
Count Date: Mar 03, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Sheppard Ave E runs E/W

East Approach

	Out	In	Total
	888	977	1865
	69	112	181
	957	1089	2046

Sheppard Ave E

		Totals	
0	1	1	
110	962	1072	
1	6	7	

Peds: 1

Peds: 0



Peds: 0






Sheppard Ave E

Totals		
1	1	0
938	870	68
18	17	1

Peds: 18

West Approach

Out	In	Total
969	877	1846
111	69	180
1080	946	2026

			
Totals	7	16	0
	6	14	0
	1	2	0

Gordon Ave

South Approach

Out	In	Total
20	23	43
3	2	5
23	25	48

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Sheppard Ave E & Gordon Ave
 Count Date: Mar 03, 2020
 Period: 16:00 - 18:00

Peak Hour Data (16:00 - 17:00)

	North Approach						South Approach Gordon Ave						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicl es					
Start Time	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total						
16:00					0		3			6	0	5	9	1	231		0	0	232		260	1	0	1	261	502				
16:15					0		1			1	0	3	2	5	246		0	0	251		266	1	1	0	268	521				
16:30					0		1			6	0	4	7	6	228		0	0	234		273	3	0	0	276	517				
16:45					0		2			3	0	6	5	6	233		1	0	240		273	2	0	0	275	520				
Grand Total						0	0	7	16			0	18	23	18	938	1		0	957	1072					7	1	1	1080	2060
Approach %						-	30.4	69.6			0	-	-	1.9	98	0.1		-	-	99.3	0.6	0.1	-			-				
Totals %						0	0.3	0.8			0	1.1	0.9	45.5	0		46.5	52	0.3	0	52.4									
PHF						0	0.58	0.67			0	0.64	0.75	0.95	0.25		0.95	0.98	0.58	0.25	0.98			0.99						
Cars						0	6	14			0	20	17	870	1		888	962	6	1	969			1877						
% Cars						0	85.7	87.5			0	87	94.4	92.8	100		92.8	89.7	85.7	100	89.7			91.1						
Trucks						0	1	2			0	3	1	68	0		69	110	1	0	111			183						
% Trucks						0	14.3	12.5			0	13	5.6	7.2	0		7.2	10.3	14.3	0	10.3			8.9						
Peds						0	-	18					-	-	0					-	-	1					-	19		
% Peds						0	-	94.7					-	-	0					-	-	5.3					-	-		



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 12:30:00
To: 13:30:00

Intersection: Sheppard Ave E & Gordon Ave
Site ID: 2005400008
Count Date: Feb 29, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Sheppard Ave E runs E/W

East Approach

	Out	In	Total
	1202	1034	2236
	55	41	96
	1257	1075	2332

Sheppard Ave E

		Totals	
0	0	0	
39	1007	1046	
0	6	6	

Peds: 0

Peds: 2



Peds: 0






Sheppard Ave E

Totals		
0	0	0
1232	1177	55
25	25	0

Peds: 40

West Approach

Out	In	Total
1013	1177	2190
39	55	94
1052	1232	2284

			
Totals	0	29	0
	0	27	0
	0	2	0

Gordon Ave

South Approach

Out	In	Total
27	31	58
2	0	2
29	31	60

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Sheppard Ave E & Gordon Ave

Count Date: Feb 29, 2020

Period: 11:30 - 14:00

Peak Hour Data (12:30 - 13:30)

	North Approach						South Approach Gordon Ave						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicl es
Start Time	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
12:30					0		0		7	0	12	7	2	293		0	0	295		235	0	0	0	235	537
12:45					0		0		11	0	6	11	5	314		0	0	319		276	4	0	1	280	610
13:00					0		0		6	0	13	6	7	341		0	0	348		273	1	0	1	274	628
13:15					0		0		5	0	9	5	11	284		0	0	295		262	1	0	0	263	563
Grand Total					0	0	0		29	0	40	29	25	1232		0	0	1257		1046	6	0	2	1052	2338
Approach %					-	-	0		100	0	-	-	2	98		0	-	-		99.4	0.6	0	-	-	
Totals %					0	0	0		1.2	0	1.2	1.1	52.7		0	53.8				44.7	0.3	0		45	
PHF					0	0	0		0.66	0	0.66	0.57	0.9		0	0.9				0.95	0.38	0		0.94	0.93
Cars					0	0	0		27	0	27	25	1177		0	1202				1007	6	0		1013	2242
% Cars					0	0	0		93.1	0	93.1	100	95.5		0	95.6				96.3	100	0		96.3	95.9
Trucks					0	0	0		2	0	2	0	55		0	55				39	0	0		39	96
% Trucks					0	0	0		6.9	0	6.9	0	4.5		0	4.4				3.7	0	0		3.7	4.1
Peds					0	-				40	-				0	-						2	-		42
% Peds					0	-				95.2	-				0	-						4.8	-		

HCM Unsignalized Intersection Capacity Analysis
21: Gordon Avenue & Sheppard Avenue

EX_AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Traffic Volume (veh/h)	790	5	15	1375	0	25
Future Volume (Veh/h)	790	5	15	1375	0	25
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	840	5	16	1463	0	27
Pedestrians	3			1	54	
Lane Width (m)	3.5			3.5	3.0	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	4	
Right turn flare (veh)						
Median type	TWLT			TWLT		
Median storage (veh)	2			2		
Upstream signal (m)	127			183		
pX, platoon unblocked			0.89		0.73	0.89
vC, conflicting volume			899		1663	478
vC1, stage 1 conf vol					896	
vC2, stage 2 conf vol					766	
vCu, unblocked vol			628		448	152
tC, single (s)			4.1		6.8	7.2
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.4
p0 queue free %			98		100	96
cM capacity (veh/h)			822		416	710
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	560	285	504	975	27	
Volume Left	0	0	16	0	0	
Volume Right	0	5	0	0	27	
cSH	1700	1700	822	1700	710	
Volume to Capacity	0.33	0.17	0.02	0.57	0.04	
Queue Length 95th (m)	0.0	0.0	0.5	0.0	0.9	
Control Delay (s)	0.0	0.0	0.6	0.0	10.3	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.2		10.3	
Approach LOS					B	
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			58.9%		ICU Level of Service	B
Analysis Period (min)			15			

Baseline

Synchro 9 Report
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HCM Unsignalized Intersection Capacity Analysis
52: Sheppard Avenue & Reidmount Avenue

EX_AM

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	15	785	1375	60	30	25
Future Volume (Veh/h)	15	785	1375	60	30	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	826	1447	63	32	26
Pedestrians			1		62	
Lane Width (m)			3.5		3.0	
Walking Speed (m/s)			1.2		1.2	
Percent Blockage			0		4	
Right turn flare (veh)						
Median type		TWLT	TWLT			
Median storage (veh)		2	2			
Upstream signal (m)		245	64			
pX, platoon unblocked	0.67				0.72	0.67
vC, conflicting volume	1572				1986	817
vC1, stage 1 conf vol					1540	
vC2, stage 2 conf vol					446	
vCu, unblocked vol	865				973	0
tC, single (s)	4.2				6.8	7.2
tC, 2 stage (s)					5.8	
tF (s)	2.3				3.5	3.4
p0 queue free %	97				87	96
cM capacity (veh/h)	479				248	668
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	16	413	413	965	545	58
Volume Left	16	0	0	0	0	32
Volume Right	0	0	0	0	63	26
cSH	479	1700	1700	1700	1700	345
Volume to Capacity	0.03	0.24	0.24	0.57	0.32	0.17
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	4.8
Control Delay (s)	12.8	0.0	0.0	0.0	0.0	17.5
Lane LOS	B					C
Approach Delay (s)	0.2			0.0		17.5
Approach LOS						C
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			50.1%		ICU Level of Service	A
Analysis Period (min)			15			

Baseline

Synchro 9 Report
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HCM Unsignalized Intersection Capacity Analysis
21: Gordon Avenue & Sheppard Avenue E

EX_PM

	↔	↗	↖	↔	↗	↖
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔↔			↔↔	↖	
Traffic Volume (veh/h)	1150	10	10	1055	5	35
Future Volume (Veh/h)	1150	10	10	1055	5	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	1186	10	10	1088	5	36
Pedestrians	2			1	60	
Lane Width (m)	3.5			3.5	3.0	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	4	
Right turn flare (veh)						
Median type	TWLT			TWLT		
Median storage (veh)	2			2		
Upstream signal (m)	127			183		
pX, platoon unblocked			0.81		0.90	0.81
vC, conflicting volume			1256		1817	659
vC1, stage 1 conf vol					1251	
vC2, stage 2 conf vol					566	
vCu, unblocked vol			842		750	103
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %					98	95
cM capacity (veh/h)			622		296	726
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	791	405	373	725	41	
Volume Left	0	0	10	0	5	
Volume Right	0	10	0	0	36	
cSH	1700	1700	622	1700	617	
Volume to Capacity	0.47	0.24	0.02	0.43	0.07	
Queue Length 95th (m)	0.0	0.0	0.4	0.0	1.7	
Control Delay (s)	0.0	0.0	0.5	0.0	11.3	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.2		11.3	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			46.5%		ICU Level of Service	A
Analysis Period (min)			15			

Baseline

Synchro 9 Report
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HCM Unsignalized Intersection Capacity Analysis
52: Sheppard Avenue E & Reidmount Avenue

EX_PM

	↔	↗	↖	↔	↗	↖
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↔↔	↔↔		↖	
Traffic Volume (veh/h)	20	1095	975	55	20	15
Future Volume (Veh/h)	20	1095	975	55	20	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	1153	1026	58	21	16
Pedestrians			1		38	
Lane Width (m)			3.5		3.0	
Walking Speed (m/s)			1.2		1.2	
Percent Blockage			0		3	
Right turn flare (veh)						
Median type		TWLT	TWLT			
Median storage (veh)		2	2			
Upstream signal (m)		245	64			
pX, platoon unblocked	0.80				0.89	0.80
vC, conflicting volume	1122				1712	580
vC1, stage 1 conf vol					1093	
vC2, stage 2 conf vol					620	
vCu, unblocked vol	653				634	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	97				95	98
cM capacity (veh/h)	735				385	850
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	21	576	576	684	400	37
Volume Left	21	0	0	0	0	21
Volume Right	0	0	0	0	58	16
cSH	735	1700	1700	1700	1700	504
Volume to Capacity	0.03	0.34	0.34	0.40	0.24	0.07
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	1.9
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	12.7
Lane LOS	B					B
Approach Delay (s)	0.2			0.0		12.7
Approach LOS						B
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			40.3%		ICU Level of Service	A
Analysis Period (min)			15			

Baseline

Synchro 9 Report
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Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 12:30:00
To: 13:30:00

Intersection: Sheppard Ave E & Reidmount Ave
Site ID: 2005400009
Count Date: Feb 29, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Sheppard Ave E runs E/W

North Approach

	Out	In	Total
	33	53	86
	0	3	3
	33	56	89

Reidmount Ave

	0	0	0
	14	18	1
Totals	14	18	1

East Approach

	Out	In	Total
	1225	1034	2259
	57	39	96
	1282	1073	2355

Sheppard Ave E

	Out	In	Totals	
	0	0	0	
	1	15	16	
	39	1016	1055	

Peds: 23

Peds: 8



Peds: 17

Peds: 0

Sheppard Ave E

Totals		
0	0	0
39	37	2
1243	1188	55

West Approach

	Out	In	Total
	1031	1202	2233
	40	55	95
	1071	1257	2328

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Sheppard Ave E & Reidmount Ave

Count Date: Feb 29, 2020

Period: 11:30 - 14:00

Peak Hour Data (12:30 - 13:30)

Start Time	North Approach Reidmount Ave						South Approach						East Approach Sheppard Ave E						West Approach Sheppard Ave E						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
12:30	6		6	0	7	12					0			289	4	0	4	293	6	234		0	1	240	545
12:45	9		3	1	5	13					0			316	13	0	3	329	2	284		0	1	286	628
13:00	3		1	0	6	4					0			347	15	0	1	362	6	273		0	2	279	645
13:15	0		4	0	5	4					0			291	7	0	9	298	2	264		0	4	266	568
Grand Total	18		14	1	23	33					0	0		1243	39	0	17	1282	16	1055		0	8	1071	2386
Approach %	54.5		42.4	3	-	-					-	-		97	3	0	-	-	1.5	98.5		0	-	-	-
Totals %	0.8		0.6	0	1.4	-					0	-		52.1	1.6	0	53.7	-	0.7	44.2		0	-	44.9	-
PHF	0.5		0.58	0.25	0.63	-					0	-		0.9	0.65	0	0.89	-	0.67	0.93		0	-	0.94	0.92
Cars	18		14	1	33	-					0	-		1188	37	0	1225	-	15	1016		0	-	1031	2289
% Cars	100		100	100	100	-					0	-		95.6	94.9	0	95.6	-	93.8	96.3		0	-	96.3	95.9
Trucks	0		0	0	0	-					0	-		55	2	0	57	-	1	39		0	-	40	97
% Trucks	0		0	0	0	-					0	-		4.4	5.1	0	4.4	-	6.3	3.7		0	-	3.7	4.1
Peds					23	-					0	-					17	-				8	-	-	48
% Peds					47.9	-					0	-					35.4	-				16.7	-	-	-



City of Toronto - Traffic Safety Unit

Turning Movement Count Summary Report

COLLINGWOOD ST AT JADE ST & KENNEDY RD

Survey Date: 2017-Jan-31 (Tuesday)

Survey Type: Routine Hours

Time Period	Vehicle Type	Exits	NORTHBOUND					Total	Exits	EASTBOUND					Total	Exits	SOUTHBOUND					Total	Exits	WESTBOUND					Total	Peds	Bike	Other
			Left	Thru	Right	Left	Thru			Right	Left	Thru	Right	Left			Thru	Right	Left	Thru	Right											
08:15-09:15 AM PEAK	CAR	1,387	75	1,380	9	1,464	13	3	0	35	38	1,675	4	1,636	27	1,667	103	4	1	4	9	N	1	0	0							
	TRK	39	0	38	0	38	0	1	0	0	1	46	0	46	0	46	0	0	0	0	0	S	0	0	0							
	BUS	7	0	7	0		7	0	0	0	0	10	0	10	0	10	0	0	0	0	0	E	9	0	0	0	W	27	0	0		
TOTAL:		1,433	75	1,425	9	1,509	13	4	0	35	39	1,731	4	1,692	27	1,723	103	4	1	4	9											
17:00-18:00 PM PEAK	CAR	1,471	66	1,453	25	1,544	29	4	0	31	35	1,665	4	1,617	20	1,641	86	17	0	14	31	N	1	1	0							
	TRK	28	0	28	0	28	0	0	0	0	0	30	0	29	0	29	0	1	0	0	1	S	0	0	0	0						
	BUS	8	0	7	0		7	0	1	0	0	9	0	9	0	9	0	0	0	0	0	E	18	0	0	0	W	17	0	0		
TOTAL:		1,507	66	1,488	25	1,579	29	5	0	31	36	1,704	4	1,655	20	1,679	86	18	0	14	32											
OFF HR AVG	CAR	1,075	32	1,059	18	1,109	24	7	0	17	24	1,214	6	1,185	13	1,204	45	12	0	9	21	N	1	0	0							
	TRK	49	1	49	0	50	0	0	0	0	0	53	0	53	0	53	1	0	0	0	0	S	0	0	0	0						
	BUS	10	0	10	0		10	0	0	0	0	9	0	9	0	9	0	0	0	0	0	E	12	0	0	0	W	11	0	0		
TOTAL:		1,134	33	1,118	18	1,169	24	7	0	17	24	1,276	6	1,247	13	1,266	46	12	0	9	21											
07:30-09:30 2 HR AM	CAR	2,397	102	2,377	18	2,497	24	14	0	53	67	3,127	6	3,056	43	3,105	146	18	1	6	25	N	1	1	0							
	TRK	75	2	74	0	76	0	1	0	1	2	85	0	84	0	84	2	0	0	0	0	S	1	1	0	0						
	BUS	14	1	13	0		14	0	1	0	0	19	0	19	1	20	2	0	0	0	0	E	36	0	0	0	W	39	0	0		
TOTAL:		2,486	105	2,464	18	2,587	24	16	0	54	70	3,231	6	3,159	44	3,209	150	18	1	6	25											
16:00-18:00 2 HR PM	CAR	2,666	114	2,634	42	2,790	50	13	1	57	71	3,028	7	2,946	28	2,981	142	25	0	19	44	N	4	2	0							
	TRK	53	0	53	0	53	0	0	0	0	0	58	0	57	1	58	1	1	0	0	1	S	1	2	0	0						
	BUS	15	0	14	0		14	0	1	0	0	14	0	14	0	14	0	0	0	0	0	E	36	0	0	0	W	33	0	0		
TOTAL:		2,734	114	2,701	42	2,857	50	14	1	57	72	3,100	7	3,017	29	3,053	143	26	0	19	45											
07:30-18:00 8 HR SUM	CAR	9,360	342	9,247	132	9,721	172	54	2	176	232	11,009	38	10,742	121	10,901	465	91	2	59	152	N	9	3	0							
	TRK	324	4	323	0	327	0	1	0	1	2	353	0	351	1	352	5	1	0	0	1	S	3	3	0	0						
	BUS	69	1	67	0		68	0	2	0	0	70	0	70	1	71	2	0	0	0	0	E	121	0	0	0	W	116	0	0		
TOTAL:		9,753	347	9,637	132	10,116	172	57	2	177	236	11,432	38	11,163	123	11,324	472	92	2	59	153											

Total 8 Hour Vehicle Volume: 21,829

Total 8 Hour Bicycle Volume: 6

Total 8 Hour Intersection Volume: 21,835

Comment:





Peak Hour Diagram

Specified Period

From: 11:30:00

To: 14:00:00

One Hour Peak

From: 11:30:00

To: 12:30:00

Intersection: Kennedy Rd & Collingwood St-Jade St

Site ID: 2005400010

Count Date: Feb 29, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Kennedy Rd runs N/S

North Approach

	Out	In	Total
	1575	1602	3177
	84	72	156
Totals	1659	1674	3333

Kennedy Rd

	2	82	0	0
	18	1551	6	0
Totals	20	1633	6	0

East Approach

	Out	In	Total
	29	36	65
	0	0	0
Totals	29	36	65

Jade St

	Out	In	Total
	0	0	0
	0	12	12
	0	1	1
	2	30	32

Peds: 0

Peds: 5



Peds: 5

Peds: 0

Collingwood St

	Totals	Out	In
	0	0	0
	12	12	0
	0	0	0
	17	17	0

West Approach

	Out	In	Total
	43	45	88
	2	4	6
Totals	45	49	94

	29	1650	29	1
	27	1578	29	1
	2	72	0	0

Kennedy Rd

South Approach

	Out	In	Total
	1635	1599	3234
	74	84	158
Totals	1709	1683	3392

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Kennedy Rd & Collingwood St-Jade St

Count Date: Feb 29, 2020

Period: 11:30 - 14:00

Peak Hour Data (11:30 - 12:30)

Start Time	North Approach Kennedy Rd						South Approach Kennedy Rd						East Approach Collingwood St						West Approach Jade St						Total Vehicles
	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	
11:30	1	404	4	0	0	409	7	396	8	0	0	411	4	0	5	0	0	9	2	1	9	0	2	12	841
11:45	1	396	5	0	0	402	11	413	10	1	0	435	5	0	2	0	3	7	3	0	6	0	0	9	853
12:00	3	408	6	0	0	417	6	425	4	0	0	435	4	0	3	0	1	7	5	0	10	0	2	15	874
12:15	1	425	5	0	0	431	5	416	7	0	0	428	4	0	2	0	1	6	2	0	7	0	1	9	874
Grand Total	6	1633	20	0	0	1659	29	1650	29	1	0	1709	17	0	12	0	5	29	12	1	32	0	5	45	3442
Approach %	0.4	98.4	1.2	0		-	1.7	96.5	1.7	0.1		-	58.6	0	41.4	0		-	26.7	2.2	71.1	0		-	
Totals %	0.2	47.4	0.6	0		48.2	0.8	47.9	0.8	0		49.7	0.5	0	0.3	0		0.8	0.3	0	0.9	0		1.3	
PHF	0.5	0.96	0.83	0		0.96	0.66	0.97	0.73	0.25		0.98	0.85	0	0.6	0		0.81	0.6	0.25	0.8	0		0.75	0.98
Cars	6	1551	18	0		1575	27	1578	29	1		1635	17	0	12	0		29	12	1	30	0		43	3282
% Cars	100	95	90	0		94.9	93.1	95.6	100	100		95.7	100	0	100	0		100	100	100	93.8	0		95.6	95.4
Trucks	0	82	2	0		84	2	72	0	0		74	0	0	0	0		0	0	0	2	0		2	160
% Trucks	0	5	10	0		5.1	6.9	4.4	0	0		4.3	0	0	0	0		0	0	0	6.3	0		4.4	4.6
Peds					0	-					0	-					5	-					5	-	10
% Peds					0	-					0	-					50	-					50	-	



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 08:00:00
To: 09:00:00

Intersection: Collingwood St & Gordon Ave
Site ID: 2005400004
Count Date: Mar 03, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Gordon Ave runs N/S

North Approach

	Out	In	Total
	32	16	48
	5	0	5
Totals	37	16	53

Gordon Ave

	4	0	1	0
	31	0	1	0
Totals	35	0	2	0

East Approach

	Out	In	Total
	4	1	5
	0	1	1
Totals	4	2	6

Collingwood St

	Totals	
	0	
	14	
	0	
	0	

Peds: 0

Peds: 0



Peds: 0

Peds: 0

Collingwood St

Totals		
0	0	0
2	2	0
2	2	0
0	0	0

West Approach

	Out	In	Total
	14	33	47
	0	4	4
Totals	14	37	51

Totals	0	0	0
	0	0	0
	0	0	0

Private Access

South Approach

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

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Collingwood St & Gordon Ave

Count Date: Mar 03, 2020

Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Gordon Ave						South Approach Private Access						East Approach Collingwood St						West Approach Collingwood St						Total Vehicles
	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	
08:00	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	10
08:15	2	0	4	0	0	6	0	0	0	0	0	0	0	1	0	0	0	1	5	0	0	0	0	5	12
08:30	0	0	10	0	0	10	0	0	0	0	0	0	0	0	1	0	0	1	6	0	0	0	0	6	17
08:45	0	0	12	0	0	12	0	0	0	0	0	0	0	1	1	0	0	2	2	0	0	0	0	2	16
Grand Total	2	0	35	0	0	37	0	0	0	0	0	0	0	2	2	0	0	4	14	0	0	0	0	14	55
Approach %	5.4	0	94.6	0		-	0	0	0	0		-	0	50	50	0		-	100	0	0	0		-	
Totals %	3.6	0	63.6	0		67.3	0	0	0	0		0	0	3.6	3.6	0		7.3	25.5	0	0	0		25.5	
PHF	0.25	0	0.73	0		0.77	0	0	0	0		0	0	0.5	0.5	0		0.5	0.58	0	0	0		0.58	0.81
Cars	1	0	31	0		32	0	0	0	0		0	0	2	2	0		4	14	0	0	0		14	50
% Cars	50	0	88.6	0		86.5	0	0	0	0		0	0	100	100	0		100	100	0	0	0		100	90.9
Trucks	1	0	4	0		5	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	5
% Trucks	50	0	11.4	0		13.5	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	9.1
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:30:00
To: 17:30:00

Intersection: Collingwood St & Gordon Ave
Site ID: 2005400004
Count Date: Mar 03, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Gordon Ave runs N/S

North Approach

	Out	In	Total
	29	18	47
	1	0	1
Totals	30	18	48

Gordon Ave

	1	0	0	0
	28	0	1	0
Totals	29	0	1	0

East Approach

	Out	In	Total
	4	2	6
	1	0	1
Totals	5	2	7

Collingwood St

	Totals	
	0	
	16	
	1	
	0	

Peds: 0

Peds: 0



Peds: 0

Peds: 0

Collingwood St

Totals		
0	0	0
2	2	0
3	2	1
0	0	0

West Approach

	Out	In	Total
	17	30	47
	0	2	2
Totals	17	32	49

Totals	0	0	0
	0	0	0
	0	0	0

Private Access

South Approach

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

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Collingwood St & Gordon Ave

Count Date: Mar 03, 2020

Period: 16:00 - 18:00

Peak Hour Data (16:30 - 17:30)

Start Time	North Approach Gordon Ave						South Approach Private Access						East Approach Collingwood St						West Approach Collingwood St						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:30	1	0	7	0	0	8	0	0	0	0	0	0	0	3	1	0	0	4	4	1	0	0	0	5	17
16:45	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	10
17:00	0	0	9	0	0	9	0	0	0	0	0	0	0	0	1	0	0	1	3	0	0	0	0	3	13
17:15	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	12
Grand Total	1	0	29	0	0	30	0	0	0	0	0	0	0	3	2	0	0	5	16	1	0	0	0	17	52
Approach %	3.3	0	96.7	0		-	0	0	0	0		-	0	60	40	0		-	94.1	5.9	0	0		-	
Totals %	1.9	0	55.8	0		57.7	0	0	0	0		0	0	5.8	3.8	0		9.6	30.8	1.9	0	0		32.7	
PHF	0.25	0	0.81	0		0.83	0	0	0	0		0	0	0.25	0.5	0		0.31	0.8	0.25	0	0		0.85	0.76
Cars	1	0	28	0		29	0	0	0	0		0	0	2	2	0		4	16	1	0	0		17	50
% Cars	100	0	96.6	0		96.7	0	0	0	0		0	0	66.7	100	0		80	100	100	0	0		100	96.2
Trucks	0	0	1	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	2
% Trucks	0	0	3.4	0		3.3	0	0	0	0		0	0	33.3	0	0		20	0	0	0	0		0	3.8
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	



Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 12:30:00
To: 13:30:00

Intersection: Collingwood St & Gordon Ave
Site ID: 2005400011
Count Date: Feb 29, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Gordon Ave runs N/S

North Approach

	Out	In	Total
	40	23	63
	5	2	7
Totals	45	25	70

Gordon Ave

	4	0	1	0
	39	0	1	0
Totals	43	0	2	0

East Approach

	Out	In	Total
	1	3	4
	0	1	1
Totals	1	4	5

Collingwood St

	Out	In	Totals	
	0	0	0	
	2	22	24	
	0	2	2	
	0	0	0	

Peds: 0

Peds: 1



Peds: 1

Peds: 1

Collingwood St

Totals		
0	0	0
0	0	0
1	1	0
0	0	0

West Approach

	Out	In	Total
	24	40	64
	2	4	6
Totals	26	44	70

	0	1	0	0
	0	1	0	0
	0	0	0	0
	0	0	0	0

Private Access

South Approach

Out	In	Total
1	0	1
0	0	0
1	0	1

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Collingwood St & Gordon Ave

Count Date: Feb 29, 2020

Period: 11:30 - 14:00

Peak Hour Data (12:30 - 13:30)

Start Time	North Approach Gordon Ave						South Approach Private Access						East Approach Collingwood St						West Approach Collingwood St						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
12:30	1	0	5	0	0	6	0	1	0	0	0	1	0	0	0	0	0	0	7	0	0	0	0	7	14
12:45	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	1	12	23
13:00	0	0	12	0	0	12	0	0	0	0	1	0	0	1	0	0	0	1	3	2	0	0	0	5	18
13:15	1	0	15	0	0	16	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	2	18
Grand Total	2	0	43	0	0	45	0	1	0	0	1	1	0	1	0	0	1	1	24	2	0	0	1	26	73
Approach %	4.4	0	95.6	0		-	0	100	0	0		-	0	100	0	0		-	92.3	7.7	0	0		-	
Totals %	2.7	0	58.9	0		61.6	0	1.4	0	0		1.4	0	1.4	0	0		1.4	32.9	2.7	0	0		35.6	
PHF	0.5	0	0.72	0		0.7	0	0.25	0	0		0.25	0	0.25	0	0		0.25	0.5	0.25	0	0		0.54	0.79
Cars	1	0	39	0		40	0	1	0	0		1	0	1	0	0		1	22	2	0	0		24	66
% Cars	50	0	90.7	0		88.9	0	100	0	0		100	0	100	0	0		100	91.7	100	0	0		92.3	90.4
Trucks	1	0	4	0		5	0	0	0	0		0	0	0	0	0		0	2	0	0	0		2	7
% Trucks	50	0	9.3	0		11.1	0	0	0	0		0	0	0	0	0		0	8.3	0	0	0		7.7	9.6
Peds					0	-					1	-					1	-					1	-	3
% Peds					0	-					33.3	-					33.3	-					33.3	-	

Peak Hour: 07:30 AM - 08:30 AM Weather: Partly Cloudy (18.7 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear (24.4 °C)





Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Diagram

Specified Period

From: 11:30:00
To: 14:00:00

One Hour Peak

From: 11:30:00
To: 12:30:00

Intersection: Village Green Square & Northwest Intersection (First Access)
Site ID: 2005400012
Count Date: Feb 29, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Northwest Intersection (First Access), runs E/W

East Approach

	Out	In	Total
	76	43	119
	2	1	3
	78	44	122

Northwest Intersection (First Access),

	Out	In	Totals
	0	0	0
	0	0	0
	0	0	0

Peds: 11



Peds: 0

Peds: 9

Peds: 0

Northwest Intersection (First Access),

	Totals		
	1	1	0
	0	0	0
	77	75	2

West Approach

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

Totals			
	0	43	7
	0	42	7
	0	1	0

Village Green Square

South Approach

	Out	In	Total
	49	82	131
	1	2	3
	50	84	134

- Cars

- Trucks

Comments



Peak Hour Summary

Intersection: Village Green Square & Northwest Intersection (First Access)

Count Date: Feb 29, 2020

Period: 11:30 - 14:00

Peak Hour Data (11:30 - 12:30)

	North Approach						South Approach Village Green Square						East Approach Northwest Intersection (First Access),						West Approach Northwest Intersection (First Access),						Total Vehicl es						
Start Time	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total							
11:30					0		0			8	1	0	9	22	0		0	0	22		0	0	0	1	0	31					
11:45					0		0			12	2	0	14	20	0		1	0	21		0	0	0	1	0	35					
12:00					0		0			13	2	7	15	20	0		0	0	20		0	0	0	5	0	35					
12:15					0		0			10	2	2	12	15	0		0	0	15		0	0	0	4	0	27					
Grand Total						0	0	0				43	7	9	50	77	0				1	0	78	0	0	0	11	0	128		
Approach %						-	-	0				86	14	-	-	98.7	0				1.3	-	-	0	0	0	-	-			
Totals %						0	0	0				33.6	5.5	39.1	60.2	0				0.8	60.9	0	0	0	0	0	0	-			
PHF						0	0	0				0.83	0.88	0.83	0.88	0				0.25	0.89	0	0	0	0	0	0.91				
Cars						0	0	0				42	7	49	75	0				1	76	0	0	0	0	0	125				
% Cars						0	0	0				97.7	100	98	97.4	0				100	97.4	0	0	0	0	0	97.7				
Trucks						0	0	0				1	0	1	2	0				0	2	0	0	0	0	0	3				
% Trucks						0	0	0				2.3	0	2	2.6	0				0	2.6	0	0	0	0	0	2.3				
Peds						0	-						9			-						0	-						11	-	20
% Peds						0	-						45			-						0	-						55	-	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Partly Cloudy (18.7 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Clear (24.4 °C)





Peak Hour Diagram

Specified Period

From: 11:30:00

To: 14:00:00

One Hour Peak

From: 12:30:00

To: 13:30:00

Intersection: Village Green Square & First Access 240m east of Kennedy Rd
Site ID: 2005400013
Count Date: Feb 29, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: First Access 240m east of Kennedy Rd runs E/W

North Approach

	Out	In	Total
	74	52	126
	1	1	2
Totals	75	53	128

Village Green Square

	1	0	0	0
	73	0	1	0
Totals	74	0	1	0

East Approach

	Out	In	Total
	224	237	461
	5	8	13
Totals	229	245	474

First Access 240m east of Kennedy Rd

	Out	In	Totals
	0	2	2
	1	49	50
	8	236	244
	3	30	33

Peds: 32



First Access 240m east of Kennedy Rd

	Totals	Car	Truck
	0	0	0
	3	3	0
	223	219	4
	3	2	1

West Approach

	Out	In	Total
	317	294	611
	12	5	17
Totals	329	299	628

	0	0	0	0
	0	0	0	0
	0	0	0	0

Commercial access

South Approach

	Out	In	Total
	0	32	32
	0	4	4
Totals	0	36	36

- Cars

- Trucks

Comments



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Village Green Square & First Access 240m east of Kennedy Rd

Count Date: Feb 29, 2020

Period: 11:30 - 14:00

Peak Hour Data (12:30 - 13:30)

Start Time	North Approach Village Green Square						South Approach Commercial access						East Approach First Access 240m east of Kennedy Rd						West Approach First Access 240m east of Kennedy Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
12:30	0	0	18	0	10	18	0	0	0	0	0	0	0	52	2	0	1	54	8	62	4	0	0	74	146
12:45	0	0	17	0	9	17	0	0	0	0	0	0	2	54	1	0	2	57	13	68	4	0	0	85	159
13:00	1	0	24	0	7	25	0	0	0	0	0	0	1	55	0	0	3	56	15	57	16	0	0	88	169
13:15	0	0	15	0	6	15	0	0	0	0	0	0	0	62	0	0	0	62	14	57	9	2	2	82	159
Grand Total	1	0	74	0	32	75	0	0	0	0	0	0	3	223	3	0	6	229	50	244	33	2	2	329	633
Approach %	1.3	0	98.7	0	-	-	0	0	0	0	-	-	1.3	97.4	1.3	0	-	-	15.2	74.2	10	0.6	-	-	-
Totals %	0.2	0	11.7	0	-	11.8	0	0	0	0	-	0	0.5	35.2	0.5	0	-	36.2	7.9	38.5	5.2	0.3	-	-	52
PHF	0.25	0	0.77	0	-	0.75	0	0	0	0	-	0	0.38	0.9	0.38	0	-	0.92	0.83	0.9	0.52	0.25	-	0.93	0.94
Cars	1	0	73	0	-	74	0	0	0	0	-	0	2	219	3	0	-	224	49	236	30	2	-	317	615
% Cars	100	0	98.6	0	-	98.7	0	0	0	0	-	0	66.7	98.2	100	0	-	97.8	98	96.7	90.9	100	-	96.4	97.2
Trucks	0	0	1	0	-	1	0	0	0	0	-	0	1	4	0	0	-	5	1	8	3	0	-	12	18
% Trucks	0	0	1.4	0	-	1.3	0	0	0	0	-	0	33.3	1.8	0	0	-	2.2	2	3.3	9.1	0	-	3.6	2.8
Peds	-	-	-	-	32	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	2	-	-	40
% Peds	-	-	-	-	80	-	-	-	-	-	0	-	-	-	-	-	15	-	-	-	-	5	-	-	-

Table 1: 2020 vs. 2016/2017 Weekday peak hour TMC comparison

ID	Intersection	Intersection Volumes					
		2020 TMC collected by WSP		2016/2017 TMC provided by the City		Difference (2020-2016/2017 TMC)	
		Weekday AM peak hour	Weekday PM peak hour	Weekday AM peak hour	Weekday PM peak hour	Weekday AM peak hour	Weekday PM peak hour
N/A	Birchmount Rd & Sheppard Ave E	4346	4327	4155	4355	191	-28
2	Kennedy Rd & Sheppard Ave E	4888	5217	5072	5187	-184	30
N/A	Brimley Rd & Sheppard Ave E	3866	3974	3980	4310	-114	-336

Table 2: Saturday vs. Weekday peak hour TMC comparison

ID	Intersection	Intersection Volumes				
		Saturday midday peak hour	Weekday AM peak hour	Weekday PM peak hour	Difference	
					(Sat - AM)	(Sat - PM)
2	Kennedy Rd & Sheppard Ave E	4728	4888	5217	-160	-489
9	Kennedy Rd / Hwy 401 WB Off-Ramp	3718	3885	4055	-167	-337
10	Kennedy Rd / Hwy 401 EB Off-Ramp	5482	4970	5529	512	-47
8	Kennedy Rd / Village Green Square	3866	4012	4317	-146	-451

Figure 1: Sheppard Avenue TMC Comparison, a.m. peak hour

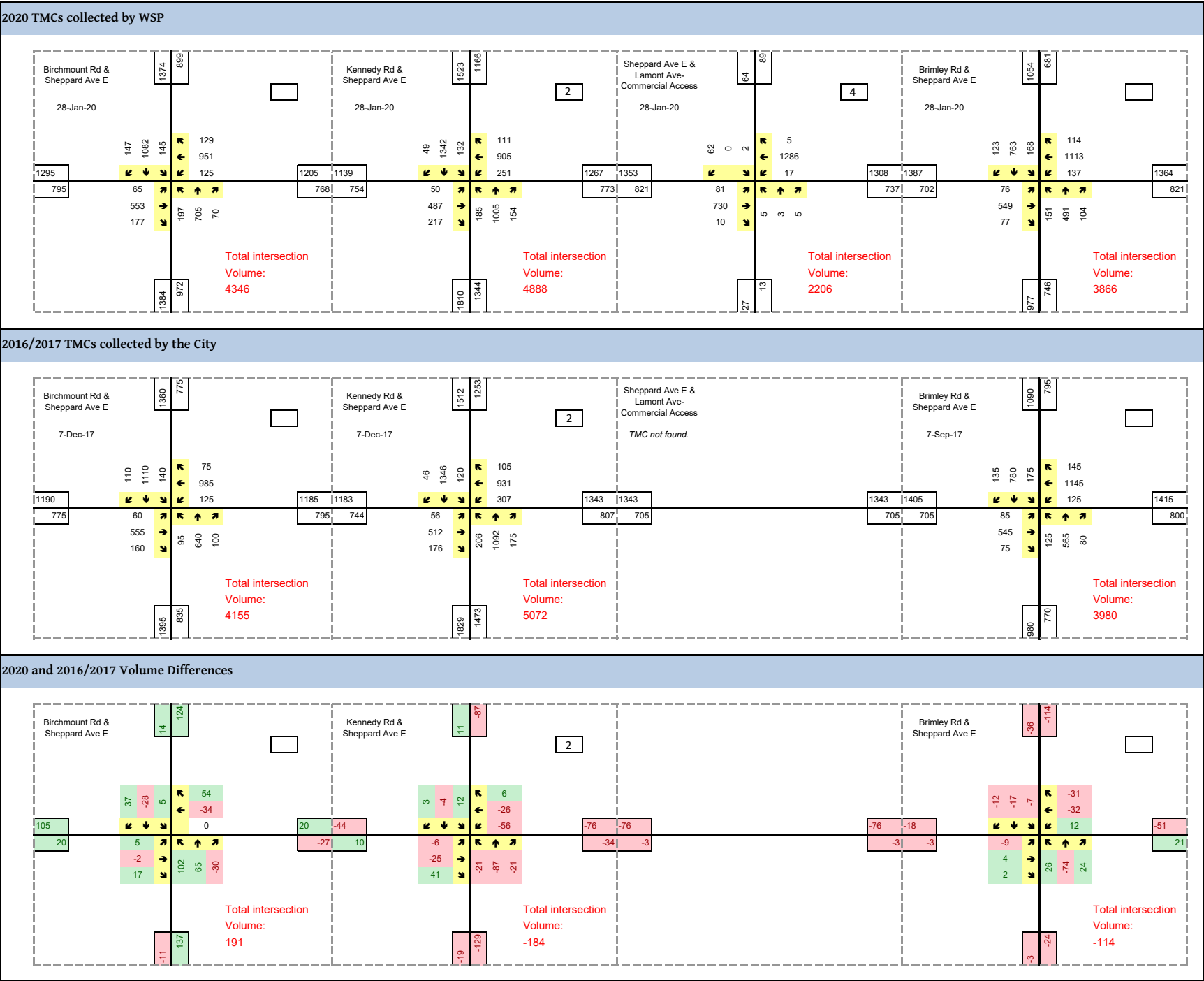


Figure 2: Sheppard Avenue TMC Comparison, p.m. peak hour

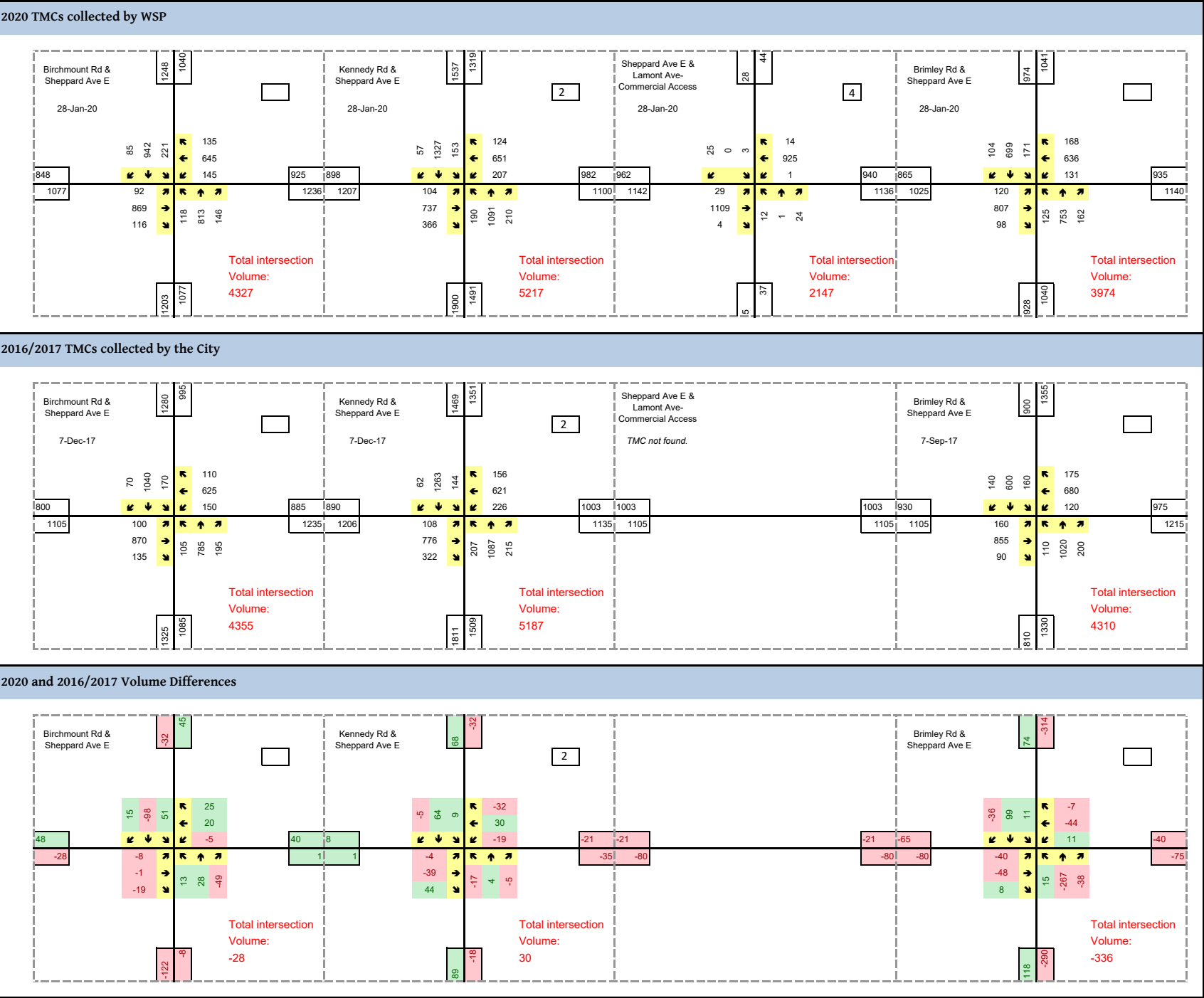
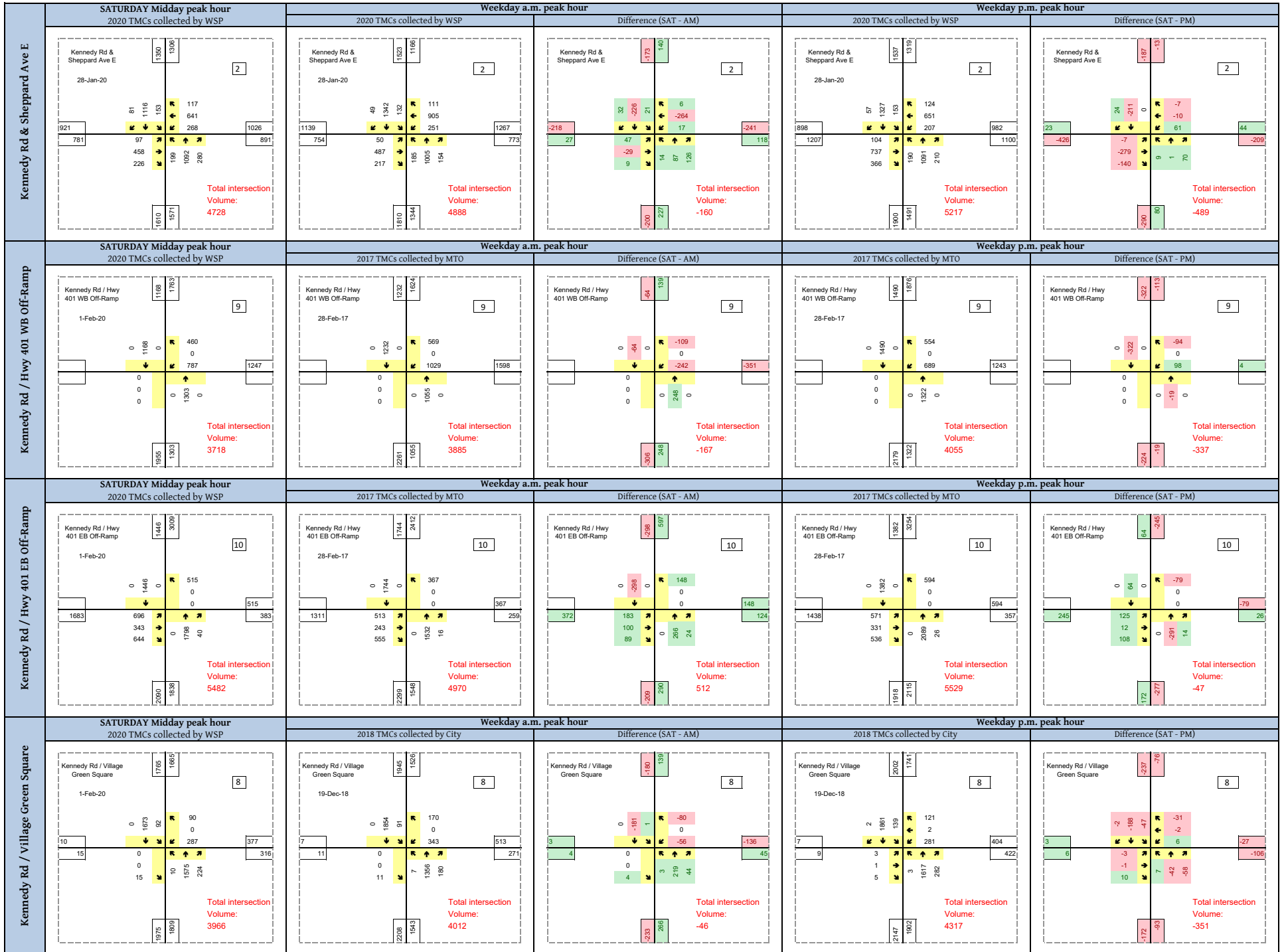


Figure 3: Saturday Midday TMC comparison with Weekday a.m. & p.m. peak hour TMC



APPENDIX C

Level of Service Definitions

LEVEL OF SERVICE DEFINITIONS AT SIGNALIZED INTERSECTIONS⁽¹⁾

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. The criteria are given in the table below. Delay may be measured in the field or estimated using software such as Highway Capacity Software. Delay is a complex measure and is dependent upon a number of variables, including quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

Level of Service	Features	Control Delay per vehicle (sec)
A	LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favourable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	≤ 10
B	LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	$> 10 \text{ and } \leq 20$
C	LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	$> 20 \text{ and } \leq 35$
D	LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavourable progression, long cycle lengths, of high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	$> 35 \text{ and } \leq 55$
E	LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.	$> 55 \text{ and } \leq 80$
F	LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	> 80

(1) Highway Capacity Manual 2000

LEVEL OF SERVICE DEFINITIONS AT UNSIGNALIZED INTERSECTIONS⁽¹⁾

The level of service criteria for unsignalized intersections are given in the table below. As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position. The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation.

Level of Service	Features	Average Total Delay (sec/veh)
A	Little or no traffic delay occurs. Approaches appear open, turning movements are easily made, and drivers have freedom of operation.	≤ 10
B	Short traffic delays occur. Many drivers begin to feel somewhat restricted in terms of freedom of operation.	> 10 and ≤ 15
C	Average traffic delays occur. Operations are generally stable, but drivers emerging from the minor street may experience difficulty in completing their movement. This may occasionally impact on the stability of flow on the major street.	> 15 and ≤ 25
D	Long traffic delays occur. Motorists emerging from the minor street experience significant restriction and frustration. Drivers on the major street will experience congestion and delay as drivers emerging from the minor street interfere with the major through movements.	> 25 and ≤ 35
E	Very long traffic delays occur. Operations approach the capacity of the intersection.	> 35 and ≤ 50
F	Saturation occurs, with vehicle demand exceeding the available capacity. Very long traffic delays occur.	> 50

(1) Highway Capacity Manual 2000.

APPENDIX D

Background Developments
Trip Generation, Distribution and Volumes

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zone = 597 and 603 and 584 and 583 and 582 and 581 and 486 and 487 and 488 and 488 and 489
and
Start time of trip - start_time In 0630-0930
and
Trip purpose of destination - purp_dest In H)

Table: Trip 2016

Row:	Count:	Expanded:	Mode %
Transit excluding	1	17	2%
Cycle	1	14	1%
Auto driver	43	725	74%
Auto passenger	5	89	9%
Walk	7	131	13%
Total:	57	976	100%
		Transit %:	2%

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zone of origin - gt 597 603 584 583 582 581 486 487 488 488 489
and
Start time of trip - start_time In 0630-0930
and
Trip purpose of origin - purp_orig In H)

Table: Trip 2016

Row:	Count:	Expanded:	Mode %
Transit excluding GO rail	195	4196	28%
Cycle	4	50	0%
Auto driver	387	7488	50%
GO rail only	18	170	1%
Auto passenger	76	1731	11%
School bus	3	72	0%
Paid rideshare	2	49	0%
Walk	62	1350	9%
Total:	747	15106	100%
		Transit %:	29%

Thu Nov 05 2020 17:50:43 GMT-0500 (Eastern Standard Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zon 597 603 584 583 582 581 486 487 488 488 489

and

Start time of trip - start_time In 1530-1830

and

Trip purpose of destination - purp_dest In H)

Table: Trip 2016

Row:	Count:	Expanded:	Mode %
Transit excludir	158	3299	27%
Cycle	2	41	0%
Auto driver	349	6633	54%
GO rail only	21	229	2%
Joint GO rail an	1	5	0%
Auto passenge	53	1096	9%
School bus	2	48	0%
Paid rideshare	1	13	0%
Walk	46	931	8%
Total:	633	12295	100%

Transit %: 29%

Thu Nov 05 2020 17:52:11 GMT-0500 (Eastern Standard Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA 597 603 584 583 582 581 486 487 488 488 489
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of origin - purp_orig In H)

Table: Trip 2016

Row:	Count:	Expanded:	Mode %
Transit exc	17	318	17%
Auto driver	71	1203	63%
Auto passe	20	356	19%
Walk	1	21	1%
Total:	109	1899	100%
		Transit %:	17%

Thu Nov 05 2020 18:00:05 GMT-0500 (Eastern Standard Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zon 597 603 584 583 582 581 486 487 488 488 489

and

Start time of trip - start_time In 0630-0930

and

Trip purpose of destination - purp_dest Not In H)

Table: Trip 2016

Row:	Count:	Expanded:	Mode %
Transit excludir	91	2667	15%
Cycle	5	99	1%
Auto driver	526	11017	61%
Joint GO rail an	1	21	0%
Auto passenge	111	2677	15%
School bus	5	112	1%
Taxi passenger	4	240	1%
Paid rideshare	2	50	0%
Walk	59	1263	7%
Total:	804	18146	100%

Transit %: 15%

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zon 597 603 584 583 582 581 486 487 488 488 489

and

Start time of trip - start_time In 0630-0930

and

Trip purpose of origin - purp_orig Not In H)

Table: Trip 2016

Row:	Count:	Expanded:	Mode %
Transit excludir	8	221	7%
Auto driver	123	2590	78%
Auto passenge	17	326	10%
Walk	9	171	5%
Total:	157	3308	100%
		Transit %:	7%

Thu Nov 05 2020 18:01:22 GMT-0500 (Eastern Standard Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA 597 603 584 583 582 581 486 487 488 488 489
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of destination - purp_dest Not In H)

Table: Trip 2016

Row:	Count:	Expanded:	Mode %
Transit exc	38	968	15%
Auto driver	229	4309	65%
Auto passe	62	1168	18%
Paid ridesh	1	22	0%
Walk	8	161	2%
Total:	338	6628	100%

Transit %: 15%

Thu Nov 05 2020 18:02:56 GMT-0500 (Eastern Standard Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zon 597 603 584 583 582 581 486 487 488 488 489

and

Start time of trip - start_time In 1530-1830

and

Trip purpose of origin - purp_orig Not In H)

Table: Trip 2016

Row:	Count:	Expanded:	Mode %
Transit excludir	66	2218	13%
Cycle	2	27	0%
Auto driver	555	11265	66%
Auto passenger	86	2002	12%
School bus	4	114	1%
Taxi passenger	4	239	1%
Paid rideshare	2	76	0%
Walk	52	1130	7%
Total:	771	17071	100%

Transit %: 13%

TTS Trip Distribution Summary

In order to inform the trip assignment stage of the analysis, information about the general trip distribution is required to inform the analysis. The distribution represents the proportion of trips to and away from the site in any given direction. The following pages summarize the general trip distribution results, which were calculated using Transportation Tomorrow Survey (TTS) 2016 trip origin and destination data. Trips were grouped under cardinal directions based on the relative angle between trip origin and destination, and appropriate adjustments were made to the calculation to conform to local geography and street grid.

The "TTS Directional Distribution Summary" on the next page presents a summary of the calculations described above, along with notes on any details specific to the analysis in this report. The table shows the total number of trips to and from the subject site categorized into general directions (North, Northeast, East etc.) and the percentage share of trips in each general direction in all directions.

The pages after show graphical illustrations of the categorizations for all Traffic Analysis Zones (TAZ) in the TTS survey area. Note that the latest survey zones were last updated in 2006.

These results are used as reference information for the trip assignment. They do not directly determine the trip assignment on the study network. The final trip assignments are completed based on a combination of local context, engineering experience, and engineering judgement, with the trip distribution information presented here to illustrate general travel behaviour.

TTS Directional Distribution Summary: Agincourt EA_TTS Residential Distribution

Notes:

1. Directions determined based on centroid coordinates of destination/origin traffic analysis zones.
2. 'Internal' refers to local trips made within the defined radius, while 'External' refers to trips made to areas outside of the defined radius.
3. 'I' refers to local trips made within the subject TAZ that do not have a cardinal direction assigned to them. These trips are excluded from the analysis.

			Internal										External									
	Time Period	Direction	I	NW	N	NE	E	SE	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total	
Trips	A.M.	Inbound	0	64	81	125	187	30	94	118	147	846	0	43	52	66	0	44	75	55	335	
		Outbound	0	506	639	680	1469	810	1087	741	923	6855	999	813	191	703	57	839	4123	2138	9863	
	P.M.	Inbound	0	519	311	354	1024	858	713	564	722	5065	857	633	406	730	43	721	3408	1750	8548	
		Outbound	0	307	98	108	156	254	208	80	277	1488	33	87	66	57	91	50	318	133	835	
Percentage	A.M.	Inbound	0%	5%	7%	11%	16%	3%	8%	10%	12%	72%	0%	4%	4%	6%	0%	4%	6%	5%	28%	
		Outbound	0%	3%	4%	4%	9%	5%	7%	4%	6%	41%	6%	5%	1%	4%	0%	5%	25%	13%	59%	
	P.M.	Inbound	0%	4%	2%	3%	8%	6%	5%	4%	5%	37%	6%	5%	3%	5%	0%	5%	25%	13%	63%	
		Outbound	0%	13%	4%	5%	7%	11%	9%	3%	12%	64%	1%	4%	3%	2%	4%	2%	14%	6%	36%	

TTS Directional Distribution Summary: Agincourt EA_TTS Non-Residential Distribution

Notes:

1. Directions determined based on centroid coordinates of destination/origin traffic analysis zones.
2. 'Internal' refers to local trips made within the defined radius, while 'External' refers to trips made to areas outside of the defined radius.
3. 'I' refers to local trips made within the subject TAZ that do not have a cardinal direction assigned to them. These trips are excluded from the analysis.

			Internal										External									
	Time Period	Direction	I	NW	N	NE	E	SE	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total	
Trips	A.M.	Inbound	0	1207	675	1624	1833	1510	847	439	1168	9303	780	1523	658	2906	826	1076	1503	1360	10632	
		Outbound	0	682	720	768	1652	1032	1130	895	1074	7953	1146	887	201	725	57	993	4400	2365	10774	
	P.M.	Inbound	0	587	188	269	552	514	158	282	611	3161	310	441	220	795	235	547	914	622	4084	
		Outbound	0	452	219	231	469	608	364	310	542	3195	212	380	113	362	241	121	605	474	2508	
Percentage	A.M.	Inbound	0%	6%	3%	8%	9%	8%	4%	2%	6%	47%	4%	8%	3%	15%	4%	5%	8%	7%	53%	
		Outbound	0%	4%	4%	4%	9%	6%	6%	5%	6%	42%	6%	5%	1%	4%	0%	5%	23%	13%	58%	
	P.M.	Inbound	0%	8%	3%	4%	8%	7%	2%	4%	8%	44%	4%	6%	3%	11%	3%	8%	13%	9%	56%	
		Outbound	0%	8%	4%	4%	8%	11%	6%	5%	10%	56%	4%	7%	2%	6%	4%	2%	11%	8%	44%	

Residential and Non-Residential Trips Generated by Background Developments

No.	Background Development	Proposed Site Statistics	Total non-residential Auto Trips (IN)			Total non-residential Auto Trips (OUT)			% of residential to total trips (IN)			% of residential to total trips (OUT)		
			AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1	2035 Kennedy Road Toronto East Delta Hotel (2016 Report)	Hotel Beds - 25 rooms addition Residential Units - 1,044 units New Office Uses - 7,150 m2 Retail Use - 664 m2	100	20	15	15	100	15	20%	78%	80%	84%	29%	75%
2	2055 Kennedy Road Metrogate Block 8 (2014 Report; 2016 Updated Analysis Memo)	Block 7: Residential - 510 units (as-of-right) + 158 units (2016 memo) = 668 units Daycare - 735 m2 Block 8: Residential - 376 units	N/A			N/A			100%	100%	100%	100%	100%	100%
3	2075 Kennedy Road Mixed-Use Development (2018 Report)	Residential - 930 Units Office - 775 m2 Retail Use - 868 m2	15	0	2	0	15	2	82%	100%	98%	100%	85%	98%
4	Agincourt Mall 3850, 3900 Sheppard Avenue E, 2350-2362 Kennedy Road (Report 2019)	Residential - 4372 units Retail - 24,190 sq.m. Office - 10,335 sq.m. Institutional/Other - 2,175 sq.m.	610	460	735	295	560	660	32%	56%	39%	73%	32%	42%
5	4181 Sheppard Avenue East (Report 2012)	Residential High-Rise - 200 Units Residential Townhouse - 187 Units General Office Building - 65,552 sq. ft.	68	13	10	10	62	12	24%	87%	91%	90%	43%	88%
6	23 Glen Watford Drive (4280 & 4288 Sheppard Avenue East) (2017 Report)	Residential High-Rise - 553 Units	N/A			N/A			100%	100%	100%	100%	100%	100%
7	25 Glen Watford Drive (2019 Report)	Retired Home - 247 Units Medical Office - 607 m2 Retail - 413.3 m2	15	14	21	5	26	17	67%	59%	70%	77%	54%	73%
8	20-100 Cowdray Court (2019 Report)	Residential - 2,347 units Commercial - 384,907 ft2	435	75	110	60	370	94	29%	83%	79%	89%	37%	78%
9	3445 Sheppard Avenue East (2014 Report)	Residential - 359 Units Retail - 768 m2	21	32	11	13	34	8	46%	63%	83%	83%	56%	87%

Methodology: TTS data used to derive the Trip Distribution for Residential Trips and Non-Residential Trips. Refer to 'BG Res Trip Dist' and 'BG Non Res Trip Dist'.

Calculation for the percentage of residential trips (and inversely, non-residential trips) for each BGD was done in 'BG Dist Split'. The purpose is sum product between residential trips with residential distribution and non-residential trips with non-residential distribution. The resulting BGD distributions will be linked to each BGD (am/pm/sat) gateways (in/out).

From BG Res Trip Dist							
Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	16%	10%	10%	13%	10%	13%
2	Sheppard Ave E (West)	16%	16%	17%	21%	17%	21%
3	Kennedy Road (North)	10%	5%	4%	11%	4%	11%
4	Kennedy Road (South)	22%	21%	20%	21%	20%	21%
5	Hwy 401 WB Off-Ramp	17%	36%	36%	22%	36%	22%
6	Hwy 401 EB Off-Ramp	10%	6%	8%	5%	8%	5%
7	Midland Avenue (North)	7%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	2%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

BGD1 Distribution

Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	15%	10%	11%	14%	10%	13%
2	Sheppard Ave E (West)	15%	16%	17%	19%	17%	20%
3	Kennedy Road (North)	8%	6%	5%	9%	5%	10%
4	Kennedy Road (South)	16%	21%	19%	20%	19%	21%
5	Hwy 401 WB Off-Ramp	22%	35%	35%	24%	35%	23%
6	Hwy 401 EB Off-Ramp	15%	6%	9%	7%	9%	6%
7	Midland Avenue (North)	5%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	3%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

BGD2 Distribution

Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	16%	10%	10%	13%	10%	13%
2	Sheppard Ave E (West)	16%	16%	17%	21%	17%	21%
3	Kennedy Road (North)	10%	5%	4%	11%	4%	11%
4	Kennedy Road (South)	22%	21%	20%	21%	20%	21%
5	Hwy 401 WB Off-Ramp	17%	36%	36%	22%	36%	22%
6	Hwy 401 EB Off-Ramp	10%	6%	8%	5%	8%	5%
7	Midland Avenue (North)	7%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	2%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

BGD3 Distribution

Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	16%	10%	10%	13%	10%	13%
2	Sheppard Ave E (West)	16%	16%	17%	20%	17%	21%
3	Kennedy Road (North)	10%	5%	4%	10%	5%	11%
4	Kennedy Road (South)	21%	21%	20%	21%	20%	21%
5	Hwy 401 WB Off-Ramp	18%	36%	36%	23%	36%	22%
6	Hwy 401 EB Off-Ramp	11%	6%	8%	5%	8%	5%
7	Midland Avenue (North)	6%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	2%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

BGD4 Distribution

Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	15%	10%	11%	14%	11%	13%
2	Sheppard Ave E (West)	15%	16%	17%	19%	18%	19%
3	Kennedy Road (North)	8%	6%	6%	9%	6%	9%
4	Kennedy Road (South)	17%	21%	18%	21%	17%	21%
5	Hwy 401 WB Off-Ramp	21%	35%	33%	24%	32%	24%
6	Hwy 401 EB Off-Ramp	14%	6%	10%	7%	11%	7%
7	Midland Avenue (North)	5%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	3%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

BGD5 Distribution

Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	15%	10%	10%	13%	10%	13%
2	Sheppard Ave E (West)	15%	16%	17%	19%	17%	20%
3	Kennedy Road (North)	8%	6%	5%	9%	5%	11%
4	Kennedy Road (South)	17%	21%	20%	21%	20%	21%
5	Hwy 401 WB Off-Ramp	22%	35%	35%	24%	36%	23%
6	Hwy 401 EB Off-Ramp	15%	6%	8%	7%	8%	5%
7	Midland Avenue (North)	5%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	3%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

From BG Non Res Trip Dist							
Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	15%	11%	12%	14%	12%	14%
2	Sheppard Ave E (West)	15%	16%	19%	18%	19%	18%
3	Kennedy Road (North)	8%	6%	7%	8%	7%	8%
4	Kennedy Road (South)	15%	21%	16%	20%	16%	20%
5	Hwy 401 WB Off-Ramp	23%	35%	28%	25%	28%	25%
6	Hwy 401 EB Off-Ramp	16%	6%	13%	8%	13%	8%
7	Midland Avenue (North)	5%	3%	3%	3%	3%	3%
8	Midland Avenue (South)	3%	3%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

BGD6 Distribution

Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	16%	10%	10%	13%	10%	13%
2	Sheppard Ave E (West)	16%	16%	17%	21%	17%	21%
3	Kennedy Road (North)	10%	5%	4%	11%	4%	11%
4	Kennedy Road (South)	22%	21%	20%	21%	20%	21%
5	Hwy 401 WB Off-Ramp	17%	36%	36%	22%	36%	22%
6	Hwy 401 EB Off-Ramp	10%	6%	8%	5%	8%	5%
7	Midland Avenue (North)	7%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	2%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

BGD7 Distribution

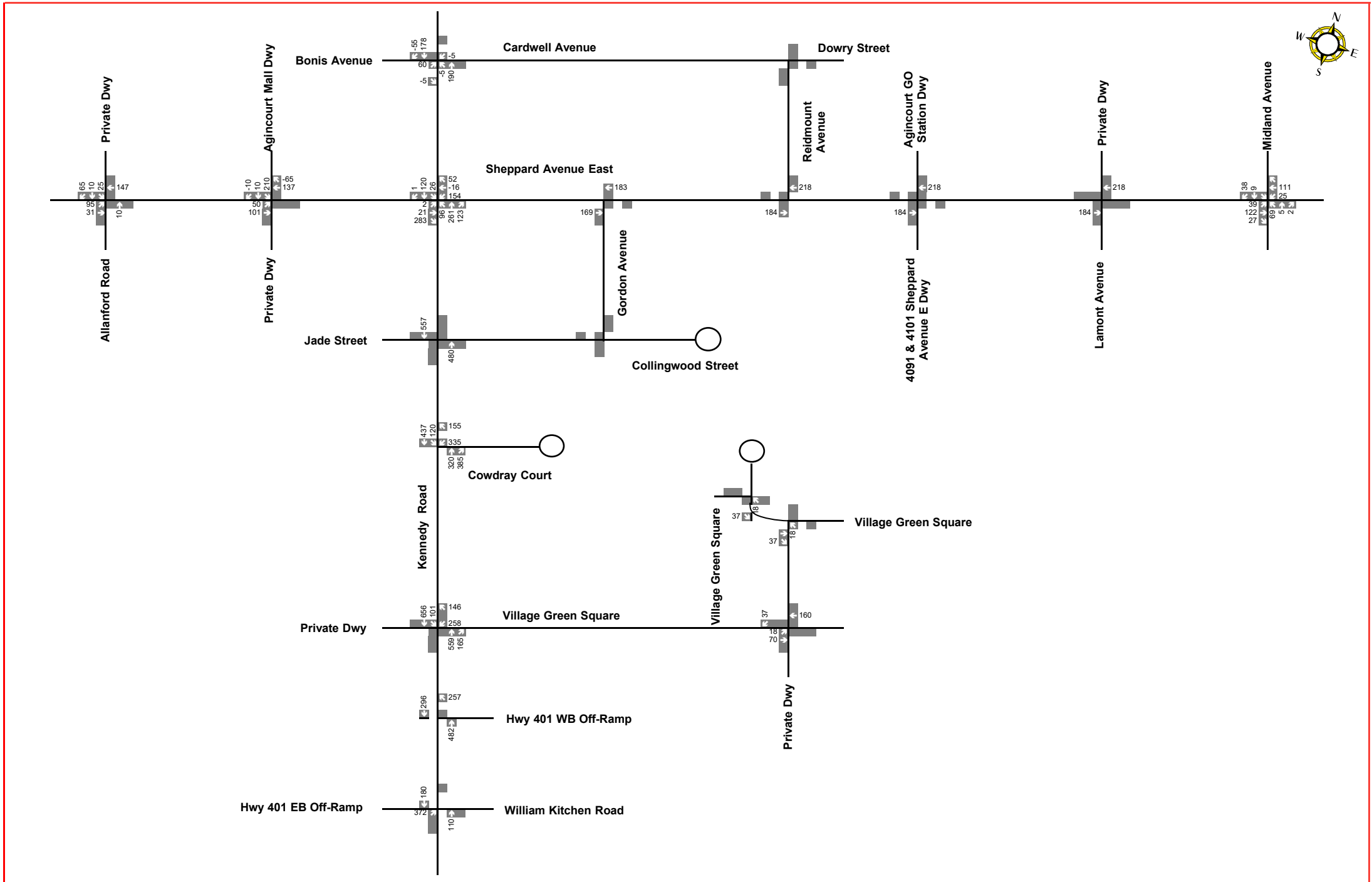
Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	16%	10%	11%	13%	11%	13%
2	Sheppard Ave E (West)	16%	16%	17%	19%	17%	20%
3	Kennedy Road (North)	9%	6%	6%	10%	5%	10%
4	Kennedy Road (South)	20%	21%	18%	21%	19%	21%
5	Hwy 401 WB Off-Ramp	19%	35%	33%	23%	34%	23%
6	Hwy 401 EB Off-Ramp	12%	6%	10%	6%	9%	6%
7	Midland Avenue (North)	6%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	2%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

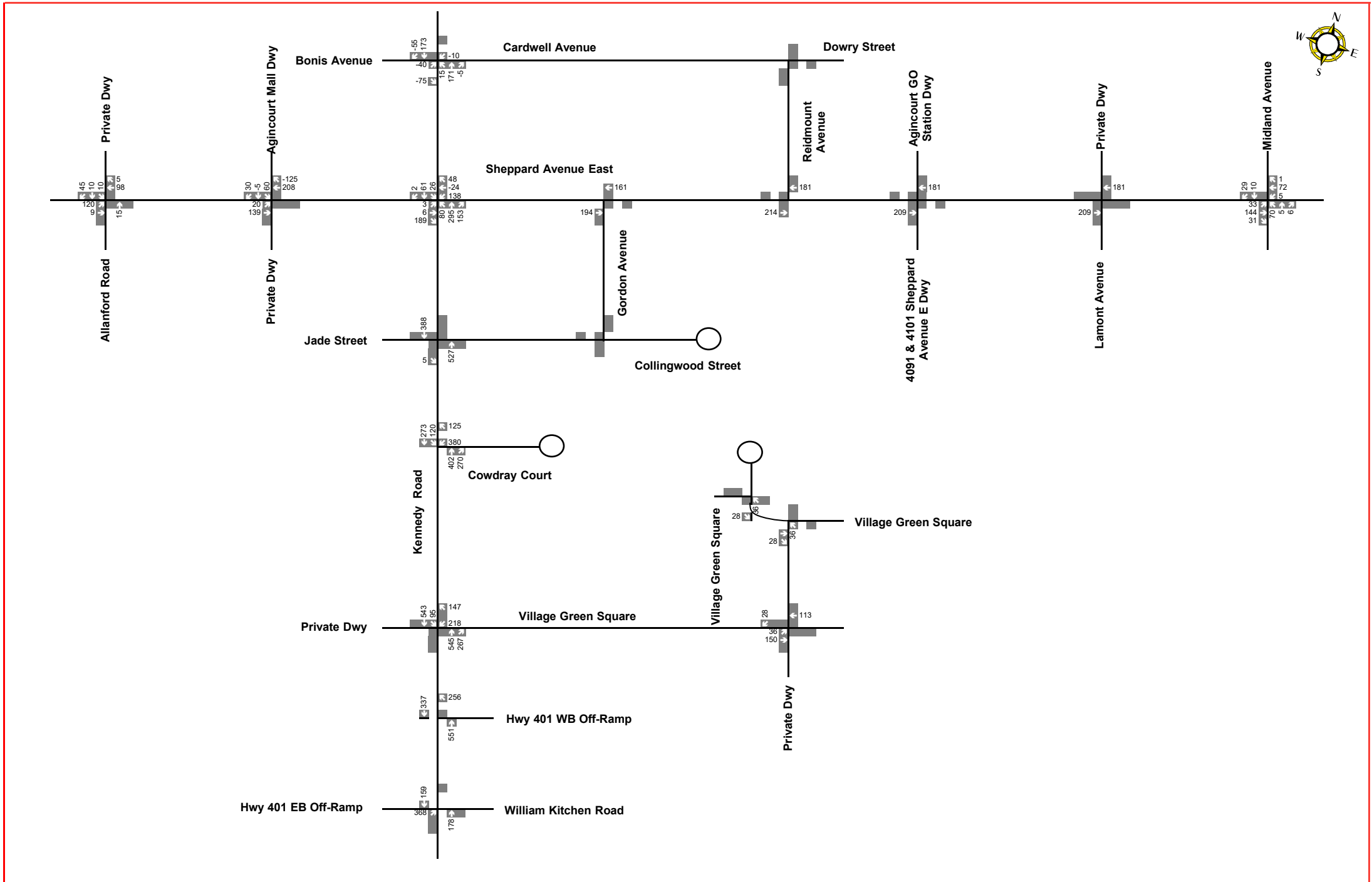
BGD8 Distribution

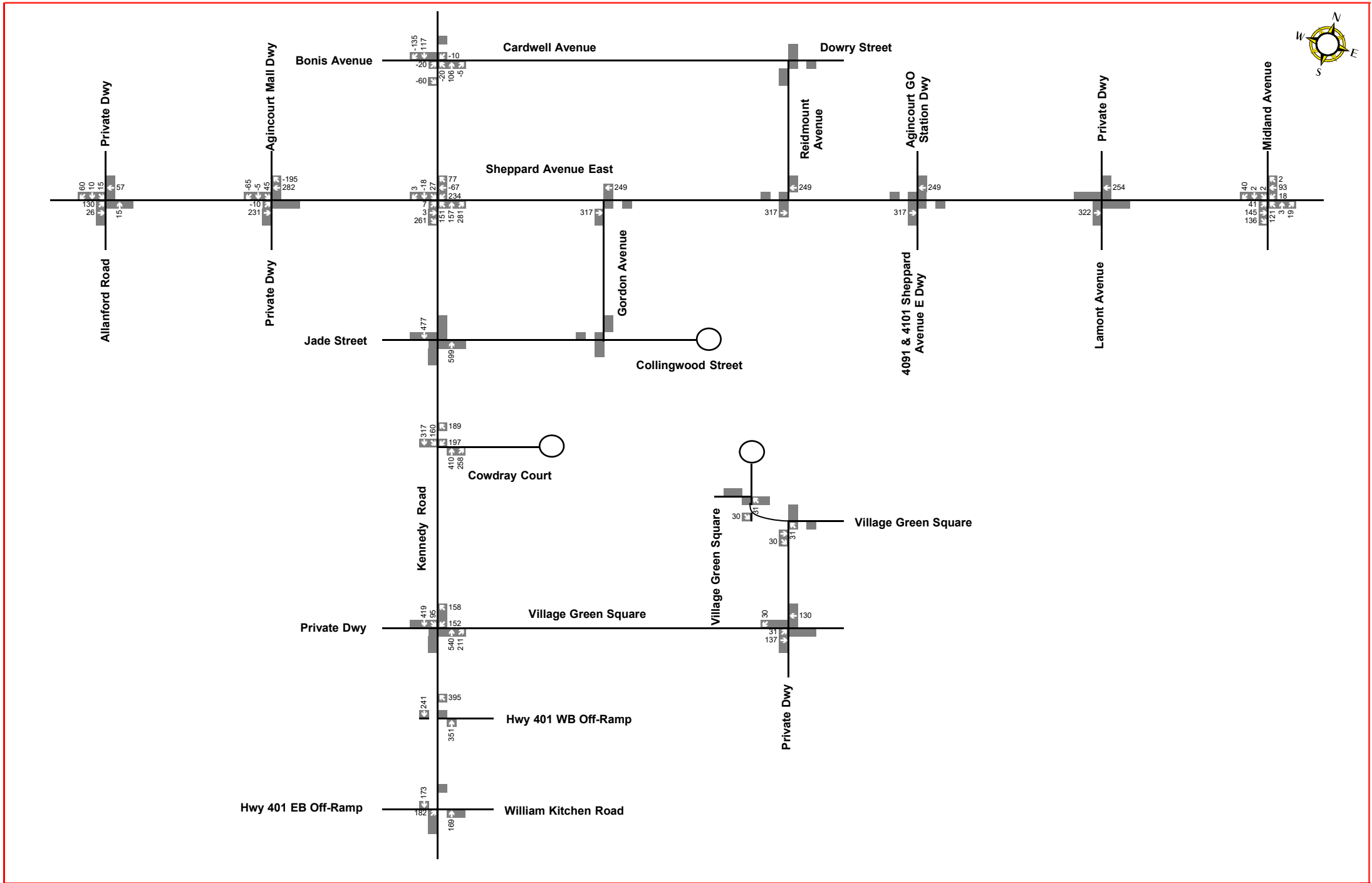
Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	15%	10%	10%	13%	10%	13%
2	Sheppard Ave E (West)	15%	16%	17%	19%	17%	20%
3	Kennedy Road (North)	8%	6%	5%	9%	5%	10%
4	Kennedy Road (South)	17%	21%	19%	21%	19%	21%
5	Hwy 401 WB Off-Ramp	21%	35%	35%	24%	35%	23%
6	Hwy 401 EB Off-Ramp	14%	6%	8%	7%	9%	5%
7	Midland Avenue (North)	5%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	3%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%

BGD9 Distribution

Gateway Number	Location	AM (IN)	AM (OUT)	PM (IN)	PM (OUT)	SAT (IN)	SAT (OUT)
1	Sheppard Ave E (East)	16%	10%	11%	13%	10%	13%
2	Sheppard Ave E (West)	15%	16%	17%	20%	17%	20%
3	Kennedy Road (North)	9%	6%	6%	10%	5%	11%
4	Kennedy Road (South)	18%	21%	18%	21%	19%	21%
5	Hwy 401 WB Off-Ramp	20%	35%	33%	23%	35%	23%
6	Hwy 401 EB Off-Ramp	13%	6%	9%	6%	8%	5%
7	Midland Avenue (North)	6%	3%	2%	3%	2%	3%
8	Midland Avenue (South)	3%	2%	3%	4%	3%	4%
9							
10							
11							
12							
13							
14							
15							
	TOTAL	100%	100%	100%	100%	100%	100%







APPENDIX E

Existing Traffic Conditions

Lanes, Volumes, Timings

1: Allanford Rd/Private Driveway & Sheppard Ave E

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	0	740	15	40	1100	0	35	0	65	0	0	0
Future Volume (vph)	0	740	15	40	1100	0	35	0	65	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	28.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.96				0.93				
Frt		0.997						0.912				
Flt Protected				0.950				0.983				
Satd. Flow (prot)	0	3314	0	1574	3368	0	0	1525	0	0	1842	0
Flt Permitted				0.320				0.884				
Satd. Flow (perm)	0	3314	0	511	3368	0	0	1356	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						75				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			43.2	
Travel Time (s)		23.5			14.8			22.9			3.2	
Confl. Peds. (#/hr)			49	49			27		59			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	7%	7%	7%	6%	2%	9%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	851	17	46	1264	0	40	0	75	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	868	0	46	1264	0	0	115	0	0	0	0
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type		NA		Perm	NA		Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	
Total Split (s)	73.0	73.0		73.0	73.0		37.0	37.0		37.0	37.0	
Total Split (%)	66.4%	66.4%		66.4%	66.4%		33.6%	33.6%		33.6%	33.6%	
Maximum Green (s)	67.0	67.0		67.0	67.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	

Lanes, Volumes, Timings

1: Allanford Rd/Private Driveway & Sheppard Ave E

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		90.1		90.1	90.1			10.9				
Actuated g/C Ratio		0.82		0.82	0.82			0.10				
v/c Ratio		0.32		0.11	0.46			0.57				
Control Delay		3.0		0.9	0.9			30.0				
Queue Delay		0.0		0.0	0.0			0.0				
Total Delay		3.0		0.9	0.9			30.0				
LOS		A		A	A			C				
Approach Delay		3.0			0.9			30.0				
Approach LOS		A			A			C				

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 108 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 3.2

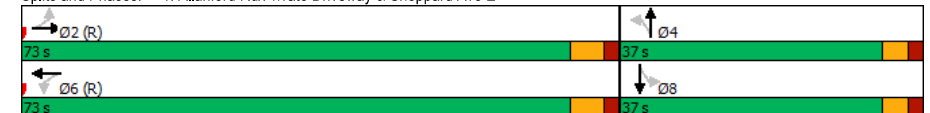
Intersection LOS: A

Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Allanford Rd/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	35	670	5	5	1065	110	10	0	5	65	0	55
Future Volume (vph)	35	670	5	5	1065	110	10	0	5	65	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0		2.5				2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.94	0.99			0.97			1.00	0.95
Frt		0.999			0.986			0.958				0.850
Flt Protected	0.950			0.950				0.967			0.950	
Satd. Flow (prot)	1636	3362	0	1685	3303	0	0	1732	0	0	1750	1478
Flt Permitted	0.182			0.376				0.782			0.747	
Satd. Flow (perm)	313	3362	0	629	3303	0	0	1370	0	0	1370	1410
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			17			69				69
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	26		53	53		26	24		3	3		24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	6%	0%	0%	6%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	38	720	5	5	1145	118	11	0	5	70	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	725	0	5	1263	0	0	16	0	0	70	59
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template	Thru			Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	11.0	80.0		69.0	69.0		30.0	30.0		30.0	30.0	30.0
Total Split (%)	10.0%	72.7%		62.7%	62.7%		27.3%	27.3%		27.3%	27.3%	27.3%
Maximum Green (s)	7.0	74.0		63.0	63.0		24.0	24.0		24.0	24.0	24.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0

Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	92.4	91.4		85.4	85.4		12.2			12.2	12.2	
Actuated g/C Ratio	0.84	0.83		0.78	0.78		0.11			0.11	0.11	
v/c Ratio	0.11	0.26		0.01	0.49		0.08			0.46	0.27	
Control Delay	2.9	2.9		2.6	2.2		0.7			54.7	11.3	
Queue Delay	0.0	0.0		0.0	0.1		0.0			0.0	0.0	
Total Delay	2.9	2.9		2.6	2.3		0.7			54.7	11.3	
LOS	A	A		A	A		A			D	B	
Approach Delay		2.9			2.3			0.7			34.9	
Approach LOS		A			A			A			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 4.4

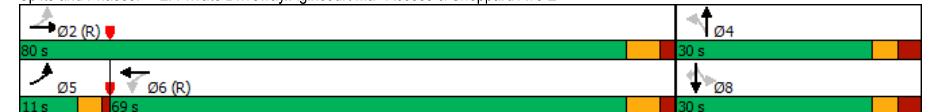
Intersection LOS: A

Intersection Capacity Utilization 65.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Existing> AM
04/16/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	50	487	217	251	905	111	185	1005	154	132	1342	49
Future Volume (vph)	50	487	217	251	905	111	185	1005	154	132	1342	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.98		0.92	0.97	0.99		0.99		0.89	0.98	1.00	
Frt			0.850		0.984				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3275	1345	1560	3205	0	*1622	4794	1281	1604	4713	0
Flt Permitted	0.211			0.354			0.112			0.148		
Satd. Flow (perm)	361	3275	1235	564	3205	0	181	4794	1138	245	4713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			199		16				164		5	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	97		80	80		97	93		102	102		93
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	1.00	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	9%	4%	8%	8%	12%	9%	7%	12%	5%	6%	11%
Bus Blockages (#/hr)	0	0	18	0	0	18	0	0	12	0	12	0
Adj. Flow (vph)	53	518	231	267	963	118	185	1069	164	140	1428	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	518	231	267	1081	0	185	1069	164	140	1480	0
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	2	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	37.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	44.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	
Total Split (s)	45.0	45.0	45.0	13.0	58.0		11.0	41.0	41.0	11.0	41.0	
Total Split (%)	40.9%	40.9%	40.9%	11.8%	52.7%		10.0%	37.3%	37.3%	10.0%	37.3%	
Maximum Green (s)	38.0	38.0	38.0	9.0	51.0		7.0	34.0	34.0	7.0	34.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Existing> AM
04/16/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.5	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0		2.5	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	Max	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	30.0	30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0	0		0			0	0		0	
Act Effct Green (s)	39.0	39.0	39.0	55.0	52.0		47.1	35.1	35.1	45.9	35.0	
Actuated g/C Ratio	0.35	0.35	0.35	0.50	0.47		0.43	0.32	0.32	0.42	0.32	
v/c Ratio	0.42	0.45	0.41	0.72	0.71		0.98	0.70	0.35	0.70	0.98	
Control Delay	34.2	25.1	5.6	20.8	14.8		89.9	15.4	4.8	32.8	49.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	34.2	25.1	5.6	20.8	14.8		89.9	15.4	4.8	32.8	49.5	
LOS	C	C	A	C	B		F	B	A	C	D	
Approach Delay		20.1			16.0			23.9			48.1	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 44 (40%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 28.8

Intersection LOS: C

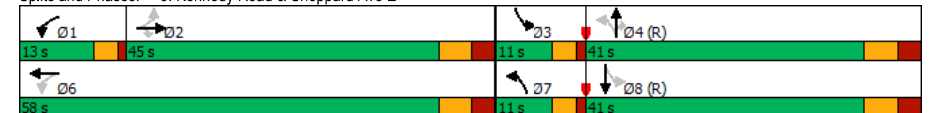
Intersection Capacity Utilization 117.7%

ICU Level of Service H

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	135	0	195	50	0	65	125	980	30	5	1400	150
Future Volume (vph)	135	0	195	50	0	65	125	980	30	5	1400	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.96	1.00	1.00		0.99	1.00	
Frt			0.850			0.850		0.995			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	0	1478	1620	0	1478	1589	4776	0	1685	4839	0
Flt Permitted	0.950			0.950			0.117			0.266		
Satd. Flow (perm)	1559	0	1349	1495	0	1419	195	4776	0	468	4839	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			188			69		8			23	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	26		70	70		26	31		17	17		31
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	2%	2%	4%	2%	2%	6%	5%	4%	0%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	0	0
Adj. Flow (vph)	138	0	199	51	0	66	128	1000	31	5	1429	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	0	199	51	0	66	128	1031	0	5	1582	0
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	16.3		16.3	16.3		16.3	85.7	83.7		72.2	72.2	
Actuated g/C Ratio	0.15		0.15	0.15		0.15	0.78	0.76		0.66	0.66	
v/c Ratio	0.60		0.55	0.23		0.25	0.49	0.28		0.02	0.50	
Control Delay	54.0		13.0	42.0		10.9	20.5	21.1		9.4	11.0	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.0		13.0	42.0		10.9	20.5	21.1		9.4	11.0	
LOS	D		B	D		B	C	C		A	B	
Approach Delay		29.8			24.5			21.0			11.0	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 11 (10%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 17.1

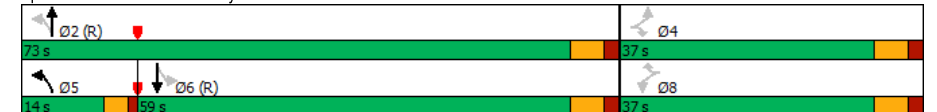
Intersection LOS: B

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	85	725	15	20	1290	120	35	0	55	20	0	30
Future Volume (vph)	85	725	15	20	1290	120	35	0	55	20	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.91	0.99		0.97	0.99		0.97
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4701	0	1532	3433	1385	1546	0	1449	1685	0	1507
Flt Permitted	0.170			0.351			0.950			0.950		
Satd. Flow (perm)	301	4701	0	555	3433	1264	1525	0	1411	1660	0	1469
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				91			79			79
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		40.6			63.5			81.9			115.9	
Travel Time (s)		2.4			3.8			7.4			10.4	
Confl. Peds. (#/hr)	30		25	25		30	14		15	15		14
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	6%	7%	10%	4%	1%	9%	2%	4%	0%	2%	0%
Bus Blockages (#/hr)	0	18	0	0	0	18	0	0	0	0	0	0
Adj. Flow (vph)	88	747	15	21	1330	124	36	0	57	21	0	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	762	0	21	1330	124	36	0	57	21	0	31
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm		Perm	Perm		Perm
Protected Phases	5	2			6							
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	5	2		6	6	6	4		4	8		8
Switch Phase												
Minimum Initial (s)	6.0	24.0		24.0	24.0	24.0	7.0		7.0	7.0		7.0
Minimum Split (s)	10.0	31.0		31.0	31.0	31.0	13.0		13.0	13.0		13.0
Total Split (s)	11.0	69.0		58.0	58.0	58.0	41.0		41.0	41.0		41.0
Total Split (%)	10.0%	62.7%		52.7%	52.7%	52.7%	37.3%		37.3%	37.3%		37.3%
Maximum Green (s)	7.0	62.0		51.0	51.0	51.0	35.0		35.0	35.0		35.0
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	3.0		3.0	3.0		3.0

Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	3.0	6.0		6.0	6.0	6.0	5.0		5.0	5.0		5.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	2.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	None		None	None		None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)		17.0		17.0	17.0	17.0	27.0		27.0	27.0		27.0
Pedestrian Calls (#/hr)		0		0	0	0	0		0	0		0
Act Effct Green (s)	95.1	93.3		85.1	85.1	85.1	9.5		9.5	9.5		9.5
Actuated g/C Ratio	0.86	0.85		0.77	0.77	0.77	0.09		0.09	0.09		0.09
v/c Ratio	0.25	0.19		0.05	0.50	0.12	0.27		0.29	0.15		0.16
Control Delay	6.4	6.2		3.1	3.6	0.8	51.7		9.1	47.9		1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	6.4	6.2		3.1	3.6	0.8	51.7		9.1	47.9		1.7
LOS	A	A		A	A	A	D		A	D		A
Approach Delay		6.2			3.3		25.6				20.3	
Approach LOS		A			A		C				C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 67 (61%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 5.5

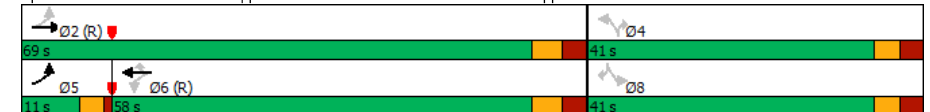
Intersection LOS: A

Intersection Capacity Utilization 69.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↗	↖	↗	↖	↗	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖	↖		↖	↖
Traffic Volume (vph)	0	788	18	15	1292	1	6	0	2	0	0	0
Future Volume (vph)	0	788	18	15	1292	1	6	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.97		0.96		0.97				
Frt		0.997				0.850		0.966				
Flt Protected				0.950				0.964				
Satd. Flow (prot)	1612	3221	0	1327	3275	1597	0	1381	0	0	1842	0
Flt Permitted				0.336								
Satd. Flow (perm)	1612	3221	0	455	3275	1535	0	1401	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				40		30				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	7		45	45		7	25		28	28		25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	17%	27%	9%	0%	17%	0%	50%	0%	2%	9%
Adj. Flow (vph)	0	821	19	16	1346	1	6	0	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	840	0	16	1346	1	0	8	0	0	0	0
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	

Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↗	↖	↗	↖	↗	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		106.2		106.2	106.2	106.2		8.0				
Actuated g/C Ratio		0.97		0.97	0.97	0.97		0.07				
v/c Ratio		0.27		0.04	0.43	0.00		0.06				
Control Delay		1.2		0.6	0.5	0.0		0.9				
Queue Delay		0.0		0.0	0.0	0.0		0.0				
Total Delay		1.2		0.6	0.5	0.0		0.9				
LOS		A		A	A	A		A				
Approach Delay		1.2			0.5			0.9				
Approach LOS		A			A			A				

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 50 (45%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 0.8

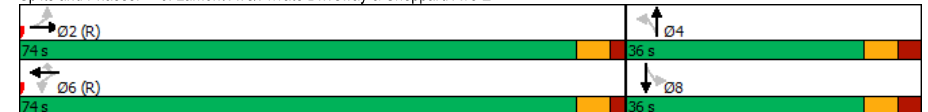
Intersection LOS: A

Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings
7: Midland Ave & Sheppard Ave E

<Existing> AM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	60	505	170	225	1055	80	220	670	85	90	805	155
Future Volume (vph)	60	505	170	225	1055	80	220	670	85	90	805	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.5	3.0	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.98	0.98		0.98	0.99		0.99		0.92	0.98		0.92
Frt		0.962			0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	4449	0	1620	3302	0	*1622	3400	1365	1589	3433	1433
Flt Permitted	0.134			0.283			0.152			0.234		
Satd. Flow (perm)	222	4449	0	474	3302	0	248	3400	1259	384	3433	1323
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			9				119			119
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6				580.5			408.6
Travel Time (s)		14.8			12.5				41.8			29.4
Confl. Peds. (#/hr)	135		59	59		135	68		69	69		68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	8%	4%	4%	3%	7%	5%	6%	6%	4%	1%
Bus Blockages (#/hr)	0	22	0	0	9	0	0	0	10	0	0	10
Adj. Flow (vph)	65	549	185	245	1147	87	220	728	92	98	875	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	734	0	245	1234	0	220	728	92	98	875	168
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		2		1	6		7	4		3	8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	2	2		1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	33.0	33.0		6.0	33.0		6.0	34.0	34.0	6.0	34.0	34.0
Minimum Split (s)	40.0	40.0		10.0	40.0		10.0	41.0	41.0	10.0	41.0	41.0
Total Split (s)	46.0	46.0		11.0	57.0		11.0	42.0	42.0	11.0	42.0	42.0
Total Split (%)	41.8%	41.8%		10.0%	51.8%		10.0%	38.2%	38.2%	10.0%	38.2%	38.2%
Maximum Green (s)	39.0	39.0		7.0	50.0		7.0	35.0	35.0	7.0	35.0	35.0
Yellow Time (s)	4.0	4.0		3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0

Lanes, Volumes, Timings
7: Midland Ave & Sheppard Ave E

<Existing> AM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0		1.0	3.0		1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-2.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0		2.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)	26.0	26.0			26.0			27.0	27.0		27.0	27.0
Pedestrian Calls (#/hr)	0	0			0			0	0		0	0
Act Effct Green (s)	40.0	40.0		54.0	51.0		49.4	36.4	36.4	46.6	36.0	36.0
Actuated g/C Ratio	0.36	0.36		0.49	0.46		0.45	0.33	0.33	0.42	0.33	0.33
v/c Ratio	0.81	0.44		0.78	0.80		0.99	0.65	0.19	0.40	0.78	0.33
Control Delay	81.2	12.8		37.1	30.1		81.1	34.7	3.4	22.6	39.2	11.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.2	12.8		37.1	30.1		81.1	34.7	3.4	22.6	39.2	11.2
LOS	F	B		D	C		F	C	A	C	D	B
Approach Delay		18.3			31.2			41.7			33.6	
Approach LOS		B			C			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 46 (42%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 32.0

Intersection LOS: C

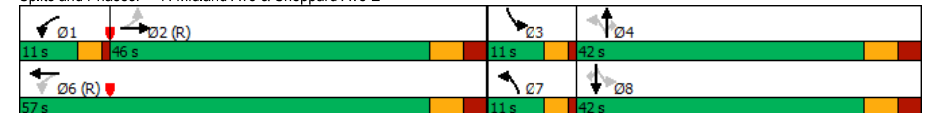
Intersection Capacity Utilization 118.5%

ICU Level of Service H

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Existing> AM
04/16/2020

	←	↖	↑	↗	→	↘
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕	↕	↔	↔
Traffic Volume (vph)	30	30	1430	70	35	1925
Future Volume (vph)	30	30	1430	70	35	1925
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		1.00		1.00	
Frt	0.932		0.993			
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1694	0	4852	0	1685	5029
Flt Permitted	0.976				0.129	
Satd. Flow (perm)	1690	0	4852	0	228	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	31		13			
Link Speed (k/h)	40		50			50
Link Distance (m)	204.8		334.4			134.4
Travel Time (s)	18.4		24.1			9.7
Confl. Peds. (#/hr)	4	5		29	29	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0
Adj. Flow (vph)	33	33	1589	78	39	2139
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	1667	0	39	2139
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-1.5		0.0		0.0	0.0
Detector 1 Position(m)	-1.5		0.0		0.0	0.0
Detector 1 Size(m)	9.0		1.8		6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		22.0	22.0
Minimum Split (s)	13.0		28.0		28.0	28.0
Total Split (s)	36.0		74.0		74.0	74.0
Total Split (%)	32.7%		67.3%		67.3%	67.3%
Maximum Green (s)	30.0		68.0		68.0	68.0
Yellow Time (s)	3.0		4.0		4.0	4.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Existing> AM
04/16/2020

	←	↖	↑	↗	→	↘
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	3.0		2.0		2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	22.0		15.0		15.0	15.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	9.6		94.0		94.0	94.0
Actuated g/C Ratio	0.09		0.85		0.85	0.85
v/c Ratio	0.38		0.40		0.20	0.50
Control Delay	34.2		2.0		5.1	4.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	34.2		2.0		5.1	4.0
LOS	C		A		A	A
Approach Delay	34.2		2.0			4.0
Approach LOS	C		A			A

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 26 (24%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 3.7

Intersection LOS: A

Intersection Capacity Utilization 54.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	0	0	11	343	0	170	7	1356	180	91	1854	0
Future Volume (vph)	0	0	11	343	0	170	7	1356	180	91	1854	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		0.0	25.0		30.0	20.0		20.0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			30.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt		0.865			0.850				0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1477	0	1750	1581	0	1685	4932	1478	1652	6200	0
Flt Permitted				0.750			0.077			0.100		
Satd. Flow (perm)	0	1477	0	1382	1581	0	137	4932	1478	174	6200	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79			215				96			
Link Speed (k/h)		48			50			50			50	
Link Distance (m)		70.0			243.9			64.3			46.7	
Travel Time (s)		5.3			17.6			4.6			3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	10%	2%	2%	1%	0%	4%	2%	2%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	12	0
Adj. Flow (vph)	0	0	12	373	0	185	8	1474	196	99	2015	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	373	185	0	8	1474	196	99	2015	0
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases												
Detector Phase	4	4		8	8		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	47.0	47.0		47.0	47.0		49.0	49.0	49.0	14.0	63.0	
Total Split (%)	42.7%	42.7%		42.7%	42.7%		44.5%	44.5%	44.5%	12.7%	57.3%	
Maximum Green (s)	40.0	40.0		40.0	40.0		42.0	42.0	42.0	10.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		6.0			6.0	6.0		6.0	6.0		3.0	6.0
Lead/Lag							Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	C-Max	None	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	32.0	32.0		32.0	32.0		26.0	26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effect Green (s)		34.8		34.8	34.8		51.9	51.9	51.9	66.2	63.2	
Actuated g/C Ratio		0.32		0.32	0.32		0.47	0.47	0.47	0.60	0.57	
v/c Ratio		0.02		0.85	0.29		0.12	0.63	0.26	0.46	0.57	
Control Delay		0.1		53.3	3.1		19.6	16.9	6.6	24.6	13.3	
Queue Delay		0.0		0.0	0.0		0.0	0.9	0.4	0.0	0.3	
Total Delay		0.1		53.3	3.1		19.6	17.8	7.0	24.6	13.6	
LOS		A		D	A		B	B	A	C	B	
Approach Delay		0.1			36.7			16.5			14.1	
Approach LOS		A			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 91 (83%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 17.9

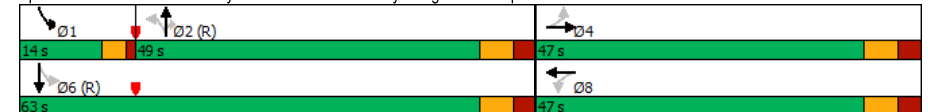
Intersection LOS: B

Intersection Capacity Utilization 95.7%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Existing> AM

04/16/2020

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	855	490	1035	0	0	1195
Future Volume (vph)	855	490	1035	0	0	1195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.988	0.850				
Flt Protected	0.956					
Satd. Flow (prot)	3367	1515	4980	0	0	5029
Flt Permitted	0.956					
Satd. Flow (perm)	3367	1515	4980	0	0	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	10	60				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	3%	2%	2%	2%
Adj. Flow (vph)	950	544	1150	0	0	1328
Shared Lane Traffic (%)		15%				
Lane Group Flow (vph)	1032	462	1150	0	0	1328
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0
Total Split (s)	45.0	45.0	65.0			65.0
Total Split (%)	40.9%	40.9%	59.1%			59.1%
Maximum Green (s)	39.0	39.0	58.0			58.0
Yellow Time (s)	3.0	3.0	4.0			4.0

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Existing> AM

04/16/2020

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	38.6	38.6	60.4			60.4
Actuated g/C Ratio	0.35	0.35	0.55			0.55
v/c Ratio	0.87	0.81	0.42			0.48
Control Delay	42.0	40.4	12.4			17.3
Queue Delay	0.5	1.3	0.0			2.1
Total Delay	42.6	41.7	12.4			19.3
LOS	D	D	B			B
Approach Delay	42.3		12.4			19.3
Approach LOS	D		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 109 (99%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 26.0

Intersection LOS: C

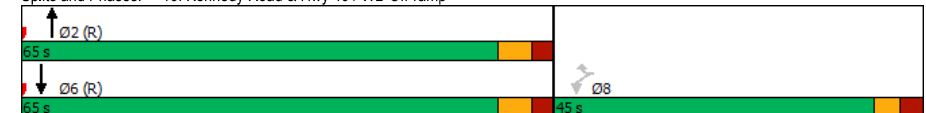
Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

<Existing> AM

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↔		↔	↔	
Traffic Volume (vph)	570	250	600	0	0	345	0	1595	15	0	1685	0
Future Volume (vph)	570	250	600	0	0	345	0	1595	15	0	1685	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00	
Ped Bike Factor							1.00					
Frt		0.944	0.850			0.865		0.999				
Flt Protected	0.950	0.986										
Satd. Flow (prot)	1460	2806	1258	0	0	1692	0	6037	0	0	4980	0
Flt Permitted	0.950	0.986										
Satd. Flow (perm)	1460	2806	1258	0	0	1692	0	6037	0	0	4980	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		12	40					2				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							9		13	13		9
Confl. Bikes (#/hr)												7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	7%	9%	2%	2%	9%	2%	7%	0%	2%	3%	2%
Adj. Flow (vph)	594	260	625	0	0	359	0	1661	16	0	1755	0
Shared Lane Traffic (%)	35%		45%									
Lane Group Flow (vph)	386	749	344	0	0	359	0	1677	0	0	1755	0
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	
Total Split (s)	45.0	45.0	45.0			45.0		65.0			65.0	
Total Split (%)	40.9%	40.9%	40.9%			40.9%		59.1%			59.1%	
Maximum Green (s)	38.0	38.0	38.0			38.0		58.0			58.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	

Lanes, Volumes, Timings

<Existing> AM

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	35.8	35.8	35.8			35.8		62.2			62.2	
Actuated g/C Ratio	0.33	0.33	0.33			0.33		0.57			0.57	
v/c Ratio	0.81	0.81	0.79			0.65		0.49			0.62	
Control Delay	48.2	41.1	43.2			37.5		15.4			14.0	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	48.2	41.1	43.2			37.5		15.4			14.0	
LOS	D	D	D			D		B			B	
Approach Delay		43.4			37.5			15.4			14.0	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 16 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 24.3

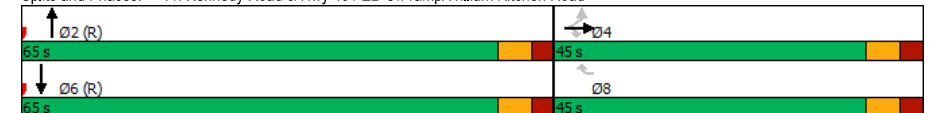
Intersection LOS: C

Intersection Capacity Utilization 79.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings
12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Existing> AM
04/16/2020

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	10	4	12	22	46	17
Future Volume (vph)	10	4	12	22	46	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.962				0.963	
Flt Protected				0.983	0.965	
Satd. Flow (prot)	1690	0	0	1602	1590	0
Flt Permitted				0.983	0.965	
Satd. Flow (perm)	1690	0	0	1602	1590	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)					1	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	25%	34%	5%	9%	12%
Adj. Flow (vph)	13	5	16	29	61	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	45	84	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 18.7%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Existing> AM
04/16/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	10	4	12	22	46	17
Future Volume (Veh/h)	10	4	12	22	46	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	13	5	16	29	61	23
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			18		78	16
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			18		78	16
tC, single (s)			4.4		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.5		3.6	3.4
p0 queue free %			99		93	98
cM capacity (veh/h)			1414		897	1036
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	18	45	84			
Volume Left	0	16	61			
Volume Right	5	0	23			
cSH	1700	1414	931			
Volume to Capacity	0.01	0.01	0.09			
Queue Length 95th (m)	0.0	0.3	2.3			
Control Delay (s)	0.0	2.7	9.2			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	2.7	9.2			
Approach LOS			A			
Intersection Summary						
Average Delay		6.1				
Intersection Capacity Utilization		18.7%		ICU Level of Service	A	
Analysis Period (min)		15				

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Existing> AM
04/16/2020

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (vph)	781	4	24	1356	2	24
Future Volume (vph)	781	4	24	1356	2	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.875	
Flt Protected				0.999	0.996	
Satd. Flow (prot)	3214	0	0	3272	1462	0
Flt Permitted				0.999	0.996	
Satd. Flow (perm)	3214	0	0	3272	1462	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		22	22		1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	11%	0%	9%	9%	0%	13%
Adj. Flow (vph)	822	4	25	1427	2	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	826	0	0	1452	27	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 64.5%	ICU Level of Service C					
Analysis Period (min) 15						

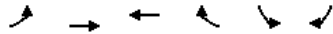
HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<Existing> AM
04/16/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	781	4	24	1356	2	24
Future Volume (Veh/h)	781	4	24	1356	2	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	822	4	25	1427	2	25
Pedestrians	1				22	
Lane Width (m)	3.5				3.5	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			848		1610	435
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			571		874	105
tC, single (s)			4.3		6.8	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.4
p0 queue free %			97		99	97
cM capacity (veh/h)			826		249	777
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	548	278	501	951	27	
Volume Left	0	0	25	0	2	
Volume Right	0	4	0	0	25	
cSH	1700	1700	826	1700	672	
Volume to Capacity	0.32	0.16	0.03	0.56	0.04	
Queue Length 95th (m)	0.0	0.0	0.7	0.0	1.0	
Control Delay (s)	0.0	0.0	0.9	0.0	10.6	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.3		10.6	
Approach LOS					B	
Intersection Summary						
Average Delay	0.3					
Intersection Capacity Utilization 64.5%	ICU Level of Service C					
Analysis Period (min) 15						

Lanes, Volumes, Timings
14: Sheppard Ave E & Reidmount Ave

<Existing> AM
04/16/2020



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	15	785	1375	60	30	25
Future Volume (vph)	15	785	1375	60	30	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.994		0.939	
Flt Protected		0.999			0.973	
Satd. Flow (prot)	0	6457	3548	0	1717	0
Flt Permitted		0.999			0.973	
Satd. Flow (perm)	0	6457	3548	0	1717	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	826	1447	63	32	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	842	1510	0	58	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

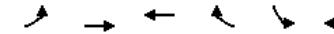
Control Type: Unsignalized

Intersection Capacity Utilization 49.9% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
14: Sheppard Ave E & Reidmount Ave

<Existing> AM
04/16/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	15	785	1375	60	30	25
Future Volume (Veh/h)	15	785	1375	60	30	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	826	1447	63	32	26

Pedestrians

Lane Width (m)

Walking Speed (m/s)

Percent Blockage

Right turn flare (veh)

Median type None None

Median storage (veh)

Upstream signal (m) 244 41

pX, platoon unblocked 0.84 0.84 0.84

vC, conflicting volume 1510 1717 755

vC1, stage 1 conf vol

vC2, stage 2 conf vol

vCu, unblocked vol 1217 1465 314

tC, single (s) 4.1 6.8 6.9

tC, 2 stage (s)

tF (s) 2.2 3.5 3.3

p0 queue free % 97 67 95

cM capacity (veh/h) 485 98 575

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	134	236	236	236	965	545	58
Volume Left	16	0	0	0	0	0	32
Volume Right	0	0	0	0	0	63	26
cSH	485	1700	1700	1700	1700	1700	156
Volume to Capacity	0.03	0.14	0.14	0.14	0.57	0.32	0.37
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	0.0	12.0
Control Delay (s)	1.9	0.0	0.0	0.0	0.0	0.0	41.1
Lane LOS	A						E
Approach Delay (s)	0.3				0.0		41.1
Approach LOS							E

Intersection Summary

Average Delay 1.1

Intersection Capacity Utilization 49.9% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
15: Kennedy Road & Jade Street/Collingwood Street

<Existing> AM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↔			↔		↔	↔↔↔		↔	↔↔↔	
Traffic Volume (vph)	4	0	35	4	1	4	75	1425	9	4	1692	27
Future Volume (vph)	4	0	35	4	1	4	75	1425	9	4	1692	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.878			0.940			0.999			0.998	
Flt Protected		0.995			0.978		0.950			0.950		
Satd. Flow (prot)	0	1603	0	0	1727	0	1685	4896	0	1685	4893	0
Flt Permitted		0.995			0.978		0.950			0.950		
Satd. Flow (perm)	0	1603	0	0	1727	0	1685	4896	0	1685	4893	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	2%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	12	0
Adj. Flow (vph)	4	0	38	4	1	4	82	1549	10	4	1839	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	42	0	0	9	0	82	1559	0	4	1868	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.8% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
15: Kennedy Road & Jade Street/Collingwood Street

<Existing> AM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↔			↔		↔	↔↔↔		↔	↔↔↔	
Traffic Volume (veh/h)	4	0	35	4	1	4	75	1425	9	4	1692	27
Future Volume (Veh/h)	4	0	35	4	1	4	75	1425	9	4	1692	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	38	4	1	4	82	1549	10	4	1839	29
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							134			190		
pX, platoon unblocked	0.75	0.75	0.71	0.75	0.75	0.93	0.71			0.93		
vC, conflicting volume	2546	3584	628	2377	3594	521	1868			1559		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1247	2633	0	1021	2646	215	810			1332		
tC, single (s)	8.0	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	95	97	93	99	86			99		
cM capacity (veh/h)	67	15	778	122	15	740	588			487		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	42	9	82	620	620	320	4	736	736	397
Volume Left	4	4	82	0	0	0	4	0	0	0
Volume Right	38	4	0	0	0	10	0	0	0	29
cSH	388	86	588	1700	1700	1700	487	1700	1700	1700
Volume to Capacity	0.11	0.10	0.14	0.36	0.36	0.19	0.01	0.43	0.43	0.23
Queue Length 95th (m)	2.7	2.6	3.7	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Control Delay (s)	15.4	51.7	12.1	0.0	0.0	0.0	12.5	0.0	0.0	0.0
Lane LOS	C	F	B				B			
Approach Delay (s)	15.4	51.7	0.6				0.0			
Approach LOS	C	F								

Intersection Summary










Average Delay 0.6

Intersection Capacity Utilization 50.8% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
16: Collingwood Street & Gordon Ave

<Existing> AM
04/16/2020

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	0	2	2	2	35
Future Volume (vph)	14	0	2	2	2	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.932		0.871	
Flt Protected		0.950			0.998	
Satd. Flow (prot)	0	1785	1751	0	1437	0
Flt Permitted		0.950			0.998	
Satd. Flow (perm)	0	1785	1751	0	1437	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	133.7		190.4	
Travel Time (s)		10.5	12.0		17.1	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	17	0	2	2	2	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	4	0	45	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
16: Collingwood Street & Gordon Ave

<Existing> AM
04/16/2020

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	14	0	2	2	2	35
Future Volume (Veh/h)	14	0	2	2	2	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	17	0	2	2	2	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	4				37	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4				37	3
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				100	96
cM capacity (veh/h)	1631				857	1052
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	17	4	45			
Volume Left	17	0	2			
Volume Right	0	2	43			
cSH	1631	1700	1042			
Volume to Capacity	0.01	0.00	0.04			
Queue Length 95th (m)	0.2	0.0	1.0			
Control Delay (s)	7.2	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	7.2	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay		7.7				
Intersection Capacity Utilization		17.4%		ICU Level of Service	A	
Analysis Period (min)		15				

Lanes, Volumes, Timings

17: Village Green Sq

<Existing> AM

04/16/2020

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↱	
Traffic Volume (vph)	0	2	52	1	1	6
Future Volume (vph)	0	2	52	1	1	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865				0.878	
Flt Protected				0.953	0.995	
Satd. Flow (prot)	1083	0	0	1723	1641	0
Flt Permitted				0.953	0.995	
Satd. Flow (perm)	1083	0	0	1723	1641	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	67.1			152.9	154.8	
Travel Time (s)	6.0			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	0	3	78	1	1	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	0	0	79	10	0
Sign Control	Free			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	19.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

17: Village Green Sq

<Existing> AM

04/16/2020

Intersection Sign configuration not allowed in HCM analysis.

Lanes, Volumes, Timings

18: Private Access & Village Green Sq

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	8	138	14	0	448	2	46	0	1	0	0	59
Future Volume (vph)	8	138	14	0	448	2	46	0	1	0	0	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.988						0.998			0.865	
Flt Protected		0.997						0.953				
Satd. Flow (prot)	0	1804	0	0	1842	0	0	1787	0	0	1563	0
Flt Permitted		0.997						0.953				
Satd. Flow (perm)	0	1804	0	0	1842	0	0	1787	0	0	1563	0
Link Speed (k/h)		50			50			48			40	
Link Distance (m)		243.9			158.0			39.7			154.8	
Travel Time (s)		17.6			11.4			3.0			13.9	
Confl. Peds. (#/hr)	104		13	13		104	7		6	6		7
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	3%	0%	2%	2%	0%	0%	2%	0%	2%	2%	4%
Adj. Flow (vph)	10	170	17	0	553	2	57	0	1	0	0	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	197	0	0	555	0	0	58	0	0	73	0
Sign Control		Free			Free			Stop			Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.4%

ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

18: Private Access & Village Green Sq

<Existing> AM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	8	138	14	0	448	2	46	0	1	0	0	59
Future Volume (Veh/h)	8	138	14	0	448	2	46	0	1	0	0	59
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	10	170	17	0	553	2	57	0	1	0	0	73
Pedestrians		7			6			13			104	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			1			9	
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)		244										
pX, platoon unblocked												
vC, conflicting volume	659			200			846	870	198	864	878	665
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	659			200			846	870	198	864	878	665
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			73	100	100	100	100	82
cM capacity (veh/h)	852			1356			210	257	835	226	254	412

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	197	555	58	73
Volume Left	10	0	57	0
Volume Right	17	2	1	73
cSH	852	1356	213	412
Volume to Capacity	0.01	0.00	0.27	0.18
Queue Length 95th (m)	0.3	0.0	8.1	4.8
Control Delay (s)	0.6	0.0	28.1	15.6
Lane LOS	A		D	C
Approach Delay (s)	0.6	0.0	28.1	15.6
Approach LOS			D	C

Intersection Summary

Average Delay 3.3

Intersection Capacity Utilization 40.4%

ICU Level of Service

A

Analysis Period (min) 15

Lanes, Volumes, Timings

1: Allanford Rd/Private Driveway & Sheppard Ave E

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	0	1195	30	35	835	0	15	0	60	0	0	0
Future Volume (vph)	0	1195	30	35	835	0	15	0	60	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	28.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.87				
Frt		0.996						0.891				
Flt Protected				0.950				0.990				
Satd. Flow (prot)	0	3413	0	1685	3433	0	0	1450	0	0	1842	0
Flt Permitted				0.209				0.932				
Satd. Flow (perm)	0	3413	0	371	3433	0	0	1358	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5						62				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			43.2	
Travel Time (s)		23.5			14.8			22.9			3.2	
Confl. Peds. (#/hr)			26	26			23		119			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	4%	0%	0%	4%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	0	1232	31	36	861	0	15	0	62	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1263	0	36	861	0	0	77	0	0	0	0
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type		NA		Perm	NA		Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	
Total Split (s)	76.0	76.0		76.0	76.0		34.0	34.0		34.0	34.0	
Total Split (%)	69.1%	69.1%		69.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	70.0	70.0		70.0	70.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	

Lanes, Volumes, Timings

1: Allanford Rd/Private Driveway & Sheppard Ave E

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		95.1		95.1	95.1			9.3				
Actuated g/C Ratio		0.86		0.86	0.86			0.08				
v/c Ratio		0.43		0.11	0.29			0.45				
Control Delay		2.8		2.5	2.5			24.5				
Queue Delay		0.0		0.0	0.0			0.0				
Total Delay		2.8		2.5	2.5			24.5				
LOS		A		A	A			C				
Approach Delay		2.8			2.5			24.5				
Approach LOS		A			A			C				

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 70 (64%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 3.4

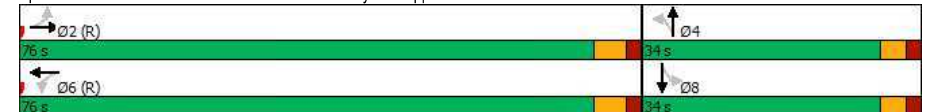
Intersection LOS: A

Intersection Capacity Utilization 63.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Allanford Rd/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖		↖	↖	↖
Traffic Volume (vph)	60	1045	10	10	695	180	0	0	10	150	5	85
Future Volume (vph)	60	1045	10	10	695	180	0	0	10	150	5	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.98	0.98			0.97			0.98	0.96
Frt		0.999			0.969			0.865				0.850
Flt Protected	0.950			0.950							0.954	
Satd. Flow (prot)	1685	3426	0	1685	3270	0	0	1578	0	0	1775	1507
Flt Permitted	0.266			0.263							0.726	
Satd. Flow (perm)	468	3426	0	455	3270	0	0	1578	0	0	1329	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			43			86				88
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		42	42		19	20		12	12		20
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	4%	0%	0%	5%	1%	0%	2%	0%	1%	0%	0%
Adj. Flow (vph)	62	1077	10	10	716	186	0	0	10	155	5	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	1087	0	10	902	0	0	10	0	0	160	88
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template	Thru			Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		NA		Perm	NA	Perm	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	11.0	72.0		61.0	61.0		38.0	38.0		38.0	38.0	38.0
Total Split (%)	10.0%	65.5%		55.5%	55.5%		34.5%	34.5%		34.5%	34.5%	34.5%
Maximum Green (s)	7.0	66.0		55.0	55.0		32.0	32.0		32.0	32.0	32.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0

Agincourt North-South GS EA
WSPSynchro 10 Report
Page 3

Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	82.4	80.4		72.3	72.3		19.6			19.6	19.6	
Actuated g/C Ratio	0.75	0.73		0.66	0.66		0.18			0.18	0.18	
v/c Ratio	0.14	0.43		0.03	0.42		0.03			0.68	0.27	
Control Delay	6.2	8.6		8.7	7.4		0.1			55.6	9.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Delay	6.2	8.6		8.7	7.4		0.1			55.6	9.4	
LOS	A	A		A	A		A			E	A	
Approach Delay		8.5			7.5		0.1			39.2		
Approach LOS		A			A		A			D		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 109 (99%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 11.3

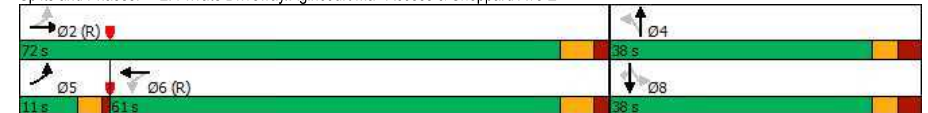
Intersection LOS: B

Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

Agincourt North-South GS EA
WSPSynchro 10 Report
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Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Existing> PM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↲	↰	↱	↲	↰	↱	↲	↰	↱	↲
Traffic Volume (vph)	104	737	366	207	651	124	190	1091	210	153	1327	57
Future Volume (vph)	104	737	366	207	651	124	190	1091	210	153	1327	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.96		0.90	0.98	0.97		0.99		0.88	0.98	0.99	
Frt			0.850		0.976				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3305	1357	1589	3185	0	1636	4885	1403	1560	4766	0
Flt Permitted	0.223			0.223			0.114			0.129		
Satd. Flow (perm)	371	3305	1222	364	3185	0	194	4885	1240	208	4766	0
Right Turn on Red			Yes		Yes			Yes			Yes	
Satd. Flow (RTOR)			209		22			196			6	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	184		100	100		184	131		106	106		131
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	1.00	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	8%	4%	6%	7%	3%	3%	5%	4%	8%	5%	0%
Bus Blockages (#/hr)	0	0	16	0	0	16	0	0	8	0	11	0
Adj. Flow (vph)	107	760	377	213	671	128	190	1125	216	158	1368	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	760	377	213	799	0	190	1125	216	158	1427	0
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	
Total Split (s)	11.0	45.0	45.0	12.0	46.0		12.0	41.0	41.0	12.0	41.0	
Total Split (%)	10.0%	40.9%	40.9%	10.9%	41.8%		10.9%	37.3%	37.3%	10.9%	37.3%	
Maximum Green (s)	7.0	38.0	38.0	8.0	39.0		8.0	34.0	34.0	8.0	34.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Existing> PM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.8	39.0	39.0	52.2	40.2		47.0	35.0	35.0	47.0	35.0	
Actuated g/C Ratio	0.45	0.35	0.35	0.47	0.37		0.43	0.32	0.32	0.43	0.32	
v/c Ratio	0.41	0.65	0.66	0.78	0.68		0.95	0.72	0.41	0.79	0.94	
Control Delay	14.3	27.9	17.0	35.1	25.5		71.5	33.8	14.9	63.8	43.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	14.3	27.9	17.0	35.1	25.5		71.5	33.8	14.9	63.8	43.6	
LOS	B	C	B	D	C		E	C	B	E	D	
Approach Delay		23.5			27.5			35.8			45.6	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 73 (66%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 34.3

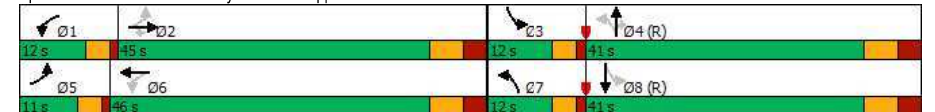
Intersection LOS: C

Intersection Capacity Utilization 97.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	280	0	195	15	0	55	195	1175	30	20	1290	200
Future Volume (vph)	280	0	195	15	0	55	195	1175	30	20	1290	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.95	1.00	1.00		0.99	1.00	
Frt			0.850			0.850		0.996			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1668	4950	0	1685	4921	0
Flt Permitted	0.950			0.950			0.103			0.210		
Satd. Flow (perm)	1627	0	1363	1557	0	1439	181	4950	0	370	4921	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194			69		6			37	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	31		69	69		31	15		20	20		15
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	1%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	0	0
Adj. Flow (vph)	292	0	203	16	0	57	203	1224	31	21	1344	208
Shared Lane Traffic (%)												
Lane Group Flow (vph)	292	0	203	16	0	57	203	1255	0	21	1552	0
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	25.6		25.6	25.6		25.6	76.4	74.4		60.6	60.6	
Actuated g/C Ratio	0.23		0.23	0.23		0.23	0.69	0.68		0.55	0.55	
v/c Ratio	0.77		0.44	0.04		0.15	0.75	0.37		0.10	0.57	
Control Delay	52.9		8.2	30.1		6.3	49.6	2.6		16.4	17.8	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	52.9		8.2	30.1		6.3	49.6	2.6		16.4	17.8	
LOS	D		A	C		A	D	A		B	B	
Approach Delay		34.6			11.5			9.2			17.8	
Approach LOS		C			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 70 (64%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 16.5

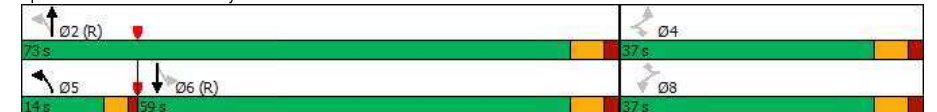
Intersection LOS: B

Intersection Capacity Utilization 73.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	15	1145	45	20	875	30	95	0	95	35	0	25
Future Volume (vph)	15	1145	45	20	875	30	95	0	95	35	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.85	0.99		0.98	0.99		0.98
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4791	0	1685	3400	1411	1685	0	1507	1685	0	1507
Flt Permitted	0.295			0.168			0.950			0.950		
Satd. Flow (perm)	507	4791	0	296	3400	1202	1667	0	1473	1667	0	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				69			119			79
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		40.6			63.5			81.9			115.9	
Travel Time (s)		2.4			3.8			7.4			10.4	
Confl. Peds. (#/hr)	57		26	26		57	11		11	11		11
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	16	0	0	0	16	0	0	0	0	0	0
Adj. Flow (vph)	16	1258	49	22	962	33	104	0	104	38	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1307	0	22	962	33	104	0	104	38	0	27
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2		1	6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	13.0		13.0	10.0		13.0
Total Split (s)	46.0	46.0		11.0	57.0	57.0	41.0		41.0	12.0		53.0
Total Split (%)	41.8%	41.8%		10.0%	51.8%	51.8%	37.3%		37.3%	10.9%		48.2%
Maximum Green (s)	39.0	39.0		7.0	50.0	50.0	35.0		35.0	8.0		47.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0

Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0			7.0		7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0			27.0		27.0
Pedestrian Calls (#/hr)	0	0			0	0	0			0		0
Act Effct Green (s)	74.6	74.6		81.6	78.6	78.6	13.3		13.3	22.4		20.4
Actuated g/C Ratio	0.68	0.68		0.74	0.71	0.71	0.12		0.12	0.20		0.19
v/c Ratio	0.05	0.40		0.07	0.40	0.04	0.51		0.37	0.11		0.08
Control Delay	15.1	13.0		2.5	2.5	0.1	53.5		9.5	32.0		0.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	15.1	13.0		2.5	2.5	0.1	53.5		9.5	32.0		0.5
LOS	B	B		A	A	A	D		A	C		A
Approach Delay		13.0			2.4		31.5			18.9		
Approach LOS		B			A		C			B		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 9 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 10.5

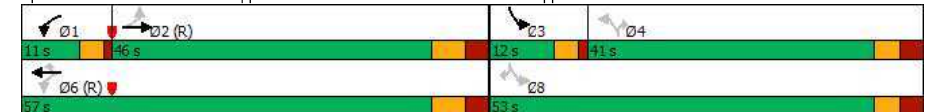
Intersection LOS: B

Intersection Capacity Utilization 56.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↗	↖	↗	↖	↗	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗		↖			↖	
Traffic Volume (vph)	0	1060	4	4	898	1	21	0	15	2	0	0
Future Volume (vph)	0	1060	4	4	898	1	21	0	15	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0		2.5			2.5			
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.99		0.97		0.99			0.99	
Frt		0.999				0.850		0.943				
Flt Protected				0.950				0.972			0.950	
Satd. Flow (prot)	1612	3242	0	1685	3305	1597	0	1708	0	0	1785	0
Flt Permitted				0.242				0.820			0.732	
Satd. Flow (perm)	1612	3242	0	427	3305	1548	0	1440	0	0	1366	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				40		30				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	4		15	15		4	1		6	6		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	10%	10%	0%	0%	8%	0%	0%	0%	0%	0%	2%	9%
Adj. Flow (vph)	0	1128	4	4	955	1	22	0	16	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1132	0	4	955	1	0	38	0	0	2	0
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	

Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↗	↖	↗	↖	↗	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		98.0		98.0	98.0	98.0		8.6			8.6	
Actuated g/C Ratio		0.89		0.89	0.89	0.89		0.08			0.08	
v/c Ratio		0.39		0.01	0.32	0.00		0.27			0.02	
Control Delay		5.9		2.5	1.9	0.0		25.9			46.5	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		5.9		2.5	1.9	0.0		25.9			46.5	
LOS		A		A	A	A		C			D	
Approach Delay		5.9			1.9			25.9			46.5	
Approach LOS		A			A			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 38 (35%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 4.5

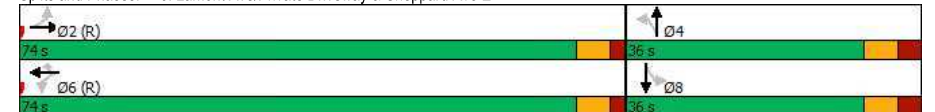
Intersection LOS: A

Intersection Capacity Utilization 47.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings
7: Midland Ave & Sheppard Ave E

<Existing> PM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	115	910	200	145	690	120	160	825	185	80	550	90
Future Volume (vph)	115	910	200	145	690	120	160	825	185	80	550	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.5	3.0	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.98	0.99		0.99	0.99		0.97		0.95	0.99		0.91
Frt		0.973			0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1668	4625	0	1636	3360	0	1518	3466	1436	1652	3400	1465
Flt Permitted	0.204			0.150			0.312			0.301		
Satd. Flow (perm)	351	4625	0	256	3360	0	484	3466	1358	517	3400	1337
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			20				89			119
Link Speed (k/h)		60			60			48			50	
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			43.5			29.4	
Confl. Peds. (#/hr)	79		60	60		79	79		45	45		79
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	3%	10%	3%	2%	0%	11%	3%	2%	2%	5%	0%
Bus Blockages (#/hr)	0	16	0	0	4	0	0	0	7	0	0	7
Adj. Flow (vph)	117	929	204	148	704	122	163	842	189	82	561	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	1133	0	148	826	0	163	842	189	82	561	92
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		6	1		6	7	4		8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0
Total Split (s)	11.0	46.0		11.0	46.0		11.0	53.0	53.0	42.0	42.0	42.0
Total Split (%)	10.0%	41.8%		10.0%	41.8%		10.0%	48.2%	48.2%	38.2%	38.2%	38.2%
Maximum Green (s)	7.0	39.0		7.0	39.0		7.0	46.0	46.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0

Lanes, Volumes, Timings
7: Midland Ave & Sheppard Ave E

<Existing> PM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	50.9	40.2		51.1	40.3		50.0	47.0	47.0	36.1	36.1	36.1
Actuated g/C Ratio	0.46	0.37		0.46	0.37		0.45	0.43	0.43	0.33	0.33	0.33
v/c Ratio	0.46	0.66		0.68	0.67		0.55	0.57	0.30	0.48	0.50	0.18
Control Delay	17.0	26.4		33.6	31.7		26.7	25.7	12.0	41.1	31.7	3.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	26.4		33.6	31.7		26.7	25.7	12.0	41.1	31.7	3.3
LOS	B	C		C	C		C	B	D	C	C	A
Approach Delay		25.5			32.0			23.7			29.2	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 66 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 27.2

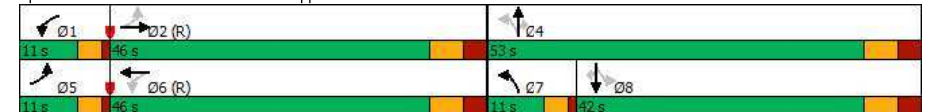
Intersection LOS: C

Intersection Capacity Utilization 110.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Existing> PM
04/16/2020

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↑↑↑	↔	↔	↑↑↑
Traffic Volume (vph)	50	30	1700	20	30	1880
Future Volume (vph)	50	30	1700	20	30	1880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		1.00		1.00	
Frt	0.949		0.998			
Flt Protected	0.970				0.950	
Satd. Flow (prot)	1720	0	5009	0	1685	5079
Flt Permitted	0.970				0.108	
Satd. Flow (perm)	1713	0	5009	0	191	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	19		3			
Link Speed (k/h)	40		50			50
Link Distance (m)	204.8		334.4			134.4
Travel Time (s)	18.4		24.1			9.7
Confl. Peds. (#/hr)	5	3		33	33	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	8	0	0	0
Adj. Flow (vph)	53	32	1789	21	32	1979
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	1810	0	32	1979
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-1.5		0.0		0.0	0.0
Detector 1 Position(m)	-1.5		0.0		0.0	0.0
Detector 1 Size(m)	9.0		1.8		6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		22.0	22.0
Minimum Split (s)	13.0		28.0		28.0	28.0
Total Split (s)	36.0		74.0		74.0	74.0
Total Split (%)	32.7%		67.3%		67.3%	67.3%
Maximum Green (s)	30.0		68.0		68.0	68.0
Yellow Time (s)	3.0		4.0		4.0	4.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Existing> PM
04/16/2020

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	3.0		2.0		2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	22.0		15.0		15.0	15.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	11.1		92.5		92.5	92.5
Actuated g/C Ratio	0.10		0.84		0.84	0.84
v/c Ratio	0.45		0.43		0.20	0.46
Control Delay	43.1		0.5		2.6	1.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	43.1		0.5		2.6	1.0
LOS	D		A		A	A
Approach Delay	43.1		0.5			1.0
Approach LOS	D		A			A

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 109 (99%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 1.7

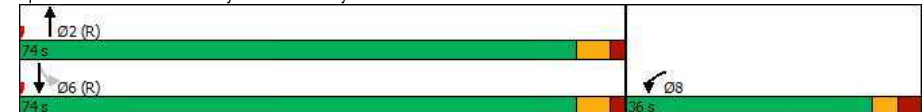
Intersection LOS: A

Intersection Capacity Utilization 52.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	3	1	5	281	2	121	3	1617	282	139	1861	2
Future Volume (vph)	3	1	5	281	2	121	3	1617	282	139	1861	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		0.0	25.0		30.0	20.0		20.0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			30.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt		0.925			0.852				0.850			
Flt Protected		0.984		0.950			0.950			0.950		
Satd. Flow (prot)	0	1710	0	1767	1585	0	1257	5079	1507	1652	6329	0
Flt Permitted		0.935		0.752			0.078			0.069		
Satd. Flow (perm)	0	1625	0	1399	1585	0	103	5079	1507	120	6329	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)		5			132				133			
Link Speed (k/h)		48			50			50			50	
Link Distance (m)		70.0			243.9			64.3			46.7	
Travel Time (s)		5.3			17.6			4.6			3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	34%	1%	0%	2%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	11	0
Adj. Flow (vph)	3	1	5	305	2	132	3	1758	307	151	2023	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	305	134	0	3	1758	307	151	2025	0
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	47.0	47.0		47.0	47.0		52.0	52.0	52.0	11.0	63.0	
Total Split (%)	42.7%	42.7%		42.7%	42.7%		47.3%	47.3%	47.3%	10.0%	57.3%	
Maximum Green (s)	40.0	40.0		40.0	40.0		45.0	45.0	45.0	7.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Lost Time (s)		6.0			6.0	6.0		6.0	6.0	3.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0		32.0	32.0		26.0	26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effct Green (s)		30.5		30.5	30.5		54.8	54.8	54.8	70.5	67.5	
Actuated g/C Ratio		0.28		0.28	0.28		0.50	0.50	0.50	0.64	0.61	
v/c Ratio		0.02		0.79	0.25		0.06	0.70	0.38	0.71	0.52	
Control Delay		18.0		50.7	5.7		19.0	18.2	8.2	48.9	14.2	
Queue Delay		0.0		0.0	0.0		0.0	0.2	0.4	0.0	0.0	
Total Delay		18.0		50.7	5.7		19.0	18.4	8.6	48.9	14.2	
LOS		B		D	A		B	B	A	D	B	
Approach Delay		18.0			37.0			17.0			16.6	
Approach LOS		B			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 100 (91%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 18.7

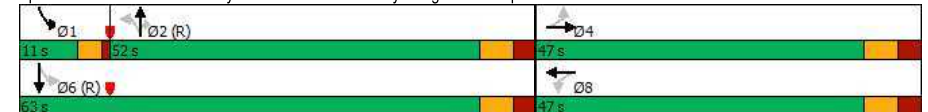
Intersection LOS: B

Intersection Capacity Utilization 92.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Existing> PM
04/16/2020

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	650	575	1295	0	0	1410
Future Volume (vph)	650	575	1295	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor	0.99	0.98				
Frt	0.966	0.850				
Flt Protected	0.963					
Satd. Flow (prot)	3304	1515	5079	0	0	5079
Flt Permitted	0.963					
Satd. Flow (perm)	3290	1492	5079	0	0	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	31	31				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)	7	4		12	12	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	1%
Adj. Flow (vph)	684	605	1363	0	0	1484
Shared Lane Traffic (%)		33%				
Lane Group Flow (vph)	884	405	1363	0	0	1484
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0
Total Split (s)	46.0	46.0	64.0			64.0
Total Split (%)	41.8%	41.8%	58.2%			58.2%
Maximum Green (s)	40.0	40.0	57.0			57.0
Yellow Time (s)	3.0	3.0	4.0			4.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Existing> PM
04/16/2020

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	36.4	36.4	62.6			62.6
Actuated g/C Ratio	0.33	0.33	0.57			0.57
v/c Ratio	0.80	0.79	0.47			0.51
Control Delay	37.8	42.0	10.7			11.2
Queue Delay	0.1	0.5	0.0			0.3
Total Delay	37.9	42.4	10.7			11.5
LOS	D	D	B			B
Approach Delay	39.3		10.7			11.5
Approach LOS	D		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 104 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 19.9

Intersection LOS: B

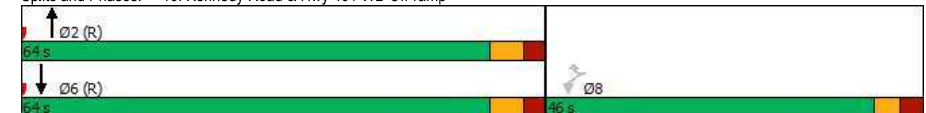
Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗	↗			↗		↖↗		↖↗	↖↗	
Traffic Volume (vph)	700	285	640	0	0	535	0	1960	30	0	1490	0
Future Volume (vph)	700	285	640	0	0	535	0	1960	30	0	1490	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00	
Ped Bike Factor							1.00					
Frt		0.952	0.850			0.865		0.998				
Flt Protected	0.950	0.983										
Satd. Flow (prot)	1503	2926	1332	0	0	1808	0	6324	0	0	5029	0
Flt Permitted	0.950	0.983										
Satd. Flow (perm)	1503	2926	1332	0	0	1808	0	6324	0	0	5029	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		21	40					4				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							3		5	5		3
Confl. Bikes (#/hr)												7
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	5%	3%	2%	2%	2%	2%	2%	0%	2%	2%	2%
Adj. Flow (vph)	714	291	653	0	0	546	0	2000	31	0	1520	0
Shared Lane Traffic (%)	40%		41%									
Lane Group Flow (vph)	428	845	385	0	0	546	0	2031	0	0	1520	0
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	
Total Split (s)	46.0	46.0	46.0			45.0		64.0			64.0	
Total Split (%)	41.8%	41.8%	41.8%			40.9%		58.2%			58.2%	
Maximum Green (s)	39.0	39.0	39.0			38.0		57.0			57.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	

Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	37.5	37.5	37.5			37.5		60.5			60.5	
Actuated g/C Ratio	0.34	0.34	0.34			0.34		0.55			0.55	
v/c Ratio	0.84	0.83	0.80			0.88		0.58			0.55	
Control Delay	48.5	40.6	42.8			51.4		17.6			15.2	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	48.5	40.6	42.8			51.4		17.6			15.2	
LOS	D	D	D			D		B			B	
Approach Delay		43.1			51.4			17.6			15.2	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 96 (87%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 27.6

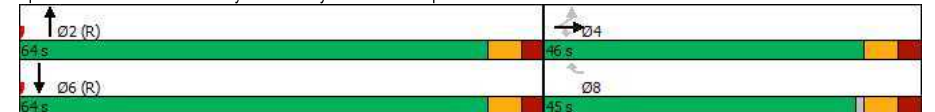
Intersection LOS: C

Intersection Capacity Utilization 100.4%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings
12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Existing> PM
04/16/2020

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	17	8	17	22	43	13
Future Volume (vph)	17	8	17	22	43	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.958				0.969	
Flt Protected				0.979	0.963	
Satd. Flow (prot)	1800	0	0	1748	1604	0
Flt Permitted				0.979	0.963	
Satd. Flow (perm)	1800	0	0	1748	1604	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)						1
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	0%	0%	12%	0%	5%	24%
Adj. Flow (vph)	24	11	24	31	61	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	55	79	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 19.1%	ICU Level of Service A					
Analysis Period (min) 15						







HCM Unsignalized Intersection Capacity Analysis
12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Existing> PM
04/16/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	17	8	17	22	43	13
Future Volume (Veh/h)	17	8	17	22	43	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	24	11	24	31	61	18
Pedestrians				1		
Lane Width (m)				3.5		
Walking Speed (m/s)				1.1		
Percent Blockage				0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			35		108	30
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			35		108	30
tC, single (s)			4.2		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.5
p0 queue free %			98		93	98
cM capacity (veh/h)			1514		868	983
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	35	55	79			
Volume Left	0	24	61			
Volume Right	11	0	18			
cSH	1700	1514	891			
Volume to Capacity	0.02	0.02	0.09			
Queue Length 95th (m)	0.0	0.4	2.2			
Control Delay (s)	0.0	3.3	9.4			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	3.3	9.4			
Approach LOS	A		A			
Intersection Summary						
Average Delay		5.5				
Intersection Capacity Utilization		19.1%		ICU Level of Service	A	
Analysis Period (min)		15				

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Existing> PM
04/16/2020

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	
Traffic Volume (vph)	1072	7	18	938	7	13
Future Volume (vph)	1072	7	18	938	7	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.912	
Flt Protected				0.999	0.983	
Satd. Flow (prot)	3215	0	0	3303	1456	0
Flt Permitted				0.999	0.983	
Satd. Flow (perm)	3215	0	0	3303	1456	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		18	18			1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	11%	0%	6%	8%	15%	16%
Adj. Flow (vph)	1083	7	18	947	7	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1090	0	0	965	20	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.1%			ICU Level of Service A		
Analysis Period (min)	15					

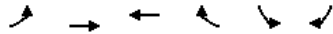
HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E











<Existing> PM
04/16/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	1072	7	18	938	7	13
Future Volume (Veh/h)	1072	7	18	938	7	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	1083	7	18	947	7	13
Pedestrians				1	18	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.81		0.87	0.81
vC, conflicting volume			1108		1614	564
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			678		861	10
tC, single (s)			4.2		7.1	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.5
p0 queue free %			97		97	98
cM capacity (veh/h)			708		225	821
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	722	368	334	631	20	
Volume Left	0	0	18	0	7	
Volume Right	0	7	0	0	13	
cSH	1700	1700	708	1700	426	
Volume to Capacity	0.42	0.22	0.03	0.37	0.05	
Queue Length 95th (m)	0.0	0.0	0.6	0.0	1.1	
Control Delay (s)	0.0	0.0	0.9	0.0	13.9	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.3		13.9	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			49.1%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
14: Sheppard Ave E & Reidmount Ave

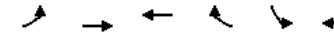
<Existing> PM
04/16/2020



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		   	 		   	
Traffic Volume (vph)	20	1095	975	55	20	15
Future Volume (vph)	20	1095	975	55	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.992		0.942	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	6457	3541	0	1720	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	6457	3541	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	21	1153	1026	58	21	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1174	1084	0	37	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
14: Sheppard Ave E & Reidmount Ave

<Existing> PM
04/16/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑↑↑↑	↑↑		↑↑		
Traffic Volume (veh/h)	20	1095	975	55	20	15	
Future Volume (Veh/h)	20	1095	975	55	20	15	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Hourly flow rate (vph)	21	1153	1026	58	21	16	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None	None				
Median storage (veh)							
Upstream signal (m)		244	41				
pX, platoon unblocked	0.88				0.88	0.88	
vC, conflicting volume	1084				1385	542	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	828				1170	214	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	97				87	98	
cM capacity (veh/h)	716				162	703	
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	186	329	329	329	684	400	37
Volume Left	21	0	0	0	0	0	21
Volume Right	0	0	0	0	0	58	16
cSH	716	1700	1700	1700	1700	1700	243
Volume to Capacity	0.03	0.19	0.19	0.19	0.40	0.24	0.15
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	0.0	4.0
Control Delay (s)	1.4	0.0	0.0	0.0	0.0	0.0	22.5
Lane LOS	A						C
Approach Delay (s)	0.2				0.0		22.5
Approach LOS							C
Intersection Summary							
Average Delay	0.5						
Intersection Capacity Utilization	39.7%			ICU Level of Service			A
Analysis Period (min)	15						

Lanes, Volumes, Timings
15: Kennedy Road & Jade Street/Collingwood Street

<Existing> PM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↔			↔		↔	↔↔↔		↔	↔↔↔	
Traffic Volume (vph)	5	0	31	18	0	14	66	1488	25	4	1655	20
Future Volume (vph)	5	0	31	18	0	14	66	1488	25	4	1655	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.882			0.942			0.998			0.998	
Flt Protected		0.994			0.972		0.950			0.950		
Satd. Flow (prot)	0	1647	0	0	1663	0	1685	4967	0	1685	4946	0
Flt Permitted		0.994			0.972		0.950			0.950		
Satd. Flow (perm)	0	1647	0	0	1663	0	1685	4967	0	1685	4946	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	0%	6%	0%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	11	0
Adj. Flow (vph)	5	0	34	20	0	15	72	1617	27	4	1799	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	35	0	72	1644	0	4	1821	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 51.6% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
15: Kennedy Road & Jade Street/Collingwood Street

<Existing> PM
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↔			↔		↔	↔↔↔		↔	↔↔↔	
Traffic Volume (veh/h)	5	0	31	18	0	14	66	1488	25	4	1655	20
Future Volume (Veh/h)	5	0	31	18	0	14	66	1488	25	4	1655	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	0	34	20	0	15	72	1617	27	4	1799	22
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							134			190		
pX, platoon unblocked	0.78	0.78	0.73	0.78	0.78	0.91	0.73			0.91		
vC, conflicting volume	2516	3606	611	2416	3604	552	1821			1644		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1172	2573	0	1044	2570	163	847			1362		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	95	100	96	83	100	98	88			99		
cM capacity (veh/h)	103	17	800	119	18	782	586			465		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	39	35	72	647	647	350	4	720	720	382
Volume Left	5	20	72	0	0	0	4	0	0	0
Volume Right	34	15	0	0	0	27	0	0	0	22
cSH	428	187	586	1700	1700	1700	465	1700	1700	1700
Volume to Capacity	0.09	0.19	0.12	0.38	0.38	0.21	0.01	0.42	0.42	0.22
Queue Length 95th (m)	2.3	5.1	3.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Control Delay (s)	14.2	28.6	12.0	0.0	0.0	0.0	12.8	0.0	0.0	0.0
Lane LOS	B	D	B				B			
Approach Delay (s)	14.2	28.6	0.5				0.0			
Approach LOS	B	D								

Intersection Summary










Average Delay 0.7

Intersection Capacity Utilization 51.6% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
16: Collingwood Street & Gordon Ave

<Existing> PM
04/16/2020

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	1	3	2	1	29
Future Volume (vph)	16	1	3	2	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.942		0.868	
Flt Protected		0.954			0.999	
Satd. Flow (prot)	0	1792	1482	0	1568	0
Flt Permitted		0.954			0.999	
Satd. Flow (perm)	0	1792	1482	0	1568	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	133.7		190.4	
Travel Time (s)		10.5	12.0		17.1	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	34%	0%	0%	4%
Adj. Flow (vph)	21	1	4	3	1	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	22	7	0	39	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
16: Collingwood Street & Gordon Ave

<Existing> PM
04/16/2020

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	16	1	3	2	1	29
Future Volume (Veh/h)	16	1	3	2	1	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	21	1	4	3	1	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	7				48	6
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	7				48	6
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	96
cM capacity (veh/h)	1627				954	1072
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	22	7	39			
Volume Left	21	0	1			
Volume Right	0	3	38			
cSH	1627	1700	1068			
Volume to Capacity	0.01	0.00	0.04			
Queue Length 95th (m)	0.3	0.0	0.9			
Control Delay (s)	6.9	0.0	8.5			
Lane LOS	A		A			
Approach Delay (s)	6.9	0.0	8.5			
Approach LOS			A			
Intersection Summary						
Average Delay		7.1				
Intersection Capacity Utilization		17.6%		ICU Level of Service	A	
Analysis Period (min)		15				

Lanes, Volumes, Timings

17: Village Green Sq

<Existing> PM

04/16/2020

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	0	1	32	1	0	22
Future Volume (vph)	0	1	32	1	0	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865				0.865	
Flt Protected				0.953		
Satd. Flow (prot)	1625	0	0	1723	1548	0
Flt Permitted				0.953		
Satd. Flow (perm)	1625	0	0	1723	1548	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	67.1			152.9	154.8	
Travel Time (s)	6.0			13.8	13.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	2%	0%	4%	0%	0%	5%
Adj. Flow (vph)	0	1	41	1	0	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	0	42	28	0
Sign Control	Free			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

17: Village Green Sq

<Existing> PM

04/16/2020

Intersection Sign configuration not allowed in HCM analysis.

Lanes, Volumes, Timings

18: Private Access & Village Green Sq

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	30	379	29	1	215	4	16	0	3	1	0	38
Future Volume (vph)	30	379	29	1	215	4	16	0	3	1	0	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.991			0.998			0.980			0.868	
Flt Protected		0.997						0.959			0.999	
Satd. Flow (prot)	0	1835	0	0	1875	0	0	1766	0	0	1583	0
Flt Permitted		0.997						0.959			0.999	
Satd. Flow (perm)	0	1835	0	0	1875	0	0	1766	0	0	1583	0
Link Speed (k/h)		50			50			48			40	
Link Distance (m)		243.9			158.0			39.7			154.8	
Travel Time (s)		17.6			11.4			3.0			13.9	
Confl. Peds. (#/hr)	81		10	10		81	1		6	6		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	1%	0%	0%	0%	0%	0%	2%	0%	0%	2%	3%
Adj. Flow (vph)	33	412	32	1	234	4	17	0	3	1	0	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	477	0	0	239	0	0	20	0	0	42	0
Sign Control		Free			Free			Stop			Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 55.5%

ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

18: Private Access & Village Green Sq

<Existing> PM

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	30	379	29	1	215	4	16	0	3	1	0	38
Future Volume (Veh/h)	30	379	29	1	215	4	16	0	3	1	0	38
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	412	32	1	234	4	17	0	3	1	0	41
Pedestrians		1			6			10			81	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			1			1			7	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		244										
pX, platoon unblocked												
vC, conflicting volume	319			454			784	825	444	822	839	318
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	319			454			784	825	444	822	839	318
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			94	100	100	100	100	94
cM capacity (veh/h)	1142			1107			267	275	609	249	270	668

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	477	239	20	42
Volume Left	33	1	17	1
Volume Right	32	4	3	41
cSH	1142	1107	292	642
Volume to Capacity	0.03	0.00	0.07	0.07
Queue Length 95th (m)	0.7	0.0	1.7	1.6
Control Delay (s)	0.9	0.0	18.2	11.0
Lane LOS	A	A	C	B
Approach Delay (s)	0.9	0.0	18.2	11.0
Approach LOS			C	B

Intersection Summary

Average Delay 1.6

Intersection Capacity Utilization 55.5%

ICU Level of Service

B

Analysis Period (min)

15

Lanes, Volumes, Timings

1: Allanford Rd/Private Driveway & Sheppard Ave E

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	0	1090	15	35	1075	0	15	0	50	0	0	0
Future Volume (vph)	0	1090	15	35	1075	0	15	0	50	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	28.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98				0.87				
Frt		0.998						0.896				
Flt Protected				0.950				0.989				
Satd. Flow (prot)	0	3487	0	1685	3500	0	0	1457	0	0	1842	0
Flt Permitted				0.243				0.922				
Satd. Flow (perm)	0	3487	0	424	3500	0	0	1351	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						51				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			43.2	
Travel Time (s)		23.5			14.8			22.9			3.2	
Confl. Peds. (#/hr)			44	44			20		137			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	0	1112	15	36	1097	0	15	0	51	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1127	0	36	1097	0	0	66	0	0	0	0
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type		NA		Perm	NA		Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases		2			6			4			8	
Detector Phase		2	2		6	6		4	4		8	8
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	
Total Split (s)	65.0	65.0		65.0	65.0		35.0	35.0		35.0	35.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	59.0	59.0		59.0	59.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	

Lanes, Volumes, Timings

1: Allanford Rd/Private Driveway & Sheppard Ave E

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		85.3		85.3	85.3			9.1				
Actuated g/C Ratio		0.85		0.85	0.85			0.09				
v/c Ratio		0.38		0.10	0.37			0.39				
Control Delay		2.6		2.7	2.6			23.4				
Queue Delay		0.0		0.0	0.0			0.0				
Total Delay		2.6		2.7	2.6			23.4				
LOS		A		A	A			C				
Approach Delay		2.6			2.6			23.4				
Approach LOS		A			A			C				

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 37 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 3.2

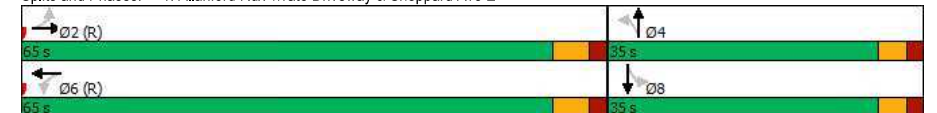
Intersection LOS: A

Intersection Capacity Utilization 60.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Allanford Rd/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	110	840	10	15	770	270	5	0	10	200	5	145
Future Volume (vph)	110	840	10	15	770	270	5	0	10	200	5	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0		2.5				2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.95	0.98			0.97			0.98	0.95
Frt		0.998			0.961			0.910				0.850
Flt Protected	0.950			0.950				0.984			0.953	
Satd. Flow (prot)	1685	3452	0	1685	3292	0	0	1647	0	0	1791	1507
Flt Permitted	0.199			0.327				0.909			0.721	
Satd. Flow (perm)	353	3452	0	549	3292	0	0	1507	0	0	1329	1426
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			61			69				148
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		62	62		19	30		14	14		30
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	2%	0%	0%	0%	0%
Adj. Flow (vph)	112	857	10	15	786	276	5	0	10	204	5	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	867	0	15	1062	0	0	15	0	0	209	148
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template	Thru			Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	13.0	70.0		57.0	57.0		40.0	40.0		40.0	40.0	40.0
Total Split (%)	11.8%	63.6%		51.8%	51.8%		36.4%	36.4%		36.4%	36.4%	36.4%
Maximum Green (s)	9.0	64.0		51.0	51.0		34.0	34.0		34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0

Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	78.3	76.3		65.6	65.6		23.7			23.7	23.7	
Actuated g/C Ratio	0.71	0.69		0.60	0.60		0.22			0.22	0.22	
v/c Ratio	0.33	0.36		0.05	0.53		0.04			0.73	0.35	
Control Delay	8.6	8.1		8.5	8.4		0.2			54.3	7.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Delay	8.6	8.1		8.5	8.4		0.2			54.3	7.4	
LOS	A	A		A	A		A			D	A	
Approach Delay		8.2			8.4		0.2			34.9		
Approach LOS		A			A		A			C		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 5 (5%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 12.2

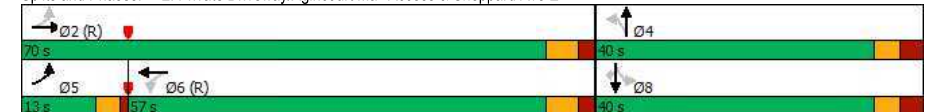
Intersection LOS: B

Intersection Capacity Utilization 70.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Existing> SAT
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	97	458	226	268	641	117	199	1092	280	153	1116	81
Future Volume (vph)	97	458	226	268	641	117	199	1092	280	153	1116	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.96		0.92	0.97	0.98		0.99		0.92	0.99	0.99	
Frt			0.850		0.977				0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1636	3336	1346	1604	3235	0	*1622	4839	1428	1620	4695	0
Flt Permitted	0.251			0.396			0.111			0.132		
Satd. Flow (perm)	416	3336	1242	648	3235	0	187	4839	1310	222	4695	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			200		22				252		11	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	144		75	75		144	99		72	72		99
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	1.00	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	7%	3%	5%	6%	3%	4%	6%	3%	4%	6%	5%
Bus Blockages (#/hr)	0	0	20	0	0	20	0	0	6	0	10	0
Adj. Flow (vph)	99	467	231	273	654	119	199	1114	286	156	1139	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	467	231	273	773	0	199	1114	286	156	1222	0
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	
Total Split (s)	11.0	45.0	45.0	13.0	47.0		11.0	41.0	41.0	11.0	41.0	
Total Split (%)	10.0%	40.9%	40.9%	11.8%	42.7%		10.0%	37.3%	37.3%	10.0%	37.3%	
Maximum Green (s)	7.0	38.0	38.0	9.0	40.0		7.0	34.0	34.0	7.0	34.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Existing> SAT
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-2.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		2.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.7	39.0	39.0	54.3	41.3		48.0	35.0	35.0	46.0	35.0	
Actuated g/C Ratio	0.45	0.35	0.35	0.49	0.38		0.44	0.32	0.32	0.42	0.32	
v/c Ratio	0.36	0.40	0.41	0.67	0.63		1.00	0.72	0.49	0.80	0.81	
Control Delay	15.4	22.3	4.0	18.4	21.5		87.7	19.2	9.5	60.1	27.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	15.4	22.3	4.0	18.4	21.5		87.7	19.2	9.5	60.1	27.0	
LOS	B	C	A	B	C		F	B	A	E	C	
Approach Delay		16.1			20.7			26.0			30.8	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 105 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 24.6

Intersection LOS: C

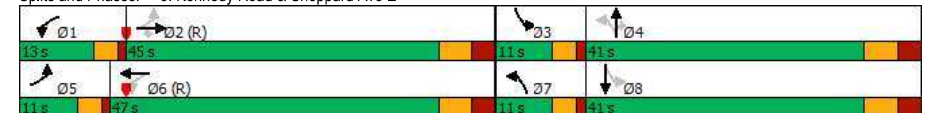
Intersection Capacity Utilization 100.9%

ICU Level of Service G

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	215	0	230	40	0	35	235	1210	25	15	1240	225
Future Volume (vph)	215	0	230	40	0	35	235	1210	25	15	1240	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99		0.93	0.94		0.98	1.00	1.00		1.00	0.99	
Frt			0.850			0.850		0.997			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1685	4971	0	1589	4935	0
Flt Permitted	0.950			0.950			0.109			0.206		
Satd. Flow (perm)	1662	0	1394	1592	0	1470	193	4971	0	343	4935	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151			69		5			49	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	12		50	50		12	26		11	11		26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	0%	2%	0%	6%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Adj. Flow (vph)	222	0	237	41	0	36	242	1247	26	15	1278	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	222	0	237	41	0	36	242	1273	0	15	1510	0
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	
Total Split (s)	37.0		37.0	37.0		37.0	11.0	73.0		62.0	62.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	10.0%	66.4%		56.4%	56.4%	
Maximum Green (s)	31.0		31.0	31.0		31.0	7.0	67.0		56.0	56.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	21.3		21.3	21.3		21.3	80.7	78.7		59.8	59.8	
Actuated g/C Ratio	0.19		0.19	0.19		0.19	0.73	0.72		0.54	0.54	
v/c Ratio	0.69		0.61	0.13		0.11	0.68	0.36		0.08	0.56	
Control Delay	52.0		21.1	35.2		2.4	36.9	11.1		14.7	17.2	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	52.0		21.1	35.2		2.4	36.9	11.1		14.7	17.2	
LOS	D		C	D		A	D	B		B	B	
Approach Delay		36.1			19.9			15.3			17.2	
Approach LOS		D			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 30 (27%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 18.8

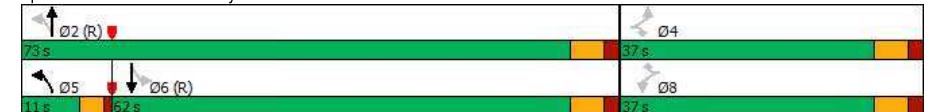
Intersection LOS: B

Intersection Capacity Utilization 71.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	0	1130	25	15	1140	0	35	0	20	0	0	0
Future Volume (vph)	0	1130	25	15	1140	0	35	0	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.99			1.00		0.98			
Frt		0.997							0.850			
Flt Protected				0.950			0.950					
Satd. Flow (prot)	1773	4830	0	1685	3500	1615	1685	0	1507	1773	0	1773
Flt Permitted				0.219			0.950					
Satd. Flow (perm)	1773	4830	0	386	3500	1615	1680	0	1478	1773	0	1773
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5							40			
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		40.6			63.5			81.9			115.9	
Travel Time (s)		2.4			3.8			7.4			10.4	
Confl. Peds. (#/hr)	46		15	15		46	3		8	8		3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	20	0	0	0	20	0	0	0	0	0	0
Adj. Flow (vph)	0	1189	26	16	1200	0	37	0	21	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1215	0	16	1200	0	37	0	21	0	0	0
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		Perm	NA	Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6							
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		6	6	6	4		4	8		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0	24.0	7.0		7.0	7.0		7.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	13.0		13.0	13.0		13.0
Total Split (s)	69.0	69.0		69.0	69.0	69.0	41.0		41.0	41.0		41.0
Total Split (%)	62.7%	62.7%		62.7%	62.7%	62.7%	37.3%		37.3%	37.3%		37.3%
Maximum Green (s)	62.0	62.0		62.0	62.0	62.0	35.0		35.0	35.0		35.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0		3.0	3.0		3.0

Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	5.0		5.0	5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	17.0	17.0		17.0	17.0	17.0	27.0		27.0	27.0		27.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0		0	0		0
Act Effct Green (s)		93.4		93.4	93.4		9.4		9.4			
Actuated g/C Ratio		0.85		0.85	0.85		0.09		0.09			
v/c Ratio		0.30		0.05	0.40		0.26		0.13			
Control Delay		1.8		0.7	0.8		51.1		7.3			
Queue Delay		0.0		0.0	0.0		0.0		0.0			
Total Delay		1.8		0.7	0.8		51.1		7.3			
LOS		A		A	A		D		A			
Approach Delay		1.8			0.8		35.2					
Approach LOS		A			A		D					

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 73 (66%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 2.1

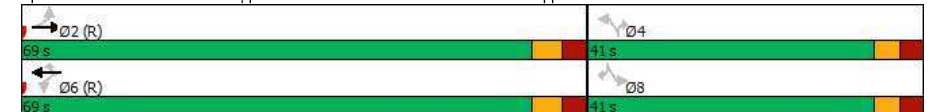
Intersection LOS: A

Intersection Capacity Utilization 57.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	1	986	0	3	1127	2	2	0	9	3	0	2
Future Volume (vph)	1	986	0	3	1127	2	2	0	9	3	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0		2.5			2.5			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			0.99		0.95		0.98			0.99	
Frt					0.850			0.887			0.946	
Flt Protected	0.950			0.950				0.992			0.971	
Satd. Flow (prot)	1685	3368	0	1685	3368	1597	0	1626	0	0	1715	0
Flt Permitted	0.216			0.257				0.972				
Satd. Flow (perm)	382	3368	0	450	3368	1513	0	1592	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						40		30			30	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	12		31	31		12	3		7	7		3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	6%	17%	0%	6%	0%	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	1	1096	0	3	1252	2	2	0	10	3	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1096	0	3	1252	2	0	12	0	0	5	0
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	

Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	106.2	106.2		106.2	106.2	106.2	8.0	8.0		8.0	8.0	
Actuated g/C Ratio	0.97	0.97		0.97	0.97	0.97	0.07	0.07		0.07	0.07	
v/c Ratio	0.00	0.34		0.01	0.38	0.00	0.08	0.08		0.08	0.03	
Control Delay	0.0	0.8		0.3	0.5	0.0	5.7	5.7		5.7	0.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	0.0	0.8		0.3	0.5	0.0	5.7	5.7		5.7	0.5	
LOS	A	A		A	A	A	A	A		A	A	
Approach Delay		0.8			0.5		5.7	5.7			0.5	
Approach LOS		A			A		A	A			A	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 54 (49%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 0.7

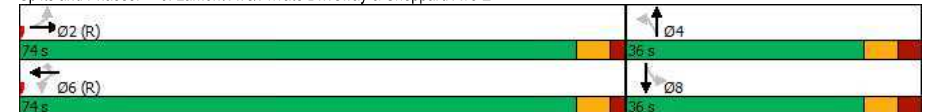
Intersection LOS: A

Intersection Capacity Utilization 56.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings
7: Midland Ave & Sheppard Ave E

<Existing> SAT
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↲	↰	↱	↲	↰	↱	↲	↰	↱	↲
Traffic Volume (vph)	80	875	160	200	915	160	135	495	195	130	435	75
Future Volume (vph)	80	875	160	200	915	160	135	495	195	130	435	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.5	3.0	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.99		0.99	0.99		0.97		0.95	0.98		0.93
Frt		0.977			0.978			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4669	0	1652	3282	0	1589	3500	1434	1668	3500	1463
Flt Permitted	0.190			0.162			0.426			0.379		
Satd. Flow (perm)	332	4669	0	278	3282	0	692	3500	1360	653	3500	1363
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			24				132			119
Link Speed (k/h)		60			60			48			50	
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			43.5			29.4	
Confl. Peds. (#/hr)	81		71	71		81	59		42	42		59
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	3%	4%	2%	2%	2%	6%	2%	3%	1%	2%	1%
Bus Blockages (#/hr)	0	20	0	0	14	0	0	0	5	0	0	5
Adj. Flow (vph)	82	893	163	204	934	163	138	505	199	133	444	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	1056	0	204	1097	0	138	505	199	133	444	77
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		2		1	6		7	4		3	8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	2	2		1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	33.0	33.0		6.0	33.0		6.0	34.0	34.0	6.0	34.0	34.0
Minimum Split (s)	40.0	40.0		10.0	40.0		10.0	41.0	41.0	10.0	41.0	41.0
Total Split (s)	46.0	46.0		11.0	57.0		11.0	42.0	42.0	11.0	42.0	42.0
Total Split (%)	41.8%	41.8%		10.0%	51.8%		10.0%	38.2%	38.2%	10.0%	38.2%	38.2%
Maximum Green (s)	39.0	39.0		7.0	50.0		7.0	35.0	35.0	7.0	35.0	35.0
Yellow Time (s)	4.0	4.0		3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0

Lanes, Volumes, Timings
7: Midland Ave & Sheppard Ave E

<Existing> SAT
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0		1.0	3.0		1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0		3.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)	26.0	26.0			26.0			27.0	27.0		27.0	27.0
Pedestrian Calls (#/hr)	0	0			0			0	0		0	0
Act Effct Green (s)	40.0	40.0		54.0	51.0		47.0	36.2	36.2	47.0	36.2	36.2
Actuated g/C Ratio	0.36	0.36		0.49	0.46		0.43	0.33	0.33	0.43	0.33	0.33
v/c Ratio	0.68	0.61		0.86	0.72		0.39	0.44	0.37	0.38	0.39	0.15
Control Delay	56.5	26.0		52.5	26.3		21.6	30.5	12.3	21.4	29.6	2.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	26.0		52.5	26.3		21.6	30.5	12.3	21.4	29.6	2.0
LOS	E	C		D	C		C	C	B	C	C	A
Approach Delay		28.2			30.4			24.7			24.7	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 51 (46%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 27.6

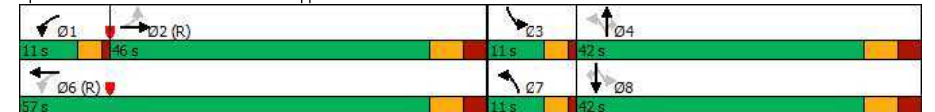
Intersection LOS: C

Intersection Capacity Utilization 112.8%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Existing> SAT
04/16/2020

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖↗	↖↗	↖	↗
Traffic Volume (vph)	12	17	1690	15	4	1681
Future Volume (vph)	12	17	1690	15	4	1681
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	1.00					
Frt	0.921		0.999			
Flt Protected	0.980				0.950	
Satd. Flow (prot)	1638	0	4838	0	1123	4839
Flt Permitted	0.980				0.121	
Satd. Flow (perm)	1637	0	4838	0	143	4839
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	17		2			
Link Speed (k/h)	40		50			50
Link Distance (m)	204.8		334.4			134.4
Travel Time (s)	18.4		24.1			9.7
Confl. Peds. (#/hr)	2					
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	5%	14%	50%	6%
Bus Blockages (#/hr)	0	0	6	0	0	0
Adj. Flow (vph)	12	17	1724	15	4	1715
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	1739	0	4	1715
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-1.5		0.0		0.0	0.0
Detector 1 Position(m)	-1.5		0.0		0.0	0.0
Detector 1 Size(m)	9.0		1.8		6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		22.0	22.0
Minimum Split (s)	13.0		28.0		28.0	28.0
Total Split (s)	36.0		74.0		74.0	74.0
Total Split (%)	32.7%		67.3%		67.3%	67.3%
Maximum Green (s)	30.0		68.0		68.0	68.0
Yellow Time (s)	3.0		4.0		4.0	4.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Existing> SAT
04/16/2020

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	3.0		2.0		2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	22.0		15.0		15.0	15.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	8.5		98.7		98.7	98.7
Actuated g/C Ratio	0.08		0.90		0.90	0.90
v/c Ratio	0.21		0.40		0.03	0.39
Control Delay	31.1		0.7		4.2	3.4
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	31.1		0.7		4.2	3.4
LOS	C		A		A	A
Approach Delay	31.1		0.7			3.4
Approach LOS	C		A			A

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 26 (24%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 2.3

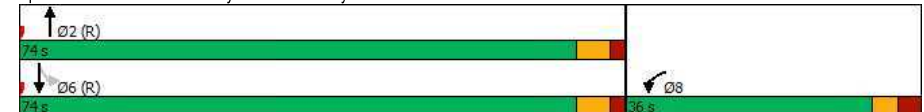
Intersection LOS: A

Intersection Capacity Utilization 47.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	
Traffic Volume (vph)	0	0	15	287	0	90	10	1575	224	92	1673	0
Future Volume (vph)	0	0	15	287	0	90	10	1575	224	92	1673	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		0.0	25.0		30.0	20.0		20.0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			30.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Ped Bike Factor		0.99		1.00	0.97		1.00		0.95	1.00		
Frt		0.865			0.850				0.850			
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1091	0	1733	1553	0	1203	4932	1463	1685	6153	0
Flt Permitted				0.747			0.112			0.084		
Satd. Flow (perm)	0	1091	0	1362	1553	0	142	4932	1396	149	6153	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79			150				108			
Link Speed (k/h)		48			50				50			50
Link Distance (m)		70.0			243.9				64.3			46.7
Travel Time (s)		5.3			17.6				4.6			3.4
Confl. Peds. (#/hr)	19		1	1		19	1		16	16		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	47%	3%	2%	0%	40%	4%	3%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	10	0
Adj. Flow (vph)	0	0	16	299	0	94	10	1641	233	96	1743	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	299	94	0	10	1641	233	96	1743	0
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		6		1
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	47.0	47.0		47.0	47.0		52.0	52.0	52.0	11.0	63.0	
Total Split (%)	42.7%	42.7%		42.7%	42.7%		47.3%	47.3%	47.3%	10.0%	57.3%	
Maximum Green (s)	40.0	40.0		40.0	40.0		45.0	45.0	45.0	7.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		6.0	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0		32.0	32.0		26.0	26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effct Green (s)	30.6	30.6		30.6	30.6		56.7	56.7	56.7	70.4	67.4	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.52	0.52	0.52	0.64	0.61	
v/c Ratio	0.04	0.79		0.17	0.17		0.14	0.65	0.30	0.48	0.46	
Control Delay	0.2	51.0		1.4	1.4		15.0	12.1	4.1	27.8	15.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1	0.3	0.0	0.0	
Total Delay	0.2	51.0		1.4	1.4		15.0	12.2	4.4	27.8	15.5	
LOS	A	D		A	A		B	B	A	C	B	
Approach Delay	0.2			39.2				11.2			16.1	
Approach LOS	A			D				B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 94 (85%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 16.0

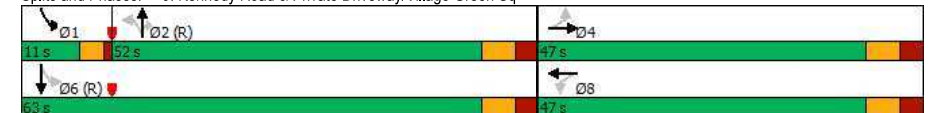
Intersection LOS: B

Intersection Capacity Utilization 97.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Existing> SAT

04/16/2020

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	787	460	1303	0	0	1168
Future Volume (vph)	787	460	1303	0	0	1168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.987	0.850				
Flt Protected	0.956					
Satd. Flow (prot)	3180	1457	4932	0	0	4932
Flt Permitted	0.956					
Satd. Flow (perm)	3180	1457	4932	0	0	4932
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	11	37				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	7%	5%	4%	0%	0%	4%
Adj. Flow (vph)	795	465	1316	0	0	1180
Shared Lane Traffic (%)		16%				
Lane Group Flow (vph)	869	391	1316	0	0	1180
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0
Total Split (s)	46.0	46.0	64.0			64.0
Total Split (%)	41.8%	41.8%	58.2%			58.2%
Maximum Green (s)	40.0	40.0	57.0			57.0
Yellow Time (s)	3.0	3.0	4.0			4.0

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Existing> SAT

04/16/2020

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	36.9	36.9	62.1			62.1
Actuated g/C Ratio	0.34	0.34	0.56			0.56
v/c Ratio	0.81	0.76	0.47			0.42
Control Delay	39.2	39.4	12.1			11.0
Queue Delay	0.0	0.0	0.0			0.2
Total Delay	39.2	39.4	12.1			11.2
LOS	D	D	B			B
Approach Delay	39.3		12.1			11.2
Approach LOS	D		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 96 (87%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 20.9

Intersection LOS: C

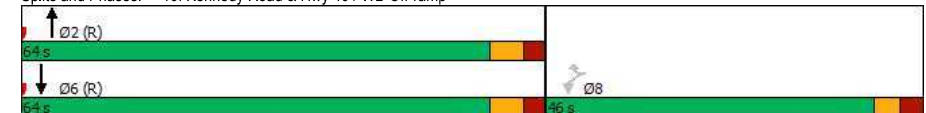
Intersection Capacity Utilization 61.6%

ICU Level of Service B

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↑↑↑			↑↑↑	
Traffic Volume (vph)	696	343	644	0	0	515	0	1798	40	0	1446	0
Future Volume (vph)	696	343	644	0	0	515	0	1798	40	0	1446	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00	
Ped Bike Factor							1.00					
Frt		0.956	0.850			0.865		0.997				
Flt Protected	0.950	0.985										
Satd. Flow (prot)	1474	2866	1294	0	0	1724	0	6076	0	0	4839	0
Flt Permitted	0.950	0.985										
Satd. Flow (perm)	1474	2866	1294	0	0	1724	0	6076	0	0	4839	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		22	40					6				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							6		20	20		6
Confl. Bikes (#/hr)												7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	8%	6%	0%	0%	7%	0%	6%	5%	0%	6%	0%
Adj. Flow (vph)	725	357	671	0	0	536	0	1873	42	0	1506	0
Shared Lane Traffic (%)	38%		39%									
Lane Group Flow (vph)	449	895	409	0	0	536	0	1915	0	0	1506	0
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	
Total Split (s)	46.0	46.0	46.0			46.0		64.0			64.0	
Total Split (%)	41.8%	41.8%	41.8%			41.8%		58.2%			58.2%	
Maximum Green (s)	39.0	39.0	39.0			39.0		57.0			57.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	

Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	38.7	38.7	38.7			38.7		59.3			59.3	
Actuated g/C Ratio	0.35	0.35	0.35			0.35		0.54			0.54	
v/c Ratio	0.87	0.88	0.85			0.88		0.58			0.58	
Control Delay	51.3	43.2	47.3			51.3		18.1			16.3	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	51.3	43.2	47.3			51.3		18.1			16.3	
LOS	D	D	D			D		B			B	
Approach Delay		46.3			51.3			18.1			16.3	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 80 (73%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 29.4

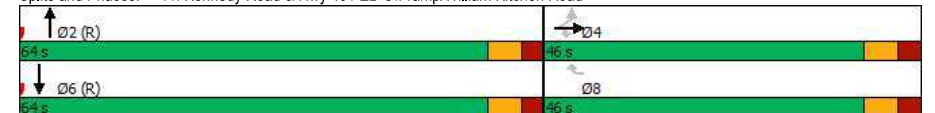
Intersection LOS: C

Intersection Capacity Utilization 98.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings
12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Existing> SAT
04/16/2020

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	5	14	12	11	49	6
Future Volume (vph)	5	14	12	11	49	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.900				0.986	
Flt Protected				0.974	0.957	
Satd. Flow (prot)	1691	0	0	1830	1669	0
Flt Permitted				0.974	0.957	
Satd. Flow (perm)	1691	0	0	1830	1669	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)		6	6			2
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	0%	0%	0%	0%	3%	34%
Adj. Flow (vph)	7	20	17	15	69	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	32	77	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 18.6%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Existing> SAT
04/16/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	5	14	12	11	49	6
Future Volume (Veh/h)	5	14	12	11	49	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	7	20	17	15	69	8
Pedestrians				2	6	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			33		72	25
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			33		72	25
tC, single (s)			4.1		6.4	6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.6
p0 queue free %			99		92	99
cM capacity (veh/h)			1584		915	959
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	27	32	77			
Volume Left	0	17	69			
Volume Right	20	0	8			
cSH	1700	1584	919			
Volume to Capacity	0.02	0.01	0.08			
Queue Length 95th (m)	0.0	0.2	2.1			
Control Delay (s)	0.0	3.9	9.3			
Lane LOS		A	A			
Approach Delay (s)	0.0	3.9	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay		6.2				
Intersection Capacity Utilization		18.6%		ICU Level of Service	A	
Analysis Period (min)		15				

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Existing> SAT
04/16/2020

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (vph)	1046	6	25	1232	0	29
Future Volume (vph)	1046	6	25	1232	0	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.865	
Flt Protected				0.999		
Satd. Flow (prot)	3430	0	0	3400	1519	0
Flt Permitted				0.999		
Satd. Flow (perm)	3430	0	0	3400	1519	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		40	40			2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	0%	0%	5%	0%	7%
Adj. Flow (vph)	1125	6	27	1325	0	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1131	0	0	1352	31	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 62.5%	ICU Level of Service B					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<Existing> SAT
04/16/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	1046	6	25	1232	0	29
Future Volume (Veh/h)	1046	6	25	1232	0	29
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1125	6	27	1325	0	31
Pedestrians				2	40	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.90		0.95	0.90
vC, conflicting volume			1171		1884	608
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			971		1393	346
tC, single (s)			4.1		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			96		100	94
cM capacity (veh/h)			624		118	552
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	750	381	469	883	31	
Volume Left	0	0	27	0	0	
Volume Right	0	6	0	0	31	
cSH	1700	1700	624	1700	552	
Volume to Capacity	0.44	0.22	0.04	0.52	0.06	
Queue Length 95th (m)	0.0	0.0	1.0	0.0	1.4	
Control Delay (s)	0.0	0.0	1.2	0.0	11.9	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.4		11.9	
Approach LOS					B	
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			62.5%		ICU Level of Service	B
Analysis Period (min)			15			










Lanes, Volumes, Timings
14: Sheppard Ave E & Reidmount Ave

<Existing> SAT
04/16/2020

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	16	1055	1243	39	18	14
Future Volume (vph)	16	1055	1243	39	18	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.942	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	6206	3382	0	1720	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	6206	3382	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Confl. Peds. (#/hr)	23			23	8	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	4%	5%	6%	0%	0%
Adj. Flow (vph)	17	1147	1351	42	20	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1164	1393	0	35	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 50.0%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
14: Sheppard Ave E & Reidmount Ave

<Existing> SAT
04/16/2020

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	16	1055	1243	39	18	14	
Future Volume (Veh/h)	16	1055	1243	39	18	14	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	17	1147	1351	42	20	15	
Pedestrians		17	8		23		
Lane Width (m)		3.5	3.5		3.5		
Walking Speed (m/s)		1.1	1.1		1.1		
Percent Blockage		2	1		2		
Right turn flare (veh)							
Median type		None	None				
Median storage (veh)							
Upstream signal (m)		244	41				
pX, platoon unblocked	0.91				0.91	0.91	
vC, conflicting volume	1416				1724	736	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1255				1594	507	
tC, single (s)	4.2				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.3				3.5	3.3	
p0 queue free %	96				76	97	
cM capacity (veh/h)	465				85	452	
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	181	328	328	328	901	492	35
Volume Left	17	0	0	0	0	0	20
Volume Right	0	0	0	0	0	42	15
cSH	465	1700	1700	1700	1700	1700	130
Volume to Capacity	0.04	0.19	0.19	0.19	0.53	0.29	0.27
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	0.0	7.7
Control Delay (s)	1.7	0.0	0.0	0.0	0.0	0.0	42.6
Lane LOS	A						E
Approach Delay (s)	0.3				0.0		42.6
Approach LOS							E
Intersection Summary							
Average Delay	0.7						
Intersection Capacity Utilization	50.0%			ICU Level of Service		A	
Analysis Period (min)	15						

Lanes, Volumes, Timings
15: Kennedy Road & Jade Street/Collingwood Street

<Existing> SAT
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↔			↔		↔	↔↔↔		↔	↔↔↔	
Traffic Volume (vph)	12	1	32	17	0	12	29	1650	29	6	1633	20
Future Volume (vph)	12	1	32	17	0	12	29	1650	29	6	1633	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.903			0.944			0.997			0.998	
Flt Protected		0.987			0.972		0.950			0.950		
Satd. Flow (prot)	0	1595	0	0	1724	0	1574	4836	0	1685	4763	0
Flt Permitted		0.987			0.972		0.950			0.950		
Satd. Flow (perm)	0	1595	0	0	1724	0	1574	4836	0	1685	4763	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Confl. Peds. (#/hr)							5		5	5		5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	7%	0%	0%	0%	7%	5%	0%	0%	6%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	10	0
Adj. Flow (vph)	12	1	33	17	0	12	30	1684	30	6	1666	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	29	0	30	1714	0	6	1686	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 42.6%

ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
15: Kennedy Road & Jade Street/Collingwood Street

<Existing> SAT
04/16/2020

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↔			↔		↔	↔↔↔		↔	↔↔↔	
Traffic Volume (veh/h)	12	1	32	17	0	12	29	1650	29	6	1633	20
Future Volume (Veh/h)	12	1	32	17	0	12	29	1650	29	6	1633	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	12	1	33	17	0	12	30	1684	30	6	1666	20
Pedestrians		5			5							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)							134			190		
pX, platoon unblocked	0.82	0.82	0.78	0.82	0.82	0.93	0.78			0.93		
vC, conflicting volume	2326	3472	570	2365	3467	581	1691			1719		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1244	2643	0	1291	2637	272	911			1500		
tC, single (s)	7.5	6.5	7.0	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	88	94	96	80	100	98	95			99		
cM capacity (veh/h)	100	18	832	87	18	675	556			418		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	46	29	30	674	674	367	6	666	666	353
Volume Left	12	17	30	0	0	0	6	0	0	0
Volume Right	33	12	0	0	0	30	0	0	0	20
cSH	214	135	556	1700	1700	1700	418	1700	1700	1700
Volume to Capacity	0.22	0.21	0.05	0.40	0.40	0.22	0.01	0.39	0.39	0.21
Queue Length 95th (m)	6.0	5.9	1.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Control Delay (s)	26.4	38.7	11.8	0.0	0.0	0.0	13.7	0.0	0.0	0.0
Lane LOS	D	E	B				B			
Approach Delay (s)	26.4	38.7	0.2				0.0			
Approach LOS	D	E								

Intersection Summary

Average Delay

0.8

Intersection Capacity Utilization

42.6%

ICU Level of Service

A

Analysis Period (min)

15

Lanes, Volumes, Timings
16: Collingwood Street & Gordon Ave

<Existing> SAT
04/16/2020

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations		↔	↔		↔	↔
Traffic Volume (vph)	24	2	1	0	2	43
Future Volume (vph)	24	2	1	0	2	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.872	
Flt Protected		0.957			0.997	
Satd. Flow (prot)	0	1662	1879	0	1457	0
Flt Permitted		0.957			0.997	
Satd. Flow (perm)	0	1662	1879	0	1457	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	133.7		190.4	
Travel Time (s)		10.5	12.0		17.1	
Confl. Peds. (#/hr)					1	1
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	9%	0%	0%	0%	50%	10%
Adj. Flow (vph)	30	3	1	0	3	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	33	1	0	57	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 18.4%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
16: Collingwood Street & Gordon Ave

<Existing> SAT
04/16/2020

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↔	↔		↔	↔
Traffic Volume (veh/h)	24	2	1	0	2	43
Future Volume (Veh/h)	24	2	1	0	2	43
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	30	3	1	0	3	54
Pedestrians		1	1			
Lane Width (m)		3.5	3.5			
Walking Speed (m/s)		1.1	1.1			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1				65	2
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1				65	2
tC, single (s)	4.2				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.3				4.0	3.4
p0 queue free %	98				100	95
cM capacity (veh/h)	1577				817	1058
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	33	1	57			
Volume Left	30	0	3			
Volume Right	0	0	54			
cSH	1577	1700	1042			
Volume to Capacity	0.02	0.00	0.05			
Queue Length 95th (m)	0.4	0.0	1.3			
Control Delay (s)	6.7	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	6.7	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay		7.8				
Intersection Capacity Utilization		18.4%		ICU Level of Service	A	
Analysis Period (min)		15				

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↱	
Traffic Volume (vph)	0	0	77	0	0	43
Future Volume (vph)	0	0	77	0	0	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1842	0	0	1733	1578	0
Flt Permitted				0.950		
Satd. Flow (perm)	1842	0	0	1733	1578	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	67.1			152.9	154.8	
Travel Time (s)	6.0			13.8	13.9	
Confl. Peds. (#/hr)		9	9			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	50%	3%	0%	0%	3%
Adj. Flow (vph)	0	0	85	0	0	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	85	47	0
Sign Control	Free			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 17.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection Sign configuration not allowed in HCM analysis.

Lanes, Volumes, Timings

18: Private Access & Village Green Sq

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	50	244	33	3	223	3	0	0	0	74	0	1
Future Volume (vph)	50	244	33	3	223	3	0	0	0	74	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.986			0.998						0.998	
Flt Protected		0.992			0.999						0.953	
Satd. Flow (prot)	0	1762	0	0	1830	0	0	1842	0	0	1765	0
Flt Permitted		0.992			0.999						0.953	
Satd. Flow (perm)	0	1762	0	0	1830	0	0	1842	0	0	1765	0
Link Speed (k/h)		50			50			48			40	
Link Distance (m)		243.9			158.0			39.7			154.8	
Travel Time (s)		17.6			11.4			3.0			13.9	
Confl. Peds. (#/hr)	32					32	6		2	2		6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	4%	10%	34%	2%	0%	0%	2%	0%	0%	2%	100%
Adj. Flow (vph)	53	260	35	3	237	3	0	0	0	79	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	348	0	0	243	0	0	0	0	0	80	0
Sign Control		Free			Free			Stop			Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

18: Private Access & Village Green Sq

<Existing> SAT

04/16/2020

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	50	244	33	3	223	3	0	0	0	74	0	1
Future Volume (Veh/h)	50	244	33	3	223	3	0	0	0	74	0	1
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	53	260	35	3	237	3	0	0	0	79	0	1
Pedestrians		6			2						32	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		1			0						3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		244										
pX, platoon unblocked												
vC, conflicting volume	272			295			635	662	280	662	678	276
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	272			295			635	662	280	662	678	276
tC, single (s)	4.1			4.4			7.1	6.5	6.2	7.1	6.5	7.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.5	4.0	3.3	3.5	4.0	4.2
p0 queue free %	96			100			100	100	100	77	100	100
cM capacity (veh/h)	1255			1104			370	355	763	347	347	558

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	348	243	0	80
Volume Left	53	3	0	79
Volume Right	35	3	0	1
cSH	1255	1104	1700	348
Volume to Capacity	0.04	0.00	0.00	0.23
Queue Length 95th (m)	1.0	0.1	0.0	6.6
Control Delay (s)	1.6	0.1	0.0	18.4
Lane LOS	A	A	A	C
Approach Delay (s)	1.6	0.1	0.0	18.4
Approach LOS			A	C

Intersection Summary

Average Delay 3.1

Intersection Capacity Utilization 48.9%

ICU Level of Service

A

Analysis Period (min)

15

SimTraffic Simulation Summary
Agincourt North-South GS EA

<Existing> AM
08-08-2022

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	13249	12990	13132	13163	13171	13142
Vehs Exited	13260	13035	13165	13116	13194	13151
Starting Vehs	582	573	601	519	552	563
Ending Vehs	571	528	568	566	529	544
Travel Distance (km)	15385	14991	15221	15110	15184	15178
Travel Time (hr)	567.4	549.8	545.4	547.5	557.4	553.5
Total Delay (hr)	264.1	253.7	245.1	249.2	257.0	253.8
Total Stops	21055	20688	20301	20027	20934	20599
Fuel Used (l)	1454.3	1408.7	1423.1	1418.0	1429.9	1426.8

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00					
End Time	8:00					
Total Time (min)	60					
Volumes adjusted by Growth Factors.						
Run Number	1	2	3	4	5	Avg
Vehs Entered	13249	12990	13132	13163	13171	13142
Vehs Exited	13260	13035	13165	13116	13194	13151
Starting Vehs	582	573	601	519	552	563
Ending Vehs	571	528	568	566	529	544
Travel Distance (km)	15385	14991	15221	15110	15184	15178
Travel Time (hr)	567.4	549.8	545.4	547.5	557.4	553.5
Total Delay (hr)	264.1	253.7	245.1	249.2	257.0	253.8
Total Stops	21055	20688	20301	20027	20934	20599
Fuel Used (l)	1454.3	1408.7	1423.1	1418.0	1429.9	1426.8

Queuing and Blocking Report
Agincourt North-South GS EA

<Existing> AM
08-08-2022

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	45.3	97.2	123.9	55.0	35.0	111.8	116.3	69.9	154.2	148.6	115.3	45.4
Average Queue (m)	19.9	44.4	66.8	41.8	32.7	84.4	81.5	58.3	83.8	62.1	45.8	15.0
95th Queue (m)	43.2	82.9	110.3	69.8	40.3	131.7	132.0	84.2	167.9	136.5	87.7	31.7
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)						16	11		1	0		
Queuing Penalty (veh)						108	72		4	0		
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	8	18	39	4	61	34		58	1		3	0
Queuing Penalty (veh)	21	9	85	9	275	86		194	2		4	0

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.8	148.1	149.8	149.2
Average Queue (m)	44.8	84.0	90.7	93.1
95th Queue (m)	81.0	139.0	142.0	144.1
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	5	20		
Queuing Penalty (veh)	21	26		

Queuing and Blocking Report

Agincourt North-South GS EA

<Existing> AM

08-08-2022

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	28.2	39.8	40.9	26.9	30.6	68.1	64.2	49.3	18.7	16.3	27.6	24.0
Average Queue (m)	14.7	25.3	26.8	6.9	4.5	32.7	33.4	7.9	1.0	1.1	9.1	8.0
95th Queue (m)	25.8	39.1	40.2	22.9	17.0	58.3	59.7	26.2	9.5	10.3	21.9	17.5
Link Distance (m)	26.7	26.7	26.7	26.7		50.4	50.4		204.7	204.7	66.8	66.8
Upstream Blk Time (%)	2	14	15	2		3	4	0				
Queuing Penalty (veh)	4	28	31	3		21	24	0				
Storage Bay Dist (m)					25.0			55.0				
Storage Blk Time (%)					0	19	4	0				
Queuing Penalty (veh)					0	4	5	0				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	19.9	17.4
Average Queue (m)	4.8	5.2
95th Queue (m)	14.7	13.4
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Queuing and Blocking Report

Agincourt North-South GS EA

<Existing> AM

08-08-2022

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	NB	NB	NB	NB	NB	B44	B44	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	T	T	L	T
Maximum Queue (m)	10.2	109.7	33.8	20.2	57.6	62.1	69.0	52.3	5.9	30.1	33.5	55.0
Average Queue (m)	1.6	62.1	15.1	2.7	34.9	39.3	45.1	19.1	0.2	3.5	16.5	41.0
95th Queue (m)	7.1	98.6	28.0	12.1	55.0	61.0	71.2	44.7	3.3	17.4	32.4	61.1
Link Distance (m)	53.0	222.2	222.2		52.3	52.3	52.3		21.4	21.4		33.6
Upstream Blk Time (%)				0	1	1	4	0	0	1	0	18
Queuing Penalty (veh)				0	4	6	20	0	0	5	0	88
Storage Bay Dist (m)				25.0				30.0			20.0	
Storage Blk Time (%)					15		17	0			3	25
Queuing Penalty (veh)					1		30	0			16	23

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	B45	B45	B45
Directions Served	T	T	TR	T	T	T
Maximum Queue (m)	56.2	55.6	27.0	63.2	65.9	62.2
Average Queue (m)	45.0	45.5	3.7	15.1	19.6	22.3
95th Queue (m)	59.4	60.0	17.7	44.5	50.5	51.8
Link Distance (m)	33.6	33.6	33.6	322.9	322.9	322.9
Upstream Blk Time (%)	26	30	0			
Queuing Penalty (veh)	125	148	0			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	SB	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	124.7	123.5	98.7	59.5	64.7	59.6	3.2	5.3	5.7	45.2	40.9	45.9
Average Queue (m)	83.4	84.8	59.9	37.7	35.7	34.6	0.1	0.2	0.2	36.8	37.0	36.7
95th Queue (m)	112.5	113.0	97.0	56.4	54.8	54.2	2.2	3.8	4.0	42.3	40.1	42.5
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	21.4	21.4	21.4
Upstream Blk Time (%)										24	25	25
Queuing Penalty (veh)										176	187	186
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		2	0									
Queuing Penalty (veh)		5	0									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	B44	B44	B44
Directions Served	T	T	T
Maximum Queue (m)	74.6	75.6	75.1
Average Queue (m)	48.9	54.9	58.6
95th Queue (m)	78.7	85.1	87.9
Link Distance (m)	52.3	52.3	52.3
Upstream Blk Time (%)	7	10	14
Queuing Penalty (veh)	36	54	75
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	SB
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	79.6	85.6	89.8	83.0	115.2	94.0	87.2	65.2	12.0	63.9	32.0	66.1
Average Queue (m)	53.9	60.1	56.9	47.8	59.0	79.6	63.2	36.4	0.8	12.3	1.5	45.1
95th Queue (m)	76.3	81.1	80.3	73.5	96.2	98.5	83.9	62.5	6.9	41.5	14.5	62.4
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	54.6
Upstream Blk Time (%)						11	2	0		0	0	1
Queuing Penalty (veh)						0	0	0		0	0	10
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T
Maximum Queue (m)	69.6	67.4	3.1	16.8	11.0
Average Queue (m)	52.4	45.1	0.1	0.9	0.5
95th Queue (m)	70.7	64.5	2.2	7.0	4.5
Link Distance (m)	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	4	2			
Queuing Penalty (veh)	28	12			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Zone Summary

Zone wide Queuing Penalty: 2273

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	14356	14140	14019	14141	13713	14067
Vehs Exited	14121	13982	13853	13898	13649	13898
Starting Vehs	545	537	590	502	586	548
Ending Vehs	780	695	756	745	650	715
Travel Distance (km)	15981	15907	15609	15660	15251	15682
Travel Time (hr)	671.9	672.7	686.0	653.6	636.4	664.1
Total Delay (hr)	354.2	357.5	375.7	342.4	332.7	352.5
Total Stops	23718	23268	22493	23761	22352	23124
Fuel Used (l)	1587.7	1582.0	1572.9	1546.7	1505.2	1558.9

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	5:00					
End Time	6:00					
Total Time (min)	60					
Volumes adjusted by Growth Factors.						
Run Number	1	2	3	4	5	Avg
Vehs Entered	14356	14140	14019	14141	13713	14067
Vehs Exited	14121	13982	13853	13898	13649	13898
Starting Vehs	545	537	590	502	586	548
Ending Vehs	780	695	756	745	650	715
Travel Distance (km)	15981	15907	15609	15660	15251	15682
Travel Time (hr)	671.9	672.7	686.0	653.6	636.4	664.1
Total Delay (hr)	354.2	357.5	375.7	342.4	332.7	352.5
Total Stops	23718	23268	22493	23761	22352	23124
Fuel Used (l)	1587.7	1582.0	1572.9	1546.7	1505.2	1558.9

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.9	186.6	182.9	55.0	35.0	109.1	113.6	69.9	139.8	132.0	104.2	82.1
Average Queue (m)	23.5	148.3	170.0	52.8	33.2	76.9	68.6	59.6	82.7	72.0	68.5	31.0
95th Queue (m)	47.9	216.0	198.9	64.7	39.9	120.8	115.2	84.2	136.8	114.7	94.6	61.5
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		11	30			6	3		0			
Queuing Penalty (veh)		67	182			26	13		1			
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	3	27	60	18	72	23		46	9		12	0
Queuing Penalty (veh)	10	28	220	65	234	47		167	16		25	1

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	166.0	156.4	158.2
Average Queue (m)	45.5	90.5	92.0	94.4
95th Queue (m)	78.8	154.7	153.7	154.3
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	5	42		
Queuing Penalty (veh)	23	64		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	16.9	39.0	42.3	31.8	35.9	65.1	65.8	42.5	10.8	27.1	40.8	20.8
Average Queue (m)	3.7	28.5	30.5	12.9	4.9	26.4	27.3	2.9	0.4	1.7	18.8	10.1
95th Queue (m)	12.0	37.5	40.8	29.6	18.2	57.1	59.1	17.9	5.2	12.2	35.2	17.9
Link Distance (m)	26.7	26.7	26.7	26.7		50.4	50.4		204.7	204.7	66.8	66.8
Upstream Blk Time (%)	0	20	22	4	0	1	2	0				
Queuing Penalty (veh)	0	55	61	10	0	6	9	0				
Storage Bay Dist (m)					25.0			55.0				
Storage Blk Time (%)						7	2	0				
Queuing Penalty (veh)						1	1	0				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	21.9	13.6
Average Queue (m)	7.2	4.3
95th Queue (m)	17.5	11.5
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44	SB
Directions Served	LTR	L	TR	L	T	T	T	R	T	T	T	L
Maximum Queue (m)	10.2	93.8	27.7	6.9	54.5	67.5	71.0	52.3	3.6	14.0	32.9	33.5
Average Queue (m)	1.5	53.6	12.6	0.4	37.5	44.2	50.1	22.8	0.1	0.8	5.7	23.4
95th Queue (m)	7.1	85.0	23.5	3.7	55.9	66.8	75.6	50.0	2.6	7.3	23.0	38.6
Link Distance (m)	53.0	222.2	222.2		52.3	52.3	52.3		21.4	21.4	21.4	
Upstream Blk Time (%)					1	3	7	0		0	2	2
Queuing Penalty (veh)					4	18	43	0		1	14	0
Storage Bay Dist (m)				25.0				30.0				20.0
Storage Blk Time (%)					19		22	0				14
Queuing Penalty (veh)					1		61	2				67

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	B45	B45	B45
Directions Served	T	T	T	TR	T	T	T
Maximum Queue (m)	49.9	51.5	52.4	23.0	53.0	60.2	63.7
Average Queue (m)	46.3	48.2	48.5	7.9	20.0	27.7	30.7
95th Queue (m)	54.8	51.6	51.0	22.9	47.8	54.9	57.2
Link Distance (m)	33.6	33.6	33.6	33.6	322.9	322.9	322.9
Upstream Blk Time (%)	22	27	32	0			
Queuing Penalty (veh)	108	131	152	0			
Storage Bay Dist (m)							
Storage Blk Time (%)	26						
Queuing Penalty (veh)	37						

Queuing and Blocking Report
Agincourt North-South GS EA

<Existing> PM
08-08-2022

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	SB	SB	SB	B44
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	94.9	99.7	81.6	63.0	67.9	71.6	10.9	28.3	40.3	46.2	36.5	68.0
Average Queue (m)	63.7	66.7	49.5	37.7	40.5	43.2	0.5	1.2	36.7	37.0	36.4	44.4
95th Queue (m)	89.2	93.5	76.1	54.4	61.2	64.5	8.0	14.3	39.5	40.7	36.9	70.4
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	21.4	21.4	21.4	52.3
Upstream Blk Time (%)							0	0	22	25	26	4
Queuing Penalty (veh)							0	1	156	177	184	21
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		0										
Queuing Penalty (veh)		1										

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	B44	B44
Directions Served	T	T
Maximum Queue (m)	71.9	71.8
Average Queue (m)	52.2	56.6
95th Queue (m)	77.8	79.6
Link Distance (m)	52.3	52.3
Upstream Blk Time (%)	7	10
Queuing Penalty (veh)	37	52
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
Agincourt North-South GS EA

<Existing> PM
08-08-2022

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	90.2	96.4	84.2	69.6	242.8	93.1	86.7	80.5	57.1	67.2	49.5	5.2
Average Queue (m)	62.7	68.6	57.2	42.6	194.0	84.8	72.6	52.5	4.6	30.3	5.2	0.2
95th Queue (m)	84.1	91.0	78.2	64.6	316.0	94.5	88.6	76.5	26.7	66.4	27.3	2.8
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)					35	20	6	1		1	0	
Queuing Penalty (veh)					0	0	0	0		0	0	
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	67.1	70.8	69.3	9.0	20.9	16.5
Average Queue (m)	41.4	46.9	44.2	0.3	2.1	1.2
95th Queue (m)	64.6	75.4	70.4	4.0	12.0	8.0
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	2	4	5			
Queuing Penalty (veh)	15	29	34			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

Zone wide Queuing Penalty: 2676

SimTraffic Simulation Summary
Agincourt North-South GS EA

<Existing> SAT
08-08-2022

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	13569	13588	13717	13839	13549	13648
Vehs Exited	13523	13541	13622	13829	13427	13589
Starting Vehs	533	511	514	542	501	515
Ending Vehs	579	558	609	552	623	576
Travel Distance (km)	15200	15236	15302	15622	15251	15322
Travel Time (hr)	547.5	562.4	581.5	599.8	578.1	573.9
Total Delay (hr)	246.8	262.0	279.7	291.7	277.6	271.6
Total Stops	17817	18492	20031	19706	19086	19031
Fuel Used (l)	1425.3	1446.1	1461.1	1503.2	1455.5	1458.2

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	13569	13588	13717	13839	13549	13648
Vehs Exited	13523	13541	13622	13829	13427	13589
Starting Vehs	533	511	514	542	501	515
Ending Vehs	579	558	609	552	623	576
Travel Distance (km)	15200	15236	15302	15622	15251	15322
Travel Time (hr)	547.5	562.4	581.5	599.8	578.1	573.9
Total Delay (hr)	246.8	262.0	279.7	291.7	277.6	271.6
Total Stops	17817	18492	20031	19706	19086	19031
Fuel Used (l)	1425.3	1446.1	1461.1	1503.2	1455.5	1458.2

Queuing and Blocking Report
Agincourt North-South GS EA

<Existing> SAT
08-08-2022

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	44.3	114.8	144.3	55.0	35.0	112.4	116.8	69.8	163.4	161.4	141.5	80.6
Average Queue (m)	18.1	33.8	68.2	36.4	33.9	81.9	72.9	64.0	116.9	82.4	59.8	31.1
95th Queue (m)	35.3	91.9	127.7	66.4	38.8	130.1	126.0	83.3	210.0	168.6	118.9	65.6
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)			0			18	5		19	1	0	
Queuing Penalty (veh)			1			109	31		108	3	0	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	2	4	33	3	73	21		76	1		3	2
Queuing Penalty (veh)	6	4	74	7	235	55		275	2		8	6

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	65.3	91.6	97.7	106.6
Average Queue (m)	35.3	50.7	53.5	59.9
95th Queue (m)	64.1	81.3	85.4	93.2
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	8	9		
Queuing Penalty (veh)	29	14		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	WB	WB	WB	B53	NB	NB
Directions Served	T	T	TR	L	T	T	T	L	R
Maximum Queue (m)	36.4	38.4	18.2	11.6	39.3	39.0	2.3	27.6	12.0
Average Queue (m)	20.6	22.9	5.1	3.1	8.1	8.9	0.1	10.2	4.2
95th Queue (m)	38.8	41.9	16.4	9.9	25.8	27.5	1.6	21.9	11.6
Link Distance (m)	26.7	26.7	26.7		50.4	50.4	204.7	66.8	66.8
Upstream Blk Time (%)	8	9	0		0	0			
Queuing Penalty (veh)	21	25	0		0	0			
Storage Bay Dist (m)				25.0					
Storage Blk Time (%)					1	0			
Queuing Penalty (veh)					0	0			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	NB	NB	NB	NB	NB	B44	B44	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	T	T	L	T
Maximum Queue (m)	20.8	96.0	21.5	17.5	56.2	62.2	70.7	52.3	4.8	33.3	31.3	54.8
Average Queue (m)	3.7	51.9	8.8	3.0	34.6	38.8	47.5	19.0	0.2	3.7	16.7	34.7
95th Queue (m)	14.4	82.6	17.2	12.2	53.7	61.0	73.1	45.3	2.5	17.5	29.8	55.6
Link Distance (m)	53.0	222.2	222.2		52.3	52.3	52.3		21.4	21.4		33.6
Upstream Blk Time (%)					1	1	5	0		1	0	11
Queuing Penalty (veh)					5	6	32	0		5	0	45
Storage Bay Dist (m)				25.0				30.0			20.0	
Storage Blk Time (%)				0	17		21	0			6	22
Queuing Penalty (veh)				1	2		46	1			24	20

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	B45	B45	B45
Directions Served	T	T	TR	T	T	T
Maximum Queue (m)	54.0	51.3	21.4	34.6	66.6	44.6
Average Queue (m)	40.2	42.6	7.9	4.7	10.6	11.8
95th Queue (m)	57.0	56.8	22.8	21.4	39.6	35.2
Link Distance (m)	33.6	33.6	33.6	322.9	322.9	322.9
Upstream Blk Time (%)	18	24				
Queuing Penalty (veh)	75	103				
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	SB	SB	SB	B44
Directions Served	L	LR	R	T	T	T	T		T	T	T	T
Maximum Queue (m)	119.8	118.4	111.2	64.1	59.7	76.7	26.5	13.2	47.4	42.6	41.1	60.9
Average Queue (m)	78.5	77.8	55.1	36.8	38.4	47.0	1.1	0.4	31.8	32.8	31.7	17.1
95th Queue (m)	110.7	109.1	94.2	55.3	56.5	69.4	13.9	9.3	48.0	46.7	46.6	47.6
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	21.4	21.4	21.4	52.3
Upstream Blk Time (%)							0	0	14	16	17	1
Queuing Penalty (veh)							1	0	91	108	109	3
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		2	0									
Queuing Penalty (veh)		4	0									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	B44	B44	B44
Directions Served	T	T	
Maximum Queue (m)	69.0	70.6	3.2
Average Queue (m)	22.0	24.3	0.1
95th Queue (m)	57.7	61.2	2.3
Link Distance (m)	52.3	52.3	52.3
Upstream Blk Time (%)	1	2	
Queuing Penalty (veh)	6	9	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	SB
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	96.6	105.7	100.7	84.0	275.6	97.6	88.5	72.6	48.8	64.8	39.0	70.8
Average Queue (m)	64.6	72.8	63.8	48.9	243.2	84.3	68.2	46.2	6.1	22.2	3.8	37.3
95th Queue (m)	90.0	98.3	90.2	78.1	327.1	97.6	86.7	70.2	29.7	57.4	23.3	65.2
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	54.6
Upstream Blk Time (%)					58	16	4	0	0	1	0	3
Queuing Penalty (veh)					0	0	0	0	0	0	0	18
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T
Maximum Queue (m)	70.6	70.8	25.6	34.7	34.7
Average Queue (m)	43.1	45.3	1.4	2.7	2.3
95th Queue (m)	70.0	70.6	11.2	16.2	15.4
Link Distance (m)	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	4	7			
Queuing Penalty (veh)	26	45			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Zone Summary

Zone wide Queuing Penalty: 1799

APPENDIX F

Future 2035 “Do-Nothing” Traffic Conditions

Lanes, Volumes, Timings

<2035 Do Nothing> AM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↔↔			↔			↔	
Traffic Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Future Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1		0	0		0	0		0	
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.97				0.94				
Frt		0.997						0.920			0.912	
Flt Protected		0.995		0.950				0.984			0.988	
Satd. Flow (prot)	0	3316	0	1574	3368	0	0	1552	0	0	1660	0
Flt Permitted		0.664		0.315				0.768			0.828	
Satd. Flow (perm)	0	2213	0	504	3368	0	0	1201	0	0	1391	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						65			65	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			49	49			27		59			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	7%	7%	7%	6%	2%	9%	2%	2%	2%	2%	2%
Adj. Flow (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	881	0	40	1247	0	0	110	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4			8		
Detector Phase		2	2	6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

<2035 Do Nothing> AM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	73.0	73.0		73.0	73.0		37.0	37.0		37.0	37.0	
Total Split (%)	66.4%	66.4%		66.4%	66.4%		33.6%	33.6%		33.6%	33.6%	
Maximum Green (s)	67.0	67.0		67.0	67.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		89.9		89.9	89.9			11.1			11.1	
Actuated g/C Ratio		0.82		0.82	0.82			0.10			0.10	
v/c Ratio		0.49		0.10	0.45			0.61			0.51	
Control Delay		4.4		0.6	0.6			37.0			28.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		4.4		0.6	0.6			37.0			28.1	
LOS		A		A	A			D			C	
Approach Delay		4.4			0.6			37.0			28.1	
Approach LOS		A			A			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 101 (92%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 4.9

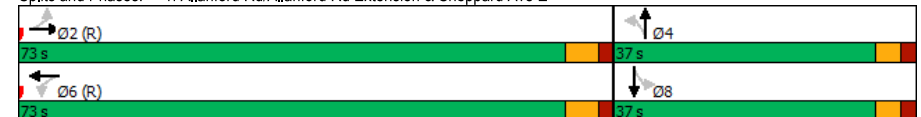
Intersection LOS: A

Intersection Capacity Utilization 91.8%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> AM

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Future Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.95	1.00			0.98			1.00	0.95
Frt		0.999			0.995			0.955				0.850
Flt Protected	0.950			0.950				0.968			0.954	
Satd. Flow (prot)	1636	3362	0	1685	3344	0	0	1728	0	0	1757	1478
Flt Permitted	0.136			0.358				0.808			0.723	
Satd. Flow (perm)	234	3362	0	602	3344	0	0	1424	0	0	1326	1410
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			5			69				69
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	26		53	53		26	24		3	3		24
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	6%	0%	0%	6%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	776	0	5	1247	0	0	15	0	0	285	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template	Thru			Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	10.0	69.0		59.0	59.0		41.0	41.0		41.0	41.0	41.0

Lanes, Volumes, Timings

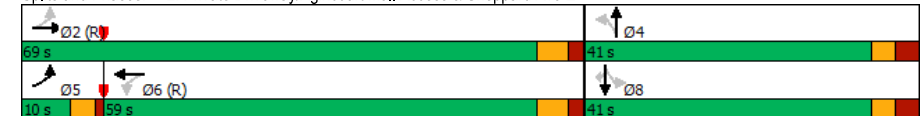
<2035 Do Nothing> AM

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	9.1%	62.7%		53.6%	53.6%		37.3%	37.3%		37.3%	37.3%	37.3%
Maximum Green (s)	6.0	63.0		53.0	53.0		35.0	35.0		35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	72.9	70.9		62.7	62.7		29.1			29.1	29.1	29.1
Actuated g/C Ratio	0.66	0.64		0.57	0.57		0.26			0.26	0.26	0.26
v/c Ratio	0.35	0.36		0.01	0.65		0.04			0.81	0.11	0.11
Control Delay	10.9	8.5		14.2	20.1		0.1			58.3	3.3	3.3
Queue Delay	0.0	0.0		0.0	0.3		0.0			0.0	0.0	0.0
Total Delay	10.9	8.5		14.2	20.4		0.1			58.3	3.3	3.3
LOS	B	A		B	C		A			E	A	A
Approach Delay		8.7			20.4		0.1			50.8		
Approach LOS		A			C		A			D		
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 100 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 20.2	Intersection LOS: C											
Intersection Capacity Utilization 72.6%	ICU Level of Service C											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<2035 Do Nothing> AM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	52	508	501	405	889	163	282	1267	277	159	1463	51
Future Volume (vph)	52	508	501	405	889	163	282	1267	277	159	1463	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.98		0.91	0.97	0.98		0.99		0.88	0.99	1.00	
Frt			0.850		0.977				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3275	1345	1560	3159	0	*1622	4794	1281	1604	4713	0
Flt Permitted	0.230			0.337			0.099			0.103		
Satd. Flow (perm)	392	3275	1226	535	3159	0	160	4794	1126	172	4713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190		23				239		4	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	97		80	80		97	93		102	102		93
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	9%	4%	8%	8%	12%	9%	7%	12%	5%	6%	11%
Bus Blockages (#/hr)	0	0	18	0	0	18	0	0	12	0	12	0
Adj. Flow (vph)	52	508	501	405	889	163	282	1267	277	159	1463	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	508	501	405	1052	0	282	1267	277	159	1514	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.20	1.09	1.01	1.01	1.09	1.01	1.16	1.09	1.04	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		2		1	6		7	4		3	8	
Permitted Phases		2		2	6		4		4	8		
Detector Phase		2	2	2	1	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	37.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	44.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<2035 Do Nothing> AM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	44.0	44.0	44.0	17.0	61.0		14.0	46.0	46.0	13.0	45.0	
Total Split (%)	36.7%	36.7%	36.7%	14.2%	50.8%		11.7%	38.3%	38.3%	10.8%	37.5%	
Maximum Green (s)	37.0	37.0	37.0	13.0	54.0		10.0	39.0	39.0	9.0	38.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.5	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0		2.5	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	Max	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	30.0	30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0	0		0			0	0		0	
Act Effct Green (s)	38.0	38.0	38.0	58.0	55.0		55.1	40.1	40.1	51.9	39.0	
Actuated g/C Ratio	0.32	0.32	0.32	0.48	0.46		0.46	0.33	0.33	0.43	0.32	
v/c Ratio	0.42	0.49	0.97	1.07	0.72		1.32	0.79	0.52	0.83	0.99	
Control Delay	45.3	35.1	79.5	196.6	23.4		641.5	40.7	9.8	66.1	75.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	45.3	35.1	79.5	196.6	23.4		641.5	40.7	9.8	66.1	75.8	
LOS	D	D	E	F	C		F	D	A	E	E	
Approach Delay		56.6			71.5			128.8			74.8	
Approach LOS		E			E			F			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 36 (30%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 87.2

Intersection LOS: F

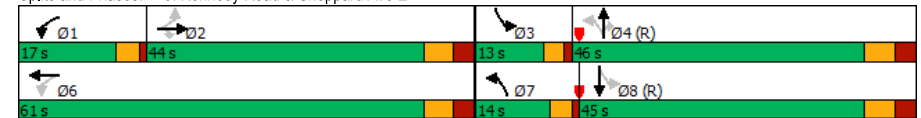
Intersection Capacity Utilization 125.2%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings <2035 Do Nothing> AM
4: Kennedy Road & Bonis Ave/Cardwell Avenue 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Future Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1			1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.96		1.00		0.99	1.00	
Frt			0.850			0.850		0.996			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	0	1478	1620	0	1478	1589	4782	0	1685	4876	0
Flt Permitted	0.950			0.950			0.097			0.222		
Satd. Flow (perm)	1559	0	1349	1495	0	1419	162	4782	0	391	4876	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			182			69		6			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	26		70	70		26	31		17	17		31
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	2%	2%	4%	2%	2%	6%	5%	4%	0%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	0	0
Adj. Flow (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	190	45	0	65	120	1201	0	5	1673	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.04	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings <2035 Do Nothing> AM
4: Kennedy Road & Bonis Ave/Cardwell Avenue 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	20.2		20.2	20.2		20.2	81.8	79.8		68.0	68.0	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.74	0.73		0.62	0.62	
v/c Ratio	0.68		0.48	0.16		0.21	0.51	0.35		0.02	0.55	
Control Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
LOS	D		B	D		A	B	A		B	B	
Approach Delay		32.5			20.4			7.1			14.1	
Approach LOS		C			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 13.7

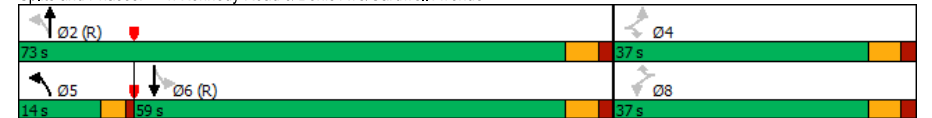
Intersection LOS: B

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 60











Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings <2035 Do Nothing> AM
5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Future Volume (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.91	0.99		0.97	0.98		0.97
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4707	0	1532	3433	1385	1546	0	1449	1685	0	1507
Flt Permitted	0.136			0.297			0.950			0.950		
Satd. Flow (perm)	241	4707	0	471	3433	1255	1523	0	1409	1658	0	1467
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				80			73			73
Link Speed (k/h)		60				60		40			40	
Link Distance (m)		40.6			63.5			81.9			115.9	
Travel Time (s)		2.4			3.8			7.4			10.4	
Confl. Peds. (#/hr)	30		25	25		30	14		15	15		14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	7%	10%	4%	1%	9%	2%	4%	0%	2%	0%
Bus Blockages (#/hr)	0	18	0	0	0	18	0	0	0	0	0	0
Adj. Flow (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	925	0	20	1509	120	35	0	55	20	0	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.20	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm		Perm	Perm		Perm
Protected Phases	5	2			6							
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	5	2		6	6	6	4		4	8		8
Switch Phase												
Minimum Initial (s)	6.0	24.0		24.0	24.0	24.0	7.0		7.0	7.0		7.0
Minimum Split (s)	10.0	31.0		31.0	31.0	31.0	40.0		40.0	40.0		40.0

Lanes, Volumes, Timings <2035 Do Nothing> AM
5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E 08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	80.0		70.0	70.0	70.0	40.0		40.0	40.0		40.0
Total Split (%)	8.3%	66.7%		58.3%	58.3%	58.3%	33.3%		33.3%	33.3%		33.3%
Maximum Green (s)	6.0	73.0		63.0	63.0	63.0	34.0		34.0	34.0		34.0
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	3.0	6.0		6.0	6.0	6.0	5.0		5.0	5.0		5.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	2.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	None		None	None		None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)		17.0		17.0	17.0	17.0	27.0		27.0	27.0		27.0
Pedestrian Calls (#/hr)		0		0	0	0	0		0	0		0
Act Effct Green (s)	104.9	103.1		94.8	94.8	94.8	9.7		9.7	9.7		9.7
Actuated g/C Ratio	0.87	0.86		0.79	0.79	0.79	0.08		0.08	0.08		0.08
v/c Ratio	0.28	0.23		0.05	0.56	0.12	0.29		0.30	0.15		0.16
Control Delay	6.4	1.5		5.2	7.5	2.2	57.3		11.0	53.0		1.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	6.4	1.5		5.2	7.5	2.2	57.3		11.0	53.0		1.9
LOS	A	A		A	A	A	E		B	D		A
Approach Delay		1.9			7.1			29.0			22.3	
Approach LOS		A			A			C			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 72 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 95												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.56												
Intersection Signal Delay: 6.2 Intersection LOS: A												
Intersection Capacity Utilization 75.1% ICU Level of Service D												
Analysis Period (min) 60												

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> AM

6: Lamont Ave/Private Driveway & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Future Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.96		0.97				
Frt		0.997				0.850		0.966				
Flt Protected				0.950				0.964				
Satd. Flow (prot)	1612	3224	0	1327	3275	1597	0	1381	0	0	1842	0
Flt Permitted				0.288								
Satd. Flow (perm)	1612	3224	0	393	3275	1535	0	1401	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				40		30				
Link Speed (k/h)		60			60			40				48
Link Distance (m)		215.0			246.0			211.6				41.8
Travel Time (s)		12.9			14.8			19.0				3.1
Confl. Peds. (#/hr)	7		45	45		7	25		28	28		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	17%	27%	9%	0%	17%	0%	50%	0%	2%	9%
Adj. Flow (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	991	0	15	1511	1	0	8	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Lanes, Volumes, Timings

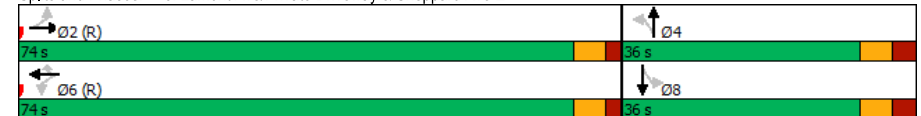
<2035 Do Nothing> AM

6: Lamont Ave/Private Driveway & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		106.2		106.2	106.2	106.2		8.0				
Actuated g/C Ratio		0.97		0.97	0.97	0.97		0.07				
v/c Ratio		0.32		0.04	0.48	0.00		0.06				
Control Delay		0.9		0.3	0.5	0.0		0.9				
Queue Delay		0.0		0.0	0.0	0.0		0.0				
Total Delay		0.9		0.3	0.5	0.0		0.9				
LOS		A		A	A	A		A				
Approach Delay		0.9			0.5			0.9				
Approach LOS		A			A			A				
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 39 (35%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 45												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 0.7												
Intersection LOS: A												
Intersection Capacity Utilization 67.4%												
ICU Level of Service C												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> AM

7: Midland Ave & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Future Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.98	0.99		0.98		0.92	0.98		0.92
Frt		0.964			0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	4464	0	1620	3308	0	*1622	3400	1365	1589	3433	1433
Flt Permitted	0.110			0.230			0.174			0.304		
Satd. Flow (perm)	183	4464	0	386	3308	0	284	3400	1259	497	3433	1323
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			7				164			164
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6				580.5			408.6
Travel Time (s)		14.8			12.5				41.8			29.4
Confl. Peds. (#/hr)	135		59	59		135	68		69	69		68
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	8%	4%	4%	3%	7%	5%	6%	6%	4%	1%
Bus Blockages (#/hr)	0	22	0	0	9	0	0	0	10	0	0	10
Adj. Flow (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	824	0	251	1247	0	289	675	88	91	814	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.04	1.01	1.09	1.01	1.15	1.09	1.01	1.15
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	33.0		6.0	33.0		6.0	34.0	34.0	6.0	34.0	34.0
Minimum Split (s)	9.5	40.0		10.0	40.0		10.0	41.0	41.0	10.0	41.0	41.0

Lanes, Volumes, Timings

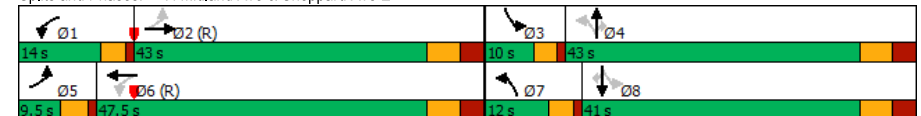
<2035 Do Nothing> AM

7: Midland Ave & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	9.5	43.0		14.0	47.5		12.0	43.0	43.0	10.0	41.0	41.0
Total Split (%)	8.6%	39.1%		12.7%	43.2%		10.9%	39.1%	39.1%	9.1%	37.3%	37.3%
Maximum Green (s)	5.0	36.0		10.0	40.5		8.0	36.0	36.0	6.0	34.0	34.0
Yellow Time (s)	3.5	4.0		3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-2.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	6.0		3.0	6.0		2.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0		27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	45.6	37.1		54.0	41.5		51.0	39.0	39.0	45.0	35.0	35.0
Actuated g/C Ratio	0.41	0.34		0.49	0.38		0.46	0.35	0.35	0.41	0.32	0.32
v/c Ratio	0.65	0.53		0.81	1.00		1.14	0.56	0.16	0.33	0.75	0.36
Control Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
LOS	D	C		D	F		F	C	A	C	D	A
Approach Delay		28.8			75.2			110.3			32.0	
Approach LOS		C			E			F			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 28 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 115												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.14												
Intersection Signal Delay: 63.5	Intersection LOS: E											
Intersection Capacity Utilization 102.4%	ICU Level of Service G											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<2035 Do Nothing> AM
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		↑↑↑		W	↑↑↑
Traffic Volume (vph)	365	185	1751	455	155	2363
Future Volume (vph)	365	185	1751	455	155	2363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.98			
Frt	0.955		0.969			
Flt Protected	0.968				0.950	
Satd. Flow (prot)	1727	0	4687	0	1685	5029
Flt Permitted	0.968				0.072	
Satd. Flow (perm)	1721	0	4687	0	128	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	25		79			
Link Speed (k/h)	40		50			50
Link Distance (m)	204.8		244.4			134.4
Travel Time (s)	18.4		17.6			9.7
Confl. Peds. (#/hr)	4	5		29	29	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0
Adj. Flow (vph)	365	185	1751	455	155	2363
Shared Lane Traffic (%)						
Lane Group Flow (vph)	550	0	2206	0	155	2363
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.04	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	35.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<2035 Do Nothing> AM
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	41.0		56.6		12.4	69.0
Total Split (%)	37.3%		51.5%		11.3%	62.7%
Maximum Green (s)	35.0		50.6		7.9	63.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	35.5		52.1		66.0	64.5
Actuated g/C Ratio	0.32		0.47		0.60	0.59
v/c Ratio	0.96		0.98		0.76	0.80
Control Delay	80.5		32.7		48.6	20.6
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	80.5		32.7		48.6	20.6
LOS	F		C		D	C
Approach Delay	80.5		32.7			22.3
Approach LOS	F		C			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 58 (53%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 32.7

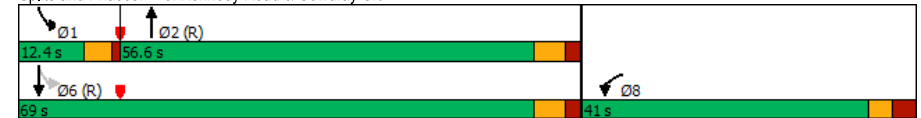
Intersection LOS: C

Intersection Capacity Utilization 96.5%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

<2035 Do Nothing> AM

9: Kennedy Road & Private Driveway/Village Green Sq

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	11	601	0	316	7	1916	345	192	2511	0
Future Volume (vph)	0	0	11	601	0	316	7	1916	345	192	2511	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	25.0	30.0	80.0	20.0				
Storage Lanes	0	0	2	0	1	1	1	0				
Taper Length (m)	2.5		90.0		30.0	35.0						
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt	0.865		0.850					0.850				
Flt Protected			0.950		0.950			0.950				
Satd. Flow (prot)	0	1477	0	3204	1581	0	1685	4932	1478	1652	6200	0
Flt Permitted			0.950		0.085			0.080				
Satd. Flow (perm)	0	1477	0	3204	1581	0	151	4932	1478	139	6200	0
Right Turn on Red		Yes		Yes			Yes				Yes	
Satd. Flow (RTOR)		144		193				144				
Link Speed (k/h)		48		50			50				50	
Link Distance (m)		70.0		243.9			64.3				136.7	
Travel Time (s)		5.3		17.6			4.6				9.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	10%	2%	2%	1%	0%	4%	2%	2%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	12	0
Adj. Flow (vph)	0	0	11	601	0	316	7	1916	345	192	2511	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	601	316	0	7	1916	345	192	2511	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0		6.0			3.0			3.0		
Link Offset(m)		0.0		0.0			0.0			0.0		
Crosswalk Width(m)		1.6		1.6			1.6			1.6		
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	16.0	16.0		30.0	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	14.5%	14.5%		27.3%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	

Lanes, Volumes, Timings

<2035 Do Nothing> AM

9: Kennedy Road & Private Driveway/Village Green Sq

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

<2035 Do Nothing> AM

9: Kennedy Road & Private Driveway/Village Green Sq

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	9.0		25.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					32.0			26.0			26.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)		8.0		26.5	26.8		52.8	52.8	52.8	74.2	71.2	
Actuated g/C Ratio		0.07		0.24	0.24		0.48	0.48	0.48	0.67	0.65	
v/c Ratio		0.05		0.78	0.60		0.10	0.81	0.44	0.63	0.63	
Control Delay		0.4		46.8	17.5		19.9	23.9	10.4	35.1	15.4	
Queue Delay		0.0		0.0	0.0		0.0	0.9	0.6	0.0	0.0	
Total Delay		0.4		46.8	17.5		19.9	24.7	10.9	35.1	15.4	
LOS		A		D	B		B	C	B	D	B	
Approach Delay		0.4			36.7			22.6			16.8	
Approach LOS		A			D			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 57 (52%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 22.1

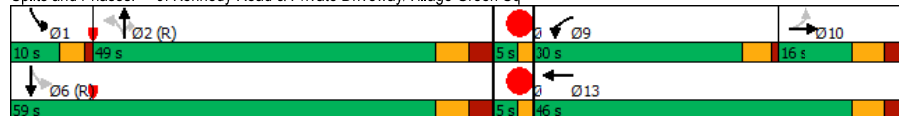
Intersection LOS: C

Intersection Capacity Utilization 102.7%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

<2035 Do Nothing> AM

9: Kennedy Road & Private Driveway/Village Green Sq

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<2035 Do Nothing> AM

08-10-2022







	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	855	747	1518	0	0	1491
Future Volume (vph)	855	747	1518	0	0	1491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.966	0.850				
Flt Protected	0.963					
Satd. Flow (prot)	3316	1515	4980	0	0	5029
Flt Permitted	0.963					
Satd. Flow (perm)	3316	1515	4980	0	0	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	2%	2%	2%
Adj. Flow (vph)	855	747	1518	0	0	1491
Shared Lane Traffic (%)		33%				
Lane Group Flow (vph)	1102	500	1518	0	0	1491
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings

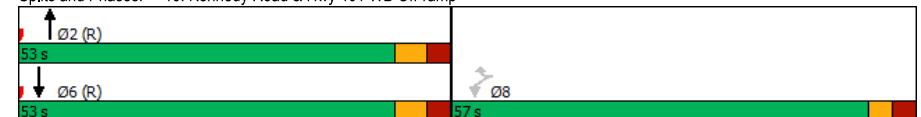
10: Kennedy Road & Hwy 401 WB Off-ramp

<2035 Do Nothing> AM

08-10-2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	57.0	57.0	53.0			53.0
Total Split (%)	51.8%	51.8%	48.2%			48.2%
Maximum Green (s)	51.0	51.0	46.0			46.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	46.1	46.1	52.9			52.9
Actuated g/C Ratio	0.42	0.42	0.48			0.48
v/c Ratio	0.79	0.78	0.63			0.62
Control Delay	32.0	36.7	15.8			17.6
Queue Delay	0.1	0.6	0.3			0.7
Total Delay	32.1	37.3	16.1			18.3
LOS	C	D	B			B
Approach Delay	33.7		16.1			18.3
Approach LOS	C		B			B
Intersection Summary						
Area Type:	Other					
Cycle Length: 110						
Actuated Cycle Length: 110						
Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.79						
Intersection Signal Delay: 22.9			Intersection LOS: C			
Intersection Capacity Utilization 70.7%			ICU Level of Service C			
Analysis Period (min) 60						
* User Entered Value						

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<2035 Do Nothing> AM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Future Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.969	0.850			0.865		0.999				
Flt Protected	0.950	0.975										
Satd. Flow (prot)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Flt Permitted	0.950	0.975										
Satd. Flow (perm)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9	40					2				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							9		13	13		9
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	7%	9%	2%	2%	9%	2%	7%	0%	2%	3%	2%
Adj. Flow (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Shared Lane Traffic (%)	50%		31%									
Lane Group Flow (vph)	471	908	414	0	0	345	0	1720	0	0	1865	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<2035 Do Nothing> AM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	45.0	45.0	45.0			45.0		65.0			65.0	
Total Split (%)	40.9%	40.9%	40.9%			40.9%		59.1%			59.1%	
Maximum Green (s)	38.0	38.0	38.0			38.0		58.0			58.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	38.3	38.3	38.3			38.3		59.7			59.7	
Actuated g/C Ratio	0.35	0.35	0.35			0.35		0.54			0.54	
v/c Ratio	0.93	0.90	0.89			0.59		0.53			0.69	
Control Delay	70.9	49.5	59.8			34.1		16.9			15.8	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	70.9	49.5	59.8			34.1		16.9			15.8	
LOS	E	D	E			C		B			B	
Approach Delay		57.5			34.1			16.9			15.8	
Approach LOS		E			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 59 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 30.3

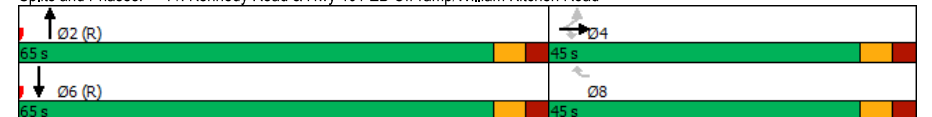
Intersection LOS: C

Intersection Capacity Utilization 88.5%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<2035 Do Nothing> AM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	10	4	12	22	46	17
Future Volume (vph)	10	4	12	22	46	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.961				0.964	
Flt Protected				0.983	0.965	
Satd. Flow (prot)	1685	0	0	1603	1592	0
Flt Permitted				0.983	0.965	
Satd. Flow (perm)	1685	0	0	1603	1592	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)					1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	25%	34%	5%	9%	12%
Adj. Flow (vph)	10	4	12	22	46	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	34	63	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.7%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<2035 Do Nothing> AM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	10	4	12	22	46	17
Future Volume (Veh/h)	10	4	12	22	46	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	4	12	22	46	17
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			14		59	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			14		59	12
tC, single (s)			4.4		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.5		3.6	3.4
p0 queue free %			99		95	98
cM capacity (veh/h)			1419		922	1040

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	14	34	63
Volume Left	0	12	46
Volume Right	4	0	17
cSH	1700	1419	951
Volume to Capacity	0.01	0.01	0.07
Queue Length 95th (m)	0.0	0.2	1.6
Control Delay (s)	0.0	2.7	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	9.1
Approach LOS		A	

Intersection Summary

Average Delay	6.0		
Intersection Capacity Utilization	18.7%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<2035 Do Nothing> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (vph)	951	4	24	1540	2	24
Future Volume (vph)	951	4	24	1540	2	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.875	
Flt Protected				0.999	0.996	
Satd. Flow (prot)	3214	0	0	3272	1462	0
Flt Permitted				0.999	0.996	
Satd. Flow (perm)	3214	0	0	3272	1462	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		22	22		1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	9%	9%	0%	13%
Adj. Flow (vph)	951	4	24	1540	2	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	955	0	0	1564	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 69.6%	ICU Level of Service C					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<2035 Do Nothing> AM
08-10-2022

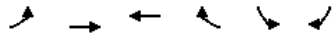
	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	951	4	24	1540	2	24
Future Volume (Veh/h)	951	4	24	1540	2	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	951	4	24	1540	2	24
Pedestrians	1				22	
Lane Width (m)	3.5				3.5	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.88		0.87	0.88
vC, conflicting volume			977		1794	500
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			704		1000	163
tC, single (s)			4.3		6.8	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.4
p0 queue free %			97		99	97
cM capacity (veh/h)			729		200	708
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	634	321	537	1027	26	
Volume Left	0	0	24	0	2	
Volume Right	0	4	0	0	24	
cSH	1700	1700	729	1700	593	
Volume to Capacity	0.37	0.19	0.03	0.60	0.04	
Queue Length 95th (m)	0.0	0.0	0.8	0.0	1.0	
Control Delay (s)	0.0	0.0	0.9	0.0	11.4	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.3		11.4	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			69.6%		ICU Level of Service	C
Analysis Period (min)			60			

Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<2035 Do Nothing> AM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	15	970	1594	60	30	25
Future Volume (vph)	15	970	1594	60	30	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.995		0.939	
Flt Protected		0.999			0.973	
Satd. Flow (prot)	0	6457	3552	0	1717	0
Flt Permitted		0.999			0.973	
Satd. Flow (perm)	0	6457	3552	0	1717	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	15	970	1594	60	30	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	985	1654	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.0%

ICU Level of Service B

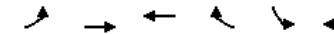
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<2035 Do Nothing> AM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	15	970	1594	60	30	25
Future Volume (Veh/h)	15	970	1594	60	30	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	970	1594	60	30	25
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		244	41			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	1654				1896	827
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1337				1637	315
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				59	95
cM capacity (veh/h)	423				73	555

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	154	277	277	277	1063	591	55
Volume Left	15	0	0	0	0	0	30
Volume Right	0	0	0	0	0	60	25
cSH	423	1700	1700	1700	1700	1700	120
Volume to Capacity	0.04	0.16	0.16	0.16	0.63	0.35	0.46
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	0.0	17.9
Control Delay (s)	1.8	0.0	0.0	0.0	0.0	0.0	59.4
Lane LOS	A						F
Approach Delay (s)	0.3				0.0		59.4
Approach LOS							F

Intersection Summary

Average Delay 1.3

Intersection Capacity Utilization 56.0%

ICU Level of Service

B




















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<2035 Do Nothing> AM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	35	4	1	4	75	1906	9	4	2250	27
Future Volume (vph)	4	0	35	4	1	4	75	1906	9	4	2250	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.879			0.940			0.999			0.998	
Flt Protected		0.995			0.978		0.950			0.950		
Satd. Flow (prot)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Flt Permitted		0.995			0.978		0.950			0.950		
Satd. Flow (perm)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	25%	2%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	12	0
Adj. Flow (vph)	4	0	35	4	1	4	75	1906	9	4	2250	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	9	0	75	1915	0	4	2277	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.04	1.01	1.09	1.04	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 61.6% ICU Level of Service B




















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<2035 Do Nothing> AM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	35	4	1	4	75	1906	9	4	2250	27
Future Volume (Veh/h)	4	0	35	4	1	4	75	1906	9	4	2250	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	0	35	4	1	4	75	1906	9	4	2250	27
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.72	0.72	0.70	0.72	0.72	0.57	0.70			0.57		
vC, conflicting volume	3061	4336	764	2854	4346	640	2277			1915		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1510	0	0	1523	0	1345			0		
tC, single (s)	8.0	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	99	99	99	79			100		
cM capacity (veh/h)	571	68	769	595	68	626	365			939		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	39	9	75	762	762	390	4	900	900	477		
Volume Left	4	4	75	0	0	0	4	0	0	0		
Volume Right	35	4	0	0	0	9	0	0	0	27		
cSH	742	324	365	1700	1700	1700	939	1700	1700	1700		
Volume to Capacity	0.05	0.03	0.21	0.45	0.45	0.23	0.00	0.53	0.53	0.28		
Queue Length 95th (m)	1.3	0.7	5.9	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	10.1	16.4	17.4	0.0	0.0	0.0	8.9	0.0	0.0	0.0		
Lane LOS	B	C	C				A					
Approach Delay (s)	10.1	16.4	0.7				0.0					
Approach LOS	B	C										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 61.6% ICU Level of Service B

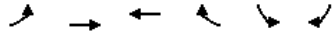
Analysis Period (min) 60

Lanes, Volumes, Timings

16: Collingwood Street & Gordon Ave

<2035 Do Nothing> AM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	0	2	2	2	35
Future Volume (vph)	14	0	2	2	2	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.932		0.872	
Flt Protected		0.950			0.997	
Satd. Flow (prot)	0	1785	1751	0	1432	0
Flt Permitted		0.950			0.997	
Satd. Flow (perm)	0	1785	1751	0	1432	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	133.7		190.4	
Travel Time (s)		10.5	12.0		17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	14	0	2	2	2	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	14	4	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 17.4%

ICU Level of Service A

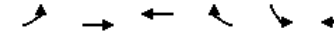
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: Collingwood Street & Gordon Ave

<2035 Do Nothing> AM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	0	2	2	2	35
Future Volume (Veh/h)	14	0	2	2	2	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	0	2	2	2	35
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	4				31	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4				31	3
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				100	97
cM capacity (veh/h)	1631				866	1052

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	14	4	37
Volume Left	14	0	2
Volume Right	0	2	35
cSH	1631	1700	1040
Volume to Capacity	0.01	0.00	0.04
Queue Length 95th (m)	0.2	0.0	0.8
Control Delay (s)	7.2	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	7.2	0.0	8.6
Approach LOS			A

Intersection Summary

Average Delay 7.6

Intersection Capacity Utilization 17.4%

ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
17: Village Green Sq

<2035 Do Nothing> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	🚦			🚦	🚦	
Traffic Volume (vph)	0	40	52	1	19	6
Future Volume (vph)	0	40	52	1	19	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865				0.968	
Flt Protected				0.953	0.963	
Satd. Flow (prot)	1083	0	0	1723	1751	0
Flt Permitted				0.953	0.963	
Satd. Flow (perm)	1083	0	0	1723	1751	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	67.1			152.9	154.8	
Travel Time (s)	6.0			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	0	40	52	1	19	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	0	53	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	19.9%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<2035 Do Nothing> AM
08-10-2022

















	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	🔴			🔴	🔴	
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	40	52	1	19	6
Future Volume (vph)	0	40	52	1	19	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	40	52	1	19	6
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	40	53	25			
Volume Left (vph)	0	52	19			
Volume Right (vph)	40	0	6			
Hadj (s)	0.25	0.26	0.01			
Departure Headway (s)	4.3	4.3	4.1			
Degree Utilization, x	0.05	0.06	0.03			
Capacity (veh/h)	833	835	845			
Control Delay (s)	7.5	7.5	7.2			
Approach Delay (s)	7.5	7.5	7.2			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.5			
Level of Service			A			
Intersection Capacity Utilization		19.9%		ICU Level of Service	A	
Analysis Period (min)		60				

Lanes, Volumes, Timings

<2035 Do Nothing> AM

18: Private Access & Village Green Sq

08-10-2022

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	208	14	0	608	2	46	0	1	0	0	97
Future Volume (vph)	26	208	14	0	608	2	46	0	1	0	0	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.992						0.997			0.865	
Flt Protected		0.995						0.953				
Satd. Flow (prot)	0	1809	0	0	1842	0	0	1785	0	0	1563	0
Flt Permitted		0.995						0.953				
Satd. Flow (perm)	0	1809	0	0	1842	0	0	1785	0	0	1563	0
Link Speed (k/h)		50			50			48			40	
Link Distance (m)		243.9			158.0			39.7			154.8	
Travel Time (s)		17.6			11.4			3.0			13.9	
Confl. Peds. (#/hr)	104		13	13		104	7		6	6		7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	2%	2%	0%	0%	2%	0%	2%	2%	4%
Adj. Flow (vph)	26	208	14	0	608	2	46	0	1	0	0	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	248	0	0	610	0	0	47	0	0	97	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Yield	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 50.5%	ICU Level of Service A											
Analysis Period (min) 60												

HCM Unsignalized Intersection Capacity Analysis

<2035 Do Nothing> AM

18: Private Access & Village Green Sq

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	208	14	0	608	2	46	0	1	0	0	97
Future Volume (Veh/h)	26	208	14	0	608	2	46	0	1	0	0	97
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	208	14	0	608	2	46	0	1	0	0	97
Pedestrians		7			6			13			104	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			1			9	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		244										
pX, platoon unblocked												
vC, conflicting volume	714			235			993	994	234	987	1000	720
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	714			235			993	994	234	987	1000	720
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			69	100	100	100	100	75
cM capacity (veh/h)	813			1317			149	213	796	184	211	383
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	248	610	47	97								
Volume Left	26	0	46	0								
Volume Right	14	2	1	97								
cSH	813	1317	152	383								
Volume to Capacity	0.03	0.00	0.31	0.25								
Queue Length 95th (m)	0.8	0.0	10.0	7.7								
Control Delay (s)	1.3	0.0	39.2	17.6								
Lane LOS	A		E	C								
Approach Delay (s)	1.3	0.0	39.2	17.6								
Approach LOS			E	C								
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			50.5%		ICU Level of Service				A			
Analysis Period (min)			60									

Lanes, Volumes, Timings

<2035 Do Nothing> PM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Future Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Taper Length (m)	2.5		12.0			2.5			2.5			
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00						0.89					
Frt	0.997			0.999			0.910			0.907		
Flt Protected	0.996		0.950				0.992			0.992		
Satd. Flow (prot)	0	3409	0	1685	3430	0	0	1516	0	0	1657	0
Flt Permitted	0.729		0.187				0.929			0.896		
Satd. Flow (perm)	0	2495	0	332	3430	0	0	1414	0	0	1497	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)	4				1			60			45	
Link Speed (k/h)	60				60			40			48	
Link Distance (m)	391.4				246.0			254.2			290.0	
Travel Time (s)	23.5				14.8			22.9			21.8	
Confl. Peds. (#/hr)		26	26				23		119			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	0%	0%	4%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1355	0	35	938	0	0	90	0	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	3.0				3.0			0.0			0.0	
Link Offset(m)	0.0				0.0			0.0			0.0	
Crosswalk Width(m)	1.6				1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	2			6			4			8		
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

<2035 Do Nothing> PM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	76.0	76.0		76.0	76.0		34.0	34.0		34.0	34.0	
Total Split (%)	69.1%	69.1%		69.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	70.0	70.0		70.0	70.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	94.4			94.4	94.4			10.0			10.0	
Actuated g/C Ratio	0.86			0.86	0.86			0.09			0.09	
v/c Ratio	0.63			0.12	0.32			0.49			0.37	
Control Delay	5.2			2.7	1.8			28.8			25.7	
Queue Delay	0.0			0.0	0.0			0.0			0.0	
Total Delay	5.2			2.7	1.8			28.8			25.7	
LOS	A			A	A			C			C	
Approach Delay	5.2				1.8			28.8			25.7	
Approach LOS	A				A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 96 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.3

Intersection LOS: A

Intersection Capacity Utilization 97.7%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> PM

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Future Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0		0.0		0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98	1.00			0.97			0.98	0.96
Frt		0.999			0.991			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1685	3426	0	1685	3362	0	0	1578	0	0	1767	1507
Flt Permitted	0.238			0.223							0.751	
Satd. Flow (perm)	422	3426	0	388	3362	0	0	1578	0	0	1373	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			8			69				115
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		42	42		19	20		12	12		20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	4%	0%	0%	5%	1%	0%	2%	0%	1%	0%	0%
Adj. Flow (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1195	0	10	958	0	0	10	0	0	210	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		NA			Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	11.0	72.0		61.0	61.0		38.0	38.0		38.0	38.0	38.0

Lanes, Volumes, Timings

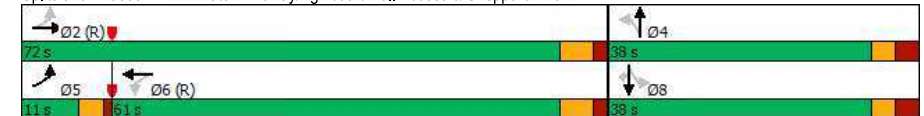
<2035 Do Nothing> PM

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	65.5%		55.5%	55.5%		34.5%	34.5%		34.5%	34.5%	34.5%
Maximum Green (s)	7.0	66.0		55.0	55.0		32.0	32.0		32.0	32.0	32.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	78.9	76.9		68.6	68.6		23.1			23.1	23.1	
Actuated g/C Ratio	0.72	0.70		0.62	0.62		0.21			0.21	0.21	
v/c Ratio	0.21	0.50		0.04	0.46		0.03			0.73	0.29	
Control Delay	5.1	6.2		12.2	13.2		0.1			55.8	7.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Delay	5.1	6.2		12.2	13.2		0.1			55.8	7.8	
LOS	A	A		B	B		A			E	A	
Approach Delay		6.2			13.2		0.1				38.8	
Approach LOS		A			B		A				D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 108 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 50												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.73												
Intersection Signal Delay: 12.9	Intersection LOS: B											
Intersection Capacity Utilization 80.2%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	107	744	556	346	627	172	271	1386	363	179	1388	59
Future Volume (vph)	107	744	556	346	627	172	271	1386	363	179	1388	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.95		0.89	0.97	0.96		0.99		0.87	0.99	0.99	
Frt			0.850		0.968				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3305	1357	1589	3124	0	*1622	4885	1403	1560	4764	0
Flt Permitted	0.266			0.191			0.108			0.108		
Satd. Flow (perm)	439	3305	1211	311	3124	0	184	4885	1227	176	4764	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			214		33				249		5	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	184		100	100		184	131		106	106		131
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	8%	4%	6%	7%	3%	3%	5%	4%	8%	5%	0%
Bus Blockages (#/hr)	0	0	16	0	0	16	0	0	8	0	11	0
Adj. Flow (vph)	107	744	556	346	627	172	271	1386	363	179	1388	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	744	556	346	799	0	271	1386	363	179	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.19	1.09	1.01	1.01	1.09	1.01	1.14	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	44.0	44.0	19.0	51.0		14.0	43.0	43.0	14.0	43.0	
Total Split (%)	10.0%	36.7%	36.7%	15.8%	42.5%		11.7%	35.8%	35.8%	11.7%	35.8%	
Maximum Green (s)	8.0	37.0	37.0	15.0	44.0		10.0	36.0	36.0	10.0	36.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.4	38.0	38.0	60.0	45.6		51.0	37.0	37.0	51.0	37.0	
Actuated g/C Ratio	0.41	0.32	0.32	0.50	0.38		0.42	0.31	0.31	0.42	0.31	
v/c Ratio	0.40	0.71	1.05	1.06	0.66		1.29	0.92	0.66	0.89	0.98	
Control Delay	21.5	40.8	163.8	194.3	29.1		586.0	53.1	17.8	84.8	74.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.5	40.8	163.8	194.3	29.1		586.0	53.1	17.8	84.8	74.9	
LOS	C	D	F	F	C		F	D	B	F	E	
Approach Delay		87.9			79.0			118.2			76.0	
Approach LOS		F			E			F			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.29

Intersection Signal Delay: 93.0

Intersection LOS: F

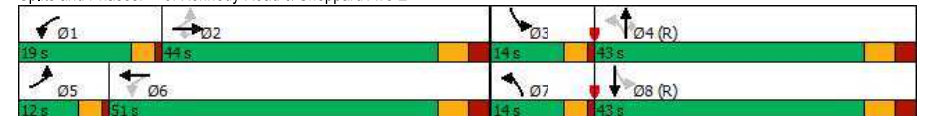
Intersection Capacity Utilization 110.1%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> PM

4: Kennedy Road & Bonis Ave/Cardwell Avenue

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Future Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.95	1.00	1.00		0.99	1.00	
Frt			0.850			0.850		0.997			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1668	4956	0	1685	4953	0
Flt Permitted	0.950			0.950			0.096			0.186		
Satd. Flow (perm)	1627	0	1363	1557	0	1439	168	4956	0	328	4953	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120			69		4			21	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	31		69	69		31	15		20	20		15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	1%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	0	0
Adj. Flow (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	0	120	5	0	55	210	1371	0	20	1609	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

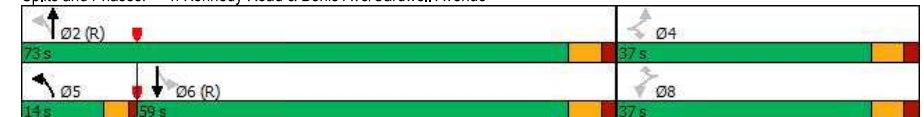
<2035 Do Nothing> PM

4: Kennedy Road & Bonis Ave/Cardwell Avenue

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	22.6		22.6	22.6		22.6	79.4	77.4		61.7	61.7	
Actuated g/C Ratio	0.21		0.21	0.21		0.21	0.72	0.70		0.56	0.56	
v/c Ratio	0.72		0.32	0.02		0.16	0.71	0.39		0.11	0.58	
Control Delay	53.2		8.2	31.2		6.3	31.6	7.6		16.4	17.7	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	53.2		8.2	31.2		6.3	31.6	7.6		16.4	17.7	
LOS	D		A	C		A	C	A		B	B	
Approach Delay		38.2				8.3		10.8			17.7	
Approach LOS		D				A		B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.72												
Intersection Signal Delay: 16.6	Intersection LOS: B											
Intersection Capacity Utilization 74.1%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



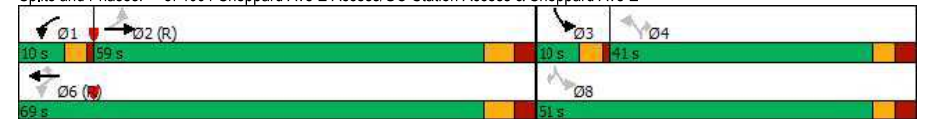
Lanes, Volumes, Timings <2035 Do Nothing> PM
5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Future Volume (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	1.00		1.00		0.84	0.99		0.98	0.99		0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4796	0	1685	3400	1411	1685	0	1507	1685	0	1507
Flt Permitted	0.265			0.154			0.950			0.950		
Satd. Flow (perm)	458	4796	0	272	3400	1186	1665	0	1472	1665	0	1472
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)		5				64			109			73
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		40.6			63.5			81.9			115.9	
Travel Time (s)		2.4			3.8			7.4			10.4	
Confl. Peds. (#/hr)	57		26	26		57	11		11	11		11
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	16	0	0	0	16	0	0	0	0	0	0
Adj. Flow (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	1399	0	20	1056	30	95	0	95	35	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.01	1.19	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Lanes, Volumes, Timings <2035 Do Nothing> PM
5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0		10.0	69.0	69.0	41.0		41.0	10.0		51.0
Total Split (%)	49.2%	49.2%		8.3%	57.5%	57.5%	34.2%		34.2%	8.3%		42.5%
Maximum Green (s)	52.0	52.0		6.0	62.0	62.0	35.0		35.0	6.0		45.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)	85.7	85.7		92.7	89.7	89.7	13.3		13.3	21.3		19.3
Actuated g/C Ratio	0.71	0.71		0.77	0.75	0.75	0.11		0.11	0.18		0.16
v/c Ratio	0.05	0.41		0.07	0.42	0.03	0.52		0.37	0.12		0.08
Control Delay	11.5	9.7		5.2	7.1	0.2	59.7		10.5	38.3		0.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	11.5	9.7		5.2	7.1	0.2	59.7		10.5	38.3		0.6
LOS	B	A		A	A	A	E		B	D		A
Approach Delay		9.8			6.9			35.1			22.6	
Approach LOS		A			A			D			C	

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> PM

6: Lamont Ave/Private Driveway & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Future Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00		0.97		0.99			0.99	
Frt						0.850		0.944				
Flt Protected				0.950				0.972			0.950	
Satd. Flow (prot)	1612	3246	0	1685	3305	1597	0	1710	0	0	1785	0
Flt Permitted				0.207				0.819			0.734	
Satd. Flow (perm)	1612	3246	0	366	3305	1548	0	1440	0	0	1370	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				40		30				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	4		15	15		4	1		6	6		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	0%	0%	8%	0%	0%	0%	0%	0%	2%	9%
Adj. Flow (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1273	0	4	1079	1	0	36	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0				0.0		0.0			0.0	
Crosswalk Width(m)		1.6				1.6		1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Lanes, Volumes, Timings

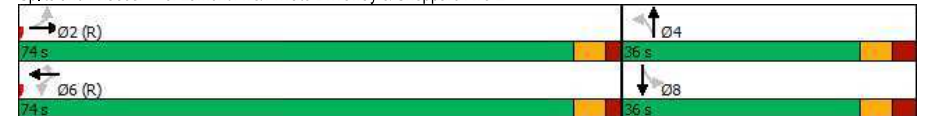
<2035 Do Nothing> PM

6: Lamont Ave/Private Driveway & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		98.1		98.1	98.1	98.1		8.5			8.5	
Actuated g/C Ratio		0.89		0.89	0.89	0.89		0.08			0.08	
v/c Ratio		0.44		0.01	0.37	0.00		0.26			0.02	
Control Delay		2.6		1.0	0.9	0.0		24.7			46.5	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		2.6		1.0	0.9	0.0		24.7			46.5	
LOS		A		A	A	A		C			D	
Approach Delay		2.6			0.9			24.7			46.5	
Approach LOS		A			A			C			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 40												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.44												
Intersection Signal Delay: 2.2												
Intersection Capacity Utilization 53.4%												
Analysis Period (min) 60												
Intersection LOS: A												
ICU Level of Service A												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> PM

7: Midland Ave & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Future Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.98	0.99		0.99	0.99		0.97		0.95	0.99		0.91
Frt		0.973			0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1668	4625	0	1636	3366	0	*1622	3466	1436	1652	3400	1465
Flt Permitted	0.176			0.107			0.312			0.309		
Satd. Flow (perm)	304	4625	0	183	3366	0	484	3466	1358	530	3400	1337
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			18				91			119
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6				580.5			408.6
Travel Time (s)		14.8			12.5				41.8			29.4
Confl. Peds. (#/hr)	79		60	60		79	79		45	45		79
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	10%	3%	2%	0%	11%	3%	2%	2%	5%	0%
Bus Blockages (#/hr)	0	16	0	0	4	0	0	0	7	0	0	7
Adj. Flow (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1286	0	150	883	0	230	830	191	80	560	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0				3.0			3.0
Link Offset(m)		0.0			0.0				0.0			0.0
Crosswalk Width(m)		1.6			1.6				1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.03	1.01	1.09	1.01	1.13	1.09	1.01	1.13
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

Lanes, Volumes, Timings

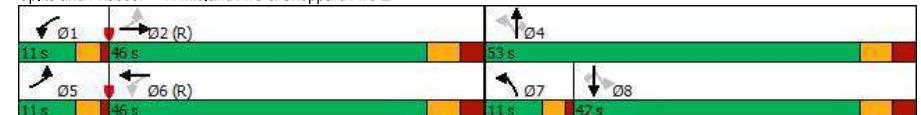
<2035 Do Nothing> PM

7: Midland Ave & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	46.0		11.0	46.0		11.0	53.0	53.0	42.0	42.0	42.0
Total Split (%)	10.0%	41.8%		10.0%	41.8%		10.0%	48.2%	48.2%	38.2%	38.2%	38.2%
Maximum Green (s)	7.0	39.0		7.0	39.0		7.0	46.0	46.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	50.8	40.0		51.2	40.2		50.0	47.0	47.0	36.0	36.0	36.0
Actuated g/C Ratio	0.46	0.36		0.47	0.37		0.45	0.43	0.43	0.33	0.33	0.33
v/c Ratio	0.62	0.75		0.79	0.71		0.76	0.56	0.30	0.46	0.50	0.23
Control Delay	29.9	30.7		53.6	33.3		40.6	25.6	12.0	40.2	31.7	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	30.7		53.6	33.3		40.6	25.6	12.0	40.2	31.7	6.0
LOS	C	C		D	C		D	C	B	D	C	A
Approach Delay		30.6			36.2			26.2			28.6	
Approach LOS		C			D			C			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 105												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.79												
Intersection Signal Delay: 30.3	Intersection LOS: C											
Intersection Capacity Utilization 110.8%	ICU Level of Service H											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<2035 Do Nothing> PM
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↖↖↖		↖	↖↖↖
Traffic Volume (vph)	430	155	2103	290	150	2153
Future Volume (vph)	430	155	2103	290	150	2153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.99			
Frt	0.964		0.982			
Flt Protected	0.965				0.950	
Satd. Flow (prot)	1741	0	4880	0	1685	5079
Flt Permitted	0.965				0.068	
Satd. Flow (perm)	1733	0	4880	0	121	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	17		32			
Link Speed (k/h)	40		50			50
Link Distance (m)	204.8		334.4			134.4
Travel Time (s)	18.4		24.1			9.7
Confl. Peds. (#/hr)	5	3		33	33	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	8	0	0	0
Adj. Flow (vph)	430	155	2103	290	150	2153
Shared Lane Traffic (%)						
Lane Group Flow (vph)	585	0	2393	0	150	2153
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<2035 Do Nothing> PM
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	39.0		60.0		11.0	71.0
Total Split (%)	35.5%		54.5%		10.0%	64.5%
Maximum Green (s)	33.0		54.0		6.5	65.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	34.0		55.0		67.5	66.0
Actuated g/C Ratio	0.31		0.50		0.61	0.60
v/c Ratio	1.07		0.97		0.83	0.71
Control Delay	194.3		23.0		65.6	16.9
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	194.3		23.0		65.6	16.9
LOS	F		C		E	B
Approach Delay	194.3		23.0			20.1
Approach LOS	F		C			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 3 (3%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 40.7

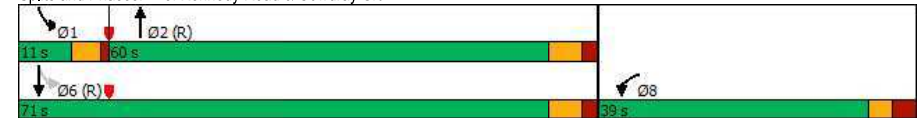
Intersection LOS: D

Intersection Capacity Utilization 100.8%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

<2035 Do Nothing> PM

9: Kennedy Road & Private Driveway/Village Green Sq

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔↔↔	↔	↔	↔↔↔	
Traffic Volume (vph)	3	1	5	499	2	268	3	2163	549	234	2404	2
Future Volume (vph)	3	1	5	499	2	268	3	2163	549	234	2404	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	100.0		0.0	25.0		30.0	80.0		20.0
Storage Lanes	0		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			30.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt		0.925			0.851			0.850				
Flt Protected		0.984		0.950			0.950		0.950			
Satd. Flow (prot)	0	1710	0	3236	1583	0	1257	5079	1507	1652	6329	0
Flt Permitted				0.950			0.091			0.085		
Satd. Flow (perm)	0	1738	0	3236	1583	0	120	5079	1507	148	6329	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			193				184			
Link Speed (k/h)		48			50			50			50	
Link Distance (m)		70.0			243.9			64.3			46.7	
Travel Time (s)		5.3			17.6			4.6			3.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	34%	1%	0%	2%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	11	0
Adj. Flow (vph)	3	1	5	499	2	268	3	2163	549	234	2404	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	499	270	0	3	2163	549	234	2406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0			6.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	17.0	17.0		29.0	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	15.5%	15.5%		26.4%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	

Lanes, Volumes, Timings

<2035 Do Nothing> PM

9: Kennedy Road & Private Driveway/Village Green Sq

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

<2035 Do Nothing> PM

9: Kennedy Road & Private Driveway/Village Green Sq

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	10.0	10.0		24.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0		7.0		
Flash Dont Walk (s)					32.0			26.0		26.0		
Pedestrian Calls (#/hr)					0			0		0		
Act Effct Green (s)		8.1		23.1	23.5		49.8	49.8	49.8	77.5	74.5	
Actuated g/C Ratio		0.07		0.21	0.21		0.45	0.45	0.45	0.70	0.68	
v/c Ratio		0.07		0.74	0.55		0.06	0.94	0.70	0.58	0.56	
Control Delay		36.2		47.5	14.8		15.7	31.7	14.5	29.7	14.6	
Queue Delay		0.0		0.0	0.0		0.0	113.0	2.0	0.0	0.0	
Total Delay		36.2		47.5	14.8		15.7	144.7	16.5	29.7	14.6	
LOS		D		D	B		B	F	B	C	B	
Approach Delay		36.2			36.0			118.6			15.9	
Approach LOS		D			D			F			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 106 (96%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 63.9

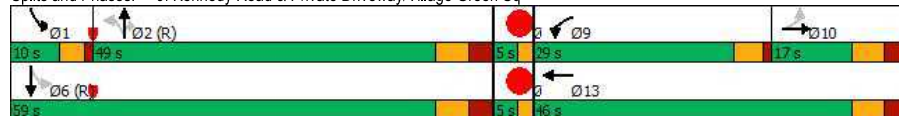
Intersection LOS: E

Intersection Capacity Utilization 98.3%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

<2035 Do Nothing> PM

9: Kennedy Road & Private Driveway/Village Green Sq

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<2035 Do Nothing> PM

08-10-2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	650	831	1847	0	0	1748
Future Volume (vph)	650	831	1847	0	0	1748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor	0.99	0.98				
Frt	0.947	0.850				
Flt Protected	0.969					
Satd. Flow (prot)	3253	1515	5079	0	0	5079
Flt Permitted	0.969					
Satd. Flow (perm)	3241	1492	5079	0	0	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)	7	4		12	12	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	2%	2%	1%
Adj. Flow (vph)	650	831	1847	0	0	1748
Shared Lane Traffic (%)		43%				
Lane Group Flow (vph)	1007	474	1847	0	0	1748
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<2035 Do Nothing> PM

08-10-2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	46.0	46.0	64.0			64.0
Total Split (%)	41.8%	41.8%	58.2%			58.2%
Maximum Green (s)	40.0	40.0	57.0			57.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	39.3	39.3	59.7			59.7
Actuated g/C Ratio	0.36	0.36	0.54			0.54
v/c Ratio	0.87	0.88	0.67			0.63
Control Delay	42.3	55.5	21.4			19.5
Queue Delay	2.3	51.2	0.5			0.8
Total Delay	44.6	106.7	21.9			20.3
LOS	D	F	C			C
Approach Delay	64.5		21.9			20.3
Approach LOS	E		C			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 104 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 33.8

Intersection LOS: C

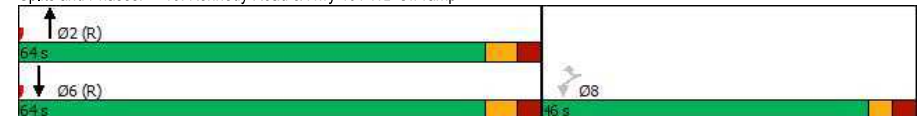
Intersection Capacity Utilization 79.6%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<2035 Do Nothing> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Future Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.972	0.850			0.865		0.998				
Flt Protected	0.950	0.974										
Satd. Flow (prot)	1503	2969	1332	0	0	1808	0	6324	0	0	5029	0
Flt Permitted	0.950	0.974										
Satd. Flow (perm)	1503	2969	1332	0	0	1808	0	6324	0	0	5029	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		4	40					3				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							3		5	5		3
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	5%	3%	2%	2%	2%	2%	2%	0%	2%	2%	2%
Adj. Flow (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Shared Lane Traffic (%)		50%	29%									
Lane Group Flow (vph)	534	1005	454	0	0	535	0	2169	0	0	1649	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<2035 Do Nothing> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0	59.0			59.0		51.0			51.0	
Total Split (%)	53.6%	53.6%	53.6%			53.6%		46.4%			46.4%	
Maximum Green (s)	52.0	52.0	52.0			52.0		44.0			44.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	48.0	48.0	48.0			48.0		50.0			50.0	
Actuated g/C Ratio	0.44	0.44	0.44			0.44		0.45			0.45	
v/c Ratio	0.82	0.77	0.75			0.68		0.75			0.72	
Control Delay	38.6	30.7	32.2			29.2		27.9			19.3	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	38.6	30.7	32.2			29.2		27.9			19.3	
LOS	D	C	C			C		C			B	
Approach Delay		33.1			29.2			27.9			19.3	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 12 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 27.4

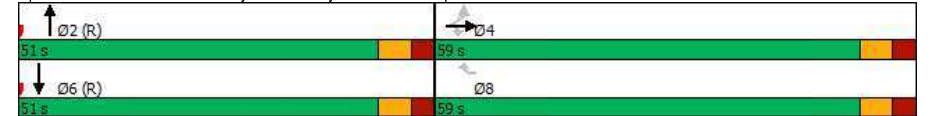
Intersection LOS: C

Intersection Capacity Utilization 110.1%

ICU Level of Service H

Analysis Period (min) 60

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<2035 Do Nothing> PM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	17	8	17	22	43	13
Future Volume (vph)	17	8	17	22	43	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.957				0.969	
Flt Protected				0.979	0.963	
Satd. Flow (prot)	1798	0	0	1748	1602	0
Flt Permitted				0.979	0.963	
Satd. Flow (perm)	1798	0	0	1748	1602	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)						1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	12%	0%	5%	24%
Adj. Flow (vph)	17	8	17	22	43	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	39	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 19.1%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<2035 Do Nothing> PM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	17	8	17	22	43	13
Future Volume (Veh/h)	17	8	17	22	43	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	8	17	22	43	13
Pedestrians					1	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.1	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		77	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		77	22
tC, single (s)			4.2		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.5
p0 queue free %			99		95	99
cM capacity (veh/h)			1527		908	994







Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	25	39	56
Volume Left	0	17	43
Volume Right	8	0	13
cSH	1700	1527	927
Volume to Capacity	0.01	0.01	0.06
Queue Length 95th (m)	0.0	0.3	1.5
Control Delay (s)	0.0	3.3	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	3.3	9.1
Approach LOS			A

Intersection Summary

Average Delay	5.3		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<2035 Do Nothing> PM
08-10-2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	
Traffic Volume (vph)	1266	7	18	1099	7	13
Future Volume (vph)	1266	7	18	1099	7	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.912	
Flt Protected				0.999	0.983	
Satd. Flow (prot)	3215	0	0	3303	1456	0
Flt Permitted				0.999	0.983	
Satd. Flow (perm)	3215	0	0	3303	1456	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		18	18			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	6%	8%	15%	16%
Adj. Flow (vph)	1266	7	18	1099	7	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1273	0	0	1117	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	53.5%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<2035 Do Nothing> PM
08-10-2022

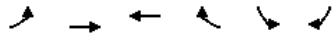
	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	1266	7	18	1099	7	13
Future Volume (Veh/h)	1266	7	18	1099	7	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1266	7	18	1099	7	13
Pedestrians				1	18	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.81		0.86	0.81
vC, conflicting volume			1291		1873	656
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			881		1110	93
tC, single (s)			4.2		7.1	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.5
p0 queue free %			97		95	98
cM capacity (veh/h)			586		152	715
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	844	429	384	733	20	
Volume Left	0	0	18	0	7	
Volume Right	0	7	0	0	13	
cSH	1700	1700	586	1700	311	
Volume to Capacity	0.50	0.25	0.03	0.43	0.06	
Queue Length 95th (m)	0.0	0.0	0.7	0.0	1.6	
Control Delay (s)	0.0	0.0	1.0	0.0	17.4	
Lane LOS			A		C	
Approach Delay (s)	0.0		0.3		17.4	
Approach LOS					C	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			53.5%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<2035 Do Nothing> PM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	20	1309	1156	55	20	15
Future Volume (vph)	20	1309	1156	55	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.993		0.942	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	6457	3545	0	1720	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	6457	3545	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	20	1309	1156	55	20	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1329	1211	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.7%

ICU Level of Service A

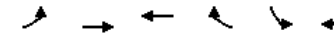
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<2035 Do Nothing> PM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	20	1309	1156	55	20	15
Future Volume (Veh/h)	20	1309	1156	55	20	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	20	1309	1156	55	20	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)		244	41			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	1211				1551	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	967				1353	279
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				84	98
cM capacity (veh/h)	634				122	637

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	207	374	374	374	771	440	35
Volume Left	20	0	0	0	0	0	20
Volume Right	0	0	0	0	0	55	15
cSH	634	1700	1700	1700	1700	1700	187
Volume to Capacity	0.03	0.22	0.22	0.22	0.45	0.26	0.19
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	0.0	5.2
Control Delay (s)	1.4	0.0	0.0	0.0	0.0	0.0	28.6
Lane LOS	A						D
Approach Delay (s)	0.2				0.0		28.6
Approach LOS							D

Intersection Summary

Average Delay 0.5

Intersection Capacity Utilization 43.7%

ICU Level of Service

A




















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<2035 Do Nothing> PM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	36	18	0	14	66	2016	25	4	2043	20
Future Volume (vph)	5	0	36	18	0	14	66	2016	25	4	2043	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.881			0.941			0.998			0.999	
Flt Protected		0.994			0.973		0.950			0.950		
Satd. Flow (prot)	0	1645	0	0	1664	0	1685	4966	0	1685	4951	0
Flt Permitted		0.994			0.973		0.950			0.950		
Satd. Flow (perm)	0	1645	0	0	1664	0	1685	4966	0	1685	4951	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	6%	0%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	11	0
Adj. Flow (vph)	5	0	36	18	0	14	66	2016	25	4	2043	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	32	0	66	2041	0	4	2063	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.5%

ICU Level of Service B




















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<2035 Do Nothing> PM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	36	18	0	14	66	2016	25	4	2043	20
Future Volume (Veh/h)	5	0	36	18	0	14	66	2016	25	4	2043	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	0	36	18	0	14	66	2016	25	4	2043	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.68	0.68	0.73	0.68	0.68	0.54	0.73			0.54		
vC, conflicting volume	2879	4234	691	2886	4232	684	2063			2041		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1414	0	0	1411	0	1158			0		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	97	100	98	85			100		
cM capacity (veh/h)	602	79	795	579	80	593	445			889		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	41	32	66	806	806	428	4	817	817	429		
Volume Left	5	18	66	0	0	0	4	0	0	0		
Volume Right	36	14	0	0	0	25	0	0	0	20		
cSH	765	585	445	1700	1700	1700	889	1700	1700	1700		
Volume to Capacity	0.05	0.05	0.15	0.47	0.47	0.25	0.00	0.48	0.48	0.25		
Queue Length 95th (m)	1.3	1.3	4.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	10.0	11.5	14.5	0.0	0.0	0.0	9.1	0.0	0.0	0.0		
Lane LOS	A	B	B				A					
Approach Delay (s)	10.0	11.5	0.5				0.0					
Approach LOS	A	B										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 59.5%

ICU Level of Service

B

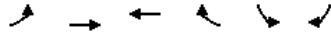
Analysis Period (min) 60

Lanes, Volumes, Timings

16: Collingwood Street & Gordon Ave

<2035 Do Nothing> PM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	16	1	3	2	1	29
Future Volume (vph)	16	1	3	2	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.946		0.869	
Flt Protected		0.955			0.998	
Satd. Flow (prot)	0	1794	1476	0	1569	0
Flt Permitted		0.955			0.998	
Satd. Flow (perm)	0	1794	1476	0	1569	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	133.7		190.4	
Travel Time (s)		10.5	12.0		17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	34%	0%	0%	4%
Adj. Flow (vph)	16	1	3	2	1	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	5	0	30	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 17.6%

ICU Level of Service A

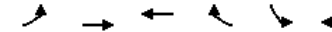
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: Collingwood Street & Gordon Ave

<2035 Do Nothing> PM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	16	1	3	2	1	29
Future Volume (Veh/h)	16	1	3	2	1	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	1	3	2	1	29
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	5				37	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5				37	4
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	97
cM capacity (veh/h)	1630				971	1074

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	17	5	30
Volume Left	16	0	1
Volume Right	0	2	29
cSH	1630	1700	1070
Volume to Capacity	0.01	0.00	0.03
Queue Length 95th (m)	0.2	0.0	0.7
Control Delay (s)	6.8	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	6.8	0.0	8.5
Approach LOS			A

Intersection Summary

Average Delay 7.1

Intersection Capacity Utilization 17.6%

ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
17: Village Green Sq

<2035 Do Nothing> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Traffic Volume (vph)	0	29	32	1	36	22
Future Volume (vph)	0	29	32	1	36	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865				0.949	
Flt Protected				0.954	0.970	
Satd. Flow (prot)	1625	0	0	1726	1697	0
Flt Permitted				0.954	0.970	
Satd. Flow (perm)	1625	0	0	1726	1697	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	67.1			152.9	154.8	
Travel Time (s)	6.0			13.8	13.9	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	4%	0%	0%	5%
Adj. Flow (vph)	0	29	32	1	36	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	0	33	58	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.5%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<2035 Do Nothing> PM
08-10-2022

















	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	29	32	1	36	22
Future Volume (vph)	0	29	32	1	36	22
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	29	32	1	36	22
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	29	33	58			
Volume Left (vph)	0	32	36			
Volume Right (vph)	29	0	22			
Hadj (s)	-0.60	0.26	-0.07			
Departure Headway (s)	3.5	4.3	4.0			
Degree Utilization, x	0.03	0.04	0.06			
Capacity (veh/h)	1016	819	885			
Control Delay (s)	6.6	7.5	7.2			
Approach Delay (s)	6.6	7.5	7.2			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.1			
Level of Service			A			
Intersection Capacity Utilization			18.5%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings

18: Private Access & Village Green Sq

<2035 Do Nothing> PM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	529	29	1	328	4	16	0	3	1	0	66
Future Volume (vph)	66	529	29	1	328	4	16	0	3	1	0	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.998			0.979			0.867	
Flt Protected		0.995						0.960			0.999	
Satd. Flow (prot)	0	1835	0	0	1875	0	0	1766	0	0	1581	0
Flt Permitted		0.995						0.960			0.999	
Satd. Flow (perm)	0	1835	0	0	1875	0	0	1766	0	0	1581	0
Link Speed (k/h)		50			50			48			40	
Link Distance (m)		243.9			158.0			39.7			154.8	
Travel Time (s)		17.6			11.4			3.0			13.9	
Confl. Peds. (#/hr)	81		10	10		81	1		6	6		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	1%	0%	0%	0%	0%	0%	2%	0%	0%	2%	3%
Adj. Flow (vph)	66	529	29	1	328	4	16	0	3	1	0	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	624	0	0	333	0	0	19	0	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 69.8%

ICU Level of Service C

















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

18: Private Access & Village Green Sq

<2035 Do Nothing> PM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	529	29	1	328	4	16	0	3	1	0	66
Future Volume (Veh/h)	66	529	29	1	328	4	16	0	3	1	0	66
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	66	529	29	1	328	4	16	0	3	1	0	66
Pedestrians		1			6			10			81	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			1			1			7	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		244										
pX, platoon unblocked												
vC, conflicting volume	413			568			1084	1100	560	1098	1113	412
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	413			568			1084	1100	560	1098	1113	412
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			90	100	99	99	100	89
cM capacity (veh/h)	1054			1005			154	183	525	158	180	592
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	624	333	19	67								
Volume Left	66	1	16	1								
Volume Right	29	4	3	66								
cSH	1054	1005	174	568								
Volume to Capacity	0.06	0.00	0.11	0.12								
Queue Length 95th (m)	1.5	0.0	2.8	3.0								
Control Delay (s)	1.6	0.0	28.3	12.2								
Lane LOS	A	A	D	B								
Approach Delay (s)	1.6	0.0	28.3	12.2								
Approach LOS			D	B								

Intersection Summary

Average Delay 2.3

Intersection Capacity Utilization 69.8%

ICU Level of Service

C

Analysis Period (min) 60

Lanes, Volumes, Timings

<2035 Do Nothing> SAT

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Future Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.89				
Frt		0.998						0.916			0.905	
Flt Protected		0.995		0.950				0.991			0.991	
Satd. Flow (prot)	0	3469	0	1685	3500	0	0	1512	0	0	1652	0
Flt Permitted		0.662		0.208				0.867			0.889	
Satd. Flow (perm)	0	2308	0	369	3500	0	0	1317	0	0	1482	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						50			60	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			44	44			20		137			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1261	0	35	1132	0	0	80	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4		8			
Detector Phase		2	2	6	6		4	4	8	8		
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		32.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

<2035 Do Nothing> SAT

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	78.0	78.0		78.0	78.0		32.0	32.0		32.0	32.0	
Total Split (%)	70.9%	70.9%		70.9%	70.9%		29.1%	29.1%		29.1%	29.1%	
Maximum Green (s)	72.0	72.0		72.0	72.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.64		0.11	0.38			0.48			0.45	
Control Delay		5.4		4.2	3.5			31.7			26.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.4		4.2	3.5			31.7			26.1	
LOS		A		A	A			C			C	
Approach Delay		5.4			3.5			31.7			26.1	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 43 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 6.0

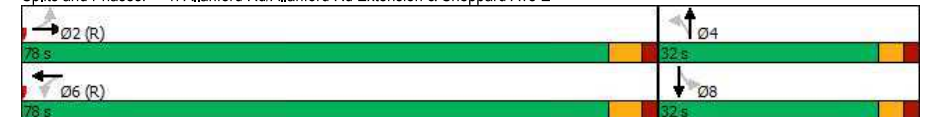
Intersection LOS: A

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> SAT

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Future Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.96	1.00			0.97			0.98	0.95
Frt		0.999			0.990			0.910				0.850
Flt Protected	0.950			0.950				0.984			0.950	
Satd. Flow (prot)	1685	3457	0	1685	3421	0	0	1647	0	0	1785	1507
Flt Permitted	0.174			0.261				0.906			0.748	
Satd. Flow (perm)	309	3457	0	446	3421	0	0	1503	0	0	1378	1426
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			9			69				80
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		62	62		19	30		14	14		30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	2%	0%	0%	0%	0%
Adj. Flow (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	1081	0	15	1127	0	0	15	0	0	245	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		29.0	29.0		29.0	29.0	29.0
Total Split (s)	12.0	71.0		59.0	59.0		39.0	39.0		39.0	39.0	39.0

Lanes, Volumes, Timings

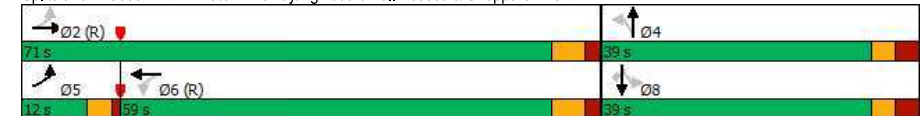
<2035 Do Nothing> SAT

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.9%	64.5%		53.6%	53.6%		35.5%	35.5%		35.5%	35.5%	35.5%
Maximum Green (s)	8.0	65.0		53.0	53.0		33.0	33.0		33.0	33.0	33.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	76.3	74.3		63.7	63.7		25.7			25.7	25.7	25.7
Actuated g/C Ratio	0.69	0.68		0.58	0.58		0.23			0.23	0.23	0.23
v/c Ratio	0.32	0.46		0.06	0.57		0.04			0.76	0.20	0.20
Control Delay	5.7	7.0		13.9	17.0		0.2			55.5	7.7	7.7
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0	0.0	0.0
Total Delay	5.7	7.0		13.9	17.0		0.2			55.5	7.7	7.7
LOS	A	A		B	B		A			E	A	A
Approach Delay		6.9			17.0		0.2				43.7	
Approach LOS		A			B		A				D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 74 (67%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.76												
Intersection Signal Delay: 15.7	Intersection LOS: B											
Intersection Capacity Utilization 78.5%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<2035 Do Nothing> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↗		↖	↗	↗	↖	↗	↗
Traffic Volume (vph)	104	461	487	502	574	194	350	1249	562	180	1098	84
Future Volume (vph)	104	461	487	502	574	194	350	1249	562	180	1098	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.96		0.92	0.97	0.96		0.99		0.91	0.99	0.99	
Frt			0.850		0.962				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1636	3336	1346	1604	3140	0	*1622	4839	1428	1620	4686	0
Flt Permitted	0.273			0.375			0.105			0.114		
Satd. Flow (perm)	450	3336	1234	612	3140	0	177	4839	1301	192	4686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			205		44				259		10	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	144		75	75		144	99		72	72		99
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	7%	3%	5%	6%	3%	4%	6%	3%	4%	6%	5%
Bus Blockages (#/hr)	0	0	20	0	0	20	0	0	6	0	10	0
Adj. Flow (vph)	104	461	487	502	574	194	350	1249	562	180	1098	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	461	487	502	768	0	350	1249	562	180	1182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.21	1.09	1.01	1.01	1.09	1.01	1.13	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<2035 Do Nothing> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	45.0	45.0	17.0	51.0		17.0	46.0	46.0	12.0	41.0	
Total Split (%)	9.2%	37.5%	37.5%	14.2%	42.5%		14.2%	38.3%	38.3%	10.0%	34.2%	
Maximum Green (s)	7.0	38.0	38.0	13.0	44.0		13.0	39.0	39.0	8.0	34.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.8	39.0	39.0	59.0	45.2		55.0	40.0	40.0	47.0	35.0	
Actuated g/C Ratio	0.42	0.32	0.32	0.49	0.38		0.46	0.33	0.33	0.39	0.29	
v/c Ratio	0.40	0.43	0.90	1.21	0.63		1.41	0.77	0.93	0.99	0.86	
Control Delay	21.7	33.2	50.1	418.7	29.8		782.1	40.0	52.1	152.3	48.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.7	33.2	50.1	418.7	29.8		782.1	40.0	52.1	152.3	48.0	
LOS	C	C	D	F	C		F	D	D	F	D	
Approach Delay		39.9		183.5				163.4			61.8	
Approach LOS		D		F				F			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 21 (18%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.41

Intersection Signal Delay: 121.9

Intersection LOS: F

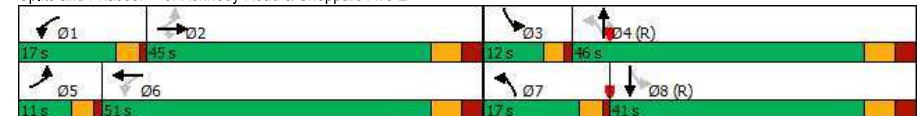
Intersection Capacity Utilization 122.2%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<2035 Do Nothing> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Future Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1			1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99		0.93	0.94		0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.998			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1685	4977	0	1589	5022	0
Flt Permitted	0.950			0.950			0.131			0.193		
Satd. Flow (perm)	1662	0	1394	1592	0	1470	232	4977	0	322	5022	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			170			69		4			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	12		50	50		12	26		11	11		26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	0%	2%	0%	6%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Adj. Flow (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	170	30	0	35	215	1336	0	15	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<2035 Do Nothing> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	31.0		31.0	31.0		31.0	25.0	79.0		54.0	54.0	
Total Split (%)	28.2%		28.2%	28.2%		28.2%	22.7%	71.8%		49.1%	49.1%	
Maximum Green (s)	25.0		25.0	25.0		25.0	21.0	73.0		48.0	48.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	19.3		19.3	19.3		19.3	82.7	80.7		65.8	65.8	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.75	0.73		0.60	0.60	
v/c Ratio	0.67		0.44	0.11		0.11	0.65	0.37		0.08	0.48	
Control Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
LOS	D		A	D		A	B	A		B	B	
Approach Delay		33.2			18.1			7.8			14.5	
Approach LOS		C			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 13.5

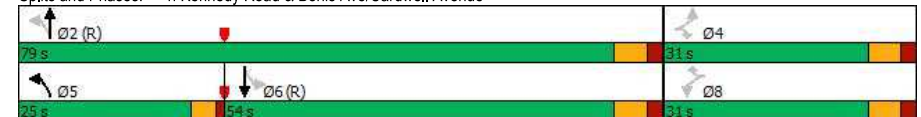
Intersection LOS: B

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings <2035 Do Nothing> SAT
5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Future Volume (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00					1.00		0.98			
Frt		0.997							0.850			
Flt Protected				0.950			0.950					
Satd. Flow (prot)	1773	4830	0	1685	3500	1615	1685	0	1507	1773	0	1773
Flt Permitted				0.154			0.950					
Satd. Flow (perm)	1773	4830	0	273	3500	1615	1679	0	1477	1773	0	1773
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3							109			
Link Speed (k/h)	60				60			40			40	
Link Distance (m)	40.6				63.5			81.9			115.9	
Travel Time (s)	2.4				3.8			7.4			10.4	
Confl. Peds. (#/hr)	46		15	15		46	3		8	8		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	20	0	0	0	20	0	0	0	0	0	0
Adj. Flow (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1472	0	15	1389	0	35	0	20	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.21	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Lanes, Volumes, Timings <2035 Do Nothing> SAT
5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	60.0	60.0		10.0	70.0	70.0	40.0		40.0	10.0		50.0
Total Split (%)	50.0%	50.0%		8.3%	58.3%	58.3%	33.3%		33.3%	8.3%		41.7%
Maximum Green (s)	53.0	53.0		6.0	63.0	63.0	34.0		34.0	6.0		44.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)		99.4		105.2	103.4		9.4		9.4			
Actuated g/C Ratio		0.83		0.88	0.86		0.08		0.08			
v/c Ratio		0.37		0.05	0.46		0.27		0.09			
Control Delay		2.6		1.8	3.2		56.6		0.8			
Queue Delay		0.0		0.0	0.0		0.0		0.0			
Total Delay		2.6		1.8	3.2		56.6		0.8			
LOS		A		A	A		E		A			
Approach Delay		2.6			3.2				36.3			
Approach LOS		A			A				D			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 62 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 3.5

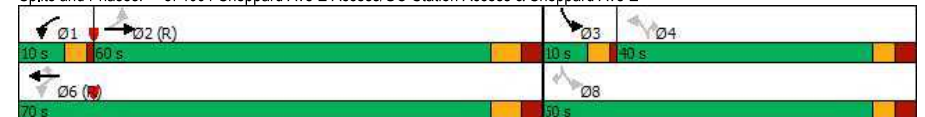
Intersection LOS: A

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

<2035 Do Nothing> SAT

6: Lamont Ave/Private Driveway & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Future Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			0.99		0.95		0.98			0.99	
Frt						0.850		0.890			0.946	
Flt Protected	0.950			0.950				0.991			0.971	
Satd. Flow (prot)	1685	3368	0	1685	3368	1597	0	1630	0	0	1715	0
Flt Permitted	0.187			0.203				0.985				
Satd. Flow (perm)	330	3368	0	356	3368	1513	0	1619	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						40		30			30	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	12		31	31		12	3		7	7		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	17%	0%	6%	0%	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1308	0	3	1381	2	0	11	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	93.0	93.0		93.0	93.0	93.0	17.0	17.0		17.0	17.0	

Lanes, Volumes, Timings

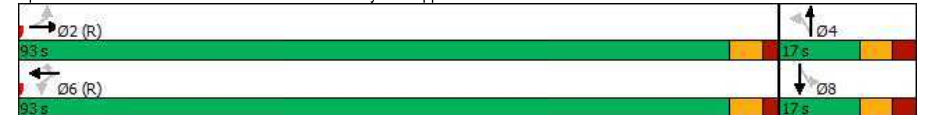
<2035 Do Nothing> SAT

6: Lamont Ave/Private Driveway & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	84.5%	84.5%		84.5%	84.5%	84.5%	15.5%	15.5%		15.5%	15.5%	
Maximum Green (s)	87.0	87.0		87.0	87.0	87.0	10.0	10.0		10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	106.2	106.2		106.2	106.2	106.2		8.0			8.0	
Actuated g/C Ratio	0.97	0.97		0.97	0.97	0.97		0.07			0.07	
v/c Ratio	0.00	0.40		0.01	0.42	0.00		0.08			0.03	
Control Delay	1.0	1.1		0.7	0.5	0.0		4.5			0.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay	1.0	1.1		0.7	0.5	0.0		4.5			0.4	
LOS	A	A		A	A	A		A			A	
Approach Delay		1.1			0.5			4.5			0.4	
Approach LOS		A			A			A			A	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 40												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.42												
Intersection Signal Delay: 0.8												
Intersection Capacity Utilization 56.8%												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<2035 Do Nothing> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Future Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.99	0.99		0.97		0.95	0.98		0.93
Frt		0.966			0.979			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4586	0	1652	3288	0	*1622	3500	1434	1668	3500	1463
Flt Permitted	0.109			0.101			0.393			0.470		
Satd. Flow (perm)	191	4586	0	174	3288	0	639	3500	1360	808	3500	1363
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			19				167			159
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			41.8			29.4	
Confl. Peds. (#/hr)	81		71	71		81	59		42	42		59
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	4%	2%	2%	2%	6%	2%	3%	1%	2%	1%
Bus Blockages (#/hr)	0	20	0	0	14	0	0	0	5	0	0	5
Adj. Flow (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	1316	0	218	1170	0	256	498	214	132	437	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.05	1.01	1.09	1.01	1.12	1.09	1.01	1.12
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

Lanes, Volumes, Timings

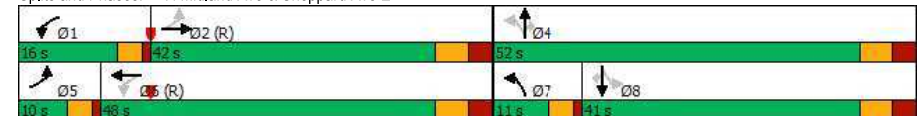
7: Midland Ave & Sheppard Ave E

<2035 Do Nothing> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	42.0		16.0	48.0		11.0	52.0	52.0	41.0	41.0	41.0
Total Split (%)	9.1%	38.2%		14.5%	43.6%		10.0%	47.3%	47.3%	37.3%	37.3%	37.3%
Maximum Green (s)	6.0	35.0		12.0	41.0		7.0	45.0	45.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	46.7	36.7		55.0	42.0		49.0	46.0	46.0	35.0	35.0	35.0
Actuated g/C Ratio	0.42	0.33		0.50	0.38		0.45	0.42	0.42	0.32	0.32	0.32
v/c Ratio	0.69	0.84		0.87	0.92		0.72	0.34	0.32	0.51	0.39	0.21
Control Delay	39.7	37.2		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	37.2		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
LOS	D	D		E	D		D	C	A	D	C	A
Approach Delay		37.4			50.5			22.5			27.5	
Approach LOS		D			D			C			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 24 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 105												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.92												
Intersection Signal Delay: 36.7	Intersection LOS: D											
Intersection Capacity Utilization 115.5%	ICU Level of Service H											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<2035 Do Nothing> SAT
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↖↖↖		↖	↖↖↖
Traffic Volume (vph)	209	206	2101	273	164	1998
Future Volume (vph)	209	206	2101	273	164	1998
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	1.00					
Frt	0.933		0.983			
Flt Protected	0.975				0.950	
Satd. Flow (prot)	1660	0	4717	0	1123	4839
Flt Permitted	0.975				0.061	
Satd. Flow (perm)	1658	0	4717	0	72	4839
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	40		34			
Link Speed (k/h)	40		50			50
Link Distance (m)	204.8		334.4			134.4
Travel Time (s)	18.4		24.1			9.7
Confl. Peds. (#/hr)	2					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	5%	14%	50%	6%
Bus Blockages (#/hr)	0	0	6	0	0	0
Adj. Flow (vph)	209	206	2101	273	164	1998
Shared Lane Traffic (%)						
Lane Group Flow (vph)	415	0	2374	0	164	1998
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-1.5		0.0		0.0	0.0
Detector 1 Position(m)	-1.5		0.0		0.0	0.0
Detector 1 Size(m)	9.0		1.8		6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<2035 Do Nothing> SAT
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	26.0		67.0		17.0	84.0
Total Split (%)	23.6%		60.9%		15.5%	76.4%
Maximum Green (s)	20.0		61.0		12.5	78.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	21.0		62.2		80.5	79.0
Actuated g/C Ratio	0.19		0.57		0.73	0.72
v/c Ratio	1.19		0.89		0.92	0.57
Control Delay	406.4		14.6		103.2	8.2
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	406.4		14.6		103.2	8.2
LOS	F		B		F	A
Approach Delay	406.4		14.6			15.5
Approach LOS	F		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 47.8

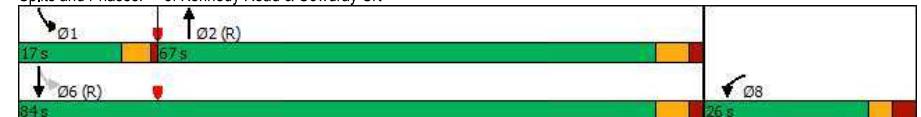
Intersection LOS: D

Intersection Capacity Utilization 91.6%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<2035 Do Nothing> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	15	439	0	248	10	2116	435	187	2092	0
Future Volume (vph)	0	0	15	439	0	248	10	2116	435	187	2092	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	0.0	25.0	30.0	80.0	30.0	80.0	20.0	0.0
Storage Lanes	0	0	2	0	1	0	1	1	1	1	0	0
Taper Length (m)	2.5	2.5	30.0	35.0								
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Ped Bike Factor	0.98	1.00	0.97	1.00	0.97	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt	0.865	0.865	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850
Flt Protected			0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	0	1088	0	3173	1553	0	1203	4932	1463	1685	6153	0
Flt Permitted			0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	0	1088	0	3169	1553	0	100	4932	1396	131	6153	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	144	144	193	193	149	149	149	149	149	149	149	149
Link Speed (k/h)	48	48	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	70.0	70.0	243.9	243.9	64.3	64.3	64.3	64.3	64.3	64.3	64.3	64.3
Travel Time (s)	5.3	5.3	17.6	17.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Confl. Peds. (#/hr)	19	19	1	1	19	1	16	16	16	16	16	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	47%	3%	2%	0%	40%	4%	3%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	10	0
Adj. Flow (vph)	0	0	15	439	0	248	10	2116	435	187	2092	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	439	248	0	10	2116	435	187	2092	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24	24	14	24	14	24	24	14	24	24	14	24
Number of Detectors	1	1	1	1	1	1	0	0	0	1	0	0
Detector Template	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left	Left
Leading Detector (m)	6.1	7.5	7.5	7.5	7.5	7.5	0.0	0.0	0.0	18.0	0.0	0.0
Trailing Detector (m)	0.0	-1.5	-1.5	-1.5	-1.5	-1.5	0.0	0.0	0.0	9.0	0.0	0.0
Detector 1 Position(m)	0.0	-1.5	-1.5	-1.5	-1.5	-1.5	0.0	0.0	0.0	9.0	0.0	0.0
Detector 1 Size(m)	6.1	9.0	9.0	9.0	9.0	9.0	6.1	1.8	6.1	9.0	1.8	1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Turn Type	NA	NA	Prot	NA	Perm	NA	Perm	pm+pt	NA	NA	NA	NA
Protected Phases	10	10	9	13	2	2	2	2	6	6	6	6
Permitted Phases	10	10	9	13	2	2	2	2	1	1	1	1
Detector Phase	10	10	9	13	2	2	2	2	1	1	1	1
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	7.0	33.0	33.0	33.0	33.0	6.0	33.0	33.0	33.0
Minimum Split (s)	14.0	14.0	9.5	46.0	40.0	40.0	40.0	40.0	10.0	40.0	40.0	40.0

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<2035 Do Nothing> SAT

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<2035 Do Nothing> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.5	14.5		31.5	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	13.2%	13.2%		28.6%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	
Maximum Green (s)	7.5	7.5		27.0	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0	7.0		7.0	
Flash Dont Walk (s)					32.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0			0	0		0	
Act Effct Green (s)		8.0		21.5	24.6		55.1	55.1	55.1	76.4	73.4	
Actuated g/C Ratio		0.07		0.20	0.22		0.50	0.50	0.50	0.69	0.67	
v/c Ratio		0.07		0.71	0.50		0.20	0.86	0.56	0.61	0.51	
Control Delay		0.7		47.9	11.5		29.3	28.3	14.2	33.7	9.8	
Queue Delay		0.0		0.0	0.0		0.0	182.0	3.4	0.0	0.1	
Total Delay		0.7		47.9	11.5		29.3	210.3	17.5	33.7	9.9	
LOS		A		D	B		C	F	B	C	A	
Approach Delay		0.7			34.8			176.8			11.9	
Approach LOS		A			C			F			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 90.9

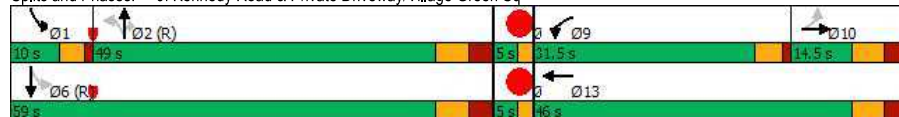
Intersection LOS: F

Intersection Capacity Utilization 98.3%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<2035 Do Nothing> SAT

08-10-2022

Lane Group	Ø3	Ø7
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<2035 Do Nothing> SAT

08-10-2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	787	855	1655	0	0	1410
Future Volume (vph)	787	855	1655	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.955	0.850				
Flt Protected	0.966					
Satd. Flow (prot)	3121	1457	4932	0	0	4932
Flt Permitted	0.966					
Satd. Flow (perm)	3121	1457	4932	0	0	4932
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4	4				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	5%	4%	0%	0%	4%
Adj. Flow (vph)	787	855	1655	0	0	1410
Shared Lane Traffic (%)		39%				
Lane Group Flow (vph)	1120	522	1655	0	0	1410
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<2035 Do Nothing> SAT

08-10-2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	58.0	58.0	52.0			52.0
Total Split (%)	52.7%	52.7%	47.3%			47.3%
Maximum Green (s)	52.0	52.0	45.0			45.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	48.5	48.5	50.5			50.5
Actuated g/C Ratio	0.44	0.44	0.46			0.46
v/c Ratio	0.81	0.81	0.73			0.62
Control Delay	32.0	38.0	34.1			26.8
Queue Delay	0.0	0.0	183.7			0.5
Total Delay	32.0	38.0	217.9			27.3
LOS	C	D	F			C
Approach Delay	33.9		217.9			27.3
Approach LOS	C		F			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 26 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 96.6

Intersection LOS: F

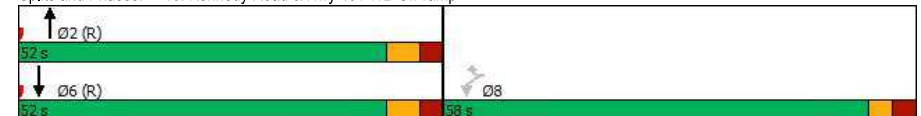
Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings <2035 Do Nothing> SAT
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↑↑↑			↑↑↑	
Traffic Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Future Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.966	0.850			0.865		0.997				
Flt Protected	0.950	0.980										
Satd. Flow (prot)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Flt Permitted	0.950	0.980										
Satd. Flow (perm)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		5	40					4				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							6		20	20		6
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	8%	6%	0%	0%	7%	0%	6%	5%	0%	6%	0%
Adj. Flow (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Shared Lane Traffic (%)	45%		33%									
Lane Group Flow (vph)	483	952	431	0	0	515	0	2007	0	0	1619	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings <2035 Do Nothing> SAT
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road 08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	58.0	58.0	58.0			58.0		52.0			52.0	
Total Split (%)	52.7%	52.7%	52.7%			52.7%		47.3%			47.3%	
Maximum Green (s)	51.0	51.0	51.0			51.0		45.0			45.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	46.4	46.4	46.4			46.4		51.6			51.6	
Actuated g/C Ratio	0.42	0.42	0.42			0.42		0.47			0.47	
v/c Ratio	0.78	0.78	0.76			0.71		0.70			0.71	
Control Delay	37.0	32.1	33.8			31.8		25.6			15.5	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	37.0	32.1	33.8			31.8		25.6			15.5	
LOS	D	C	C			C		C			B	
Approach Delay		33.7			31.8			25.6			15.5	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 45 (41%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 26.0

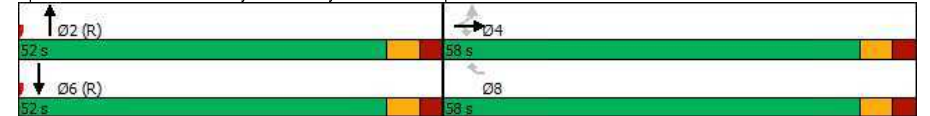
Intersection LOS: C

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<2035 Do Nothing> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	5	14	12	11	49	6
Future Volume (vph)	5	14	12	11	49	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.901				0.985	
Flt Protected				0.975	0.957	
Satd. Flow (prot)	1693	0	0	1832	1665	0
Flt Permitted				0.975	0.957	
Satd. Flow (perm)	1693	0	0	1832	1665	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)		6	6			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	3%	34%
Adj. Flow (vph)	5	14	12	11	49	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	0	23	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.6%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<2035 Do Nothing> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	5	14	12	11	49	6
Future Volume (Veh/h)	5	14	12	11	49	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	14	12	11	49	6
Pedestrians				2	6	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		53	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		53	20
tC, single (s)			4.1		6.4	6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.6
p0 queue free %			99		95	99
cM capacity (veh/h)			1594		941	966

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	19	23	55
Volume Left	0	12	49
Volume Right	14	0	6
cSH	1700	1594	943
Volume to Capacity	0.01	0.01	0.06
Queue Length 95th (m)	0.0	0.2	1.4
Control Delay (s)	0.0	3.8	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	3.8	9.1
Approach LOS			A

Intersection Summary

Average Delay	6.0		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<2035 Do Nothing> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (vph)	1363	6	25	1481	0	29
Future Volume (vph)	1363	6	25	1481	0	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.865	
Flt Protected				0.999		
Satd. Flow (prot)	3430	0	0	3399	1519	0
Flt Permitted				0.999		
Satd. Flow (perm)	3430	0	0	3399	1519	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		40	40			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	0%	0%	5%	0%	7%
Adj. Flow (vph)	1363	6	25	1481	0	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1369	0	0	1506	29	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 69.3%	ICU Level of Service C					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<2035 Do Nothing> SAT
08-10-2022

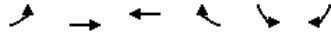
	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	1363	6	25	1481	0	29
Future Volume (Veh/h)	1363	6	25	1481	0	29
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1363	6	25	1481	0	29
Pedestrians				2	40	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.90		0.94	0.90
vC, conflicting volume			1409		2196	726
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1228		1657	468
tC, single (s)			4.1		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			95		100	94
cM capacity (veh/h)			498		78	457
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	909	460	519	987	29	
Volume Left	0	0	25	0	0	
Volume Right	0	6	0	0	29	
cSH	1700	1700	498	1700	457	
Volume to Capacity	0.53	0.27	0.05	0.58	0.06	
Queue Length 95th (m)	0.0	0.0	1.2	0.0	1.5	
Control Delay (s)	0.0	0.0	1.5	0.0	13.4	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.5		13.4	
Approach LOS					B	
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			69.3%		ICU Level of Service	C
Analysis Period (min)			60			

Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<2035 Do Nothing> SAT

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	16	1372	1492	39	18	14
Future Volume (vph)	16	1372	1492	39	18	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.941	
Flt Protected		0.999			0.973	
Satd. Flow (prot)	0	6207	3385	0	1720	0
Flt Permitted		0.999			0.973	
Satd. Flow (perm)	0	6207	3385	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Confl. Peds. (#/hr)	23			23	8	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	4%	5%	6%	0%	0%
Adj. Flow (vph)	16	1372	1492	39	18	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1388	1531	0	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.9%

ICU Level of Service B

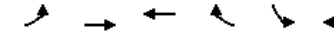
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<2035 Do Nothing> SAT

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	16	1372	1492	39	18	14
Future Volume (Veh/h)	16	1372	1492	39	18	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	1372	1492	39	18	14
Pedestrians		17	8		23	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		2	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		244	41			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	1554				1918	806
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1380				1787	541
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				71	97
cM capacity (veh/h)	409				62	422

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	212	392	392	392	995	536	32
Volume Left	16	0	0	0	0	0	18
Volume Right	0	0	0	0	0	39	14
cSH	409	1700	1700	1700	1700	1700	99
Volume to Capacity	0.04	0.23	0.23	0.23	0.59	0.32	0.32
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	0.0	10.5
Control Delay (s)	1.6	0.0	0.0	0.0	0.0	0.0	58.7
Lane LOS	A						F
Approach Delay (s)	0.3				0.0		58.7
Approach LOS							F

Intersection Summary




















Average Delay	0.8			
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	60			

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<2035 Do Nothing> SAT

08-10-2022




















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	32	17	0	12	29	2250	29	6	2110	20
Future Volume (vph)	12	1	32	17	0	12	29	2250	29	6	2110	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	15.0	30.0	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	0	0	0	1	0	1	0	1	0	0
Taper Length (m)	2.5			2.5		10.0		15.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.904			0.944			0.998			0.999	
Flt Protected		0.987			0.972		0.950			0.950		
Satd. Flow (prot)	0	1597	0	0	1724	0	1574	4839	0	1685	4768	0
Flt Permitted		0.987			0.972		0.950			0.950		
Satd. Flow (perm)	0	1597	0	0	1724	0	1574	4839	0	1685	4768	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Confl. Peds. (#/hr)							5		5	5		5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	7%	0%	0%	0%	7%	5%	0%	0%	6%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	10	0
Adj. Flow (vph)	12	1	32	17	0	12	29	2250	29	6	2110	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	29	0	29	2279	0	6	2130	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 54.1%	ICU Level of Service A											
Analysis Period (min) 60												

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<2035 Do Nothing> SAT

08-10-2022

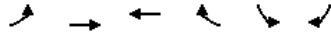
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	1	32	17	0	12	29	2250	29	6	2110	20
Future Volume (Veh/h)	12	1	32	17	0	12	29	2250	29	6	2110	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	12	1	32	17	0	12	29	2250	29	6	2110	20
Pedestrians		5			5							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type							None				None	
Median storage (veh)												
Upstream signal (m)							134				190	
pX, platoon unblocked	0.68	0.68	0.78	0.68	0.68	0.57	0.78			0.57		
vC, conflicting volume	2957	4479	718	3075	4474	770	2135			2284		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	86	2317	0	260	2311	0	1478			636		
tC, single (s)	7.5	6.5	7.0	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	98	96	96	96	100	98	91			99		
cM capacity (veh/h)	549	23	832	394	24	623	333			547		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	45	29	29	900	900	479	6	844	844	442		
Volume Left	12	17	29	0	0	0	6	0	0	0		
Volume Right	32	12	0	0	0	29	0	0	0	20		
cSH	436	464	333	1700	1700	1700	547	1700	1700	1700		
Volume to Capacity	0.10	0.06	0.09	0.53	0.53	0.28	0.01	0.50	0.50	0.26		
Queue Length 95th (m)	2.6	1.5	2.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0		
Control Delay (s)	14.2	13.3	16.8	0.0	0.0	0.0	11.7	0.0	0.0	0.0		
Lane LOS	B	B	C				B					
Approach Delay (s)	14.2	13.3	0.2				0.0					
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			54.1%				ICU Level of Service			A		
Analysis Period (min)			60									

Lanes, Volumes, Timings

16: Collingwood Street & Gordon Ave

<2035 Do Nothing> SAT

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Traffic Volume (vph)	24	2	1	0	2	43
Future Volume (vph)	24	2	1	0	2	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.871	
Flt Protected		0.956			0.998	
Satd. Flow (prot)	0	1658	1879	0	1461	0
Flt Permitted		0.956			0.998	
Satd. Flow (perm)	0	1658	1879	0	1461	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	133.7		190.4	
Travel Time (s)		10.5	12.0		17.1	
Confl. Peds. (#/hr)					1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	0%	0%	0%	50%	10%
Adj. Flow (vph)	24	2	1	0	2	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	1	0	45	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.4%

ICU Level of Service A

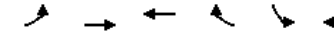
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: Collingwood Street & Gordon Ave

<2035 Do Nothing> SAT

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Traffic Volume (veh/h)	24	2	1	0	2	43
Future Volume (Veh/h)	24	2	1	0	2	43
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	24	2	1	0	2	43
Pedestrians		1	1			
Lane Width (m)		3.5	3.5			
Walking Speed (m/s)		1.1	1.1			
Percent Blockage		0	0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1				52	2
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1				52	2
tC, single (s)	4.2				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.3				4.0	3.4
p0 queue free %	98				100	96
cM capacity (veh/h)	1577				835	1058

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	1	45
Volume Left	24	0	2
Volume Right	0	0	43
cSH	1577	1700	1046
Volume to Capacity	0.02	0.00	0.04
Queue Length 95th (m)	0.4	0.0	1.0
Control Delay (s)	6.8	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	6.8	0.0	8.6
Approach LOS			A

Intersection Summary

Average Delay	7.8		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
17: Village Green Sq

<2035 Do Nothing> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Traffic Volume (vph)	0	30	77	0	31	43
Future Volume (vph)	0	30	77	0	31	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865				0.922	
Flt Protected				0.950	0.979	
Satd. Flow (prot)	1083	0	0	1733	1667	0
Flt Permitted				0.950	0.979	
Satd. Flow (perm)	1083	0	0	1733	1667	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	67.1			152.9	154.8	
Travel Time (s)	6.0			13.8	13.9	
Confl. Peds. (#/hr)		9	9			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	3%	0%	0%	3%
Adj. Flow (vph)	0	30	77	0	31	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	0	0	77	74	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.0%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<2035 Do Nothing> SAT
08-10-2022

















	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	30	77	0	31	43
Future Volume (vph)	0	30	77	0	31	43
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	30	77	0	31	43
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	30	77	74			
Volume Left (vph)	0	77	31			
Volume Right (vph)	30	0	43			
Hadj (s)	0.25	0.25	-0.24			
Departure Headway (s)	4.4	4.3	3.9			
Degree Utilization, x	0.04	0.09	0.08			
Capacity (veh/h)	799	812	888			
Control Delay (s)	7.6	7.8	7.2			
Approach Delay (s)	7.6	7.8	7.2			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.5			
Level of Service			A			
Intersection Capacity Utilization			22.0%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings

18: Private Access & Village Green Sq

<2035 Do Nothing> SAT

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	381	33	3	353	3	0	0	0	74	0	31
Future Volume (vph)	81	381	33	3	353	3	0	0	0	74	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.991			0.999						0.960	
Flt Protected		0.992									0.966	
Satd. Flow (prot)	0	1775	0	0	1836	0	0	1842	0	0	1345	0
Flt Permitted		0.992									0.966	
Satd. Flow (perm)	0	1775	0	0	1836	0	0	1842	0	0	1345	0
Link Speed (k/h)		50			50			48			40	
Link Distance (m)		243.9			158.0			39.7			154.8	
Travel Time (s)		17.6			11.4			3.0			13.9	
Confl. Peds. (#/hr)	32					32	6		2	2		6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	10%	34%	2%	0%	0%	2%	0%	0%	2%	100%
Adj. Flow (vph)	81	381	33	3	353	3	0	0	0	74	0	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	495	0	0	359	0	0	0	0	0	105	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Yield	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 65.2%

ICU Level of Service C

















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

18: Private Access & Village Green Sq

<2035 Do Nothing> SAT

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	381	33	3	353	3	0	0	0	74	0	31
Future Volume (Veh/h)	81	381	33	3	353	3	0	0	0	74	0	31
Sign Control		Free			Free			Stop			Yield	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	81	381	33	3	353	3	0	0	0	74	0	31
Pedestrians		6			2						32	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		1			0						3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		244										
pX, platoon unblocked												
vC, conflicting volume	388			414			957	954	400	954	968	392
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	388			414			957	954	400	954	968	392
tC, single (s)	4.1			4.4			7.1	6.5	6.2	7.1	6.5	7.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.5	4.0	3.3	3.5	4.0	4.2
p0 queue free %	93			100			100	100	100	66	100	93
cM capacity (veh/h)	1137			992			205	233	654	215	228	471
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	495	359	0	105								
Volume Left	81	3	0	74								
Volume Right	33	3	0	31								
cSH	1137	992	1700	256								
Volume to Capacity	0.07	0.00	0.00	0.41								
Queue Length 95th (m)	1.7	0.1	0.0	15.4								
Control Delay (s)	2.0	0.1	0.0	28.7								
Lane LOS	A	A	A	D								
Approach Delay (s)	2.0	0.1	0.0	28.7								
Approach LOS			A	D								

Intersection Summary

Average Delay 4.2

Intersection Capacity Utilization 65.2%

ICU Level of Service

C

Analysis Period (min) 60

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	14764	14811	14544	14146	13871	14426
Vehs Exited	13866	14179	13921	13524	13150	13727
Starting Vehs	691	851	828	819	789	786
Ending Vehs	1589	1483	1451	1441	1510	1486
Travel Distance (km)	16365	16540	16258	15779	15368	16062
Travel Time (hr)	1595.1	1529.5	1671.2	1760.7	1979.5	1707.2
Total Delay (hr)	1270.0	1200.7	1347.3	1445.4	1672.7	1387.2
Total Stops	35147	34924	34453	31038	30964	33301
Fuel Used (l)	2363.4	2318.3	2415.7	2456.5	2617.6	2434.3

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	14764	14811	14544	14146	13871	14426
Vehs Exited	13866	14179	13921	13524	13150	13727
Starting Vehs	691	851	828	819	789	786
Ending Vehs	1589	1483	1451	1441	1510	1486
Travel Distance (km)	16365	16540	16258	15779	15368	16062
Travel Time (hr)	1595.1	1529.5	1671.2	1760.7	1979.5	1707.2
Total Delay (hr)	1270.0	1200.7	1347.3	1445.4	1672.7	1387.2
Total Stops	35147	34924	34453	31038	30964	33301
Fuel Used (l)	2363.4	2318.3	2415.7	2456.5	2617.6	2434.3

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	45.6	186.2	182.1	55.0	35.0	110.6	116.9	69.9	180.0	178.8	179.0	100.0
Average Queue (m)	15.7	134.9	174.3	54.8	34.5	107.0	83.9	69.2	160.0	116.2	91.8	38.6
95th Queue (m)	37.9	220.6	189.2	56.4	36.9	109.8	142.1	75.4	208.6	194.2	157.8	85.4
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		6	42			69	17		40	1	0	
Queuing Penalty (veh)		30	223			533	129		254	9	3	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	3	17	33	80	89	30		87	6		19	1
Queuing Penalty (veh)	8	9	168	202	394	121		367	18		54	3

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	284.8	288.8	285.0
Average Queue (m)	51.8	254.1	254.7	254.3
95th Queue (m)	97.0	334.8	337.5	336.0
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		40	34	34
Queuing Penalty (veh)		243	204	203
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	2	86		
Queuing Penalty (veh)	11	137		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	29.3	34.8	39.5	28.5	50.2	79.0	76.2	50.3	213.5	219.1	36.4	19.4
Average Queue (m)	15.2	24.2	25.2	7.5	9.9	66.2	61.4	19.8	168.4	170.5	13.0	7.7
95th Queue (m)	30.2	36.8	39.9	24.1	40.8	81.9	91.2	57.3	276.5	279.0	32.2	15.6
Link Distance (m)	26.7	26.7	26.7	26.7		50.4	50.4		204.7	204.7	66.8	66.8
Upstream Blk Time (%)	6	13	14	1	0	74	40	0	21	19		
Queuing Penalty (veh)	15	32	34	4	0	565	306	0	159	147		
Storage Bay Dist (m)					25.0			55.0				
Storage Blk Time (%)					0	77	40	0				
Queuing Penalty (veh)					1	15	48	3				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	14.8	19.6
Average Queue (m)	4.9	7.7
95th Queue (m)	13.6	17.0
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	14.3	83.5	91.2	79.7	18.4	58.1	67.9	73.3	51.0	13.9	34.4	32.6
Average Queue (m)	3.5	49.5	59.9	39.1	2.6	45.8	57.2	64.3	41.1	0.6	6.9	19.6
95th Queue (m)	11.6	74.6	84.4	65.9	11.5	61.6	71.7	75.6	65.9	5.8	26.1	40.7
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)					0	4	12	20	1	0	3	11
Queuing Penalty (veh)					0	31	88	151	0	0	25	87
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)			0			24			34	3		
Queuing Penalty (veh)			0			2			116	19		

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	89.0	125.8	128.7	132.8	108.1	35.5	42.1	44.6
Average Queue (m)	33.5	64.3	73.2	76.6	19.5	4.7	6.4	6.7
95th Queue (m)	82.0	125.5	129.8	132.5	90.3	28.1	35.2	36.3
Link Distance (m)		122.9	122.9	122.9	122.9	233.0	233.0	233.0
Upstream Blk Time (%)		6	9	12	0			
Queuing Penalty (veh)		38	63	79	2			
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)	0	11						
Queuing Penalty (veh)	0	21						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	151.1	161.8	120.9	89.8	92.9	105.0	3.4	3.3	42.4	34.0	46.8	42.2
Average Queue (m)	83.4	87.9	70.5	57.6	62.3	73.7	0.1	0.1	3.5	2.7	37.4	36.8
95th Queue (m)	138.8	147.2	116.7	81.3	86.5	102.6	2.4	2.3	24.7	22.2	43.4	40.5
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)									0	0	33	39
Queuing Penalty (veh)									1	0	343	405
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		7	5									
Queuing Penalty (veh)		24	39									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44
Directions Served	T	T	T	T
Maximum Queue (m)	45.0	80.2	76.5	76.6
Average Queue (m)	36.7	58.1	62.1	63.4
95th Queue (m)	40.9	89.8	89.0	88.2
Link Distance (m)	21.4	51.0	51.0	51.0
Upstream Blk Time (%)	39	15	18	20
Queuing Penalty (veh)	407	115	144	156
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	147.8	153.4	130.2	93.2	141.0	94.7	92.3	74.5	42.7	63.2	26.3	2.4
Average Queue (m)	101.6	103.9	77.2	54.5	66.9	80.3	65.7	46.6	2.5	15.6	1.4	0.1
95th Queue (m)	144.9	145.1	118.2	82.8	122.5	98.2	87.8	70.9	19.7	46.2	11.7	1.7
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)						13	3	0	0	0		
Queuing Penalty (veh)						0	0	0	0	0		
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	69.6	71.8	72.2	11.1	24.3	15.7
Average Queue (m)	50.6	58.8	49.4	0.5	3.9	1.0
95th Queue (m)	70.4	78.3	71.0	4.8	15.8	7.3
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	4	9	4			
Queuing Penalty (veh)	32	72	34			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 48: Bend

Movement	SB	SB
Directions Served	T	T
Maximum Queue (m)	4.4	3.0
Average Queue (m)	0.1	0.1
95th Queue (m)	2.4	2.1
Link Distance (m)	71.3	71.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 7147

Summary of All Intervals

Run Number	2	5	6	7	8	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	14870	14671	14292	14569	14683	14614
Vehs Exited	14112	14043	13470	13961	14076	13934
Starting Vehs	733	819	797	846	852	806
Ending Vehs	1491	1447	1619	1454	1459	1486
Travel Distance (km)	16574	16328	15591	16204	16144	16168
Travel Time (hr)	1660.3	1676.4	1820.0	1844.1	1712.9	1742.7
Total Delay (hr)	1330.1	1350.3	1508.3	1520.7	1390.6	1420.0
Total Stops	33634	32356	31058	31109	31180	31857
Fuel Used (l)	2457.0	2460.2	2528.1	2596.1	2471.7	2502.6

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	2	5	6	7	8	Avg
Vehs Entered	14870	14671	14292	14569	14683	14614
Vehs Exited	14112	14043	13470	13961	14076	13934
Starting Vehs	733	819	797	846	852	806
Ending Vehs	1491	1447	1619	1454	1459	1486
Travel Distance (km)	16574	16328	15591	16204	16144	16168
Travel Time (hr)	1660.3	1676.4	1820.0	1844.1	1712.9	1742.7
Total Delay (hr)	1330.1	1350.3	1508.3	1520.7	1390.6	1420.0
Total Stops	33634	32356	31058	31109	31180	31857
Fuel Used (l)	2457.0	2460.2	2528.1	2596.1	2471.7	2502.6

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.9	190.0	181.4	55.0	35.0	112.0	114.7	69.9	178.3	180.2	184.0	100.0
Average Queue (m)	16.0	154.3	175.8	53.8	34.4	105.7	65.5	69.5	165.2	123.9	113.1	60.6
95th Queue (m)	39.5	220.5	179.3	62.0	36.7	119.3	130.7	72.6	206.3	196.4	182.6	112.8
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		11	51			70	8		52	2	1	
Queuing Penalty (veh)		77	357			386	42		356	13	6	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	1	12	45	61	90	20		91	11		29	7
Queuing Penalty (veh)	4	13	253	227	282	68		418	29		104	33

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	282.7	289.9	283.9
Average Queue (m)	57.2	237.1	236.7	236.2
95th Queue (m)	95.1	333.2	336.4	335.9
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		29	24	25
Queuing Penalty (veh)		153	125	133
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	15	85		
Queuing Penalty (veh)	70	153		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	15.1	39.3	41.6	29.4	50.2	73.6	75.2	50.3	213.8	217.6	68.1	34.9
Average Queue (m)	3.3	28.0	29.6	13.8	7.8	54.5	46.1	4.7	99.4	85.0	30.5	10.6
95th Queue (m)	11.1	36.2	40.3	31.5	33.7	86.7	86.2	25.1	252.6	238.4	61.3	25.8
Link Distance (m)	26.7	26.7	26.7	26.7		50.4	50.4		204.7	204.7	66.8	66.8
Upstream Blk Time (%)	0	22	23	4	0	56	17	0	23	12	12	0
Queuing Penalty (veh)	0	72	76	13	0	306	96	0	124	64	0	0
Storage Bay Dist (m)					25.0			55.0				
Storage Blk Time (%)					0	61	17	0				
Queuing Penalty (veh)					0	12	5	0				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	30.2	29.3
Average Queue (m)	9.6	7.0
95th Queue (m)	22.3	23.2
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)	1	2
Queuing Penalty (veh)	0	1

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	11.6	75.5	86.9	90.7	10.2	58.0	69.8	71.9	51.0	13.9	38.3	35.3
Average Queue (m)	2.3	41.5	53.1	34.0	0.9	43.2	56.1	63.4	45.5	1.0	9.7	22.7
95th Queue (m)	9.0	64.6	77.5	63.8	6.0	62.0	76.3	79.1	61.9	8.3	32.3	43.1
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)						2	9	16	2	0	3	11
Queuing Penalty (veh)						16	85	140	0	0	31	100
Storage Bay Dist (m)		100.0	100.0		25.0					30.0		
Storage Blk Time (%)		0	0	0	0	19		29		12		
Queuing Penalty (veh)		0	0	0	0	1		160		88		

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	32.3	49.6	52.9	50.7	21.8	57.4	64.0	66.7
Average Queue (m)	23.1	36.7	43.5	44.7	3.8	11.8	18.6	22.5
95th Queue (m)	38.0	56.1	57.8	56.8	15.9	41.0	49.9	53.7
Link Distance (m)		32.4	32.4	32.4	32.4	322.9	322.9	322.9
Upstream Blk Time (%)	9	16	21	27				
Queuing Penalty (veh)	0	106	136	174				
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)	9	16						
Queuing Penalty (veh)	54	38						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	165.4	205.3	140.1	93.5	109.6	128.3	21.6	46.1	66.5	52.7	40.3	45.4
Average Queue (m)	94.5	107.7	96.0	65.4	77.0	98.2	1.6	3.2	6.4	2.6	36.2	36.6
95th Queue (m)	159.2	181.8	144.8	87.4	100.4	123.5	16.1	23.0	36.1	22.2	42.2	41.6
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)							0	0	0	0	26	28
Queuing Penalty (veh)							0	0	3	2	256	273
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		17	15									
Queuing Penalty (veh)		71	112									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44
Directions Served	T	T	T	T
Maximum Queue (m)	37.7	71.8	75.1	72.6
Average Queue (m)	36.3	43.0	51.9	55.9
95th Queue (m)	38.3	75.6	83.6	86.0
Link Distance (m)	21.4	51.0	51.0	51.0
Upstream Blk Time (%)	30	4	8	12
Queuing Penalty (veh)	288	31	60	85
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	110.5	112.0	99.0	73.5	152.2	95.4	96.5	92.7	75.0	76.2	77.0	74.8
Average Queue (m)	74.4	80.3	62.7	43.3	84.0	87.1	86.7	85.9	46.7	67.1	64.6	63.0
95th Queue (m)	101.3	105.1	88.5	67.6	136.3	90.8	91.4	92.5	96.7	76.3	86.1	91.5
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)						58	57	56	2	47	49	54
Queuing Penalty (veh)						0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	69.2	70.7	66.8	14.9	27.1	20.5
Average Queue (m)	45.0	51.9	38.7	0.7	2.5	1.1
95th Queue (m)	68.3	74.9	61.5	6.7	14.3	9.8
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	3	6	2			
Queuing Penalty (veh)	26	49	17			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

Zone wide Queuing Penalty: 6476

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	14329	14177	14398	13338	14215	14087
Vehs Exited	13540	13390	13669	12585	13606	13358
Starting Vehs	694	712	755	763	754	732
Ending Vehs	1483	1499	1484	1516	1363	1467
Travel Distance (km)	16114	15991	16176	14645	16223	15830
Travel Time (hr)	1486.7	1699.6	1500.9	2010.6	1634.5	1666.5
Total Delay (hr)	1166.4	1382.3	1179.7	1719.5	1312.1	1352.0
Total Stops	35421	35926	33495	30543	35266	34131
Fuel Used (l)	2254.2	2429.6	2279.6	2615.8	2394.4	2394.7

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	14329	14177	14398	13338	14215	14087
Vehs Exited	13540	13390	13669	12585	13606	13358
Starting Vehs	694	712	755	763	754	732
Ending Vehs	1483	1499	1484	1516	1363	1467
Travel Distance (km)	16114	15991	16176	14645	16223	15830
Travel Time (hr)	1486.7	1699.6	1500.9	2010.6	1634.5	1666.5
Total Delay (hr)	1166.4	1382.3	1179.7	1719.5	1312.1	1352.0
Total Stops	35421	35926	33495	30543	35266	34131
Fuel Used (l)	2254.2	2429.6	2279.6	2615.8	2394.4	2394.7

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.1	185.6	182.7	55.0	35.0	110.7	110.2	69.9	178.9	189.5	183.3	100.0
Average Queue (m)	17.9	141.3	174.4	54.8	34.7	107.1	58.8	69.7	171.1	153.1	153.7	92.9
95th Queue (m)	37.7	224.1	189.8	55.8	36.2	110.0	123.5	72.0	199.1	219.0	219.6	118.9
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		7	38			71	7		55	9	21	
Queuing Penalty (veh)		44	255			525	50		414	71	160	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	1	9	46	61	90	13		86	6		17	68
Queuing Penalty (veh)	3	10	222	140	259	68		358	22		94	282

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	274.8	277.3	272.8
Average Queue (m)	60.1	193.9	186.0	177.2
95th Queue (m)	94.5	315.7	317.4	310.4
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		19	15	13
Queuing Penalty (veh)		98	79	68
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	41	62		
Queuing Penalty (veh)	149	111		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	WB	WB	WB	B53	B53	NB	NB
Directions Served	T	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	36.4	37.0	20.5	50.1	73.0	73.8	212.8	216.1	34.0	12.8
Average Queue (m)	21.4	22.4	5.9	9.0	65.2	39.0	187.6	168.9	13.4	3.9
95th Queue (m)	40.3	42.0	18.1	38.8	76.2	85.7	273.7	288.8	29.7	11.4
Link Distance (m)	26.7	26.7	26.7		50.4	50.4	204.7	204.7	66.8	66.8
Upstream Blk Time (%)	12	13	0	0	90	15	62	24		
Queuing Penalty (veh)	42	45	0	0	623	104	427	166		
Storage Bay Dist (m)				25.0						
Storage Blk Time (%)					91	15				
Queuing Penalty (veh)					14	0				

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	21.5	75.5	83.5	88.8	31.8	72.9	74.4	76.6	51.0	46.4	48.5	43.3
Average Queue (m)	5.5	37.9	48.7	33.4	4.7	56.6	61.5	64.1	40.1	24.6	27.2	29.6
95th Queue (m)	17.4	67.4	76.3	63.3	19.2	84.4	83.4	82.3	68.2	56.6	56.3	54.0
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)					0	12	16	20	1	11	12	16
Queuing Penalty (veh)					0	99	132	170	0	89	102	135
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)		0	0	0	0	25		34	1			
Queuing Penalty (veh)		0	1	1	2	3		149	5			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	32.3	54.8	54.8	60.2	19.9	73.0	71.5	73.8
Average Queue (m)	22.2	39.3	44.4	45.9	8.7	18.6	25.8	28.4
95th Queue (m)	38.5	59.7	59.5	58.2	22.7	56.3	63.5	63.3
Link Distance (m)		32.4	32.4	32.4	32.4	322.9	322.9	322.9
Upstream Blk Time (%)	11	23	26	33				
Queuing Penalty (veh)	0	128	144	182				
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)	11	23						
Queuing Penalty (veh)	58	43						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	116.9	199.2	110.5	321.8	323.4	324.8	85.0	83.3	80.4	71.4	48.0	44.5
Average Queue (m)	75.4	86.4	71.3	212.4	248.9	267.3	25.1	31.5	33.1	19.9	36.2	37.2
95th Queue (m)	105.3	151.1	102.2	354.0	374.9	373.1	78.4	86.0	86.7	68.5	46.1	42.0
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)		0		9	15	28	5	6	11	5	33	41
Queuing Penalty (veh)		0		102	168	311	42	50	94	43	278	346
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		1	1									
Queuing Penalty (veh)		6	6									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44
Directions Served	T	T	T	T
Maximum Queue (m)	44.6	80.9	74.2	82.0
Average Queue (m)	37.0	40.5	46.0	46.7
95th Queue (m)	40.6	78.3	78.6	79.3
Link Distance (m)	21.4	51.0	51.0	51.0
Upstream Blk Time (%)	45	6	8	9
Queuing Penalty (veh)	381	39	51	57
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Agincourt North-South GS EA

<2035 Do Nothing> SAT
08-08-2022

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	119.0	132.9	117.2	82.4	242.9	100.1	98.7	98.7	74.6	79.9	77.0	81.9
Average Queue (m)	70.0	76.8	64.4	45.4	136.2	89.0	87.9	85.9	44.0	68.8	64.4	58.9
95th Queue (m)	105.9	111.9	93.4	72.0	263.4	95.9	96.7	98.8	95.0	82.6	88.7	98.3
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)					4	62	60	58	1	48	46	51
Queuing Penalty (veh)					0	0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	74.6	77.3	70.8	22.8	27.0	15.1
Average Queue (m)	54.5	58.5	48.7	1.8	4.8	1.0
95th Queue (m)	75.4	79.1	70.8	11.1	18.7	6.7
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	8	12	6			
Queuing Penalty (veh)	59	89	45			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 48: Bend

Movement	SB
Directions Served	T
Maximum Queue (m)	6.5
Average Queue (m)	0.2
95th Queue (m)	4.6
Link Distance (m)	71.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 8513

Arterial Level of Service

<2035 Do Nothing> AM
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	16.9	30.8	0.16	18.6	E
Hwy 401 WB Off-ramp	III	50	29.8	15.8	45.6	0.38	29.9	C
Village Green Sq	III	50	9.9	23.9	33.8	0.10	10.9	F
Cowdray Crt	III	50	30.1	32.7	62.8	0.38	21.8	E
Sheppard Ave E	III	50	25.6	40.7	66.3	0.32	17.6	E
Cardwell Avenue	III	50	22.9	6.3	29.2	0.29	35.7	C
Total	III		132.2	136.3	268.5	1.63	21.9	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.1	55.0	0.52	33.9	C
Sheppard Ave E	III	50	22.9	75.8	98.7	0.29	10.6	F
Cowdray Crt	III	50	25.6	20.6	46.2	0.32	25.2	D
Private Driveway	III	50	30.1	15.4	45.5	0.38	30.2	C
Hwy 401 WB Off-ramp	III	50	9.9	17.6	27.5	0.10	13.4	F
Hwy 401 EB Off-ramp	III	50	29.8	15.8	45.6	0.38	29.9	C
Total	III		159.2	159.3	318.5	1.99	22.5	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	4.4	31.2	0.39	45.2	B
Private Driveway	II	60	17.6	8.5	26.1	0.25	33.9	D
Kennedy Road	II	60	13.7	35.1	48.8	0.19	14.1	F
4091 Sheppard Ave E	II	60	20.3	1.5	21.8	0.28	46.9	B
Lamont Ave	II	60	19.9	0.9	20.8	0.28	48.2	B
Midland Ave	II	60	17.6	27.2	44.8	0.25	19.8	F
Total	II		115.9	77.6	193.5	1.64	30.5	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	81.9	96.7	0.21	7.7	F
Private Driveway	II	60	17.6	0.5	18.1	0.25	48.9	B
GO Station Access	II	60	19.9	7.5	27.4	0.28	36.6	C
Kennedy Road	II	60	20.3	23.4	43.7	0.28	23.4	E
Agincourt Mall Acces	II	60	13.7	20.1	33.8	0.19	20.4	F
Allanford Rd Extensi	II	60	17.6	0.6	18.2	0.25	48.7	B
Total	II		103.9	134.0	237.9	1.45	22.0	E

Arterial Level of Service

<2035 Do Nothing> PM
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	27.9	41.8	0.16	13.7	F
Hwy 401 WB Off-ramp	III	50	29.8	21.4	51.2	0.38	26.6	D
Village Green Sq	III	50	9.9	31.7	41.6	0.10	8.9	F
Cowdray Crt	III	50	30.1	23.0	53.1	0.38	25.8	D
Sheppard Ave E	III	50	25.6	53.1	78.7	0.32	14.8	F
Cardwell Avenue	III	50	22.9	7.6	30.5	0.29	34.2	C
Total	III		132.2	164.7	296.9	1.63	19.8	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	17.7	58.6	0.52	31.8	C
Sheppard Ave E	III	50	22.9	74.9	97.8	0.29	10.7	F
Cowdray Crt	III	50	25.6	16.9	42.5	0.32	27.4	D
Private Driveway	III	50	30.1	14.6	44.7	0.38	30.7	C
Hwy 401 WB Off-ramp	III	50	9.9	19.5	29.4	0.10	12.5	F
Hwy 401 EB Off-ramp	III	50	29.8	19.3	49.1	0.38	27.7	D
Total	III		159.2	162.9	322.1	1.99	22.3	E

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.2	32.0	0.39	44.0	C
Private Driveway	II	60	17.6	6.2	23.8	0.25	37.2	C
Kennedy Road	II	60	13.7	40.8	54.5	0.19	12.6	F
4091 Sheppard Ave E	II	60	20.3	9.7	30.0	0.28	34.1	D
Lamont Ave	II	60	19.9	2.6	22.5	0.28	44.6	C
Midland Ave	II	60	17.6	30.7	48.3	0.25	18.3	F
Total	II		115.9	95.2	211.1	1.64	27.9	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	33.3	48.1	0.21	15.5	F
Private Driveway	II	60	17.6	0.9	18.5	0.25	47.9	B
GO Station Access	II	60	19.9	7.1	27.0	0.28	37.1	C
Kennedy Road	II	60	20.3	29.1	49.4	0.28	20.7	F
Agincourt Mall Acces	II	60	13.7	13.2	26.9	0.19	25.6	E
Allanford Rd Extensi	II	60	17.6	1.8	19.4	0.25	45.6	B
Total	II		103.9	85.4	189.3	1.45	27.6	D

Arterial Level of Service

<2035 Do Nothing> SAT
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	25.6	39.5	0.16	14.5	F
Hwy 401 WB Off-ramp	III	50	29.8	34.1	63.9	0.38	21.3	E
Village Green Sq	III	50	9.9	28.3	38.2	0.10	9.6	F
Cowdray Crt	III	50	30.1	14.6	44.7	0.38	30.7	C
Sheppard Ave E	III	50	25.6	40.0	65.6	0.32	17.8	E
Cardwell Avenue	III	50	22.9	6.1	29.0	0.29	36.0	C
Total	III		132.2	148.7	280.9	1.63	20.9	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.5	55.4	0.52	33.6	C
Sheppard Ave E	III	50	22.9	48.0	70.9	0.29	14.7	F
Cowdray Crt	III	50	25.6	8.2	33.8	0.32	34.5	C
Private Driveway	III	50	30.1	9.8	39.9	0.38	34.4	C
Hwy 401 WB Off-ramp	III	50	9.9	26.8	36.7	0.10	10.0	F
Hwy 401 EB Off-ramp	III	50	29.8	15.5	45.3	0.38	30.0	C
Total	III		159.2	122.8	282.0	1.99	25.4	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.4	32.2	0.39	43.8	C
Private Driveway	II	60	17.6	7.0	24.6	0.25	36.0	C
Kennedy Road	II	60	13.7	33.2	46.9	0.19	14.7	F
4091 Sheppard Ave E	II	60	20.3	2.6	22.9	0.28	44.7	C
Lamont Ave	II	60	19.9	1.1	21.0	0.28	47.7	B
Midland Ave	II	60	17.6	37.2	54.8	0.25	16.2	F
Total	II		115.9	86.5	202.4	1.64	29.1	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	47.9	62.7	0.21	11.9	F
Private Driveway	II	60	17.6	0.5	18.1	0.25	48.9	B
GO Station Access	II	60	19.9	3.2	23.1	0.28	43.4	C
Kennedy Road	II	60	20.3	29.8	50.1	0.28	20.4	F
Agincourt Mall Acces	II	60	13.7	17.0	30.7	0.19	22.5	E
Allanford Rd Extensi	II	60	17.6	3.5	21.1	0.25	42.0	C
Total	II		103.9	101.9	205.8	1.45	25.4	E

APPENDIX G

Option C1 Traffic Conditions

Lanes, Volumes, Timings

<Option C1> AM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↔↔			↔			↔	
Traffic Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Future Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.97				0.94				
Frt		0.997						0.920			0.912	
Flt Protected		0.995		0.950				0.984			0.988	
Satd. Flow (prot)	0	3316	0	1574	3368	0	0	1552	0	0	1660	0
Flt Permitted		0.664		0.315				0.768			0.828	
Satd. Flow (perm)	0	2213	0	504	3368	0	0	1201	0	0	1391	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						65			65	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			49	49			27		59			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	7%	7%	7%	6%	2%	9%	2%	2%	2%	2%	2%
Adj. Flow (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	881	0	40	1247	0	0	110	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4		8			
Detector Phase		2	2	6	6		4	4	8	8		
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

<Option C1> AM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	73.0	73.0		73.0	73.0		37.0	37.0		37.0	37.0	
Total Split (%)	66.4%	66.4%		66.4%	66.4%		33.6%	33.6%		33.6%	33.6%	
Maximum Green (s)	67.0	67.0		67.0	67.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		89.9		89.9	89.9			11.1			11.1	
Actuated g/C Ratio		0.82		0.82	0.82			0.10			0.10	
v/c Ratio		0.49		0.10	0.45			0.61			0.51	
Control Delay		4.4		0.6	0.6			37.0			28.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		4.4		0.6	0.6			37.0			28.1	
LOS		A		A	A			D			C	
Approach Delay		4.4			0.6			37.0			28.1	
Approach LOS		A			A			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 101 (92%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 4.9

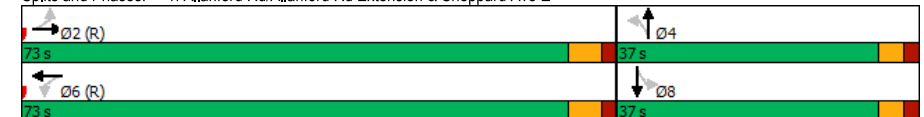
Intersection LOS: A

Intersection Capacity Utilization 91.8%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Future Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.95	1.00			0.98			1.00	0.95
Frt		0.999			0.995			0.955				0.850
Flt Protected	0.950			0.950				0.968			0.954	
Satd. Flow (prot)	1636	3362	0	1685	3344	0	0	1728	0	0	1757	1478
Flt Permitted	0.136			0.358				0.808			0.723	
Satd. Flow (perm)	234	3362	0	602	3344	0	0	1424	0	0	1326	1410
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			5			69				69
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	26		53	53		26	24		3	3		24
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	6%	0%	0%	6%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	776	0	5	1247	0	0	15	0	0	285	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	10.0	69.0		59.0	59.0		41.0	41.0		41.0	41.0	41.0

Lanes, Volumes, Timings

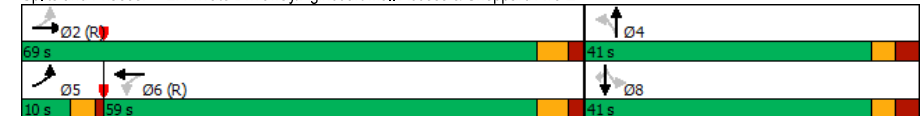
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	9.1%	62.7%		53.6%	53.6%		37.3%	37.3%		37.3%	37.3%	37.3%
Maximum Green (s)	6.0	63.0		53.0	53.0		35.0	35.0		35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	72.9	70.9		62.7	62.7		29.1			29.1	29.1	29.1
Actuated g/C Ratio	0.66	0.64		0.57	0.57		0.26			0.26	0.26	0.26
v/c Ratio	0.35	0.36		0.01	0.65		0.04			0.81	0.11	0.11
Control Delay	10.9	8.5		14.2	20.1		0.1			58.3	3.3	3.3
Queue Delay	0.0	0.0		0.0	0.3		0.0			0.0	0.0	0.0
Total Delay	10.9	8.5		14.2	20.4		0.1			58.3	3.3	3.3
LOS	B	A		B	C		A			E	A	A
Approach Delay		8.7			20.4		0.1			50.8		
Approach LOS		A			C		A			D		
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 100 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 20.2	Intersection LOS: C											
Intersection Capacity Utilization 72.6%	ICU Level of Service C											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option C1> AM
08-10-2022

	←	→	↶	↷	↵	↶	↷	↵	↶	↷	↵	↷
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶	↶	↶	↶↶		↶	↶↶↶	↶	↶	↶↶↶	
Traffic Volume (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Future Volume (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.98		0.91	0.97	0.98		0.99		0.88	0.99	1.00	
Frt			0.850		0.974				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3275	1345	1560	3140	0	*1622	4794	1281	1604	4713	0
Flt Permitted	0.172			0.299			0.099			0.109		
Satd. Flow (perm)	294	3275	1226	477	3140	0	160	4794	1126	181	4713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			200		28				160		4	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Conf. Peds. (#/hr)	97		80	80		97	93		102	102		93
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	9%	4%	8%	8%	12%	9%	7%	12%	5%	6%	11%
Bus Blockages (#/hr)	0	0	18	0	0	18	0	0	12	0	12	0
Adj. Flow (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	563	447	330	1172	0	205	1226	179	159	1514	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.20	1.09	1.01	1.01	1.09	1.01	1.16	1.09	1.04	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		2		1	6		7	4		3	8	
Permitted Phases		2		2	6		4		4	8		
Detector Phase		2	2	2	1	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	37.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	44.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option C1> AM
08-10-2022

	←	→	↶	↷	↵	↶	↷	↵	↶	↷	↵	↷
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	44.0	44.0	44.0	17.0	61.0		14.0	46.0	46.0	13.0	45.0	
Total Split (%)	36.7%	36.7%	36.7%	14.2%	50.8%		11.7%	38.3%	38.3%	10.8%	37.5%	
Maximum Green (s)	37.0	37.0	37.0	13.0	54.0		10.0	39.0	39.0	9.0	38.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.5	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0		2.5	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	Max	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	30.0	30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0	0		0			0	0		0	
Act Effct Green (s)	38.0	38.0	38.0	58.0	55.0		55.1	40.1	40.1	51.9	39.0	
Actuated g/C Ratio	0.32	0.32	0.32	0.48	0.46		0.46	0.33	0.33	0.43	0.32	
v/c Ratio	0.56	0.54	0.85	0.93	0.81		0.96	0.76	0.37	0.82	0.99	
Control Delay	61.9	36.2	40.3	51.0	16.1		121.6	39.6	8.4	61.7	75.8	
Queue Delay	0.0	0.0	0.0	0.0	2.1		0.0	0.0	0.0	0.0	0.0	
Total Delay	61.9	36.2	40.3	51.0	18.2		121.6	39.6	8.4	61.7	75.8	
LOS	E	D	D	D	B		F	D	A	E	E	
Approach Delay		39.2			25.4			46.6			74.4	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 36 (30%), Referenced to phase 4:NBTl and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 47.8

Intersection LOS: D

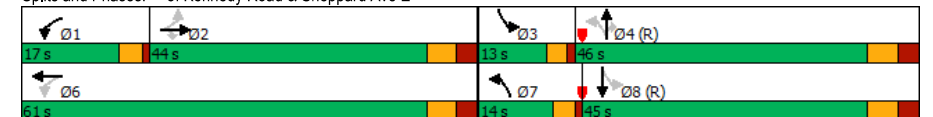
Intersection Capacity Utilization 124.4%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Future Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.96		1.00		0.99	1.00	
Frt			0.850			0.850		0.996			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	0	1478	1620	0	1478	1589	4782	0	1685	4876	0
Flt Permitted	0.950			0.950			0.097			0.222		
Satd. Flow (perm)	1559	0	1349	1495	0	1419	162	4782	0	391	4876	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			182			69		6			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	26		70	70		26	31		17	17		31
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	2%	2%	4%	2%	2%	6%	5%	4%	0%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	0	0
Adj. Flow (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	190	45	0	65	120	1201	0	5	1673	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.04	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

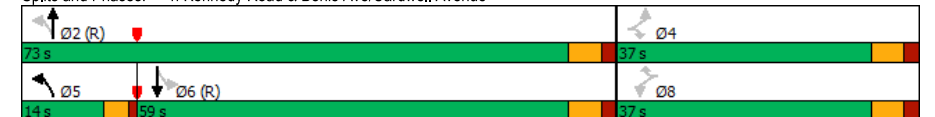
4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	20.2		20.2	20.2		20.2	81.8	79.8		68.0	68.0	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.74	0.73		0.62	0.62	
v/c Ratio	0.68		0.48	0.16		0.21	0.51	0.35		0.02	0.55	
Control Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
LOS	D		B	D		A	B	A		B	B	
Approach Delay		32.5			20.4			7.1			14.1	
Approach LOS		C			C			A			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%). Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 55												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.68												
Intersection Signal Delay: 13.7	Intersection LOS: B											
Intersection Capacity Utilization 75.3%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Future Volume (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.91	0.99		0.97	0.98		0.97
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4707	0	1532	3433	1385	1546	0	1449	1685	0	1507
Flt Permitted	0.136			0.297			0.950			0.950		
Satd. Flow (perm)	241	4707	0	471	3433	1255	1523	0	1409	1658	0	1467
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				80			73			73
Link Speed (k/h)		60				60			40			40
Link Distance (m)		40.6				63.5			81.9			115.9
Travel Time (s)		2.4				3.8			7.4			10.4
Confl. Peds. (#/hr)	30		25	25		30	14		15	15		14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	7%	10%	4%	1%	9%	2%	4%	0%	2%	0%
Bus Blockages (#/hr)	0	18	0	0	0	18	0	0	0	0	0	0
Adj. Flow (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	925	0	20	1509	120	35	0	55	20	0	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0				3.0			3.0			3.0
Link Offset(m)		0.0				0.0			0.0			0.0
Crosswalk Width(m)		1.6				1.6			1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.20	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm		Perm	Perm		Perm
Protected Phases	5	2			6							
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	5	2		6	6	6	4		4	8		8
Switch Phase												
Minimum Initial (s)	6.0	24.0		24.0	24.0	24.0	7.0		7.0	7.0		7.0
Minimum Split (s)	10.0	31.0		31.0	31.0	31.0	40.0		40.0	40.0		40.0

Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	80.0		70.0	70.0	70.0	40.0		40.0	40.0		40.0
Total Split (%)	8.3%	66.7%		58.3%	58.3%	58.3%	33.3%		33.3%	33.3%		33.3%
Maximum Green (s)	6.0	73.0		63.0	63.0	63.0	34.0		34.0	34.0		34.0
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	3.0	6.0		6.0	6.0	6.0	5.0		5.0	5.0		5.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	2.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	None		None	None		None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)		17.0		17.0	17.0	17.0	27.0		27.0	27.0		27.0
Pedestrian Calls (#/hr)		0		0	0	0	0		0	0		0
Act Effect Green (s)	104.9	103.1		94.8	94.8	94.8	9.7		9.7	9.7		9.7
Actuated g/C Ratio	0.87	0.86		0.79	0.79	0.79	0.08		0.08	0.08		0.08
v/c Ratio	0.28	0.23		0.05	0.56	0.12	0.29		0.30	0.15		0.16
Control Delay	6.8	1.6		5.2	7.5	2.2	57.3		11.0	53.0		1.9
Queue Delay	0.0	0.0		0.0	0.1	0.0	0.0		0.0	0.0		0.0
Total Delay	6.8	1.6		5.2	7.6	2.2	57.3		11.0	53.0		1.9
LOS	A	A		A	A	A	E		B	D		A
Approach Delay		2.1			7.2				29.0			22.3
Approach LOS		A			A				C			C
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 72 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 95												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.56												
Intersection Signal Delay: 6.3												
Intersection Capacity Utilization 75.1%												
Analysis Period (min) 60												

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Future Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.96		0.97				
Frt		0.997				0.850		0.966				
Flt Protected				0.950				0.964				
Satd. Flow (prot)	1612	3224	0	1327	3275	1597	0	1381	0	0	1842	0
Flt Permitted				0.288								
Satd. Flow (perm)	1612	3224	0	393	3275	1535	0	1401	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				40		30				
Link Speed (k/h)		60			60			40				48
Link Distance (m)		215.0			246.0			211.6				41.8
Travel Time (s)		12.9			14.8			19.0				3.1
Confl. Peds. (#/hr)	7		45	45		7	25		28	28		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	17%	27%	9%	0%	17%	0%	50%	0%	2%	9%
Adj. Flow (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	991	0	15	1511	1	0	8	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0						0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Lanes, Volumes, Timings

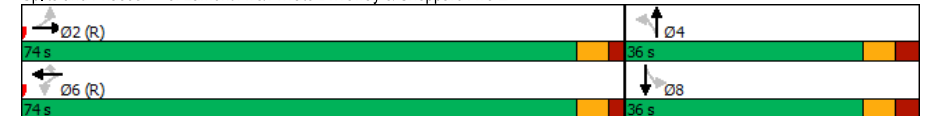
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		106.2		106.2	106.2	106.2		8.0				
Actuated g/C Ratio		0.97		0.97	0.97	0.97		0.07				
v/c Ratio		0.32		0.04	0.48	0.00		0.06				
Control Delay		0.9		0.3	0.5	0.0		0.9				
Queue Delay		0.0		0.0	0.0	0.0		0.0				
Total Delay		0.9		0.3	0.5	0.0		0.9				
LOS		A		A	A	A		A				
Approach Delay		0.9			0.5			0.9				
Approach LOS		A			A			A				
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 39 (35%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 45												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 0.7												
Intersection LOS: A												
Intersection Capacity Utilization 67.4%												
ICU Level of Service C												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

<Option C1> AM

7: Midland Ave & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Future Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.98	0.99		0.98		0.92	0.98		0.92
Frt		0.964			0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	4464	0	1620	3308	0	*1622	3400	1365	1589	3433	1433
Flt Permitted	0.110			0.230			0.174			0.304		
Satd. Flow (perm)	183	4464	0	386	3308	0	284	3400	1259	497	3433	1323
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			7				164			164
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			41.8			29.4	
Confl. Peds. (#/hr)	135		59	59		135	68		69	69		68
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	8%	4%	4%	3%	7%	5%	6%	6%	4%	1%
Bus Blockages (#/hr)	0	22	0	0	9	0	0	0	10	0	0	10
Adj. Flow (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	824	0	251	1247	0	289	675	88	91	814	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.04	1.01	1.09	1.01	1.15	1.09	1.01	1.15
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	33.0		6.0	33.0		6.0	34.0	34.0	6.0	34.0	34.0
Minimum Split (s)	9.5	40.0		10.0	40.0		10.0	41.0	41.0	10.0	41.0	41.0

Lanes, Volumes, Timings

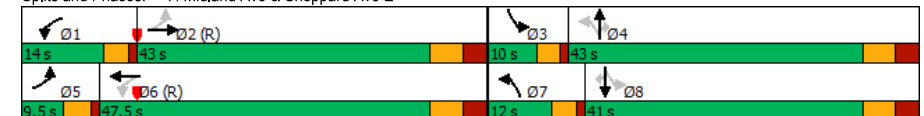
<Option C1> AM

7: Midland Ave & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	9.5	43.0		14.0	47.5		12.0	43.0	43.0	10.0	41.0	41.0
Total Split (%)	8.6%	39.1%		12.7%	43.2%		10.9%	39.1%	39.1%	9.1%	37.3%	37.3%
Maximum Green (s)	5.0	36.0		10.0	40.5		8.0	36.0	36.0	6.0	34.0	34.0
Yellow Time (s)	3.5	4.0		3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-2.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	6.0		3.0	6.0		2.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0		27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	45.6	37.1		54.0	41.5		51.0	39.0	39.0	45.0	35.0	35.0
Actuated g/C Ratio	0.41	0.34		0.49	0.38		0.46	0.35	0.35	0.41	0.32	0.32
v/c Ratio	0.65	0.53		0.81	1.00		1.14	0.56	0.16	0.33	0.75	0.36
Control Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
LOS	D	C		D	F		F	C	A	C	D	A
Approach Delay		28.8			75.2			110.3			32.0	
Approach LOS		C			E			F			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 28 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 115												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.14												
Intersection Signal Delay: 63.5	Intersection LOS: E											
Intersection Capacity Utilization 102.4%	ICU Level of Service G											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option C1> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑↑↑		↗	↑↑↑
Traffic Volume (vph)	282	136	1584	436	129	2259
Future Volume (vph)	282	136	1584	436	129	2259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.98			
Frt	0.956		0.968			
Flt Protected	0.967				0.950	
Satd. Flow (prot)	1727	0	4680	0	1685	5029
Flt Permitted	0.967				0.066	
Satd. Flow (perm)	1722	0	4680	0	117	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	23		85			
Link Speed (k/h)	40		50			50
Link Distance (m)	163.4		252.1			134.4
Travel Time (s)	14.7		18.2			9.7
Confl. Peds. (#/hr)	4	5		29	29	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0
Adj. Flow (vph)	282	136	1584	436	129	2259
Shared Lane Traffic (%)						
Lane Group Flow (vph)	418	0	2020	0	129	2259
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.04	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	35.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option C1> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	41.0		56.6		12.4	69.0
Total Split (%)	37.3%		51.5%		11.3%	62.7%
Maximum Green (s)	35.0		50.6		7.9	63.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	30.6		56.9		70.9	69.4
Actuated g/C Ratio	0.28		0.52		0.64	0.63
v/c Ratio	0.84		0.82		0.64	0.71
Control Delay	52.9		15.9		33.7	16.1
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	52.9		15.9		33.7	16.1
LOS	D		B		C	B
Approach Delay	52.9		15.9			17.0
Approach LOS	D		B			B

Intersection Summary

Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 58 (53%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 19.6	Intersection LOS: B
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 60	

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> AM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	0	0	11	670	0	230	7	1816	446	88	2428	0
Future Volume (vph)	0	0	11	670	0	230	7	1816	446	88	2428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	25.0	30.0	80.0	20.0	30.0	80.0	20.0	0.0
Storage Lanes	0	0	2	0	1	1	1	1	1	1	1	0
Taper Length (m)	2.5		90.0		30.0		35.0					
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt		0.865		0.850			0.850					
Flt Protected				0.950		0.950			0.950			
Satd. Flow (prot)	0	1477	0	3204	1581	0	1685	4932	1478	1652	6200	0
Flt Permitted				0.950		0.074			0.070			
Satd. Flow (perm)	0	1477	0	3204	1581	0	131	4932	1478	122	6200	0
Right Turn on Red			Yes		Yes			Yes			Yes	
Satd. Flow (RTOR)		144		194				178				
Link Speed (k/h)		48		50				50			50	
Link Distance (m)		70.0		243.9				64.3			129.0	
Travel Time (s)		5.3		17.6				4.6			9.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	10%	2%	2%	1%	0%	4%	2%	2%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	12	0
Adj. Flow (vph)	0	0	11	670	0	230	7	1816	446	88	2428	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	670	230	0	7	1816	446	88	2428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0		6.0				3.0			3.0	
Link Offset(m)		0.0		0.0				0.0			0.0	
Crosswalk Width(m)		1.6		1.6				1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	16.0	16.0		30.0	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	14.5%	14.5%		27.3%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> AM

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> AM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	9.0		25.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0		7.0		
Flash Dont Walk (s)					32.0			26.0		26.0		
Pedestrian Calls (#/hr)					0			0		0		
Act Effct Green (s)		8.0		28.6	28.9		60.6	60.6	60.6	72.1	69.1	
Actuated g/C Ratio		0.07		0.26	0.26		0.55	0.55	0.55	0.66	0.63	
v/c Ratio		0.05		0.81	0.41		0.10	0.67	0.50	0.48	0.62	
Control Delay		0.4		46.7	8.4		18.6	17.6	9.7	29.0	14.3	
Queue Delay		0.0		0.0	0.0		0.0	0.3	0.4	0.0	0.0	
Total Delay		0.4		46.7	8.4		18.6	17.9	10.2	29.0	14.3	
LOS		A		D	A		B	B	B	C	B	
Approach Delay		0.4			36.9			16.4			14.8	
Approach LOS		A			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 57 (52%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 18.9

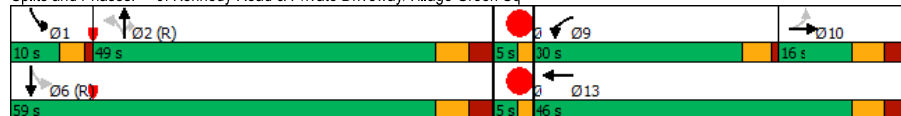
Intersection LOS: B

Intersection Capacity Utilization 103.5%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> AM

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option C1> AM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	855	747	1518	0	0	1491
Future Volume (vph)	855	747	1518	0	0	1491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.966	0.850				
Flt Protected	0.963					
Satd. Flow (prot)	3316	1515	4980	0	0	5029
Flt Permitted	0.963					
Satd. Flow (perm)	3316	1515	4980	0	0	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	2%	2%	2%
Adj. Flow (vph)	855	747	1518	0	0	1491
Shared Lane Traffic (%)		33%				
Lane Group Flow (vph)	1102	500	1518	0	0	1491
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

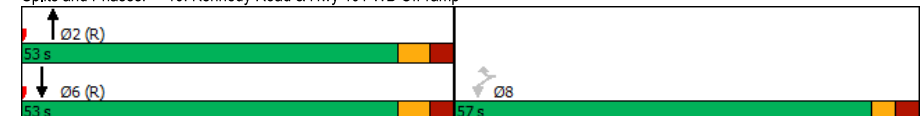
<Option C1> AM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	57.0	57.0	53.0			53.0
Total Split (%)	51.8%	51.8%	48.2%			48.2%
Maximum Green (s)	51.0	51.0	46.0			46.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	46.1	46.1	52.9			52.9
Actuated g/C Ratio	0.42	0.42	0.48			0.48
v/c Ratio	0.79	0.78	0.63			0.62
Control Delay	32.0	36.7	15.8			17.3
Queue Delay	0.1	0.3	0.1			0.7
Total Delay	32.0	37.0	15.9			18.0
LOS	C	D	B			B
Approach Delay	33.6		15.9			18.0
Approach LOS	C		B			B

Intersection Summary

Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 22.7	Intersection LOS: C
Intersection Capacity Utilization 70.7%	ICU Level of Service C
Analysis Period (min) 60	
* User Entered Value	

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↔			↔	
Traffic Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Future Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0		0.0	30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.969	0.850			0.865		0.999				
Flt Protected	0.950	0.975										
Satd. Flow (prot)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Flt Permitted	0.950	0.975										
Satd. Flow (perm)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9	40					2				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							9		13	13		9
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	7%	9%	2%	2%	9%	2%	7%	0%	2%	3%	2%
Adj. Flow (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Shared Lane Traffic (%)	50%		31%									
Lane Group Flow (vph)	471	908	414	0	0	345	0	1720	0	0	1865	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

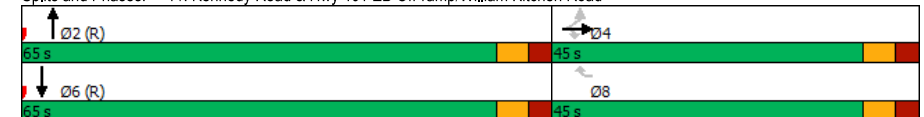
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option C1> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	45.0	45.0	45.0			45.0		65.0			65.0	
Total Split (%)	40.9%	40.9%	40.9%			40.9%		59.1%			59.1%	
Maximum Green (s)	38.0	38.0	38.0			38.0		58.0			58.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	38.3	38.3	38.3			38.3		59.7			59.7	
Actuated g/C Ratio	0.35	0.35	0.35			0.35		0.54			0.54	
v/c Ratio	0.93	0.90	0.89			0.59		0.53			0.69	
Control Delay	70.9	49.5	59.8			34.1		16.9			14.7	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	70.9	49.5	59.8			34.1		16.9			14.7	
LOS	E	D	E			C		B			B	
Approach Delay		57.5			34.1			16.9			14.7	
Approach LOS		E			C			B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 59 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.93												
Intersection Signal Delay: 29.9	Intersection LOS: C											
Intersection Capacity Utilization 88.5%	ICU Level of Service E											
Analysis Period (min) 60												

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option C1> AM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	10	4	12	22	46	17
Future Volume (vph)	10	4	12	22	46	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.961				0.964	
Flt Protected				0.983	0.965	
Satd. Flow (prot)	1685	0	0	1603	1592	0
Flt Permitted				0.983	0.965	
Satd. Flow (perm)	1685	0	0	1603	1592	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)					1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	25%	34%	5%	9%	12%
Adj. Flow (vph)	10	4	12	22	46	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	34	63	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.7%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option C1> AM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	10	4	12	22	46	17
Future Volume (Veh/h)	10	4	12	22	46	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	4	12	22	46	17
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			14		59	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			14		59	12
tC, single (s)			4.4		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.5		3.6	3.4
p0 queue free %			99		95	98
cM capacity (veh/h)			1419		922	1040
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	14	34	63			
Volume Left	0	12	46			
Volume Right	4	0	17			
cSH	1700	1419	951			
Volume to Capacity	0.01	0.01	0.07			
Queue Length 95th (m)	0.0	0.2	1.6			
Control Delay (s)	0.0	2.7	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	2.7	9.1			
Approach LOS			A			

Intersection Summary

Average Delay 6.0

Intersection Capacity Utilization 18.7%

ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option C1> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	853	59	100	1465	122	123
Future Volume (vph)	853	59	100	1465	122	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		30.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			30.0		30.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor			0.99		1.00	
Frt	0.990					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3185	0	1638	3275	1785	1413
Flt Permitted			0.243		0.950	
Satd. Flow (perm)	3185	0	413	3275	1781	1413
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	11					123
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		22	22		1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	9%	9%	0%	13%
Adj. Flow (vph)	853	59	100	1465	122	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	912	0	100	1465	122	123
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	30.5		6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8		6.1	1.8	6.1	6.1
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		4	4
Detector Phase	2		6	6	4	4

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option C1> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	77.0		77.0	77.0	43.0	43.0
Total Split (%)	64.2%		64.2%	64.2%	35.8%	35.8%
Maximum Green (s)	72.5		72.5	72.5	38.5	38.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5		3.5	3.5	3.5	3.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	68.6		68.6	68.6	44.4	44.4
Actuated g/C Ratio	0.57		0.57	0.57	0.37	0.37
v/c Ratio	0.50		0.43	0.78	0.19	0.21
Control Delay	11.1		13.0	17.4	28.2	5.8
Queue Delay	0.1		0.0	0.1	0.0	0.0
Total Delay	11.3		13.0	17.5	28.2	5.8
LOS	B		B	B	C	A
Approach Delay	11.3			17.2	17.0	
Approach LOS	B			B	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 24 (20%), Referenced to phase 4:NBL and 8:, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 15.2

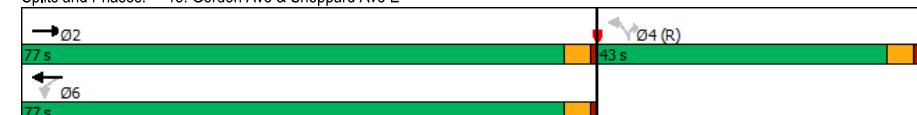
Intersection LOS: B

Intersection Capacity Utilization 53.9%

ICU Level of Service A

Analysis Period (min) 60

Splits and Phases: 13: Gordon Ave & Sheppard Ave E

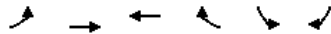


Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option C1> AM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	15	970	1594	60	30	25
Future Volume (vph)	15	970	1594	60	30	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.995		0.939	
Flt Protected		0.999			0.973	
Satd. Flow (prot)	0	6457	3552	0	1717	0
Flt Permitted		0.999			0.973	
Satd. Flow (perm)	0	6457	3552	0	1717	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	15	970	1594	60	30	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	985	1654	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.0%

ICU Level of Service B

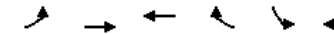
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option C1> AM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	15	970	1594	60	30	25
Future Volume (Veh/h)	15	970	1594	60	30	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	970	1594	60	30	25
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		115	41			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	1654				1896	827
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1337				1637	315
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				59	95
cM capacity (veh/h)	423				73	555

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	154	277	277	277	1063	591	55
Volume Left	15	0	0	0	0	0	30
Volume Right	0	0	0	0	0	60	25
cSH	423	1700	1700	1700	1700	1700	120
Volume to Capacity	0.04	0.16	0.16	0.16	0.63	0.35	0.46
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	0.0	17.9
Control Delay (s)	1.8	0.0	0.0	0.0	0.0	0.0	59.4
Lane LOS	A						F
Approach Delay (s)	0.3				0.0		59.4
Approach LOS							F

Intersection Summary

Average Delay 1.3

Intersection Capacity Utilization 56.0%

ICU Level of Service

B





















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option C1> AM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	35	4	1	4	75	1689	9	4	2120	27
Future Volume (vph)	4	0	35	4	1	4	75	1689	9	4	2120	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.879			0.940			0.999			0.998	
Flt Protected		0.995			0.978		0.950			0.950		
Satd. Flow (prot)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Flt Permitted		0.995			0.978		0.950			0.950		
Satd. Flow (perm)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	25%	2%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	12	0
Adj. Flow (vph)	4	0	35	4	1	4	75	1689	9	4	2120	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	9	0	75	1698	0	4	2147	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.04	1.01	1.09	1.04	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.0%

ICU Level of Service B





















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option C1> AM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	35	4	1	4	75	1689	9	4	2120	27
Future Volume (Veh/h)	4	0	35	4	1	4	75	1689	9	4	2120	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	0	35	4	1	4	75	1689	9	4	2120	27
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.83	0.83	0.70	0.83	0.83	0.68	0.70			0.68		
vC, conflicting volume	2859	3990	720	2593	3998	568	2147			1698		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	97	1467	0	0	1478	0	1162			364		
tC, single (s)	8.0	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	99	99	99	83			100		
cM capacity (veh/h)	571	86	769	699	86	739	429			817		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	39	9	75	676	676	347	4	848	848	451		
Volume Left	4	4	75	0	0	0	4	0	0	0		
Volume Right	35	4	0	0	0	9	0	0	0	27		
cSH	743	396	429	1700	1700	1700	817	1700	1700	1700		
Volume to Capacity	0.05	0.02	0.17	0.40	0.40	0.20	0.00	0.50	0.50	0.27		
Queue Length 95th (m)	1.3	0.5	4.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	10.1	14.3	15.2	0.0	0.0	0.0	9.4	0.0	0.0	0.0		
Lane LOS	B	B	C				A					
Approach Delay (s)	10.1	14.3	0.6				0.0					
Approach LOS	B	B										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 59.0%

ICU Level of Service

B

Analysis Period (min) 60

Lanes, Volumes, Timings

16: N-S Street/Gordon Ave & Collingwood Street

<Option C1> AM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations												
Traffic Volume (vph)	14	0	0	0	2	2	0	179	0	2	131	35
Future Volume (vph)	14	0	0	0	2	2	0	179	0	2	131	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.932						0.972	
Flt Protected		0.950									0.999	
Satd. Flow (prot)	0	1785	0	0	1751	0	0	1842	0	0	1743	0
Flt Permitted		0.950									0.999	
Satd. Flow (perm)	0	1785	0	0	1751	0	0	1842	0	0	1743	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		116.5			133.7			151.2			190.4	
Travel Time (s)		10.5			12.0			13.6			17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	2%	2%	0%	0%	2%	2%	2%	50%	2%	12%
Adj. Flow (vph)	14	0	0	0	2	2	0	179	0	2	131	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	4	0	0	179	0	0	168	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24			14	24		14	24	14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 24.8%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: N-S Street/Gordon Ave & Collingwood Street

<Option C1> AM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	0	0	0	2	2	0	179	0	2	131	35
Future Volume (vph)	14	0	0	0	2	2	0	179	0	2	131	35
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	0	0	0	2	2	0	179	0	2	131	35
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	14	4	179	168								
Volume Left (vph)	14	0	0	2								
Volume Right (vph)	0	2	0	35								
Hadj (s)	0.20	-0.30	0.03	-0.04								
Departure Headway (s)	4.8	4.4	4.1	4.1								
Degree Utilization, x	0.02	0.00	0.21	0.19								
Capacity (veh/h)	682	752	852	871								
Control Delay (s)	7.9	7.4	8.2	8.0								
Approach Delay (s)	7.9	7.4	8.2	8.0								
Approach LOS	A	A	A	A								

Intersection Summary

Delay 8.1

Level of Service A

Intersection Capacity Utilization 24.8% ICU Level of Service A

Analysis Period (min) 60

Lanes, Volumes, Timings
17: Village Green Sq

<Option C1> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Traffic Volume (vph)	18	106	52	41	149	6
Future Volume (vph)	18	106	52	41	149	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.885				0.995	
Flt Protected				0.973	0.954	
Satd. Flow (prot)	1163	0	0	1788	1783	0
Flt Permitted				0.973	0.954	
Satd. Flow (perm)	1163	0	0	1788	1783	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	20.2			152.9	154.8	
Travel Time (s)	1.8			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	18	106	52	41	149	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	0	0	93	155	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.6%			ICU Level of Service A		
Analysis Period (min)	60					













HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option C1> AM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	18	106	52	41	149	6
Future Volume (vph)	18	106	52	41	149	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	18	106	52	41	149	6
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	124	93	155			
Volume Left (vph)	0	52	149			
Volume Right (vph)	106	0	6			
Hadj (s)	0.22	0.15	0.17			
Departure Headway (s)	4.6	4.6	4.6			
Degree Utilization, x	0.16	0.12	0.20			
Capacity (veh/h)	741	746	749			
Control Delay (s)	8.5	8.2	8.7			
Approach Delay (s)	8.5	8.2	8.7			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.5			
Level of Service			A			
Intersection Capacity Utilization			32.6%		ICU Level of Service	A
Analysis Period (min)			60			







Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option C1> AM
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	151	98	148	120	11
Future Volume (vph)	32	151	98	148	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.889				0.989	
Flt Protected	0.991			0.980		
Satd. Flow (prot)	1623	0	0	1805	1822	0
Flt Permitted	0.991			0.846		
Satd. Flow (perm)	1623	0	0	1558	1822	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	151				10	
Link Speed (k/h)	40			40	40	
Link Distance (m)	163.4			206.4	151.2	
Travel Time (s)	14.7			18.6	13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	151	98	148	120	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	0	0	246	131	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1	0	0	
Detector Template			Left			
Leading Detector (m)	7.5		6.1	0.0	0.0	
Trailing Detector (m)	-1.5		0.0	0.0	0.0	
Detector 1 Position(m)	-1.5		0.0	0.0	0.0	
Detector 1 Size(m)	9.0		6.1	1.8	1.8	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	29.0		31.0	31.0	31.0	
Total Split (%)	48.3%		51.7%	51.7%	51.7%	
Maximum Green (s)	23.0		25.0	25.0	25.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						

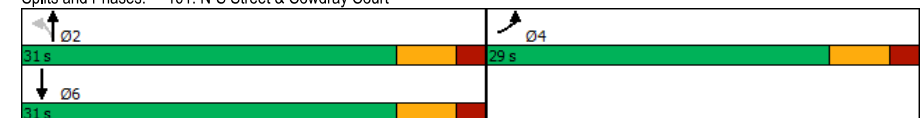
Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option C1> AM
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.2			31.3	31.3	
Actuated g/C Ratio	0.23			0.65	0.65	
v/c Ratio	0.37			0.24	0.11	
Control Delay	7.3			6.2	5.1	
Queue Delay	0.0			0.0	0.0	
Total Delay	7.3			6.2	5.1	
LOS	A			A	A	
Approach Delay	7.3			6.2	5.1	
Approach LOS	A			A	A	













Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 48.1	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay: 6.3	Intersection LOS: A
Intersection Capacity Utilization 45.1%	ICU Level of Service A
Analysis Period (min) 60	

Splits and Phases: 101: N-S Street & Cowdray Court



Lanes, Volumes, Timings
102: Village Green Sq/N-S Street

<Option C1> AM
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	28	11	9	178	111	10
Future Volume (vph)	28	11	9	178	111	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962			0.989		
Flt Protected	0.965			0.998		
Satd. Flow (prot)	1710	0	0	1838	1822	0
Flt Permitted	0.965			0.998		
Satd. Flow (perm)	1710	0	0	1838	1822	0
Link Speed (k/h)	48			40	40	
Link Distance (m)	43.2			20.2	206.4	
Travel Time (s)	3.2			1.8	18.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	28	11	9	178	111	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	0	187	121	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other













Control Type: Unsignalized

Intersection Capacity Utilization 26.7% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq/N-S Street

<Option C1> AM
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	11	9	178	111	10
Future Volume (Veh/h)	28	11	9	178	111	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	28	11	9	178	111	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					206	
pX, platoon unblocked						
vC, conflicting volume	312	116	121			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	312	116	121			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	676	936	1467			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	39	187	121			
Volume Left	28	9	0			
Volume Right	11	0	10			
cSH	734	1467	1700			
Volume to Capacity	0.05	0.01	0.07			
Queue Length 95th (m)	1.3	0.1	0.0			
Control Delay (s)	10.2	0.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.2	0.4	0.0			
Approach LOS	B					

Intersection Summary











Average Delay 1.4

Intersection Capacity Utilization 26.7% ICU Level of Service A

Analysis Period (min) 60











Lanes, Volumes, Timings
18: Village Green Sq

08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	156	191	569	2	0	163
Future Volume (vph)	156	191	569	2	0	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1785	1824	1842	0	1563	0
Flt Permitted	0.950					
Satd. Flow (perm)	1785	1824	1842	0	1563	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	104			104	6	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	2%	0%	2%	4%
Adj. Flow (vph)	156	191	569	2	0	163
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	191	571	0	163	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		9.5	9.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 60.1%	ICU Level of Service B					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

08-19-2022

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	156	191	569	2	0	163
Future Volume (Veh/h)	156	191	569	2	0	163
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	156	191	569	2	0	163
Pedestrians		7	6		104	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	1		9	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	675				1183	681
vC1, stage 1 conf vol					674	
vC2, stage 2 conf vol					509	
vCu, unblocked vol	675				1183	681
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	81				100	60
cM capacity (veh/h)	841				287	403
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	156	191	571	163		
Volume Left	156	0	0	0		
Volume Right	0	0	2	163		
cSH	841	1700	1700	403		
Volume to Capacity	0.19	0.11	0.34	0.40		
Queue Length 95th (m)	5.2	0.0	0.0	15.2		
Control Delay (s)	10.3	0.0	0.0	19.9		
Lane LOS	B			C		
Approach Delay (s)	4.6		0.0	19.9		
Approach LOS				C		
Intersection Summary						
Average Delay			4.5			
Intersection Capacity Utilization			60.1%		ICU Level of Service	B
Analysis Period (min)			60			

Lanes, Volumes, Timings

<Option C1> PM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Future Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Taper Length (m)	2.5		12.0			2.5			2.5			
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.89				
Frt		0.997			0.999			0.910			0.907	
Flt Protected		0.996		0.950				0.992			0.992	
Satd. Flow (prot)	0	3409	0	1685	3430	0	0	1516	0	0	1657	0
Flt Permitted		0.729		0.187				0.929			0.896	
Satd. Flow (perm)	0	2495	0	332	3430	0	0	1414	0	0	1497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1			60			45	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			26	26			23		119			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	0%	0%	4%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1355	0	35	938	0	0	90	0	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4		8			
Detector Phase		2	2	6	6		4	4	8	8		
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

<Option C1> PM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	76.0	76.0		76.0	76.0		34.0	34.0		34.0	34.0	
Total Split (%)	69.1%	69.1%		69.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	70.0	70.0		70.0	70.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.63		0.12	0.32			0.49			0.37	
Control Delay		5.2		2.7	1.8			28.8			25.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.2		2.7	1.8			28.8			25.7	
LOS		A		A	A			C			C	
Approach Delay		5.2			1.8			28.8			25.7	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 96 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.3

Intersection LOS: A

Intersection Capacity Utilization 97.7%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option C1> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Future Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98	1.00			0.97			0.98	0.96
Frt		0.999			0.991			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1685	3426	0	1685	3362	0	0	1578	0	0	1767	1507
Flt Permitted	0.238			0.223							0.751	
Satd. Flow (perm)	422	3426	0	388	3362	0	0	1578	0	0	1373	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			8			69				115
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		42	42		19	20		12	12		20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	4%	0%	0%	5%	1%	0%	2%	0%	1%	0%	0%
Adj. Flow (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1195	0	10	958	0	0	10	0	0	210	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0						0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		NA			Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	11.0	72.0		61.0	61.0		38.0	38.0		38.0	38.0	38.0

Lanes, Volumes, Timings

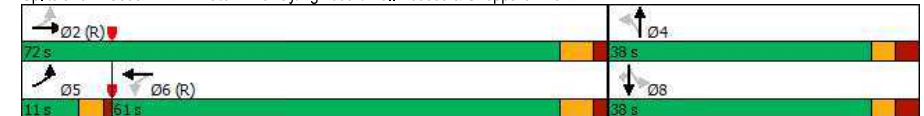
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option C1> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	65.5%		55.5%	55.5%		34.5%	34.5%		34.5%	34.5%	34.5%
Maximum Green (s)	7.0	66.0		55.0	55.0		32.0	32.0		32.0	32.0	32.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	78.9	76.9		68.6	68.6		23.1			23.1	23.1	
Actuated g/C Ratio	0.72	0.70		0.62	0.62		0.21			0.21	0.21	
v/c Ratio	0.21	0.50		0.04	0.46		0.03			0.73	0.29	
Control Delay	5.1	6.2		12.2	13.2		0.1			55.8	7.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Delay	5.1	6.2		12.2	13.2		0.1			55.8	7.8	
LOS	A	A		B	B		A			E	A	
Approach Delay		6.2			13.2		0.1				38.8	
Approach LOS		A			B		A				D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 108 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 50												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.73												
Intersection Signal Delay: 12.9	Intersection LOS: B											
Intersection Capacity Utilization 80.2%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E















Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option C1> PM
08-10-2022

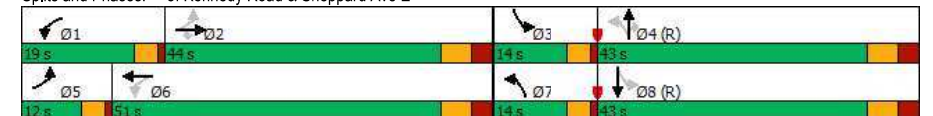
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↲	↰	↱	↲	↰	↱	↲	↰	↱	↲
Traffic Volume (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Future Volume (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.96		0.89	0.98	0.96		0.99		0.87	0.99	0.99	
Frt			0.850		0.965				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3305	1357	1589	3104	0	*1622	4885	1403	1560	4764	0
Flt Permitted	0.201			0.157			0.108			0.108		
Satd. Flow (perm)	335	3305	1211	257	3104	0	184	4885	1227	175	4764	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			222		39				202		5	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	184		100	100		184	131		106	106		131
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	8%	4%	6%	7%	3%	3%	5%	4%	8%	5%	0%
Bus Blockages (#/hr)	0	0	16	0	0	16	0	0	8	0	11	0
Adj. Flow (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	810	491	282	914	0	201	1343	258	179	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.19	1.09	1.01	1.01	1.09	1.01	1.14	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option C1> PM
08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	44.0	44.0	19.0	51.0		14.0	43.0	43.0	14.0	43.0	
Total Split (%)	10.0%	36.7%	36.7%	15.8%	42.5%		11.7%	35.8%	35.8%	11.7%	35.8%	
Maximum Green (s)	8.0	37.0	37.0	15.0	44.0		10.0	36.0	36.0	10.0	36.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	49.4	38.0	38.0	60.0	45.6		51.0	37.0	37.0	51.0	37.0	
Actuated g/C Ratio	0.41	0.32	0.32	0.50	0.38		0.42	0.31	0.31	0.42	0.31	
v/c Ratio	0.47	0.77	0.92	0.92	0.76		0.96	0.89	0.50	0.89	0.98	
Control Delay	23.8	43.4	53.3	70.2	23.8		118.3	49.3	12.0	84.9	74.9	
Queue Delay	0.0	0.0	0.0	0.0	0.6		0.0	0.0	0.0	0.0	0.0	
Total Delay	23.8	43.4	53.3	70.2	24.4		118.3	49.3	12.0	84.9	74.9	
LOS	C	D	D	E	C		F	D	B	F	E	
Approach Delay		45.4			35.2			51.7			76.0	
Approach LOS		D			D			D			E	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 40 (33%), Referenced to phase 4:NBT and 8:SBTL, Start of Green												
Natural Cycle: 105												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.98												
Intersection Signal Delay: 53.5												

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option C1> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Future Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.95	1.00	1.00		0.99	1.00	
Frt			0.850			0.850		0.997			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1668	4956	0	1685	4953	0
Flt Permitted	0.950			0.950			0.096			0.186		
Satd. Flow (perm)	1627	0	1363	1557	0	1439	168	4956	0	328	4953	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120			69		4			21	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	31		69	69		31	15		20	20		15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	1%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	0	0
Adj. Flow (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	0	120	5	0	55	210	1371	0	20	1609	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

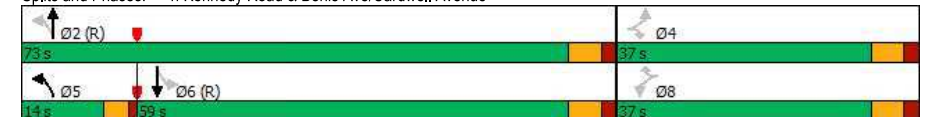
4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option C1> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	22.6		22.6	22.6		22.6	79.4	77.4		61.7	61.7	
Actuated g/C Ratio	0.21		0.21	0.21		0.21	0.72	0.70		0.56	0.56	
v/c Ratio	0.72		0.32	0.02		0.16	0.71	0.39		0.11	0.58	
Control Delay	53.2		8.2	31.2		6.3	31.6	7.6		16.4	17.7	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	53.2		8.2	31.2		6.3	31.6	7.6		16.4	17.7	
LOS	D		A	C		A	C	A		B	B	
Approach Delay		38.2			8.3			10.8			17.7	
Approach LOS		D			A			B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.72												
Intersection Signal Delay: 16.6	Intersection LOS: B											
Intersection Capacity Utilization 74.1%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

<Option C1> PM

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Future Volume (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	1.00		1.00		0.84	0.99		0.98	0.99		0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4796	0	1685	3400	1411	1685	0	1507	1685	0	1507
Flt Permitted	0.265			0.154			0.950			0.950		
Satd. Flow (perm)	458	4796	0	272	3400	1186	1665	0	1472	1665	0	1472
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)		5				64			109			73
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		40.6			63.5			81.9			115.9	
Travel Time (s)		2.4			3.8			7.4			10.4	
Confl. Peds. (#/hr)	57		26	26		57	11		11	11		11
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	16	0	0	0	16	0	0	0	0	0	0
Adj. Flow (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	1399	0	20	1056	30	95	0	95	35	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.01	1.19	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Lanes, Volumes, Timings

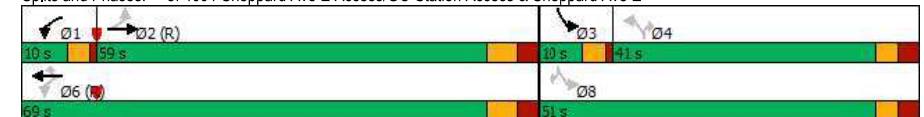
<Option C1> PM

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0		10.0	69.0	69.0	41.0		41.0	10.0		51.0
Total Split (%)	49.2%	49.2%		8.3%	57.5%	57.5%	34.2%		34.2%	8.3%		42.5%
Maximum Green (s)	52.0	52.0		6.0	62.0	62.0	35.0		35.0	6.0		45.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)	85.7	85.7		92.7	89.7	89.7	13.3		13.3	21.3		19.3
Actuated g/C Ratio	0.71	0.71		0.77	0.75	0.75	0.11		0.11	0.18		0.16
v/c Ratio	0.05	0.41		0.07	0.42	0.03	0.52		0.37	0.12		0.08
Control Delay	11.1	8.2		5.2	7.1	0.2	59.7		10.5	38.3		0.6
Queue Delay	0.0	0.1		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	11.1	8.3		5.2	7.1	0.2	59.7		10.5	38.3		0.6
LOS	B	A		A	A	A	E		B	D		A
Approach Delay		8.3			6.9			35.1			22.6	
Approach LOS		A			A			D			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 87 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 95												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.52												
Intersection Signal Delay: 9.9	Intersection LOS: A											
Intersection Capacity Utilization 61.1%	ICU Level of Service B											
Analysis Period (min) 60												

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

<Option C1> PM

6: Lamont Ave/Private Driveway & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑		↖	↑↑	↖		↕			↕	
Traffic Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Future Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00		0.97		0.99			0.99	
Frt						0.850		0.944				
Flt Protected				0.950				0.972			0.950	
Satd. Flow (prot)	1612	3246	0	1685	3305	1597	0	1710	0	0	1785	0
Flt Permitted				0.207				0.819			0.734	
Satd. Flow (perm)	1612	3246	0	366	3305	1548	0	1440	0	0	1370	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				40		30				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	4		15	15		4	1		6	6		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	0%	0%	8%	0%	0%	0%	0%	0%	2%	9%
Adj. Flow (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1273	0	4	1079	1	0	36	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Lanes, Volumes, Timings

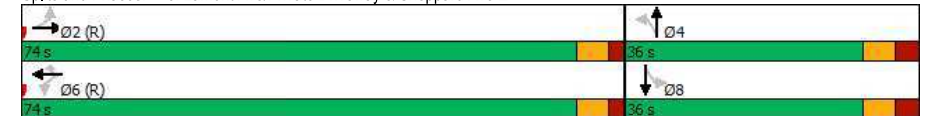
<Option C1> PM

6: Lamont Ave/Private Driveway & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		98.1		98.1	98.1	98.1		8.5			8.5	
Actuated g/C Ratio		0.89		0.89	0.89	0.89		0.08			0.08	
v/c Ratio		0.44		0.01	0.37	0.00		0.26			0.02	
Control Delay		2.6		1.0	0.9	0.0		24.7			46.5	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		2.6		1.0	0.9	0.0		24.7			46.5	
LOS		A		A	A	A		C			D	
Approach Delay		2.6			0.9			24.7			46.5	
Approach LOS		A			A			C			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 40												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.44												
Intersection Signal Delay: 2.2												
Intersection Capacity Utilization 53.4%												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option C1> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Future Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.98	0.99		0.99	0.99		0.97		0.95	0.99		0.91
Frt		0.973			0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1668	4625	0	1636	3366	0	*1622	3466	1436	1652	3400	1465
Flt Permitted	0.176			0.107			0.312			0.309		
Satd. Flow (perm)	304	4625	0	183	3366	0	484	3466	1358	530	3400	1337
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			18				91			119
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6				580.5			408.6
Travel Time (s)		14.8			12.5				41.8			29.4
Confl. Peds. (#/hr)	79		60	60		79	79		45	45		79
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	10%	3%	2%	0%	11%	3%	2%	2%	5%	0%
Bus Blockages (#/hr)	0	16	0	0	4	0	0	0	7	0	0	7
Adj. Flow (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1286	0	150	883	0	230	830	191	80	560	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0				3.0			3.0
Link Offset(m)		0.0			0.0				0.0			0.0
Crosswalk Width(m)		1.6			1.6				1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.03	1.01	1.09	1.01	1.13	1.09	1.01	1.13
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

Lanes, Volumes, Timings

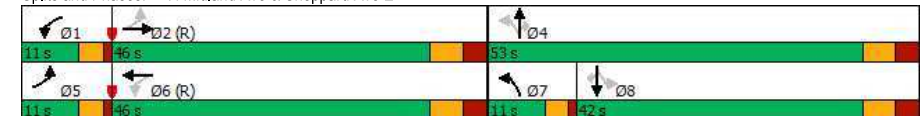
7: Midland Ave & Sheppard Ave E

<Option C1> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	46.0		11.0	46.0		11.0	53.0	53.0	42.0	42.0	42.0
Total Split (%)	10.0%	41.8%		10.0%	41.8%		10.0%	48.2%	48.2%	38.2%	38.2%	38.2%
Maximum Green (s)	7.0	39.0		7.0	39.0		7.0	46.0	46.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	50.8	40.0		51.2	40.2		50.0	47.0	47.0	36.0	36.0	36.0
Actuated g/C Ratio	0.46	0.36		0.47	0.37		0.45	0.43	0.43	0.33	0.33	0.33
v/c Ratio	0.62	0.75		0.79	0.71		0.76	0.56	0.30	0.46	0.50	0.23
Control Delay	29.9	30.7		53.6	33.3		40.6	25.6	12.0	40.2	31.7	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	30.7		53.6	33.3		40.6	25.6	12.0	40.2	31.7	6.0
LOS	C	C		D	C		D	C	B	D	C	A
Approach Delay		30.6			36.2			26.2			28.6	
Approach LOS		C			D			C			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 105												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.79												
Intersection Signal Delay: 30.3	Intersection LOS: C											
Intersection Capacity Utilization 110.8%	ICU Level of Service H											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option C1> PM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		↑↑↑		W	↑↑↑
Traffic Volume (vph)	335	113	1926	277	124	2050
Future Volume (vph)	335	113	1926	277	124	2050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.99			
Frt	0.966		0.981			
Flt Protected	0.964				0.950	
Satd. Flow (prot)	1743	0	4873	0	1685	5079
Flt Permitted	0.964				0.066	
Satd. Flow (perm)	1735	0	4873	0	117	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	16		34			
Link Speed (k/h)	40		50			50
Link Distance (m)	163.4		252.1			134.4
Travel Time (s)	14.7		18.2			9.7
Confl. Peds. (#/hr)	5	3		33	33	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	8	0	0	0
Adj. Flow (vph)	335	113	1926	277	124	2050
Shared Lane Traffic (%)						
Lane Group Flow (vph)	448	0	2203	0	124	2050
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option C1> PM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	39.0		60.0		11.0	71.0
Total Split (%)	35.5%		54.5%		10.0%	64.5%
Maximum Green (s)	33.0		54.0		6.5	65.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	31.4		57.2		70.1	68.6
Actuated g/C Ratio	0.29		0.52		0.64	0.62
v/c Ratio	0.88		0.86		0.67	0.65
Control Delay	59.7		12.9		37.0	14.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	59.7		12.9		37.0	14.7
LOS	E		B		D	B
Approach Delay	59.7		12.9			16.0
Approach LOS	E		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 3 (3%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 18.7

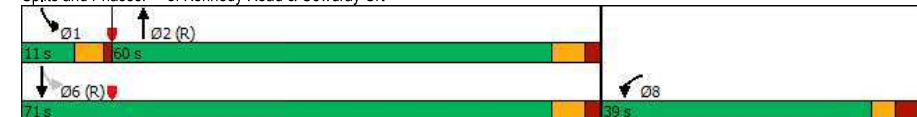
Intersection LOS: B

Intersection Capacity Utilization 87.8%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> PM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	
Traffic Volume (vph)	3	1	5	560	2	183	3	2059	654	131	2309	2
Future Volume (vph)	3	1	5	560	2	183	3	2059	654	131	2309	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	0.0	100.0	0.0	25.0	30.0	80.0	30.0	80.0	20.0	0
Storage Lanes	0	0	2	0	1	0	1	1	1	1	0	0
Taper Length (m)	2.5		90.0		30.0		35.0					
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt	0.925		0.852		0.950		0.850					
Flt Protected	0.984		0.950		0.950		0.950					
Satd. Flow (prot)	0	1710	0	3236	1585	0	1257	5079	1507	1652	6329	0
Flt Permitted	0.950		0.072		0.069							
Satd. Flow (perm)	0	1738	0	3236	1585	0	95	5079	1507	120	6329	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	5		183		50		50		231		50	
Link Speed (k/h)	48		50		50		50		50		50	
Link Distance (m)	70.0		243.9		64.3		129.0		9.3		9.3	
Travel Time (s)	5.3		17.6		4.6		9.3		9.3		9.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	34%	1%	0%	2%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	11	0
Adj. Flow (vph)	3	1	5	560	2	183	3	2059	654	131	2309	2
Shared Lane Traffic (%)	0	9	0	560	185	0	3	2059	654	131	2311	0
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	6.0		6.0		3.0		3.0		3.0		3.0	
Link Offset(m)	0.0		0.0		0.0		0.0		0.0		0.0	
Crosswalk Width(m)	1.6		1.6		1.6		1.6		1.6		1.6	
Two way Left Turn Lane	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Headway Factor	24		14	24	14	24	24	14	24		14	14
Turning Speed (k/h)	1	1	1	1	0	0	0	0	1	0		
Number of Detectors	Left											
Detector Template	6.1	7.5	7.5	7.5	0.0	0.0	0.0	18.0	0.0			
Leading Detector (m)	0.0	-1.5	-1.5	-1.5	0.0	0.0	0.0	9.0	0.0			
Trailing Detector (m)	0.0	-1.5	-1.5	-1.5	0.0	0.0	0.0	9.0	0.0			
Detector 1 Position(m)	6.1	9.0	9.0	9.0	6.1	1.8	6.1	9.0	1.8			
Detector 1 Size(m)	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex			
Detector 1 Type	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	Perm	NA	Prot	NA	Perm	NA	Perm	pm+pt	NA			
Turn Type	10		9	13		2	2	6				
Protected Phases	10					2		2	6			
Permitted Phases	10	10	9	13	2	2	2	1	6			
Detector Phase												
Switch Phase	7.0	7.0	5.0	7.0	33.0	33.0	33.0	6.0	33.0			
Minimum Initial (s)	14.0	14.0	9.5	46.0	40.0	40.0	40.0	10.0	40.0			
Minimum Split (s)	17.0	17.0	29.0	46.0	49.0	49.0	49.0	10.0	59.0			
Total Split (s)	15.5%	15.5%	26.4%	41.8%	44.5%	44.5%	44.5%	9.1%	53.6%			
Total Split (%)												

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> PM

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> PM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	10.0	10.0		24.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0	7.0		7.0	
Flash Dont Walk (s)					32.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0			0	0		0	
Act Effct Green (s)		8.1		25.0	25.4		60.8	60.8	60.8	75.6	72.6	
Actuated g/C Ratio		0.07		0.23	0.23		0.55	0.55	0.55	0.69	0.66	
v/c Ratio		0.07		0.76	0.37		0.06	0.73	0.70	0.64	0.55	
Control Delay		36.3		47.0	6.2		14.7	16.8	12.3	35.4	14.3	
Queue Delay		0.0		0.0	0.0		0.0	1.3	1.0	0.0	0.0	
Total Delay		36.3		47.0	6.2		14.7	18.1	13.3	35.4	14.3	
LOS		D		D	A		B	B	B	D	B	
Approach Delay		36.3			36.8			17.0			15.5	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 106 (96%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 18.9

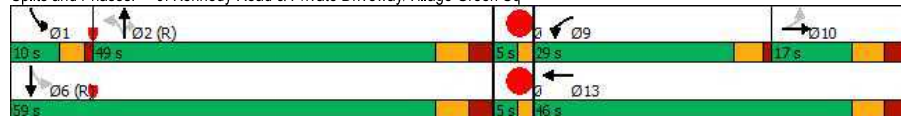
Intersection LOS: B

Intersection Capacity Utilization 98.6%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> PM

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option C1> PM
08-10-2022

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	650	831	1847	0	0	1748
Future Volume (vph)	650	831	1847	0	0	1748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor	0.99	0.98				
Frt	0.947	0.850				
Flt Protected	0.969					
Satd. Flow (prot)	3253	1515	5079	0	0	5079
Flt Permitted	0.969					
Satd. Flow (perm)	3241	1492	5079	0	0	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)	7	4		12	12	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	2%	2%	1%
Adj. Flow (vph)	650	831	1847	0	0	1748
Shared Lane Traffic (%)		43%				
Lane Group Flow (vph)	1007	474	1847	0	0	1748
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

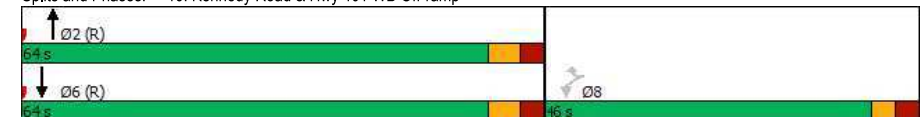
<Option C1> PM
08-10-2022

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	46.0	46.0	64.0			64.0
Total Split (%)	41.8%	41.8%	58.2%			58.2%
Maximum Green (s)	40.0	40.0	57.0			57.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	39.3	39.3	59.7			59.7
Actuated g/C Ratio	0.36	0.36	0.54			0.54
v/c Ratio	0.87	0.88	0.67			0.63
Control Delay	42.3	55.5	21.4			19.2
Queue Delay	0.3	1.8	0.2			0.7
Total Delay	42.6	57.3	21.6			19.9
LOS	D	E	C			B
Approach Delay	47.3		21.6			19.9
Approach LOS	D		C			B

Intersection Summary

Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 104 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 28.5	Intersection LOS: C
Intersection Capacity Utilization 79.6%	ICU Level of Service D
Analysis Period (min) 60	
* User Entered Value	

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option C1> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↑↑↑			↑↑↑	
Traffic Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Future Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0		0.0	30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.972	0.850			0.865		0.998				
Flt Protected	0.950	0.974										
Satd. Flow (prot)	1503	2969	1332	0	0	1808	0	6324	0	0	5029	0
Flt Permitted	0.950	0.974										
Satd. Flow (perm)	1503	2969	1332	0	0	1808	0	6324	0	0	5029	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		4	40					3				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							3		5	5		3
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	5%	3%	2%	2%	2%	2%	2%	0%	2%	2%	2%
Adj. Flow (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Shared Lane Traffic (%)		50%	29%									
Lane Group Flow (vph)	534	1005	454	0	0	535	0	2169	0	0	1649	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

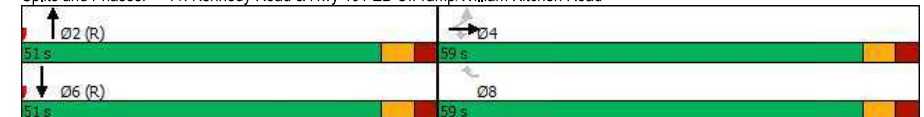
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option C1> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0	59.0			59.0		51.0			51.0	
Total Split (%)	53.6%	53.6%	53.6%			53.6%		46.4%			46.4%	
Maximum Green (s)	52.0	52.0	52.0			52.0		44.0			44.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	48.0	48.0	48.0			48.0		50.0			50.0	
Actuated g/C Ratio	0.44	0.44	0.44			0.44		0.45			0.45	
v/c Ratio	0.82	0.77	0.75			0.68		0.75			0.72	
Control Delay	38.6	30.7	32.2			29.2		27.9			19.2	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	38.6	30.7	32.2			29.2		27.9			19.2	
LOS	D	C	C			C		C			B	
Approach Delay		33.1			29.2			27.9			19.2	
Approach LOS		C			C			C			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 12 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 27.4												
Intersection Capacity Utilization 110.1%												
Analysis Period (min) 60												

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option C1> PM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	17	8	17	22	43	13
Future Volume (vph)	17	8	17	22	43	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.957				0.969	
Flt Protected				0.979	0.963	
Satd. Flow (prot)	1798	0	0	1748	1602	0
Flt Permitted				0.979	0.963	
Satd. Flow (perm)	1798	0	0	1748	1602	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)						1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	12%	0%	5%	24%
Adj. Flow (vph)	17	8	17	22	43	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	39	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 19.1%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option C1> PM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	17	8	17	22	43	13
Future Volume (Veh/h)	17	8	17	22	43	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	8	17	22	43	13
Pedestrians					1	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.1	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		77	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		77	22
tC, single (s)			4.2		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.5
p0 queue free %			99		95	99
cM capacity (veh/h)			1527		908	994
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	25	39	56			
Volume Left	0	17	43			
Volume Right	8	0	13			
cSH	1700	1527	927			
Volume to Capacity	0.01	0.01	0.06			
Queue Length 95th (m)	0.0	0.3	1.5			
Control Delay (s)	0.0	3.3	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	3.3	9.1			
Approach LOS			A			

Intersection Summary

Average Delay 5.3

Intersection Capacity Utilization 19.1%

ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option C1> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1161	73	83	1035	121	119
Future Volume (vph)	1161	73	83	1035	121	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		30.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			30.0		30.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor			0.99			0.99
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3191	0	1684	3305	1684	1479
Flt Permitted			0.132		0.950	
Satd. Flow (perm)	3191	0	233	3305	1684	1459
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	12					109
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		18	18			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	6%	8%	6%	8%
Adj. Flow (vph)	1161	73	83	1035	121	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1234	0	83	1035	121	119
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	30.5		6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8		6.1	1.8	6.1	6.1
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		4	4
Detector Phase	2		6	6	4	4

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option C1> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	27.5	27.5
Total Split (s)	86.0		86.0	86.0	34.0	34.0
Total Split (%)	71.7%		71.7%	71.7%	28.3%	28.3%
Maximum Green (s)	81.5		81.5	81.5	29.5	29.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5		3.5	3.5	3.5	3.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	16.0	16.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	65.5		65.5	65.5	47.5	47.5
Actuated g/C Ratio	0.55		0.55	0.55	0.40	0.40
v/c Ratio	0.71		0.65	0.57	0.18	0.19
Control Delay	15.7		40.8	15.6	27.7	7.6
Queue Delay	0.1		0.0	0.1	0.0	0.0
Total Delay	15.9		40.8	15.7	27.7	7.6
LOS	B		D	B	C	A
Approach Delay	15.9			17.6	17.7	
Approach LOS	B			B	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 4:NBL and 8:, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

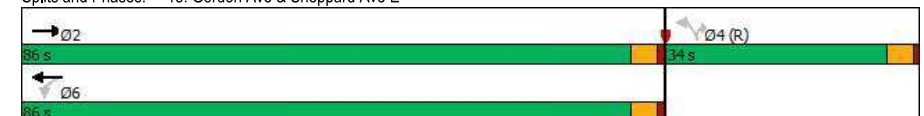
Maximum v/c Ratio: 0.71

Intersection Signal Delay: 16.8 Intersection LOS: B

Intersection Capacity Utilization 68.3% ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 13: Gordon Ave & Sheppard Ave E

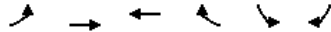


Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option C1> PM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	20	1309	1156	55	20	15
Future Volume (vph)	20	1309	1156	55	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.993		0.942	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	6457	3545	0	1720	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	6457	3545	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	20	1309	1156	55	20	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1329	1211	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.7%

ICU Level of Service A

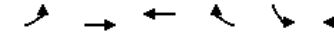
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option C1> PM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	20	1309	1156	55	20	15
Future Volume (Veh/h)	20	1309	1156	55	20	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	20	1309	1156	55	20	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		115	41			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	1211				1551	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	967				1353	279
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				84	98
cM capacity (veh/h)	634				122	637

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	207	374	374	374	771	440	35
Volume Left	20	0	0	0	0	0	20
Volume Right	0	0	0	0	0	55	15
cSH	634	1700	1700	1700	1700	1700	187
Volume to Capacity	0.03	0.22	0.22	0.22	0.45	0.26	0.19
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	0.0	5.2
Control Delay (s)	1.4	0.0	0.0	0.0	0.0	0.0	28.6
Lane LOS	A						D
Approach Delay (s)	0.2				0.0		28.6
Approach LOS							D

Intersection Summary

Average Delay 0.5

Intersection Capacity Utilization 43.7%

ICU Level of Service

A




















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option C1> PM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	36	18	0	14	66	1797	25	4	1913	20
Future Volume (vph)	5	0	36	18	0	14	66	1797	25	4	1913	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.881			0.941			0.998			0.998	
Flt Protected		0.994			0.973		0.950			0.950		
Satd. Flow (prot)	0	1645	0	0	1664	0	1685	4967	0	1685	4946	0
Flt Permitted		0.994			0.973		0.950			0.950		
Satd. Flow (perm)	0	1645	0	0	1664	0	1685	4967	0	1685	4946	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	6%	0%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	11	0
Adj. Flow (vph)	5	0	36	18	0	14	66	1797	25	4	1913	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	32	0	66	1822	0	4	1933	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.0%

ICU Level of Service B




















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option C1> PM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	36	18	0	14	66	1797	25	4	1913	20
Future Volume (Veh/h)	5	0	36	18	0	14	66	1797	25	4	1913	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	0	36	18	0	14	66	1797	25	4	1913	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.77	0.77	0.73	0.77	0.77	0.63	0.73			0.63		
vC, conflicting volume	2676	3885	648	2623	3882	612	1933			1822		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1325	0	0	1322	0	984			268		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	97	100	98	87			100		
cM capacity (veh/h)	696	103	796	667	105	690	518			827		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	41	32	66	719	719	384	4	765	765	403		
Volume Left	5	18	66	0	0	0	4	0	0	0		
Volume Right	36	14	0	0	0	25	0	0	0	20		
cSH	783	677	518	1700	1700	1700	827	1700	1700	1700		
Volume to Capacity	0.05	0.05	0.13	0.42	0.42	0.23	0.00	0.45	0.45	0.24		
Queue Length 95th (m)	1.3	1.1	3.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	9.9	10.6	13.0	0.0	0.0	0.0	9.4	0.0	0.0	0.0		
Lane LOS	A	B	B				A					
Approach Delay (s)	9.9	10.6	0.5				0.0					
Approach LOS	A	B										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 57.0%

ICU Level of Service

B

Analysis Period (min) 60

Lanes, Volumes, Timings

16: N-S Street/Gordon Ave & Collingwood Street

<Option C1> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	16	1	0	0	3	2	0	179	0	1	131	29
Future Volume (vph)	16	1	0	0	3	2	0	179	0	1	131	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.946						0.976	
Flt Protected		0.955										
Satd. Flow (prot)	0	1792	0	0	1777	0	0	1842	0	0	1762	0
Flt Permitted		0.955										
Satd. Flow (perm)	0	1792	0	0	1777	0	0	1842	0	0	1762	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		116.5			133.7			151.2			190.4	
Travel Time (s)		10.5			12.0			13.6			17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	2%	2%	0%	0%	2%	2%	2%	50%	2%	12%
Adj. Flow (vph)	16	1	0	0	3	2	0	179	0	1	131	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	5	0	0	179	0	0	161	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.7%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: N-S Street/Gordon Ave & Collingwood Street

<Option C1> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	1	0	0	3	2	0	179	0	1	131	29
Future Volume (vph)	16	1	0	0	3	2	0	179	0	1	131	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	1	0	0	3	2	0	179	0	1	131	29
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	17	5	179	161								
Volume Left (vph)	16	0	0	1								
Volume Right (vph)	0	2	0	29								
Hadj (s)	0.19	-0.24	0.03	-0.04								
Departure Headway (s)	4.8	4.4	4.1	4.1								
Degree Utilization, x	0.02	0.01	0.21	0.18								
Capacity (veh/h)	686	744	851	866								
Control Delay (s)	7.9	7.4	8.2	8.0								
Approach Delay (s)	7.9	7.4	8.2	8.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.1									
Level of Service			A									
Intersection Capacity Utilization		23.7%		ICU Level of Service			A					
Analysis Period (min)		60										

Lanes, Volumes, Timings
17: Village Green Sq

<Option C1> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	25	84	32	38	165	22
Future Volume (vph)	25	84	32	38	165	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.896				0.984	
Flt Protected				0.978	0.958	
Satd. Flow (prot)	1211	0	0	1805	1771	0
Flt Permitted				0.978	0.958	
Satd. Flow (perm)	1211	0	0	1805	1771	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	20.1			152.9	154.8	
Travel Time (s)	1.8			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	25	84	32	38	165	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	109	0	0	70	187	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 27.7%	ICU Level of Service A					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option C1> PM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	25	84	32	38	165	22
Future Volume (vph)	25	84	32	38	165	22
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	25	84	32	38	165	22
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	109	70	187			
Volume Left (vph)	0	32	165			
Volume Right (vph)	84	0	22			
Hadj (s)	0.20	0.12	0.11			
Departure Headway (s)	4.6	4.6	4.4			
Degree Utilization, x	0.14	0.09	0.23			
Capacity (veh/h)	744	737	779			
Control Delay (s)	8.4	8.1	8.8			
Approach Delay (s)	8.4	8.1	8.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.5			
Level of Service			A			
Intersection Capacity Utilization			27.7%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option C1> PM
08-10-2022

	↖	↗	↘	↙	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	27	115	89	153	120	11
Future Volume (vph)	27	115	89	153	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.891				0.989	
Flt Protected	0.991			0.982		
Satd. Flow (prot)	1626	0	0	1809	1822	0
Flt Permitted	0.991			0.860		
Satd. Flow (perm)	1626	0	0	1584	1822	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	115				10	
Link Speed (k/h)	40			40	40	
Link Distance (m)	163.4			205.6	151.2	
Travel Time (s)	14.7			18.5	13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	115	89	153	120	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	142	0	0	242	131	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1		2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	28.0		32.0	32.0	32.0	
Total Split (%)	46.7%		53.3%	53.3%	53.3%	
Maximum Green (s)	22.0		26.0	26.0	26.0	

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option C1> PM
08-10-2022

	↖	↗	↘	↙	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.1			34.6	34.6	
Actuated g/C Ratio	0.22			0.68	0.68	
v/c Ratio	0.32			0.23	0.11	
Control Delay	7.8			5.7	4.8	
Queue Delay	0.0			0.0	0.0	
Total Delay	7.8			5.7	4.8	
LOS	A			A	A	
Approach Delay	7.8			5.7	4.8	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 51.2

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 6.0

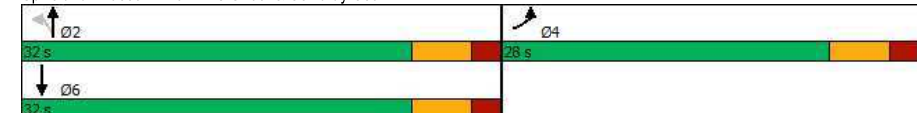
Intersection LOS: A

Intersection Capacity Utilization 42.4%

ICU Level of Service A













Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Court



Lanes, Volumes, Timings
102: Village Green Sq/N-S Street

<Option C1> PM
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	0	24	178	107	13
Future Volume (vph)	29	0	24	178	107	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985					
Flt Protected	0.950			0.994		
Satd. Flow (prot)	1750	0	0	1831	1814	0
Flt Permitted	0.950			0.994		
Satd. Flow (perm)	1750	0	0	1831	1814	0
Link Speed (k/h)	48			40	40	
Link Distance (m)	43.2			20.4	205.6	
Travel Time (s)	3.2			1.8	18.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	0	24	178	107	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	0	202	120	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24	14		
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other










Control Type: Unsignalized

Intersection Capacity Utilization 27.4% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq/N-S Street

<Option C1> PM
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	0	24	178	107	13
Future Volume (Veh/h)	29	0	24	178	107	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	29	0	24	178	107	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					206	
pX, platoon unblocked						
vC, conflicting volume	340	114	120			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340	114	120			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	98			
cM capacity (veh/h)	646	939	1468			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	29	202	120			
Volume Left	29	24	0			
Volume Right	0	0	13			
cSH	646	1468	1700			
Volume to Capacity	0.04	0.02	0.07			
Queue Length 95th (m)	1.1	0.4	0.0			
Control Delay (s)	10.8	1.0	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.8	1.0	0.0			
Approach LOS	B					

Intersection Summary











Average Delay 1.5

Intersection Capacity Utilization 27.4% ICU Level of Service A

Analysis Period (min) 60











Lanes, Volumes, Timings
18: Village Green Sq

<Option C1> PM
08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	195	505	292	4	1	121
Future Volume (vph)	195	505	292	4	1	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.866	
Flt Protected	0.950					
Satd. Flow (prot)	1716	1860	1875	0	1580	0
Flt Permitted	0.950					
Satd. Flow (perm)	1716	1860	1875	0	1580	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	81			81	6	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	1%	0%	0%	0%	3%
Adj. Flow (vph)	195	505	292	4	1	121
Shared Lane Traffic (%)						
Lane Group Flow (vph)	195	505	296	0	122	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		9.5	9.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 44.3%	ICU Level of Service A					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option C1> PM
08-19-2022

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	195	505	292	4	1	121
Future Volume (Veh/h)	195	505	292	4	1	121
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	195	505	292	4	1	121
Pedestrians		1	6		81	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		7	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	377				1276	376
vC1, stage 1 conf vol					375	
vC2, stage 2 conf vol					901	
vCu, unblocked vol	377				1276	376
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	82				100	80
cM capacity (veh/h)	1087				253	620
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	195	505	296	122		
Volume Left	195	0	0	1		
Volume Right	0	0	4	121		
cSH	1087	1700	1700	613		
Volume to Capacity	0.18	0.30	0.17	0.20		
Queue Length 95th (m)	5.0	0.0	0.0	5.7		
Control Delay (s)	9.0	0.0	0.0	12.3		
Lane LOS	A			B		
Approach Delay (s)	2.5		0.0	12.3		
Approach LOS				B		
Intersection Summary						
Average Delay			2.9			
Intersection Capacity Utilization			44.3%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option C1> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↔↔			↔			↔	
Traffic Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Future Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.89				
Frt		0.998						0.916			0.905	
Flt Protected		0.995		0.950				0.991			0.991	
Satd. Flow (prot)	0	3469	0	1685	3500	0	0	1512	0	0	1652	0
Flt Permitted		0.662		0.208				0.867			0.889	
Satd. Flow (perm)	0	2308	0	369	3500	0	0	1317	0	0	1482	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						50			60	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			44	44			20		137			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1261	0	35	1132	0	0	80	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4			8		
Detector Phase		2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		32.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option C1> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	78.0	78.0		78.0	78.0		32.0	32.0		32.0	32.0	
Total Split (%)	70.9%	70.9%		70.9%	70.9%		29.1%	29.1%		29.1%	29.1%	
Maximum Green (s)	72.0	72.0		72.0	72.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.64		0.11	0.38			0.48			0.45	
Control Delay		5.4		4.2	3.5			31.7			26.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.4		4.2	3.5			31.7			26.1	
LOS		A		A	A			C			C	
Approach Delay		5.4			3.5			31.7			26.1	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 43 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 6.0

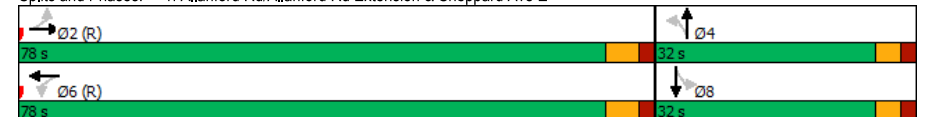
Intersection LOS: A

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑		↖	↑↑			↖			↖	↖
Traffic Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Future Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0		0.0		0.0		35.0
Storage Lanes	1		0	1		0	0		0			1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	*1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.96	1.00			0.97			0.98	0.95
Frt		0.999			0.990			0.910				0.850
Flt Protected	0.950			0.950				0.984			0.950	
Satd. Flow (prot)	1685	3639	0	1685	3421	0	0	1647	0	0	1785	1507
Flt Permitted	0.174			0.279				0.906			0.748	
Satd. Flow (perm)	309	3639	0	476	3421	0	0	1503	0	0	1378	1426
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			9			69				80
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		62	62		19	30		14	14		30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	2%	0%	0%	0%	0%
Adj. Flow (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	1081	0	15	1127	0	0	15	0	0	245	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		29.0	29.0		29.0	29.0	29.0
Total Split (s)	12.0	71.0		59.0	59.0		39.0	39.0		39.0	39.0	39.0

Lanes, Volumes, Timings

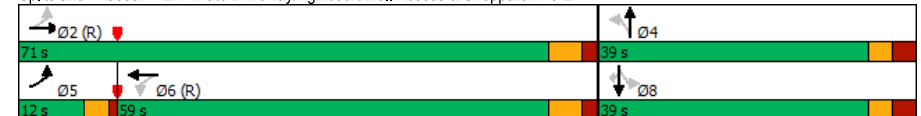
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.9%	64.5%		53.6%	53.6%		35.5%	35.5%		35.5%	35.5%	35.5%
Maximum Green (s)	8.0	65.0		53.0	53.0		33.0	33.0		33.0	33.0	33.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	76.3	74.3		63.7	63.7			25.7			25.7	25.7
Actuated g/C Ratio	0.69	0.68		0.58	0.58			0.23			0.23	0.23
v/c Ratio	0.32	0.44		0.05	0.57			0.04			0.76	0.20
Control Delay	5.7	6.7		13.7	17.0			0.2			55.5	7.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	5.7	6.7		13.7	17.0			0.2			55.5	7.7
LOS	A	A		B	B			A			E	A
Approach Delay		6.6			17.0			0.2			43.7	
Approach LOS		A			B			A			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 74 (67%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.76												
Intersection Signal Delay: 15.5	Intersection LOS: B											
Intersection Capacity Utilization 78.5%	ICU Level of Service D											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖	↑↑↑	↗	↖	↑↑↑	
Traffic Volume (vph)	104	543	406	374	685	230	240	1214	271	180	1098	84
Future Volume (vph)	104	543	406	374	685	230	240	1214	271	180	1098	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.97		0.92	0.97	0.96		0.99		0.91	0.99	0.99	
Frt			0.850		0.962				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1636	3336	1346	1604	3141	0	*1622	4839	1428	1620	4686	0
Flt Permitted	0.191			0.318			0.105			0.124		
Satd. Flow (perm)	319	3336	1234	522	3141	0	177	4839	1301	209	4686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			214		44				242		10	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	144		75	75		144	99		72	72		99
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	7%	3%	5%	6%	3%	4%	6%	3%	4%	6%	5%
Bus Blockages (#/hr)	0	0	20	0	0	20	0	0	6	0	10	0
Adj. Flow (vph)	104	543	406	374	685	230	240	1214	271	180	1098	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	543	406	374	915	0	240	1214	271	180	1182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.21	1.09	1.01	1.01	1.09	1.01	1.13	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	45.0	45.0	17.0	51.0		17.0	46.0	46.0	12.0	41.0	
Total Split (%)	9.2%	37.5%	37.5%	14.2%	42.5%		14.2%	38.3%	38.3%	10.0%	34.2%	
Maximum Green (s)	7.0	38.0	38.0	13.0	44.0		13.0	39.0	39.0	8.0	34.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.8	39.0	39.0	59.0	45.2		55.0	40.0	40.0	47.0	35.0	
Actuated g/C Ratio	0.42	0.32	0.32	0.49	0.38		0.46	0.33	0.33	0.39	0.29	
v/c Ratio	0.48	0.50	0.74	0.98	0.76		0.96	0.75	0.46	0.96	0.86	
Control Delay	24.9	34.6	26.5	79.0	20.6		115.2	39.3	8.0	127.3	48.0	
Queue Delay	0.0	0.0	0.0	0.0	1.5		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.9	34.7	26.5	79.0	22.0		115.2	39.3	8.0	127.3	48.0	
LOS	C	C	C	E	C		F	D	A	F	D	
Approach Delay		30.6			38.6			44.9			58.5	
Approach LOS		C			D			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 21 (18%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 44.0

Intersection LOS: D

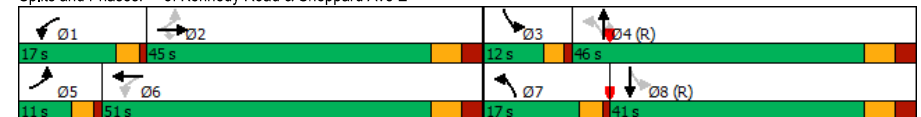
Intersection Capacity Utilization 109.0%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Future Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99		0.93	0.94		0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.998			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1685	4977	0	1589	5022	0
Flt Permitted	0.950			0.950			0.131			0.193		
Satd. Flow (perm)	1662	0	1394	1592	0	1470	232	4977	0	322	5022	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			170			69		4			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	12		50	50		12	26		11	11		26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	0%	2%	0%	6%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Adj. Flow (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	170	30	0	35	215	1336	0	15	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	31.0		31.0	31.0		31.0	25.0	79.0		54.0	54.0	
Total Split (%)	28.2%		28.2%	28.2%		28.2%	22.7%	71.8%		49.1%	49.1%	
Maximum Green (s)	25.0		25.0	25.0		25.0	21.0	73.0		48.0	48.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	19.3		19.3	19.3		19.3	82.7	80.7		65.8	65.8	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.75	0.73		0.60	0.60	
v/c Ratio	0.67		0.44	0.11		0.11	0.65	0.37		0.08	0.48	
Control Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
LOS	D		A	D		A	B	A		B	B	
Approach Delay		33.2			18.1			7.8			14.5	
Approach LOS		C			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 13.5

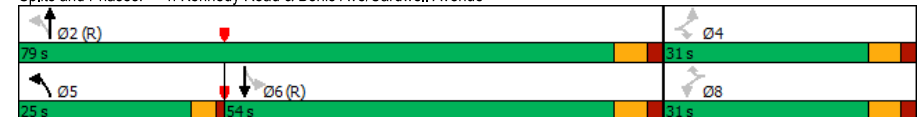
Intersection LOS: B

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

<Option C1> SAT

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

08-10-2022

	↖	→	↘	↙	←	↖	↗	↑	↘	↙	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Future Volume (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00					1.00		0.98			
Frt		0.997							0.850			
Flt Protected				0.950			0.950					
Satd. Flow (prot)	1773	4830	0	1685	3500	1615	1685	0	1507	1773	0	1773
Flt Permitted				0.154			0.950					
Satd. Flow (perm)	1773	4830	0	273	3500	1615	1679	0	1477	1773	0	1773
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3							109			
Link Speed (k/h)	60				60				40			40
Link Distance (m)	40.6				63.5				81.9			115.9
Travel Time (s)		2.4			3.8				7.4			10.4
Confl. Peds. (#/hr)	46		15	15		46	3		8	8		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	20	0	0	0	20	0	0	0	0	0	0
Adj. Flow (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1472	0	15	1389	0	35	0	20	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0				3.0			3.0
Link Offset(m)		0.0			0.0				0.0			0.0
Crosswalk Width(m)		1.6			1.6				1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.21	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Lanes, Volumes, Timings

<Option C1> SAT

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

08-10-2022

	↖	→	↘	↙	←	↖	↗	↑	↘	↙	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	60.0	60.0		10.0	70.0	70.0	40.0		40.0	10.0		50.0
Total Split (%)	50.0%	50.0%		8.3%	58.3%	58.3%	33.3%		33.3%	8.3%		41.7%
Maximum Green (s)	53.0	53.0		6.0	63.0	63.0	34.0		34.0	6.0		44.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)		99.4		105.2	103.4		9.4		9.4			
Actuated g/C Ratio		0.83		0.88	0.86		0.08		0.08			
v/c Ratio		0.37		0.05	0.46		0.27		0.09			
Control Delay		3.1		1.8	3.2		56.6		0.8			
Queue Delay		0.1		0.0	0.0		0.0		0.0			
Total Delay		3.2		1.8	3.2		56.6		0.8			
LOS		A		A	A		E		A			
Approach Delay		3.2			3.2				36.3			
Approach LOS		A			A				D			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 62 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 3.8

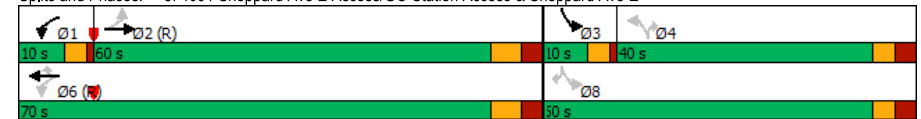
Intersection LOS: A

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Future Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			0.99		0.95		0.98			0.99	
Frt						0.850		0.890			0.946	
Flt Protected	0.950			0.950				0.991			0.971	
Satd. Flow (prot)	1685	3368	0	1685	3368	1597	0	1630	0	0	1715	0
Flt Permitted	0.187			0.203				0.985				
Satd. Flow (perm)	330	3368	0	356	3368	1513	0	1619	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						40		30			30	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	12		31	31		12	3		7	7		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	17%	0%	6%	0%	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1308	0	3	1381	2	0	11	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	93.0	93.0		93.0	93.0	93.0	17.0	17.0		17.0	17.0	

Lanes, Volumes, Timings

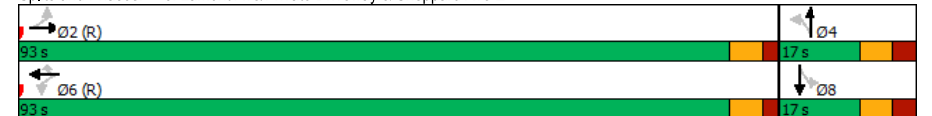
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	84.5%	84.5%		84.5%	84.5%	84.5%	15.5%	15.5%		15.5%	15.5%	
Maximum Green (s)	87.0	87.0		87.0	87.0	87.0	10.0	10.0		10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	106.2	106.2		106.2	106.2	106.2	8.0	8.0		8.0	8.0	
Actuated g/C Ratio	0.97	0.97		0.97	0.97	0.97	0.07	0.07		0.07	0.07	
v/c Ratio	0.00	0.40		0.01	0.42	0.00	0.08	0.08		0.08	0.03	
Control Delay	1.0	1.1		0.7	0.5	0.0	4.5	4.5		4.5	0.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	1.0	1.1		0.7	0.5	0.0	4.5	4.5		4.5	0.4	
LOS	A	A		A	A	A	A	A		A	A	
Approach Delay		1.1			0.5		4.5	4.5			0.4	
Approach LOS		A			A		A	A			A	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 40												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.42												
Intersection Signal Delay: 0.8												
Intersection Capacity Utilization 56.8%												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Future Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.99	0.99		0.97		0.95	0.98		0.93
Frt		0.966			0.979			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4586	0	1652	3288	0	*1622	3500	1434	1668	3500	1463
Flt Permitted	0.109			0.101			0.393			0.470		
Satd. Flow (perm)	191	4586	0	174	3288	0	639	3500	1360	808	3500	1363
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			19				167			159
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			41.8			29.4	
Confl. Peds. (#/hr)	81		71	71		81	59		42	42		59
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	4%	2%	2%	2%	6%	2%	3%	1%	2%	1%
Bus Blockages (#/hr)	0	20	0	0	14	0	0	0	5	0	0	5
Adj. Flow (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	1316	0	218	1170	0	256	498	214	132	437	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.05	1.01	1.09	1.01	1.12	1.09	1.01	1.12
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	42.0		16.0	48.0		11.0	52.0	52.0	41.0	41.0	41.0
Total Split (%)	9.1%	38.2%		14.5%	43.6%		10.0%	47.3%	47.3%	37.3%	37.3%	37.3%
Maximum Green (s)	6.0	35.0		12.0	41.0		7.0	45.0	45.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	46.7	36.7		55.0	42.0		49.0	46.0	46.0	35.0	35.0	35.0
Actuated g/C Ratio	0.42	0.33		0.50	0.38		0.45	0.42	0.42	0.32	0.32	0.32
v/c Ratio	0.69	0.84		0.87	0.92		0.72	0.34	0.32	0.51	0.39	0.21
Control Delay	39.7	37.2		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	37.2		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
LOS	D	D		E	D		D	C	A	D	C	A
Approach Delay		37.4			50.5			22.5			27.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 24 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 36.7

Intersection LOS: D

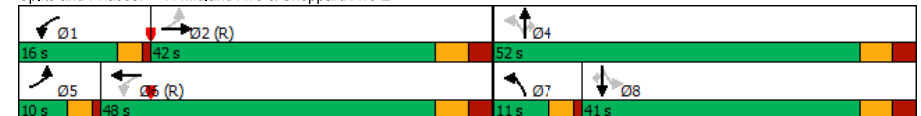
Intersection Capacity Utilization 115.5%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option C1> SAT
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↖↖↖		↖	↖↖↖
Traffic Volume (vph)	160	68	1802	261	82	1871
Future Volume (vph)	160	68	1802	261	82	1871
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	1.00					
Frt	0.960		0.981			
Flt Protected	0.966				0.950	
Satd. Flow (prot)	1712	0	4703	0	1123	4839
Flt Permitted	0.966				0.055	
Satd. Flow (perm)	1709	0	4703	0	65	4839
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	17		40			
Link Speed (k/h)	40		50			50
Link Distance (m)	163.4		252.1			134.4
Travel Time (s)	14.7		18.2			9.7
Confl. Peds. (#/hr)	2					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	5%	14%	50%	6%
Bus Blockages (#/hr)	0	0	6	0	0	0
Adj. Flow (vph)	160	68	1802	261	82	1871
Shared Lane Traffic (%)						
Lane Group Flow (vph)	228	0	2063	0	82	1871
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option C1> SAT
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	26.0		67.0		17.0	84.0
Total Split (%)	23.6%		60.9%		15.5%	76.4%
Maximum Green (s)	20.0		61.0		12.5	78.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	18.3		70.3		83.2	81.7
Actuated g/C Ratio	0.17		0.64		0.76	0.74
v/c Ratio	0.76		0.68		0.57	0.52
Control Delay	58.8		6.6		35.3	6.8
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	58.8		6.6		35.3	6.8
LOS	E		A		D	A
Approach Delay	58.8		6.6			8.0
Approach LOS	E		A			A

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 10.1

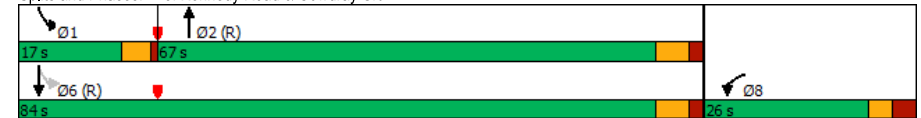
Intersection LOS: B

Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	15	563	0	160	10	1893	659	60	2043	0
Future Volume (vph)	0	0	15	563	0	160	10	1893	659	60	2043	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	0.0	25.0	30.0	80.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	2	0	0	1	1	1	0	0	0	0
Taper Length (m)	2.5			90.0			30.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Ped Bike Factor		0.98		1.00	0.97		1.00		0.95			
Frt		0.865			0.850			0.850				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1088	0	3173	1553	0	1203	4932	1463	1685	6153	0
Flt Permitted				0.950			0.072			0.068		
Satd. Flow (perm)	0	1088	0	3169	1553	0	91	4932	1396	121	6153	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		144			193				253			
Link Speed (k/h)		48			50			50			50	
Link Distance (m)		70.0			243.9			64.3			129.0	
Travel Time (s)		5.3			17.6			4.6			9.3	
Confl. Peds. (#/hr)	19		1	1		19	1		16	16		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	47%	3%	2%	0%	40%	4%	3%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	10	0
Adj. Flow (vph)	0	0	15	563	0	160	10	1893	659	60	2043	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	563	160	0	10	1893	659	60	2043	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0			6.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> SAT

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.5	14.5		31.5	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	13.2%	13.2%		28.6%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	
Maximum Green (s)	7.5	7.5		27.0	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0	7.0		7.0	
Flash Dont Walk (s)					32.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0			0	0		0	
Act Effct Green (s)		8.0		25.7	28.8		60.8	60.8	60.8	72.2	69.2	
Actuated g/C Ratio		0.07		0.23	0.26		0.55	0.55	0.55	0.66	0.63	
v/c Ratio		0.07		0.76	0.29		0.20	0.69	0.75	0.33	0.53	
Control Delay		0.7		46.4	3.1		29.0	20.5	17.0	22.1	11.4	
Queue Delay		0.0		0.1	0.0		0.0	9.6	7.7	0.0	0.1	
Total Delay		0.7		46.5	3.1		29.0	30.0	24.7	22.1	11.5	
LOS		A		D	A		C	C	C	C	B	
Approach Delay		0.7			36.9			28.7			11.8	
Approach LOS		A			D			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 23.1

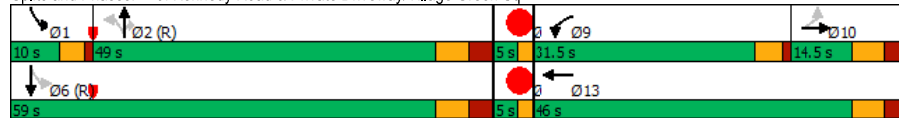
Intersection LOS: C

Intersection Capacity Utilization 87.2%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C1> SAT

08-10-2022

Lane Group	Ø3	Ø7
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Option C1> SAT

08-10-2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	787	855	1655	0	0	1410
Future Volume (vph)	787	855	1655	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.955	0.850				
Flt Protected	0.966					
Satd. Flow (prot)	3121	1457	4932	0	0	4932
Flt Permitted	0.966					
Satd. Flow (perm)	3121	1457	4932	0	0	4932
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4	4				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	5%	4%	0%	0%	4%
Adj. Flow (vph)	787	855	1655	0	0	1410
Shared Lane Traffic (%)		39%				
Lane Group Flow (vph)	1120	522	1655	0	0	1410
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Option C1> SAT

08-10-2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	58.0	58.0	52.0			52.0
Total Split (%)	52.7%	52.7%	47.3%			47.3%
Maximum Green (s)	52.0	52.0	45.0			45.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	48.5	48.5	50.5			50.5
Actuated g/C Ratio	0.44	0.44	0.46			0.46
v/c Ratio	0.81	0.81	0.73			0.62
Control Delay	32.0	38.0	34.1			26.5
Queue Delay	0.0	0.0	92.9			0.5
Total Delay	32.0	38.0	127.0			27.0
LOS	C	D	F			C
Approach Delay	33.9		127.0			27.0
Approach LOS	C		F			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 26 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 64.6

Intersection LOS: E

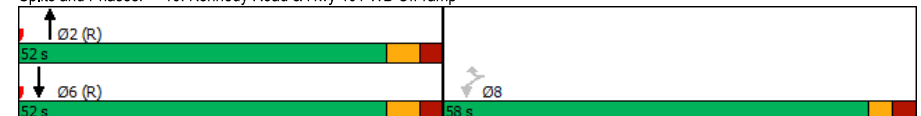
Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↑↑↑			↑↑↑	
Traffic Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Future Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.966	0.850			0.865		0.997				
Flt Protected	0.950	0.980										
Satd. Flow (prot)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Flt Permitted	0.950	0.980										
Satd. Flow (perm)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		5	40					4				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							6		20	20		6
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	8%	6%	0%	0%	7%	0%	6%	5%	0%	6%	0%
Adj. Flow (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Shared Lane Traffic (%)	45%		33%									
Lane Group Flow (vph)	483	952	431	0	0	515	0	2007	0	0	1619	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option C1> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	58.0	58.0	58.0			58.0		52.0			52.0	
Total Split (%)	52.7%	52.7%	52.7%			52.7%		47.3%			47.3%	
Maximum Green (s)	51.0	51.0	51.0			51.0		45.0			45.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	46.4	46.4	46.4			46.4		51.6			51.6	
Actuated g/C Ratio	0.42	0.42	0.42			0.42		0.47			0.47	
v/c Ratio	0.78	0.78	0.76			0.71		0.70			0.71	
Control Delay	37.0	32.1	33.8			31.8		25.6			16.2	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	37.0	32.1	33.8			31.8		25.6			16.2	
LOS	D	C	C			C		C			B	
Approach Delay		33.7			31.8			25.6			16.2	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 45 (41%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 26.1

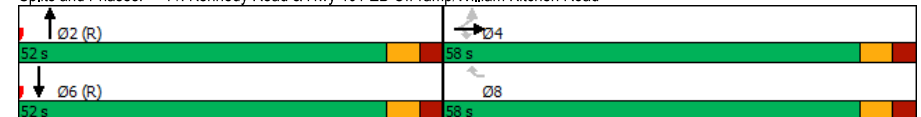
Intersection LOS: C

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option C1> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	5	14	12	11	49	6
Future Volume (vph)	5	14	12	11	49	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.901				0.985	
Flt Protected				0.975	0.957	
Satd. Flow (prot)	1693	0	0	1832	1665	0
Flt Permitted				0.975	0.957	
Satd. Flow (perm)	1693	0	0	1832	1665	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)		6	6			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	3%	34%
Adj. Flow (vph)	5	14	12	11	49	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	0	23	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.6%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option C1> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	5	14	12	11	49	6
Future Volume (Veh/h)	5	14	12	11	49	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	14	12	11	49	6
Pedestrians				2	6	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		53	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		53	20
tC, single (s)			4.1		6.4	6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.6
p0 queue free %			99		95	99
cM capacity (veh/h)			1594		941	966

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	19	23	55
Volume Left	0	12	49
Volume Right	14	0	6
cSH	1700	1594	943
Volume to Capacity	0.01	0.01	0.06
Queue Length 95th (m)	0.0	0.2	1.4
Control Delay (s)	0.0	3.8	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	3.8	9.1
Approach LOS			A

Intersection Summary

Average Delay	6.0		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option C1> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1072	88	154	1353	146	321
Future Volume (vph)	1072	88	154	1353	146	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		30.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			30.0		30.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor	0.99					0.98
Frt	0.989					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3366	0	1785	3400	1785	1493
Flt Permitted			0.094		0.950	
Satd. Flow (perm)	3366	0	177	3400	1785	1470
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	9					241
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		40	40			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	0%	0%	5%	0%	7%
Adj. Flow (vph)	1072	88	154	1353	146	321
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1160	0	154	1353	146	321
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	30.5		6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8		6.1	1.8	6.1	6.1
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		4	4
Detector Phase	2		1	6	4	4

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option C1> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	25.0		9.5	25.0	41.0	41.0
Total Split (s)	61.0		17.0	78.0	42.0	42.0
Total Split (%)	50.8%		14.2%	65.0%	35.0%	35.0%
Maximum Green (s)	54.0		13.0	71.0	35.0	35.0
Yellow Time (s)	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	3.0		1.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0		3.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0			7.0	7.0	7.0
Flash Dont Walk (s)	11.0			11.0	16.0	16.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	50.2		67.8	64.8	43.2	43.2
Actuated g/C Ratio	0.42		0.56	0.54	0.36	0.36
v/c Ratio	0.82		0.60	0.74	0.23	0.47
Control Delay	26.5		23.1	21.7	29.9	11.2
Queue Delay	0.0		0.0	0.2	0.0	0.0
Total Delay	26.5		23.1	21.8	29.9	11.2
LOS	C		C	C	C	B
Approach Delay	26.5			21.9	17.0	
Approach LOS	C			C	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 8 (7%), Referenced to phase 4:NBL and 8:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 22.9

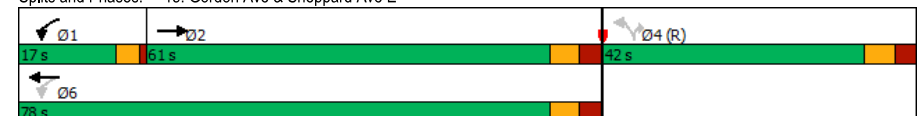
Intersection LOS: C

Intersection Capacity Utilization 73.7%

ICU Level of Service D

Analysis Period (min) 60

Splits and Phases: 13: Gordon Ave & Sheppard Ave E

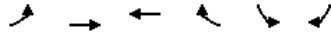


Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option C1> SAT

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	16	1372	1492	39	18	14
Future Volume (vph)	16	1372	1492	39	18	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.941	
Flt Protected		0.999			0.973	
Satd. Flow (prot)	0	6207	3385	0	1720	0
Flt Permitted		0.999			0.973	
Satd. Flow (perm)	0	6207	3385	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Confl. Peds. (#/hr)	23			23	8	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	4%	5%	6%	0%	0%
Adj. Flow (vph)	16	1372	1492	39	18	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1388	1531	0	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.9%

ICU Level of Service B

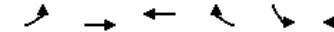
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option C1> SAT

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	16	1372	1492	39	18	14
Future Volume (Veh/h)	16	1372	1492	39	18	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	1372	1492	39	18	14
Pedestrians		17	8		23	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		2	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		115	41			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	1554				1918	806
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1380				1787	541
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				71	97
cM capacity (veh/h)	409				62	422

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	212	392	392	392	995	536	32
Volume Left	16	0	0	0	0	0	18
Volume Right	0	0	0	0	0	39	14
cSH	409	1700	1700	1700	1700	1700	99
Volume to Capacity	0.04	0.23	0.23	0.23	0.59	0.32	0.32
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	0.0	10.5
Control Delay (s)	1.6	0.0	0.0	0.0	0.0	0.0	58.7
Lane LOS	A						F
Approach Delay (s)	0.3				0.0		58.7
Approach LOS							F

Intersection Summary





















Average Delay	0.8			
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	60			

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option C1> SAT

08-10-2022





















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	32	17	0	12	29	1813	29	6	1901	20
Future Volume (vph)	12	1	32	17	0	12	29	1813	29	6	1901	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	15.0	30.0	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	0	0	0	1	0	1	0	1	0	0
Taper Length (m)	2.5			2.5		10.0		15.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.904			0.944			0.998			0.998	
Flt Protected		0.987			0.972		0.950			0.950		
Satd. Flow (prot)	0	1597	0	0	1724	0	1574	4840	0	1685	4763	0
Flt Permitted		0.987			0.972		0.950			0.950		
Satd. Flow (perm)	0	1597	0	0	1724	0	1574	4840	0	1685	4763	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Confl. Peds. (#/hr)							5		5	5		5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	7%	0%	0%	0%	7%	5%	0%	0%	6%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	10	0
Adj. Flow (vph)	12	1	32	17	0	12	29	1813	29	6	1901	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	29	0	29	1842	0	6	1921	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 47.2%	ICU Level of Service A											
Analysis Period (min) 60												

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option C1> SAT

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	1	32	17	0	12	29	1813	29	6	1901	20
Future Volume (Veh/h)	12	1	32	17	0	12	29	1813	29	6	1901	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	12	1	32	17	0	12	29	1813	29	6	1901	20
Pedestrians		5			5							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type							None				None	
Median storage (veh)												
Upstream signal (m)							134				190	
pX, platoon unblocked	0.84	0.84	0.78	0.84	0.84	0.73	0.78			0.73		
vC, conflicting volume	2602	3833	649	2569	3828	624	1926			1847		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	495	1960	0	455	1954	0	1211			874		
tC, single (s)	7.5	6.5	7.0	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	97	98	96	95	100	98	93			99		
cM capacity (veh/h)	356	49	832	365	50	795	424			569		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	45	29	29	725	725	392	6	760	760	400		
Volume Left	12	17	29	0	0	0	6	0	0	0		
Volume Right	32	12	0	0	0	29	0	0	0	20		
cSH	487	470	424	1700	1700	1700	569	1700	1700	1700		
Volume to Capacity	0.09	0.06	0.07	0.43	0.43	0.23	0.01	0.45	0.45	0.24		
Queue Length 95th (m)	2.3	1.5	1.7	0.0	0.0	0.0	0.2	0.0	0.0	0.0		
Control Delay (s)	13.2	13.2	14.1	0.0	0.0	0.0	11.4	0.0	0.0	0.0		
Lane LOS	B	B	B				B					
Approach Delay (s)	13.2	13.2	0.2				0.0					
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			47.2%				ICU Level of Service			A		
Analysis Period (min)			60									

Lanes, Volumes, Timings

16: N-S Street/Gordon Ave & Collingwood Street

<Option C1> SAT

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	24	2	0	0	1	0	0	398	0	2	210	43
Future Volume (vph)	24	2	0	0	1	0	0	398	0	2	210	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt											0.977	
Flt Protected		0.956										
Satd. Flow (prot)	0	1793	0	0	1879	0	0	1842	0	0	1764	0
Flt Permitted		0.956										
Satd. Flow (perm)	0	1793	0	0	1879	0	0	1842	0	0	1764	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		116.5			133.7			151.2			190.4	
Travel Time (s)		10.5			12.0			13.6			17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	2%	2%	0%	0%	2%	2%	2%	50%	2%	12%
Adj. Flow (vph)	24	2	0	0	1	0	0	398	0	2	210	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	1	0	0	398	0	0	255	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.7%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: N-S Street/Gordon Ave & Collingwood Street

<Option C1> SAT

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	2	0	0	1	0	0	398	0	2	210	43
Future Volume (vph)	24	2	0	0	1	0	0	398	0	2	210	43
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	24	2	0	0	1	0	0	398	0	2	210	43
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	26	1	398	255								
Volume Left (vph)	24	0	0	2								
Volume Right (vph)	0	0	0	43								
Hadj (s)	0.19	0.00	0.03	-0.03								
Departure Headway (s)	5.5	5.4	4.3	4.3								
Degree Utilization, x	0.04	0.00	0.47	0.31								
Capacity (veh/h)	580	585	829	804								
Control Delay (s)	8.7	8.4	11.1	9.3								
Approach Delay (s)	8.7	8.4	11.1	9.3								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay			10.3									
Level of Service			B									
Intersection Capacity Utilization			35.7%		ICU Level of Service					A		
Analysis Period (min)			60									

Lanes, Volumes, Timings
17: Village Green Sq

<Option C1> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Traffic Volume (vph)	26	145	77	39	287	43
Future Volume (vph)	26	145	77	39	287	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.886				0.982	
Flt Protected				0.968	0.958	
Satd. Flow (prot)	1167	0	0	1772	1768	0
Flt Permitted				0.968	0.958	
Satd. Flow (perm)	1167	0	0	1772	1768	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	18.2			152.9	154.8	
Travel Time (s)	1.6			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	26	145	77	39	287	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	0	0	116	330	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.0%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option C1> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	26	145	77	39	287	43
Future Volume (vph)	26	145	77	39	287	43
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	145	77	39	287	43
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	171	116	330			
Volume Left (vph)	0	77	287			
Volume Right (vph)	145	0	43			
Hadj (s)	0.22	0.18	0.10			
Departure Headway (s)	5.1	5.2	4.8			
Degree Utilization, x	0.24	0.17	0.44			
Capacity (veh/h)	655	645	727			
Control Delay (s)	9.8	9.2	11.4			
Approach Delay (s)	9.8	9.2	11.4			
Approach LOS	A	A	B			
Intersection Summary						
Delay			10.5			
Level of Service			B			
Intersection Capacity Utilization			46.0%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option C1> SAT
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	88	92	55	309	177	33
Future Volume (vph)	88	92	55	309	177	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.931				0.979	
Flt Protected	0.976			0.993		
Satd. Flow (prot)	1674	0	0	1829	1803	0
Flt Permitted	0.976			0.932		
Satd. Flow (perm)	1674	0	0	1717	1803	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	92				20	
Link Speed (k/h)	40			40	40	
Link Distance (m)	163.4			206.8	151.2	
Travel Time (s)	14.7			18.6	13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	88	92	55	309	177	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	180	0	0	364	210	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1		2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	28.0		32.0	32.0	32.0	
Total Split (%)	46.7%		53.3%	53.3%	53.3%	
Maximum Green (s)	22.0		26.0	26.0	26.0	

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option C1> SAT
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.4			32.5	32.5	
Actuated g/C Ratio	0.23			0.66	0.66	
v/c Ratio	0.39			0.32	0.18	
Control Delay	11.4			6.7	5.3	
Queue Delay	0.0			0.0	0.0	
Total Delay	11.4			6.7	5.3	
LOS	B			A	A	
Approach Delay	11.4			6.7	5.3	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 49.5

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 7.4

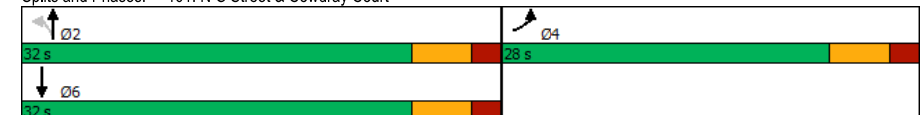
Intersection LOS: A

Intersection Capacity Utilization 53.6%

ICU Level of Service A













Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Court



Lanes, Volumes, Timings
102: Village Green Sq/N-S Street

<Option C1> SAT
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	2	23	304	168	9
Future Volume (vph)	29	2	23	304	168	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991			0.993		
Flt Protected	0.955			0.996		
Satd. Flow (prot)	1743	0	0	1835	1829	0
Flt Permitted	0.955			0.996		
Satd. Flow (perm)	1743	0	0	1835	1829	0
Link Speed (k/h)	48			40	40	
Link Distance (m)	43.2			18.8	206.8	
Travel Time (s)	3.2			1.7	18.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	2	23	304	168	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	327	177	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other













Control Type: Unsignalized

Intersection Capacity Utilization 40.0% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq/N-S Street

<Option C1> SAT
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	2	23	304	168	9
Future Volume (Veh/h)	29	2	23	304	168	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	29	2	23	304	168	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					207	
pX, platoon unblocked						
vC, conflicting volume	522	172	177			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	522	172	177			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	100	98			
cM capacity (veh/h)	506	871	1399			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	31	327	177			
Volume Left	29	23	0			
Volume Right	2	0	9			
cSH	520	1399	1700			
Volume to Capacity	0.06	0.02	0.10			
Queue Length 95th (m)	1.4	0.4	0.0			
Control Delay (s)	12.4	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.4	0.7	0.0			
Approach LOS	B					

Intersection Summary












Average Delay 1.1

Intersection Capacity Utilization 40.0% ICU Level of Service A

Analysis Period (min) 60





Lanes, Volumes, Timings
18: Village Green Sq

<Option C1> SAT
08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations					 	
Traffic Volume (vph)	337	356	315	3	74	146
Future Volume (vph)	337	356	315	3	74	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.910	
Flt Protected	0.950				0.983	
Satd. Flow (prot)	1750	1807	1841	0	1010	0
Flt Permitted	0.950				0.983	
Satd. Flow (perm)	1750	1807	1841	0	1010	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	32			32	2	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	2%	0%	0%	100%
Adj. Flow (vph)	337	356	315	3	74	146
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	356	318	0	220	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		9.5	9.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	59.0%			ICU Level of Service B		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option C1> SAT
08-19-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations						
Traffic Volume (veh/h)	337	356	315	3	74	146
Future Volume (Veh/h)	337	356	315	3	74	146
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	337	356	315	3	74	146
Pedestrians		6	2		32	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	0		3	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage (veh)		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	350				1380	354
vC1, stage 1 conf vol					348	
vC2, stage 2 conf vol					1032	
vCu, unblocked vol	350				1380	354
tC, single (s)	4.1				6.4	7.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	4.2
p0 queue free %	71				63	71
cM capacity (veh/h)	1175				202	498
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	337	356	318	220		
Volume Left	337	0	0	74		
Volume Right	0	0	3	146		
cSH	1175	1700	1700	333		
Volume to Capacity	0.29	0.21	0.19	0.66		
Queue Length 95th (m)	9.1	0.0	0.0	40.4		
Control Delay (s)	9.3	0.0	0.0	36.0		
Lane LOS	A			E		
Approach Delay (s)	4.5		0.0	36.0		
Approach LOS				E		
Intersection Summary						
Average Delay			9.0			
Intersection Capacity Utilization			59.0%		ICU Level of Service	B
Analysis Period (min)			60			

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	15095	15318	15235	15137	15324	15224
Vehs Exited	14425	14742	14492	14504	14719	14574
Starting Vehs	756	775	739	787	751	760
Ending Vehs	1426	1351	1482	1420	1356	1403
Travel Distance (km)	16975	17376	17154	17034	17298	17167
Travel Time (hr)	1336.7	1311.6	1461.1	1451.1	1231.2	1358.4
Total Delay (hr)	998.0	964.5	1118.4	1111.1	885.7	1015.5
Total Stops	37336	40079	40943	38053	39994	39279
Fuel Used (l)	2198.8	2200.3	2289.9	2294.6	2115.1	2219.7

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	15095	15318	15235	15137	15324	15224
Vehs Exited	14425	14742	14492	14504	14719	14574
Starting Vehs	756	775	739	787	751	760
Ending Vehs	1426	1351	1482	1420	1356	1403
Travel Distance (km)	16975	17376	17154	17034	17298	17167
Travel Time (hr)	1336.7	1311.6	1461.1	1451.1	1231.2	1358.4
Total Delay (hr)	998.0	964.5	1118.4	1111.1	885.7	1015.5
Total Stops	37336	40079	40943	38053	39994	39279
Fuel Used (l)	2198.8	2200.3	2289.9	2294.6	2115.1	2219.7

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.9	186.0	184.2	55.0	35.0	111.6	122.7	69.9	157.2	152.2	146.4	99.5
Average Queue (m)	18.0	144.4	174.8	54.4	34.9	107.3	109.2	58.8	100.9	89.5	76.4	32.4
95th Queue (m)	40.9	216.5	187.6	59.6	35.2	111.3	117.3	84.9	170.4	152.7	119.4	77.5
Link Distance (m)	172.2		172.2		103.9		103.9		172.3		172.3	
Upstream Blk Time (%)	6		38		22		11		2		0	
Queuing Penalty (veh)	33		200		174		85		11		0	
Storage Bay Dist (m)	30.0		35.0		20.0		50.0		60.0		60.0	
Storage Blk Time (%)	5		20		56		39		44		15	
Queuing Penalty (veh)	14		225		158		405		178		30	

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	283.6	284.9	284.4
Average Queue (m)	58.2	219.9	220.9	219.5
95th Queue (m)	90.2	336.3	335.6	333.7
Link Distance (m)	272.7		272.7	
Upstream Blk Time (%)	16		16	
Queuing Penalty (veh)	94		97	
Storage Bay Dist (m)	50.0		50.0	
Storage Blk Time (%)	14		68	
Queuing Penalty (veh)	70		107	

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	29.1	35.2	38.2	27.8	50.1	79.4	78.8	50.3	211.4	213.7	29.0	18.4
Average Queue (m)	14.7	24.5	25.6	6.6	10.6	67.2	65.9	31.0	138.9	139.2	10.6	7.1
95th Queue (m)	28.4	36.3	39.3	22.4	40.7	88.1	86.9	68.1	276.3	274.9	23.1	15.3
Link Distance (m)	26.7	26.7	26.7	26.7	50.4		50.4	204.7		204.7	66.8	66.8
Upstream Blk Time (%)	3	12	14	2	0	56	53	1	9	9		
Queuing Penalty (veh)	7	29	34	4	0	424	399	0	67	66		
Storage Bay Dist (m)					25.0		55.0					
Storage Blk Time (%)					0	60	53	1				
Queuing Penalty (veh)					0	12	63	6				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	18.4	26.1
Average Queue (m)	5.6	7.8
95th Queue (m)	14.3	18.9
Link Distance (m)	103.0	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Queuing and Blocking Report
Agincourt North-South GS EA

<Option C1> AM
08-08-2022

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	17.8	86.6	100.4	57.8	13.6	54.4	68.9	70.5	51.0	4.2	19.2	33.9
Average Queue (m)	3.4	55.9	65.9	23.9	2.9	40.5	51.5	60.4	40.8	0.1	1.5	13.7
95th Queue (m)	12.3	80.4	90.7	44.2	10.2	59.0	67.5	78.3	63.6	3.0	9.9	35.9
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)						1	4	11	1		0	5
Queuing Penalty (veh)						6	34	83	0		1	34
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)		0	0			17		25	4			
Queuing Penalty (veh)		0	0			1		112	24			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	114.9	142.1	142.5	138.1	120.0	229.6	238.0	230.4
Average Queue (m)	58.8	127.0	129.1	128.9	102.6	148.9	158.7	159.1
95th Queue (m)	144.4	152.9	150.8	147.8	161.5	296.5	305.1	303.7
Link Distance (m)		115.1	115.1	115.1	115.1	240.5	240.5	240.5
Upstream Blk Time (%)	0	59	72	76	7	1	4	6
Queuing Penalty (veh)	0	374	457	484	45	12	36	53
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)		64						
Queuing Penalty (veh)		57						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	106.0	106.1	103.9	86.1	104.0	127.3	10.5	22.6	54.8	51.2	43.1	42.6
Average Queue (m)	73.0	76.6	62.8	54.2	62.0	76.0	0.3	1.1	4.7	2.6	37.2	37.2
95th Queue (m)	97.6	100.6	90.6	77.0	91.1	109.1	7.4	14.0	31.8	22.8	39.8	40.8
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)							0	0	0	0	42	45
Queuing Penalty (veh)							0	0	2	1	430	470
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		0	0									
Queuing Penalty (veh)		1	0									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44	B44
Directions Served	T	T	T	T	
Maximum Queue (m)	48.0	83.0	78.5	78.2	13.8
Average Queue (m)	37.3	72.1	71.4	71.4	0.5
95th Queue (m)	41.7	78.6	76.5	76.6	8.1
Link Distance (m)	21.4	51.0	51.0	51.0	51.0
Upstream Blk Time (%)	47	28	31	32	0
Queuing Penalty (veh)	482	218	237	245	1
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
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Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	139.7	146.4	119.5	102.3	114.0	98.6	88.0	79.9	66.1	64.3	42.0	3.2
Average Queue (m)	95.2	99.4	78.2	57.0	60.2	80.8	66.3	47.5	4.7	15.0	2.7	0.1
95th Queue (m)	135.1	136.0	115.1	89.0	96.6	99.8	87.1	72.9	30.4	47.9	19.0	2.3
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)						13	4	1	0	0	0	
Queuing Penalty (veh)						0	0	0	0	0	0	
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	69.4	72.0	69.4	19.9	37.7	23.0
Average Queue (m)	54.6	62.2	54.8	1.5	7.1	2.3
95th Queue (m)	72.0	77.6	73.4	10.1	23.7	12.2
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	6	12	7			
Queuing Penalty (veh)	47	90	51			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Gordon Ave & Sheppard Ave E

Movement	EB	EB	WB	WB	WB	B27	B27	NB	NB
Directions Served	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	74.6	100.0	59.9	83.0	83.3	42.2	41.9	47.7	43.7
Average Queue (m)	20.1	57.3	43.8	81.9	82.2	38.4	37.5	22.6	17.2
95th Queue (m)	53.2	92.4	80.9	91.4	90.6	54.0	54.3	39.3	34.6
Link Distance (m)	103.9	103.9		67.6	67.6	26.0	26.0	174.4	
Upstream Blk Time (%)	0	0		65	62	43	35		
Queuing Penalty (veh)	0	1		529	505	346	285		
Storage Bay Dist (m)			30.0				30.0		
Storage Blk Time (%)			3	74			4	1	
Queuing Penalty (veh)			19	74			5	1	

Intersection: 48: Bend

Movement	SB
Directions Served	T
Maximum Queue (m)	3.1
Average Queue (m)	0.1
95th Queue (m)	2.2
Link Distance (m)	71.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 9128

Summary of All Intervals

Run Number	1	2	4	7	9	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	15350	14923	15245	15537	15446	15296
Vehs Exited	14900	14691	14949	15260	15190	15002
Starting Vehs	710	793	759	724	808	749
Ending Vehs	1160	1025	1055	1001	1064	1055
Travel Distance (km)	17515	17300	17516	17671	17676	17536
Travel Time (hr)	1371.2	1480.9	1420.9	1204.5	1268.4	1349.2
Total Delay (hr)	1021.0	1134.8	1070.0	850.5	914.6	998.2
Total Stops	34417	33824	34524	33263	33024	33818
Fuel Used (l)	2285.2	2370.7	2333.0	2172.7	2215.3	2275.4

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00					
End Time	1:00					
Total Time (min)	60					
Volumes adjusted by Growth Factors.						
Run Number	1	2	4	7	9	Avg
Vehs Entered	15350	14923	15245	15537	15446	15296
Vehs Exited	14900	14691	14949	15260	15190	15002
Starting Vehs	710	793	759	724	808	749
Ending Vehs	1160	1025	1055	1001	1064	1055
Travel Distance (km)	17515	17300	17516	17671	17676	17536
Travel Time (hr)	1371.2	1480.9	1420.9	1204.5	1268.4	1349.2
Total Delay (hr)	1021.0	1134.8	1070.0	850.5	914.6	998.2
Total Stops	34417	33824	34524	33263	33024	33818
Fuel Used (l)	2285.2	2370.7	2333.0	2172.7	2215.3	2275.4

Queuing and Blocking Report
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Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.7	188.7	184.5	55.0	35.0	115.3	117.0	69.9	180.2	178.4	163.3	100.0
Average Queue (m)	17.2	167.2	176.3	53.9	34.4	99.9	96.8	67.7	152.8	122.8	101.3	55.5
95th Queue (m)	39.2	210.3	180.8	62.3	37.1	133.5	136.1	81.5	209.8	187.6	155.8	108.1
Link Distance (m)	172.2	172.2			103.9	103.9		172.3	172.3	172.3		
Upstream Blk Time (%)		14	46			27	11		31	1	0	
Queuing Penalty (veh)		96	325			154	65		187	5	1	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	1	17	62	27	77	35		86	13		29	5
Queuing Penalty (veh)	3	18	307	107	269	98		383	26		74	20

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	261.4	259.2	257.1
Average Queue (m)	64.6	187.8	185.8	180.8
95th Queue (m)	86.0	294.7	291.5	288.4
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		5	4	4
Queuing Penalty (veh)		26	22	22
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	48	50		
Queuing Penalty (veh)	220	90		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	11.1	40.2	42.2	30.2	42.9	66.7	73.3	49.9	39.5	37.8	42.5	23.2
Average Queue (m)	2.7	26.2	27.7	11.8	6.7	37.8	38.9	6.3	5.0	5.6	21.0	10.9
95th Queue (m)	9.4	39.6	43.2	28.2	23.4	75.0	77.3	29.1	23.3	25.1	38.0	19.3
Link Distance (m)	26.7	26.7	26.7	26.7		50.4	50.4		204.7	204.7	66.8	66.8
Upstream Blk Time (%)		17	19	3	0	7	7	0				
Queuing Penalty (veh)		58	63	10	0	38	41	0				
Storage Bay Dist (m)					25.0			55.0				
Storage Blk Time (%)						15	7	0				
Queuing Penalty (veh)						3	2	0				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	23.8	14.8
Average Queue (m)	9.3	3.8
95th Queue (m)	20.4	11.3
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
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Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	13.2	78.4	90.1	43.6	12.2	58.2	67.9	70.7	51.0	6.3	32.2	35.6
Average Queue (m)	2.9	48.2	59.8	20.8	1.1	39.1	49.8	58.7	45.4	0.3	4.6	15.6
95th Queue (m)	10.2	71.3	83.1	36.3	6.6	61.3	72.6	80.4	59.5	3.4	21.0	39.6
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)						2	5	10	3		1	7
Queuing Penalty (veh)						14	48	91	0		12	58
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)			0		0	14		23	17			
Queuing Penalty (veh)			0		0	0		149	118			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	67.6	109.3	117.6	119.0	61.8	9.2	10.5	9.5
Average Queue (m)	22.3	69.2	79.0	82.2	6.8	0.5	0.7	0.7
95th Queue (m)	47.7	106.9	115.2	118.1	46.8	6.3	8.2	7.0
Link Distance (m)		115.1	115.1	115.1	115.1	240.5	240.5	240.5
Upstream Blk Time (%)		1	1	1	0			
Queuing Penalty (veh)		4	7	7	0			
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)	0	4						
Queuing Penalty (veh)	3	5						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	161.1	167.9	130.5	88.8	112.5	141.2	10.9	38.0	71.3	42.5	39.1	40.0
Average Queue (m)	92.6	105.4	89.2	64.0	74.9	99.7	0.4	1.8	8.5	4.2	36.7	36.6
95th Queue (m)	172.2	195.3	140.3	85.2	101.5	129.9	7.7	15.8	41.7	29.4	39.6	39.8
Link Distance (m)	516.4	516.4		298.4	298.4	298.4		54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)								0	0	1	0	29
Queuing Penalty (veh)								0	0	5	2	274
Storage Bay Dist (m)			100.0									296
Storage Blk Time (%)			14	11								
Queuing Penalty (veh)			57	84								

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44
Directions Served	T	T	T	T
Maximum Queue (m)	43.0	77.7	79.7	74.9
Average Queue (m)	36.5	61.6	65.8	67.2
95th Queue (m)	41.3	89.0	90.9	89.9
Link Distance (m)	21.4	51.0	51.0	51.0
Upstream Blk Time (%)	31	13	18	20
Queuing Penalty (veh)	297	96	129	146
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	112.8	113.2	102.4	81.8	214.7	97.3	96.6	93.4	71.9	73.6	74.8	78.3
Average Queue (m)	75.1	81.2	64.0	45.1	106.0	87.7	87.1	86.6	49.7	67.9	67.4	67.5
95th Queue (m)	103.9	107.0	92.5	71.3	185.3	92.4	91.0	89.5	99.3	70.9	73.2	77.5
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	62.7	62.7	62.7	62.7
Upstream Blk Time (%)					0	60	61	62	1	51	55	64
Queuing Penalty (veh)					0	0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	69.7	74.9	70.3	27.2	41.3	29.6
Average Queue (m)	56.4	62.4	51.5	2.7	8.5	2.1
95th Queue (m)	75.1	79.4	71.6	13.6	27.8	13.4
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	9	14	7			
Queuing Penalty (veh)	72	114	56			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Gordon Ave & Sheppard Ave E

Movement	EB	EB	WB	WB	WB	B27	B27	NB	NB
Directions Served	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	76.1	106.2	59.9	82.9	83.2	36.5	36.7	53.0	75.0
Average Queue (m)	14.2	63.3	30.1	60.4	56.2	9.3	8.4	26.2	18.4
95th Queue (m)	43.5	103.0	65.1	97.6	98.3	33.5	32.0	47.5	48.3
Link Distance (m)	103.9	103.9		67.6	67.6	26.0	26.0		174.4
Upstream Blk Time (%)	0	4		14	11	5	3		
Queuing Penalty (veh)	0	25		79	64	29	20		
Storage Bay Dist (m)			30.0					30.0	
Storage Blk Time (%)			5	41				15	1
Queuing Penalty (veh)			26	34				18	1

Queuing and Blocking Report
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Intersection: 48: Bend

Movement	SB
Directions Served	T
Maximum Queue (m)	2.9
Average Queue (m)	0.1
95th Queue (m)	2.0
Link Distance (m)	71.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 5174

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	14911	14811	14629	14431	14601	14679
Vehs Exited	14290	14164	13981	13753	14002	14037
Starting Vehs	684	820	716	795	753	755
Ending Vehs	1305	1467	1364	1473	1352	1387
Travel Distance (km)	16967	16852	16610	16371	16625	16685
Travel Time (hr)	1173.1	1364.7	1483.7	1557.9	1346.7	1385.2
Total Delay (hr)	833.5	1028.6	1151.8	1230.8	1013.9	1051.7
Total Stops	34334	38247	37098	36615	36885	36631
Fuel Used (l)	2059.6	2224.7	2295.1	2340.7	2189.7	2222.0

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	14911	14811	14629	14431	14601	14679
Vehs Exited	14290	14164	13981	13753	14002	14037
Starting Vehs	684	820	716	795	753	755
Ending Vehs	1305	1467	1364	1473	1352	1387
Travel Distance (km)	16967	16852	16610	16371	16625	16685
Travel Time (hr)	1173.1	1364.7	1483.7	1557.9	1346.7	1385.2
Total Delay (hr)	833.5	1028.6	1151.8	1230.8	1013.9	1051.7
Total Stops	34334	38247	37098	36615	36885	36631
Fuel Used (l)	2059.6	2224.7	2295.1	2340.7	2189.7	2222.0

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	48.7	187.4	183.8	55.0	35.0	112.8	120.3	69.9	166.8	179.3	177.4	100.0
Average Queue (m)	19.6	155.0	176.0	52.1	34.9	107.8	94.5	56.0	88.8	108.8	163.8	98.1
95th Queue (m)	41.1	223.2	180.8	68.3	35.0	110.9	136.6	80.9	143.2	182.5	207.8	112.0
Link Distance (m)	172.2		172.2		103.9		103.9		172.3		172.3	
Upstream Blk Time (%)	15		46		38		6		0		1	
Queuing Penalty (veh)	98		304		284		45		1		7	
Storage Bay Dist (m)	30.0		35.0		20.0		50.0				60.0	
Storage Blk Time (%)	3		8		71		21		87		31	
Queuing Penalty (veh)	8		8		290		57		296		116	

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	279.9	284.2	276.9
Average Queue (m)	69.7	250.7	194.0	159.2
95th Queue (m)	70.6	335.5	326.0	278.9
Link Distance (m)	272.7		272.7	
Upstream Blk Time (%)	49		4	
Queuing Penalty (veh)	256		19	
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	98		16	
Queuing Penalty (veh)	359		28	

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	WB	WB	WB	B53	B53	NB	NB
Directions Served	T	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	35.8	36.5	20.1	50.2	76.6	77.1	214.2	218.0	23.0	11.7
Average Queue (m)	19.6	20.8	3.8	10.1	66.9	65.1	184.5	180.8	10.0	4.0
95th Queue (m)	39.5	41.3	14.8	41.3	73.2	89.4	276.6	282.5	21.1	11.4
Link Distance (m)	26.7	26.7	26.7		50.4	50.4	204.7	204.7	66.8	66.8
Upstream Blk Time (%)	10	10	0	0	82	60	34	24		
Queuing Penalty (veh)	33	36	0	0	570	417	236	169		
Storage Bay Dist (m)				25.0						
Storage Blk Time (%)					82	60				
Queuing Penalty (veh)					12	0				

Queuing and Blocking Report
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Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	23.4	128.9	161.5	168.2	32.5	75.3	75.3	76.3	51.0	50.0	47.5	49.5
Average Queue (m)	5.7	88.7	105.9	87.2	4.8	58.3	61.8	62.7	44.1	25.1	27.1	25.3
95th Queue (m)	18.4	152.1	176.9	221.9	18.1	84.5	81.9	81.3	65.4	56.9	57.2	53.8
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)				5	0	11	16	18	2	10	13	15
Queuing Penalty (veh)				24	0	96	134	150	0	81	105	123
Storage Bay Dist (m)		100.0	100.0		25.0					30.0		
Storage Blk Time (%)		23	36	3	0	24		34	6			
Queuing Penalty (veh)		37	58	17	1	2		227	35			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	TR
Maximum Queue (m)	27.7	104.8	114.3	118.2	108.2
Average Queue (m)	12.8	66.3	73.2	76.4	8.7
95th Queue (m)	23.8	99.9	107.3	110.6	52.6
Link Distance (m)		115.1	115.1	115.1	115.1
Upstream Blk Time (%)		0	0	1	0
Queuing Penalty (veh)		0	1	3	0
Storage Bay Dist (m)	80.0				
Storage Blk Time (%)		3			
Queuing Penalty (veh)		2			

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	159.8	204.8	127.0	298.2	317.0	321.0	65.4	77.2	80.4	56.8	46.9	43.9
Average Queue (m)	77.6	88.6	74.1	167.2	214.5	248.0	17.5	27.9	30.1	16.3	37.7	37.6
95th Queue (m)	128.0	166.3	111.1	319.2	375.9	387.1	64.6	81.1	84.0	63.0	42.0	41.7
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)		0		2	9	27	1	4	9	3	45	48
Queuing Penalty (veh)		0		27	99	297	12	32	77	24	394	421
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		3	2									
Queuing Penalty (veh)		14	15									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44	B44
Directions Served	T	T	T	T	
Maximum Queue (m)	48.3	83.4	83.2	82.1	12.4
Average Queue (m)	37.0	68.5	65.6	62.3	0.4
95th Queue (m)	41.2	93.3	86.9	85.2	8.8
Link Distance (m)	21.4	51.0	51.0	51.0	51.0
Upstream Blk Time (%)	49	27	26	25	0
Queuing Penalty (veh)	427	179	173	165	1
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
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Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	107.9	113.4	103.0	87.4	223.9	98.6	96.7	97.9	71.3	77.0	76.9	76.9
Average Queue (m)	66.7	73.8	64.0	48.8	102.2	88.7	86.4	82.4	37.3	65.3	54.6	45.9
95th Queue (m)	95.7	101.0	92.1	77.5	177.8	95.3	96.3	102.5	89.8	85.8	94.4	95.5
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)					0	53	49	46	1	33	30	35
Queuing Penalty (veh)					0	0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	73.1	77.5	73.1	46.1	51.9	36.8
Average Queue (m)	58.3	63.2	55.4	5.1	9.2	4.4
95th Queue (m)	77.4	79.6	75.9	23.3	32.2	20.0
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	11	17	10			
Queuing Penalty (veh)	81	128	71			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Gordon Ave & Sheppard Ave E

Movement	EB	EB	WB	WB	WB	B27	B27	NB	NB
Directions Served	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	104.3	116.3	59.9	95.4	97.8	53.3	51.8	59.8	103.1
Average Queue (m)	9.5	107.0	56.3	85.9	84.6	42.4	38.1	30.9	52.3
95th Queue (m)	51.9	111.5	73.2	92.8	100.9	49.6	54.4	56.5	88.2
Link Distance (m)	103.9	103.9		67.6	67.6	26.0	26.0	174.4	
Upstream Blk Time (%)	0	31		83	58	70	38		
Queuing Penalty (veh)	0	155		622	436	524	288		
Storage Bay Dist (m)			30.0				30.0		
Storage Blk Time (%)			13	90			10	23	
Queuing Penalty (veh)			86	139			31	33	

Intersection: 48: Bend

Movement	SB
Directions Served	T
Maximum Queue (m)	2.8
Average Queue (m)	0.1
95th Queue (m)	2.0
Link Distance (m)	71.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 10564

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	16.9	30.8	0.16	18.6	E
Hwy 401 WB Off-ramp	III	50	29.8	15.8	45.6	0.38	29.9	C
Village Green Sq	III	50	9.9	17.6	27.5	0.10	13.4	F
Cowdray Crt	III	50	30.1	15.9	46.0	0.38	29.8	C
Sheppard Ave E	III	50	25.6	39.6	65.2	0.32	17.9	E
Cardwell Avenue	III	50	22.9	6.3	29.2	0.29	35.7	C
Total	III		132.2	112.1	244.3	1.63	24.1	D

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.1	55.0	0.52	33.9	C
Sheppard Ave E	III	50	22.9	75.8	98.7	0.29	10.6	F
Cowdray Crt	III	50	25.6	16.1	41.7	0.32	28.0	D
Private Driveway	III	50	30.1	14.3	44.4	0.38	30.9	C
Hwy 401 WB Off-ramp	III	50	9.9	17.3	27.2	0.10	13.5	F
Hwy 401 EB Off-ramp	III	50	29.8	14.7	44.5	0.38	30.6	C
Total	III		159.2	152.3	311.5	1.99	23.0	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	4.4	31.2	0.39	45.2	B
Private Driveway	II	60	17.6	8.5	26.1	0.25	33.9	D
Kennedy Road	II	60	13.7	36.2	49.9	0.19	13.8	F
Gordon Ave	II	60	9.2	11.1	20.3	0.13	22.8	E
4091 Sheppard Ave E	II	60	11.1	1.6	12.7	0.16	44.2	C
Lamont Ave	II	60	19.9	0.9	20.8	0.28	48.2	B
Midland Ave	II	60	17.6	27.2	44.8	0.25	19.8	F
Total	II		115.9	89.9	205.8	1.64	28.6	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	81.9	96.7	0.21	7.7	F
Private Driveway	II	60	17.6	0.5	18.1	0.25	48.9	B
GO Station Access	II	60	19.9	7.5	27.4	0.28	36.6	C
Gordon Ave	II	60	11.1	17.4	28.5	0.16	19.7	F
Kennedy Road	II	60	9.2	16.1	25.3	0.13	18.3	F
Agincourt Mall Acces	II	60	13.7	20.1	33.8	0.19	20.4	F
Allanford Rd Extensi	II	60	17.6	0.6	18.2	0.25	48.7	B
Total	II		103.9	144.1	248.0	1.45	21.1	E

Arterial Level of Service

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Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	27.9	41.8	0.16	13.7	F
Hwy 401 WB Off-ramp	III	50	29.8	21.4	51.2	0.38	26.6	D
Village Green Sq	III	50	9.9	16.8	26.7	0.10	13.8	F
Cowdray Crt	III	50	30.1	12.9	43.0	0.38	31.9	C
Sheppard Ave E	III	50	25.6	49.3	74.9	0.32	15.6	F
Cardwell Avenue	III	50	22.9	7.6	30.5	0.29	34.2	C
Total	III		132.2	135.9	268.1	1.63	21.9	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	17.7	58.6	0.52	31.8	C
Sheppard Ave E	III	50	22.9	74.9	97.8	0.29	10.7	F
Cowdray Crt	III	50	25.6	14.7	40.3	0.32	28.9	C
Private Driveway	III	50	30.1	14.3	44.4	0.38	30.9	C
Hwy 401 WB Off-ramp	III	50	9.9	19.2	29.1	0.10	12.7	F
Hwy 401 EB Off-ramp	III	50	29.8	19.2	49.0	0.38	27.8	D
Total	III		159.2	160.0	319.2	1.99	22.5	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.2	32.0	0.39	44.0	C
Private Driveway	II	60	17.6	6.2	23.8	0.25	37.2	C
Kennedy Road	II	60	13.7	43.4	57.1	0.19	12.1	F
Gordon Ave	II	60	9.2	15.7	24.9	0.13	18.5	F
4091 Sheppard Ave E	II	60	11.1	8.2	19.3	0.16	29.1	D
Lamont Ave	II	60	19.9	2.6	22.5	0.28	44.6	C
Midland Ave	II	60	17.6	30.7	48.3	0.25	18.3	F
Total	II		115.9	112.0	227.9	1.64	25.9	E

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	33.3	48.1	0.21	15.5	F
Private Driveway	II	60	17.6	0.9	18.5	0.25	47.9	B
GO Station Access	II	60	19.9	7.1	27.0	0.28	37.1	C
Gordon Ave	II	60	11.1	15.6	26.7	0.16	21.0	E
Kennedy Road	II	60	9.2	23.8	33.0	0.13	14.0	F
Agincourt Mall Acces	II	60	13.7	13.2	26.9	0.19	25.6	E
Allanford Rd Extensi	II	60	17.6	1.8	19.4	0.25	45.6	B
Total	II		103.9	95.7	199.6	1.45	26.2	E

Arterial Level of Service

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Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	25.6	39.5	0.16	14.5	F
Hwy 401 WB Off-ramp	III	50	29.8	34.1	63.9	0.38	21.3	E
Village Green Sq	III	50	9.9	20.5	30.4	0.10	12.1	F
Cowdray Crt	III	50	30.1	6.6	36.7	0.38	37.4	C
Sheppard Ave E	III	50	25.6	39.3	64.9	0.32	18.0	E
Cardwell Avenue	III	50	22.9	6.1	29.0	0.29	36.0	C
Total	III		132.2	132.2	264.4	1.63	22.2	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.5	55.4	0.52	33.6	C
Sheppard Ave E	III	50	22.9	48.0	70.9	0.29	14.7	F
Cowdray Crt	III	50	25.6	6.8	32.4	0.32	36.0	C
Private Driveway	III	50	30.1	11.4	41.5	0.38	33.1	C
Hwy 401 WB Off-ramp	III	50	9.9	26.5	36.4	0.10	10.1	F
Hwy 401 EB Off-ramp	III	50	29.8	16.2	46.0	0.38	29.6	C
Total	III		159.2	123.4	282.6	1.99	25.4	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.4	32.2	0.39	43.8	C
Private Driveway	II	60	17.6	6.7	24.3	0.25	36.4	C
Kennedy Road	II	60	13.7	34.6	48.3	0.19	14.3	F
Gordon Ave	II	60	9.2	26.5	35.7	0.13	12.9	F
4091 Sheppard Ave E	II	60	11.1	3.1	14.2	0.16	39.5	C
Lamont Ave	II	60	19.9	1.1	21.0	0.28	47.7	B
Midland Ave	II	60	17.6	37.2	54.8	0.25	16.2	F
Total	II		115.9	114.6	230.5	1.64	25.6	E

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	47.9	62.7	0.21	11.9	F
Private Driveway	II	60	17.6	0.5	18.1	0.25	48.9	B
GO Station Access	II	60	19.9	3.2	23.1	0.28	43.4	C
Gordon Ave	II	60	11.1	21.7	32.8	0.16	17.1	F
Kennedy Road	II	60	9.2	20.6	29.8	0.13	15.5	F
Agincourt Mall Acces	II	60	13.7	17.0	30.7	0.19	22.5	E
Allanford Rd Extensi	II	60	17.6	3.5	21.1	0.25	42.0	C
Total	II		103.9	114.4	218.3	1.45	24.0	E

APPENDIX H

Option C2 Traffic Conditions

Lanes, Volumes, Timings

<Option C2> AM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↔↔			↔			↔	
Traffic Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Future Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1		0	0		0	0		0	
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.97				0.94				
Frt		0.997						0.920			0.912	
Flt Protected		0.995		0.950				0.984			0.988	
Satd. Flow (prot)	0	3316	0	1574	3368	0	0	1552	0	0	1660	0
Flt Permitted		0.664		0.315				0.768			0.828	
Satd. Flow (perm)	0	2213	0	504	3368	0	0	1201	0	0	1391	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						65			65	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			49	49			27		59			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	7%	7%	7%	6%	2%	9%	2%	2%	2%	2%	2%
Adj. Flow (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	881	0	40	1247	0	0	110	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4		8			
Detector Phase		2	2	6	6		4	4	8	8		
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

<Option C2> AM

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	73.0	73.0		73.0	73.0		37.0	37.0		37.0	37.0	
Total Split (%)	66.4%	66.4%		66.4%	66.4%		33.6%	33.6%		33.6%	33.6%	
Maximum Green (s)	67.0	67.0		67.0	67.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		89.9		89.9	89.9			11.1			11.1	
Actuated g/C Ratio		0.82		0.82	0.82			0.10			0.10	
v/c Ratio		0.49		0.10	0.45			0.61			0.51	
Control Delay		4.4		0.6	0.6			37.0			28.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		4.4		0.6	0.6			37.0			28.1	
LOS		A		A	A			D			C	
Approach Delay		4.4		0.6				37.0			28.1	
Approach LOS		A		A				D			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 101 (92%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 4.9

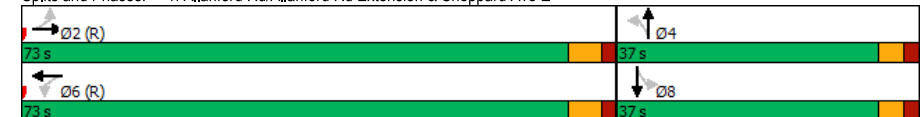
Intersection LOS: A

Intersection Capacity Utilization 91.8%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Future Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.95	1.00			0.98			1.00	0.95
Frt		0.999			0.995			0.955				0.850
Flt Protected	0.950			0.950				0.968			0.954	
Satd. Flow (prot)	1636	3362	0	1685	3344	0	0	1728	0	0	1757	1478
Flt Permitted	0.136			0.358				0.808			0.723	
Satd. Flow (perm)	234	3362	0	602	3344	0	0	1424	0	0	1326	1410
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			5			69				69
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	26		53	53		26	24		3	3		24
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	6%	0%	0%	6%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	776	0	5	1247	0	0	15	0	0	285	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	10.0	69.0		59.0	59.0		41.0	41.0		41.0	41.0	41.0

Lanes, Volumes, Timings

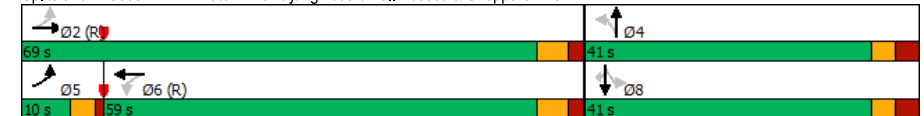
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	9.1%	62.7%		53.6%	53.6%		37.3%	37.3%		37.3%	37.3%	37.3%
Maximum Green (s)	6.0	63.0		53.0	53.0		35.0	35.0		35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	72.9	70.9		62.7	62.7		29.1			29.1	29.1	29.1
Actuated g/C Ratio	0.66	0.64		0.57	0.57		0.26			0.26	0.26	0.26
v/c Ratio	0.35	0.36		0.01	0.65		0.04			0.81	0.11	0.11
Control Delay	10.9	8.5		14.2	20.1		0.1			58.3	3.3	3.3
Queue Delay	0.0	0.0		0.0	0.3		0.0			0.0	0.0	0.0
Total Delay	10.9	8.5		14.2	20.4		0.1			58.3	3.3	3.3
LOS	B	A		B	C		A			E	A	A
Approach Delay		8.7			20.4		0.1			50.8		
Approach LOS		A			C		A			D		
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 100 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 20.2	Intersection LOS: C											
Intersection Capacity Utilization 72.6%	ICU Level of Service C											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option C2> AM
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↲	↰	↱	↲	↰	↱	↲	↰	↱	↲
Traffic Volume (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Future Volume (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.98		0.91	0.97	0.98		0.99		0.88	0.99	1.00	
Frt			0.850		0.974				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3275	1345	1560	3140	0	*1622	4794	1281	1604	4713	0
Flt Permitted	0.172			0.299			0.099			0.109		
Satd. Flow (perm)	294	3275	1226	477	3140	0	160	4794	1126	181	4713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			200		28				160		4	
Link Speed (k/h)	60			60			50			50		
Link Distance (m)	191.5			128.3			189.5			289.7		
Travel Time (s)	11.5			7.7			13.6			20.9		
Conf. Peds. (#/hr)	97		80	80		97	93		102	102		93
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	9%	4%	8%	8%	12%	9%	7%	12%	5%	6%	11%
Bus Blockages (#/hr)	0	0	18	0	0	18	0	0	12	0	12	0
Adj. Flow (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	563	447	330	1172	0	205	1226	179	159	1514	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.20	1.09	1.01	1.01	1.09	1.01	1.16	1.09	1.04	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	2			1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	2	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	37.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	44.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option C2> AM
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	44.0	44.0	44.0	17.0	61.0		14.0	46.0	46.0	13.0	45.0	
Total Split (%)	36.7%	36.7%	36.7%	14.2%	50.8%		11.7%	38.3%	38.3%	10.8%	37.5%	
Maximum Green (s)	37.0	37.0	37.0	13.0	54.0		10.0	39.0	39.0	9.0	38.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.5	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0		2.5	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	Max	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	30.0	30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0	0		0			0	0		0	
Act Effct Green (s)	38.0	38.0	38.0	58.0	55.0		55.1	40.1	40.1	51.9	39.0	
Actuated g/C Ratio	0.32	0.32	0.32	0.48	0.46		0.46	0.33	0.33	0.43	0.32	
v/c Ratio	0.56	0.54	0.85	0.93	0.81		0.96	0.76	0.37	0.82	0.99	
Control Delay	61.9	36.2	40.3	51.0	16.1		121.6	39.6	8.4	61.7	75.8	
Queue Delay	0.0	0.0	0.0	0.0	2.1		0.0	0.0	0.0	0.0	0.0	
Total Delay	61.9	36.2	40.3	51.0	18.2		121.6	39.6	8.4	61.7	75.8	
LOS	E	D	D	D	B		F	D	A	E	E	
Approach Delay		39.2			25.4			46.6			74.4	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 36 (30%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 47.8

Intersection LOS: D

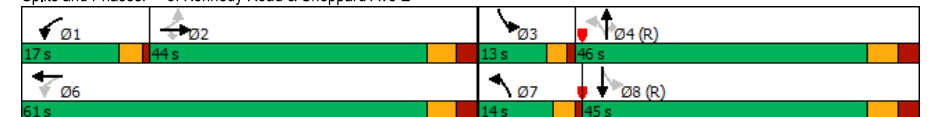
Intersection Capacity Utilization 124.4%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Future Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1			1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.96		1.00		0.99	1.00	
Frt			0.850			0.850		0.996			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	0	1478	1620	0	1478	1589	4782	0	1685	4876	0
Flt Permitted	0.950			0.950			0.097			0.222		
Satd. Flow (perm)	1559	0	1349	1495	0	1419	162	4782	0	391	4876	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			182			69		6			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	26		70	70		26	31		17	17		31
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	2%	2%	4%	2%	2%	6%	5%	4%	0%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	0	0
Adj. Flow (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	190	45	0	65	120	1201	0	5	1673	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.04	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

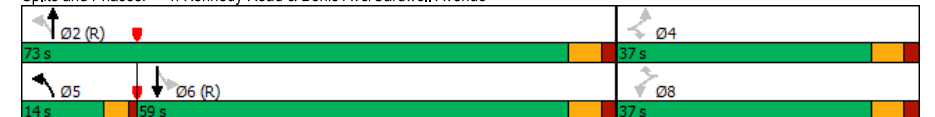
4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	20.2		20.2	20.2		20.2	81.8	79.8		68.0	68.0	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.74	0.73		0.62	0.62	
v/c Ratio	0.68		0.48	0.16		0.21	0.51	0.35		0.02	0.55	
Control Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
LOS	D		B	D		A	B	A		B	B	
Approach Delay		32.5			20.4			7.1			14.1	
Approach LOS		C			C			A			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 55												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.68												
Intersection Signal Delay: 13.7	Intersection LOS: B											
Intersection Capacity Utilization 75.3%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Future Volume (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.91	0.99		0.97	0.98		0.97
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4707	0	1532	3433	1385	1546	0	1449	1685	0	1507
Flt Permitted	0.136			0.297			0.950			0.950		
Satd. Flow (perm)	241	4707	0	471	3433	1255	1523	0	1409	1658	0	1467
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				80			73			73
Link Speed (k/h)		60				60			40			40
Link Distance (m)		40.6				63.5			81.9			115.9
Travel Time (s)		2.4				3.8			7.4			10.4
Confl. Peds. (#/hr)	30		25	25		30	14		15	15		14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	7%	10%	4%	1%	9%	2%	4%	0%	2%	0%
Bus Blockages (#/hr)	0	18	0	0	0	18	0	0	0	0	0	0
Adj. Flow (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	925	0	20	1509	120	35	0	55	20	0	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0				3.0			3.0			3.0
Link Offset(m)		0.0				0.0			0.0			0.0
Crosswalk Width(m)		1.6				1.6			1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.20	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm		Perm	Perm		Perm
Protected Phases	5	2			6							
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	5	2		6	6	6	4		4	8		8
Switch Phase												
Minimum Initial (s)	6.0	24.0		24.0	24.0	24.0	7.0		7.0	7.0		7.0
Minimum Split (s)	10.0	31.0		31.0	31.0	31.0	40.0		40.0	40.0		40.0

Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	80.0		70.0	70.0	70.0	40.0		40.0	40.0		40.0
Total Split (%)	8.3%	66.7%		58.3%	58.3%	58.3%	33.3%		33.3%	33.3%		33.3%
Maximum Green (s)	6.0	73.0		63.0	63.0	63.0	34.0		34.0	34.0		34.0
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	3.0	6.0		6.0	6.0	6.0	5.0		5.0	5.0		5.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	2.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	None		None	None		None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)		17.0		17.0	17.0	17.0	27.0		27.0	27.0		27.0
Pedestrian Calls (#/hr)		0		0	0	0	0		0	0		0
Act Effct Green (s)	104.9	103.1		94.8	94.8	94.8	9.7		9.7	9.7		9.7
Actuated g/C Ratio	0.87	0.86		0.79	0.79	0.79	0.08		0.08	0.08		0.08
v/c Ratio	0.28	0.23		0.05	0.56	0.12	0.29		0.30	0.15		0.16
Control Delay	6.8	1.6		5.2	7.5	2.2	57.3		11.0	53.0		1.9
Queue Delay	0.0	0.0		0.0	0.1	0.0	0.0		0.0	0.0		0.0
Total Delay	6.8	1.6		5.2	7.6	2.2	57.3		11.0	53.0		1.9
LOS	A	A		A	A	A	E		B	D		A
Approach Delay		2.1			7.2				29.0			22.3
Approach LOS		A			A				C			C
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 72 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 95												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.56												
Intersection Signal Delay: 6.3												
Intersection Capacity Utilization 75.1%												
Analysis Period (min) 60												

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Future Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.96		0.97				
Frt		0.997				0.850		0.966				
Flt Protected				0.950				0.964				
Satd. Flow (prot)	1612	3224	0	1327	3275	1597	0	1381	0	0	1842	0
Flt Permitted				0.288								
Satd. Flow (perm)	1612	3224	0	393	3275	1535	0	1401	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				40		30				
Link Speed (k/h)		60			60			40				48
Link Distance (m)		215.0			246.0			211.6				41.8
Travel Time (s)		12.9			14.8			19.0				3.1
Confl. Peds. (#/hr)	7		45	45		7	25		28	28		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	17%	27%	9%	0%	17%	0%	50%	0%	2%	9%
Adj. Flow (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	991	0	15	1511	1	0	8	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0						0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Lanes, Volumes, Timings

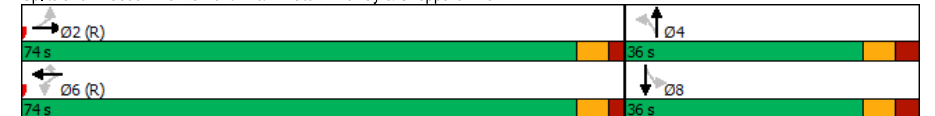
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		106.2		106.2	106.2	106.2		8.0				
Actuated g/C Ratio		0.97		0.97	0.97	0.97		0.07				
v/c Ratio		0.32		0.04	0.48	0.00		0.06				
Control Delay		0.9		0.3	0.5	0.0		0.9				
Queue Delay		0.0		0.0	0.0	0.0		0.0				
Total Delay		0.9		0.3	0.5	0.0		0.9				
LOS		A		A	A	A		A				
Approach Delay		0.9			0.5			0.9				
Approach LOS		A			A			A				
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 39 (35%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 45												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 0.7												
Intersection LOS: A												
Intersection Capacity Utilization 67.4%												
ICU Level of Service C												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Future Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.98	0.99		0.98		0.92	0.98		0.92
Frt		0.964			0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	4464	0	1620	3308	0	*1622	3400	1365	1589	3433	1433
Flt Permitted	0.110			0.230			0.174			0.304		
Satd. Flow (perm)	183	4464	0	386	3308	0	284	3400	1259	497	3433	1323
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			7				164			164
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6				580.5			408.6
Travel Time (s)		14.8			12.5				41.8			29.4
Confl. Peds. (#/hr)	135		59	59		135	68		69	69		68
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	8%	4%	4%	3%	7%	5%	6%	6%	4%	1%
Bus Blockages (#/hr)	0	22	0	0	9	0	0	0	10	0	0	10
Adj. Flow (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	824	0	251	1247	0	289	675	88	91	814	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0				3.0			3.0
Link Offset(m)		0.0			0.0				0.0			0.0
Crosswalk Width(m)		1.6			1.6				1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.04	1.01	1.09	1.01	1.15	1.09	1.01	1.15
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	33.0		6.0	33.0		6.0	34.0	34.0	6.0	34.0	34.0
Minimum Split (s)	9.5	40.0		10.0	40.0		10.0	41.0	41.0	10.0	41.0	41.0

Lanes, Volumes, Timings

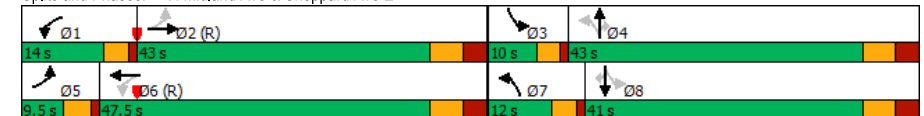
7: Midland Ave & Sheppard Ave E

<Option C2> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	9.5	43.0		14.0	47.5		12.0	43.0	43.0	10.0	41.0	41.0
Total Split (%)	8.6%	39.1%		12.7%	43.2%		10.9%	39.1%	39.1%	9.1%	37.3%	37.3%
Maximum Green (s)	5.0	36.0		10.0	40.5		8.0	36.0	36.0	6.0	34.0	34.0
Yellow Time (s)	3.5	4.0		3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-2.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	6.0		3.0	6.0		2.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0		27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	45.6	37.1		54.0	41.5		51.0	39.0	39.0	45.0	35.0	35.0
Actuated g/C Ratio	0.41	0.34		0.49	0.38		0.46	0.35	0.35	0.41	0.32	0.32
v/c Ratio	0.65	0.53		0.81	1.00		1.14	0.56	0.16	0.33	0.75	0.36
Control Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
LOS	D	C		D	F		F	C	A	C	D	A
Approach Delay		28.8			75.2			110.3			32.0	
Approach LOS		C			E			F			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 28 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 115												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.14												
Intersection Signal Delay: 63.5	Intersection LOS: E											
Intersection Capacity Utilization 102.4%	ICU Level of Service G											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Court

<Option C2> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		↑↑↑		↖	↑↑↑
Traffic Volume (vph)	282	136	1584	378	129	2259
Future Volume (vph)	282	136	1584	378	129	2259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.98			
Frt	0.956		0.971			
Flt Protected	0.967				0.950	
Satd. Flow (prot)	1727	0	4701	0	1685	5029
Flt Permitted	0.967				0.066	
Satd. Flow (perm)	1722	0	4701	0	117	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	23		68			
Link Speed (k/h)	40		50			50
Link Distance (m)	213.2		244.0			134.1
Travel Time (s)	19.2		17.6			9.7
Confl. Peds. (#/hr)	4	5		29	29	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0
Adj. Flow (vph)	282	136	1584	378	129	2259
Shared Lane Traffic (%)						
Lane Group Flow (vph)	418	0	1962	0	129	2259
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.04	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	35.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Court

<Option C2> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	41.0		56.6		12.4	69.0
Total Split (%)	37.3%		51.5%		11.3%	62.7%
Maximum Green (s)	35.0		50.6		7.9	63.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	30.6		56.9		70.9	69.4
Actuated g/C Ratio	0.28		0.52		0.64	0.63
v/c Ratio	0.84		0.80		0.64	0.71
Control Delay	52.9		15.7		33.7	16.1
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	52.9		15.7		33.7	16.1
LOS	D		B		C	B
Approach Delay	52.9		15.7			17.0
Approach LOS	D		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 58 (53%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 19.6

Intersection LOS: B

Intersection Capacity Utilization 82.5%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Court



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C2> AM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	11	617	0	149	7	1758	504	88	2428	0
Future Volume (vph)	0	0	11	617	0	149	7	1758	504	88	2428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	25.0	30.0	80.0	20.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	2	0	1	1	1	0	0	0	0	0
Taper Length (m)	2.5		90.0		30.0	35.0						
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt	0.865		0.850					0.850				
Flt Protected			0.950		0.950			0.950				
Satd. Flow (prot)	0	1477	0	3395	1581	0	1685	4932	1478	1652	6200	0
Flt Permitted			0.950		0.071			0.068				
Satd. Flow (perm)	0	1477	0	3395	1581	0	126	4932	1478	118	6200	0
Right Turn on Red		Yes		Yes			Yes				Yes	
Satd. Flow (RTOR)		144		194				208				
Link Speed (k/h)		48		50				50			50	
Link Distance (m)		70.0		243.9				64.3			137.2	
Travel Time (s)		5.3		17.6				4.6			9.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	10%	2%	2%	1%	0%	4%	2%	2%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	12	0
Adj. Flow (vph)	0	0	11	617	0	149	7	1758	504	88	2428	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	617	149	0	7	1758	504	88	2428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0		7.0				3.0			3.0	
Link Offset(m)		0.0		0.0				0.0			0.0	
Crosswalk Width(m)		1.6		1.6				1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	16.0	16.0		30.0	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	14.5%	14.5%		27.3%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C2> AM

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C2> AM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	9.0		25.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0		7.0		
Flash Dont Walk (s)					32.0			26.0		26.0		
Pedestrian Calls (#/hr)					0			0		0		
Act Effct Green (s)		8.0		26.1	26.4		63.1	63.1	63.1	74.6	71.6	
Actuated g/C Ratio		0.07		0.24	0.24		0.57	0.57	0.57	0.68	0.65	
v/c Ratio		0.05		0.77	0.28		0.10	0.62	0.54	0.48	0.60	
Control Delay		0.4		45.9	2.6		18.0	16.0	9.4	28.7	13.3	
Queue Delay		0.0		0.0	0.0		0.0	0.3	0.4	0.0	0.0	
Total Delay		0.4		45.9	2.6		18.0	16.3	9.9	28.7	13.3	
LOS		A		D	A		B	B	A	C	B	
Approach Delay		0.4			37.5			14.9			13.9	
Approach LOS		A			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 57 (52%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 17.5

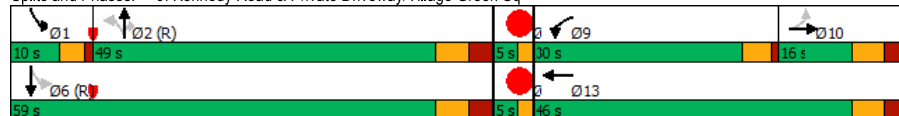
Intersection LOS: B

Intersection Capacity Utilization 102.0%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option C2> AM

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option C2> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	855	747	1518	0	0	1491
Future Volume (vph)	855	747	1518	0	0	1491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.966	0.850				
Flt Protected	0.963					
Satd. Flow (prot)	3316	1515	4980	0	0	5029
Flt Permitted	0.963					
Satd. Flow (perm)	3316	1515	4980	0	0	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	2%	2%	2%
Adj. Flow (vph)	855	747	1518	0	0	1491
Shared Lane Traffic (%)		33%				
Lane Group Flow (vph)	1102	500	1518	0	0	1491
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

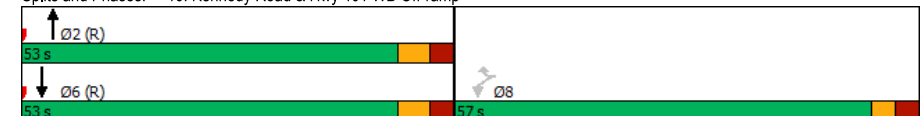
<Option C2> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	57.0	57.0	53.0			53.0
Total Split (%)	51.8%	51.8%	48.2%			48.2%
Maximum Green (s)	51.0	51.0	46.0			46.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	46.1	46.1	52.9			52.9
Actuated g/C Ratio	0.42	0.42	0.48			0.48
v/c Ratio	0.79	0.78	0.63			0.62
Control Delay	32.0	36.7	15.8			17.7
Queue Delay	0.0	0.0	0.1			0.7
Total Delay	32.0	36.8	15.9			18.3
LOS	C	D	B			B
Approach Delay	33.5		15.9			18.3
Approach LOS	C		B			B

Intersection Summary

Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 22.8	Intersection LOS: C
Intersection Capacity Utilization 70.7%	ICU Level of Service C
Analysis Period (min) 60	
* User Entered Value	

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp























Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option C2> AM

08-10-2022













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Future Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.969	0.850			0.865		0.999				
Flt Protected	0.950	0.975										
Satd. Flow (prot)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Flt Permitted	0.950	0.975										
Satd. Flow (perm)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9	40					2				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							9		13	13		9
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	7%	9%	2%	2%	9%	2%	7%	0%	2%	3%	2%
Adj. Flow (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Shared Lane Traffic (%)	50%		31%									
Lane Group Flow (vph)	471	908	414	0	0	345	0	1720	0	0	1865	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

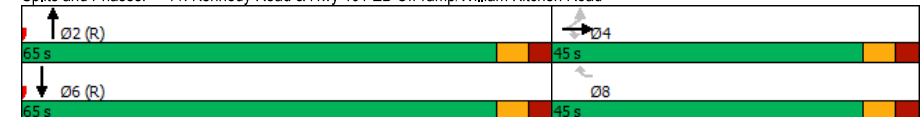
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option C2> AM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	45.0	45.0	45.0			45.0		65.0			65.0	
Total Split (%)	40.9%	40.9%	40.9%			40.9%		59.1%			59.1%	
Maximum Green (s)	38.0	38.0	38.0			38.0		58.0			58.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	38.3	38.3	38.3			38.3		59.7			59.7	
Actuated g/C Ratio	0.35	0.35	0.35			0.35		0.54			0.54	
v/c Ratio	0.93	0.90	0.89			0.59		0.53			0.69	
Control Delay	70.9	49.5	59.8			34.1		16.9			14.7	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	70.9	49.5	59.8			34.1		16.9			14.7	
LOS	E	D	E			C		B			B	
Approach Delay		57.5			34.1			16.9			14.7	
Approach LOS		E			C			B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 59 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.93												
Intersection Signal Delay: 30.0												
Intersection Capacity Utilization 88.5%												
Analysis Period (min) 60												

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option C2> AM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	10	4	12	22	46	17
Future Volume (vph)	10	4	12	22	46	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.961				0.964	
Flt Protected				0.983	0.965	
Satd. Flow (prot)	1685	0	0	1603	1592	0
Flt Permitted				0.983	0.965	
Satd. Flow (perm)	1685	0	0	1603	1592	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)					1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	25%	34%	5%	9%	12%
Adj. Flow (vph)	10	4	12	22	46	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	34	63	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.7% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option C2> AM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	10	4	12	22	46	17
Future Volume (Veh/h)	10	4	12	22	46	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	4	12	22	46	17
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			14		59	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			14		59	12
tC, single (s)			4.4		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.5		3.6	3.4
p0 queue free %			99		95	98
cM capacity (veh/h)			1419		922	1040

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	14	34	63
Volume Left	0	12	46
Volume Right	4	0	17
cSH	1700	1419	951
Volume to Capacity	0.01	0.01	0.07
Queue Length 95th (m)	0.0	0.2	1.6
Control Delay (s)	0.0	2.7	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	9.1
Approach LOS			A

Intersection Summary

Average Delay	6.0		
Intersection Capacity Utilization	18.7%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option C2> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	853	59	100	1465	122	123
Future Volume (vph)	853	59	100	1465	122	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		30.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor			0.99		1.00	
Frt	0.990					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3185	0	1638	3275	1785	1413
Flt Permitted			0.243		0.950	
Satd. Flow (perm)	3185	0	413	3275	1781	1413
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	11					123
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		22	22		1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	9%	9%	0%	13%
Adj. Flow (vph)	853	59	100	1465	122	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	912	0	100	1465	122	123
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	30.5		6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8		6.1	1.8	6.1	6.1
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		4	4
Detector Phase	2		6	6	4	4

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option C2> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	22.5	22.5
Total Split (s)	77.0		77.0	77.0	43.0	43.0
Total Split (%)	64.2%		64.2%	64.2%	35.8%	35.8%
Maximum Green (s)	72.5		72.5	72.5	38.5	38.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5		3.5	3.5	3.5	3.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	68.6		68.6	68.6	44.4	44.4
Actuated g/C Ratio	0.57		0.57	0.57	0.37	0.37
v/c Ratio	0.50		0.43	0.78	0.19	0.21
Control Delay	11.1		13.0	17.4	28.5	6.0
Queue Delay	0.1		0.0	0.1	0.0	0.0
Total Delay	11.3		13.0	17.5	28.5	6.0
LOS	B		B	B	C	A
Approach Delay	11.3			17.2	17.2	
Approach LOS	B			B	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 24 (20%), Referenced to phase 4:NBL and 8:, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 15.2

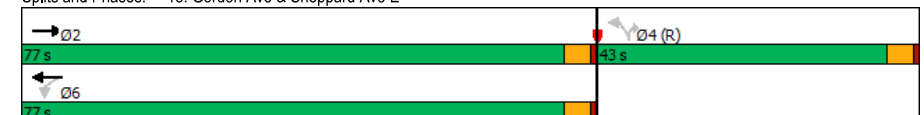
Intersection LOS: B

Intersection Capacity Utilization 53.9%

ICU Level of Service A

Analysis Period (min) 60

Splits and Phases: 13: Gordon Ave & Sheppard Ave E

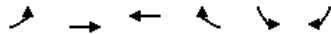


Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option C2> AM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	15	970	1594	60	30	25
Future Volume (vph)	15	970	1594	60	30	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.995		0.939	
Flt Protected		0.999			0.973	
Satd. Flow (prot)	0	6457	3552	0	1717	0
Flt Permitted		0.999			0.973	
Satd. Flow (perm)	0	6457	3552	0	1717	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	15	970	1594	60	30	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	985	1654	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.0%

ICU Level of Service B

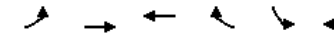
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option C2> AM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	15	970	1594	60	30	25
Future Volume (Veh/h)	15	970	1594	60	30	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	970	1594	60	30	25
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		115	41			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	1654				1896	827
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1337				1637	315
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				59	95
cM capacity (veh/h)	423				73	555

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	154	277	277	277	1063	591	55
Volume Left	15	0	0	0	0	0	30
Volume Right	0	0	0	0	0	60	25
cSH	423	1700	1700	1700	1700	1700	120
Volume to Capacity	0.04	0.16	0.16	0.16	0.63	0.35	0.46
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	0.0	17.9
Control Delay (s)	1.8	0.0	0.0	0.0	0.0	0.0	59.4
Lane LOS	A						F
Approach Delay (s)	0.3				0.0		59.4
Approach LOS							F

Intersection Summary

Average Delay 1.3

Intersection Capacity Utilization 56.0%

ICU Level of Service

B





















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option C2> AM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	35	4	1	4	75	1689	9	4	2120	27
Future Volume (vph)	4	0	35	4	1	4	75	1689	9	4	2120	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.879			0.940			0.999			0.998	
Flt Protected		0.995			0.978		0.950			0.950		
Satd. Flow (prot)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Flt Permitted		0.995			0.978		0.950			0.950		
Satd. Flow (perm)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.1			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	25%	2%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	12	0
Adj. Flow (vph)	4	0	35	4	1	4	75	1689	9	4	2120	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	9	0	75	1698	0	4	2147	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.04	1.01	1.09	1.04	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.0% ICU Level of Service B





















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option C2> AM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	35	4	1	4	75	1689	9	4	2120	27
Future Volume (Veh/h)	4	0	35	4	1	4	75	1689	9	4	2120	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	0	35	4	1	4	75	1689	9	4	2120	27
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.84	0.84	0.70	0.84	0.84	0.69	0.70			0.69		
vC, conflicting volume	2859	3990	720	2593	3998	568	2147			1698		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	173	1519	0	0	1530	0	1162			450		
tC, single (s)	8.0	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	99	99	99	83			99		
cM capacity (veh/h)	510	81	769	711	81	755	429			775		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	39	9	75	676	676	347	4	848	848	451		
Volume Left	4	4	75	0	0	0	4	0	0	0		
Volume Right	35	4	0	0	0	9	0	0	0	27		
cSH	731	388	429	1700	1700	1700	775	1700	1700	1700		
Volume to Capacity	0.05	0.02	0.17	0.40	0.40	0.20	0.01	0.50	0.50	0.27		
Queue Length 95th (m)	1.3	0.5	4.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	10.2	14.5	15.2	0.0	0.0	0.0	9.7	0.0	0.0	0.0		
Lane LOS	B	B	C				A					
Approach Delay (s)	10.2	14.5	0.6				0.0					
Approach LOS	B	B										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 59.0% ICU Level of Service B

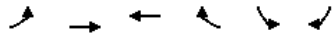
Analysis Period (min) 60

Lanes, Volumes, Timings

16: Collingwood Street & Gordon Ave

<Option C2> AM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	14	0	2	220	161	35
Future Volume (vph)	14	0	2	220	161	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.866		0.976		
Flt Protected		0.950		0.961		
Satd. Flow (prot)	0	1785	1627	0	1231	0
Flt Permitted		0.950		0.961		
Satd. Flow (perm)	0	1785	1627	0	1231	0
Link Speed (k/h)		40	40	40		
Link Distance (m)		116.5	100.9	190.4		
Travel Time (s)		10.5	9.1	17.1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	14	0	2	220	161	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	14	222	0	196	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0	7.0		
Link Offset(m)		0.0	0.0	0.0		
Crosswalk Width(m)		1.6	1.6	1.6		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 31.4%

ICU Level of Service A

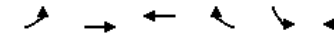
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: Collingwood Street & Gordon Ave

<Option C2> AM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	14	0	2	220	161	35
Future Volume (Veh/h)	14	0	2	220	161	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	0	2	220	161	35
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	222				140	112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	222				140	112
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				78	96
cM capacity (veh/h)	1359				744	915

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	14	222	196
Volume Left	14	0	161
Volume Right	0	220	35
cSH	1359	1700	770
Volume to Capacity	0.01	0.13	0.25
Queue Length 95th (m)	0.2	0.0	7.8
Control Delay (s)	7.7	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	7.7	0.0	11.3
Approach LOS			B

Intersection Summary

Average Delay 5.4

Intersection Capacity Utilization 31.4%




ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
17: Village Green Sq

<Option C2> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	18	134	52	41	189	6
Future Volume (vph)	18	134	52	41	189	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.881				0.996	
Flt Protected				0.973	0.954	
Satd. Flow (prot)	1623	0	0	1773	1751	0
Flt Permitted				0.973	0.954	
Satd. Flow (perm)	1623	0	0	1773	1751	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	22.7			152.9	154.8	
Travel Time (s)	2.0			13.8	13.9	
Confl. Peds. (#/hr)			5			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	2%	2%	0%
Adj. Flow (vph)	18	134	52	41	189	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	93	195	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.2%			ICU Level of Service A		
Analysis Period (min)	60					







HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option C2> AM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	18	134	52	41	189	6
Future Volume (vph)	18	134	52	41	189	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	18	134	52	41	189	6
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	152	93	195			
Volume Left (vph)	0	52	189			
Volume Right (vph)	134	0	6			
Hadj (s)	-0.49	0.16	0.21			
Departure Headway (s)	4.0	4.7	4.7			
Degree Utilization, x	0.17	0.12	0.25			
Capacity (veh/h)	854	719	738			
Control Delay (s)	7.8	8.4	9.2			
Approach Delay (s)	7.8	8.4	9.2			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.6			
Level of Service			A			
Intersection Capacity Utilization			35.2%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option C2> AM
08-10-2022

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	94	174	187	148	11
Future Volume (vph)	32	94	174	187	148	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.899				0.991	
Flt Protected	0.987			0.976		
Satd. Flow (prot)	1634	0	0	1798	1825	0
Flt Permitted	0.987			0.781		
Satd. Flow (perm)	1634	0	0	1439	1825	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	94				8	
Link Speed (k/h)	40			40	40	
Link Distance (m)	213.2			195.5	139.5	
Travel Time (s)	19.2			17.6	12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	94	174	187	148	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	0	0	361	159	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	29.0		31.0	31.0	31.0	
Total Split (%)	48.3%		51.7%	51.7%	51.7%	
Maximum Green (s)	23.0		25.0	25.0	25.0	

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option C2> AM
08-10-2022

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.1			34.6	34.6	
Actuated g/C Ratio	0.22			0.68	0.68	
v/c Ratio	0.29			0.37	0.13	
Control Delay	8.4			7.0	4.9	
Queue Delay	0.0			0.0	0.0	
Total Delay	8.4			7.0	4.9	
LOS	A			A	A	
Approach Delay	8.4			7.0	4.9	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 51.2

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 6.8

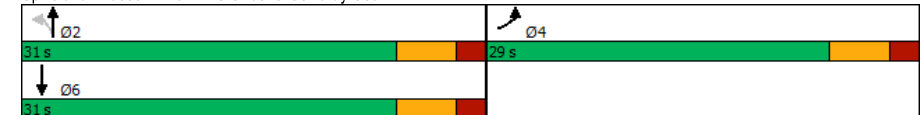
Intersection LOS: A

Intersection Capacity Utilization 48.8%

ICU Level of Service A













Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Court



Lanes, Volumes, Timings
102: Village Green Sq/N-S Street

<Option C2> AM
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	28	11	9	218	139	10
Future Volume (vph)	28	11	9	218	139	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962			0.991		
Flt Protected	0.965			0.998		
Satd. Flow (prot)	1710	0	0	1838	1825	0
Flt Permitted	0.965			0.998		
Satd. Flow (perm)	1710	0	0	1838	1825	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	38.8			20.5	195.5	
Travel Time (s)	3.5			1.8	17.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	28	11	9	218	139	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	0	227	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other













Control Type: Unsignalized

Intersection Capacity Utilization 28.8% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq/N-S Street

<Option C2> AM
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	11	9	218	139	10
Future Volume (Veh/h)	28	11	9	218	139	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	28	11	9	218	139	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					195	
pX, platoon unblocked						
vC, conflicting volume	380	144	149			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	380	144	149			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	99	99			
cM capacity (veh/h)	618	903	1432			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	39	227	149			
Volume Left	28	9	0			
Volume Right	11	0	10			
cSH	679	1432	1700			
Volume to Capacity	0.06	0.01	0.09			
Queue Length 95th (m)	1.4	0.1	0.0			
Control Delay (s)	10.6	0.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.6	0.4	0.0			
Approach LOS	B					

Intersection Summary

Average Delay 1.2

Intersection Capacity Utilization 28.8% ICU Level of Service A









Analysis Period (min) 60

Lanes, Volumes, Timings

104: N-S Street & Collingwood Street

<Option C2> AM

08-10-2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	159	0	0	218	0
Future Volume (vph)	0	159	0	0	218	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected					0.950	
Satd. Flow (prot)	0	1593	0	0	1750	0
Flt Permitted	0.950					
Satd. Flow (perm)	0	1593	0	0	1750	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	100.9			68.4	139.5	
Travel Time (s)	9.1			6.2	12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	159	0	0	218	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	159	0	0	218	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14		24	24		14
Sign Control	Stop			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 15.4% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

104: N-S Street & Collingwood Street











<Option C2> AM

08-10-2022

Intersection Sign configuration not allowed in HCM analysis.











Lanes, Volumes, Timings
18: Village Green Sq

<Option C2> AM
08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	196	191	569	2	0	191
Future Volume (vph)	196	191	569	2	0	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1785	1824	1842	0	1563	0
Flt Permitted	0.950					
Satd. Flow (perm)	1785	1824	1842	0	1563	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	104			104	6	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	2%	0%	2%	4%
Adj. Flow (vph)	196	191	569	2	0	191
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	191	571	0	191	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		10.5	10.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 63.7%	ICU Level of Service B					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option C2> AM
08-19-2022

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	196	191	569	2	0	191
Future Volume (Veh/h)	196	191	569	2	0	191
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	196	191	569	2	0	191
Pedestrians		7	6		104	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	1		9	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	675				1263	681
vC1, stage 1 conf vol					674	
vC2, stage 2 conf vol					589	
vCu, unblocked vol	675				1263	681
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	77				100	53
cM capacity (veh/h)	841				260	403
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	196	191	571	191		
Volume Left	196	0	0	0		
Volume Right	0	0	2	191		
cSH	841	1700	1700	403		
Volume to Capacity	0.23	0.11	0.34	0.47		
Queue Length 95th (m)	6.9	0.0	0.0	20.0		
Control Delay (s)	10.6	0.0	0.0	21.9		
Lane LOS	B			C		
Approach Delay (s)	5.4		0.0	21.9		
Approach LOS				C		
Intersection Summary						
Average Delay			5.4			
Intersection Capacity Utilization			63.7%		ICU Level of Service	B
Analysis Period (min)			60			

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 2> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↔	↔↔			↔			↔↔	
Traffic Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Future Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1		0	0		0	0		0	
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.94				
Frt		0.997			0.999			0.910			0.907	
Flt Protected		0.996		0.950				0.992			0.992	
Satd. Flow (prot)	0	3313	0	1574	3365	0	0	1553	0	0	1657	0
Flt Permitted		0.729		0.187				0.929			0.896	
Satd. Flow (perm)	0	2425	0	310	3365	0	0	1447	0	0	1497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1			60			45	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			49	49			27		59			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	7%	7%	7%	6%	2%	9%	2%	2%	2%	2%	2%
Adj. Flow (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1355	0	35	938	0	0	90	0	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4			8		
Detector Phase		2	2	6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 2> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	76.0	76.0		76.0	76.0		34.0	34.0		34.0	34.0	
Total Split (%)	69.1%	69.1%		69.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	70.0	70.0		70.0	70.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.65		0.13	0.32			0.49			0.37	
Control Delay		5.5		2.8	1.8			28.5			25.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.5		2.8	1.8			28.5			25.8	
LOS		A		A	A			C			C	
Approach Delay		5.5			1.8			28.5			25.8	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 96 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 5.4

Intersection LOS: A

Intersection Capacity Utilization 96.2%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Future Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0			0.0		0.0			35.0
Storage Lanes	1		0	1		0	0		0			1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98	0.99			0.98			1.00	0.95
Frt		0.999			0.991			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1636	3361	0	1685	3327	0	0	1599	0	0	1750	1478
Flt Permitted	0.238			0.223							0.751	
Satd. Flow (perm)	410	3361	0	386	3327	0	0	1599	0	0	1378	1410
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			8			69				115
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	26		53	53		26	24		3	3		24
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	6%	0%	0%	6%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1195	0	10	958	0	0	10	0	0	210	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		NA			Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	11.0	72.0		61.0	61.0		38.0	38.0		38.0	38.0	38.0

Lanes, Volumes, Timings

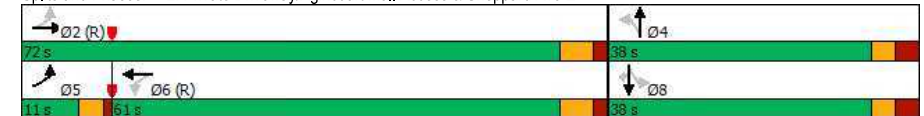
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	65.5%		55.5%	55.5%		34.5%	34.5%		34.5%	34.5%	34.5%
Maximum Green (s)	7.0	66.0		55.0	55.0		32.0	32.0		32.0	32.0	32.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	78.9	76.9		68.6	68.6		23.1			23.1	23.1	
Actuated g/C Ratio	0.72	0.70		0.62	0.62		0.21			0.21	0.21	
v/c Ratio	0.21	0.51		0.04	0.46		0.03			0.73	0.30	
Control Delay	5.2	6.3		12.2	13.3		0.1			55.7	7.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Delay	5.2	6.3		12.2	13.3		0.1			55.7	7.9	
LOS	A	A		B	B		A			E	A	
Approach Delay		6.2			13.3		0.1				38.8	
Approach LOS		A			B		A				D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 108 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 50												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.73												
Intersection Signal Delay: 13.0	Intersection LOS: B											
Intersection Capacity Utilization 80.2%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option 2> PM

08-10-2022













	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↗		↖	↗	↗	↖	↗	↗
Traffic Volume (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Future Volume (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.98		0.91	0.98	0.98		0.99		0.88	0.99	1.00	
Frt			0.850		0.965				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3275	1345	1560	3084	0	*1622	4794	1281	1604	4702	0
Flt Permitted	0.201			0.157			0.108			0.108		
Satd. Flow (perm)	342	3275	1226	253	3084	0	174	4794	1126	180	4702	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			223		39				202		5	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	97		80	80		97	93		102	102		93
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	9%	4%	8%	8%	12%	9%	7%	12%	5%	6%	11%
Bus Blockages (#/hr)	0	0	18	0	0	18	0	0	12	0	12	0
Adj. Flow (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	810	491	282	914	0	201	1343	258	179	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.20	1.09	1.01	1.01	1.09	1.01	1.16	1.09	1.04	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings

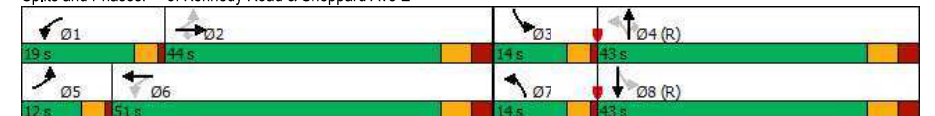
3: Kennedy Road & Sheppard Ave E

<Option 2> PM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	44.0	44.0	19.0	51.0		14.0	43.0	43.0	14.0	43.0	
Total Split (%)	10.0%	36.7%	36.7%	15.8%	42.5%		11.7%	35.8%	35.8%	11.7%	35.8%	
Maximum Green (s)	8.0	37.0	37.0	15.0	44.0		10.0	36.0	36.0	10.0	36.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.4	38.0	38.0	60.0	45.6		51.1	37.1	37.1	50.9	37.0	
Actuated g/C Ratio	0.41	0.32	0.32	0.50	0.38		0.43	0.31	0.31	0.42	0.31	
v/c Ratio	0.46	0.78	0.91	0.94	0.76		0.98	0.91	0.53	0.87	1.00	
Control Delay	23.6	43.8	50.5	80.0	24.0		133.5	51.3	12.9	75.5	85.0	
Queue Delay	0.0	0.0	0.0	0.0	0.6		0.0	0.0	0.0	0.0	0.0	
Total Delay	23.6	43.8	50.5	80.0	24.6		133.5	51.3	12.9	75.5	85.0	
LOS	C	D	D	F	C		F	D	B	E	F	
Approach Delay		44.6			37.7			55.0			84.0	
Approach LOS		D			D			D			F	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 40 (33%), Referenced to phase 4:NBT and 8:SBTL, Start of Green												
Natural Cycle: 105												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.00												
Intersection Signal Delay: 56.9						Intersection LOS: E						
Intersection Capacity Utilization 102.6%						ICU Level of Service G						
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Future Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.96	1.00	1.00		0.99	1.00	
Frt			0.850			0.850		0.997			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	0	1478	1620	0	1478	1589	4789	0	1685	4845	0
Flt Permitted	0.950			0.950			0.094			0.186		
Satd. Flow (perm)	1559	0	1349	1495	0	1419	157	4789	0	328	4845	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120			69		4			21	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	26		70	70		26	31		17	17		31
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	2%	2%	4%	2%	2%	6%	5%	4%	0%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	0	0
Adj. Flow (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	0	120	5	0	55	210	1371	0	20	1609	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.04	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

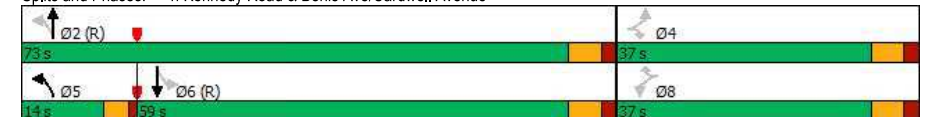
4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	23.3		23.3	23.3		23.3	78.7	76.7		60.4	60.4	
Actuated g/C Ratio	0.21		0.21	0.21		0.21	0.72	0.70		0.55	0.55	
v/c Ratio	0.73		0.32	0.02		0.15	0.73	0.41		0.11	0.60	
Control Delay	53.8		8.0	30.6		6.1	35.7	8.1		16.8	18.8	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	53.8		8.0	30.6		6.1	35.7	8.1		16.8	18.8	
LOS	D		A	C		A	D	A		B	B	
Approach Delay		38.5			8.2			11.8			18.8	
Approach LOS		D			A			B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.73												
Intersection Signal Delay: 17.5	Intersection LOS: B											
Intersection Capacity Utilization 74.1%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Future Volume (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00		0.91	0.99		0.97	0.98		0.97
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4686	0	1532	3433	1385	1546	0	1449	1685	0	1507
Flt Permitted	0.264			0.154			0.950			0.950		
Satd. Flow (perm)	462	4686	0	247	3433	1255	1523	0	1409	1658	0	1467
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)		5				64			109			73
Link Speed (k/h)		60				60			40			40
Link Distance (m)		40.6				63.5			81.9			115.9
Travel Time (s)		2.4				3.8			7.4			10.4
Confl. Peds. (#/hr)	30		25	25		30	14		15	15		14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	7%	10%	4%	1%	9%	2%	4%	0%	2%	0%
Bus Blockages (#/hr)	0	18	0	0	0	18	0	0	0	0	0	0
Adj. Flow (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	1399	0	20	1056	30	95	0	95	35	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0		3.0		
Link Offset(m)		0.0			0.0			0.0		0.0		
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.20	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Lanes, Volumes, Timings

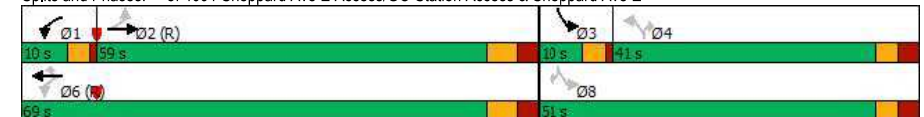
5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0		10.0	69.0	69.0	41.0		41.0	10.0		51.0
Total Split (%)	49.2%	49.2%		8.3%	57.5%	57.5%	34.2%		34.2%	8.3%		42.5%
Maximum Green (s)	52.0	52.0		6.0	62.0	62.0	35.0		35.0	6.0		45.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)	85.1	85.1		92.1	89.1	89.1	13.9		13.9	21.9		19.9
Actuated g/C Ratio	0.71	0.71		0.77	0.74	0.74	0.12		0.12	0.18		0.17
v/c Ratio	0.05	0.42		0.08	0.41	0.03	0.54		0.37	0.12		0.08
Control Delay	11.4	8.6		5.7	7.4	0.2	60.8		10.3	37.6		0.5
Queue Delay	0.0	0.1		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	11.4	8.7		5.7	7.4	0.2	60.8		10.3	37.6		0.5
LOS	B	A		A	A	A	E		B	D		A
Approach Delay		8.7			7.1			35.6			22.1	
Approach LOS		A			A			D			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 87 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 95												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.54												
Intersection Signal Delay: 10.2	Intersection LOS: B											
Intersection Capacity Utilization 62.6%	ICU Level of Service B											
Analysis Period (min) 60												

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖		↖			↗	
Traffic Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Future Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.99		0.96		0.96			0.97	
Frt						0.850		0.944				
Flt Protected				0.950				0.972			0.950	
Satd. Flow (prot)	1612	3243	0	1327	3275	1597	0	1294	0	0	1785	0
Flt Permitted				0.206				0.819			0.734	
Satd. Flow (perm)	1612	3243	0	285	3275	1535	0	1072	0	0	1336	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				40		30				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	7		45	45		7	25		28	28		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	17%	27%	9%	0%	17%	0%	50%	0%	2%	9%
Adj. Flow (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1273	0	4	1079	1	0	36	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Lanes, Volumes, Timings

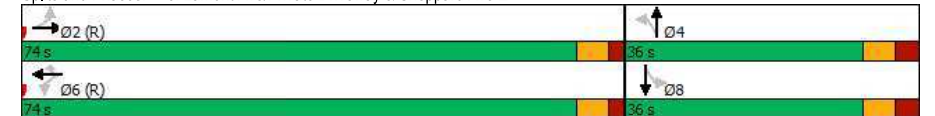
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		97.7		97.7	97.7	97.7		8.9			8.9	
Actuated g/C Ratio		0.89		0.89	0.89	0.89		0.08			0.08	
v/c Ratio		0.44		0.02	0.37	0.00		0.32			0.02	
Control Delay		2.8		1.0	0.9	0.0		27.3			46.0	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		2.8		1.0	0.9	0.0		27.3			46.0	
LOS		A		A	A	A		C			D	
Approach Delay		2.8			0.9			27.3			46.0	
Approach LOS		A			A			C			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 40												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.44												
Intersection Signal Delay: 2.3												
Intersection Capacity Utilization 60.8%												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Future Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.97	0.99		0.99	0.98		0.97		0.92	0.98		0.92
Frt		0.973			0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	4532	0	1620	3239	0	*1622	3400	1365	1589	3433	1433
Flt Permitted	0.176			0.107			0.312			0.309		
Satd. Flow (perm)	289	4532	0	181	3239	0	504	3400	1259	507	3433	1323
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			18				91			119
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			41.8			29.4	
Confl. Peds. (#/hr)	135		59	59		135	68		69	69		68
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	8%	4%	4%	3%	7%	5%	6%	6%	4%	1%
Bus Blockages (#/hr)	0	22	0	0	9	0	0	0	10	0	0	10
Adj. Flow (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1286	0	150	883	0	230	830	191	80	560	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.04	1.01	1.09	1.01	1.15	1.09	1.01	1.15
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	46.0		11.0	46.0		11.0	53.0	53.0	42.0	42.0	42.0
Total Split (%)	10.0%	41.8%		10.0%	41.8%		10.0%	48.2%	48.2%	38.2%	38.2%	38.2%
Maximum Green (s)	7.0	39.0		7.0	39.0		7.0	46.0	46.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	50.8	40.0		51.2	40.2		50.0	47.0	47.0	36.0	36.0	36.0
Actuated g/C Ratio	0.46	0.36		0.47	0.37		0.45	0.43	0.43	0.33	0.33	0.33
v/c Ratio	0.65	0.77		0.80	0.74		0.74	0.57	0.32	0.48	0.50	0.23
Control Delay	33.1	31.2		55.1	34.4		38.2	25.8	12.3	41.8	31.6	6.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	31.2		55.1	34.4		38.2	25.8	12.3	41.8	31.6	6.1
LOS	C	C		E	C		D	C	B	D	C	A
Approach Delay		31.4			37.4			26.0			28.7	
Approach LOS		C			D			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 30.8

Intersection LOS: C

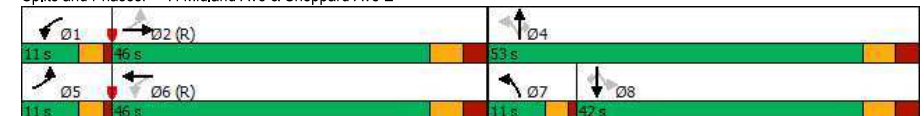
Intersection Capacity Utilization 110.8%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Court

<Option 2> PM
08-10-2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑↑↑		↘	↑↑↑
Traffic Volume (vph)	335	113	1926	236	124	2050
Future Volume (vph)	335	113	1926	236	124	2050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.99			
Frt	0.966		0.984			
Flt Protected	0.964				0.950	
Satd. Flow (prot)	1742	0	4789	0	1685	5029
Flt Permitted	0.964				0.066	
Satd. Flow (perm)	1736	0	4789	0	117	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	16		28			
Link Speed (k/h)	40		50			50
Link Distance (m)	213.2		244.0			134.1
Travel Time (s)	19.2		17.6			9.7
Confl. Peds. (#/hr)	4	5		29	29	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0
Adj. Flow (vph)	335	113	1926	236	124	2050
Shared Lane Traffic (%)						
Lane Group Flow (vph)	448	0	2162	0	124	2050
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.04	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Court

<Option 2> PM
08-10-2022

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	39.0		60.0		11.0	71.0
Total Split (%)	35.5%		54.5%		10.0%	64.5%
Maximum Green (s)	33.0		54.0		6.5	65.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	31.4		57.2		70.1	68.6
Actuated g/C Ratio	0.29		0.52		0.64	0.62
v/c Ratio	0.88		0.86		0.67	0.65
Control Delay	59.7		14.1		37.0	14.9
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	59.7		14.1		37.0	14.9
LOS	E		B		D	B
Approach Delay	59.7		14.1			16.1
Approach LOS	E		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 3 (3%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 19.3

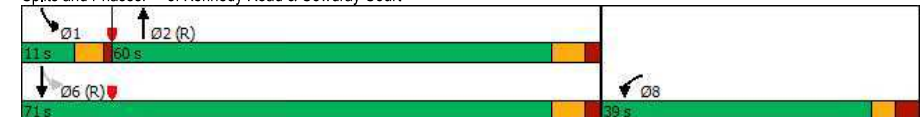
Intersection LOS: B

Intersection Capacity Utilization 86.9%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Court



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 2> PM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	3	1	5	515	2	91	3	2018	695	131	2309	2
Future Volume (vph)	3	1	5	515	2	91	3	2018	695	131	2309	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	25.0	30.0	80.0	30.0	80.0	0.0	20.0	0.0
Storage Lanes	0	0	2	0	1	1	1	1	1	0	0	0
Taper Length (m)	2.5		90.0		30.0		35.0					
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt		0.925		0.853				0.850				
Flt Protected		0.984		0.950			0.950		0.950			
Satd. Flow (prot)	0	1607	0	3395	1586	0	1685	4932	1478	1652	6200	0
Flt Permitted				0.950			0.070		0.067			
Satd. Flow (perm)	0	1633	0	3395	1586	0	124	4932	1478	116	6200	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5		91				250				
Link Speed (k/h)		48		50				50			50	
Link Distance (m)		70.0		243.9				64.3			137.2	
Travel Time (s)		5.3		17.6				4.6			9.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	10%	2%	2%	1%	0%	4%	2%	2%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	12	0
Adj. Flow (vph)	3	1	5	515	2	91	3	2018	695	131	2309	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	515	93	0	3	2018	695	131	2311	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0		7.0				3.0			3.0	
Link Offset(m)		0.0		0.0				0.0			0.0	
Crosswalk Width(m)		1.6		1.6				1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	17.0	17.0		29.0	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	15.5%	15.5%		26.4%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 2> PM

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 2> PM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	10.0	10.0		24.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0	7.0		7.0	
Flash Dont Walk (s)					32.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0			0	0		0	
Act Effct Green (s)		8.1		22.8	23.2		62.5	62.5	62.5	77.8	74.8	
Actuated g/C Ratio		0.07		0.21	0.21		0.57	0.57	0.57	0.71	0.68	
v/c Ratio		0.07		0.73	0.23		0.04	0.72	0.73	0.62	0.55	
Control Delay		36.4		47.2	7.5		13.3	16.0	12.8	32.3	13.4	
Queue Delay		0.0		0.0	0.0		0.0	1.3	1.1	0.0	0.0	
Total Delay		36.4		47.2	7.5		13.3	17.3	13.9	32.3	13.5	
LOS		D		D	A		B	B	B	C	B	
Approach Delay		36.4			41.1			16.4			14.5	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 106 (96%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 18.2

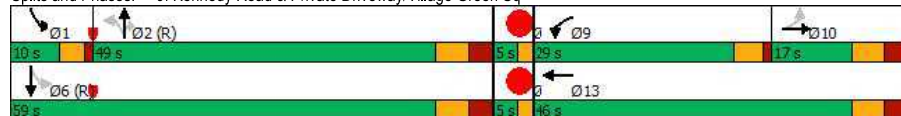
Intersection LOS: B

Intersection Capacity Utilization 97.4%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 2> PM

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 2> PM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	650	831	1847	0	0	1748
Future Volume (vph)	650	831	1847	0	0	1748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.947	0.850				
Flt Protected	0.969					
Satd. Flow (prot)	3271	1515	4980	0	0	5029
Flt Permitted	0.969					
Satd. Flow (perm)	3271	1515	4980	0	0	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	2%	2%	2%
Adj. Flow (vph)	650	831	1847	0	0	1748
Shared Lane Traffic (%)		43%				
Lane Group Flow (vph)	1007	474	1847	0	0	1748
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

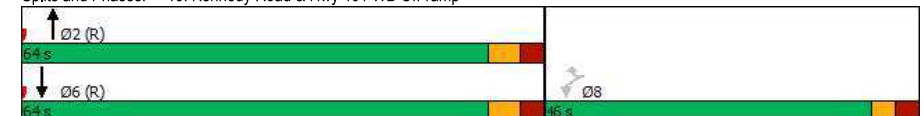
<Option 2> PM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	46.0	46.0	64.0			64.0
Total Split (%)	41.8%	41.8%	58.2%			58.2%
Maximum Green (s)	40.0	40.0	57.0			57.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	39.2	39.2	59.8			59.8
Actuated g/C Ratio	0.36	0.36	0.54			0.54
v/c Ratio	0.86	0.87	0.68			0.64
Control Delay	41.9	53.6	22.0			19.7
Queue Delay	0.3	1.7	0.2			0.8
Total Delay	42.2	55.2	22.3			20.5
LOS	D	E	C			C
Approach Delay	46.4		22.3			20.5
Approach LOS	D		C			C

Intersection Summary

Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 104 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 28.7	Intersection LOS: C
Intersection Capacity Utilization 79.2%	ICU Level of Service D
Analysis Period (min) 60	
* User Entered Value	

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↖		↑↑↑			↑↑↑	
Traffic Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Future Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.972	0.850			0.865		0.998				
Flt Protected	0.950	0.974										
Satd. Flow (prot)	1460	2878	1258	0	0	1692	0	6032	0	0	4980	0
Flt Permitted	0.950	0.974										
Satd. Flow (perm)	1460	2878	1258	0	0	1692	0	6032	0	0	4980	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		4	40					3				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							9		13	13		9
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	7%	9%	2%	2%	9%	2%	7%	0%	2%	3%	2%
Adj. Flow (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Shared Lane Traffic (%)		50%	29%									
Lane Group Flow (vph)	534	1005	454	0	0	535	0	2169	0	0	1649	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

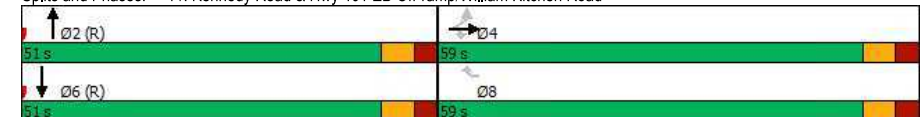
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 2> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0	59.0			59.0		51.0			51.0	
Total Split (%)	53.6%	53.6%	53.6%			53.6%		46.4%			46.4%	
Maximum Green (s)	52.0	52.0	52.0			52.0		44.0			44.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	48.5	48.5	48.5			48.5		49.5			49.5	
Actuated g/C Ratio	0.44	0.44	0.44			0.44		0.45			0.45	
v/c Ratio	0.83	0.79	0.79			0.72		0.80			0.74	
Control Delay	40.2	31.3	35.0			30.9		29.7			19.8	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	40.2	31.3	35.0			30.9		29.7			19.8	
LOS	D	C	C			C		C			B	
Approach Delay		34.5			30.9			29.7			19.8	
Approach LOS		C			C			C			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 12 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 70												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.83												
Intersection Signal Delay: 28.7												
Intersection Capacity Utilization 110.1%												
Analysis Period (min) 60												

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 2> PM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	17	8	17	22	43	13
Future Volume (vph)	17	8	17	22	43	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.957				0.969	
Flt Protected				0.979	0.963	
Satd. Flow (prot)	1665	0	0	1564	1598	0
Flt Permitted				0.979	0.963	
Satd. Flow (perm)	1665	0	0	1564	1598	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)					1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	25%	34%	5%	9%	12%
Adj. Flow (vph)	17	8	17	22	43	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	39	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.8%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 2> PM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	17	8	17	22	43	13
Future Volume (Veh/h)	17	8	17	22	43	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	8	17	22	43	13
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		78	21
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		78	21
tC, single (s)			4.4		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.5		3.6	3.4
p0 queue free %			99		95	99
cM capacity (veh/h)			1405		896	1028
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	25	39	56			
Volume Left	0	17	43			
Volume Right	8	0	13			
cSH	1700	1405	924			
Volume to Capacity	0.01	0.01	0.06			
Queue Length 95th (m)	0.0	0.3	1.5			
Control Delay (s)	0.0	3.4	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	3.4	9.1			
Approach LOS			A			

Intersection Summary

Average Delay 5.4

Intersection Capacity Utilization 18.8%

ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 2> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1161	73	83	1035	121	119
Future Volume (vph)	1161	73	83	1035	121	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		30.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor			0.99		1.00	
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3189	0	1638	3275	1785	1413
Flt Permitted			0.134		0.950	
Satd. Flow (perm)	3189	0	229	3275	1782	1413
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	12					107
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		22	22		1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	9%	9%	0%	13%
Adj. Flow (vph)	1161	73	83	1035	121	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1234	0	83	1035	121	119
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	30.5		6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8		6.1	1.8	6.1	6.1
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		4	4
Detector Phase	2		6	6	4	4

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 2> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	22.5		22.5	22.5	27.5	27.5
Total Split (s)	86.0		86.0	86.0	34.0	34.0
Total Split (%)	71.7%		71.7%	71.7%	28.3%	28.3%
Maximum Green (s)	81.5		81.5	81.5	29.5	29.5
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5		3.5	3.5	3.5	3.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	16.0	16.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	65.9		65.9	65.9	47.1	47.1
Actuated g/C Ratio	0.55		0.55	0.55	0.39	0.39
v/c Ratio	0.70		0.66	0.58	0.17	0.19
Control Delay	15.4		41.7	15.4	28.0	8.1
Queue Delay	0.1		0.0	0.1	0.0	0.0
Total Delay	15.6		41.7	15.5	28.0	8.1
LOS	B		D	B	C	A
Approach Delay	15.6			17.5	18.2	
Approach LOS	B			B	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 4:NBL and 8:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 16.6

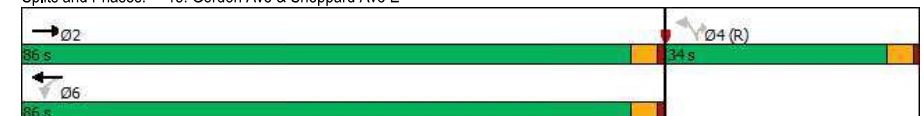
Intersection LOS: B

Intersection Capacity Utilization 55.8%

ICU Level of Service B

Analysis Period (min) 60

Splits and Phases: 13: Gordon Ave & Sheppard Ave E

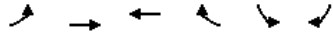


Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option 2> PM

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (vph)	20	1309	1156	55	20	15
Future Volume (vph)	20	1309	1156	55	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.993		0.942	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	6457	3545	0	1720	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	6457	3545	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	20	1309	1156	55	20	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1329	1211	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.7%

ICU Level of Service A

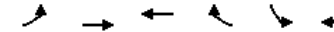
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option 2> PM

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑		↑↑	
Traffic Volume (veh/h)	20	1309	1156	55	20	15
Future Volume (Veh/h)	20	1309	1156	55	20	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	20	1309	1156	55	20	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		115	41			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	1211				1551	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	965				1352	277
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				84	98
cM capacity (veh/h)	634				122	639

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	207	374	374	374	771	440	35
Volume Left	20	0	0	0	0	0	20
Volume Right	0	0	0	0	0	55	15
cSH	634	1700	1700	1700	1700	1700	187
Volume to Capacity	0.03	0.22	0.22	0.22	0.45	0.26	0.19
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	0.0	5.2
Control Delay (s)	1.4	0.0	0.0	0.0	0.0	0.0	28.6
Lane LOS	A						D
Approach Delay (s)	0.2				0.0		28.6
Approach LOS							D

Intersection Summary

Average Delay 0.5

Intersection Capacity Utilization 43.7%

ICU Level of Service

A





















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option 2> PM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	36	18	0	14	66	1797	25	4	1913	20
Future Volume (vph)	5	0	36	18	0	14	66	1797	25	4	1913	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.881			0.941			0.998			0.998	
Flt Protected		0.994			0.973		0.950			0.950		
Satd. Flow (prot)	0	1597	0	0	1720	0	1685	4892	0	1685	4892	0
Flt Permitted		0.994			0.973		0.950			0.950		
Satd. Flow (perm)	0	1597	0	0	1720	0	1685	4892	0	1685	4892	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.1			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	25%	2%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	12	0
Adj. Flow (vph)	5	0	36	18	0	14	66	1797	25	4	1913	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	32	0	66	1822	0	4	1933	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.04	1.01	1.09	1.04	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.0%

ICU Level of Service B





















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option 2> PM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	36	18	0	14	66	1797	25	4	1913	20
Future Volume (Veh/h)	5	0	36	18	0	14	66	1797	25	4	1913	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	0	36	18	0	14	66	1797	25	4	1913	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.77	0.77	0.73	0.77	0.77	0.63	0.73			0.63		
vC, conflicting volume	2676	3885	648	2623	3882	612	1933			1822		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1314	0	0	1311	0	973			273		
tC, single (s)	8.0	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	97	100	98	87			100		
cM capacity (veh/h)	651	105	794	680	107	691	522			825		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	41	32	66	719	719	384	4	765	765	403		
Volume Left	5	18	66	0	0	0	4	0	0	0		
Volume Right	36	14	0	0	0	25	0	0	0	20		
cSH	773	685	522	1700	1700	1700	825	1700	1700	1700		
Volume to Capacity	0.05	0.05	0.13	0.42	0.42	0.23	0.00	0.45	0.45	0.24		
Queue Length 95th (m)	1.3	1.1	3.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	9.9	10.5	12.9	0.0	0.0	0.0	9.4	0.0	0.0	0.0		
Lane LOS	A	B	B				A					
Approach Delay (s)	9.9	10.5	0.5				0.0					
Approach LOS	A	B										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 57.0%










ICU Level of Service

B

Analysis Period (min) 60










Lanes, Volumes, Timings
16: Collingwood Street & Gordon Ave

<Option 2> PM
08-10-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	1	3	222	157	29
Future Volume (vph)	16	1	3	222	157	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.867		0.979		
Flt Protected		0.955		0.960		
Satd. Flow (prot)	0	1792	1629	0	1226	0
Flt Permitted		0.955		0.960		
Satd. Flow (perm)	0	1792	1629	0	1226	0
Link Speed (k/h)		40	40	40		
Link Distance (m)		116.5	100.9	190.4		
Travel Time (s)		10.5	9.1	17.1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	16	1	3	222	157	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	225	0	186	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0	7.0		
Link Offset(m)		0.0	0.0	0.0		
Crosswalk Width(m)		1.6	1.6	1.6		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.0%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
16: Collingwood Street & Gordon Ave

<Option 2> PM
08-10-2022

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	1	3	222	157	29
Future Volume (Veh/h)	16	1	3	222	157	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	1	3	222	157	29
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	225				147	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	225				147	114
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				79	97
cM capacity (veh/h)	1356				736	912
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	17	225	186			
Volume Left	16	0	157			
Volume Right	0	222	29			
cSH	1356	1700	759			
Volume to Capacity	0.01	0.13	0.25			
Queue Length 95th (m)	0.3	0.0	7.4			
Control Delay (s)	7.2	0.0	11.3			
Lane LOS	A		B			
Approach Delay (s)	7.2	0.0	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization	31.0%		ICU Level of Service		A	
Analysis Period (min)	60					

Lanes, Volumes, Timings
17: Village Green Sq

<Option 2> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Traffic Volume (vph)	25	109	32	38	190	22
Future Volume (vph)	25	109	32	38	190	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.890				0.986	
Flt Protected				0.978	0.957	
Satd. Flow (prot)	1639	0	0	1786	1742	0
Flt Permitted				0.978	0.957	
Satd. Flow (perm)	1639	0	0	1786	1742	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	18.1			152.9	154.8	
Travel Time (s)	1.6			13.8	13.9	
Confl. Peds. (#/hr)			5			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	2%	2%	0%
Adj. Flow (vph)	25	109	32	38	190	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	0	0	70	212	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.7%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option 2> PM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	25	109	32	38	190	22
Future Volume (vph)	25	109	32	38	190	22
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	25	109	32	38	190	22
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	134	70	212			
Volume Left (vph)	0	32	190			
Volume Right (vph)	109	0	22			
Hadj (s)	-0.45	0.14	0.15			
Departure Headway (s)	4.0	4.7	4.5			
Degree Utilization, x	0.15	0.09	0.27			
Capacity (veh/h)	843	718	767			
Control Delay (s)	7.8	8.2	9.1			
Approach Delay (s)	7.8	8.2	9.1			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.5			
Level of Service			A			
Intersection Capacity Utilization			33.7%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option 2> PM
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	27	74	145	193	145	11
Future Volume (vph)	27	74	145	193	145	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901				0.990	
Flt Protected	0.987			0.979		
Satd. Flow (prot)	1638	0	0	1803	1824	0
Flt Permitted	0.987			0.811		
Satd. Flow (perm)	1638	0	0	1494	1824	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	74				8	
Link Speed (k/h)	40			40	40	
Link Distance (m)	213.2			202.6	139.5	
Travel Time (s)	19.2			18.2	12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	74	145	193	145	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	101	0	0	338	156	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1		2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	28.0		32.0	32.0	32.0	
Total Split (%)	46.7%		53.3%	53.3%	53.3%	
Maximum Green (s)	22.0		26.0	26.0	26.0	

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option 2> PM
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.1			38.5	38.5	
Actuated g/C Ratio	0.22			0.76	0.76	
v/c Ratio	0.24			0.30	0.11	
Control Delay	9.0			5.4	4.2	
Queue Delay	0.0			0.0	0.0	
Total Delay	9.0			5.4	4.2	
LOS	A			A	A	
Approach Delay	9.0			5.4	4.2	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 50.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 5.7

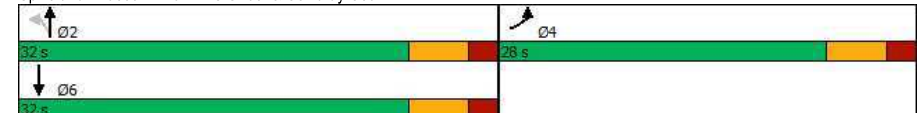
Intersection LOS: A

Intersection Capacity Utilization 47.3%

ICU Level of Service A













Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Court



Lanes, Volumes, Timings
102: Village Green Sq/N-S Street

<Option 2> PM
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	0	24	203	132	13
Future Volume (vph)	29	0	24	203	132	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988					
Flt Protected	0.950			0.995		
Satd. Flow (prot)	1750	0	0	1833	1820	0
Flt Permitted	0.950			0.995		
Satd. Flow (perm)	1750	0	0	1833	1820	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	38.8			15.6	202.6	
Travel Time (s)	3.5			1.4	18.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	0	24	203	132	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	0	227	145	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other










Control Type: Unsignalized

Intersection Capacity Utilization 33.1% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq/N-S Street

<Option 2> PM
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	0	24	203	132	13
Future Volume (Veh/h)	29	0	24	203	132	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	29	0	24	203	132	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	203					
pX, platoon unblocked						
vC, conflicting volume	390	138	145			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	390	138	145			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	98			
cM capacity (veh/h)	604	910	1437			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	29	227	145			
Volume Left	29	24	0			
Volume Right	0	0	13			
cSH	604	1437	1700			
Volume to Capacity	0.05	0.02	0.09			
Queue Length 95th (m)	1.1	0.4	0.0			
Control Delay (s)	11.3	0.9	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.3	0.9	0.0			
Approach LOS	B					

Intersection Summary

Average Delay 1.3

Intersection Capacity Utilization 33.1% ICU Level of Service A

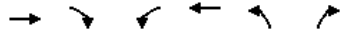
Analysis Period (min) 60

Lanes, Volumes, Timings

104: N-S Street & Collingwood Street

<Option 2> PM

08-10-2022



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		↗			↖	
Traffic Volume (vph)	0	156	0	0	220	0
Future Volume (vph)	0	156	0	0	220	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected					0.950	
Satd. Flow (prot)	0	1593	0	0	1750	0
Flt Permitted	0.950					
Satd. Flow (perm)	0	1593	0	0	1750	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	100.9			68.4	139.5	
Travel Time (s)	9.1			6.2	12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	156	0	0	220	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	156	0	0	220	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14		24	24		14
Sign Control	Stop			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 15.5% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

104: N-S Street & Collingwood Street

<Option 2> PM












08-10-2022

Intersection Sign configuration not allowed in HCM analysis.

Lanes, Volumes, Timings

18: Village Green Sq







08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	220	505	292	4	1	146
Future Volume (vph)	220	505	292	4	1	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.866	
Flt Protected	0.950					
Satd. Flow (prot)	1785	1824	1839	0	1565	0
Flt Permitted	0.950					
Satd. Flow (perm)	1785	1824	1839	0	1565	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	104			104	6	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	2%	0%	2%	4%
Adj. Flow (vph)	220	505	292	4	1	146
Shared Lane Traffic (%)						
Lane Group Flow (vph)	220	505	296	0	147	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		10.5	10.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.4%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis

18: Village Green Sq

08-19-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	220	505	292	4	1	146
Future Volume (Veh/h)	220	505	292	4	1	146
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	220	505	292	4	1	146
Pedestrians		7	6		104	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	1		9	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage (veh)		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	400				1349	405
vC1, stage 1 conf vol					398	
vC2, stage 2 conf vol					951	
vCu, unblocked vol	400				1349	405
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	79				100	75
cM capacity (veh/h)	1062				228	579
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	220	505	296	147		
Volume Left	220	0	0	1		
Volume Right	0	0	4	146		
cSH	1062	1700	1700	573		
Volume to Capacity	0.21	0.30	0.17	0.26		
Queue Length 95th (m)	5.9	0.0	0.0	7.8		
Control Delay (s)	9.3	0.0	0.0	13.4		
Lane LOS	A			B		
Approach Delay (s)	2.8		0.0	13.4		
Approach LOS				B		
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			48.4%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↔↔			↔			↔	
Traffic Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Future Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.89				
Frt		0.998						0.916			0.905	
Flt Protected		0.995		0.950				0.991			0.991	
Satd. Flow (prot)	0	3469	0	1685	3500	0	0	1512	0	0	1652	0
Flt Permitted		0.662		0.208				0.867			0.889	
Satd. Flow (perm)	0	2308	0	369	3500	0	0	1317	0	0	1482	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						50			60	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			44	44			20		137			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1261	0	35	1132	0	0	80	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		32.0	32.0		32.0	32.0	

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
Page 1

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	78.0	78.0		78.0	78.0		32.0	32.0		32.0	32.0	
Total Split (%)	70.9%	70.9%		70.9%	70.9%		29.1%	29.1%		29.1%	29.1%	
Maximum Green (s)	72.0	72.0		72.0	72.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.64		0.11	0.38			0.48			0.45	
Control Delay		5.4		4.2	3.5			31.7			26.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.4		4.2	3.5			31.7			26.1	
LOS		A		A	A			C			C	
Approach Delay		5.4			3.5			31.7			26.1	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 43 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 6.0

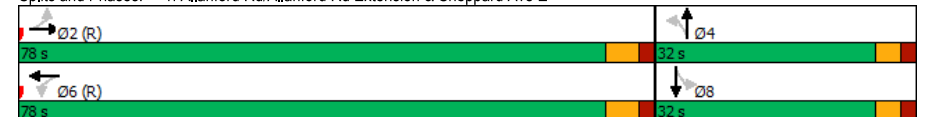
Intersection LOS: A

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
Page 2

Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑		↖	↑↑			↖			↖	↖
Traffic Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Future Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.96	1.00			0.97			0.98	0.95
Frt		0.999			0.990			0.910				0.850
Flt Protected	0.950			0.950				0.984			0.950	
Satd. Flow (prot)	1685	3457	0	1685	3421	0	0	1647	0	0	1785	1507
Flt Permitted	0.174			0.261				0.906			0.748	
Satd. Flow (perm)	309	3457	0	446	3421	0	0	1503	0	0	1378	1426
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			9			69				80
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		62	62		19	30		14	14		30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	2%	0%	0%	0%	0%
Adj. Flow (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	1081	0	15	1127	0	0	15	0	0	245	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		29.0	29.0		29.0	29.0	29.0
Total Split (s)	12.0	71.0		59.0	59.0		39.0	39.0		39.0	39.0	39.0

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
Page 3

Lanes, Volumes, Timings

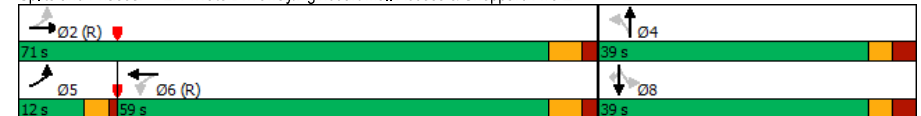
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.9%	64.5%		53.6%	53.6%		35.5%	35.5%		35.5%	35.5%	35.5%
Maximum Green (s)	8.0	65.0		53.0	53.0		33.0	33.0		33.0	33.0	33.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	76.3	74.3		63.7	63.7			25.7			25.7	25.7
Actuated g/C Ratio	0.69	0.68		0.58	0.58			0.23			0.23	0.23
v/c Ratio	0.32	0.46		0.06	0.57			0.04			0.76	0.20
Control Delay	5.7	7.0		13.9	17.0			0.2			55.5	7.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	5.7	7.0		13.9	17.0			0.2			55.5	7.7
LOS	A	A		B	B			A			E	A
Approach Delay		6.9			17.0			0.2			43.7	
Approach LOS		A			B			A			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 74 (67%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.76												
Intersection Signal Delay: 15.7	Intersection LOS: B											
Intersection Capacity Utilization 78.5%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option 2> SAT

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	104	519	430	374	685	230	240	1214	271	180	1098	84
Future Volume (vph)	104	519	430	374	685	230	240	1214	271	180	1098	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.97		0.92	0.97	0.96		0.99		0.91	0.99	0.99	
Frt			0.850		0.962				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1636	3336	1346	1604	3141	0	*1622	4839	1428	1620	4686	0
Flt Permitted	0.191			0.334			0.105			0.114		
Satd. Flow (perm)	319	3336	1234	547	3141	0	177	4839	1301	192	4686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			232		44				238		10	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	144		75	75		144	99		72	72		99
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	7%	3%	5%	6%	3%	4%	6%	3%	4%	6%	5%
Bus Blockages (#/hr)	0	0	20	0	0	20	0	0	6	0	10	0
Adj. Flow (vph)	104	519	430	374	685	230	240	1214	271	180	1098	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	519	430	374	915	0	240	1214	271	180	1182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.21	1.09	1.01	1.01	1.09	1.01	1.13	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option 2> SAT

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	45.0	45.0	17.0	51.0		17.0	44.0	44.0	14.0	41.0	
Total Split (%)	9.2%	37.5%	37.5%	14.2%	42.5%		14.2%	36.7%	36.7%	11.7%	34.2%	
Maximum Green (s)	7.0	38.0	38.0	13.0	44.0		13.0	37.0	37.0	10.0	34.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.8	39.0	39.0	59.0	45.2		55.0	38.1	38.1	48.9	35.0	
Actuated g/C Ratio	0.42	0.32	0.32	0.49	0.38		0.46	0.32	0.32	0.41	0.29	
v/c Ratio	0.48	0.48	0.77	0.95	0.76		0.96	0.79	0.47	0.87	0.86	
Control Delay	24.9	34.2	27.6	63.5	19.7		115.2	42.0	8.9	74.8	48.0	
Queue Delay	0.0	0.1	0.0	0.0	1.5		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.9	34.3	27.6	63.5	21.1		115.2	42.0	8.9	74.8	48.0	
LOS	C	C	C	E	C		F	D	A	E	D	
Approach Delay		30.6			33.4			47.0			51.6	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 21 (18%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 41.7

Intersection LOS: D

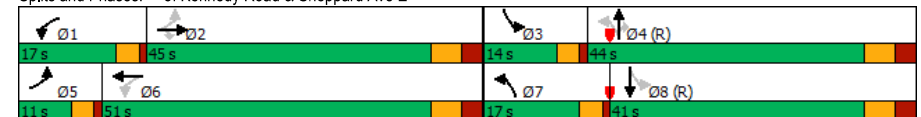
Intersection Capacity Utilization 109.0%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
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Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Future Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1			1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99		0.93	0.94		0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.998			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1685	4977	0	1589	5022	0
Flt Permitted	0.950			0.950			0.131			0.193		
Satd. Flow (perm)	1662	0	1394	1592	0	1470	232	4977	0	322	5022	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			170			69		4			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	12		50	50		12	26		11	11		26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	0%	2%	0%	6%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Adj. Flow (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	170	30	0	35	215	1336	0	15	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	













Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 2> SAT

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	31.0		31.0	31.0		31.0	25.0	79.0		54.0	54.0	
Total Split (%)	28.2%		28.2%	28.2%		28.2%	22.7%	71.8%		49.1%	49.1%	
Maximum Green (s)	25.0		25.0	25.0		25.0	21.0	73.0		48.0	48.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	19.3		19.3	19.3		19.3	82.7	80.7		65.8	65.8	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.75	0.73		0.60	0.60	
v/c Ratio	0.67		0.44	0.11		0.11	0.65	0.37		0.08	0.48	
Control Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
LOS	D		A	D		A	B	A		B	B	
Approach Delay		33.2			18.1			7.8			14.5	
Approach LOS		C			B			A			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 55												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.67												
Intersection Signal Delay: 13.5						Intersection LOS: B						
Intersection Capacity Utilization 70.9%						ICU Level of Service C						
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

<Option 2> SAT

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Future Volume (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00					1.00		0.98			
Frt		0.997							0.850			
Flt Protected				0.950			0.950					
Satd. Flow (prot)	1773	4830	0	1685	3500	1615	1685	0	1507	1773	0	1773
Flt Permitted				0.154			0.950					
Satd. Flow (perm)	1773	4830	0	273	3500	1615	1679	0	1477	1773	0	1773
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3							109			
Link Speed (k/h)	60				60			40			40	
Link Distance (m)	40.6				63.5			81.9			115.9	
Travel Time (s)	2.4				3.8			7.4			10.4	
Confl. Peds. (#/hr)	46		15	15		46	3		8	8		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	20	0	0	0	20	0	0	0	0	0	0
Adj. Flow (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1472	0	15	1389	0	35	0	20	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.21	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

<Option 2> SAT

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	60.0	60.0		10.0	70.0	70.0	40.0		40.0	10.0		50.0
Total Split (%)	50.0%	50.0%		8.3%	58.3%	58.3%	33.3%		33.3%	8.3%		41.7%
Maximum Green (s)	53.0	53.0		6.0	63.0	63.0	34.0		34.0	6.0		44.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)		99.4		105.2	103.4		9.4		9.4			
Actuated g/C Ratio		0.83		0.88	0.86		0.08		0.08			
v/c Ratio		0.37		0.05	0.46		0.27		0.09			
Control Delay		3.4		1.8	3.2		56.6		0.8			
Queue Delay		0.1		0.0	0.0		0.0		0.0			
Total Delay		3.5		1.8	3.2		56.6		0.8			
LOS		A		A	A		E		A			
Approach Delay		3.5			3.2				36.3			
Approach LOS		A			A				D			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 62 (52%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 4.0

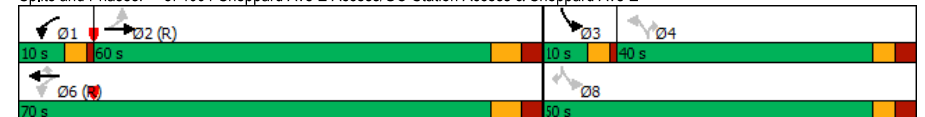
Intersection LOS: A

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
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Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Future Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			0.99		0.95		0.98			0.99	
Frt						0.850		0.890			0.946	
Flt Protected	0.950			0.950				0.991			0.971	
Satd. Flow (prot)	1685	3368	0	1685	3368	1597	0	1630	0	0	1715	0
Flt Permitted	0.187			0.203				0.985				
Satd. Flow (perm)	330	3368	0	356	3368	1513	0	1619	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						40		30			30	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	12		31	31		12	3		7	7		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	17%	0%	6%	0%	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1308	0	3	1381	2	0	11	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	93.0	93.0		93.0	93.0	93.0	17.0	17.0		17.0	17.0	

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

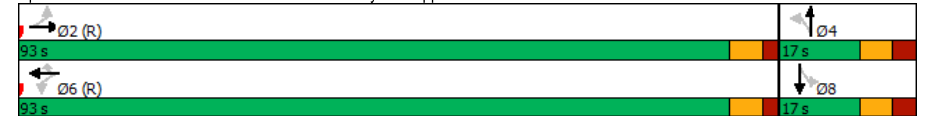
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	84.5%	84.5%		84.5%	84.5%	84.5%	15.5%	15.5%		15.5%	15.5%	
Maximum Green (s)	87.0	87.0		87.0	87.0	87.0	10.0	10.0		10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	106.2	106.2		106.2	106.2	106.2		8.0			8.0	
Actuated g/C Ratio	0.97	0.97		0.97	0.97	0.97		0.07			0.07	
v/c Ratio	0.00	0.40		0.01	0.42	0.00		0.08			0.03	
Control Delay	1.0	1.1		0.7	0.5	0.0		4.5			0.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay	1.0	1.1		0.7	0.5	0.0		4.5			0.4	
LOS	A	A		A	A	A		A			A	
Approach Delay		1.1			0.5			4.5			0.4	
Approach LOS		A			A			A			A	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 40												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.42												
Intersection Signal Delay: 0.8												
Intersection Capacity Utilization 56.8%												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
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Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 2> SAT

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Future Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.99	0.99		0.97		0.95	0.98		0.93
Frt		0.966			0.979			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4586	0	1652	3288	0	*1622	3500	1434	1668	3500	1463
Flt Permitted	0.109			0.101			0.393			0.470		
Satd. Flow (perm)	191	4586	0	174	3288	0	639	3500	1360	808	3500	1363
Right Turn on Red			Yes			Yes			Yes		Yes	
Satd. Flow (RTOR)		71			19				167			159
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			41.8			29.4	
Confl. Peds. (#/hr)	81		71	71		81	59		42	42		59
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	4%	2%	2%	2%	6%	2%	3%	1%	2%	1%
Bus Blockages (#/hr)	0	20	0	0	14	0	0	0	5	0	0	5
Adj. Flow (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	1316	0	218	1170	0	256	498	214	132	437	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.05	1.01	1.09	1.01	1.12	1.09	1.01	1.12
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 2> SAT

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	42.0		16.0	48.0		11.0	52.0	52.0	41.0	41.0	41.0
Total Split (%)	9.1%	38.2%		14.5%	43.6%		10.0%	47.3%	47.3%	37.3%	37.3%	37.3%
Maximum Green (s)	6.0	35.0		12.0	41.0		7.0	45.0	45.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	46.7	36.7		55.0	42.0		49.0	46.0	46.0	35.0	35.0	35.0
Actuated g/C Ratio	0.42	0.33		0.50	0.38		0.45	0.42	0.42	0.32	0.32	0.32
v/c Ratio	0.69	0.84		0.87	0.92		0.72	0.34	0.32	0.51	0.39	0.21
Control Delay	39.7	37.2		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	37.2		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
LOS	D	D		E	D		D	C	A	D	C	A
Approach Delay		37.4			50.5			22.5			27.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 24 (22%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 36.7

Intersection LOS: D

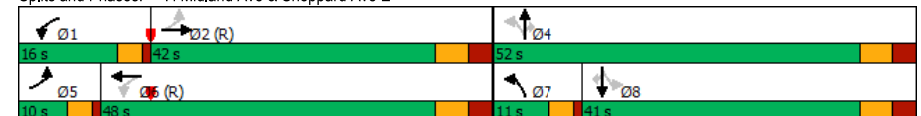
Intersection Capacity Utilization 115.5%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 7: Midland Ave & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Court

<Option 2> SAT
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↖↖↖		↖	↖↖↖
Traffic Volume (vph)	160	68	1802	261	82	1895
Future Volume (vph)	160	68	1802	261	82	1895
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	1.00					
Frt	0.960		0.981			
Flt Protected	0.966				0.950	
Satd. Flow (prot)	1712	0	4703	0	1123	4839
Flt Permitted	0.966				0.055	
Satd. Flow (perm)	1709	0	4703	0	65	4839
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	17		40			
Link Speed (k/h)	40		50			50
Link Distance (m)	213.2		244.0			134.1
Travel Time (s)	19.2		17.6			9.7
Confl. Peds. (#/hr)	2					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	5%	14%	50%	6%
Bus Blockages (#/hr)	0	0	6	0	0	0
Adj. Flow (vph)	160	68	1802	261	82	1895
Shared Lane Traffic (%)						
Lane Group Flow (vph)	228	0	2063	0	82	1895
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSP

Synchro 11 Report
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Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Court

<Option 2> SAT
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	26.0		67.0		17.0	84.0
Total Split (%)	23.6%		60.9%		15.5%	76.4%
Maximum Green (s)	20.0		61.0		12.5	78.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	18.3		70.3		83.2	81.7
Actuated g/C Ratio	0.17		0.64		0.76	0.74
v/c Ratio	0.76		0.68		0.57	0.53
Control Delay	58.8		5.3		35.3	6.9
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	58.8		5.3		35.3	6.9
LOS	E		A		D	A
Approach Delay	58.8		5.3			8.1
Approach LOS	E		A			A

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 9.4

Intersection LOS: A

Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Court



Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSP

Synchro 11 Report
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Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 2> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	15	489	0	160	10	1893	659	84	2043	0
Future Volume (vph)	0	0	15	489	0	160	10	1893	659	84	2043	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	0.0	25.0	30.0	80.0	0.0	0.0	20.0	0.0
Storage Lanes	0	0	2	0	0	1	1	1	0	0	0	0
Taper Length (m)	2.5			90.0			30.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Ped Bike Factor		0.98	1.00	0.97		1.00		0.95				
Frt		0.865		0.850				0.850				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1088	0	3362	1553	0	1203	4932	1463	1685	6153	0
Flt Permitted				0.950			0.073			0.065		
Satd. Flow (perm)	0	1088	0	3358	1553	0	92	4932	1396	115	6153	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		144			193				253			
Link Speed (k/h)		48			50			50			50	
Link Distance (m)		70.0			243.9			64.3			137.2	
Travel Time (s)		5.3			17.6			4.6			9.9	
Confl. Peds. (#/hr)	19		1	1		19	1		16	16		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	47%	3%	2%	0%	40%	4%	3%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	10	0
Adj. Flow (vph)	0	0	15	489	0	160	10	1893	659	84	2043	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	489	160	0	10	1893	659	84	2043	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			7.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 2> SAT

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0

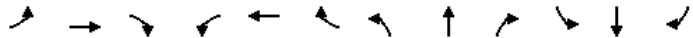
Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 2> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.5	14.5		31.5	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	13.2%	13.2%		28.6%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	
Maximum Green (s)	7.5	7.5		27.0	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0	7.0		7.0	
Flash Dont Walk (s)					32.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0			0	0		0	
Act Effct Green (s)		8.0		22.2	25.3		64.0	64.0	64.0	75.7	72.7	
Actuated g/C Ratio		0.07		0.20	0.23		0.58	0.58	0.58	0.69	0.66	
v/c Ratio		0.07		0.72	0.32		0.19	0.66	0.72	0.45	0.50	
Control Delay		0.7		47.3	3.6		25.2	17.6	14.6	26.9	9.9	
Queue Delay		0.0		0.0	0.0		0.0	3.0	4.1	0.0	0.1	
Total Delay		0.7		47.3	3.6		25.2	20.6	18.7	26.9	10.0	
LOS		A		D	A		C	C	B	C	A	
Approach Delay		0.7			36.5			20.2			10.7	
Approach LOS		A			D			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 18.3

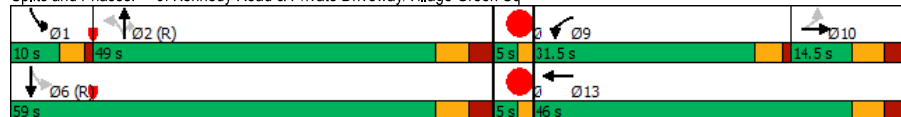
Intersection LOS: B

Intersection Capacity Utilization 98.3%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 2> SAT

08-10-2022

Lane Group	Ø3	Ø7
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 2> SAT
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↑↑↑			↑↑↑
Traffic Volume (vph)	787	855	1655	0	0	1410
Future Volume (vph)	787	855	1655	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.955	0.850				
Flt Protected	0.966					
Satd. Flow (prot)	3121	1457	4932	0	0	4932
Flt Permitted	0.966					
Satd. Flow (perm)	3121	1457	4932	0	0	4932
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4	4				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	5%	4%	0%	0%	4%
Adj. Flow (vph)	787	855	1655	0	0	1410
Shared Lane Traffic (%)		39%				
Lane Group Flow (vph)	1120	522	1655	0	0	1410
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 2> SAT
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	58.0	58.0	52.0			52.0
Total Split (%)	52.7%	52.7%	47.3%			47.3%
Maximum Green (s)	52.0	52.0	45.0			45.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	48.5	48.5	50.5			50.5
Actuated g/C Ratio	0.44	0.44	0.46			0.46
v/c Ratio	0.81	0.81	0.73			0.62
Control Delay	32.0	38.0	34.1			27.5
Queue Delay	0.0	0.0	5.5			0.5
Total Delay	32.0	38.0	39.6			28.0
LOS	C	D	D			C
Approach Delay	33.9		39.6			28.0
Approach LOS	C		D			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 26 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 34.2

Intersection LOS: C

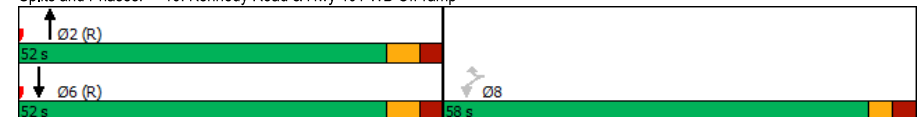
Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↖		↑↑↑			↑↑↑	
Traffic Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Future Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.966	0.850			0.865		0.997				
Flt Protected	0.950	0.980										
Satd. Flow (prot)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Flt Permitted	0.950	0.980										
Satd. Flow (perm)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		5	40					4				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							6		20	20		6
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	8%	6%	0%	0%	7%	0%	6%	5%	0%	6%	0%
Adj. Flow (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Shared Lane Traffic (%)	45%		33%									
Lane Group Flow (vph)	483	952	431	0	0	515	0	2007	0	0	1619	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 2> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	58.0	58.0	58.0			58.0		52.0			52.0	
Total Split (%)	52.7%	52.7%	52.7%			52.7%		47.3%			47.3%	
Maximum Green (s)	51.0	51.0	51.0			51.0		45.0			45.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	46.4	46.4	46.4			46.4		51.6			51.6	
Actuated g/C Ratio	0.42	0.42	0.42			0.42		0.47			0.47	
v/c Ratio	0.78	0.78	0.76			0.71		0.70			0.71	
Control Delay	37.0	32.1	33.8			31.8		25.6			14.9	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	37.0	32.1	33.8			31.8		25.6			14.9	
LOS	D	C	C			C		C			B	
Approach Delay		33.7			31.8			25.6			14.9	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 45 (41%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 25.8

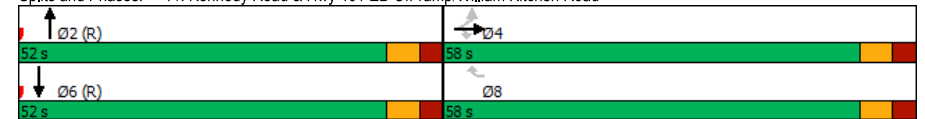
Intersection LOS: C

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 2> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	5	14	12	11	49	6
Future Volume (vph)	5	14	12	11	49	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.901				0.985	
Flt Protected				0.975	0.957	
Satd. Flow (prot)	1693	0	0	1832	1665	0
Flt Permitted				0.975	0.957	
Satd. Flow (perm)	1693	0	0	1832	1665	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)		6	6			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	3%	34%
Adj. Flow (vph)	5	14	12	11	49	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	0	23	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.6%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 2> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	5	14	12	11	49	6
Future Volume (Veh/h)	5	14	12	11	49	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	14	12	11	49	6
Pedestrians				2	6	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		53	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		53	20
tC, single (s)			4.1		6.4	6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.6
p0 queue free %			99		95	99
cM capacity (veh/h)			1594		941	966

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	19	23	55
Volume Left	0	12	49
Volume Right	14	0	6
cSH	1700	1594	943
Volume to Capacity	0.01	0.01	0.06
Queue Length 95th (m)	0.0	0.2	1.4
Control Delay (s)	0.0	3.8	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	3.8	9.1
Approach LOS			A

Intersection Summary

Average Delay	6.0		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 2> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	1072	64	154	1353	146	321
Future Volume (vph)	1072	64	154	1353	146	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	30.0		30.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor	0.99					0.98
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3384	0	1785	3400	1785	1493
Flt Permitted			0.097		0.950	
Satd. Flow (perm)	3384	0	182	3400	1785	1470
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	7					241
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		40	40			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	0%	0%	5%	0%	7%
Adj. Flow (vph)	1072	64	154	1353	146	321
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1136	0	154	1353	146	321
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	30.5		6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8		6.1	1.8	6.1	6.1
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		4	4
Detector Phase	2		1	6	4	4

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 2> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	25.0		9.5	25.0	41.0	41.0
Total Split (s)	61.0		17.0	78.0	42.0	42.0
Total Split (%)	50.8%		14.2%	65.0%	35.0%	35.0%
Maximum Green (s)	54.0		13.0	71.0	35.0	35.0
Yellow Time (s)	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	3.0		1.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0		3.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	7.0			7.0	7.0	7.0
Flash Dont Walk (s)	11.0			11.0	16.0	16.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effct Green (s)	49.5		67.2	64.2	43.8	43.8
Actuated g/C Ratio	0.41		0.56	0.54	0.36	0.36
v/c Ratio	0.81		0.60	0.74	0.22	0.47
Control Delay	27.1		22.4	22.2	29.6	11.0
Queue Delay	0.0		0.0	0.1	0.0	0.0
Total Delay	27.1		22.4	22.4	29.6	11.0
LOS	C		C	C	C	B
Approach Delay	27.1			22.4	16.8	
Approach LOS	C			C	B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 11 (9%), Referenced to phase 4:NBL and 8:, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 23.3

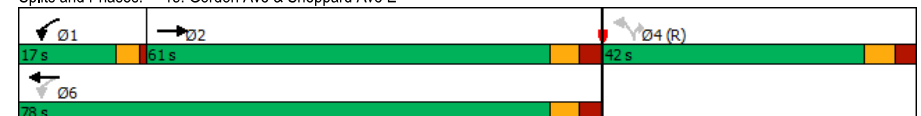
Intersection LOS: C

Intersection Capacity Utilization 72.9%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 13: Gordon Ave & Sheppard Ave E

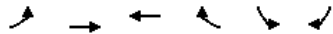


Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option 2> SAT

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑		↑	
Traffic Volume (vph)	16	1372	1492	39	18	14
Future Volume (vph)	16	1372	1492	39	18	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.941	
Flt Protected		0.999			0.973	
Satd. Flow (prot)	0	6207	3385	0	1720	0
Flt Permitted		0.999			0.973	
Satd. Flow (perm)	0	6207	3385	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Confl. Peds. (#/hr)	23			23	8	17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	4%	5%	6%	0%	0%
Adj. Flow (vph)	16	1372	1492	39	18	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1388	1531	0	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.9%

ICU Level of Service B

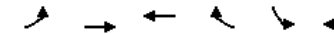
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option 2> SAT

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑		↑	
Traffic Volume (veh/h)	16	1372	1492	39	18	14
Future Volume (Veh/h)	16	1372	1492	39	18	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	1372	1492	39	18	14
Pedestrians		17	8		23	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		2	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		115	41			
pX, platoon unblocked	0.89				0.89	0.89
vC, conflicting volume	1554				1918	806
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1380				1787	541
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				71	97
cM capacity (veh/h)	409				62	422

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	212	392	392	392	995	536	32
Volume Left	16	0	0	0	0	0	18
Volume Right	0	0	0	0	0	39	14
cSH	409	1700	1700	1700	1700	1700	99
Volume to Capacity	0.04	0.23	0.23	0.23	0.59	0.32	0.32
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	0.0	10.5
Control Delay (s)	1.6	0.0	0.0	0.0	0.0	0.0	58.7
Lane LOS	A						F
Approach Delay (s)	0.3				0.0		58.7
Approach LOS							F

Intersection Summary





















Average Delay	0.8			
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	60			

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option 2> SAT

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	32	17	0	12	29	1813	29	6	1925	20
Future Volume (vph)	12	1	32	17	0	12	29	1813	29	6	1925	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	15.0	30.0	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	0	0	0	1	0	1	0	0	0	0
Taper Length (m)	2.5			2.5		10.0		15.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.904			0.944			0.998			0.998	
Flt Protected		0.987			0.972		0.950			0.950		
Satd. Flow (prot)	0	1597	0	0	1724	0	1574	4840	0	1685	4763	0
Flt Permitted		0.987			0.972		0.950			0.950		
Satd. Flow (perm)	0	1597	0	0	1724	0	1574	4840	0	1685	4763	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.1			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Confl. Peds. (#/hr)							5		5	5		5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	7%	0%	0%	0%	7%	5%	0%	0%	6%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	10	0
Adj. Flow (vph)	12	1	32	17	0	12	29	1813	29	6	1925	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	29	0	29	1842	0	6	1945	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.7% ICU Level of Service A




















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option 2> SAT

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	1	32	17	0	12	29	1813	29	6	1925	20
Future Volume (Veh/h)	12	1	32	17	0	12	29	1813	29	6	1925	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	12	1	32	17	0	12	29	1813	29	6	1925	20
Pedestrians		5			5							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type							None				None	
Median storage (veh)												
Upstream signal (m)							134				190	
pX, platoon unblocked	0.84	0.84	0.78	0.84	0.84	0.73	0.78			0.73		
vC, conflicting volume	2626	3857	657	2577	3852	624	1950			1847		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	524	1988	0	465	1983	0	1241			874		
tC, single (s)	7.5	6.5	7.0	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	96	98	96	95	100	98	93			99		
cM capacity (veh/h)	339	47	832	359	48	795	413			569		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	45	29	29	725	725	392	6	770	770	405		
Volume Left	12	17	29	0	0	0	6	0	0	0		
Volume Right	32	12	0	0	0	29	0	0	0	20		
cSH	473	464	413	1700	1700	1700	569	1700	1700	1700		
Volume to Capacity	0.10	0.06	0.07	0.43	0.43	0.23	0.01	0.45	0.45	0.24		
Queue Length 95th (m)	2.4	1.5	1.7	0.0	0.0	0.0	0.2	0.0	0.0	0.0		
Control Delay (s)	13.4	13.3	14.4	0.0	0.0	0.0	11.4	0.0	0.0	0.0		
Lane LOS	B	B	B				B					
Approach Delay (s)	13.4	13.3	0.2				0.0					
Approach LOS	B	B										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 47.7% ICU Level of Service A

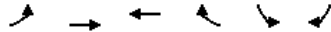
Analysis Period (min) 60

Lanes, Volumes, Timings

16: Collingwood Street & Gordon Ave

<Option 2> SAT

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Volume (vph)	24	2	1	438	219	43
Future Volume (vph)	24	2	1	438	219	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865		0.978		
Flt Protected		0.956		0.960		
Satd. Flow (prot)	0	1793	1625	0	1227	0
Flt Permitted		0.956		0.960		
Satd. Flow (perm)	0	1793	1625	0	1227	0
Link Speed (k/h)		40	40	40		
Link Distance (m)		116.5	100.9	190.4		
Travel Time (s)		10.5	9.1	17.1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	24	2	1	438	219	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	439	0	262	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0	7.0		
Link Offset(m)		0.0	0.0	0.0		
Crosswalk Width(m)		1.6	1.6	1.6		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.6%

ICU Level of Service A

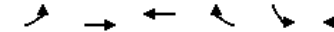
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: Collingwood Street & Gordon Ave

<Option 2> SAT

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Volume (veh/h)	24	2	1	438	219	43
Future Volume (Veh/h)	24	2	1	438	219	43
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	24	2	1	438	219	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	439				270	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	439				270	220
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	98				64	95
cM capacity (veh/h)	1132				614	795

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	439	262
Volume Left	24	0	219
Volume Right	0	438	43
cSH	1132	1700	638
Volume to Capacity	0.02	0.26	0.41
Queue Length 95th (m)	0.5	0.0	15.7
Control Delay (s)	7.6	0.0	14.6
Lane LOS	A		B
Approach Delay (s)	7.6	0.0	14.6
Approach LOS			B

Intersection Summary

Average Delay 5.5

Intersection Capacity Utilization 48.6%

ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
17: Village Green Sq

<Option 2> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Traffic Volume (vph)	26	151	77	39	267	43
Future Volume (vph)	26	151	77	39	267	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.885				0.981	
Flt Protected				0.968	0.959	
Satd. Flow (prot)	1163	0	0	1772	1768	0
Flt Permitted				0.968	0.959	
Satd. Flow (perm)	1163	0	0	1772	1768	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	22.7			152.9	154.8	
Travel Time (s)	2.0			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	26	151	77	39	267	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	0	0	116	310	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.2%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option 2> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	26	151	77	39	267	43
Future Volume (vph)	26	151	77	39	267	43
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	151	77	39	267	43
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	177	116	310			
Volume Left (vph)	0	77	267			
Volume Right (vph)	151	0	43			
Hadj (s)	0.22	0.18	0.09			
Departure Headway (s)	5.1	5.1	4.8			
Degree Utilization, x	0.25	0.17	0.41			
Capacity (veh/h)	664	653	725			
Control Delay (s)	9.8	9.1	11.0			
Approach Delay (s)	9.8	9.1	11.0			
Approach LOS	A	A	B			
Intersection Summary						
Delay			10.3			
Level of Service			B			
Intersection Capacity Utilization			45.2%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option 2> SAT
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	88	92	106	351	184	33
Future Volume (vph)	88	92	106	351	184	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.931				0.979	
Flt Protected	0.976			0.989		
Satd. Flow (prot)	1674	0	0	1822	1803	0
Flt Permitted	0.976			0.879		
Satd. Flow (perm)	1674	0	0	1619	1803	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	92				20	
Link Speed (k/h)	40			40	40	
Link Distance (m)	213.2			199.9	139.5	
Travel Time (s)	19.2			18.0	12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	88	92	106	351	184	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	180	0	0	457	217	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1		2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	28.0		32.0	32.0	32.0	
Total Split (%)	46.7%		53.3%	53.3%	53.3%	
Maximum Green (s)	22.0		26.0	26.0	26.0	

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSP

Synchro 11 Report
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Lanes, Volumes, Timings
101: N-S Street & Cowdray Court

<Option 2> SAT
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.4			32.5	32.5	
Actuated g/C Ratio	0.23			0.66	0.66	
v/c Ratio	0.39			0.43	0.18	
Control Delay	11.4			7.9	5.3	
Queue Delay	0.0			0.0	0.0	
Total Delay	11.4			7.9	5.3	
LOS	B			A	A	
Approach Delay	11.4			7.9	5.3	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 49.5

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 8.0

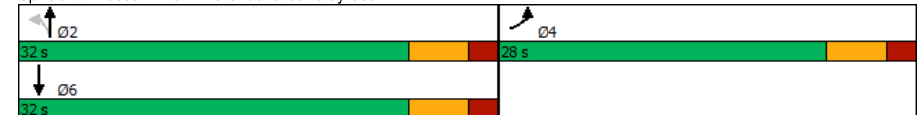
Intersection LOS: A

Intersection Capacity Utilization 59.0%

ICU Level of Service B

Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Court















Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 2> SAT
WSP

Synchro 11 Report
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Lanes, Volumes, Timings
102: Village Green Sq/N-S Street

<Option 2> SAT
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	2	23	284	175	9
Future Volume (vph)	29	2	23	284	175	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991			0.993		
Flt Protected	0.955			0.996		
Satd. Flow (prot)	1743	0	0	1835	1829	0
Flt Permitted	0.955			0.996		
Satd. Flow (perm)	1743	0	0	1835	1829	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	38.8			17.6	199.9	
Travel Time (s)	3.5			1.6	18.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	2	23	284	175	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	307	184	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other













Control Type: Unsignalized

Intersection Capacity Utilization 39.3% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq/N-S Street

<Option 2> SAT
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	2	23	284	175	9
Future Volume (Veh/h)	29	2	23	284	175	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	29	2	23	284	175	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					200	
pX, platoon unblocked						
vC, conflicting volume	510	180	184			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	510	180	184			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	100	98			
cM capacity (veh/h)	515	863	1391			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	31	307	184			
Volume Left	29	23	0			
Volume Right	2	0	9			
cSH	529	1391	1700			
Volume to Capacity	0.06	0.02	0.11			
Queue Length 95th (m)	1.4	0.4	0.0			
Control Delay (s)	12.2	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.2	0.7	0.0			
Approach LOS	B					

Intersection Summary

Average Delay 1.1

Intersection Capacity Utilization 39.3% ICU Level of Service A

Analysis Period (min) 60

Lanes, Volumes, Timings

104: N-S Street & Collingwood Street

<Option 2> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations		↗			↖	
Traffic Volume (vph)	0	217	0	0	438	0
Future Volume (vph)	0	217	0	0	438	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865				
Flt Protected					0.950	
Satd. Flow (prot)	0	1593	0	0	1750	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1593	0	0	1750	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	100.9			68.4	139.5	
Travel Time (s)	9.1			6.2	12.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	217	0	0	438	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	217	0	0	438	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.6% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

104: N-S Street & Collingwood Street












<Option 2> SAT

08-10-2022

Intersection Sign configuration not allowed in HCM analysis.

Lanes, Volumes, Timings
18: Village Green Sq

<Option 2> SAT
08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations					 	
Traffic Volume (vph)	317	356	315	3	74	152
Future Volume (vph)	317	356	315	3	74	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999	0.909		
Flt Protected	0.950			0.984		
Satd. Flow (prot)	1750	1807	1841	0	1005	0
Flt Permitted	0.950			0.984		
Satd. Flow (perm)	1750	1807	1841	0	1005	0
Link Speed (k/h)	50		50	40		
Link Distance (m)	243.9		158.0	154.8		
Travel Time (s)	17.6		11.4	13.9		
Confl. Peds. (#/hr)	32			32	2	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	2%	0%	0%	100%
Adj. Flow (vph)	317	356	315	3	74	152
Shared Lane Traffic (%)						
Lane Group Flow (vph)	317	356	318	0	226	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	10.5		10.5	3.5		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	1.6		1.6	1.6		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control	Free		Free	Stop		
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	58.2%			ICU Level of Service B		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option 2> SAT
08-19-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↩	↑	↩		↩	
Traffic Volume (veh/h)	317	356	315	3	74	152
Future Volume (Veh/h)	317	356	315	3	74	152
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	317	356	315	3	74	152
Pedestrians		6	2		32	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	0		3	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage (veh)		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	350				1340	354
vC1, stage 1 conf vol					348	
vC2, stage 2 conf vol					992	
vCu, unblocked vol	350				1340	354
tC, single (s)	4.1				6.4	7.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	4.2
p0 queue free %	73				66	69
cM capacity (veh/h)	1175				215	498
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	317	356	318	226		
Volume Left	317	0	0	74		
Volume Right	0	0	3	152		
cSH	1175	1700	1700	348		
Volume to Capacity	0.27	0.21	0.19	0.65		
Queue Length 95th (m)	8.4	0.0	0.0	39.0		
Control Delay (s)	9.2	0.0	0.0	34.0		
Lane LOS	A			D		
Approach Delay (s)	4.3		0.0	34.0		
Approach LOS				D		
Intersection Summary						
Average Delay			8.7			
Intersection Capacity Utilization			58.2%		ICU Level of Service	B
Analysis Period (min)			60			

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	15266	15273	15389	15197	15346	15301
Vehs Exited	14848	14735	14872	14766	14760	14797
Starting Vehs	769	758	827	798	774	780
Ending Vehs	1187	1296	1344	1229	1360	1276
Travel Distance (km)	17522	17458	17674	17345	17478	17496
Travel Time (hr)	1158.6	1203.6	1292.5	1116.4	1264.1	1207.0
Total Delay (hr)	807.1	854.2	938.3	768.6	913.3	856.3
Total Stops	38266	38383	42180	37451	41866	39621
Fuel Used (l)	2081.8	2118.9	2189.0	2051.1	2149.3	2118.0

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	15266	15273	15389	15197	15346	15301
Vehs Exited	14848	14735	14872	14766	14760	14797
Starting Vehs	769	758	827	798	774	780
Ending Vehs	1187	1296	1344	1229	1360	1276
Travel Distance (km)	17522	17458	17674	17345	17478	17496
Travel Time (hr)	1158.6	1203.6	1292.5	1116.4	1264.1	1207.0
Total Delay (hr)	807.1	854.2	938.3	768.6	913.3	856.3
Total Stops	38266	38383	42180	37451	41866	39621
Fuel Used (l)	2081.8	2118.9	2189.0	2051.1	2149.3	2118.0

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.6	184.6	180.9	55.0	35.0	113.5	122.2	69.9	136.9	125.4	119.6	89.3
Average Queue (m)	19.6	142.9	173.0	54.3	34.7	106.6	108.9	57.3	83.2	75.7	70.9	29.9
95th Queue (m)	42.5	223.5	196.1	61.0	36.2	115.0	118.2	82.4	143.2	128.1	104.6	72.5
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		6	34			17	11		1	0		
Queuing Penalty (veh)		30	176			133	87		8	0		
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	7	19	50	55	78	41		28	15		16	0
Queuing Penalty (veh)	19	10	224	154	379	136		113	30		29	1

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	280.3	282.5	282.2
Average Queue (m)	56.5	237.3	238.4	238.4
95th Queue (m)	89.2	333.3	334.0	332.7
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		16	16	18
Queuing Penalty (veh)		99	96	106
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	10	68		
Queuing Penalty (veh)	47	108		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	29.6	35.5	41.0	26.9	50.1	78.8	78.1	50.3	209.4	211.9	26.7	21.6
Average Queue (m)	16.7	23.2	24.5	6.5	7.1	64.1	64.1	30.7	123.5	123.7	9.6	8.5
95th Queue (m)	31.3	38.5	40.5	22.3	30.6	91.2	90.7	68.6	255.3	256.7	21.8	17.0
Link Distance (m)	26.7	26.7	26.7	26.7		50.4	50.4		204.7	204.7	66.8	66.8
Upstream Blk Time (%)	5	11	13	2	0	49	47	1	5	6		
Queuing Penalty (veh)	12	27	33	5	0	369	356	0	39	45		
Storage Bay Dist (m)					25.0			55.0				
Storage Blk Time (%)						54	47	1				
Queuing Penalty (veh)						11	56	6				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	18.8	21.6
Average Queue (m)	5.8	7.1
95th Queue (m)	15.6	17.6
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	14.2	84.6	87.1	34.6	23.2	54.9	66.2	69.7	50.5	3.4	17.3	33.8
Average Queue (m)	3.2	47.5	55.4	15.2	4.2	36.7	47.2	57.9	41.5	0.1	0.9	11.5
95th Queue (m)	10.7	71.6	76.8	28.7	15.2	57.0	65.5	77.5	62.3	2.4	7.8	33.2
Link Distance (m)	53.1			222.2		50.5	50.5	50.5		21.4	21.4	21.4
Upstream Blk Time (%)					0	1	3	9	2		0	4
Queuing Penalty (veh)					0	7	24	68	0		2	29
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)		0	0		0	13			23		8	
Queuing Penalty (veh)		0	0		1	1			114		48	

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	114.9	143.2	145.6	145.5	124.7	188.2	198.6	194.8
Average Queue (m)	61.0	121.5	125.7	126.7	84.4	98.5	105.7	106.8
95th Queue (m)	145.6	167.3	164.8	161.8	174.6	258.4	269.6	269.7
Link Distance (m)		122.8	122.8	122.8	122.8	231.9	231.9	231.9
Upstream Blk Time (%)		42	51	55	2	1	2	3
Queuing Penalty (veh)		264	323	351	15	8	19	26
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)		50						
Queuing Penalty (veh)		44						

Queuing and Blocking Report
Agincourt North-South GS EA

<Option C2> AM
08-08-2022

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T		T	T
Maximum Queue (m)	110.7	113.2	94.2	90.8	120.4	127.3	31.9	55.4	64.4	50.1	43.7	42.1
Average Queue (m)	72.2	76.6	63.2	55.1	63.1	75.8	1.4	3.0	6.7	3.3	37.3	36.9
95th Queue (m)	99.4	103.3	91.0	81.7	96.4	112.2	15.2	22.7	36.3	25.3	40.4	39.1
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)							0	0	0	0	41	44
Queuing Penalty (veh)							0	0	2	1	416	445
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		1	0									
Queuing Penalty (veh)		2	1									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44	B44
Directions Served	T	T	T	T	
Maximum Queue (m)	41.8	82.2	79.6	81.7	10.5
Average Queue (m)	36.9	72.6	71.8	72.1	0.3
95th Queue (m)	39.4	80.2	79.5	81.3	7.4
Link Distance (m)	21.4	50.5	50.5	50.5	50.5
Upstream Blk Time (%)	45	27	30	31	0
Queuing Penalty (veh)	463	208	231	238	1
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
Agincourt North-South GS EA

<Option C2> AM
08-08-2022

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	156.7	161.1	142.8	92.6	136.2	96.2	86.0	79.2	55.8	65.1	37.2	5.0
Average Queue (m)	104.2	107.4	83.7	54.4	72.7	80.5	65.5	46.1	2.6	15.9	1.8	0.2
95th Queue (m)	151.1	152.5	128.3	83.5	117.1	98.2	84.2	73.5	20.8	49.8	15.5	3.5
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)						13	3	1	0	1	0	
Queuing Penalty (veh)						0	0	0	0	0	0	
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	69.8	73.8	71.3	15.5	32.1	23.5
Average Queue (m)	54.6	63.5	55.6	1.1	6.5	3.1
95th Queue (m)	71.7	76.7	75.1	7.9	21.7	14.7
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	5	12	8			
Queuing Penalty (veh)	41	95	59			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Gordon Ave & Sheppard Ave E

Movement	EB	EB	WB	WB	WB	B27	B27	NB	NB
Directions Served	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	58.8	94.1	32.3	82.9	83.2	42.2	41.9	31.8	55.8
Average Queue (m)	17.1	55.0	25.5	82.2	82.1	37.4	36.2	21.0	18.3
95th Queue (m)	43.7	87.2	42.6	88.9	89.3	53.8	55.0	34.1	39.6
Link Distance (m)	104.1	104.1		67.5	67.5	26.0	26.0		174.7
Upstream Blk Time (%)		0		58	54	35	29		
Queuing Penalty (veh)		0		469	441	285	236		
Storage Bay Dist (m)			30.0					30.0	
Storage Blk Time (%)			4	62				6	1
Queuing Penalty (veh)			29	62				7	1

Zone Summary

Zone wide Queuing Penalty: 8026

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	15319	15187	15310	15407	15338	15308
Vehs Exited	15077	15010	14994	15199	14943	15044
Starting Vehs	807	814	743	773	797	781
Ending Vehs	1049	991	1059	981	1192	1045
Travel Distance (km)	17604	17559	17621	17680	17793	17652
Travel Time (hr)	1297.8	1211.1	1261.8	1361.8	1461.1	1318.7
Total Delay (hr)	944.5	858.3	907.6	1006.5	1103.8	964.2
Total Stops	34623	33863	34831	33428	36750	34698
Fuel Used (l)	2235.5	2166.1	2207.3	2296.6	2368.8	2254.9

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	15319	15187	15310	15407	15338	15308
Vehs Exited	15077	15010	14994	15199	14943	15044
Starting Vehs	807	814	743	773	797	781
Ending Vehs	1049	991	1059	981	1192	1045
Travel Distance (km)	17604	17559	17621	17680	17793	17652
Travel Time (hr)	1297.8	1211.1	1261.8	1361.8	1461.1	1318.7
Total Delay (hr)	944.5	858.3	907.6	1006.5	1103.8	964.2
Total Stops	34623	33863	34831	33428	36750	34698
Fuel Used (l)	2235.5	2166.1	2207.3	2296.6	2368.8	2254.9

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.8	188.8	183.0	55.0	35.0	114.8	119.6	69.9	170.8	177.5	170.7	100.0
Average Queue (m)	22.2	166.4	176.1	52.4	34.5	104.8	105.4	65.5	127.8	111.6	100.8	58.6
95th Queue (m)	46.3	202.7	180.0	66.1	37.5	125.1	130.0	83.5	188.1	172.7	149.9	114.3
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		14	45			36	18		8	1	0	
Queuing Penalty (veh)		95	313			205	107		49	4	1	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	2	18	61	27	78	41		63	22		33	5
Queuing Penalty (veh)	8	19	301	108	274	115		283	45		84	25

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	263.5	258.8	256.6
Average Queue (m)	63.1	181.4	181.1	180.2
95th Queue (m)	85.6	294.4	292.0	289.7
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		4	4	5
Queuing Penalty (veh)		20	22	28
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	42	53		
Queuing Penalty (veh)	196	95		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E													
Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB	
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R	
Maximum Queue (m)	11.7	41.9	42.9	30.7	42.9	76.6	77.0	41.8	69.9	64.6	49.2	25.6	
Average Queue (m)	2.9	28.5	30.8	13.9	6.8	43.4	43.9	6.3	11.6	12.7	23.4	11.8	
95th Queue (m)	9.9	37.1	41.6	31.4	24.1	82.9	84.0	30.6	45.2	46.2	40.7	21.9	
Link Distance (m)	26.7	26.7	26.7	26.7		50.4	50.4		204.7	204.7	66.8	66.8	
Upstream Blk Time (%)		22	23	6	0	11	12	0					
Queuing Penalty (veh)		73	77	19	0	58	63	0					
Storage Bay Dist (m)					25.0			55.0					
Storage Blk Time (%)					0	20	12	0					
Queuing Penalty (veh)					0	4	3	0					

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E		
Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	20.3	16.5
Average Queue (m)	7.3	5.1
95th Queue (m)	17.0	14.3
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq													
Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44	
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T	
Maximum Queue (m)	19.0	65.7	76.2	31.3	7.0	57.6	66.6	67.8	50.5	13.6	25.1	37.5	
Average Queue (m)	3.5	41.9	50.6	11.0	0.7	38.4	47.9	60.1	45.9	0.6	4.0	18.0	
95th Queue (m)	12.7	63.8	72.6	23.4	4.4	61.3	72.3	79.1	61.0	5.5	19.7	41.6	
Link Distance (m)	53.1			222.2		50.5	50.5	50.5		21.4	21.4	21.4	
Upstream Blk Time (%)						2	5	11	5	0	1	8	
Queuing Penalty (veh)						15	44	103	0	0	11	69	
Storage Bay Dist (m)		100.0	100.0		25.0				30.0				
Storage Blk Time (%)						15		20	18				
Queuing Penalty (veh)						0		141	120				

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq								
Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	76.4	126.2	131.0	134.9	110.7	6.0	59.7	13.6
Average Queue (m)	24.6	77.3	86.6	90.7	12.9	0.2	2.1	0.6
95th Queue (m)	51.5	114.3	123.8	126.2	66.1	4.3	34.7	5.9
Link Distance (m)		122.8	122.8	122.8	122.8	231.9	231.9	231.9
Upstream Blk Time (%)		0	1	2	0		0	
Queuing Penalty (veh)		2	6	10	0		0	
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)		6						
Queuing Penalty (veh)		8						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T		T	T
Maximum Queue (m)	126.5	136.3	131.9	102.6	110.4	136.9	35.4	55.9	70.0	44.6	45.3	45.9
Average Queue (m)	78.2	87.5	80.4	62.4	73.7	97.5	1.9	2.9	8.9	4.2	37.6	37.4
95th Queue (m)	115.7	125.7	119.4	88.2	99.2	126.9	19.1	22.4	43.2	29.2	41.3	41.2
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)							0	0	1	0	30	31
Queuing Penalty (veh)							0	0	5	2	283	288
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		6	4									
Queuing Penalty (veh)		24	29									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44
Directions Served	T	T	T	T
Maximum Queue (m)	42.2	81.0	79.6	81.8
Average Queue (m)	36.9	67.0	68.4	69.7
95th Queue (m)	39.5	89.6	86.0	85.7
Link Distance (m)	21.4	50.5	50.5	50.5
Upstream Blk Time (%)	32	16	20	21
Queuing Penalty (veh)	298	117	139	150
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	125.4	129.2	107.1	68.1	202.0	99.6	100.5	96.6	73.1	79.8	79.2	79.9
Average Queue (m)	76.6	82.4	62.8	44.0	105.3	89.2	88.9	88.2	42.8	69.5	69.4	69.5
95th Queue (m)	106.7	112.3	92.2	67.4	178.1	95.6	95.5	94.2	96.1	75.7	79.5	81.9
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)						59	59	61	1	52	55	65
Queuing Penalty (veh)						0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	72.8	72.8	70.5	48.4	51.4	46.5
Average Queue (m)	59.7	64.1	55.0	7.0	13.3	6.0
95th Queue (m)	78.3	79.9	75.8	27.7	38.3	26.6
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	13	20	14			
Queuing Penalty (veh)	103	159	109			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Gordon Ave & Sheppard Ave E

Movement	EB	EB	WB	WB	WB	B27	B27	NB	NB
Directions Served	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	54.6	94.6	32.4	82.9	83.2	42.2	41.9	32.3	141.4
Average Queue (m)	12.9	56.5	25.2	73.4	70.7	25.0	23.3	25.2	56.9
95th Queue (m)	42.1	91.4	41.0	102.5	105.5	55.6	53.9	39.5	145.3
Link Distance (m)	104.1	104.1		67.5	67.5	26.0	26.0		174.7
Upstream Blk Time (%)	0	2		32	23	15	11		7
Queuing Penalty (veh)	0	9		190	137	87	67		16
Storage Bay Dist (m)			30.0					30.0	
Storage Blk Time (%)			8	52				35	2
Queuing Penalty (veh)			39	43				41	3

Intersection: 48: Bend

Movement	SB
Directions Served	T
Maximum Queue (m)	2.5
Average Queue (m)	0.1
95th Queue (m)	1.7
Link Distance (m)	71.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 5562

Summary of All Intervals

Run Number	1	4	5	6	7	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	14808	14757	14903	15022	14443	14788
Vehs Exited	14257	14143	14277	14383	13953	14205
Starting Vehs	768	677	740	684	841	738
Ending Vehs	1319	1291	1366	1323	1331	1320
Travel Distance (km)	16984	16813	16786	17031	16325	16788
Travel Time (hr)	1432.7	1264.8	1267.6	1458.7	1484.4	1381.6
Total Delay (hr)	1091.3	927.6	930.1	1116.9	1156.8	1044.6
Total Stops	37688	35500	36873	38106	36017	36832
Fuel Used (l)	2284.5	2140.7	2127.5	2314.7	2301.1	2233.7

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00					
End Time	1:00					
Total Time (min)	60					
Volumes adjusted by Growth Factors.						
Run Number	1	4	5	6	7	Avg
Vehs Entered	14808	14757	14903	15022	14443	14788
Vehs Exited	14257	14143	14277	14383	13953	14205
Starting Vehs	768	677	740	684	841	738
Ending Vehs	1319	1291	1366	1323	1331	1320
Travel Distance (km)	16984	16813	16786	17031	16325	16788
Travel Time (hr)	1432.7	1264.8	1267.6	1458.7	1484.4	1381.6
Total Delay (hr)	1091.3	927.6	930.1	1116.9	1156.8	1044.6
Total Stops	37688	35500	36873	38106	36017	36832
Fuel Used (l)	2284.5	2140.7	2127.5	2314.7	2301.1	2233.7

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.8	190.0	182.8	55.0	35.0	114.8	119.6	69.9	172.7	176.8	181.0	100.0
Average Queue (m)	20.4	153.3	176.1	54.2	34.8	107.9	102.5	55.0	83.7	105.4	158.7	95.0
95th Queue (m)	43.7	228.1	180.1	63.1	36.2	112.1	130.1	81.0	138.0	183.0	215.4	122.7
Link Distance (m)	172.2		172.2			104.1	104.1	172.3		172.3	172.3	
Upstream Blk Time (%)	14		43			29	7	0		1	50	
Queuing Penalty (veh)	91		284			219	55	1		5	307	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0			60.0	
Storage Blk Time (%)	3	10	68	27	85	37	12		21	9		91
Queuing Penalty (veh)	7	11	290	71	292	138	49		50	25		367

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	278.8	283.1	274.6
Average Queue (m)	68.2	221.8	189.8	145.2
95th Queue (m)	79.5	336.2	318.4	258.4
Link Distance (m)	272.7		272.7	272.7
Upstream Blk Time (%)	32		4	1
Queuing Penalty (veh)	164		18	3
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	88	17		
Queuing Penalty (veh)	323	31		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	WB	WB	WB	B53	B53	NB	NB
Directions Served	T	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	33.5	38.5	19.1	50.2	76.6	79.4	214.6	218.3	29.6	12.7
Average Queue (m)	20.1	21.2	4.7	13.5	65.5	66.9	173.7	173.9	11.7	4.5
95th Queue (m)	39.5	41.5	15.8	48.3	84.4	84.8	288.5	287.7	24.0	12.2
Link Distance (m)	26.7	26.7	26.7		50.4	50.4	204.7	204.7	66.8	66.8
Upstream Blk Time (%)	9	10	0	0	75	59	30	20		
Queuing Penalty (veh)	30	34	0	0	517	407	210	138		
Storage Bay Dist (m)				25.0						
Storage Blk Time (%)					75	59				
Queuing Penalty (veh)					11	0				

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	22.0	138.1	167.2	206.1	50.2	74.2	77.7	73.4	50.5	45.8	50.7	47.2
Average Queue (m)	6.2	74.6	90.5	69.0	6.5	58.5	62.0	63.8	47.4	26.1	29.9	30.9
95th Queue (m)	18.1	142.4	170.2	195.9	25.1	85.5	82.7	80.5	61.7	56.0	58.3	55.7
Link Distance (m)	53.1			222.2		50.5	50.5	50.5		21.4	21.4	21.4
Upstream Blk Time (%)				4	0	13	16	19	4	10	14	17
Queuing Penalty (veh)				20	0	108	136	162	0	86	115	142
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)		19	28	5	0	24		38	10			
Queuing Penalty (veh)		30	45	23	1	2		250	62			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	TR
Maximum Queue (m)	35.3	109.3	113.7	113.8	62.3
Average Queue (m)	15.9	68.0	75.4	78.2	3.1
95th Queue (m)	30.8	103.8	113.1	115.8	27.1
Link Distance (m)	122.8		122.8	122.8	122.8
Upstream Blk Time (%)	0		0	0	
Queuing Penalty (veh)	0		1	0	
Storage Bay Dist (m)	80.0				
Storage Blk Time (%)			4		
Queuing Penalty (veh)			4		

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 2> SAT
08-08-2022

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	150.3	237.9	120.0	312.1	325.3	325.7	73.9	82.6	82.4	70.8	46.0	44.4
Average Queue (m)	78.3	87.4	75.7	175.4	254.5	276.3	27.5	40.0	43.3	25.3	37.2	37.7
95th Queue (m)	124.3	165.5	109.8	331.9	391.9	393.9	76.1	90.9	95.0	76.9	43.5	42.9
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)		0		1	11	43	2	5	15	7	45	49
Queuing Penalty (veh)		0		10	119	485	13	43	128	57	381	412
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		3	2									
Queuing Penalty (veh)		12	16									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44	B44
Directions Served	T	T	T	T	T
Maximum Queue (m)	42.8	82.8	80.6	83.0	10.5
Average Queue (m)	36.8	65.0	64.3	62.1	0.4
95th Queue (m)	39.2	93.5	86.0	84.2	7.6
Link Distance (m)	21.4	50.5	50.5	50.5	50.5
Upstream Blk Time (%)	50	26	27	25	0
Queuing Penalty (veh)	426	167	171	161	1
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 2> SAT
08-08-2022

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	99.6	103.6	90.4	83.9	252.2	99.6	96.8	95.6	73.6	78.5	75.9	76.2
Average Queue (m)	67.9	74.7	63.4	48.4	144.4	88.8	85.8	81.9	34.4	60.7	50.4	43.7
95th Queue (m)	94.8	99.6	86.1	73.0	279.7	96.6	97.2	101.2	88.0	88.8	95.2	95.8
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)					19	54	51	50	1	32	32	43
Queuing Penalty (veh)					0	0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	71.9	78.6	73.9	32.6	39.1	26.8
Average Queue (m)	57.0	61.1	53.8	3.9	7.4	3.1
95th Queue (m)	76.7	81.2	76.2	18.5	26.5	15.5
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	10	16	9			
Queuing Penalty (veh)	74	115	67			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Gordon Ave & Sheppard Ave E

Movement	EB	EB	WB	WB	WB	B27	B27	NB	NB
Directions Served	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	104.4	114.3	32.3	96.1	95.0	49.3	51.4	32.3	114.0
Average Queue (m)	8.6	106.7	31.0	85.6	85.0	40.2	39.5	26.1	62.2
95th Queue (m)	48.3	110.6	38.2	94.1	94.4	54.6	56.2	39.7	99.1
Link Distance (m)	104.1	104.1		67.5	67.5	26.0	26.0		174.7
Upstream Blk Time (%)	0	29		77	56	61	39		
Queuing Penalty (veh)	0	140		583	423	461	293		
Storage Bay Dist (m)			30.0					30.0	
Storage Blk Time (%)			18	71				9	25
Queuing Penalty (veh)			122	109				28	36

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 2> SAT
08-08-2022

Intersection: 48: Bend

Movement	SB	SB
Directions Served	T	T
Maximum Queue (m)	2.3	3.0
Average Queue (m)	0.1	0.1
95th Queue (m)	1.6	2.1
Link Distance (m)	71.3	71.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 10385

Arterial Level of Service

<Option C2> AM
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	16.9	30.8	0.16	18.6	E
Hwy 401 WB Off-ramp	III	50	29.8	15.8	45.6	0.38	29.9	C
Village Green Sq	III	50	9.9	16.0	25.9	0.10	14.2	F
Cowdray Court	III	50	30.1	15.7	45.8	0.38	30.0	C
Sheppard Ave E	III	50	25.5	39.6	65.1	0.32	17.9	E
Cardwell Avenue	III	50	22.9	6.3	29.2	0.29	35.7	C
Total	III		132.1	110.3	242.4	1.63	24.3	D

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.1	55.0	0.52	33.9	C
Sheppard Ave E	III	50	22.9	75.8	98.7	0.29	10.6	F
Cowdray Court	III	50	25.5	16.1	41.6	0.32	28.0	D
Private Driveway	III	50	30.1	13.3	43.4	0.38	31.6	C
Hwy 401 WB Off-ramp	III	50	9.9	17.7	27.6	0.10	13.3	F
Hwy 401 EB Off-ramp	III	50	29.8	14.7	44.5	0.38	30.6	C
Total	III		159.1	151.7	310.8	1.99	23.1	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	4.4	31.2	0.39	45.2	B
Private Driveway	II	60	17.6	8.5	26.1	0.25	33.9	D
Kennedy Road	II	60	13.7	36.2	49.9	0.19	13.8	F
Gordon Ave	II	60	9.2	11.1	20.3	0.13	22.8	E
4091 Sheppard Ave E	II	60	11.1	1.6	12.7	0.16	44.2	C
Lamont Ave	II	60	19.9	0.9	20.8	0.28	48.2	B
Midland Ave	II	60	17.6	27.2	44.8	0.25	19.8	F
Total	II		115.9	89.9	205.8	1.64	28.6	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	81.9	96.7	0.21	7.7	F
Private Driveway	II	60	17.6	0.5	18.1	0.25	48.9	B
GO Station Access	II	60	19.9	7.5	27.4	0.28	36.6	C
Gordon Ave	II	60	11.1	17.4	28.5	0.16	19.7	F
Kennedy Road	II	60	9.2	16.1	25.3	0.13	18.3	F
Agincourt Mall Acces	II	60	13.7	20.1	33.8	0.19	20.4	F
Allanford Rd Extensi	II	60	17.6	0.6	18.2	0.25	48.7	B
Total	II		103.9	144.1	248.0	1.45	21.1	E

Arterial Level of Service

<Option 2> PM

08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	29.7	43.6	0.16	13.1	F
Hwy 401 WB Off-ramp	III	50	29.8	22.0	51.8	0.38	26.3	D
Village Green Sq	III	50	9.9	16.0	25.9	0.10	14.2	F
Cowdray Court	III	50	30.1	14.1	44.2	0.38	31.0	C
Sheppard Ave E	III	50	25.5	51.3	76.8	0.32	15.2	F
Cardwell Avenue	III	50	22.9	8.1	31.0	0.29	33.6	C
Total	III		132.1	141.2	273.3	1.63	21.5	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	18.8	59.7	0.52	31.2	C
Sheppard Ave E	III	50	22.9	85.0	107.9	0.29	9.7	F
Cowdray Court	III	50	25.5	14.9	40.4	0.32	28.8	C
Private Driveway	III	50	30.1	13.4	43.5	0.38	31.5	C
Hwy 401 WB Off-ramp	III	50	9.9	19.7	29.6	0.10	12.4	F
Hwy 401 EB Off-ramp	III	50	29.8	19.8	49.6	0.38	27.4	D
Total	III		159.1	171.6	330.7	1.99	21.7	E

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.5	32.3	0.39	43.6	C
Private Driveway	II	60	17.6	6.3	23.9	0.25	37.1	C
Kennedy Road	II	60	13.7	43.8	57.5	0.19	12.0	F
Gordon Ave	II	60	9.2	15.4	24.6	0.13	18.8	F
4091 Sheppard Ave E	II	60	11.1	8.6	19.7	0.16	28.5	D
Lamont Ave	II	60	19.9	2.8	22.7	0.28	44.2	C
Midland Ave	II	60	17.6	31.2	48.8	0.25	18.1	F
Total	II		115.9	113.6	229.5	1.64	25.7	E

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	34.4	49.2	0.21	15.2	F
Private Driveway	II	60	17.6	0.9	18.5	0.25	47.9	B
GO Station Access	II	60	19.9	7.4	27.3	0.28	36.7	C
Gordon Ave	II	60	11.1	15.4	26.5	0.16	21.2	E
Kennedy Road	II	60	9.2	24.0	33.2	0.13	13.9	F
Agincourt Mall Acces	II	60	13.7	13.3	27.0	0.19	25.5	E
Allanford Rd Extensi	II	60	17.6	1.8	19.4	0.25	45.6	B
Total	II		103.9	97.2	201.1	1.45	26.0	E

Arterial Level of Service

<Option 2> SAT

08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	25.6	39.5	0.16	14.5	F
Hwy 401 WB Off-ramp	III	50	29.8	34.1	63.9	0.38	21.3	E
Village Green Sq	III	50	9.9	17.6	27.5	0.10	13.4	F
Cowdray Court	III	50	30.1	5.3	35.4	0.38	38.8	B
Sheppard Ave E	III	50	25.5	42.0	67.5	0.32	17.3	E
Cardwell Avenue	III	50	22.9	6.1	29.0	0.29	36.0	C
Total	III		132.1	130.7	262.8	1.63	22.4	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.5	55.4	0.52	33.6	C
Sheppard Ave E	III	50	22.9	48.0	70.9	0.29	14.7	F
Cowdray Court	III	50	25.5	6.9	32.4	0.32	36.0	C
Private Driveway	III	50	30.1	9.9	40.0	0.38	34.3	C
Hwy 401 WB Off-ramp	III	50	9.9	27.5	37.4	0.10	9.8	F
Hwy 401 EB Off-ramp	III	50	29.8	14.9	44.7	0.38	30.5	C
Total	III		159.1	121.7	280.8	1.99	25.5	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.4	32.2	0.39	43.8	C
Private Driveway	II	60	17.6	7.0	24.6	0.25	36.0	C
Kennedy Road	II	60	13.7	34.2	47.9	0.19	14.4	F
Gordon Ave	II	60	9.2	27.1	36.3	0.13	12.7	F
4091 Sheppard Ave E	II	60	11.1	3.4	14.5	0.16	38.7	C
Lamont Ave	II	60	19.9	1.1	21.0	0.28	47.7	B
Midland Ave	II	60	17.6	37.2	54.8	0.25	16.2	F
Total	II		115.9	115.4	231.3	1.64	25.5	E

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	47.9	62.7	0.21	11.9	F
Private Driveway	II	60	17.6	0.5	18.1	0.25	48.9	B
GO Station Access	II	60	19.9	3.2	23.1	0.28	43.4	C
Gordon Ave	II	60	11.1	22.2	33.3	0.16	16.8	F
Kennedy Road	II	60	9.2	19.7	28.9	0.13	16.0	F
Agincourt Mall Acces	II	60	13.7	17.0	30.7	0.19	22.5	E
Allanford Rd Extensi	II	60	17.6	3.5	21.1	0.25	42.0	C
Total	II		103.9	114.0	217.9	1.45	24.0	E

APPENDIX I

Option C3 Traffic Conditions

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔		↖	↔↔			↕			↕	
Traffic Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Future Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.97				0.94				
Frt		0.997						0.920			0.912	
Flt Protected		0.995		0.950				0.984			0.988	
Satd. Flow (prot)	0	3316	0	1574	3368	0	0	1552	0	0	1660	0
Flt Permitted		0.664		0.315				0.768			0.828	
Satd. Flow (perm)	0	2213	0	504	3368	0	0	1201	0	0	1391	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						65			65	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			49	49			27		59			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	7%	7%	7%	6%	2%	9%	2%	2%	2%	2%	2%
Adj. Flow (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	881	0	40	1247	0	0	110	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4		8			
Detector Phase		2	2	6	6		4	4	8	8		
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	73.0	73.0		73.0	73.0		37.0	37.0		37.0	37.0	
Total Split (%)	66.4%	66.4%		66.4%	66.4%		33.6%	33.6%		33.6%	33.6%	
Maximum Green (s)	67.0	67.0		67.0	67.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		89.9		89.9	89.9			11.1			11.1	
Actuated g/C Ratio		0.82		0.82	0.82			0.10			0.10	
v/c Ratio		0.49		0.10	0.45			0.61			0.51	
Control Delay		4.4		0.6	0.6			37.0			28.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		4.4		0.6	0.6			37.0			28.1	
LOS		A		A	A			D			C	
Approach Delay		4.4			0.6			37.0			28.1	
Approach LOS		A			A			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 101 (92%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 4.9

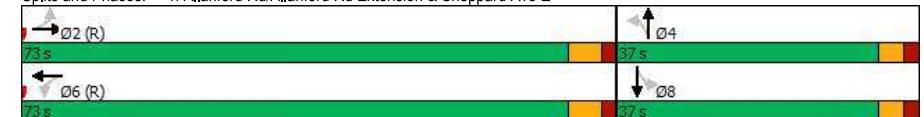
Intersection LOS: A

Intersection Capacity Utilization 91.8%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↘	↙	←	↖	↗	↑	↘	↙	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↗			↖	↗
Traffic Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Future Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.95	1.00			0.98			1.00	0.95
Frt		0.999			0.995			0.955				0.850
Flt Protected	0.950			0.950				0.968			0.954	
Satd. Flow (prot)	1636	3362	0	1685	3344	0	0	1728	0	0	1757	1478
Flt Permitted	0.136			0.358				0.808			0.723	
Satd. Flow (perm)	234	3362	0	602	3344	0	0	1424	0	0	1326	1410
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			5			69				69
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	26		53	53		26	24		3	3		24
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	6%	0%	0%	6%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	776	0	5	1247	0	0	15	0	0	285	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template	Thru			Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	10.0	69.0		59.0	59.0		41.0	41.0		41.0	41.0	41.0

Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↘	↙	←	↖	↗	↑	↘	↙	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	9.1%	62.7%		53.6%	53.6%		37.3%	37.3%		37.3%	37.3%	37.3%
Maximum Green (s)	6.0	63.0		53.0	53.0		35.0	35.0		35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	72.9	70.9		62.7	62.7		29.1			29.1	29.1	29.1
Actuated g/C Ratio	0.66	0.64		0.57	0.57		0.26			0.26	0.26	0.26
v/c Ratio	0.35	0.36		0.01	0.65		0.04			0.81	0.11	0.11
Control Delay	10.9	8.5		14.2	20.1		0.1			58.3	3.3	3.3
Queue Delay	0.0	0.0		0.0	0.3		0.0			0.0	0.0	0.0
Total Delay	10.9	8.5		14.2	20.4		0.1			58.3	3.3	3.3
LOS	B	A		B	C		A			E	A	A
Approach Delay		8.7			20.4		0.1			50.8		
Approach LOS		A			C		A			D		
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 100 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 20.2	Intersection LOS: C											
Intersection Capacity Utilization 72.6%	ICU Level of Service C											
Analysis Period (min) 60												
Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E												

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option 3> AM
08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↗	↖	↗		↖	↗	↗	↖	↗	↗
Traffic Volume (vph)	52	563	447	405	889	163	282	1267	179	159	1463	51
Future Volume (vph)	52	563	447	405	889	163	282	1267	179	159	1463	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.98		0.91	0.97	0.98		0.99		0.88	0.99	1.00	
Frt			0.850		0.977				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3275	1345	1560	3159	0	*1622	4794	1281	1604	4713	0
Flt Permitted	0.230			0.299			0.099			0.103		
Satd. Flow (perm)	392	3275	1226	477	3159	0	160	4794	1126	172	4713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		23				154		4	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	97		80	80		97	93		102	102		93
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	9%	4%	8%	8%	12%	9%	7%	12%	5%	6%	11%
Bus Blockages (#/hr)	0	0	18	0	0	18	0	0	12	0	12	0
Adj. Flow (vph)	52	563	447	405	889	163	282	1267	179	159	1463	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	563	447	405	1052	0	282	1267	179	159	1514	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.20	1.09	1.01	1.01	1.09	1.01	1.16	1.09	1.04	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	2	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	37.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	44.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option 3> AM
08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	44.0	44.0	44.0	17.0	61.0		14.0	46.0	46.0	13.0	45.0	
Total Split (%)	36.7%	36.7%	36.7%	14.2%	50.8%		11.7%	38.3%	38.3%	10.8%	37.5%	
Maximum Green (s)	37.0	37.0	37.0	13.0	54.0		10.0	39.0	39.0	9.0	38.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.5	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0		2.5	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	Max	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	30.0	30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0	0		0			0	0		0	
Act Effct Green (s)	38.0	38.0	38.0	58.0	55.0		55.1	40.1	40.1	51.9	39.0	
Actuated g/C Ratio	0.32	0.32	0.32	0.48	0.46		0.46	0.33	0.33	0.43	0.32	
v/c Ratio	0.42	0.54	0.87	1.14	0.72		1.32	0.79	0.37	0.83	0.99	
Control Delay	45.3	36.2	43.8	301.7	23.4		641.5	40.7	9.1	66.1	75.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	45.3	36.2	43.8	301.7	23.4		641.5	40.7	9.1	66.1	75.8	
LOS	D	D	D	F	C		F	D	A	E	E	
Approach Delay		39.8			100.7			135.5			74.8	
Approach LOS		D			F			F			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 36 (30%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 92.6

Intersection LOS: F

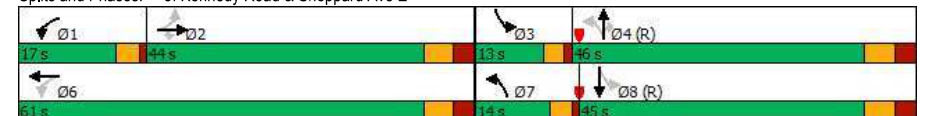
Intersection Capacity Utilization 125.2%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Future Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1			1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.96		1.00		0.99	1.00	
Frt			0.850			0.850		0.996			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	0	1478	1620	0	1478	1589	4782	0	1685	4876	0
Flt Permitted	0.950			0.950			0.097			0.222		
Satd. Flow (perm)	1559	0	1349	1495	0	1419	162	4782	0	391	4876	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			182			69		6			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	26		70	70		26	31		17	17		31
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	2%	2%	4%	2%	2%	6%	5%	4%	0%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	0	0
Adj. Flow (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	190	45	0	65	120	1201	0	5	1673	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.04	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

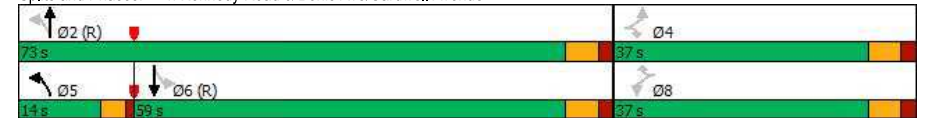
4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	20.2		20.2	20.2		20.2	81.8	79.8		68.0	68.0	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.74	0.73		0.62	0.62	
v/c Ratio	0.68		0.48	0.16		0.21	0.51	0.35		0.02	0.55	
Control Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
LOS	D		B	D		A	B	A		B	B	
Approach Delay		32.5			20.4			7.1			14.1	
Approach LOS		C			C			A			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 55												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.68												
Intersection Signal Delay: 13.7	Intersection LOS: B											
Intersection Capacity Utilization 75.3%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Future Volume (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	25.0			55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.91	0.99		0.97	0.98		0.97
Frt		0.998				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4707	0	1532	3433	1385	1546	0	1449	1685	0	1507
Flt Permitted	0.136			0.297			0.950			0.950		
Satd. Flow (perm)	241	4707	0	471	3433	1255	1523	0	1409	1658	0	1467
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				80			73			73
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		40.6			63.5			81.9			115.9	
Travel Time (s)		2.4			3.8			7.4			10.4	
Confl. Peds. (#/hr)	30		25	25		30	14		15	15		14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	7%	10%	4%	1%	9%	2%	4%	0%	2%	0%
Bus Blockages (#/hr)	0	18	0	0	0	18	0	0	0	0	0	0
Adj. Flow (vph)	85	910	15	20	1509	120	35	0	55	20	0	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	925	0	20	1509	120	35	0	55	20	0	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.20	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm		Perm	Perm		Perm
Protected Phases	5	2			6							
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	5	2		6	6	6	4		4	8		8
Switch Phase												
Minimum Initial (s)	6.0	24.0		24.0	24.0	24.0	7.0		7.0	7.0		7.0
Minimum Split (s)	10.0	31.0		31.0	31.0	31.0	40.0		40.0	40.0		40.0

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
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Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	80.0		70.0	70.0	70.0	40.0		40.0	40.0		40.0
Total Split (%)	8.3%	66.7%		58.3%	58.3%	58.3%	33.3%		33.3%	33.3%		33.3%
Maximum Green (s)	6.0	73.0		63.0	63.0	63.0	34.0		34.0	34.0		34.0
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	3.0	6.0		6.0	6.0	6.0	5.0		5.0	5.0		5.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	2.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	None		None	None		None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)		17.0		17.0	17.0	17.0	27.0		27.0	27.0		27.0
Pedestrian Calls (#/hr)		0		0	0	0	0		0	0		0
Act Effct Green (s)	104.9	103.1		94.8	94.8	94.8	9.7		9.7	9.7		9.7
Actuated g/C Ratio	0.87	0.86		0.79	0.79	0.79	0.08		0.08	0.08		0.08
v/c Ratio	0.28	0.23		0.05	0.56	0.12	0.29		0.30	0.15		0.16
Control Delay	6.7	1.9		5.2	7.5	2.2	57.3		11.0	53.0		1.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	6.7	1.9		5.2	7.5	2.2	57.3		11.0	53.0		1.9
LOS	A	A		A	A	A	E		B	D		A
Approach Delay		2.3			7.1			29.0			22.3	
Approach LOS		A			A			C			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 72 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 95												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.56												
Intersection Signal Delay: 6.3												
Intersection Capacity Utilization 75.1%												
Analysis Period (min) 60												

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
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Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑		↖	↑↑	↖		↕			↕	
Traffic Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Future Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.96		0.97				
Frt		0.997				0.850		0.966				
Flt Protected				0.950				0.964				
Satd. Flow (prot)	1612	3224	0	1327	3275	1597	0	1381	0	0	1842	0
Flt Permitted				0.288								
Satd. Flow (perm)	1612	3224	0	393	3275	1535	0	1401	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				40		30				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	7		45	45		7	25		28	28		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	17%	27%	9%	0%	17%	0%	50%	0%	2%	9%
Adj. Flow (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	991	0	15	1511	1	0	8	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0						0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

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Lanes, Volumes, Timings

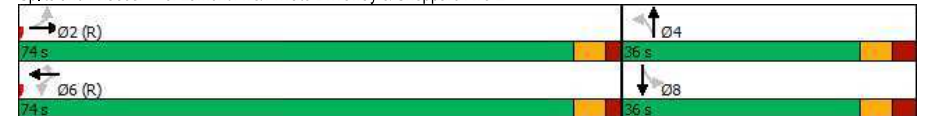
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		106.2		106.2	106.2	106.2		8.0				
Actuated g/C Ratio		0.97		0.97	0.97	0.97		0.07				
v/c Ratio		0.32		0.04	0.48	0.00		0.06				
Control Delay		0.9		0.3	0.5	0.0		0.9				
Queue Delay		0.0		0.0	0.0	0.0		0.0				
Total Delay		0.9		0.3	0.5	0.0		0.9				
LOS		A		A	A	A		A				
Approach Delay		0.9			0.5			0.9				
Approach LOS		A			A			A				
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 39 (35%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 45												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 0.7												
Intersection Capacity Utilization 67.4%												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
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Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Future Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.5	3.0	3.0	3.5	3.0	
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.98	0.99		0.98		0.92	0.98		0.92
Frt		0.964			0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	4464	0	1620	3308	0	*1622	3400	1365	1589	3433	1433
Flt Permitted	0.110			0.230			0.174			0.304		
Satd. Flow (perm)	183	4464	0	386	3308	0	284	3400	1259	497	3433	1323
Right Turn on Red			Yes			Yes			Yes		Yes	
Satd. Flow (RTOR)		78			7				164			164
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6				580.5			408.6
Travel Time (s)		14.8			12.5				41.8			29.4
Confl. Peds. (#/hr)	135		59	59		135	68		69	69		68
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	8%	4%	4%	3%	7%	5%	6%	6%	4%	1%
Bus Blockages (#/hr)	0	22	0	0	9	0	0	0	10	0	0	10
Adj. Flow (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	824	0	251	1247	0	289	675	88	91	814	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0				3.0			3.0
Link Offset(m)		0.0			0.0				0.0			0.0
Crosswalk Width(m)		1.6			1.6				1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.04	1.01	1.09	1.01	1.15	1.09	1.01	1.15
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	33.0		6.0	33.0		6.0	34.0	34.0	6.0	34.0	34.0
Minimum Split (s)	9.5	40.0		10.0	40.0		10.0	41.0	41.0	10.0	41.0	41.0

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
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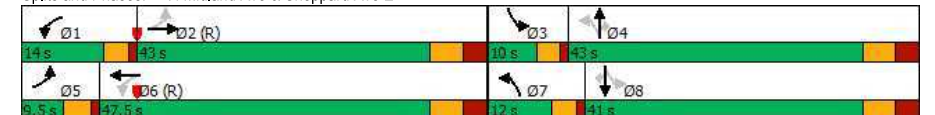
7: Midland Ave & Sheppard Ave E

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	9.5	43.0		14.0	47.5		12.0	43.0	43.0	10.0	41.0	41.0
Total Split (%)	8.6%	39.1%		12.7%	43.2%		10.9%	39.1%	39.1%	9.1%	37.3%	37.3%
Maximum Green (s)	5.0	36.0		10.0	40.5		8.0	36.0	36.0	6.0	34.0	34.0
Yellow Time (s)	3.5	4.0		3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-2.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	6.0		3.0	6.0		2.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0		27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	45.6	37.1		54.0	41.5		51.0	39.0	39.0	45.0	35.0	35.0
Actuated g/C Ratio	0.41	0.34		0.49	0.38		0.46	0.35	0.35	0.41	0.32	0.32
v/c Ratio	0.65	0.53		0.81	1.00		1.14	0.56	0.16	0.33	0.75	0.36
Control Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
LOS	D	C		D	F		F	C	A	C	D	A
Approach Delay		28.8			75.2			110.3			32.0	
Approach LOS		C			E			F			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 28 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 115												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.14												
Intersection Signal Delay: 63.5	Intersection LOS: E											
Intersection Capacity Utilization 102.4%	ICU Level of Service G											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 3> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑↑↑		↗	↑↑↑
Traffic Volume (vph)	282	163	1676	436	146	2319
Future Volume (vph)	282	163	1676	436	146	2319
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.98			
Frt	0.951		0.969			
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1720	0	4687	0	1685	5029
Flt Permitted	0.969				0.068	
Satd. Flow (perm)	1715	0	4687	0	121	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	28		80			
Link Speed (k/h)	40		50			50
Link Distance (m)	196.4		243.1			134.4
Travel Time (s)	17.7		17.5			9.7
Confl. Peds. (#/hr)	4	5		29	29	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0
Adj. Flow (vph)	282	163	1676	436	146	2319
Shared Lane Traffic (%)						
Lane Group Flow (vph)	445	0	2112	0	146	2319
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.04	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	35.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 3> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	41.0		56.6		12.4	69.0
Total Split (%)	37.3%		51.5%		11.3%	62.7%
Maximum Green (s)	35.0		50.6		7.9	63.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	31.8		55.3		69.7	68.2
Actuated g/C Ratio	0.29		0.50		0.63	0.62
v/c Ratio	0.86		0.88		0.70	0.74
Control Delay	54.6		19.6		39.4	17.4
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	54.6		19.6		39.4	17.4
LOS	D		B		D	B
Approach Delay	54.6		19.6			18.7
Approach LOS	D		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 58 (53%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 22.2

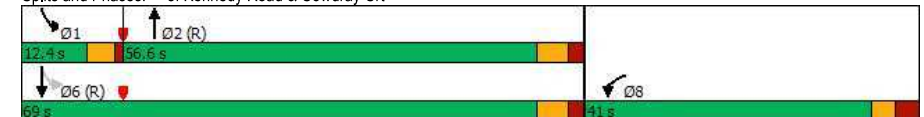
Intersection LOS: C

Intersection Capacity Utilization 88.2%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> AM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	11	710	0	268	7	1870	392	148	2428	0
Future Volume (vph)	0	0	11	710	0	268	7	1870	392	148	2428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	25.0	30.0	80.0	1.0	0.86	0.86	0.86	0.86
Storage Lanes	0	0	2	0	1	1	1	1	1	1	1	0
Taper Length (m)	2.5	90.0	30.0	35.0								
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt	0.865	0.850	0.850									
Flt Protected			0.950		0.950				0.950			
Satd. Flow (prot)	0	1477	0	3204	1581	0	1685	4932	1478	1652	6200	0
Flt Permitted			0.950		0.081				0.076			
Satd. Flow (perm)	0	1477	0	3204	1581	0	144	4932	1478	132	6200	0
Right Turn on Red		Yes		Yes			Yes			Yes		Yes
Satd. Flow (RTOR)		144		194				152				
Link Speed (k/h)		48		50				50			50	
Link Distance (m)		70.0		243.9				64.3			138.0	
Travel Time (s)		5.3		17.6				4.6			9.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	10%	2%	2%	1%	0%	4%	2%	2%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	12	0
Adj. Flow (vph)	0	0	11	710	0	268	7	1870	392	148	2428	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	710	268	0	7	1870	392	148	2428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0		6.0				3.0			3.0	
Link Offset(m)		0.0		0.0				0.0			0.0	
Crosswalk Width(m)		1.6		1.6				1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	16.0	16.0		30.0	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	14.5%	14.5%		27.3%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> AM

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> AM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	9.0		25.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0	7.0		7.0	
Flash Dont Walk (s)					32.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0			0	0		0	
Act Effct Green (s)		8.0		29.8	30.1		54.9	54.9	54.9	70.9	67.9	
Actuated g/C Ratio		0.07		0.27	0.27		0.50	0.50	0.50	0.64	0.62	
v/c Ratio		0.05		0.82	0.47		0.10	0.76	0.48	0.67	0.63	
Control Delay		0.4		46.6	11.5		19.7	21.4	10.9	39.8	15.5	
Queue Delay		0.0		0.0	0.0		0.0	0.5	0.6	0.0	0.0	
Total Delay		0.4		46.6	11.5		19.7	21.9	11.4	39.8	15.5	
LOS		A		D	B		B	C	B	D	B	
Approach Delay		0.4			37.0			20.1			16.9	
Approach LOS		A			D			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 57 (52%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 21.5

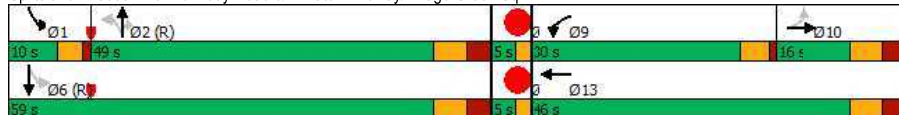
Intersection LOS: C

Intersection Capacity Utilization 104.6%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> AM

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 3> AM
08-10-2022

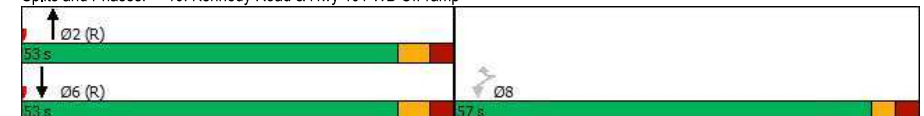
	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	855	747	1518	0	0	1491
Future Volume (vph)	855	747	1518	0	0	1491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.966	0.850				
Flt Protected	0.963					
Satd. Flow (prot)	3316	1515	4980	0	0	5029
Flt Permitted	0.963					
Satd. Flow (perm)	3316	1515	4980	0	0	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	2%	2%	2%
Adj. Flow (vph)	855	747	1518	0	0	1491
Shared Lane Traffic (%)		33%				
Lane Group Flow (vph)	1102	500	1518	0	0	1491
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 3> AM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	57.0	57.0	53.0			53.0
Total Split (%)	51.8%	51.8%	48.2%			48.2%
Maximum Green (s)	51.0	51.0	46.0			46.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	46.1	46.1	52.9			52.9
Actuated g/C Ratio	0.42	0.42	0.48			0.48
v/c Ratio	0.79	0.78	0.63			0.62
Control Delay	32.0	36.7	15.8			17.4
Queue Delay	0.1	0.5	0.3			0.7
Total Delay	32.1	37.2	16.0			18.1
LOS	C	D	B			B
Approach Delay	33.7		16.0			18.1
Approach LOS	C		B			B
Intersection Summary						
Area Type:	Other					
Cycle Length: 110						
Actuated Cycle Length: 110						
Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green						
Natural Cycle: 60						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.79						
Intersection Signal Delay: 22.8						Intersection LOS: C
Intersection Capacity Utilization 70.7%						ICU Level of Service C
Analysis Period (min) 60						
* User Entered Value						

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↔			↔	
Traffic Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Future Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0		0.0	30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.969	0.850			0.865		0.999				
Flt Protected	0.950	0.975										
Satd. Flow (prot)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Flt Permitted	0.950	0.975										
Satd. Flow (perm)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9	40					2				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							9		13	13		9
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	7%	9%	2%	2%	9%	2%	7%	0%	2%	3%	2%
Adj. Flow (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Shared Lane Traffic (%)	50%		31%									
Lane Group Flow (vph)	471	908	414	0	0	345	0	1720	0	0	1865	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

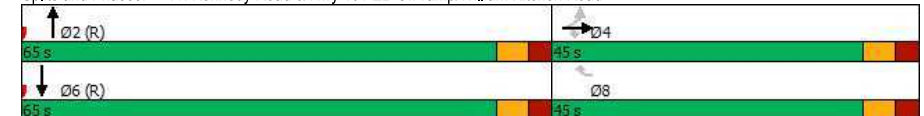
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 3> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	45.0	45.0	45.0			45.0		65.0			65.0	
Total Split (%)	40.9%	40.9%	40.9%			40.9%		59.1%			59.1%	
Maximum Green (s)	38.0	38.0	38.0			38.0		58.0			58.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	38.3	38.3	38.3			38.3		59.7			59.7	
Actuated g/C Ratio	0.35	0.35	0.35			0.35		0.54			0.54	
v/c Ratio	0.93	0.90	0.89			0.59		0.53			0.69	
Control Delay	70.9	49.5	59.8			34.1		16.9			14.7	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	70.9	49.5	59.8			34.1		16.9			14.7	
LOS	E	D	E			C		B			B	
Approach Delay		57.5			34.1			16.9			14.7	
Approach LOS		E			C			B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 59 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.93												
Intersection Signal Delay: 29.9												
Intersection Capacity Utilization 88.5%												
Analysis Period (min) 60												

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 3> AM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	10	4	12	22	46	17
Future Volume (vph)	10	4	12	22	46	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.961				0.964	
Flt Protected				0.983	0.965	
Satd. Flow (prot)	1685	0	0	1603	1592	0
Flt Permitted				0.983	0.965	
Satd. Flow (perm)	1685	0	0	1603	1592	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)					1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	25%	34%	5%	9%	12%
Adj. Flow (vph)	10	4	12	22	46	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	34	63	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.7%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 3> AM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	10	4	12	22	46	17
Future Volume (Veh/h)	10	4	12	22	46	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	4	12	22	46	17
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			14		59	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			14		59	12
tC, single (s)			4.4		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.5		3.6	3.4
p0 queue free %			99		95	98
cM capacity (veh/h)			1419		922	1040










Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	14	34	63
Volume Left	0	12	46
Volume Right	4	0	17
cSH	1700	1419	951
Volume to Capacity	0.01	0.01	0.07
Queue Length 95th (m)	0.0	0.2	1.6
Control Delay (s)	0.0	2.7	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	9.1
Approach LOS			A

Intersection Summary

Average Delay	6.0		
Intersection Capacity Utilization	18.7%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 3> AM
08-10-2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	908	4	24	1540	2	24
Future Volume (vph)	908	4	24	1540	2	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.875	
Flt Protected				0.999	0.996	
Satd. Flow (prot)	3214	0	0	3272	1462	0
Flt Permitted				0.999	0.996	
Satd. Flow (perm)	3214	0	0	3272	1462	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		22	22		1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	9%	9%	0%	13%
Adj. Flow (vph)	908	4	24	1540	2	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	912	0	0	1564	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	69.6%			ICU Level of Service C		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<Option 3> AM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	908	4	24	1540	2	24
Future Volume (Veh/h)	908	4	24	1540	2	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	908	4	24	1540	2	24
Pedestrians	1				22	
Lane Width (m)	3.5				3.5	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.86		0.88	0.86
vC, conflicting volume			934		1751	478
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			610		884	83
tC, single (s)			4.3		6.8	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.4
p0 queue free %			97		99	97
cM capacity (veh/h)			778		241	785
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	605	307	537	1027	26	
Volume Left	0	0	24	0	2	
Volume Right	0	4	0	0	24	
cSH	1700	1700	778	1700	669	
Volume to Capacity	0.36	0.18	0.03	0.60	0.04	
Queue Length 95th (m)	0.0	0.0	0.7	0.0	0.9	
Control Delay (s)	0.0	0.0	0.8	0.0	10.6	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.3		10.6	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			69.6%		ICU Level of Service	C
Analysis Period (min)			60			

Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option 3> AM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	15	872	55	0	1594	60	0	0	99	30	0	25
Traffic Volume (vph)	15	872	55	0	1594	60	0	0	99	30	0	25
Future Volume (vph)	15	872	55	0	1594	60	0	0	99	30	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.86	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991			0.995					0.865		0.939	
Flt Protected	0.999										0.973	
Satd. Flow (prot)	0	6391	0	0	3552	0	0	0	1593	0	1717	0
Flt Permitted	0.999										0.973	
Satd. Flow (perm)	0	6391	0	0	3552	0	0	0	1593	0	1717	0
Link Speed (k/h)	60			60					48		40	
Link Distance (m)	35.8			40.6					195.3		217.7	
Travel Time (s)	2.1			2.4					14.6		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	2%	2%	0%	0%	2%	2%	2%	0%	2%	0%
Adj. Flow (vph)	15	872	55	0	1594	60	0	0	99	30	0	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	942	0	0	1654	0	0	0	99	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0			0.0					0.0		0.0	
Link Offset(m)	1.8			-1.5					0.0		0.0	
Crosswalk Width(m)	1.6			1.6					1.6		1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control	Free			Free			Stop			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.0%

ICU Level of Service B

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option 3> AM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	15	872	55	0	1594	60	0	0	99	30	0	25
Traffic Volume (veh/h)	15	872	55	0	1594	60	0	0	99	30	0	25
Future Volume (Veh/h)	15	872	55	0	1594	60	0	0	99	30	0	25
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	872	55	0	1594	60	0	0	99	30	0	25
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	244			41								
pX, platoon unblocked	0.81						0.81	0.81		0.81	0.81	0.81
vC, conflicting volume	1654			927			1752	2584	246	1971	2581	827
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1337			927			1458	2485	246	1729	2482	315
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	87	24	100	95
cM capacity (veh/h)	423			733			68	23	755	40	23	555
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	NB 1	SB 1				
Volume Total	160	291	291	200	1063	591	99	55				
Volume Left	15	0	0	0	0	0	0	30				
Volume Right	0	0	0	55	0	60	99	25				
cSH	423	1700	1700	1700	1700	1700	755	69				
Volume to Capacity	0.04	0.17	0.17	0.12	0.63	0.35	0.13	0.80				
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	0.0	3.4	47.8				
Control Delay (s)	1.8	0.0	0.0	0.0	0.0	0.0	10.5	206.9				
Lane LOS	A						B	F				
Approach Delay (s)	0.3				0.0		10.5	206.9				
Approach LOS							B	F				

Intersection Summary

Average Delay 4.6

Intersection Capacity Utilization 56.0%

ICU Level of Service

B




















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option 3> AM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	35	4	1	4	75	1808	9	4	2196	27
Future Volume (vph)	4	0	35	4	1	4	75	1808	9	4	2196	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.879			0.940			0.999			0.998	
Flt Protected		0.995			0.978		0.950			0.950		
Satd. Flow (prot)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Flt Permitted		0.995			0.978		0.950			0.950		
Satd. Flow (perm)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	25%	2%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	12	0
Adj. Flow (vph)	4	0	35	4	1	4	75	1808	9	4	2196	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	9	0	75	1817	0	4	2223	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.04	1.01	1.09	1.04	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 60.5%

ICU Level of Service B




















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option 3> AM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	35	4	1	4	75	1808	9	4	2196	27
Future Volume (Veh/h)	4	0	35	4	1	4	75	1808	9	4	2196	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	0	35	4	1	4	75	1808	9	4	2196	27
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.78	0.78	0.70	0.78	0.78	0.63	0.70			0.63		
vC, conflicting volume	2975	4184	746	2738	4194	607	2223			1817		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1541	0	0	1553	0	1269			258		
tC, single (s)	8.0	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	99	99	99	81			100		
cM capacity (veh/h)	626	72	769	651	72	690	391			834		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	39	9	75	723	723	371	4	878	878	466		
Volume Left	4	4	75	0	0	0	4	0	0	0		
Volume Right	35	4	0	0	0	9	0	0	0	27		
cSH	751	348	391	1700	1700	1700	834	1700	1700	1700		
Volume to Capacity	0.05	0.03	0.19	0.43	0.43	0.22	0.00	0.52	0.52	0.27		
Queue Length 95th (m)	1.2	0.6	5.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	10.1	15.6	16.4	0.0	0.0	0.0	9.3	0.0	0.0	0.0		
Lane LOS	B	C	C				A					
Approach Delay (s)	10.1	15.6	0.7				0.0					
Approach LOS	B	C										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 60.5%

ICU Level of Service

B

Analysis Period (min) 60

Lanes, Volumes, Timings
16: Collingwood Street & Gordon Ave

<Option 3> AM
08-10-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	14	0	2	2	2	35
Future Volume (vph)	14	0	2	2	2	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932		0.872		
Flt Protected		0.950		0.997		
Satd. Flow (prot)	0	1785	1751	0	1432	0
Flt Permitted		0.950		0.997		
Satd. Flow (perm)	0	1785	1751	0	1432	0
Link Speed (k/h)		40	40	40		
Link Distance (m)		116.5	116.5	190.4		
Travel Time (s)		10.5	10.5	17.1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	14	0	2	2	2	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	14	4	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0	3.5		
Link Offset(m)		0.0	0.0	0.0		
Crosswalk Width(m)		1.6	1.6	1.6		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 17.4%	ICU Level of Service A					
Analysis Period (min) 60						











HCM Unsignalized Intersection Capacity Analysis
16: Collingwood Street & Gordon Ave

<Option 3> AM
08-10-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	14	0	2	2	2	35
Future Volume (Veh/h)	14	0	2	2	2	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	0	2	2	2	35
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	4				31	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4				31	3
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				100	97
cM capacity (veh/h)	1631				866	1052
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	14	4	37			
Volume Left	14	0	2			
Volume Right	0	2	35			
cSH	1631	1700	1040			
Volume to Capacity	0.01	0.00	0.04			
Queue Length 95th (m)	0.2	0.0	0.8			
Control Delay (s)	7.2	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	7.2	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay		7.6				
Intersection Capacity Utilization		17.4%		ICU Level of Service	A	
Analysis Period (min)		60				

Lanes, Volumes, Timings
17: Village Green Sq

<Option 3> AM
08-10-2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	8	142	52	22	88	6
Future Volume (vph)	8	142	52	22	88	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.872				0.991	
Flt Protected				0.966	0.955	
Satd. Flow (prot)	1111	0	0	1765	1778	0
Flt Permitted				0.966	0.955	
Satd. Flow (perm)	1111	0	0	1765	1778	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	18.3			152.9	154.8	
Travel Time (s)	1.6			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	8	142	52	22	88	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	150	0	0	74	94	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.8%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option 3> AM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	8	142	52	22	88	6
Future Volume (vph)	8	142	52	22	88	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	8	142	52	22	88	6
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	150	74	94			
Volume Left (vph)	0	52	88			
Volume Right (vph)	142	0	6			
Hadj (s)	0.24	0.19	0.15			
Departure Headway (s)	4.5	4.5	4.6			
Degree Utilization, x	0.19	0.09	0.12			
Capacity (veh/h)	788	779	747			
Control Delay (s)	8.5	7.9	8.2			
Approach Delay (s)	8.5	7.9	8.2			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.3			
Level of Service			A			
Intersection Capacity Utilization			29.8%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 3> AM
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	15	167	116	85	51	4
Future Volume (vph)	15	167	116	85	51	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.876				0.990	
Flt Protected	0.996			0.972		
Satd. Flow (prot)	1607	0	0	1790	1824	0
Flt Permitted	0.996			0.820		
Satd. Flow (perm)	1607	0	0	1510	1824	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	167				4	
Link Speed (k/h)	40			48	48	
Link Distance (m)	196.4			203.9	142.2	
Travel Time (s)	17.7			15.3	10.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	167	116	85	51	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	0	0	201	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	29.0		31.0	31.0	31.0	
Total Split (%)	48.3%		51.7%	51.7%	51.7%	
Maximum Green (s)	23.0		25.0	25.0	25.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
WSP

Synchro 11 Report
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Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 3> AM
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.0			31.3	31.3	
Actuated g/C Ratio	0.23			0.65	0.65	
v/c Ratio	0.37			0.20	0.05	
Control Delay	6.4			5.9	4.7	
Queue Delay	0.0			0.0	0.0	
Total Delay	6.4			5.9	4.7	
LOS	A			A	A	
Approach Delay	6.4			5.9	4.7	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 48

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 5.9

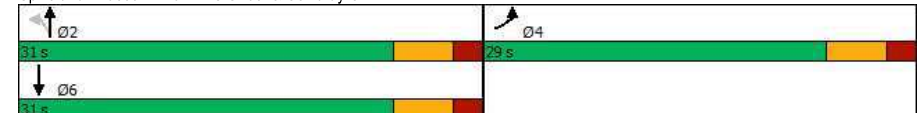
Intersection LOS: A

Intersection Capacity Utilization 37.0%

ICU Level of Service A

Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Crt















Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> AM
WSP

Synchro 11 Report
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Lanes, Volumes, Timings
102: Village Green Sq & N-S Street

<Option 3> AM
08-10-2022













						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	26	11	83	122	8
Future Volume (vph)	13	26	11	83	122	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910				0.992	
Flt Protected	0.984			0.994		
Satd. Flow (prot)	1649	0	0	1831	1827	0
Flt Permitted	0.984			0.994		
Satd. Flow (perm)	1649	0	0	1831	1827	0
Link Speed (k/h)	40			40	48	
Link Distance (m)	35.4			15.7	203.9	
Travel Time (s)	3.2			1.4	15.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	13	26	11	83	122	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	0	94	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.6% ICU Level of Service A
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq & N-S Street

<Option 3> AM
08-10-2022













						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	26	11	83	122	8
Future Volume (Veh/h)	13	26	11	83	122	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	13	26	11	83	122	8
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					204	
pX, platoon unblocked						
vC, conflicting volume	231	126	130			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	231	126	130			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	97	99			
cM capacity (veh/h)	751	924	1455			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	39	94	130			
Volume Left	13	11	0			
Volume Right	26	0	8			
cSH	859	1455	1700			
Volume to Capacity	0.05	0.01	0.08			
Queue Length 95th (m)	1.1	0.2	0.0			
Control Delay (s)	9.4	0.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.4	0.9	0.0			
Approach LOS	A					

Intersection Summary

Average Delay 1.7
Intersection Capacity Utilization 23.6% ICU Level of Service A
Analysis Period (min) 60

Lanes, Volumes, Timings
104: N-S Street & Collingwood Street

<Option 3> AM
08-10-2022













						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	99	55	0
Future Volume (vph)	0	0	0	99	55	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	116.5			142.2	195.3	
Travel Time (s)	8.7			10.7	14.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	99	55	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	99	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 8.5% ICU Level of Service A
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
104: N-S Street & Collingwood Street

<Option 3> AM
08-10-2022












						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	99	55	0
Future Volume (Veh/h)	0	0	0	99	55	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	99	55	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				142		
pX, platoon unblocked						
vC, conflicting volume	154	55	55			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	154	55	55			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	838	1012	1550			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	99	55			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1550	1700			
Volume to Capacity	0.00	0.00	0.03			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					

Intersection Summary

Average Delay 0.0
Intersection Capacity Utilization 8.5% ICU Level of Service A
Analysis Period (min) 60







Lanes, Volumes, Timings
18: Village Green Sq

<Option 3> AM
08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	201	588	2	0	199
Future Volume (vph)	95	201	588	2	0	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1785	1824	1842	0	1563	0
Flt Permitted	0.950					
Satd. Flow (perm)	1785	1824	1842	0	1563	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	104			104	6	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	2%	0%	2%	4%
Adj. Flow (vph)	95	201	588	2	0	199
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	201	590	0	199	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		9.5	9.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	59.5%			ICU Level of Service B		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option 3> AM
08-19-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	201	588	2	0	199
Future Volume (Veh/h)	95	201	588	2	0	199
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	95	201	588	2	0	199
Pedestrians		7	6		104	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	1		9	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage (veh)		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	694				1090	700
vC1, stage 1 conf vol					693	
vC2, stage 2 conf vol					397	
vCu, unblocked vol	694				1090	700
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	89				100	49
cM capacity (veh/h)	827				319	393
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	95	201	590	199		
Volume Left	95	0	0	0		
Volume Right	0	0	2	199		
cSH	827	1700	1700	393		
Volume to Capacity	0.11	0.12	0.35	0.51		
Queue Length 95th (m)	3.0	0.0	0.0	22.6		
Control Delay (s)	9.9	0.0	0.0	23.4		
Lane LOS	A			C		
Approach Delay (s)	3.2		0.0	23.4		
Approach LOS				C		
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			59.5%		ICU Level of Service	B
Analysis Period (min)			60			

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 3> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Future Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.89				
Frt		0.997			0.999			0.910			0.907	
Flt Protected		0.996		0.950				0.992			0.992	
Satd. Flow (prot)	0	3409	0	1685	3430	0	0	1516	0	0	1657	0
Flt Permitted		0.729		0.187				0.929			0.896	
Satd. Flow (perm)	0	2495	0	332	3430	0	0	1414	0	0	1497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1			60			45	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			26	26			23		119			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	0%	0%	4%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1355	0	35	938	0	0	90	0	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4			8		
Detector Phase		2	2		6	6		4	4		8	8
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 3> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	76.0	76.0		76.0	76.0		34.0	34.0		34.0	34.0	
Total Split (%)	69.1%	69.1%		69.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	70.0	70.0		70.0	70.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.63		0.12	0.32			0.49			0.37	
Control Delay		5.2		2.7	1.8			28.8			25.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.2		2.7	1.8			28.8			25.7	
LOS		A		A	A			C			C	
Approach Delay		5.2			1.8			28.8			25.7	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 96 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.3

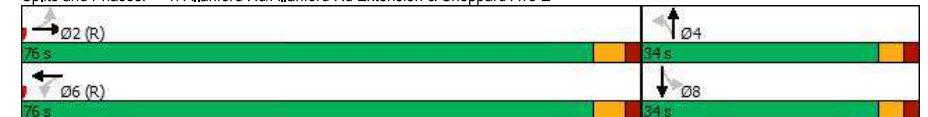
Intersection LOS: A

Intersection Capacity Utilization 97.7%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Future Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98	1.00			0.97			0.98	0.96
Frt		0.999			0.991			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1685	3426	0	1685	3362	0	0	1578	0	0	1767	1507
Flt Permitted	0.238			0.223							0.751	
Satd. Flow (perm)	422	3426	0	388	3362	0	0	1578	0	0	1373	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			8			69				115
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		42	42		19	20		12	12		20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	4%	0%	0%	5%	1%	0%	2%	0%	1%	0%	0%
Adj. Flow (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1195	0	10	958	0	0	10	0	0	210	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0						0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		NA			Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	11.0	72.0		61.0	61.0		38.0	38.0		38.0	38.0	38.0

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSPSynchro 11 Report
Page 3

Lanes, Volumes, Timings

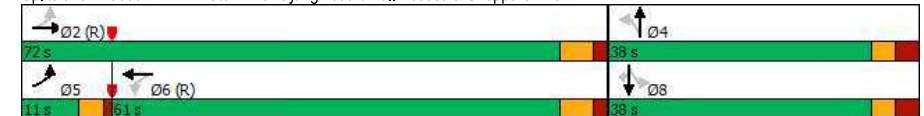
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	65.5%		55.5%	55.5%		34.5%	34.5%		34.5%	34.5%	34.5%
Maximum Green (s)	7.0	66.0		55.0	55.0		32.0	32.0		32.0	32.0	32.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	78.9	76.9		68.6	68.6		23.1			23.1	23.1	
Actuated g/C Ratio	0.72	0.70		0.62	0.62		0.21			0.21	0.21	
v/c Ratio	0.21	0.50		0.04	0.46		0.03			0.73	0.29	
Control Delay	5.1	6.2		12.2	13.2		0.1			55.8	7.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Delay	5.1	6.2		12.2	13.2		0.1			55.8	7.8	
LOS	A	A		B	B		A			E	A	
Approach Delay		6.2			13.2		0.1				38.8	
Approach LOS		A			B		A				D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 108 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 50												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.73												
Intersection Signal Delay: 12.9	Intersection LOS: B											
Intersection Capacity Utilization 80.2%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option 3> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	107	810	491	346	627	172	271	1386	258	179	1388	59
Future Volume (vph)	107	810	491	346	627	172	271	1386	258	179	1388	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.95		0.89	0.98	0.96		0.99		0.87	0.99	0.99	
Frt			0.850		0.968				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3305	1357	1589	3124	0	*1622	4885	1403	1560	4764	0
Flt Permitted	0.266			0.157			0.105			0.114		
Satd. Flow (perm)	439	3305	1211	257	3124	0	179	4885	1227	185	4764	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			186		33				201		5	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	184		100	100		184	131		106	106		131
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	8%	4%	6%	7%	3%	3%	5%	4%	8%	5%	0%
Bus Blockages (#/hr)	0	0	16	0	0	16	0	0	8	0	11	0
Adj. Flow (vph)	107	810	491	346	627	172	271	1386	258	179	1388	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	810	491	346	799	0	271	1386	258	179	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.19	1.09	1.01	1.01	1.09	1.01	1.14	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option 3> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	44.0	44.0	19.0	51.0		16.0	45.0	45.0	12.0	41.0	
Total Split (%)	10.0%	36.7%	36.7%	15.8%	42.5%		13.3%	37.5%	37.5%	10.0%	34.2%	
Maximum Green (s)	8.0	37.0	37.0	15.0	44.0		12.0	38.0	38.0	8.0	34.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.4	38.0	38.0	60.0	45.6		54.0	39.0	39.0	47.0	35.0	
Actuated g/C Ratio	0.41	0.32	0.32	0.50	0.38		0.45	0.32	0.32	0.39	0.29	
v/c Ratio	0.40	0.77	0.96	1.13	0.66		1.15	0.87	0.48	1.02	1.04	
Control Delay	21.5	43.4	77.4	298.7	28.9		346.4	46.1	11.4	188.8	136.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.5	43.4	77.4	298.7	28.9		346.4	46.1	11.4	188.8	136.6	
LOS	C	D	E	F	C		F	D	B	F	F	
Approach Delay		53.6			110.4			83.9			142.4	
Approach LOS		D			F			F			F	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 97.5

Intersection LOS: F

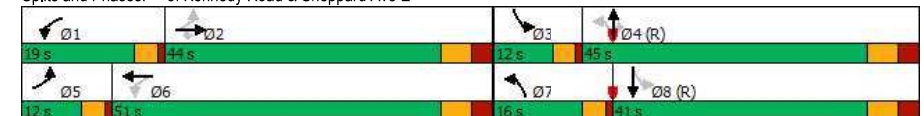
Intersection Capacity Utilization 110.1%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
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Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Future Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1			1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.95	1.00	1.00		0.99	1.00	
Frt			0.850			0.850		0.997			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1668	4956	0	1685	4953	0
Flt Permitted	0.950			0.950			0.096			0.186		
Satd. Flow (perm)	1627	0	1363	1557	0	1439	168	4956	0	328	4953	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120			69		4			21	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	31		69	69		31	15		20	20		15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	1%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	0	0
Adj. Flow (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	0	120	5	0	55	210	1371	0	20	1609	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template							Thru			Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

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Lanes, Volumes, Timings

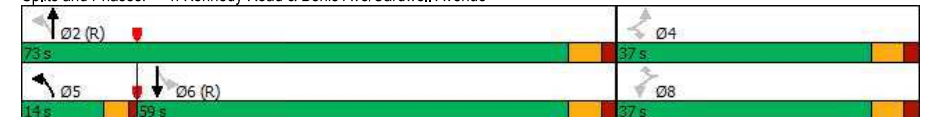
4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	22.6		22.6	22.6		22.6	79.4	77.4		61.7	61.7	
Actuated g/C Ratio	0.21		0.21	0.21		0.21	0.72	0.70		0.56	0.56	
v/c Ratio	0.72		0.32	0.02		0.16	0.71	0.39		0.11	0.58	
Control Delay	53.2		8.2	31.2		6.3	31.6	7.6		16.4	17.7	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	53.2		8.2	31.2		6.3	31.6	7.6		16.4	17.7	
LOS	D		A	C		A	C	A		B	B	
Approach Delay		38.2				8.3		10.8			17.7	
Approach LOS		D				A		B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.72												
Intersection Signal Delay: 16.6	Intersection LOS: B											
Intersection Capacity Utilization 74.1%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Future Volume (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	1.00		1.00		0.84	0.99		0.98	0.99		0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4796	0	1685	3400	1411	1685	0	1507	1685	0	1507
Flt Permitted	0.265			0.154			0.950			0.950		
Satd. Flow (perm)	458	4796	0	272	3400	1186	1665	0	1472	1665	0	1472
Right Turn on Red			Yes			Yes			Yes		Yes	
Satd. Flow (RTOR)		5				64			109			73
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		40.6			63.5			81.9			115.9	
Travel Time (s)		2.4			3.8			7.4			10.4	
Confl. Peds. (#/hr)	57		26	26		57	11		11	11		11
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	16	0	0	0	16	0	0	0	0	0	0
Adj. Flow (vph)	15	1354	45	20	1056	30	95	0	95	35	0	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	1399	0	20	1056	30	95	0	95	35	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.01	1.19	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
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Lanes, Volumes, Timings

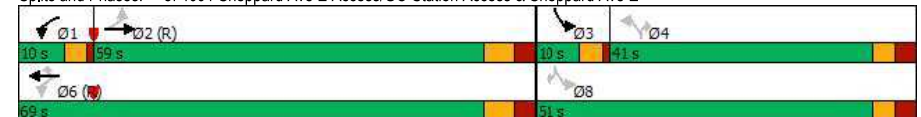
5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0		10.0	69.0	69.0	41.0		41.0	10.0		51.0
Total Split (%)	49.2%	49.2%		8.3%	57.5%	57.5%	34.2%		34.2%	8.3%		42.5%
Maximum Green (s)	52.0	52.0		6.0	62.0	62.0	35.0		35.0	6.0		45.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)	85.7	85.7		92.7	89.7	89.7	13.3		13.3	21.3		19.3
Actuated g/C Ratio	0.71	0.71		0.77	0.75	0.75	0.11		0.11	0.18		0.16
v/c Ratio	0.05	0.41		0.07	0.42	0.03	0.52		0.37	0.12		0.08
Control Delay	12.1	10.1		5.2	7.1	0.2	59.7		10.5	38.3		0.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	12.1	10.1		5.2	7.1	0.2	59.7		10.5	38.3		0.6
LOS	B	B		A	A	A	E		B	D		A
Approach Delay		10.1			6.9			35.1			22.6	
Approach LOS		B			A			D			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 87 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 95												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.52												
Intersection Signal Delay: 10.8	Intersection LOS: B											
Intersection Capacity Utilization 61.1%	ICU Level of Service B											
Analysis Period (min) 60												

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
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Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖	↖		↖			↖	
Traffic Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Future Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00		0.97		0.99			0.99	
Frt						0.850		0.944				
Flt Protected				0.950				0.972			0.950	
Satd. Flow (prot)	1612	3246	0	1685	3305	1597	0	1710	0	0	1785	0
Flt Permitted				0.207				0.819			0.734	
Satd. Flow (perm)	1612	3246	0	366	3305	1548	0	1440	0	0	1370	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				40		30				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	4		15	15		4	1		6	6		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	0%	0%	8%	0%	0%	0%	0%	0%	2%	9%
Adj. Flow (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1273	0	4	1079	1	0	36	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
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Lanes, Volumes, Timings

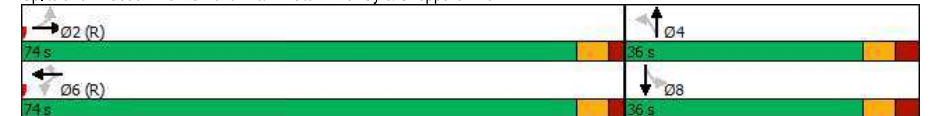
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		98.1		98.1	98.1	98.1		8.5			8.5	
Actuated g/C Ratio		0.89		0.89	0.89	0.89		0.08			0.08	
v/c Ratio		0.44		0.01	0.37	0.00		0.26			0.02	
Control Delay		2.6		1.0	0.9	0.0		24.7			46.5	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		2.6		1.0	0.9	0.0		24.7			46.5	
LOS		A		A	A	A		C			D	
Approach Delay		2.6			0.9			24.7			46.5	
Approach LOS		A			A			C			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 40												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.44												
Intersection Signal Delay: 2.2												
Intersection Capacity Utilization 53.4%												
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
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Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 3> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Future Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.98	0.99		0.99	0.99		0.97		0.95	0.99		0.91
Frt		0.973			0.979			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1668	4625	0	1636	3366	0	*1622	3466	1436	1652	3400	1465
Flt Permitted	0.176			0.107			0.312			0.309		
Satd. Flow (perm)	304	4625	0	183	3366	0	484	3466	1358	530	3400	1337
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			18				91			119
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			41.8			29.4	
Confl. Peds. (#/hr)	79		60	60		79	79		45	45		79
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	10%	3%	2%	0%	11%	3%	2%	2%	5%	0%
Bus Blockages (#/hr)	0	16	0	0	4	0	0	0	7	0	0	7
Adj. Flow (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1286	0	150	883	0	230	830	191	80	560	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.03	1.01	1.09	1.01	1.13	1.09	1.01	1.13
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

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Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 3> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	46.0		11.0	46.0		11.0	53.0	53.0	42.0	42.0	42.0
Total Split (%)	10.0%	41.8%		10.0%	41.8%		10.0%	48.2%	48.2%	38.2%	38.2%	38.2%
Maximum Green (s)	7.0	39.0		7.0	39.0		7.0	46.0	46.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	50.8	40.0		51.2	40.2		50.0	47.0	47.0	36.0	36.0	36.0
Actuated g/C Ratio	0.46	0.36		0.47	0.37		0.45	0.43	0.43	0.33	0.33	0.33
v/c Ratio	0.62	0.75		0.79	0.71		0.76	0.56	0.30	0.46	0.50	0.23
Control Delay	29.9	30.7		53.6	33.3		40.6	25.6	12.0	40.2	31.7	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	30.7		53.6	33.3		40.6	25.6	12.0	40.2	31.7	6.0
LOS	C	C		D	C		D	C	B	D	C	A
Approach Delay		30.6			36.2			26.2			28.6	
Approach LOS		C			D			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 30.3

Intersection LOS: C

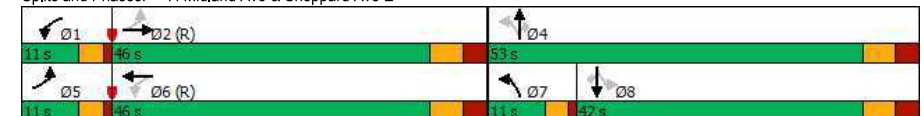
Intersection Capacity Utilization 110.8%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 7: Midland Ave & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSPSynchro 11 Report
Page 14

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 3> PM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↑↑↑		↗	↑↑↑
Traffic Volume (vph)	335	133	2021	277	140	2098
Future Volume (vph)	335	133	2021	277	140	2098
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.99			
Frt	0.962		0.982			
Flt Protected	0.965				0.950	
Satd. Flow (prot)	1737	0	4880	0	1685	5079
Flt Permitted	0.965				0.067	
Satd. Flow (perm)	1730	0	4880	0	119	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	19		32			
Link Speed (k/h)	40		50			50
Link Distance (m)	196.4		243.1			134.4
Travel Time (s)	17.7		17.5			9.7
Confl. Peds. (#/hr)	5	3		33	33	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	8	0	0	0
Adj. Flow (vph)	335	133	2021	277	140	2098
Shared Lane Traffic (%)						
Lane Group Flow (vph)	468	0	2298	0	140	2098
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 3> PM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	39.0		60.0		11.0	71.0
Total Split (%)	35.5%		54.5%		10.0%	64.5%
Maximum Green (s)	33.0		54.0		6.5	65.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	32.0		56.4		69.5	68.0
Actuated g/C Ratio	0.29		0.51		0.63	0.62
v/c Ratio	0.90		0.91		0.74	0.67
Control Delay	64.2		15.0		45.5	15.4
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	64.2		15.0		45.5	15.4
LOS	E		B		D	B
Approach Delay	64.2		15.0			17.2
Approach LOS	E		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 3 (3%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 20.6

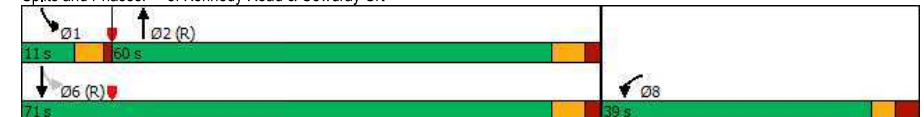
Intersection LOS: C

Intersection Capacity Utilization 91.8%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> PM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	3	1	5	622	2	222	3	2114	599	179	2309	2
Future Volume (vph)	3	1	5	622	2	222	3	2114	599	179	2309	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	25.0	30.0	80.0	30.0	80.0	0.0	20.0	0.0
Storage Lanes	0	0	2	0	1	1	1	1	1	0	0	0
Taper Length (m)	2.5		90.0		30.0		35.0					
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt		0.925		0.851				0.850				
Flt Protected		0.984		0.950			0.950		0.950			
Satd. Flow (prot)	0	1710	0	3236	1583	0	1257	5079	1507	1652	6329	0
Flt Permitted				0.950			0.083			0.078		
Satd. Flow (perm)	0	1738	0	3236	1583	0	110	5079	1507	136	6329	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5		193					206			
Link Speed (k/h)		48		50				50			50	
Link Distance (m)		70.0		243.9				64.3			138.0	
Travel Time (s)		5.3		17.6				4.6			9.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	34%	1%	0%	2%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	11	0
Adj. Flow (vph)	3	1	5	622	2	222	3	2114	599	179	2309	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	622	224	0	3	2114	599	179	2311	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0		6.0			3.0		3.0		3.0	
Link Offset(m)		0.0		0.0			0.0		0.0		0.0	
Crosswalk Width(m)		1.6		1.6			1.6		1.6		1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	17.0	17.0		29.0	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	15.5%	15.5%		26.4%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> PM

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> PM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	10.0	10.0		24.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					32.0			26.0			26.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)		8.1		27.0	27.4		53.8	53.8	53.8	73.6	70.6	
Actuated g/C Ratio		0.07		0.25	0.25		0.49	0.49	0.49	0.67	0.64	
v/c Ratio		0.07		0.78	0.42		0.06	0.85	0.71	0.64	0.57	
Control Delay		36.2		46.5	8.4		15.7	22.7	14.1	35.6	15.8	
Queue Delay		0.0		0.0	0.0		0.0	5.3	1.3	0.0	0.0	
Total Delay		36.2		46.5	8.4		15.7	28.0	15.4	35.6	15.8	
LOS		D		D	A		B	C	B	D	B	
Approach Delay		36.2			36.4			25.2			17.3	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 106 (96%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.5

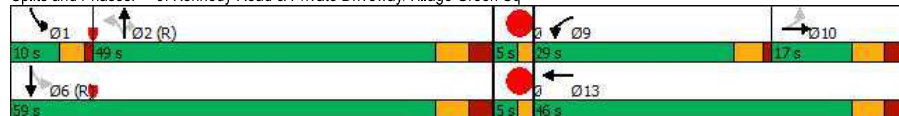
Intersection LOS: C

Intersection Capacity Utilization 100.4%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> PM

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 3> PM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	650	831	1847	0	0	1748
Future Volume (vph)	650	831	1847	0	0	1748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor	0.99	0.98				
Frt	0.947	0.850				
Flt Protected	0.969					
Satd. Flow (prot)	3253	1515	5079	0	0	5079
Flt Permitted	0.969					
Satd. Flow (perm)	3241	1492	5079	0	0	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)	7	4		12	12	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	2%	2%	1%
Adj. Flow (vph)	650	831	1847	0	0	1748
Shared Lane Traffic (%)		43%				
Lane Group Flow (vph)	1007	474	1847	0	0	1748
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 3> PM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	46.0	46.0	64.0			64.0
Total Split (%)	41.8%	41.8%	58.2%			58.2%
Maximum Green (s)	40.0	40.0	57.0			57.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	39.3	39.3	59.7			59.7
Actuated g/C Ratio	0.36	0.36	0.54			0.54
v/c Ratio	0.87	0.88	0.67			0.63
Control Delay	42.3	55.5	21.4			19.2
Queue Delay	1.0	9.3	0.4			0.8
Total Delay	43.4	64.8	21.8			20.0
LOS	D	E	C			C
Approach Delay	50.2		21.8			20.0
Approach LOS	D		C			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 104 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 29.5

Intersection LOS: C

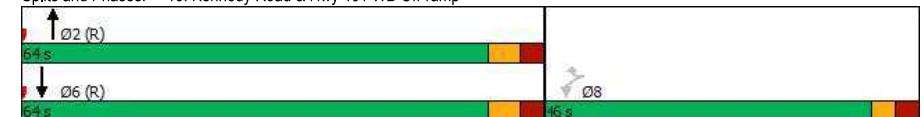
Intersection Capacity Utilization 79.6%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↑↑↑			↑↑↑	
Traffic Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Future Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.972	0.850			0.865		0.998				
Flt Protected	0.950	0.974										
Satd. Flow (prot)	1503	2969	1332	0	0	1808	0	6324	0	0	5029	0
Flt Permitted	0.950	0.974										
Satd. Flow (perm)	1503	2969	1332	0	0	1808	0	6324	0	0	5029	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		4	40					3				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							3		5	5		3
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	5%	3%	2%	2%	2%	2%	2%	0%	2%	2%	2%
Adj. Flow (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Shared Lane Traffic (%)		50%	29%									
Lane Group Flow (vph)	534	1005	454	0	0	535	0	2169	0	0	1649	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSPSynchro 11 Report
Page 23

Lanes, Volumes, Timings

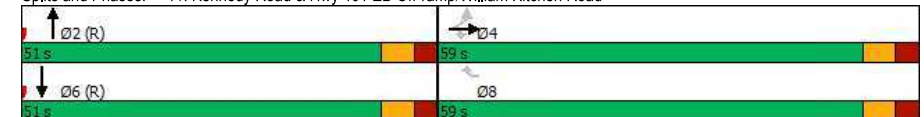
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 3> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0	59.0			59.0		51.0			51.0	
Total Split (%)	53.6%	53.6%	53.6%			53.6%		46.4%			46.4%	
Maximum Green (s)	52.0	52.0	52.0			52.0		44.0			44.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	48.0	48.0	48.0			48.0		50.0			50.0	
Actuated g/C Ratio	0.44	0.44	0.44			0.44		0.45			0.45	
v/c Ratio	0.82	0.77	0.75			0.68		0.75			0.72	
Control Delay	38.6	30.7	32.2			29.2		27.9			18.8	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	38.6	30.7	32.2			29.2		27.9			18.8	
LOS	D	C	C			C		C			B	
Approach Delay		33.1			29.2			27.9			18.8	
Approach LOS		C			C			C			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 12 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 27.3												
Intersection Capacity Utilization 110.1%												
Analysis Period (min) 60												

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSPSynchro 11 Report
Page 24

Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 3> PM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	17	8	17	22	43	13
Future Volume (vph)	17	8	17	22	43	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.957				0.969	
Flt Protected				0.979	0.963	
Satd. Flow (prot)	1798	0	0	1748	1602	0
Flt Permitted				0.979	0.963	
Satd. Flow (perm)	1798	0	0	1748	1602	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)						1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	12%	0%	5%	24%
Adj. Flow (vph)	17	8	17	22	43	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	39	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 19.1%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 3> PM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	17	8	17	22	43	13
Future Volume (Veh/h)	17	8	17	22	43	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	8	17	22	43	13
Pedestrians					1	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.1	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		77	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		77	22
tC, single (s)			4.2		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.5
p0 queue free %			99		95	99
cM capacity (veh/h)			1527		908	994
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	25	39	56			
Volume Left	0	17	43			
Volume Right	8	0	13			
cSH	1700	1527	927			
Volume to Capacity	0.01	0.01	0.06			
Queue Length 95th (m)	0.0	0.3	1.5			
Control Delay (s)	0.0	3.3	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	3.3	9.1			
Approach LOS			A			

Intersection Summary

Average Delay 5.3

Intersection Capacity Utilization 19.1%







ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 3> PM
08-10-2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	
Traffic Volume (vph)	1227	7	18	1099	7	13
Future Volume (vph)	1227	7	18	1099	7	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.912	
Flt Protected				0.999	0.983	
Satd. Flow (prot)	3215	0	0	3303	1456	0
Flt Permitted				0.999	0.983	
Satd. Flow (perm)	3215	0	0	3303	1456	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		18	18			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	6%	8%	15%	16%
Adj. Flow (vph)	1227	7	18	1099	7	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1234	0	0	1117	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	53.5%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<Option 3> PM
08-10-2022













	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	1227	7	18	1099	7	13
Future Volume (Veh/h)	1227	7	18	1099	7	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1227	7	18	1099	7	13
Pedestrians				1	18	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.78		0.84	0.78
vC, conflicting volume			1252		1834	636
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			767		1009	0
tC, single (s)			4.2		7.1	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.5
p0 queue free %			97		96	98
cM capacity (veh/h)			629		173	801
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	818	416	384	733	20	
Volume Left	0	0	18	0	7	
Volume Right	0	7	0	0	13	
cSH	1700	1700	629	1700	352	
Volume to Capacity	0.48	0.24	0.03	0.43	0.06	
Queue Length 95th (m)	0.0	0.0	0.7	0.0	1.4	
Control Delay (s)	0.0	0.0	0.9	0.0	15.8	
Lane LOS			A		C	
Approach Delay (s)	0.0		0.3		15.8	
Approach LOS					C	
Intersection Summary						
Average Delay	0.3					
Intersection Capacity Utilization	53.5%			ICU Level of Service		A
Analysis Period (min)	60					

Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option 3> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1204	66	0	1156	55	0	0	106	20	0	15
Future Volume (vph)	20	1204	66	0	1156	55	0	0	106	20	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.86	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992			0.993					0.865		0.942	
Flt Protected	0.999										0.972	
Satd. Flow (prot)	0	6399	0	0	3545	0	0	0	1593	0	1720	0
Flt Permitted	0.999										0.972	
Satd. Flow (perm)	0	6399	0	0	3545	0	0	0	1593	0	1720	0
Link Speed (k/h)	60			60					48		40	
Link Distance (m)	35.8			40.6					195.3		217.7	
Travel Time (s)	2.1			2.4					14.6		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	2%	2%	0%	0%	2%	2%	2%	0%	2%	0%
Adj. Flow (vph)	20	1204	66	0	1156	55	0	0	106	20	0	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1290	0	0	1211	0	0	0	106	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0			0.0					0.0		0.0	
Link Offset(m)	1.8			-1.5					0.0		0.0	
Crosswalk Width(m)	1.6			1.6					1.6		1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control	Free			Free			Stop			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.7%

ICU Level of Service A













Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option 3> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1204	66	0	1156	55	0	0	106	20	0	15
Future Volume (Veh/h)	20	1204	66	0	1156	55	0	0	106	20	0	15
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	20	1204	66	0	1156	55	0	0	106	20	0	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	244			41								
pX, platoon unblocked	0.88						0.88	0.88		0.88	0.88	0.88
vC, conflicting volume	1211			1270			1870	2488	334	1630	2494	606
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	967			1270			1716	2418	334	1444	2424	279
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	84	71	100	98
cM capacity (veh/h)	634			543			49	27	662	68	27	637
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	NB 1	SB 1				
Volume Total	221	401	401	267	771	440	106	35				
Volume Left	20	0	0	0	0	0	0	20				
Volume Right	0	0	0	66	0	55	106	15				
cSH	634	1700	1700	1700	1700	1700	662	110				
Volume to Capacity	0.03	0.24	0.24	0.16	0.45	0.26	0.16	0.32				
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	0.0	4.3	10.2				
Control Delay (s)	1.3	0.0	0.0	0.0	0.0	0.0	11.5	52.5				
Lane LOS	A						B	F				
Approach Delay (s)	0.2				0.0		11.5	52.5				
Approach LOS							B	F				

Intersection Summary

Average Delay 1.3

Intersection Capacity Utilization 43.7%

ICU Level of Service

A




















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option 3> PM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	36	18	0	14	66	1911	25	4	1978	20
Future Volume (vph)	5	0	36	18	0	14	66	1911	25	4	1978	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.881			0.941			0.998			0.998	
Flt Protected		0.994			0.973		0.950			0.950		
Satd. Flow (prot)	0	1645	0	0	1664	0	1685	4966	0	1685	4946	0
Flt Permitted		0.994			0.973		0.950			0.950		
Satd. Flow (perm)	0	1645	0	0	1664	0	1685	4966	0	1685	4946	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	6%	0%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	11	0
Adj. Flow (vph)	5	0	36	18	0	14	66	1911	25	4	1978	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	32	0	66	1936	0	4	1998	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 58.3%

ICU Level of Service B




















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option 3> PM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	36	18	0	14	66	1911	25	4	1978	20
Future Volume (Veh/h)	5	0	36	18	0	14	66	1911	25	4	1978	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	0	36	18	0	14	66	1911	25	4	1978	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.72	0.72	0.74	0.72	0.72	0.59	0.74			0.59		
vC, conflicting volume	2779	4064	669	2759	4062	650	1998			1936		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	1445	0	0	1441	0	1105			172		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	96	97	100	98	86			100		
cM capacity (veh/h)	648	81	804	622	83	646	471			840		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	41	32	66	764	764	407	4	791	791	416		
Volume Left	5	18	66	0	0	0	4	0	0	0		
Volume Right	36	14	0	0	0	25	0	0	0	20		
cSH	781	632	471	1700	1700	1700	840	1700	1700	1700		
Volume to Capacity	0.05	0.05	0.14	0.45	0.45	0.24	0.00	0.47	0.47	0.24		
Queue Length 95th (m)	1.3	1.2	3.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	9.9	11.0	13.9	0.0	0.0	0.0	9.3	0.0	0.0	0.0		
Lane LOS	A	B	B				A					
Approach Delay (s)	9.9	11.0	0.5				0.0					
Approach LOS	A	B										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 58.3%

ICU Level of Service

B

Analysis Period (min) 60

Lanes, Volumes, Timings
16: Collingwood Street & Gordon Ave

<Option 3> PM
08-10-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	16	1	3	2	1	29
Future Volume (vph)	16	1	3	2	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.946			0.869	
Flt Protected		0.955			0.998	
Satd. Flow (prot)	0	1792	1777	0	1439	0
Flt Permitted		0.955			0.998	
Satd. Flow (perm)	0	1792	1777	0	1439	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	116.5		190.4	
Travel Time (s)		10.5	10.5		17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	16	1	3	2	1	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	5	0	30	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 17.6%	ICU Level of Service A					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
16: Collingwood Street & Gordon Ave

<Option 3> PM
08-10-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	16	1	3	2	1	29
Future Volume (Veh/h)	16	1	3	2	1	29
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	1	3	2	1	29
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	5				37	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5				37	4
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				100	97
cM capacity (veh/h)	1630				858	1051
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	17	5	30			
Volume Left	16	0	1			
Volume Right	0	2	29			
cSH	1630	1700	1043			
Volume to Capacity	0.01	0.00	0.03			
Queue Length 95th (m)	0.2	0.0	0.7			
Control Delay (s)	6.8	0.0	8.6			
Lane LOS	A		A			
Approach Delay (s)	6.8	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay		7.2				
Intersection Capacity Utilization		17.6%		ICU Level of Service	A	
Analysis Period (min)		60				

Lanes, Volumes, Timings
17: Village Green Sq

<Option 3> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Traffic Volume (vph)	10	145	32	21	113	22
Future Volume (vph)	10	145	32	21	113	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.874				0.978	
Flt Protected				0.971	0.960	
Satd. Flow (prot)	1118	0	0	1781	1764	0
Flt Permitted				0.971	0.960	
Satd. Flow (perm)	1118	0	0	1781	1764	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	17.2			152.9	154.8	
Travel Time (s)	1.5			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	10	145	32	21	113	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	155	0	0	53	135	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.6%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option 3> PM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	10	145	32	21	113	22
Future Volume (vph)	10	145	32	21	113	22
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	145	32	21	113	22
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	155	53	135			
Volume Left (vph)	0	32	113			
Volume Right (vph)	145	0	22			
Hadj (s)	0.24	0.16	0.07			
Departure Headway (s)	4.5	4.6	4.5			
Degree Utilization, x	0.19	0.07	0.17			
Capacity (veh/h)	772	748	769			
Control Delay (s)	8.6	7.9	8.4			
Approach Delay (s)	8.6	7.9	8.4			
Approach LOS	A	A	A			
Intersection Summary						
Delay			8.4			
Level of Service			A			
Intersection Capacity Utilization			31.6%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 3> PM
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	15	130	105	92	62	5
Future Volume (vph)	15	130	105	92	62	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.879				0.990	
Flt Protected	0.995			0.974		
Satd. Flow (prot)	1611	0	0	1794	1824	0
Flt Permitted	0.995			0.831		
Satd. Flow (perm)	1611	0	0	1531	1824	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	130				5	
Link Speed (k/h)	40			48	48	
Link Distance (m)	196.4			203.2	142.2	
Travel Time (s)	17.7			15.2	10.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	130	105	92	62	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	145	0	0	197	67	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	28.0		32.0	32.0	32.0	
Total Split (%)	46.7%		53.3%	53.3%	53.3%	
Maximum Green (s)	22.0		26.0	26.0	26.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSP

Synchro 11 Report
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Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 3> PM
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.1			34.4	34.4	
Actuated g/C Ratio	0.22			0.67	0.67	
v/c Ratio	0.32			0.19	0.05	
Control Delay	6.9			5.5	4.6	
Queue Delay	0.0			0.0	0.0	
Total Delay	6.9			5.5	4.6	
LOS	A			A	A	
Approach Delay	6.9			5.5	4.6	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 51

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 5.9

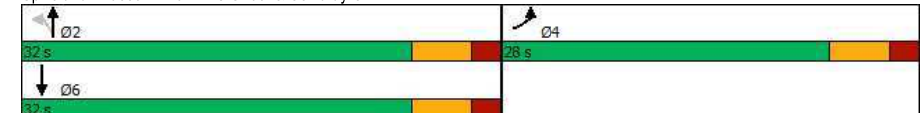
Intersection LOS: A

Intersection Capacity Utilization 34.5%

ICU Level of Service A

Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Crt















Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 3> PM
WSP

Synchro 11 Report
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Lanes, Volumes, Timings
102: Village Green Sq & N-S Street

<Option 3> PM
08-10-2022













						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	16	24	84	139	12
Future Volume (vph)	13	16	24	84	139	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926			0.989		
Flt Protected	0.978			0.989		
Satd. Flow (prot)	1668	0	0	1822	1822	0
Flt Permitted	0.978			0.989		
Satd. Flow (perm)	1668	0	0	1822	1822	0
Link Speed (k/h)	40			40	48	
Link Distance (m)	35.4			16.9	203.2	
Travel Time (s)	3.2			1.5	15.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	13	16	24	84	139	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	0	108	151	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.1% ICU Level of Service A
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq & N-S Street

<Option 3> PM
08-10-2022













						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	16	24	84	139	12
Future Volume (Veh/h)	13	16	24	84	139	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	13	16	24	84	139	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					203	
pX, platoon unblocked						
vC, conflicting volume	277	145	151			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	277	145	151			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	98			
cM capacity (veh/h)	701	902	1430			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	29	108	151			
Volume Left	13	24	0			
Volume Right	16	0	12			
cSH	799	1430	1700			
Volume to Capacity	0.04	0.02	0.09			
Queue Length 95th (m)	0.9	0.4	0.0			
Control Delay (s)	9.7	1.8	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.7	1.8	0.0			
Approach LOS	A					

Intersection Summary

Average Delay 1.6
Intersection Capacity Utilization 27.1% ICU Level of Service A
Analysis Period (min) 60

Lanes, Volumes, Timings
104: N-S Street & Collingwood Street

<Option 3> PM
08-10-2022













						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	106	66	0
Future Volume (vph)	0	0	0	106	66	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	116.5			142.2	195.3	
Travel Time (s)	8.7			10.7	14.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	106	66	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	106	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 8.9% ICU Level of Service A
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
104: N-S Street & Collingwood Street

<Option 3> PM
08-10-2022












						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	106	66	0
Future Volume (Veh/h)	0	0	0	106	66	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	106	66	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				142		
pX, platoon unblocked						
vC, conflicting volume	172	66	66			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172	66	66			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	818	998	1536			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	106	66			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1536	1700			
Volume to Capacity	0.00	0.00	0.04			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					

Intersection Summary

Average Delay 0.0
Intersection Capacity Utilization 8.9% ICU Level of Service A
Analysis Period (min) 60

Lanes, Volumes, Timings
18: Village Green Sq

<Option 3> PM
08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations					 	
Traffic Volume (vph)	143	519	309	4	1	182
Future Volume (vph)	143	519	309	4	1	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.866	
Flt Protected	0.950					
Satd. Flow (prot)	1716	1860	1875	0	1580	0
Flt Permitted	0.950					
Satd. Flow (perm)	1716	1860	1875	0	1580	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	81			81	6	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	1%	0%	0%	0%	3%
Adj. Flow (vph)	143	519	309	4	1	182
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	519	313	0	183	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		9.5	9.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.0%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option 3> PM
08-19-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↱	↰		↰	↱
Traffic Volume (veh/h)	143	519	309	4	1	182
Future Volume (Veh/h)	143	519	309	4	1	182
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	143	519	309	4	1	182
Pedestrians		1	6		81	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		7	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	394				1203	393
vC1, stage 1 conf vol					392	
vC2, stage 2 conf vol					811	
vCu, unblocked vol	394				1203	393
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	87				100	70
cM capacity (veh/h)	1071				285	606
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	143	519	313	183		
Volume Left	143	0	0	1		
Volume Right	0	0	4	182		
cSH	1071	1700	1700	603		
Volume to Capacity	0.13	0.31	0.18	0.30		
Queue Length 95th (m)	3.5	0.0	0.0	9.9		
Control Delay (s)	8.9	0.0	0.0	13.6		
Lane LOS	A			B		
Approach Delay (s)	1.9		0.0	13.6		
Approach LOS				B		
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			46.0%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 3> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Future Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.89				
Frt		0.998						0.916			0.905	
Flt Protected		0.995		0.950				0.991			0.991	
Satd. Flow (prot)	0	3469	0	1685	3500	0	0	1512	0	0	1652	0
Flt Permitted		0.662		0.208				0.867			0.889	
Satd. Flow (perm)	0	2308	0	369	3500	0	0	1317	0	0	1482	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						50			60	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			44	44			20		137			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1261	0	35	1132	0	0	80	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4			8		
Detector Phase		2	2	6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 3> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	78.0	78.0		78.0	78.0		32.0	32.0		32.0	32.0	
Total Split (%)	70.9%	70.9%		70.9%	70.9%		29.1%	29.1%		29.1%	29.1%	
Maximum Green (s)	72.0	72.0		72.0	72.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.64		0.11	0.38			0.48			0.45	
Control Delay		5.4		1.0	0.6			31.7			26.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.4		1.0	0.6			31.7			26.1	
LOS		A		A	A			C			C	
Approach Delay		5.4			0.6			31.7			26.1	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 104 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 4.7

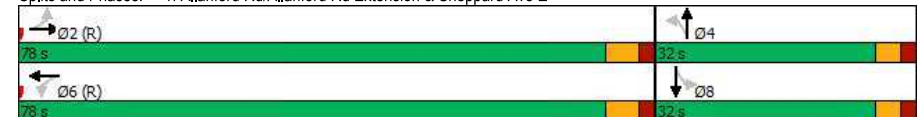
Intersection LOS: A

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖		↖	↖			↖			↖	↖
Traffic Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Future Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.96	1.00			0.97			0.98	0.95
Frt		0.999			0.990			0.910				0.850
Flt Protected	0.950			0.950				0.984			0.950	
Satd. Flow (prot)	1685	3457	0	1685	3421	0	0	1647	0	0	1785	1507
Flt Permitted	0.174			0.261				0.906			0.748	
Satd. Flow (perm)	309	3457	0	446	3421	0	0	1503	0	0	1378	1426
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			9			69				80
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		62	62		19	30		14	14		30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	2%	0%	0%	0%	0%
Adj. Flow (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	1081	0	15	1127	0	0	15	0	0	245	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template	Thru			Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	12.0	71.0		59.0	59.0		39.0	39.0		39.0	39.0	39.0

Lanes, Volumes, Timings

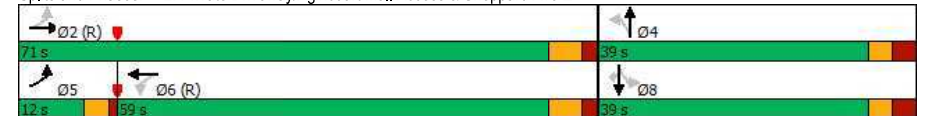
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.9%	64.5%		53.6%	53.6%		35.5%	35.5%		35.5%	35.5%	35.5%
Maximum Green (s)	8.0	65.0		53.0	53.0		33.0	33.0		33.0	33.0	33.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	76.3	74.3		63.7	63.7			25.7			25.7	25.7
Actuated g/C Ratio	0.69	0.68		0.58	0.58			0.23			0.23	0.23
v/c Ratio	0.32	0.46		0.06	0.57			0.04			0.76	0.20
Control Delay	8.2	7.9		13.9	17.0			0.2			55.5	7.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	8.2	7.9		13.9	17.0			0.2			55.5	7.7
LOS	A	A		B	B			A			E	A
Approach Delay		7.9			17.0			0.2			43.7	
Approach LOS		A			B			A			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 108 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 55												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.76												
Intersection Signal Delay: 16.1	Intersection LOS: B											
Intersection Capacity Utilization 78.5%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option 3> SAT
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	104	543	406	502	574	194	350	1249	271	180	1098	84
Future Volume (vph)	104	543	406	502	574	194	350	1249	271	180	1098	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.96		0.92	0.97	0.96		0.99		0.91	0.99	0.99	
Frt			0.850		0.962				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1636	3336	1346	1604	3140	0	*1622	4839	1428	1620	4686	0
Flt Permitted	0.273			0.318			0.107			0.114		
Satd. Flow (perm)	450	3336	1234	522	3140	0	180	4839	1301	193	4686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234		44				228		10	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	144		75	75		144	99		72	72		99
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	7%	3%	5%	6%	3%	4%	6%	3%	4%	6%	5%
Bus Blockages (#/hr)	0	0	20	0	0	20	0	0	6	0	10	0
Adj. Flow (vph)	104	543	406	502	574	194	350	1249	271	180	1098	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	543	406	502	768	0	350	1249	271	180	1182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.21	1.09	1.01	1.01	1.09	1.01	1.13	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option 3> SAT
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	45.0	45.0	17.0	51.0		17.0	43.0	43.0	15.0	41.0	
Total Split (%)	9.2%	37.5%	37.5%	14.2%	42.5%		14.2%	35.8%	35.8%	12.5%	34.2%	
Maximum Green (s)	7.0	38.0	38.0	13.0	44.0		13.0	36.0	36.0	11.0	34.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.8	39.0	39.0	59.0	45.2		54.2	37.4	37.4	49.6	35.0	
Actuated g/C Ratio	0.42	0.32	0.32	0.49	0.38		0.45	0.31	0.31	0.41	0.29	
v/c Ratio	0.40	0.50	0.73	1.31	0.63		1.41	0.83	0.48	0.83	0.86	
Control Delay	21.7	34.6	23.5	606.6	29.7		780.2	44.3	10.0	63.0	48.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.7	34.6	23.5	606.6	29.7		780.2	44.3	10.0	63.0	48.0	
LOS	C	C	C	F	C		F	D	A	E	D	
Approach Delay		29.1			257.8			177.1			50.0	
Approach LOS		C			F			F			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 77 (64%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.41

Intersection Signal Delay: 136.3

Intersection LOS: F

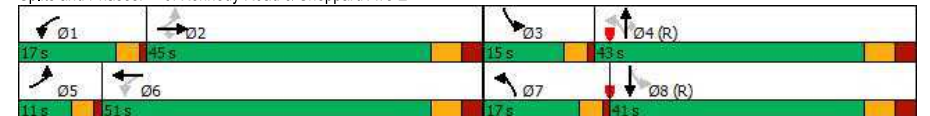
Intersection Capacity Utilization 122.2%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖		↗	↖		↗	↖↗↘	↖↗↘		↖	↖↗↘	
Traffic Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Future Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1			1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99		0.93	0.94		0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.998			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1685	4977	0	1589	5022	0
Flt Permitted	0.950			0.950			0.131			0.193		
Satd. Flow (perm)	1662	0	1394	1592	0	1470	232	4977	0	322	5022	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			170			69		4			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	12		50	50		12	26		11	11		26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	0%	2%	0%	6%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Adj. Flow (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	170	30	0	35	215	1336	0	15	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	31.0		31.0	31.0		31.0	25.0	79.0		54.0	54.0	
Total Split (%)	28.2%		28.2%	28.2%		28.2%	22.7%	71.8%		49.1%	49.1%	
Maximum Green (s)	25.0		25.0	25.0		25.0	21.0	73.0		48.0	48.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	19.3		19.3	19.3		19.3	82.7	80.7		65.8	65.8	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.75	0.73		0.60	0.60	
v/c Ratio	0.67		0.44	0.11		0.11	0.65	0.37		0.08	0.48	
Control Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
LOS	D		A	D		A	B	A		B	B	
Approach Delay		33.2			18.1			7.8			14.5	
Approach LOS		C			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 13.5

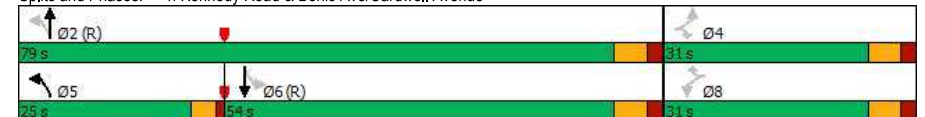
Intersection LOS: B

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

<Option 3> SAT

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Future Volume (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		0.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00					1.00		0.98			
Frt		0.997							0.850			
Flt Protected				0.950			0.950					
Satd. Flow (prot)	1773	4830	0	1685	3500	1615	1685	0	1507	1773	0	1773
Flt Permitted				0.154			0.950					
Satd. Flow (perm)	1773	4830	0	273	3500	1615	1679	0	1477	1773	0	1773
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3							109			
Link Speed (k/h)	60				60				40			40
Link Distance (m)	40.6				63.5				81.9			115.9
Travel Time (s)	2.4				3.8				7.4			10.4
Confl. Peds. (#/hr)	46		15	15		46	3		8	8		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	20	0	0	0	20	0	0	0	0	0	0
Adj. Flow (vph)	0	1447	25	15	1389	0	35	0	20	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1472	0	15	1389	0	35	0	20	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0				3.0			3.0
Link Offset(m)		0.0			0.0				0.0			0.0
Crosswalk Width(m)		1.6			1.6				1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.21	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Lanes, Volumes, Timings

<Option 3> SAT

5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	60.0	60.0		10.0	70.0	70.0	40.0		40.0	10.0		50.0
Total Split (%)	50.0%	50.0%		8.3%	58.3%	58.3%	33.3%		33.3%	8.3%		41.7%
Maximum Green (s)	53.0	53.0		6.0	63.0	63.0	34.0		34.0	6.0		44.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)		99.4		105.2	103.4		9.4		9.4			
Actuated g/C Ratio		0.83		0.88	0.86		0.08		0.08			
v/c Ratio		0.37		0.05	0.46		0.27		0.09			
Control Delay		3.4		1.8	3.2		56.6		0.8			
Queue Delay		0.0		0.0	0.0		0.0		0.0			
Total Delay		3.4		1.8	3.2		56.6		0.8			
LOS		A		A	A		E		A			
Approach Delay		3.4			3.2				36.3			
Approach LOS		A			A				D			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 3.9

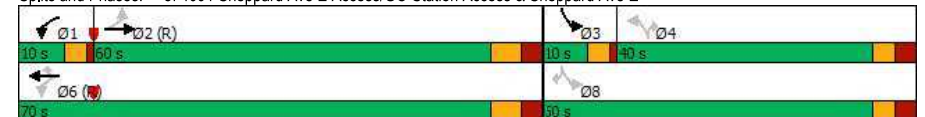
Intersection LOS: A

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑		↖	↑↑	↖		↖			↖	
Traffic Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Future Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			0.99		0.95		0.98			0.99	
Frt						0.850		0.890			0.946	
Flt Protected	0.950			0.950				0.991			0.971	
Satd. Flow (prot)	1685	3368	0	1685	3368	1597	0	1630	0	0	1715	0
Flt Permitted	0.187			0.203				0.985				
Satd. Flow (perm)	330	3368	0	356	3368	1513	0	1619	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						40		30			30	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	12		31	31		12	3		7	7		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	17%	0%	6%	0%	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1308	0	3	1381	2	0	11	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0				0.0		0.0			0.0	
Crosswalk Width(m)		1.6				1.6		1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	93.0	93.0		93.0	93.0	93.0	17.0	17.0		17.0	17.0	

Lanes, Volumes, Timings

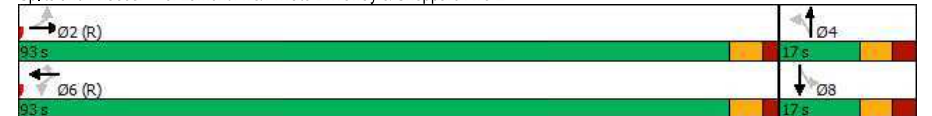
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	84.5%	84.5%		84.5%	84.5%	84.5%	15.5%	15.5%		15.5%	15.5%	
Maximum Green (s)	87.0	87.0		87.0	87.0	87.0	10.0	10.0		10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	106.2	106.2		106.2	106.2	106.2		8.0			8.0	
Actuated g/C Ratio	0.97	0.97		0.97	0.97	0.97		0.07			0.07	
v/c Ratio	0.00	0.40		0.01	0.42	0.00		0.08			0.03	
Control Delay	1.0	1.1		0.3	0.4	0.0		4.5			0.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay	1.0	1.1		0.3	0.4	0.0		4.5			0.4	
LOS	A	A		A	A	A		A			A	
Approach Delay		1.1			0.4			4.5			0.4	
Approach LOS		A			A			A			A	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 76 (69%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 40												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.42												
Intersection Signal Delay: 0.7	Intersection LOS: A											
Intersection Capacity Utilization 56.8%	ICU Level of Service B											
Analysis Period (min) 60												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Future Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.99	0.99		0.97		0.95	0.98		0.93
Frt		0.966			0.979			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4586	0	1652	3288	0	*1622	3500	1434	1668	3500	1463
Flt Permitted	0.109			0.101			0.393			0.470		
Satd. Flow (perm)	191	4586	0	174	3288	0	639	3500	1360	808	3500	1363
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			19				167			159
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			41.8			29.4	
Confl. Peds. (#/hr)	81		71	71		81	59		42	42		59
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	4%	2%	2%	2%	6%	2%	3%	1%	2%	1%
Bus Blockages (#/hr)	0	20	0	0	14	0	0	0	5	0	0	5
Adj. Flow (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	1316	0	218	1170	0	256	498	214	132	437	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.05	1.01	1.09	1.01	1.12	1.09	1.01	1.12
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

Lanes, Volumes, Timings

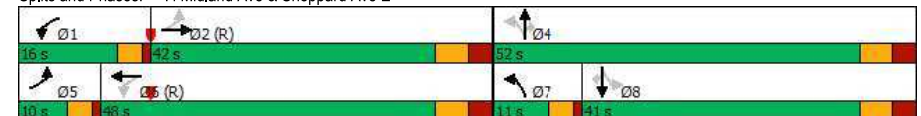
7: Midland Ave & Sheppard Ave E

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	42.0		16.0	48.0		11.0	52.0	52.0	41.0	41.0	41.0
Total Split (%)	9.1%	38.2%		14.5%	43.6%		10.0%	47.3%	47.3%	37.3%	37.3%	37.3%
Maximum Green (s)	6.0	35.0		12.0	41.0		7.0	45.0	45.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	46.7	36.7		55.0	42.0		49.0	46.0	46.0	35.0	35.0	35.0
Actuated g/C Ratio	0.42	0.33		0.50	0.38		0.45	0.42	0.42	0.32	0.32	0.32
v/c Ratio	0.69	0.84		0.87	0.92		0.72	0.34	0.32	0.51	0.39	0.21
Control Delay	42.5	37.3		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	37.3		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
LOS	D	D		E	D		D	C	A	D	C	A
Approach Delay		37.7			50.5			22.5			27.5	
Approach LOS		D			D			C			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 68 (62%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 105												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.92												
Intersection Signal Delay: 36.8	Intersection LOS: D											
Intersection Capacity Utilization 115.5%	ICU Level of Service H											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 3> SAT
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↖↖↖		↖	↖↖↖
Traffic Volume (vph)	160	132	1884	261	131	1950
Future Volume (vph)	160	132	1884	261	131	1950
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	1.00					
Frt	0.939		0.982			
Flt Protected	0.973				0.950	
Satd. Flow (prot)	1671	0	4710	0	1123	4839
Flt Permitted	0.973				0.059	
Satd. Flow (perm)	1669	0	4710	0	70	4839
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	33		37			
Link Speed (k/h)	40		50			50
Link Distance (m)	196.4		243.1			134.4
Travel Time (s)	17.7		17.5			9.7
Confl. Peds. (#/hr)	2					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	5%	14%	50%	6%
Bus Blockages (#/hr)	0	0	6	0	0	0
Adj. Flow (vph)	160	132	1884	261	131	1950
Shared Lane Traffic (%)						
Lane Group Flow (vph)	292	0	2145	0	131	1950
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 3> SAT
08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	26.0		67.0		17.0	84.0
Total Split (%)	23.6%		60.9%		15.5%	76.4%
Maximum Green (s)	20.0		61.0		12.5	78.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	20.2		64.2		81.3	79.8
Actuated g/C Ratio	0.18		0.58		0.74	0.73
v/c Ratio	0.88		0.78		0.78	0.56
Control Delay	73.0		10.0		61.9	7.8
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	73.0		10.0		61.9	7.8
LOS	E		B		E	A
Approach Delay	73.0		10.0			11.2
Approach LOS	E		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 100 (91%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 14.6

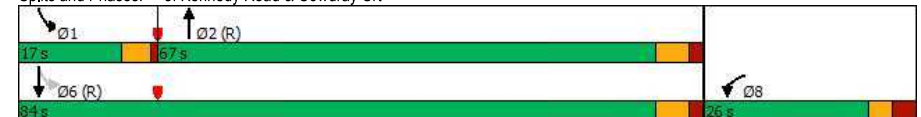
Intersection LOS: B

Intersection Capacity Utilization 78.1%

ICU Level of Service D

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	15	513	0	200	10	1935	617	139	2043	0
Future Volume (vph)	0	0	15	513	0	200	10	1935	617	139	2043	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	0.0	25.0	30.0	80.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	2	0	0	1	1	1	1	1	0	0
Taper Length (m)	2.5			90.0			30.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Ped Bike Factor		0.98		1.00	0.97		1.00		0.95			
Frt		0.865			0.850			0.850				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1088	0	3173	1553	0	1203	4932	1463	1685	6153	0
Flt Permitted				0.950			0.075			0.070		
Satd. Flow (perm)	0	1088	0	3169	1553	0	95	4932	1396	124	6153	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		144			193				231			
Link Speed (k/h)		48			50			50			50	
Link Distance (m)		70.0			243.9			64.3			138.0	
Travel Time (s)		5.3			17.6			4.6			9.9	
Confl. Peds. (#/hr)	19		1	1		19	1		16	16		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	47%	3%	2%	0%	40%	4%	3%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	10	0
Adj. Flow (vph)	0	0	15	513	0	200	10	1935	617	139	2043	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	513	200	0	10	1935	617	139	2043	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0			6.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> SAT

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.5	14.5		31.5	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	13.2%	13.2%		28.6%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	
Maximum Green (s)	7.5	7.5		27.0	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0	7.0		7.0	
Flash Dont Walk (s)					32.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0			0	0		0	
Act Effct Green (s)		8.0		23.9	27.0		58.5	58.5	58.5	74.0	71.0	
Actuated g/C Ratio		0.07		0.22	0.25		0.53	0.53	0.53	0.67	0.65	
v/c Ratio		0.07		0.74	0.38		0.20	0.74	0.73	0.64	0.51	
Control Delay		0.7		47.2	6.2		30.2	22.8	17.4	38.3	10.9	
Queue Delay		0.0		0.8	0.0		0.0	174.0	12.6	0.0	0.0	
Total Delay		0.7		48.1	6.2		30.2	196.8	30.0	38.3	10.9	
LOS		A		D	A		C	F	C	D	B	
Approach Delay		0.7			36.3			156.0			12.7	
Approach LOS		A			D			F			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 93 (85%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 82.8

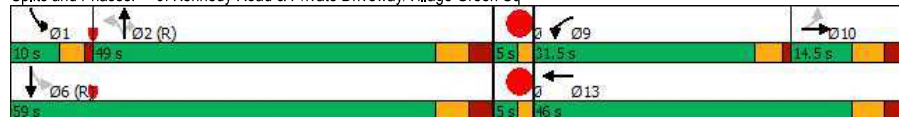
Intersection LOS: F

Intersection Capacity Utilization 98.7%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 3> SAT

08-10-2022

Lane Group	Ø3	Ø7
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 3> SAT

08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↗	↖↖↖			↖↖↖
Traffic Volume (vph)	787	855	1655	0	0	1410
Future Volume (vph)	787	855	1655	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.955	0.850				
Flt Protected	0.966					
Satd. Flow (prot)	3121	1457	4932	0	0	4932
Flt Permitted	0.966					
Satd. Flow (perm)	3121	1457	4932	0	0	4932
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4	4				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	5%	4%	0%	0%	4%
Adj. Flow (vph)	787	855	1655	0	0	1410
Shared Lane Traffic (%)		39%				
Lane Group Flow (vph)	1120	522	1655	0	0	1410
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 3> SAT

08-10-2022

	↖	↗	↖	↗	↖	↗
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	58.0	58.0	52.0			52.0
Total Split (%)	52.7%	52.7%	47.3%			47.3%
Maximum Green (s)	52.0	52.0	45.0			45.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	48.5	48.5	50.5			50.5
Actuated g/C Ratio	0.44	0.44	0.46			0.46
v/c Ratio	0.81	0.81	0.73			0.62
Control Delay	32.0	38.0	25.0			24.3
Queue Delay	0.0	0.0	183.5			0.6
Total Delay	32.0	38.0	208.5			24.9
LOS	C	D	F			C
Approach Delay	33.9		208.5			24.9
Approach LOS	C		F			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 92.6

Intersection LOS: F

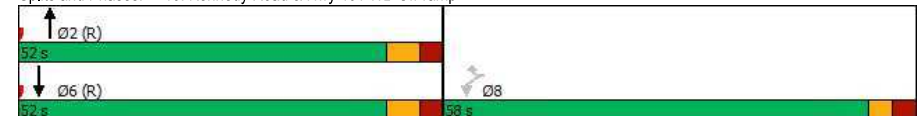
Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↑↑↑			↑↑↑	
Traffic Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Future Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.966	0.850			0.865		0.997				
Flt Protected	0.950	0.980										
Satd. Flow (prot)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Flt Permitted	0.950	0.980										
Satd. Flow (perm)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		5	40					4				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							6		20	20		6
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	8%	6%	0%	0%	7%	0%	6%	5%	0%	6%	0%
Adj. Flow (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Shared Lane Traffic (%)	45%		33%									
Lane Group Flow (vph)	483	952	431	0	0	515	0	2007	0	0	1619	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 3> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	58.0	58.0	58.0			58.0		52.0			52.0	
Total Split (%)	52.7%	52.7%	52.7%			52.7%		47.3%			47.3%	
Maximum Green (s)	51.0	51.0	51.0			51.0		45.0			45.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	46.4	46.4	46.4			46.4		51.6			51.6	
Actuated g/C Ratio	0.42	0.42	0.42			0.42		0.47			0.47	
v/c Ratio	0.78	0.78	0.76			0.71		0.70			0.71	
Control Delay	37.0	32.1	33.8			31.8		25.6			27.4	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	37.0	32.1	33.8			31.8		25.6			27.4	
LOS	D	C	C			C		C			C	
Approach Delay		33.7			31.8			25.6			27.4	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 4 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 29.2

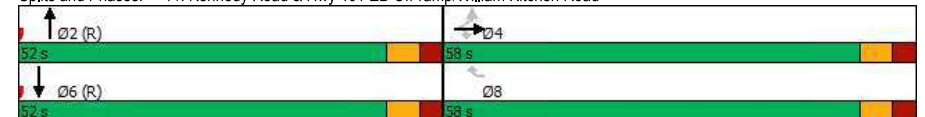
Intersection LOS: C

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 3> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	5	14	12	11	49	6
Future Volume (vph)	5	14	12	11	49	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.901				0.985	
Flt Protected				0.975	0.957	
Satd. Flow (prot)	1693	0	0	1832	1665	0
Flt Permitted				0.975	0.957	
Satd. Flow (perm)	1693	0	0	1832	1665	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)		6	6			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	3%	34%
Adj. Flow (vph)	5	14	12	11	49	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	0	23	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.6%

ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 3> SAT

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	5	14	12	11	49	6
Future Volume (Veh/h)	5	14	12	11	49	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	14	12	11	49	6
Pedestrians				2	6	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		53	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		53	20
tC, single (s)			4.1		6.4	6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.6
p0 queue free %			99		95	99
cM capacity (veh/h)			1594		941	966

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	19	23	55
Volume Left	0	12	49
Volume Right	14	0	6
cSH	1700	1594	943
Volume to Capacity	0.01	0.01	0.06
Queue Length 95th (m)	0.0	0.2	1.4
Control Delay (s)	0.0	3.8	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	3.8	9.1
Approach LOS			A

Intersection Summary

Average Delay	6.0		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 3> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (vph)	1154	6	25	1481	0	29
Future Volume (vph)	1154	6	25	1481	0	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.865	
Flt Protected				0.999		
Satd. Flow (prot)	3430	0	0	3399	1519	0
Flt Permitted				0.999		
Satd. Flow (perm)	3430	0	0	3399	1519	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		40	40			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	0%	0%	5%	0%	7%
Adj. Flow (vph)	1154	6	25	1481	0	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1160	0	0	1506	29	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 69.3%	ICU Level of Service C					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<Option 3> SAT
08-10-2022

















	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	1154	6	25	1481	0	29
Future Volume (Veh/h)	1154	6	25	1481	0	29
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1154	6	25	1481	0	29
Pedestrians				2	40	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.87		0.93	0.87
vC, conflicting volume			1200		1988	622
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			941		1377	280
tC, single (s)			4.1		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			96		100	95
cM capacity (veh/h)			621		119	591
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	769	391	519	987	29	
Volume Left	0	0	25	0	0	
Volume Right	0	6	0	0	29	
cSH	1700	1700	621	1700	591	
Volume to Capacity	0.45	0.23	0.04	0.58	0.05	
Queue Length 95th (m)	0.0	0.0	1.0	0.0	1.2	
Control Delay (s)	0.0	0.0	1.1	0.0	11.4	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.4		11.4	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			69.3%		ICU Level of Service	C
Analysis Period (min)			60			

Lanes, Volumes, Timings

14: Sheppard Ave E & Reidmount Ave

<Option 3> SAT

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1081	82	0	1492	39	0	0	292	18	0	14
Future Volume (vph)	16	1081	82	0	1492	39	0	0	292	18	0	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.86	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.990			0.996				0.865		0.941	
Flt Protected		0.999									0.973	
Satd. Flow (prot)	0	6152	0	0	3385	0	0	0	1593	0	1720	0
Flt Permitted		0.999									0.973	
Satd. Flow (perm)	0	6152	0	0	3385	0	0	0	1593	0	1720	0
Link Speed (k/h)		60			60				48		40	
Link Distance (m)		35.8			40.6				195.3		217.7	
Travel Time (s)		2.1			2.4				14.6		19.6	
Confl. Peds. (#/hr)	23					23				8		17
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	4%	2%	2%	5%	6%	2%	2%	2%	0%	2%	0%
Adj. Flow (vph)	16	1081	82	0	1492	39	0	0	292	18	0	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1179	0	0	1531	0	0	0	292	0	32	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0				0.0		0.0	
Link Offset(m)		1.8			-1.5				0.0		0.0	
Crosswalk Width(m)		1.6			1.6				1.6		1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free				Stop		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 56.9% ICU Level of Service B

















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

14: Sheppard Ave E & Reidmount Ave

<Option 3> SAT

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1081	82	0	1492	39	0	0	292	18	0	14
Future Volume (Veh/h)	16	1081	82	0	1492	39	0	0	292	18	0	14
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	1081	82	0	1492	39	0	0	292	18	0	14
Pedestrians		17			8						23	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		2			1						2	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	244			41								
pX, platoon unblocked	0.89						0.89	0.89		0.89	0.89	0.89
vC, conflicting volume	1554			1163			1931	2708	319	2137	2730	806
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1380			1163			1802	2673	319	2033	2697	541
tC, single (s)	4.2			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	57	0	100	97
cM capacity (veh/h)	409			596			41	18	672	16	18	422

Intersection Summary

Average Delay 10.1

Intersection Capacity Utilization 56.9% ICU Level of Service B




















Analysis Period (min) 60

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option 3> SAT

08-10-2022




















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	32	17	0	12	29	1959	29	6	2029	20
Future Volume (vph)	12	1	32	17	0	12	29	1959	29	6	2029	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.904			0.944			0.998			0.999	
Flt Protected		0.987			0.972		0.950			0.950		
Satd. Flow (prot)	0	1597	0	0	1724	0	1574	4840	0	1685	4768	0
Flt Permitted		0.987			0.972		0.950			0.950		
Satd. Flow (perm)	0	1597	0	0	1724	0	1574	4840	0	1685	4768	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Confl. Peds. (#/hr)							5		5	5		5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	7%	0%	0%	0%	7%	5%	0%	0%	6%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	10	0
Adj. Flow (vph)	12	1	32	17	0	12	29	1959	29	6	2029	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	29	0	29	1988	0	6	2049	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 49.7%	ICU Level of Service A											
Analysis Period (min) 60												

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option 3> SAT

08-10-2022

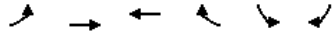
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	1	32	17	0	12	29	1959	29	6	2029	20
Future Volume (Veh/h)	12	1	32	17	0	12	29	1959	29	6	2029	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	12	1	32	17	0	12	29	1959	29	6	2029	20
Pedestrians		5			5							
Lane Width (m)		3.5			3.5							
Walking Speed (m/s)		1.1			1.1							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.78	0.78	0.78	0.78	0.78	0.67	0.78			0.67		
vC, conflicting volume	2779	4107	691	2757	4102	672	2054			1993		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	401	2108	0	373	2102	0	1374			753		
tC, single (s)	7.5	6.5	7.0	7.5	6.5	6.9	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	97	97	96	96	100	98	92			99		
cM capacity (veh/h)	380	36	832	381	37	727	366			577		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	45	29	29	784	784	421	6	812	812	426		
Volume Left	12	17	29	0	0	0	6	0	0	0		
Volume Right	32	12	0	0	0	29	0	0	0	20		
cSH	462	474	366	1700	1700	1700	577	1700	1700	1700		
Volume to Capacity	0.10	0.06	0.08	0.46	0.46	0.25	0.01	0.48	0.48	0.25		
Queue Length 95th (m)	2.5	1.5	2.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0		
Control Delay (s)	13.6	13.1	15.7	0.0	0.0	0.0	11.3	0.0	0.0	0.0		
Lane LOS	B	B	C				B					
Approach Delay (s)	13.6	13.1	0.2				0.0					
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			49.7%				ICU Level of Service			A		
Analysis Period (min)			60									

Lanes, Volumes, Timings

16: Collingwood Street & Gordon Ave

<Option 3> SAT

08-10-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	24	2	1	0	2	43
Future Volume (vph)	24	2	1	0	2	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.871	
Flt Protected		0.956			0.998	
Satd. Flow (prot)	0	1793	1879	0	1437	0
Flt Permitted		0.956			0.998	
Satd. Flow (perm)	0	1793	1879	0	1437	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	116.5		190.4	
Travel Time (s)		10.5	10.5		17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	24	2	1	0	2	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	1	0	45	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.1%

ICU Level of Service A

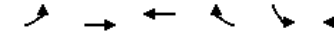
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

16: Collingwood Street & Gordon Ave

<Option 3> SAT

08-10-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	24	2	1	0	2	43
Future Volume (Veh/h)	24	2	1	0	2	43
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	24	2	1	0	2	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1				51	1
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1				51	1
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				100	96
cM capacity (veh/h)	1635				837	1055

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	1	45
Volume Left	24	0	2
Volume Right	0	0	43
cSH	1635	1700	1043
Volume to Capacity	0.01	0.00	0.04
Queue Length 95th (m)	0.3	0.0	1.0
Control Delay (s)	6.7	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	6.7	0.0	8.6
Approach LOS			A

Intersection Summary

Average Delay 7.8

Intersection Capacity Utilization 18.1%

ICU Level of Service

A

Analysis Period (min) 60

Lanes, Volumes, Timings
17: Village Green Sq

<Option 3> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	12	95	77	21	236	43
Future Volume (vph)	12	95	77	21	236	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.880				0.979	
Flt Protected				0.962	0.959	
Satd. Flow (prot)	1143	0	0	1752	1764	0
Flt Permitted				0.962	0.959	
Satd. Flow (perm)	1143	0	0	1752	1764	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	19.2			152.9	154.8	
Travel Time (s)	1.7			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	12	95	77	21	236	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	0	0	98	279	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.4%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option 3> SAT
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	12	95	77	21	236	43
Future Volume (vph)	12	95	77	21	236	43
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	12	95	77	21	236	43
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	107	98	279			
Volume Left (vph)	0	77	236			
Volume Right (vph)	95	0	43			
Hadj (s)	0.23	0.21	0.08			
Departure Headway (s)	4.9	4.9	4.5			
Degree Utilization, x	0.15	0.13	0.35			
Capacity (veh/h)	680	680	770			
Control Delay (s)	8.8	8.7	9.9			
Approach Delay (s)	8.8	8.7	9.9			
Approach LOS	A	A	A			
Intersection Summary						
Delay			9.4			
Level of Service			A			
Intersection Capacity Utilization			34.4%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 3> SAT
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Volume (vph)	48	141	106	245	69	14
Future Volume (vph)	48	141	106	245	69	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.899				0.977	
Flt Protected	0.987			0.985		
Satd. Flow (prot)	1634	0	0	1814	1800	0
Flt Permitted	0.987			0.889		
Satd. Flow (perm)	1634	0	0	1638	1800	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	141				14	
Link Speed (k/h)	40			48	48	
Link Distance (m)	196.4			199.2	142.2	
Travel Time (s)	17.7			14.9	10.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	48	141	106	245	69	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	189	0	0	351	83	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1		2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	28.0		32.0	32.0	32.0	
Total Split (%)	46.7%		53.3%	53.3%	53.3%	
Maximum Green (s)	22.0		26.0	26.0	26.0	

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 3> SAT
08-10-2022

	↖	↗	↙	↘	↕	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.3			32.2	32.2	
Actuated g/C Ratio	0.23			0.66	0.66	
v/c Ratio	0.39			0.33	0.07	
Control Delay	8.3			6.7	4.6	
Queue Delay	0.0			0.0	0.0	
Total Delay	8.3			6.7	4.6	
LOS	A			A	A	
Approach Delay	8.3			6.7	4.6	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 49.1

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 6.9

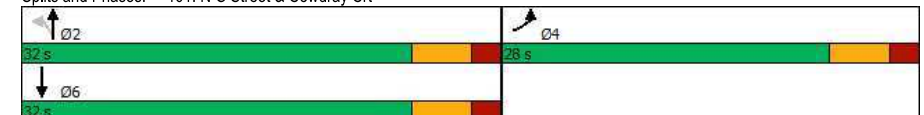
Intersection LOS: A

Intersection Capacity Utilization 45.1%

ICU Level of Service A













Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Crt



Lanes, Volumes, Timings
102: Village Green Sq & N-S Street

<Option 3> SAT
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	17	23	217	89	9
Future Volume (vph)	14	17	23	217	89	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926			0.988		
Flt Protected	0.978			0.995		
Satd. Flow (prot)	1668	0	0	1833	1820	0
Flt Permitted	0.978			0.995		
Satd. Flow (perm)	1668	0	0	1833	1820	0
Link Speed (k/h)	40			40	48	
Link Distance (m)	35.4			19.2	199.2	
Travel Time (s)	3.2			1.7	14.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	14	17	23	217	89	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	240	98	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other













Control Type: Unsignalized

Intersection Capacity Utilization 29.4% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq & N-S Street

<Option 3> SAT
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	17	23	217	89	9
Future Volume (Veh/h)	14	17	23	217	89	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	17	23	217	89	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)					199	
pX, platoon unblocked						
vC, conflicting volume	356	94	98			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	356	94	98			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	98			
cM capacity (veh/h)	632	963	1495			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	31	240	98			
Volume Left	14	23	0			
Volume Right	17	0	9			
cSH	779	1495	1700			
Volume to Capacity	0.04	0.02	0.06			
Queue Length 95th (m)	0.9	0.4	0.0			
Control Delay (s)	9.8	0.8	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.8	0.8	0.0			
Approach LOS	A					

Intersection Summary

Average Delay 1.4

Intersection Capacity Utilization 29.4% ICU Level of Service A













Analysis Period (min) 60

Lanes, Volumes, Timings

104: N-S Street & Collingwood Street

<Option 3> SAT

08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	292	82	0
Future Volume (vph)	0	0	0	292	82	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	116.5			142.2	195.3	
Travel Time (s)	8.7			10.7	14.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	292	82	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	292	82	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.7% ICU Level of Service A













Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

104: N-S Street & Collingwood Street

<Option 3> SAT

08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	292	82	0
Future Volume (Veh/h)	0	0	0	292	82	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	292	82	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				142		
pX, platoon unblocked						
vC, conflicting volume	374	82	82			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	374	82	82			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	627	978	1515			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	292	82			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1515	1700			
Volume to Capacity	0.00	0.00	0.05			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					

Intersection Summary












Average Delay 0.0

Intersection Capacity Utilization 18.7% ICU Level of Service A

Analysis Period (min) 60







Lanes, Volumes, Timings
18: Village Green Sq

<Option 3> SAT
08-19-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations					 	
Traffic Volume (vph)	286	370	333	3	74	96
Future Volume (vph)	286	370	333	3	74	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.924	
Flt Protected	0.950				0.979	
Satd. Flow (prot)	1750	1807	1841	0	1086	0
Flt Permitted	0.950				0.979	
Satd. Flow (perm)	1750	1807	1841	0	1086	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	32			32	2	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	2%	0%	0%	100%
Adj. Flow (vph)	286	370	333	3	74	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	286	370	336	0	170	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		9.5	9.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	54.5%			ICU Level of Service A		
Analysis Period (min)	60					

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option 3> SAT
08-19-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	286	370	333	3	74	96
Future Volume (Veh/h)	286	370	333	3	74	96
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	286	370	333	3	74	96
Pedestrians		6	2		32	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	0		3	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage (veh)		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	368				1310	372
vC1, stage 1 conf vol					366	
vC2, stage 2 conf vol					944	
vCu, unblocked vol	368				1310	372
tC, single (s)	4.1				6.4	7.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	4.2
p0 queue free %	75				68	80
cM capacity (veh/h)	1157				230	485
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	286	370	336	170		
Volume Left	286	0	0	74		
Volume Right	0	0	3	96		
cSH	1157	1700	1700	327		
Volume to Capacity	0.25	0.22	0.20	0.52		
Queue Length 95th (m)	7.5	0.0	0.0	23.7		
Control Delay (s)	9.1	0.0	0.0	27.8		
Lane LOS	A			D		
Approach Delay (s)	4.0		0.0	27.8		
Approach LOS				D		
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			54.5%		ICU Level of Service	A
Analysis Period (min)			60			

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	15005	14620	14557	14643	14887	14745
Vehs Exited	14310	14001	13736	13974	14120	14027
Starting Vehs	823	807	859	812	808	818
Ending Vehs	1518	1426	1680	1481	1575	1532
Travel Distance (km)	16672	16279	16136	16249	16475	16362
Travel Time (hr)	1631.4	1595.9	1738.4	1618.3	1472.9	1611.4
Total Delay (hr)	1299.5	1271.9	1417.3	1294.6	1144.5	1285.5
Total Stops	38329	34235	36930	35635	37705	36570
Fuel Used (l)	2421.8	2354.0	2461.1	2368.5	2252.8	2371.6

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	15005	14620	14557	14643	14887	14745
Vehs Exited	14310	14001	13736	13974	14120	14027
Starting Vehs	823	807	859	812	808	818
Ending Vehs	1518	1426	1680	1481	1575	1532
Travel Distance (km)	16672	16279	16136	16249	16475	16362
Travel Time (hr)	1631.4	1595.9	1738.4	1618.3	1472.9	1611.4
Total Delay (hr)	1299.5	1271.9	1417.3	1294.6	1144.5	1285.5
Total Stops	38329	34235	36930	35635	37705	36570
Fuel Used (l)	2421.8	2354.0	2461.1	2368.5	2252.8	2371.6

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	43.8	186.7	184.5	55.0	35.0	111.6	116.8	69.9	179.1	178.3	172.6	99.9
Average Queue (m)	15.1	141.1	174.5	53.9	34.8	107.4	88.7	69.8	170.8	110.8	89.3	26.2
95th Queue (m)	35.9	218.0	188.7	61.7	36.2	110.2	142.3	69.9	197.1	191.3	150.9	66.6
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		7	44			67	21		56	1	0	
Queuing Penalty (veh)		37	232			515	160		339	7	1	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	1	22	46	65	89	31		93	5		19	
Queuing Penalty (veh)	2	11	204	181	396	126		392	13		34	

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	283.0	284.2	284.6
Average Queue (m)	56.2	256.8	257.3	257.3
95th Queue (m)	94.3	332.8	332.0	332.3
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		34	31	35
Queuing Penalty (veh)		207	189	208
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	2	82		
Queuing Penalty (veh)	8	130		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	30.2	41.1	43.0	33.5	50.2	79.4	79.4	50.4	213.0	216.4	35.2	23.2
Average Queue (m)	14.8	25.9	27.7	9.7	13.4	68.0	66.6	28.1	172.4	173.0	11.2	8.4
95th Queue (m)	27.0	41.8	46.1	29.7	47.4	81.5	84.3	67.0	272.8	276.7	26.1	17.9
Link Distance (m)	28.4	28.4	28.4	28.4		50.4	50.4		204.7	204.7	66.8	66.8
Upstream Blk Time (%)	2	12	15	2	0	74	46	1	15	14		
Queuing Penalty (veh)	5	31	38	5	0	564	349	0	116	110		
Storage Bay Dist (m)					25.0			55.0				
Storage Blk Time (%)					0	78	46	1				
Queuing Penalty (veh)					1	16	55	5				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	21.2	26.6
Average Queue (m)	5.1	8.4
95th Queue (m)	15.1	20.7
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)	0	0
Queuing Penalty (veh)	0	0

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	16.7	105.9	114.6	74.3	16.1	59.0	70.2	70.7	51.0	14.0	32.8	36.9
Average Queue (m)	3.8	61.0	71.0	32.2	3.3	43.0	53.5	62.4	39.4	0.7	3.8	17.5
95th Queue (m)	13.3	91.3	102.0	60.5	11.7	60.4	69.1	78.5	64.6	9.0	19.1	40.3
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)						2	8	16	1	1	2	8
Queuing Penalty (veh)						19	59	119	0	6	13	64
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)		0	1	0	0	21		29	3			
Queuing Penalty (veh)		0	3	1	1	1		116	18			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	114.9	145.9	146.1	150.1	125.1	131.2	137.5	137.2
Average Queue (m)	48.8	101.5	107.4	110.0	71.4	51.9	59.6	61.3
95th Queue (m)	123.8	176.4	174.8	175.9	170.1	177.8	190.7	192.0
Link Distance (m)		124.0	124.0	124.0	124.0	231.2	231.2	231.2
Upstream Blk Time (%)		30	39	44	2	0	1	2
Queuing Penalty (veh)		193	255	288	13	2	10	16
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)	0	40						
Queuing Penalty (veh)	1	59						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	SB	SB	SB
Directions Served	L	LR	R	T	T	T	T	T		T	T	T
Maximum Queue (m)	132.8	140.0	106.0	100.1	108.4	116.7	32.7	68.4	41.3	42.2	39.6	44.1
Average Queue (m)	72.3	76.8	61.7	56.0	62.5	71.3	2.1	4.8	3.7	37.1	36.7	36.9
95th Queue (m)	107.8	113.8	93.7	81.0	92.7	103.7	18.0	31.5	27.2	41.2	38.0	40.0
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	21.4	21.4	21.4
Upstream Blk Time (%)							0	0	0	39	41	42
Queuing Penalty (veh)							0	2	1	408	436	444
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		2	1									
Queuing Penalty (veh)		6	6									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	B44	B44	B44
Directions Served	T	T	T
Maximum Queue (m)	78.4	76.8	79.3
Average Queue (m)	67.1	67.7	68.9
95th Queue (m)	85.6	84.1	83.6
Link Distance (m)	51.0	51.0	51.0
Upstream Blk Time (%)	23	26	28
Queuing Penalty (veh)	181	205	218
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	SB
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	161.8	170.4	146.3	88.3	137.9	98.9	86.8	69.6	56.0	54.0	30.1	69.0
Average Queue (m)	104.8	108.1	82.2	52.8	67.7	82.1	65.9	45.5	2.9	15.0	1.5	50.3
95th Queue (m)	155.9	158.6	131.4	82.7	118.1	99.0	83.5	68.1	22.3	42.7	14.0	68.4
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	54.6
Upstream Blk Time (%)						13	2	0	0	0		4
Queuing Penalty (veh)						0	0	0	0	0		29
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T
Maximum Queue (m)	69.5	68.4	7.1	23.9	14.0
Average Queue (m)	58.5	50.7	0.3	3.1	1.2
95th Queue (m)	76.8	69.8	3.1	14.0	7.4
Link Distance (m)	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	9	4			
Queuing Penalty (veh)	67	33			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Zone Summary

Zone wide Queuing Penalty: 7981

SimTraffic Simulation Summary
Agincourt North-South GS EA

<Option 3> PM
08-08-2022

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	15095	15090	15242	15420	15085	15182
Vehs Exited	14494	14650	14718	14897	14680	14692
Starting Vehs	784	860	847	784	827	815
Ending Vehs	1385	1300	1371	1307	1232	1311
Travel Distance (km)	16824	16922	17138	17360	17127	17074
Travel Time (hr)	1505.6	1667.4	1506.4	1451.0	1580.2	1542.1
Total Delay (hr)	1168.9	1330.1	1164.0	1104.5	1237.8	1201.1
Total Stops	31748	31811	34337	34567	33582	33210
Fuel Used (l)	2358.2	2497.9	2374.9	2336.0	2435.2	2400.4

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	15095	15090	15242	15420	15085	15182
Vehs Exited	14494	14650	14718	14897	14680	14692
Starting Vehs	784	860	847	784	827	815
Ending Vehs	1385	1300	1371	1307	1232	1311
Travel Distance (km)	16824	16922	17138	17360	17127	17074
Travel Time (hr)	1505.6	1667.4	1506.4	1451.0	1580.2	1542.1
Total Delay (hr)	1168.9	1330.1	1164.0	1104.5	1237.8	1201.1
Total Stops	31748	31811	34337	34567	33582	33210
Fuel Used (l)	2358.2	2497.9	2374.9	2336.0	2435.2	2400.4

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 3> PM
08-08-2022

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.9	188.1	184.8	55.0	35.0	114.6	112.0	69.9	171.4	171.2	169.3	100.0
Average Queue (m)	18.4	168.2	176.3	52.7	34.8	107.6	78.3	67.4	137.2	115.8	101.7	48.0
95th Queue (m)	42.1	206.0	180.8	66.0	35.7	111.5	128.9	80.3	201.0	179.1	158.1	105.7
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		14	47			62	8		17	1	0	
Queuing Penalty (veh)		101	330			342	46		112	4	3	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	2	21	60	34	87	23		68	17		32	0
Queuing Penalty (veh)	6	22	296	138	272	78		312	47		82	2

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	281.6	282.9	283.5
Average Queue (m)	62.0	247.9	247.5	247.0
95th Queue (m)	89.2	332.5	333.0	333.1
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		21	20	24
Queuing Penalty (veh)		111	108	130
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	12	77		
Queuing Penalty (veh)	53	138		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E												
Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	15.2	41.5	43.4	38.5	50.1	76.2	75.1	50.3	134.6	133.6	50.6	20.4
Average Queue (m)	2.8	30.1	32.6	17.5	7.0	45.6	44.1	5.9	21.6	19.8	25.0	9.9
95th Queue (m)	10.1	40.9	44.6	37.2	31.4	83.9	82.2	28.6	89.7	86.7	47.4	18.3
Link Distance (m)	28.4	28.4	28.4	28.4		50.4	50.4		204.7	204.7	66.8	66.8
Upstream Blk Time (%)		20	24	5	0	20	12	0	0	0	4	
Queuing Penalty (veh)		67	81	18	0	111	64	0	0	0	0	
Storage Bay Dist (m)					25.0			55.0				
Storage Blk Time (%)						32	12	0				
Queuing Penalty (veh)						6	4	0				

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E		
Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	22.0	17.2
Average Queue (m)	8.6	5.3
95th Queue (m)	18.4	16.2
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)		1
Queuing Penalty (veh)		0

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq												
Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	13.2	91.3	106.3	70.6	19.4	66.3	69.5	70.6	51.0	24.0	38.6	34.7
Average Queue (m)	2.6	54.6	67.0	28.9	1.4	44.1	55.2	61.9	45.3	1.4	10.0	21.4
95th Queue (m)	9.8	80.3	96.0	57.0	9.6	64.5	76.5	80.5	61.8	11.2	33.0	43.4
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)					0	3	10	16	2	0	5	12
Queuing Penalty (veh)					0	30	93	141	0	2	41	104
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)		0	1	0	0	21		28	12			
Queuing Penalty (veh)		0	1	0	0	1		165	87			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq						
Movement	SB	SB	SB	SB	SB	B45
Directions Served	L	T	T	T	TR	T
Maximum Queue (m)	90.9	97.9	107.9	112.1	77.6	3.4
Average Queue (m)	28.8	54.4	66.1	71.4	3.8	0.1
95th Queue (m)	61.3	90.7	100.8	104.9	31.0	2.4
Link Distance (m)		124.0	124.0	124.0	124.0	231.2
Upstream Blk Time (%)		0	0	0		
Queuing Penalty (veh)		0	0	1		
Storage Bay Dist (m)	80.0					
Storage Blk Time (%)	1	1				
Queuing Penalty (veh)	5	2				

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	217.9	249.8	146.8	97.6	115.7	135.5	19.1	28.6	57.6	52.9	41.2	39.7
Average Queue (m)	114.5	130.6	107.9	66.8	77.9	96.4	0.6	2.7	6.1	3.9	37.0	36.7
95th Queue (m)	204.6	234.1	157.7	91.3	103.6	124.2	9.8	21.4	34.1	28.9	38.7	38.5
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)							0	0	0	0	31	31
Queuing Penalty (veh)							0	0	2	1	301	305
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		28	25									
Queuing Penalty (veh)		117	188									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44
Directions Served	T	T	T	T
Maximum Queue (m)	39.9	73.2	72.3	72.8
Average Queue (m)	36.8	57.6	62.6	65.1
95th Queue (m)	39.7	84.7	85.0	85.3
Link Distance (m)	21.4	51.0	51.0	51.0
Upstream Blk Time (%)	31	11	16	18
Queuing Penalty (veh)	300	82	114	129
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	115.3	116.9	101.2	77.7	174.1	92.2	93.6	95.6	72.8	80.4	74.8	77.4
Average Queue (m)	77.6	83.1	62.0	42.5	89.6	86.9	87.1	86.6	48.5	68.3	67.7	66.5
95th Queue (m)	100.7	107.7	87.8	68.2	149.7	89.5	91.0	93.3	99.7	74.0	74.6	84.8
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)						59	60	61	1	52	56	63
Queuing Penalty (veh)						0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	71.9	70.2	69.0	20.2	32.6	17.8
Average Queue (m)	53.4	59.1	45.1	1.7	6.7	0.9
95th Queue (m)	75.3	79.1	68.3	10.4	23.2	8.1
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	6	10	4			
Queuing Penalty (veh)	51	84	30			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

Zone wide Queuing Penalty: 5464

SimTraffic Simulation Summary
Agincourt North-South GS EA

<Option 3> SAT
08-08-2022

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	14470	14276	14263	14465	14676	14432
Vehs Exited	13684	13515	13481	13619	14119	13687
Starting Vehs	763	759	771	740	796	760
Ending Vehs	1549	1520	1553	1586	1353	1505
Travel Distance (km)	16262	16048	15999	16152	16634	16219
Travel Time (hr)	1364.1	1590.2	1524.6	1468.6	1354.2	1460.3
Total Delay (hr)	1040.9	1271.6	1205.9	1146.9	1022.2	1137.5
Total Stops	35016	35681	35348	36194	35646	35575
Fuel Used (l)	2182.6	2358.6	2302.5	2260.6	2195.0	2259.9

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	14470	14276	14263	14465	14676	14432
Vehs Exited	13684	13515	13481	13619	14119	13687
Starting Vehs	763	759	771	740	796	760
Ending Vehs	1549	1520	1553	1586	1353	1505
Travel Distance (km)	16262	16048	15999	16152	16634	16219
Travel Time (hr)	1364.1	1590.2	1524.6	1468.6	1354.2	1460.3
Total Delay (hr)	1040.9	1271.6	1205.9	1146.9	1022.2	1137.5
Total Stops	35016	35681	35348	36194	35646	35575
Fuel Used (l)	2182.6	2358.6	2302.5	2260.6	2195.0	2259.9

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 3> SAT
08-08-2022

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.8	188.6	184.3	55.0	35.0	110.8	111.8	69.9	182.1	184.1	180.3	100.0
Average Queue (m)	23.0	159.1	175.4	53.1	34.9	107.4	73.9	69.8	173.9	115.2	102.4	39.8
95th Queue (m)	45.8	216.1	182.6	64.8	35.3	110.9	130.7	69.8	192.4	193.9	174.2	83.7
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		15	41			68	8		61	3	1	
Queuing Penalty (veh)		100	273			503	58		402	20	4	
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	4	12	61	31	88	16		88	5		22	0
Queuing Penalty (veh)	10	12	246	83	253	78		367	16		60	2

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	221.3	217.5	214.7
Average Queue (m)	57.0	124.3	118.6	116.6
95th Queue (m)	88.8	224.0	218.4	214.0
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		3	3	3
Queuing Penalty (veh)		13	14	15
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	16	49		
Queuing Penalty (veh)	59	87		

Intersection: 5: 4091 Sheppard Ave E Access/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	WB	WB	WB	B53	B53	NB	NB
Directions Served	T	T	TR	L	T	T	T	T	L	R
Maximum Queue (m)	46.9	43.3	33.2	50.2	77.3	73.6	213.2	219.2	24.6	12.9
Average Queue (m)	23.4	26.5	14.2	11.4	66.6	43.6	190.2	177.9	9.3	3.7
95th Queue (m)	46.1	49.8	35.8	44.3	71.4	88.7	267.3	271.0	21.6	11.2
Link Distance (m)	28.4	28.4	28.4		50.4	50.4	204.7	204.7	66.8	66.8
Upstream Blk Time (%)	14	18	5	0	92	17	56	21		
Queuing Penalty (veh)	49	64	18	0	636	117	386	146		
Storage Bay Dist (m)				25.0						
Storage Blk Time (%)					92	17				
Queuing Penalty (veh)					14	0				

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq												
Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	22.4	110.2	129.0	107.3	37.6	74.2	76.4	77.0	51.0	47.9	50.2	44.1
Average Queue (m)	5.8	59.0	71.0	42.3	5.7	61.8	63.8	64.6	47.5	31.0	30.4	29.4
95th Queue (m)	18.2	111.7	125.0	114.8	24.2	84.8	83.3	80.4	63.7	59.2	57.3	54.0
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)					0	20	22	21	3	17	17	18
Queuing Penalty (veh)					0	166	182	174	0	139	145	148
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)		6	11	2	0	33		35	6			
Queuing Penalty (veh)		13	22	8	2	3		214	38			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq					
Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	TR
Maximum Queue (m)	59.8	91.5	100.1	99.9	45.0
Average Queue (m)	24.2	56.1	65.8	69.7	2.5
95th Queue (m)	49.4	84.8	94.6	96.2	23.2
Link Distance (m)		124.0	124.0	124.0	124.0
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	80.0				
Storage Blk Time (%)		1			
Queuing Penalty (veh)		1			

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp												
Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	131.9	135.2	126.7	319.6	322.6	326.2	81.4	85.7	82.1	70.7	48.2	43.1
Average Queue (m)	77.2	86.3	78.2	209.6	245.0	262.1	28.7	33.6	37.3	30.2	37.6	37.1
95th Queue (m)	116.9	123.4	112.4	381.7	395.9	389.3	83.1	87.8	90.7	83.7	42.6	39.8
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)				13	21	38	8	10	19	11	35	42
Queuing Penalty (veh)				143	230	426	63	82	161	91	302	360
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		4	2									
Queuing Penalty (veh)		17	19									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp					
Movement	SB	B44	B44	B44	B44
Directions Served	T	T	T	T	
Maximum Queue (m)	45.0	79.6	77.9	81.8	10.5
Average Queue (m)	37.4	52.9	53.8	52.5	0.4
95th Queue (m)	41.4	87.0	79.9	79.3	7.4
Link Distance (m)	21.4	51.0	51.0	51.0	51.0
Upstream Blk Time (%)	45	12	13	12	0
Queuing Penalty (veh)	383	74	85	80	1
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 3> SAT
08-08-2022

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	310.0	303.4	289.9	147.0	262.9	98.2	97.4	97.9	73.6	79.1	78.2	78.5
Average Queue (m)	113.8	118.0	100.2	52.8	166.1	88.6	87.6	84.0	39.4	66.5	58.7	49.6
95th Queue (m)	252.1	251.3	225.4	98.8	305.8	94.3	97.0	98.5	93.1	82.0	94.4	99.0
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)					32	56	52	48	1	36	35	40
Queuing Penalty (veh)					0	0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	80.6	75.8	77.3	76.0	76.1	80.4
Average Queue (m)	64.9	66.6	67.4	15.1	23.7	27.0
95th Queue (m)	80.1	80.5	79.5	49.2	59.2	63.6
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	14	17	18			
Queuing Penalty (veh)	105	124	134			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 48: Bend

Movement	SB
Directions Served	T
Maximum Queue (m)	3.3
Average Queue (m)	0.1
95th Queue (m)	2.4
Link Distance (m)	71.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 8241

Arterial Level of Service

<Option 3> AM
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	16.9	30.8	0.16	18.6	E
Hwy 401 WB Off-ramp	III	50	29.8	15.8	45.6	0.38	29.9	C
Village Green Sq	III	50	9.9	21.4	31.3	0.10	11.8	F
Cowdray Crt	III	50	30.1	19.6	49.7	0.38	27.6	D
Sheppard Ave E	III	50	25.6	40.7	66.3	0.32	17.6	E
Cardwell Avenue	III	50	22.9	6.3	29.2	0.29	35.7	C
Total	III		132.2	120.7	252.9	1.63	23.3	D

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.1	55.0	0.52	33.9	C
Sheppard Ave E	III	50	22.9	75.8	98.7	0.29	10.6	F
Cowdray Crt	III	50	25.6	17.4	43.0	0.32	27.1	D
Private Driveway	III	50	30.1	15.5	45.6	0.38	30.1	C
Hwy 401 WB Off-ramp	III	50	9.9	17.4	27.3	0.10	13.5	F
Hwy 401 EB Off-ramp	III	50	29.8	14.7	44.5	0.38	30.6	C
Total	III		159.2	154.9	314.1	1.99	22.8	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	4.4	31.2	0.39	45.2	B
Private Driveway	II	60	17.6	8.5	26.1	0.25	33.9	D
Kennedy Road	II	60	13.7	36.2	49.9	0.19	13.8	F
4091 Sheppard Ave E	II	60	20.3	1.9	22.2	0.28	46.1	B
Lamont Ave	II	60	19.9	0.9	20.8	0.28	48.2	B
Midland Ave	II	60	17.6	27.2	44.8	0.25	19.8	F
Total	II		115.9	79.1	195.0	1.64	30.2	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	81.9	96.7	0.21	7.7	F
Private Driveway	II	60	17.6	0.5	18.1	0.25	48.9	B
GO Station Access	II	60	19.9	7.5	27.4	0.28	36.6	C
Kennedy Road	II	60	20.3	23.4	43.7	0.28	23.4	E
Agincourt Mall Acces	II	60	13.7	20.1	33.8	0.19	20.4	F
Allanford Rd Extensi	II	60	17.6	0.6	18.2	0.25	48.7	B
Total	II		103.9	134.0	237.9	1.45	22.0	E

Arterial Level of Service

<Option 3> PM
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	27.9	41.8	0.16	13.7	F
Hwy 401 WB Off-ramp	III	50	29.8	21.4	51.2	0.38	26.6	D
Village Green Sq	III	50	9.9	22.7	32.6	0.10	11.3	F
Cowdray Crt	III	50	30.1	15.0	45.1	0.38	30.4	C
Sheppard Ave E	III	50	25.6	46.1	71.7	0.32	16.3	E
Cardwell Avenue	III	50	22.9	7.6	30.5	0.29	34.2	C
Total	III		132.2	140.7	272.9	1.63	21.6	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	17.7	58.6	0.52	31.8	C
Sheppard Ave E	III	50	22.9	136.6	159.5	0.29	6.5	F
Cowdray Crt	III	50	25.6	15.4	41.0	0.32	28.4	D
Private Driveway	III	50	30.1	15.8	45.9	0.38	29.9	C
Hwy 401 WB Off-ramp	III	50	9.9	19.2	29.1	0.10	12.7	F
Hwy 401 EB Off-ramp	III	50	29.8	18.8	48.6	0.38	28.0	D
Total	III		159.2	223.5	382.7	1.99	18.7	E

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.2	32.0	0.39	44.0	C
Private Driveway	II	60	17.6	6.2	23.8	0.25	37.2	C
Kennedy Road	II	60	13.7	43.4	57.1	0.19	12.1	F
4091 Sheppard Ave E	II	60	20.3	10.1	30.4	0.28	33.6	D
Lamont Ave	II	60	19.9	2.6	22.5	0.28	44.6	C
Midland Ave	II	60	17.6	30.7	48.3	0.25	18.3	F
Total	II		115.9	98.2	214.1	1.64	27.5	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	33.3	48.1	0.21	15.5	F
Private Driveway	II	60	17.6	0.9	18.5	0.25	47.9	B
GO Station Access	II	60	19.9	7.1	27.0	0.28	37.1	C
Kennedy Road	II	60	20.3	28.9	49.2	0.28	20.8	F
Agincourt Mall Acces	II	60	13.7	13.2	26.9	0.19	25.6	E
Allanford Rd Extensi	II	60	17.6	1.8	19.4	0.25	45.6	B
Total	II		103.9	85.2	189.1	1.45	27.7	D

Arterial Level of Service

<Option 3> SAT
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	25.6	39.5	0.16	14.5	F
Hwy 401 WB Off-ramp	III	50	29.8	25.0	54.8	0.38	24.8	D
Village Green Sq	III	50	9.9	22.8	32.7	0.10	11.3	F
Cowdray Crt	III	50	30.1	10.0	40.1	0.38	34.2	C
Sheppard Ave E	III	50	25.6	44.3	69.9	0.32	16.7	E
Cardwell Avenue	III	50	22.9	6.1	29.0	0.29	36.0	C
Total	III		132.2	133.8	266.0	1.63	22.1	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.5	55.4	0.52	33.6	C
Sheppard Ave E	III	50	22.9	48.0	70.9	0.29	14.7	F
Cowdray Crt	III	50	25.6	7.8	33.4	0.32	34.9	C
Private Driveway	III	50	30.1	10.9	41.0	0.38	33.5	C
Hwy 401 WB Off-ramp	III	50	9.9	24.3	34.2	0.10	10.8	F
Hwy 401 EB Off-ramp	III	50	29.8	27.4	57.2	0.38	23.8	D
Total	III		159.2	132.9	292.1	1.99	24.6	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.4	32.2	0.39	43.8	C
Private Driveway	II	60	17.6	7.9	25.5	0.25	34.7	D
Kennedy Road	II	60	13.7	34.6	48.3	0.19	14.3	F
4091 Sheppard Ave E	II	60	20.3	3.4	23.7	0.28	43.2	C
Lamont Ave	II	60	19.9	1.1	21.0	0.28	47.7	B
Midland Ave	II	60	17.6	37.3	54.9	0.25	16.1	F
Total	II		115.9	89.7	205.6	1.64	28.7	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	47.9	62.7	0.21	11.9	F
Private Driveway	II	60	17.6	0.4	18.0	0.25	49.2	B
GO Station Access	II	60	19.9	3.2	23.1	0.28	43.4	C
Kennedy Road	II	60	20.3	29.7	50.0	0.28	20.5	F
Agincourt Mall Acces	II	60	13.7	17.0	30.7	0.19	22.5	E
Allanford Rd Extensi	II	60	17.6	0.6	18.2	0.25	48.7	B
Total	II		103.9	98.8	202.7	1.45	25.8	E

APPENDIX J

Option C4 Traffic Conditions

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗			↕			↕	
Traffic Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Future Volume (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.97				0.94				
Frt		0.997						0.920			0.912	
Flt Protected		0.995		0.950				0.984			0.988	
Satd. Flow (prot)	0	3316	0	1574	3368	0	0	1552	0	0	1660	0
Flt Permitted		0.664		0.315				0.768			0.828	
Satd. Flow (perm)	0	2213	0	504	3368	0	0	1201	0	0	1391	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3						65			65	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			49	49			27		59			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	7%	7%	7%	6%	2%	9%	2%	2%	2%	2%	2%
Adj. Flow (vph)	95	771	15	40	1247	0	35	10	65	25	10	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	881	0	40	1247	0	0	110	0	0	100	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4			8		
Detector Phase		2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	73.0	73.0		73.0	73.0		37.0	37.0		37.0	37.0	
Total Split (%)	66.4%	66.4%		66.4%	66.4%		33.6%	33.6%		33.6%	33.6%	
Maximum Green (s)	67.0	67.0		67.0	67.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		89.9		89.9	89.9			11.1			11.1	
Actuated g/C Ratio		0.82		0.82	0.82			0.10			0.10	
v/c Ratio		0.49		0.10	0.45			0.61			0.51	
Control Delay		4.4		0.6	0.6			37.0			28.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		4.4		0.6	0.6			37.0			28.1	
LOS		A		A	A			D			C	
Approach Delay		4.4			0.6			37.0			28.1	
Approach LOS		A			A			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 101 (92%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 4.9

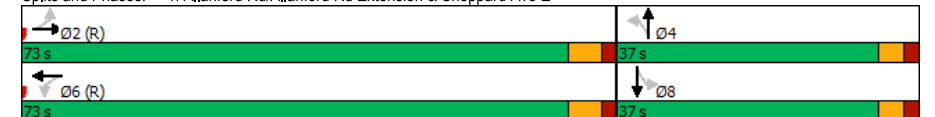
Intersection LOS: A

Intersection Capacity Utilization 91.8%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑		↖	↑↑			↖			↑	↖
Traffic Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Future Volume (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.95	1.00			0.98			1.00	0.95
Frt		0.999			0.995			0.955				0.850
Flt Protected	0.950			0.950				0.968			0.954	
Satd. Flow (prot)	1636	3362	0	1685	3344	0	0	1728	0	0	1757	1478
Flt Permitted	0.136			0.358				0.808			0.723	
Satd. Flow (perm)	234	3362	0	602	3344	0	0	1424	0	0	1326	1410
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			5			69				69
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	26		53	53		26	24		3	3		24
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	6%	0%	0%	6%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	85	771	5	5	1202	45	10	0	5	275	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	776	0	5	1247	0	0	15	0	0	285	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	10.0	69.0		59.0	59.0		41.0	41.0		41.0	41.0	41.0

Lanes, Volumes, Timings

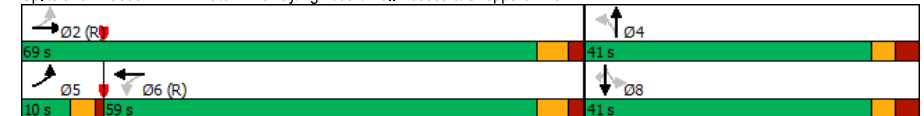
2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	9.1%	62.7%		53.6%	53.6%		37.3%	37.3%		37.3%	37.3%	37.3%
Maximum Green (s)	6.0	63.0		53.0	53.0		35.0	35.0		35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	72.9	70.9		62.7	62.7		29.1			29.1	29.1	29.1
Actuated g/C Ratio	0.66	0.64		0.57	0.57		0.26			0.26	0.26	0.26
v/c Ratio	0.35	0.36		0.01	0.65		0.04			0.81	0.11	0.11
Control Delay	10.9	8.5		14.2	20.1		0.1			58.3	3.3	3.3
Queue Delay	0.0	0.0		0.0	0.3		0.0			0.0	0.0	0.0
Total Delay	10.9	8.5		14.2	20.4		0.1			58.3	3.3	3.3
LOS	B	A		B	C		A			E	A	A
Approach Delay		8.7			20.4		0.1			50.8		
Approach LOS		A			C		A			D		
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 100 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 20.2	Intersection LOS: C											
Intersection Capacity Utilization 72.6%	ICU Level of Service C											
Analysis Period (min) 60												

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option 4> AM
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Future Volume (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.98		0.91	0.97	0.98		0.99		0.88	0.99	1.00	
Frt			0.850		0.974				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3275	1345	1560	3140	0	*1622	4794	1281	1604	4713	0
Flt Permitted	0.172			0.299			0.099			0.109		
Satd. Flow (perm)	294	3275	1226	477	3140	0	160	4794	1126	181	4713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			200		28				160		4	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	97		80	80		97	93		102	102		93
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	9%	4%	8%	8%	12%	9%	7%	12%	5%	6%	11%
Bus Blockages (#/hr)	0	0	18	0	0	18	0	0	12	0	12	0
Adj. Flow (vph)	52	563	447	330	967	205	205	1226	179	159	1463	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	563	447	330	1172	0	205	1226	179	159	1514	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.20	1.09	1.01	1.01	1.09	1.01	1.16	1.09	1.04	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		2		1	6		7	4		3	8	
Permitted Phases		2		2	6		4		4	8		
Detector Phase		2	2	2	1	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	37.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	44.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option 4> AM
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	44.0	44.0	44.0	17.0	61.0		14.0	46.0	46.0	13.0	45.0	
Total Split (%)	36.7%	36.7%	36.7%	14.2%	50.8%		11.7%	38.3%	38.3%	10.8%	37.5%	
Maximum Green (s)	37.0	37.0	37.0	13.0	54.0		10.0	39.0	39.0	9.0	38.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.5	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	3.0	6.0		2.5	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	Max	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	30.0	30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)	0	0	0		0			0	0		0	
Act Effct Green (s)	38.0	38.0	38.0	58.0	55.0		55.1	40.1	40.1	51.9	39.0	
Actuated g/C Ratio	0.32	0.32	0.32	0.48	0.46		0.46	0.33	0.33	0.43	0.32	
v/c Ratio	0.56	0.54	0.85	0.93	0.81		0.96	0.76	0.37	0.82	0.99	
Control Delay	61.9	36.2	40.3	61.1	24.7		121.6	39.6	8.4	61.7	75.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	61.9	36.2	40.3	61.1	24.7		121.6	39.6	8.4	61.7	75.8	
LOS	E	D	D	E	C		F	D	A	E	E	
Approach Delay		39.2			32.7			46.6			74.4	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 36 (30%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 49.6

Intersection LOS: D

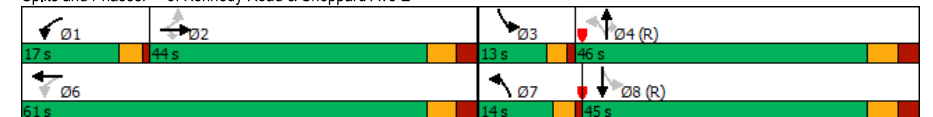
Intersection Capacity Utilization 124.4%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings
4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 4> AM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	→	↱	↰	→	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Future Volume (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0	0.0	60.0	0.0	40.0	0.0	40.0	0.0	40.0	0.0	40.0	0.0
Storage Lanes	1	1	1	1	1	1	1	0	1	0	1	0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.96		1.00		0.99	1.00	
Frt			0.850			0.850		0.996			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	0	1478	1620	0	1478	1589	4782	0	1685	4876	0
Flt Permitted	0.950			0.950			0.097			0.222		
Satd. Flow (perm)	1559	0	1349	1495	0	1419	162	4782	0	391	4876	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			182			69		6			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	26		70	70		26	31		17	17		31
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	2%	2%	4%	2%	2%	6%	5%	4%	0%	4%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	0	0
Adj. Flow (vph)	195	0	190	45	0	65	120	1171	30	5	1578	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	190	45	0	65	120	1201	0	5	1673	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.04	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0	0	
Detector Template								Thru		Left	Thru	
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0	0.0	
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0	0.0	
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0	26.0	
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0	32.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSP

Synchro 11 Report
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Lanes, Volumes, Timings
4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 4> AM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	20.2		20.2	20.2		20.2	81.8	79.8		68.0	68.0	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.74	0.73		0.62	0.62	
v/c Ratio	0.68		0.48	0.16		0.21	0.51	0.35		0.02	0.55	
Control Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.1		10.3	36.8		9.1	15.3	6.3		11.8	14.1	
LOS	D		B	D		A	B	A		B	B	
Approach Delay		32.5			20.4			7.1			14.1	
Approach LOS		C			C			A			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green												
Natural Cycle: 55												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.68												
Intersection Signal Delay: 13.7	Intersection LOS: B											
Intersection Capacity Utilization 75.3%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSP

Synchro 11 Report
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Lanes, Volumes, Timings

5: N-S Street/GO Station Access & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	85	812	70	96	1434	120	155	0	154	20	0	30
Future Volume (vph)	85	812	70	96	1434	120	155	0	154	20	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		30.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98		0.91	0.99		0.97	0.98		0.97
Frt		0.988				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4633	0	1532	3433	1385	1546	0	1449	1685	0	1507
Flt Permitted	0.130			0.310			0.950			0.950		
Satd. Flow (perm)	231	4633	0	491	3433	1255	1523	0	1409	1658	0	1467
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22				84			154			73
Link Speed (k/h)		60			60		40				40	
Link Distance (m)		40.6			63.5		101.1				115.9	
Travel Time (s)		2.4			3.8		9.1				10.4	
Confl. Peds. (#/hr)	30		25	25		30	14		15	15		14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	7%	10%	4%	1%	9%	2%	4%	0%	2%	0%
Bus Blockages (#/hr)	0	18	0	0	0	18	0	0	0	0	0	0
Adj. Flow (vph)	85	812	70	96	1434	120	155	0	154	20	0	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	882	0	96	1434	120	155	0	154	20	0	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.20	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm		Perm	Perm		Perm
Protected Phases	5	2			6							
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	5	2		6	6	6	4		4	8		8
Switch Phase												
Minimum Initial (s)	6.0	24.0		24.0	24.0	24.0	7.0		7.0	7.0		7.0
Minimum Split (s)	10.0	31.0		31.0	31.0	31.0	40.0		40.0	40.0		40.0












Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

5: N-S Street/GO Station Access & Sheppard Ave E

<Option 4> AM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	80.0		70.0	70.0	70.0	40.0		40.0	40.0		40.0
Total Split (%)	8.3%	66.7%		58.3%	58.3%	58.3%	33.3%		33.3%	33.3%		33.3%
Maximum Green (s)	6.0	73.0		63.0	63.0	63.0	34.0		34.0	34.0		34.0
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	3.0	6.0		6.0	6.0	6.0	5.0		5.0	5.0		5.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	2.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	None		None	None		None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0		7.0	7.0		7.0
Flash Dont Walk (s)		17.0		17.0	17.0	17.0	27.0		27.0	27.0		27.0
Pedestrian Calls (#/hr)		0		0	0	0	0		0	0		0
Act Effct Green (s)	93.3	90.3		82.1	82.1	82.1	18.7		18.7	18.7		18.7
Actuated g/C Ratio	0.78	0.75		0.68	0.68	0.68	0.16		0.16	0.16		0.16
v/c Ratio	0.32	0.25		0.29	0.61	0.14	0.66		0.44	0.08		0.10
Control Delay	12.1	4.3		12.4	13.1	3.7	60.9		10.5	41.1		0.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	12.1	4.3		12.4	13.1	3.7	60.9		10.5	41.1		0.7
LOS	B	A		B	B	A	E		B	D		A
Approach Delay		5.0			12.4			35.8				16.9
Approach LOS		A			B			D				B
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 72 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 85												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.66												
Intersection Signal Delay: 12.5							Intersection LOS: B					
Intersection Capacity Utilization 75.8%							ICU Level of Service D					
Analysis Period (min) 60												

Splits and Phases: 5: N-S Street/GO Station Access & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑		↖	↑↑	↖		↖			↖	
Traffic Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Future Volume (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		0.96		0.97				
Frt		0.997				0.850		0.966				
Flt Protected				0.950				0.964				
Satd. Flow (prot)	1612	3224	0	1327	3275	1597	0	1381	0	0	1842	0
Flt Permitted				0.288								
Satd. Flow (perm)	1612	3224	0	393	3275	1535	0	1401	0	0	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				40		30				
Link Speed (k/h)		60			60			40				48
Link Distance (m)		215.0			246.0			211.6				41.8
Travel Time (s)		12.9			14.8			19.0				3.1
Confl. Peds. (#/hr)	7		45	45		7	25		28	28		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	17%	27%	9%	0%	17%	0%	50%	0%	2%	9%
Adj. Flow (vph)	0	973	18	15	1511	1	6	0	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	991	0	15	1511	1	0	8	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0				3.0		0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA				
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

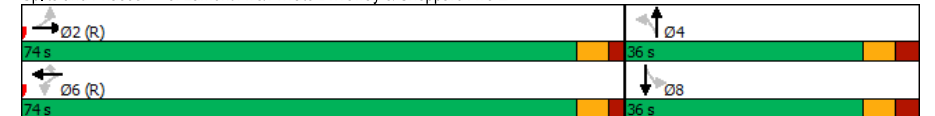
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		106.2		106.2	106.2	106.2		8.0				
Actuated g/C Ratio		0.97		0.97	0.97	0.97		0.07				
v/c Ratio		0.32		0.04	0.48	0.00		0.06				
Control Delay		0.9		0.3	0.5	0.0		0.9				
Queue Delay		0.0		0.0	0.0	0.0		0.0				
Total Delay		0.9		0.3	0.5	0.0		0.9				
LOS		A		A	A	A		A				
Approach Delay		0.9			0.5			0.9				
Approach LOS		A			A			A				
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 39 (35%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 45												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.48												
Intersection Signal Delay: 0.7												
Intersection Capacity Utilization 67.4%												
Analysis Period (min) 60												
Intersection LOS: A												
ICU Level of Service C												

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Future Volume (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.98	0.99		0.98		0.92	0.98		0.92
Frt		0.964			0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1604	4464	0	1620	3308	0	*1622	3400	1365	1589	3433	1433
Flt Permitted	0.110			0.230			0.174			0.304		
Satd. Flow (perm)	183	4464	0	386	3308	0	284	3400	1259	497	3433	1323
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			7				164			164
Link Speed (k/h)		60			60				50			50
Link Distance (m)		246.0			207.6				580.5			408.6
Travel Time (s)		14.8			12.5				41.8			29.4
Confl. Peds. (#/hr)	135		59	59		135	68		69	69		68
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	8%	4%	4%	3%	7%	5%	6%	6%	4%	1%
Bus Blockages (#/hr)	0	22	0	0	9	0	0	0	10	0	0	10
Adj. Flow (vph)	99	627	197	251	1166	81	289	675	88	91	814	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	824	0	251	1247	0	289	675	88	91	814	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0				3.0			3.0
Link Offset(m)		0.0			0.0				0.0			0.0
Crosswalk Width(m)		1.6			1.6				1.6			1.6
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.04	1.01	1.09	1.01	1.15	1.09	1.01	1.15
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	33.0		6.0	33.0		6.0	34.0	34.0	6.0	34.0	34.0
Minimum Split (s)	9.5	40.0		10.0	40.0		10.0	41.0	41.0	10.0	41.0	41.0

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

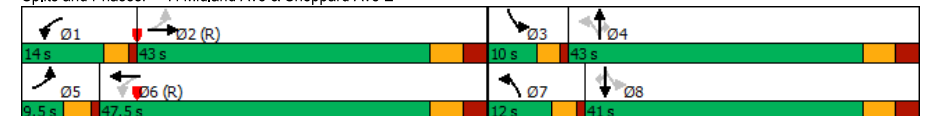
7: Midland Ave & Sheppard Ave E

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	9.5	43.0		14.0	47.5		12.0	43.0	43.0	10.0	41.0	41.0
Total Split (%)	8.6%	39.1%		12.7%	43.2%		10.9%	39.1%	39.1%	9.1%	37.3%	37.3%
Maximum Green (s)	5.0	36.0		10.0	40.5		8.0	36.0	36.0	6.0	34.0	34.0
Yellow Time (s)	3.5	4.0		3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-2.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	6.0		3.0	6.0		2.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		2.0	3.0		2.0	3.0	3.0	2.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	None	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0		27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	45.6	37.1		54.0	41.5		51.0	39.0	39.0	45.0	35.0	35.0
Actuated g/C Ratio	0.41	0.34		0.49	0.38		0.46	0.35	0.35	0.41	0.32	0.32
v/c Ratio	0.65	0.53		0.81	1.00		1.14	0.56	0.16	0.33	0.75	0.36
Control Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	27.2		42.0	81.9		328.0	31.4	0.6	21.1	38.7	8.6
LOS	D	C		D	F		F	C	A	C	D	A
Approach Delay		28.8			75.2			110.3			32.0	
Approach LOS		C			E			F			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 28 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 115												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.14												
Intersection Signal Delay: 63.5	Intersection LOS: E											
Intersection Capacity Utilization 102.4%	ICU Level of Service G											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 4> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		↑↑↑		↖	↑↑↑
Traffic Volume (vph)	282	152	1584	436	129	2259
Future Volume (vph)	282	152	1584	436	129	2259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.98			
Frt	0.953		0.968			
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1724	0	4680	0	1685	5029
Flt Permitted	0.969				0.067	
Satd. Flow (perm)	1719	0	4680	0	119	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	26		85			
Link Speed (k/h)	40		50			50
Link Distance (m)	196.4		251.0			134.4
Travel Time (s)	17.7		18.1			9.7
Confl. Peds. (#/hr)	4	5		29	29	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0
Adj. Flow (vph)	282	152	1584	436	129	2259
Shared Lane Traffic (%)						
Lane Group Flow (vph)	434	0	2020	0	129	2259
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.04	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	35.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 4> AM
08-10-2022

	←	↖	↑	↗	→	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	41.0		56.6		12.4	69.0
Total Split (%)	37.3%		51.5%		11.3%	62.7%
Maximum Green (s)	35.0		50.6		7.9	63.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0			7.0
Flash Dont Walk (s)	22.0		15.0			15.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	31.3		56.4		70.2	68.7
Actuated g/C Ratio	0.28		0.51		0.64	0.62
v/c Ratio	0.85		0.83		0.64	0.72
Control Delay	53.8		16.3		34.0	16.5
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	53.8		16.3		34.0	16.5
LOS	D		B		C	B
Approach Delay	53.8		16.3			17.5
Approach LOS	D		B			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 58 (53%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 20.2

Intersection LOS: C

Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> AM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	11	756	0	269	7	1777	485	88	2428	0
Future Volume (vph)	0	0	11	756	0	269	7	1777	485	88	2428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	25.0	30.0	80.0	1.0	1.0	0.86	0.86	0
Storage Lanes	0	0	2	0	1	1	1	1	1	1	1	0
Taper Length (m)	2.5	90.0	30.0	35.0								
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt	0.865	0.850	0.850									
Flt Protected			0.950		0.950			0.950				
Satd. Flow (prot)	0	1477	0	3204	1581	0	1685	4932	1478	1652	6200	0
Flt Permitted			0.950		0.078			0.073				
Satd. Flow (perm)	0	1477	0	3204	1581	0	138	4932	1478	127	6200	0
Right Turn on Red		Yes		Yes			Yes				Yes	
Satd. Flow (RTOR)	144		194				198					
Link Speed (k/h)	48	50	50				50				50	
Link Distance (m)	70.0	243.9	64.3	130.1								
Travel Time (s)	5.3	17.6	4.6	9.4								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	10%	2%	2%	1%	0%	4%	2%	2%	3%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	12	0
Adj. Flow (vph)	0	0	11	756	0	269	7	1777	485	88	2428	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	756	269	0	7	1777	485	88	2428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	6.0	6.0	3.0	3.0								
Link Offset(m)	0.0	0.0	0.0	0.0								
Crosswalk Width(m)	1.6	1.6	1.6									
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24	14	24						14	24		14
Number of Detectors	1	1	1	1	0	0	0	0	1	0		
Detector Template	Left											
Leading Detector (m)	6.1	7.5	7.5	7.5	0.0	0.0	0.0	18.0	0.0			
Trailing Detector (m)	0.0	-1.5	-1.5	-1.5	0.0	0.0	0.0	9.0	0.0			
Detector 1 Position(m)	0.0	-1.5	-1.5	-1.5	0.0	0.0	0.0	9.0	0.0			
Detector 1 Size(m)	6.1	9.0	9.0	9.0	6.1	1.8	6.1	9.0	1.8			
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Turn Type	NA	Prot	NA	Perm	NA	Perm	pm+pt	NA				
Protected Phases	10	9	13				2	2	6			
Permitted Phases	10						2	2	1	6		
Detector Phase	10	10	9	13	2	2	2	1	6			
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	7.0	33.0	33.0	33.0	6.0	33.0			
Minimum Split (s)	14.0	14.0	9.5	46.0	40.0	40.0	40.0	10.0	40.0			
Total Split (s)	16.0	16.0	30.0	46.0	49.0	49.0	49.0	10.0	59.0			
Total Split (%)	14.5%	14.5%	27.3%	41.8%	44.5%	44.5%	44.5%	9.1%	53.6%			

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> AM

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> AM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	9.0		25.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)					32.0		26.0	26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0		0	0	0		0	
Act Effct Green (s)		8.0		31.2	31.5		58.0	58.0	58.0	69.5	66.5	
Actuated g/C Ratio		0.07		0.28	0.29		0.53	0.53	0.53	0.63	0.60	
v/c Ratio		0.05		0.83	0.46		0.10	0.68	0.56	0.48	0.65	
Control Delay		0.4		47.0	11.3		18.6	18.6	10.6	28.7	15.5	
Queue Delay		0.0		0.0	0.0		0.0	0.3	0.5	0.0	0.1	
Total Delay		0.4		47.0	11.3		18.6	18.9	11.0	28.7	15.5	
LOS		A		D	B		B	B	B	C	B	
Approach Delay		0.4			37.7			17.2			16.0	
Approach LOS		A			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 57 (52%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 20.3

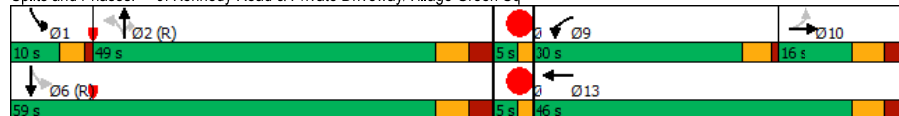
Intersection LOS: C

Intersection Capacity Utilization 105.9%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> AM

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 4> AM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Volume (vph)	855	747	1518	0	0	1491
Future Volume (vph)	855	747	1518	0	0	1491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.966	0.850				
Flt Protected	0.963					
Satd. Flow (prot)	3316	1515	4980	0	0	5029
Flt Permitted	0.963					
Satd. Flow (perm)	3316	1515	4980	0	0	5029
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	2%	2%	2%
Adj. Flow (vph)	855	747	1518	0	0	1491
Shared Lane Traffic (%)		33%				
Lane Group Flow (vph)	1102	500	1518	0	0	1491
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

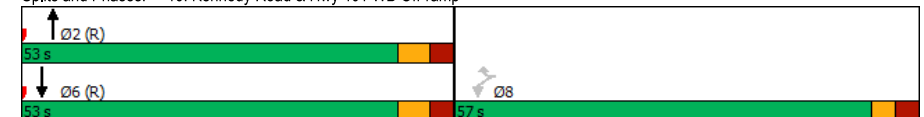
<Option 4> AM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	57.0	57.0	53.0			53.0
Total Split (%)	51.8%	51.8%	48.2%			48.2%
Maximum Green (s)	51.0	51.0	46.0			46.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	46.1	46.1	52.9			52.9
Actuated g/C Ratio	0.42	0.42	0.48			0.48
v/c Ratio	0.79	0.78	0.63			0.62
Control Delay	32.0	36.7	15.8			17.4
Queue Delay	0.0	0.1	0.1			0.8
Total Delay	32.0	36.8	15.9			18.1
LOS	C	D	B			B
Approach Delay	33.5		15.9			18.1
Approach LOS	C		B			B

Intersection Summary

Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 22.7	Intersection LOS: C
Intersection Capacity Utilization 70.7%	ICU Level of Service C
Analysis Period (min) 60	
* User Entered Value	

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↔			↔	
Traffic Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Future Volume (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0		0.0	30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.969	0.850			0.865		0.999				
Flt Protected	0.950	0.975										
Satd. Flow (prot)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Flt Permitted	0.950	0.975										
Satd. Flow (perm)	1460	2870	1258	0	0	1692	0	6037	0	0	4980	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		9	40					2				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							9		13	13		9
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	7%	9%	2%	2%	9%	2%	7%	0%	2%	3%	2%
Adj. Flow (vph)	943	250	600	0	0	345	0	1705	15	0	1865	0
Shared Lane Traffic (%)	50%		31%									
Lane Group Flow (vph)	471	908	414	0	0	345	0	1720	0	0	1865	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

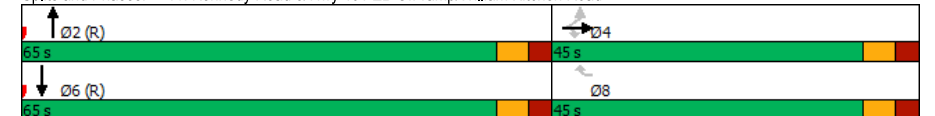
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 4> AM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	45.0	45.0	45.0			45.0		65.0			65.0	
Total Split (%)	40.9%	40.9%	40.9%			40.9%		59.1%			59.1%	
Maximum Green (s)	38.0	38.0	38.0			38.0		58.0			58.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	38.3	38.3	38.3			38.3		59.7			59.7	
Actuated g/C Ratio	0.35	0.35	0.35			0.35		0.54			0.54	
v/c Ratio	0.93	0.90	0.89			0.59		0.53			0.69	
Control Delay	70.9	49.5	59.8			34.1		16.9			14.6	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	70.9	49.5	59.8			34.1		16.9			14.6	
LOS	E	D	E			C		B			B	
Approach Delay		57.5			34.1			16.9			14.6	
Approach LOS		E			C			B			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 59 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.93												
Intersection Signal Delay: 29.9	Intersection LOS: C											
Intersection Capacity Utilization 88.5%	ICU Level of Service E											
Analysis Period (min) 60												

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> AM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 4> AM

08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	10	4	12	22	46	17
Future Volume (vph)	10	4	12	22	46	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.961				0.964	
Flt Protected				0.983	0.965	
Satd. Flow (prot)	1685	0	0	1603	1592	0
Flt Permitted				0.983	0.965	
Satd. Flow (perm)	1685	0	0	1603	1592	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)					1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	25%	34%	5%	9%	12%
Adj. Flow (vph)	10	4	12	22	46	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	34	63	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.7% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 4> AM

08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	10	4	12	22	46	17
Future Volume (Veh/h)	10	4	12	22	46	17
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	4	12	22	46	17
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			14		59	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			14		59	12
tC, single (s)			4.4		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.5		3.6	3.4
p0 queue free %			99		95	98
cM capacity (veh/h)			1419		922	1040







Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	14	34	63
Volume Left	0	12	46
Volume Right	4	0	17
cSH	1700	1419	951
Volume to Capacity	0.01	0.01	0.07
Queue Length 95th (m)	0.0	0.2	1.6
Control Delay (s)	0.0	2.7	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	9.1
Approach LOS			A

Intersection Summary

Average Delay	6.0		
Intersection Capacity Utilization	18.7%	ICU Level of Service	A
Analysis Period (min)	60		

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 4> AM
08-10-2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	
Traffic Volume (vph)	908	4	24	1584	2	24
Future Volume (vph)	908	4	24	1584	2	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.875	
Flt Protected				0.999	0.996	
Satd. Flow (prot)	3214	0	0	3272	1462	0
Flt Permitted				0.999	0.996	
Satd. Flow (perm)	3214	0	0	3272	1462	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		22	22		1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	9%	9%	0%	13%
Adj. Flow (vph)	908	4	24	1584	2	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	912	0	0	1608	26	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	70.8%			ICU Level of Service C		
Analysis Period (min)	60					










HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<Option 4> AM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (veh/h)	908	4	24	1584	2	24
Future Volume (Veh/h)	908	4	24	1584	2	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	908	4	24	1584	2	24
Pedestrians	1				22	
Lane Width (m)	3.5				3.5	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.86		0.83	0.86
vC, conflicting volume			934		1773	478
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			610		799	83
tC, single (s)			4.3		6.8	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.4
p0 queue free %			97		99	97
cM capacity (veh/h)			778		259	785
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	605	307	552	1056	26	
Volume Left	0	0	24	0	2	
Volume Right	0	4	0	0	24	
cSH	1700	1700	778	1700	679	
Volume to Capacity	0.36	0.18	0.03	0.62	0.04	
Queue Length 95th (m)	0.0	0.0	0.7	0.0	0.9	
Control Delay (s)	0.0	0.0	0.8	0.0	10.5	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.3		10.5	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			70.8%		ICU Level of Service C	
Analysis Period (min)			60			










Lanes, Volumes, Timings
14: Sheppard Ave E & Reidmount Ave

<Option 4> AM
08-10-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	927	1638	60	30	25
Future Volume (vph)	15	927	1638	60	30	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.995		0.939	
Flt Protected		0.999			0.973	
Satd. Flow (prot)	0	6457	3552	0	1717	0
Flt Permitted		0.999			0.973	
Satd. Flow (perm)	0	6457	3552	0	1717	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	15	927	1638	60	30	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	942	1698	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 57.2%	ICU Level of Service B					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
14: Sheppard Ave E & Reidmount Ave

<Option 4> AM
08-10-2022





















							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	15	927	1638	60	30	25	
Future Volume (Veh/h)	15	927	1638	60	30	25	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	15	927	1638	60	30	25	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None	None				
Median storage veh							
Upstream signal (m)		244	41				
pX, platoon unblocked	0.76				0.76	0.76	
vC, conflicting volume	1698				1930	849	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1297				1600	187	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	96				59	96	
cM capacity (veh/h)	414				73	634	
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	147	265	265	265	1092	606	55
Volume Left	15	0	0	0	0	0	30
Volume Right	0	0	0	0	0	60	25
cSH	414	1700	1700	1700	1700	1700	122
Volume to Capacity	0.04	0.16	0.16	0.16	0.64	0.36	0.45
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	0.0	17.6
Control Delay (s)	1.9	0.0	0.0	0.0	0.0	0.0	58.4
Lane LOS	A						F
Approach Delay (s)	0.3				0.0		58.4
Approach LOS							F
Intersection Summary							
Average Delay	1.3						
Intersection Capacity Utilization	57.2%			ICU Level of Service			B
Analysis Period (min)	60						

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option 4> AM

08-10-2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	35	4	1	4	75	1705	9	4	2120	27
Future Volume (vph)	4	0	35	4	1	4	75	1705	9	4	2120	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.879			0.940			0.999			0.998	
Flt Protected		0.995			0.978		0.950			0.950		
Satd. Flow (prot)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Flt Permitted		0.995			0.978		0.950			0.950		
Satd. Flow (perm)	0	1602	0	0	1727	0	1685	4896	0	1685	4892	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	25%	2%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	12	0	0	12	0
Adj. Flow (vph)	4	0	35	4	1	4	75	1705	9	4	2120	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	9	0	75	1714	0	4	2147	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.04	1.01	1.09	1.04	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.0%

ICU Level of Service B





















Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis

15: Kennedy Road & Jade Street/Collingwood Street

<Option 4> AM

08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	35	4	1	4	75	1705	9	4	2120	27
Future Volume (Veh/h)	4	0	35	4	1	4	75	1705	9	4	2120	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	0	35	4	1	4	75	1705	9	4	2120	27
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)								134			190	
pX, platoon unblocked	0.82	0.82	0.70	0.82	0.82	0.67	0.70			0.67		
vC, conflicting volume	2864	4006	720	2609	4014	573	2147			1714		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	85	1474	0	0	1485	0	1162			366		
tC, single (s)	8.0	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	99	99	99	83			100		
cM capacity (veh/h)	581	85	769	696	85	735	429			811		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	39	9	75	682	682	350	4	848	848	451		
Volume Left	4	4	75	0	0	0	4	0	0	0		
Volume Right	35	4	0	0	0	9	0	0	0	27		
cSH	744	392	429	1700	1700	1700	811	1700	1700	1700		
Volume to Capacity	0.05	0.02	0.17	0.40	0.40	0.21	0.00	0.50	0.50	0.27		
Queue Length 95th (m)	1.3	0.5	4.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0		
Control Delay (s)	10.1	14.4	15.2	0.0	0.0	0.0	9.5	0.0	0.0	0.0		
Lane LOS	B	B	C				A					
Approach Delay (s)	10.1	14.4	0.6				0.0					
Approach LOS	B	B										

Intersection Summary

Average Delay 0.4

Intersection Capacity Utilization 59.0%

ICU Level of Service

B

Analysis Period (min) 60

Lanes, Volumes, Timings
16: Collingwood Street & Gordon Ave

<Option 4> AM
08-10-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	14	0	2	2	30	35
Future Volume (vph)	14	0	2	2	30	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.932		0.927	
Flt Protected		0.950			0.977	
Satd. Flow (prot)	0	1785	1751	0	1314	0
Flt Permitted		0.950			0.977	
Satd. Flow (perm)	0	1785	1751	0	1314	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	116.5		190.4	
Travel Time (s)		10.5	10.5		17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	14	0	2	2	30	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	14	4	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 17.9%	ICU Level of Service A					
Analysis Period (min) 60						




HCM Unsignalized Intersection Capacity Analysis
16: Collingwood Street & Gordon Ave

<Option 4> AM
08-10-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	14	0	2	2	30	35
Future Volume (Veh/h)	14	0	2	2	30	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	0	2	2	30	35
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	4				31	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4				31	3
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				97	97
cM capacity (veh/h)	1631				866	1052
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	14	4	65			
Volume Left	14	0	30			
Volume Right	0	2	35			
cSH	1631	1700	957			
Volume to Capacity	0.01	0.00	0.07			
Queue Length 95th (m)	0.2	0.0	1.7			
Control Delay (s)	7.2	0.0	9.0			
Lane LOS	A		A			
Approach Delay (s)	7.2	0.0	9.0			
Approach LOS			A			
Intersection Summary						
Average Delay			8.3			
Intersection Capacity Utilization			17.9%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
17: Village Green Sq

<Option 4> AM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	182	52	1	188	6
Future Volume (vph)	0	182	52	1	188	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865				0.996	
Flt Protected				0.953	0.954	
Satd. Flow (prot)	1083	0	0	1723	1785	0
Flt Permitted				0.953	0.954	
Satd. Flow (perm)	1083	0	0	1723	1785	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	15.1			152.9	154.8	
Travel Time (s)	1.4			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	0	182	52	1	188	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	0	0	53	194	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.2%			ICU Level of Service A		
Analysis Period (min)	60					







HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option 4> AM
08-10-2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	👉
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	182	52	1	188	6
Future Volume (vph)	0	182	52	1	188	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	182	52	1	188	6
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	182	53	194			
Volume Left (vph)	0	52	188			
Volume Right (vph)	182	0	6			
Hadj (s)	0.25	0.26	0.18			
Departure Headway (s)	4.7	4.9	4.7			
Degree Utilization, x	0.24	0.07	0.25			
Capacity (veh/h)	726	693	738			
Control Delay (s)	9.2	8.3	9.2			
Approach Delay (s)	9.2	8.3	9.2			
Approach LOS	A	A	A			
Intersection Summary						
Delay			9.1			
Level of Service			A			
Intersection Capacity Utilization			36.2%		ICU Level of Service	A
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 4> AM
08-10-2022

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	167	200	186	120	11
Future Volume (vph)	32	167	200	186	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.887				0.989	
Flt Protected	0.992			0.975		
Satd. Flow (prot)	1621	0	0	1796	1822	0
Flt Permitted	0.992			0.775		
Satd. Flow (perm)	1621	0	0	1428	1822	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	167				10	
Link Speed (k/h)	40			48	48	
Link Distance (m)	196.4			204.3	142.2	
Travel Time (s)	17.7			15.3	10.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	167	200	186	120	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	199	0	0	386	131	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	29.0		31.0	31.0	31.0	
Total Split (%)	48.3%		51.7%	51.7%	51.7%	
Maximum Green (s)	23.0		25.0	25.0	25.0	

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 4> AM
08-10-2022

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.1			30.9	30.9	
Actuated g/C Ratio	0.23			0.65	0.65	
v/c Ratio	0.39			0.42	0.11	
Control Delay	7.1			7.9	5.1	
Queue Delay	0.0			0.0	0.0	
Total Delay	7.1			7.9	5.1	
LOS	A			A	A	
Approach Delay	7.1			7.9	5.1	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 47.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 7.2

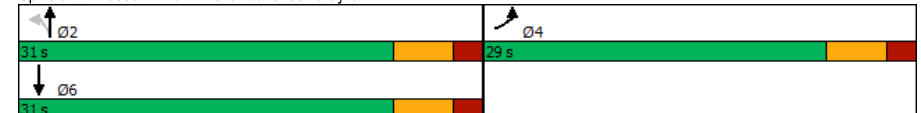
Intersection LOS: A

Intersection Capacity Utilization 53.8%

ICU Level of Service A













Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Crt



Lanes, Volumes, Timings
102: Village Green Sq & N-S Street

<Option 4> AM
08-10-2022













						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	28	11	9	159	179	10
Future Volume (vph)	28	11	9	159	179	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962			0.993		
Flt Protected	0.965			0.997		
Satd. Flow (prot)	1710	0	0	1837	1829	0
Flt Permitted	0.965			0.997		
Satd. Flow (perm)	1710	0	0	1837	1829	0
Link Speed (k/h)	40			40	48	
Link Distance (m)	35.4			15.3	204.3	
Travel Time (s)	3.2			1.4	15.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	28	11	9	159	179	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	0	168	189	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 25.7% ICU Level of Service A
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq & N-S Street

<Option 4> AM
08-10-2022













						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	11	9	159	179	10
Future Volume (Veh/h)	28	11	9	159	179	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	28	11	9	159	179	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					204	
pX, platoon unblocked						
vC, conflicting volume	361	184	189			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	361	184	189			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	99			
cM capacity (veh/h)	634	858	1385			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	39	168	189			
Volume Left	28	9	0			
Volume Right	11	0	10			
cSH	684	1385	1700			
Volume to Capacity	0.06	0.01	0.11			
Queue Length 95th (m)	1.4	0.1	0.0			
Control Delay (s)	10.6	0.5	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.6	0.5	0.0			
Approach LOS	B					

Intersection Summary

Average Delay 1.2
Intersection Capacity Utilization 25.7% ICU Level of Service A
Analysis Period (min) 60

Lanes, Volumes, Timings
104: N-S Street & Collingwood Street

<Option 4> AM
08-10-2022













						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	217	131	0
Future Volume (vph)	0	0	0	217	131	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	116.5			142.2	98.7	
Travel Time (s)	8.7			10.7	7.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	217	131	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	217	131	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.8% ICU Level of Service A
Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
104: N-S Street & Collingwood Street

<Option 4> AM
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	217	131	0
Future Volume (Veh/h)	0	0	0	217	131	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	217	131	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)				142	200	
pX, platoon unblocked						
vC, conflicting volume	348	131	131			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	348	131	131			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	649	919	1454			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	217	131			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1454	1700			
Volume to Capacity	0.00	0.00	0.08			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					

Intersection Summary

Average Delay 0.0
Intersection Capacity Utilization 14.8% ICU Level of Service A
Analysis Period (min) 60

Lanes, Volumes, Timings
105: N-S Street & 4091 Sheppard Ave E Access

<Option 4> AM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Volume (vph)	0	0	209	9	0	131
Future Volume (vph)	0	0	209	9	0	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.994			
Flt Protected						
Satd. Flow (prot)	1842	0	1831	0	0	1842
Flt Permitted						
Satd. Flow (perm)	1842	0	1831	0	0	1842
Link Speed (k/h)	48		40			48
Link Distance (m)	102.3		98.7			101.1
Travel Time (s)	7.7		8.9			7.6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	209	9	0	131
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	218	0	0	131
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 14.9% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis
105: N-S Street & 4091 Sheppard Ave E Access

<Option 4> AM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Volume (veh/h)	0	0	209	9	0	131
Future Volume (Veh/h)	0	0	209	9	0	131
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	209	9	0	131
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			241			101
pX, platoon unblocked						
vC, conflicting volume	344	214			218	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	344	214			218	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	652	827			1352	







Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	218	131
Volume Left	0	0	0
Volume Right	0	9	0
cSH	1700	1700	1352
Volume to Capacity	0.00	0.13	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary

Average Delay	0.0		
Intersection Capacity Utilization	14.9%	ICU Level of Service	A
Analysis Period (min)	60		







Lanes, Volumes, Timings
18: Village Green Sq

<Option 4> AM
08-19-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	195	208	608	2	0	239
Future Volume (vph)	195	208	608	2	0	239
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1785	1824	1842	0	1563	0
Flt Permitted	0.950					
Satd. Flow (perm)	1785	1824	1842	0	1563	0
Link Speed (k/h)	50	50			40	
Link Distance (m)	243.9	158.0			154.8	
Travel Time (s)	17.6	11.4			13.9	
Confl. Peds. (#/hr)	104			104	6	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	2%	0%	2%	4%
Adj. Flow (vph)	195	208	608	2	0	239
Shared Lane Traffic (%)						
Lane Group Flow (vph)	195	208	610	0	239	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		9.5	9.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 68.5%	ICU Level of Service C					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option 4> AM
08-19-2022

	EBL	EBT	WBT	WBR	SBL	SBR
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	195	208	608	2	0	239
Future Volume (Veh/h)	195	208	608	2	0	239
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	195	208	608	2	0	239
Pedestrians		7	6		104	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	1		9	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage (veh)		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	714				1317	720
vC1, stage 1 conf vol					713	
vC2, stage 2 conf vol					604	
vCu, unblocked vol	714				1317	720
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	76				100	38
cM capacity (veh/h)	813				249	383
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	195	208	610	239		
Volume Left	195	0	0	0		
Volume Right	0	0	2	239		
cSH	813	1700	1700	383		
Volume to Capacity	0.24	0.12	0.36	0.62		
Queue Length 95th (m)	7.2	0.0	0.0	35.5		
Control Delay (s)	10.8	0.0	0.0	29.6		
Lane LOS	B			D		
Approach Delay (s)	5.2		0.0	29.6		
Approach LOS				D		
Intersection Summary						
Average Delay			7.3			
Intersection Capacity Utilization			68.5%		ICU Level of Service	C
Analysis Period (min)			60			

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 4> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Future Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0	0	1			0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.89				
Frt		0.997			0.999			0.910			0.907	
Flt Protected		0.996		0.950				0.992			0.992	
Satd. Flow (prot)	0	3409	0	1685	3430	0	0	1516	0	0	1657	0
Flt Permitted		0.729		0.187				0.929			0.896	
Satd. Flow (perm)	0	2495	0	332	3430	0	0	1414	0	0	1497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1			60			45	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			26	26			23		119			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	0%	0%	4%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1355	0	35	938	0	0	90	0	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases		2		6			4			8		
Detector Phase		2	2		6	6		4	4		8	8
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 4> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	76.0	76.0		76.0	76.0		34.0	34.0		34.0	34.0	
Total Split (%)	69.1%	69.1%		69.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	70.0	70.0		70.0	70.0		29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.63		0.12	0.32			0.49			0.37	
Control Delay		5.2		2.7	1.8			28.8			25.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.2		2.7	1.8			28.8			25.7	
LOS		A		A	A			C			C	
Approach Delay		5.2			1.8			28.8			25.7	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 96 (87%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 5.3

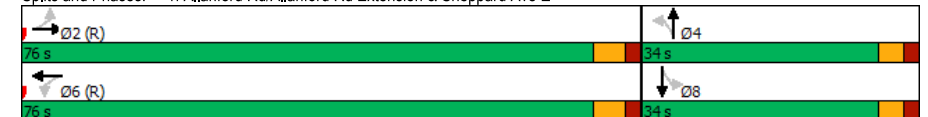
Intersection LOS: A

Intersection Capacity Utilization 97.7%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



HCM Signalized Intersection Capacity Analysis

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 4> PM

08-10-2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	
Traffic Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Future Volume (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost time (s)		5.0		5.0	5.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.90			1.00	
Flpb, ped/bikes		1.00		0.99	1.00			1.00			1.00	
Frt		1.00		1.00	1.00			0.91			0.91	
Flt Protected		1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		3407		1666	3430			1507			1657	
Flt Permitted		0.73		0.19	1.00			0.93			0.90	
Satd. Flow (perm)		2495		327	3430			1412			1496	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	1205	30	35	933	5	15	15	60	10	10	45
RTOR Reduction (vph)	0	1	0	0	0	0	0	55	0	0	41	0
Lane Group Flow (vph)	0	1354	0	35	938	0	0	35	0	0	24	0
Confl. Peds. (#/hr)		26	26				23		119			
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	2%	4%	0%	0%	4%	2%	0%	2%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		91.4		91.4	91.4			7.6			7.6	
Effective Green, g (s)		92.4		92.4	92.4			8.6			8.6	
Actuated g/C Ratio		0.84		0.84	0.84			0.08			0.08	
Clearance Time (s)		6.0		6.0	6.0			5.0			5.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2095		274	2881			110			116	
v/s Ratio Prot					0.27							
v/s Ratio Perm		c0.54		0.11				c0.02			0.02	
v/c Ratio		0.65		0.13	0.33			0.32			0.20	
Uniform Delay, d1		3.1		1.6	1.9			47.9			47.5	
Progression Factor		1.00		0.75	0.70			1.00			1.00	
Incremental Delay, d2		1.6		0.9	0.3			1.7			0.9	
Delay (s)		4.6		2.1	1.6			49.6			48.4	
Level of Service		A		A	A			D			D	
Approach Delay (s)		4.6			1.6			49.6			48.4	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	60		

c Critical Lane Group

Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 4> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Traffic Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Future Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98	1.00			0.97			0.98	0.96
Frt		0.999			0.991			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1685	3426	0	1685	3362	0	0	1578	0	0	1767	1507
Flt Permitted	0.238			0.223							0.751	
Satd. Flow (perm)	422	3426	0	388	3362	0	0	1578	0	0	1373	1447
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		1			8			69				115
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		42	42		19	20		12	12		20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	4%	0%	0%	5%	1%	0%	2%	0%	1%	0%	0%
Adj. Flow (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1195	0	10	958	0	0	10	0	0	210	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template		Thru		Left	Thru		Left			Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		NA			Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	11.0	72.0		61.0	61.0		38.0	38.0		38.0	38.0	38.0

Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	65.5%		55.5%	55.5%		34.5%	34.5%		34.5%	34.5%	34.5%
Maximum Green (s)	7.0	66.0		55.0	55.0		32.0	32.0		32.0	32.0	32.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	78.9	76.9		68.6	68.6			23.1		23.1	23.1	
Actuated g/C Ratio	0.72	0.70		0.62	0.62			0.21		0.21	0.21	
v/c Ratio	0.21	0.50		0.04	0.46			0.03		0.73	0.29	
Control Delay	5.1	6.2		12.2	13.2			0.1		55.8	7.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	5.1	6.2		12.2	13.2			0.1		55.8	7.8	
LOS	A	A		B	B			A		E	A	
Approach Delay		6.2			13.2			0.1		38.8		
Approach LOS		A			B			A		D		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 108 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

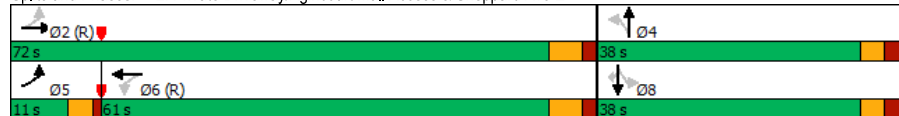
Maximum v/c Ratio: 0.73

Intersection Signal Delay: 12.9 Intersection LOS: B

Intersection Capacity Utilization 80.2% ICU Level of Service D

Analysis Period (min) 60

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



HCM Signalized Intersection Capacity Analysis

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Future Volume (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Total Lost time (s)	3.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		0.98	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1682	3425		1649	3364			1578		1737	1447	
Flt Permitted	0.24	1.00		0.22	1.00			1.00		0.75	1.00	
Satd. Flow (perm)	421	3425		387	3364			1578		1374	1447	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	1185	10	10	903	55	0	0	10	210	0	115
RTOR Reduction (vph)	0	0	0	0	3	0	0	8	0	0	0	91
Lane Group Flow (vph)	80	1195	0	10	955	0	0	2	0	0	210	24
Confl. Peds. (#/hr)	19		42	42		19	20		12	12		20
Heavy Vehicles (%)	0%	4%	0%	0%	5%	1%	0%	2%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		NA		Perm	NA	Perm	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Actuated Green, G (s)	75.9	75.9		66.8	66.8			22.1		22.1	22.1	
Effective Green, g (s)	76.9	76.9		67.8	67.8			23.1		23.1	23.1	
Actuated g/C Ratio	0.70	0.70		0.62	0.62			0.21		0.21	0.21	
Clearance Time (s)	4.0	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	2.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	364	2394		238	2073			331		288	303	
v/s Ratio Prot	0.01	c0.35			0.28			0.00				
v/s Ratio Perm	0.14			0.03						c0.15	0.02	
v/c Ratio	0.22	0.50		0.04	0.46			0.01		0.73	0.08	
Uniform Delay, d1	6.3	7.6		8.3	11.3			34.4		40.5	34.9	
Progression Factor	0.71	0.66		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.6		0.3	0.7			0.0		9.4	0.1	
Delay (s)	4.6	5.6		8.6	12.0			34.4		49.9	35.0	
Level of Service	A	A		A	B			C		D	D	
Approach Delay (s)		5.5			12.0			34.4		44.6		
Approach LOS		A			B			C		D		

Intersection Summary

HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	60		
c Critical Lane Group			

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option 4> PM
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Future Volume (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.96		0.89	0.98	0.96		0.99		0.87	0.99	0.99	
Frt			0.850		0.965				0.850		0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1652	3305	1357	1589	3104	0	*1622	4885	1403	1560	4764	0
Flt Permitted	0.190			0.157			0.103			0.105		
Satd. Flow (perm)	317	3305	1211	257	3104	0	175	4885	1227	170	4764	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			202		39				207		5	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	184		100	100		184	131		106	106		131
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	8%	4%	6%	7%	3%	3%	5%	4%	8%	5%	0%
Bus Blockages (#/hr)	0	0	16	0	0	16	0	0	8	0	11	0
Adj. Flow (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	810	491	282	914	0	201	1343	258	179	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.19	1.09	1.01	1.01	1.09	1.01	1.14	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings
3: Kennedy Road & Sheppard Ave E

<Option 4> PM
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	12.0	44.0	44.0	18.0	50.0		14.0	45.0	45.0	13.0	44.0	
Total Split (%)	10.0%	36.7%	36.7%	15.0%	41.7%		11.7%	37.5%	37.5%	10.8%	36.7%	
Maximum Green (s)	8.0	37.0	37.0	14.0	43.0		10.0	38.0	38.0	9.0	37.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.4	38.0	38.0	59.0	44.6		53.0	39.0	39.0	51.0	38.0	
Actuated g/C Ratio	0.41	0.32	0.32	0.49	0.37		0.44	0.32	0.32	0.42	0.32	
v/c Ratio	0.48	0.77	0.94	0.97	0.78		0.96	0.85	0.48	0.95	0.96	
Control Delay	24.8	43.4	64.9	97.7	33.0		121.7	44.1	10.7	121.0	61.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.8	43.4	64.9	97.7	33.0		121.7	44.1	10.7	121.0	61.2	
LOS	C	D	E	F	C		F	D	B	F	E	
Approach Delay		49.5			48.3			48.0			67.8	
Approach LOS		D			D			D			E	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 4:NBT and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 53.7

Intersection LOS: D

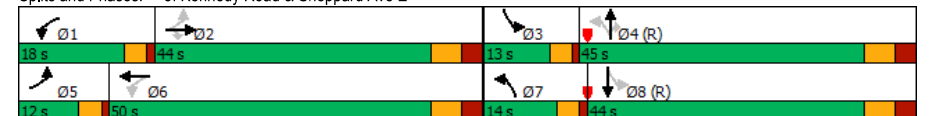
Intersection Capacity Utilization 102.7%

ICU Level of Service G

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



HCM Signalized Intersection Capacity Analysis

3: Kennedy Road & Sheppard Ave E

<Option 4> PM
08-10-2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Future Volume (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.91	1.00	1.00	0.91	
Flpb, ped/bikes	1.00	1.00	0.89	1.00	0.96		1.00	1.00	0.87	1.00	0.99	
Flbt, ped/bikes	0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1642	3305	1211	1585	3103		1622	4885	1227	1559	4764	
Flt Permitted	0.19	1.00	1.00	0.16	1.00		0.10	1.00	1.00	0.11	1.00	
Satd. Flow (perm)	328	3305	1211	261	3103		176	4885	1227	173	4764	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	107	810	491	282	698	216	201	1343	258	179	1388	59
RTOR Reduction (vph)	0	0	138	0	25	0	0	0	140	0	3	0
Lane Group Flow (vph)	107	810	353	282	889	0	201	1343	118	179	1444	0
Confl. Peds. (#/hr)	184		100	100		184	131		106	106		131
Heavy Vehicles (%)	2%	8%	4%	6%	7%	3%	3%	5%	4%	8%	5%	0%
Bus Blockages (#/hr)	0	0	16	0	0	16	0	0	8	0	11	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Actuated Green, G (s)	44.4	37.0	37.0	55.0	43.6		48.0	38.0	38.0	46.0	37.0	
Effective Green, g (s)	46.4	38.0	38.0	56.0	44.6		50.0	39.0	39.0	48.0	38.0	
Actuated g/C Ratio	0.39	0.32	0.32	0.47	0.37		0.42	0.32	0.32	0.40	0.32	
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0		4.0	7.0	7.0	4.0	7.0	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	218	1046	383	287	1153		205	1587	398	184	1508	
v/s Ratio Prot	0.03	0.25		0.12	0.29		0.09	0.27		0.08	0.30	
v/s Ratio Perm	0.15		0.29	0.34			0.32		0.10	0.31		
v/c Ratio	0.49	0.77	0.92	0.98	0.77		0.98	0.85	0.30	0.97	0.96	
Uniform Delay, d1	25.3	37.1	39.6	26.8	33.2		31.4	37.7	30.3	29.1	40.2	
Progression Factor	1.00	1.00	1.00	0.91	0.87		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	5.8	42.5	85.7	4.9		105.9	6.1	1.9	105.2	21.0	
Delay (s)	25.9	42.9	82.0	110.2	33.7		137.3	43.8	32.2	134.3	61.2	
Level of Service	C	D	F	F	C		F	D	C	F	E	
Approach Delay (s)		55.3			51.7			52.6			69.3	
Approach LOS		E			D			D			E	
Intersection Summary												
HCM 2000 Control Delay		57.5										
HCM 2000 Level of Service												E
HCM 2000 Volume to Capacity ratio		1.01										
Actuated Cycle Length (s)		120.0										18.0
Intersection Capacity Utilization		102.7%										G
ICU Level of Service												
Analysis Period (min)		60										

c Critical Lane Group

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 4> PM
08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Future Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	60.0		0.0	40.0		0.0	40.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.97		0.91	0.92		0.95	1.00	1.00		0.99	1.00	
Frt			0.850			0.850		0.997			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1668	4956	0	1685	4953	0
Flt Permitted	0.950			0.950			0.096			0.186		
Satd. Flow (perm)	1627	0	1363	1557	0	1439	168	4956	0	328	4953	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			69		4			21	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	31		69	69		31	15		20	20		15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	1%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	0	0
Adj. Flow (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	0	120	5	0	55	210	1371	0	20	1609	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0		0
Detector Template								Thru		Left		Thru
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0		0.0
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0		0.0
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0		0.0
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1		1.8
Detector 1 Type	C+Ex		C+Ex	C+Ex		C+Ex	C+Ex	C+Ex		C+Ex		C+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0		0.0
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm		NA
Protected Phases							5	2				6
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6		6
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0		26.0
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0		32.0

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 4> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Total Split (s)	37.0		37.0	37.0		37.0	14.0	73.0		59.0	59.0	
Total Split (%)	33.6%		33.6%	33.6%		33.6%	12.7%	66.4%		53.6%	53.6%	
Maximum Green (s)	31.0		31.0	31.0		31.0	10.0	67.0		53.0	53.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	C-Max			C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	22.6		22.6	22.6		22.6	79.4	77.4		61.7	61.7	
Actuated g/C Ratio	0.21		0.21	0.21		0.21	0.72	0.70		0.56	0.56	
v/c Ratio	0.72		0.32	0.02		0.16	0.71	0.39		0.11	0.58	
Control Delay	53.2		8.2	31.2		6.3	31.6	7.6		16.4	17.7	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	53.2		8.2	31.2		6.3	31.6	7.6		16.4	17.7	
LOS	D		A	C		A	C	A		B	B	
Approach Delay		38.2				8.3		10.8			17.7	
Approach LOS		D				A		B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 16.6

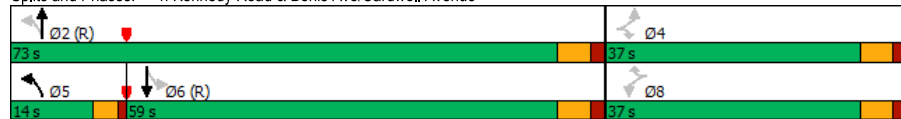
Intersection LOS: B

Intersection Capacity Utilization 74.1%

ICU Level of Service D

Analysis Period (min) 60

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



HCM Signalized Intersection Capacity Analysis

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 4> PM

08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations												
Traffic Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Future Volume (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Total Lost time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lane Util. Factor	1.00		1.00	1.00		1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00		0.91	1.00		0.95	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.97		1.00	0.92		1.00	1.00	1.00		0.99	1.00	
Frt	1.00		0.85	1.00		0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1627		1363	1557		1439	1668	4958		1674	4956	
Flt Permitted	0.95		1.00	0.95		1.00	0.10	1.00		0.19	1.00	
Satd. Flow (perm)	1627		1363	1557		1439	169	4958		328	4956	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	240	0	120	5	0	55	210	1346	25	20	1464	145
RTOR Reduction (vph)	0	0	95	0	0	44	0	1	0	0	9	0
Lane Group Flow (vph)	240	0	25	5	0	11	210	1370	0	20	1600	0
Confl. Peds. (#/hr)	31		69	69		31	15		20	20		15
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	1%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	0	0
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm	NA	
Protected Phases							5	2				6
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	21.6		21.6	21.6		21.6	76.4	76.4		60.7	60.7	
Effective Green, g (s)	22.6		22.6	22.6		22.6	77.4	77.4		61.7	61.7	
Actuated g/C Ratio	0.21		0.21	0.21		0.21	0.70	0.70		0.56	0.56	
Clearance Time (s)	6.0		6.0	6.0		6.0	4.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	334		280	319		295	291	3488		183	2779	
v/s Ratio Prot							c0.08	0.28			0.32	
v/s Ratio Perm	c0.15		0.02	0.00		0.01	c0.42			0.06		
v/c Ratio	0.72		0.09	0.02		0.04	0.72	0.39		0.11	0.58	
Uniform Delay, d1	40.7		35.4	34.8		35.0	18.7	6.7		11.3	15.7	
Progression Factor	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.5		0.1	0.0		0.1	7.6	0.3		1.2	0.9	
Delay (s)	48.2		35.5	34.9		35.1	26.3	7.0		12.5	16.5	
Level of Service	D		D	C		D	C	A		B	B	
Approach Delay (s)		44.0				35.0		9.6			16.5	
Approach LOS		D				D		A			B	

Intersection Summary

HCM 2000 Control Delay

HCM 2000 Level of Service

B

HCM 2000 Volume to Capacity ratio

0.75

Actuated Cycle Length (s)

110.0

Sum of lost time (s)

14.0

Intersection Capacity Utilization

74.1%

ICU Level of Service

D

Analysis Period (min)

60

c Critical Lane Group

Lanes, Volumes, Timings

5: N-S Street/GO Station Access & Sheppard Ave E

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖	↖	↖		↖	↖		↖
Traffic Volume (vph)	15	1249	111	85	992	30	209	0	201	35	0	25
Future Volume (vph)	15	1249	111	85	992	30	209	0	201	35	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		30.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.99		0.99		0.84	0.99		0.98	0.99		0.98
Frt		0.988				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4751	0	1685	3400	1411	1685	0	1507	1685	0	1507
Flt Permitted	0.285			0.147			0.950			0.950		
Satd. Flow (perm)	490	4751	0	259	3400	1186	1665	0	1472	1665	0	1472
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)		15				64			201			73
Link Speed (k/h)		60					40				40	
Link Distance (m)		40.6			63.5		101.1				115.9	
Travel Time (s)		2.4			3.8		9.1				10.4	
Confl. Peds. (#/hr)	57		26	26		57	11		11	11		11
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	16	0	0	0	16	0	0	0	0	0	0
Adj. Flow (vph)	15	1249	111	85	992	30	209	0	201	35	0	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	1360	0	85	992	30	209	0	201	35	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.01	1.19	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2			6					3		
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> PM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

5: N-S Street/GO Station Access & Sheppard Ave E

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0		10.0	69.0	69.0	41.0		41.0	10.0		51.0
Total Split (%)	49.2%	49.2%		8.3%	57.5%	57.5%	34.2%		34.2%	8.3%		42.5%
Maximum Green (s)	52.0	52.0		6.0	62.0	62.0	35.0		35.0	6.0		45.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)	72.8	72.8		84.5	81.5	81.5	21.5		21.5	29.5		27.5
Actuated g/C Ratio	0.61	0.61		0.70	0.68	0.68	0.18		0.18	0.25		0.23
v/c Ratio	0.05	0.47		0.31	0.43	0.04	0.70		0.47	0.09		0.06
Control Delay	19.7	16.9		10.5	10.8	0.3	59.3		9.0	30.8		0.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	19.7	16.9		10.5	10.8	0.3	59.3		9.0	30.8		0.3
LOS	B	B		B	B	A	E		A	C		A
Approach Delay		17.0			10.5			34.6			18.1	
Approach LOS		B			B			C			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												
Actuated Cycle Length: 120												
Offset: 87 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 95												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.70												
Intersection Signal Delay: 17.0	Intersection LOS: B											
Intersection Capacity Utilization 73.2%	ICU Level of Service D											
Analysis Period (min) 60												

Splits and Phases: 5: N-S Street/GO Station Access & Sheppard Ave E

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> PM
WSPSynchro 11 Report
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HCM Signalized Intersection Capacity Analysis
5: N-S Street/GO Station Access & Sheppard Ave E

<Option 4> PM
08-10-2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	15	1249	111	85	992	30	209	0	201	35	0	25
Future Volume (vph)	15	1249	111	85	992	30	209	0	201	35	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	1.00		1.00	1.00		1.00
Flpb, ped/bikes	1.00	0.99		1.00	1.00	0.84	1.00		0.98	1.00		0.98
Flbt, ped/bikes	0.96	1.00		1.00	1.00	1.00	0.99		1.00	0.99		1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1625	4750		1684	3400	1186	1665		1472	1666		1472
Flt Permitted	0.29	1.00		0.15	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	488	4750		261	3400	1186	1665		1472	1666		1472
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	1249	111	85	992	30	209	0	201	35	0	25
RTOR Reduction (vph)	0	6	0	0	0	10	0	0	165	0	0	19
Lane Group Flow (vph)	15	1354	0	85	992	20	209	0	36	35	0	6
Confl. Peds. (#/hr)	57		26	26		57	11		11	11		11
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	16	0	0	0	16	0	0	0	0	0	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2		1	6					3		
Permitted Phases	2			6		6	4		4	8		8
Actuated Green, G (s)	69.4	69.4		78.9	78.9	78.9	20.5		20.5	28.1		28.1
Effective Green, g (s)	70.4	70.4		79.9	79.9	79.9	21.5		21.5	29.1		29.1
Actuated g/C Ratio	0.59	0.59		0.67	0.67	0.67	0.18		0.18	0.24		0.24
Clearance Time (s)	7.0	7.0		4.0	7.0	7.0	6.0		6.0	4.0		6.0
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	286	2786		250	2263	789	298		263	404		356
v/s Ratio Prot		c0.29		0.02	c0.29					c0.00		
v/s Ratio Perm	0.03			0.21		0.02	c0.13		0.02	0.02		0.00
v/c Ratio	0.05	0.49		0.34	0.44	0.03	0.70		0.14	0.09		0.02
Uniform Delay, d1	10.6	14.3		8.5	9.5	6.8	46.2		41.4	35.2		34.6
Progression Factor	1.30	1.09		1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.3	0.5		0.3	0.6	0.1	7.6		0.2	0.1		0.0
Delay (s)	14.0	16.1		8.8	10.1	6.9	53.8		41.7	35.3		34.6
Level of Service	B	B		A	B	A	D		D	D		C
Approach Delay (s)		16.1			9.9			47.9			35.0	
Approach LOS		B			A			D			C	
Intersection Summary												
HCM 2000 Control Delay		18.6										
HCM 2000 Volume to Capacity ratio		0.52										
Actuated Cycle Length (s)		120.0						18.0				
Intersection Capacity Utilization		73.2%										
Analysis Period (min)		60										
c Critical Lane Group												

Lanes, Volumes, Timings
6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 4> PM
08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Future Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	10.0		10.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (m)	55.0			10.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00		0.97		0.99			0.99	
Frt						0.850		0.944				
Flt Protected				0.950				0.972			0.950	
Satd. Flow (prot)	1612	3246	0	1685	3305	1597	0	1710	0	0	1785	0
Flt Permitted				0.207				0.819			0.734	
Satd. Flow (perm)	1612	3246	0	366	3305	1548	0	1440	0	0	1370	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				40		30				
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	4		15	15		4	1		6	6		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	10%	0%	0%	8%	0%	0%	0%	0%	0%	2%	9%
Adj. Flow (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1273	0	4	1079	1	0	36	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0						0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6		6	4			8		
Detector Phase	2	2		6	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	36.0	36.0		36.0	36.0	

Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 4> PM

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	67.3%	67.3%		67.3%	67.3%	67.3%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	68.0	68.0		68.0	68.0	68.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		98.1		98.1	98.1	98.1		8.5			8.5	
Actuated g/C Ratio		0.89		0.89	0.89	0.89		0.08			0.08	
v/c Ratio		0.44		0.01	0.37	0.00		0.26			0.02	
Control Delay		2.6		1.0	0.9	0.0		24.7			46.5	
Queue Delay		0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay		2.6		1.0	0.9	0.0		24.7			46.5	
LOS		A		A	A	A		C			D	
Approach Delay		2.6			0.9			24.7			46.5	
Approach LOS		A			A			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 97 (88%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 2.2

Intersection LOS: A

Intersection Capacity Utilization 53.4%

ICU Level of Service A

Analysis Period (min) 60

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E

→ Ø2 (R)	→ Ø4
74 s	36 s
← Ø6 (R)	← Ø8
74 s	36 s

HCM Signalized Intersection Capacity Analysis

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 4> PM

08-10-2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↕	↔	↕	↕	↔	↕	↕	↔	↕	↕
Traffic Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Future Volume (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost time (s)		5.0		5.0	5.0	5.0		6.0			6.0	
Lane Util. Factor		0.95		1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00	0.97		0.99			1.00	
Flpb, ped/bikes		1.00		0.99	1.00	1.00		1.00			0.99	
Frt		1.00		1.00	1.00	0.85		0.94			1.00	
Flt Protected		1.00		0.95	1.00	1.00		0.97			0.95	
Satd. Flow (prot)		3244		1674	3305	1548		1708			1773	
Flt Permitted		1.00		0.21	1.00	1.00		0.82			0.73	
Satd. Flow (perm)		3244		364	3305	1548		1440			1369	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1269	4	4	1079	1	21	0	15	2	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	28	0	0	0	0
Lane Group Flow (vph)	0	1273	0	4	1079	1	0	8	0	0	2	0
Confl. Peds. (#/hr)	4		15	15		4	1		6	6		1
Heavy Vehicles (%)	10%	10%	0%	0%	8%	0%	0%	0%	0%	0%	2%	9%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6		4				8	
Permitted Phases	2			6		6	4			8		
Actuated Green, G (s)		92.3		92.3	92.3	92.3		4.7			4.7	
Effective Green, g (s)		93.3		93.3	93.3	93.3		5.7			5.7	
Actuated g/C Ratio		0.85		0.85	0.85	0.85		0.05			0.05	
Clearance Time (s)		6.0		6.0	6.0	6.0		7.0			7.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	2751		308	2803	1312		74				70	
v/s Ratio Prot	c0.39			0.33								
v/s Ratio Perm				0.01		0.00		c0.01			0.00	
v/c Ratio	0.46			0.01	0.38	0.00		0.10			0.03	
Uniform Delay, d1	2.1			1.3	1.9	1.3		49.7			49.5	
Progression Factor	1.00			0.45	0.32	1.00		1.00			1.00	
Incremental Delay, d2	0.6			0.1	0.3	0.0		0.6			0.2	
Delay (s)	2.6			0.6	0.9	1.3		50.3			49.7	
Level of Service	A			A	A	A		D			D	
Approach Delay (s)	2.6				0.9			50.3			49.7	
Approach LOS	A				A			D			D	

Intersection Summary

HCM 2000 Control Delay	2.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	60		
c Critical Lane Group			

Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖		↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Future Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.98	0.99		0.99	0.99		0.97		0.95	0.99		0.91
Frt		0.973			0.979			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1668	4625	0	1636	3366	0	*1622	3466	1436	1652	3400	1465
Flt Permitted	0.176			0.107			0.312			0.309		
Satd. Flow (perm)	304	4625	0	183	3366	0	484	3466	1358	530	3400	1337
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			18				91			119
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		246.0			207.6			580.5			408.6	
Travel Time (s)		14.8			12.5			41.8			29.4	
Confl. Peds. (#/hr)	79		60	60		79	79		45	45		79
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	10%	3%	2%	0%	11%	3%	2%	2%	5%	0%
Bus Blockages (#/hr)	0	16	0	0	4	0	0	0	7	0	0	7
Adj. Flow (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1286	0	150	883	0	230	830	191	80	560	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.09	1.09	1.03	1.01	1.09	1.01	1.13	1.09	1.01	1.13
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

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Lanes, Volumes, Timings

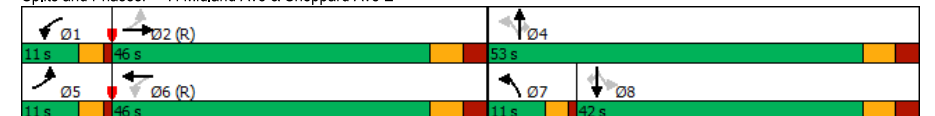
7: Midland Ave & Sheppard Ave E

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	46.0		11.0	46.0		11.0	53.0	53.0	42.0	42.0	42.0
Total Split (%)	10.0%	41.8%		10.0%	41.8%		10.0%	48.2%	48.2%	38.2%	38.2%	38.2%
Maximum Green (s)	7.0	39.0		7.0	39.0		7.0	46.0	46.0	35.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	50.8	40.0		51.2	40.2		50.0	47.0	47.0	36.0	36.0	36.0
Actuated g/C Ratio	0.46	0.36		0.47	0.37		0.45	0.43	0.43	0.33	0.33	0.33
v/c Ratio	0.62	0.75		0.79	0.71		0.76	0.56	0.30	0.46	0.50	0.23
Control Delay	29.9	30.7		53.6	33.3		40.6	25.6	12.0	40.2	31.7	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	30.7		53.6	33.3		40.6	25.6	12.0	40.2	31.7	6.0
LOS	C	C		D	C		D	C	B	D	C	A
Approach Delay		30.6			36.2			26.2			28.6	
Approach LOS		C			D			C			C	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 87 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 105												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.79												
Intersection Signal Delay: 30.3	Intersection LOS: C											
Intersection Capacity Utilization 110.8%	ICU Level of Service H											
Analysis Period (min) 60												
* User Entered Value												

Splits and Phases: 7: Midland Ave & Sheppard Ave E

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HCM Signalized Intersection Capacity Analysis
7: Midland Ave & Sheppard Ave E

<Option 4> PM
08-10-2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Future Volume (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.95	1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	0.99	1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1664	4625		1635	3368		1622	3466	1358	1630	3400	1337
Flt Permitted	0.18	1.00		0.11	1.00		0.31	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)	309	4625		184	3368		494	3466	1358	530	3400	1337
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	148	1054	232	150	762	121	230	830	191	80	560	119
RTOR Reduction (vph)	0	32	0	0	11	0	0	0	52	0	0	80
Lane Group Flow (vph)	148	1254	0	150	872	0	230	830	139	80	560	39
Confl. Peds. (#/hr)	79		60	60		79	79		45	45		79
Heavy Vehicles (%)	1%	3%	10%	3%	2%	0%	11%	3%	2%	2%	5%	0%
Bus Blockages (#/hr)	0	16	0	0	4	0	0	0	7	0	0	7
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases	2			6			4		4	8		8
Actuated Green, G (s)	45.8	39.0		46.2	39.2		46.0	46.0	46.0	35.0	35.0	35.0
Effective Green, g (s)	47.8	40.0		48.2	40.2		47.0	47.0	47.0	36.0	36.0	36.0
Actuated g/C Ratio	0.43	0.36		0.44	0.37		0.43	0.43	0.43	0.33	0.33	0.33
Clearance Time (s)	4.0	7.0		4.0	7.0		4.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	230	1681		186	1230		293	1480	580	173	1112	437
v/s Ratio Prot	0.05	0.27		0.06	0.26		0.06	0.24			0.16	
v/s Ratio Perm	0.23			0.29			0.28		0.10	0.15		0.03
v/c Ratio	0.64	0.75		0.81	0.71		0.78	0.56	0.24	0.46	0.50	0.09
Uniform Delay, d1	21.3	30.6		22.0	29.9		24.5	23.7	20.1	29.3	29.8	25.6
Progression Factor	1.10	0.94		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	2.9		24.1	3.5		13.0	1.5	1.0	8.9	1.6	0.4
Delay (s)	27.7	31.6		46.1	33.4		37.5	25.3	21.1	38.2	31.4	26.0
Level of Service	C	C		D	C		D	C	C	D	C	C
Approach Delay (s)		31.2			35.3			26.9			31.3	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM 2000 Control Delay		30.9					HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		110.0					Sum of lost time (s)		18.0			
Intersection Capacity Utilization		110.8%					ICU Level of Service		H			
Analysis Period (min)		60										

c Critical Lane Group

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 4> PM
08-10-2022

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↱	↱	↰	↱
Traffic Volume (vph)	335	124	1926	277	124	2050
Future Volume (vph)	335	124	1926	277	124	2050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0			0.0	20.0
Storage Lanes	1	0			0	1
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	0.99		0.99			
Flt Protected	0.964		0.981			
Satd. Flow (prot)	1741	0	4873	0	1685	5079
Flt Permitted	0.965				0.066	
Satd. Flow (perm)	1733	0	4873	0	117	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	18		34			
Link Speed (k/h)	40		50			50
Link Distance (m)	196.4		251.0			134.4
Travel Time (s)	17.7		18.1			9.7
Confl. Peds. (#/hr)	5	3		33	33	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	8	0	0	0
Adj. Flow (vph)	335	124	1926	277	124	2050
Shared Lane Traffic (%)						
Lane Group Flow (vph)	459	0	2203	0	124	2050
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 4> PM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group						
Total Split (s)	39.0		60.0		11.0	71.0
Total Split (%)	35.5%		54.5%		10.0%	64.5%
Maximum Green (s)	33.0		54.0		6.5	65.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	22.0		15.0		15.0	15.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	31.7		56.9		69.8	68.3
Actuated g/C Ratio	0.29		0.52		0.63	0.62
v/c Ratio	0.89		0.87		0.67	0.65
Control Delay	61.7		12.2		37.0	14.9
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	61.7		12.2		37.0	14.9
LOS	E		B		D	B
Approach Delay	61.7		12.2		16.2	
Approach LOS	E		B		B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 3 (3%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 18.7

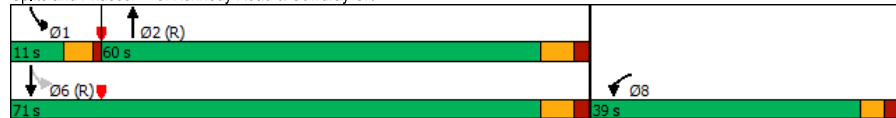
Intersection LOS: B

Intersection Capacity Utilization 88.5%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



HCM Signalized Intersection Capacity Analysis
8: Kennedy Road & Cowdray Crt

<Option 4> PM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Movement						
Lane Configurations	W		↑↑↑		↑	↑↑↑
Traffic Volume (vph)	335	124	1926	277	124	2050
Future Volume (vph)	335	124	1926	277	124	2050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.0	3.5
Total Lost time (s)	5.0		5.0		3.5	5.0
Lane Util. Factor	1.00		0.91		1.00	0.91
Frpb, ped/bikes	1.00		0.99		1.00	1.00
Flpb, ped/bikes	1.00		1.00		1.00	1.00
Frt	0.96		0.98		1.00	1.00
Flt Protected	0.96		1.00		0.95	1.00
Satd. Flow (prot)	1739		4873		1685	5079
Flt Permitted	0.96		1.00		0.07	1.00
Satd. Flow (perm)	1739		4873		117	5079
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	335	124	1926	277	124	2050
RTOR Reduction (vph)	13	0	16	0	0	0
Lane Group Flow (vph)	446	0	2187	0	124	2050
Confl. Peds. (#/hr)	5	3		33	33	
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	8	0	0	0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Actuated Green, G (s)	30.7		55.9		67.3	67.3
Effective Green, g (s)	31.7		56.9		68.3	68.3
Actuated g/C Ratio	0.29		0.52		0.62	0.62
Clearance Time (s)	6.0		6.0		4.5	6.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	501		2520		185	3153
v/s Ratio Prot	c0.26		c0.45		0.05	c0.40
v/s Ratio Perm					0.37	
v/c Ratio	0.89		0.87		0.67	0.65
Uniform Delay, d1	37.5		23.3		21.6	13.3
Progression Factor	1.00		0.37		1.00	1.00
Incremental Delay, d2	21.7		3.1		9.6	1.1
Delay (s)	59.2		11.6		31.1	14.3
Level of Service	E		B		C	B
Approach Delay (s)	59.2		11.6		15.3	
Approach LOS	E		B		B	

Intersection Summary

HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	60		

c Critical Lane Group

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> PM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	3	1	5	640	2	183	3	2059	691	131	2309	2
Future Volume (vph)	3	1	5	640	2	183	3	2059	691	131	2309	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	25.0	30.0	80.0	30.0	80.0	0.0	20.0	0.0
Storage Lanes	0	0	2	0	1	1	1	1	1	0	0	0
Taper Length (m)	2.5		90.0		30.0		35.0					
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.86	0.86
Frt		0.925		0.852			0.850					
Flt Protected		0.984		0.950			0.950		0.950			
Satd. Flow (prot)	0	1710	0	3236	1585	0	1257	5079	1507	1652	6329	0
Flt Permitted				0.950			0.076			0.072		
Satd. Flow (perm)	0	1738	0	3236	1585	0	101	5079	1507	125	6329	0
Right Turn on Red		Yes		Yes			Yes				Yes	
Satd. Flow (RTOR)		5		183			244					
Link Speed (k/h)		48		50			50				50	
Link Distance (m)		70.0		243.9			64.3				130.1	
Travel Time (s)		5.3		17.6			4.6				9.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	34%	1%	0%	2%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	11	0
Adj. Flow (vph)	3	1	5	640	2	183	3	2059	691	131	2309	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	640	185	0	3	2059	691	131	2311	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.0		6.0			3.0			3.0		
Link Offset(m)		0.0		0.0			0.0			0.0		
Crosswalk Width(m)		1.6		1.6			1.6			1.6		
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	
Total Split (s)	17.0	17.0		29.0	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	15.5%	15.5%		26.4%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> PM

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> PM

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	10.0	10.0		24.5	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0		7.0		
Flash Dont Walk (s)					32.0			26.0		26.0		
Pedestrian Calls (#/hr)					0			0		0		
Act Effct Green (s)		8.1		27.5	27.8		58.3	58.3	58.3	73.2	70.2	
Actuated g/C Ratio		0.07		0.25	0.25		0.53	0.53	0.53	0.67	0.64	
v/c Ratio		0.07		0.79	0.34		0.06	0.77	0.76	0.64	0.57	
Control Delay		36.3		46.8	5.8		14.7	18.4	14.6	36.2	15.6	
Queue Delay		0.0		0.0	0.0		0.0	1.4	0.9	0.0	0.0	
Total Delay		36.3		46.8	5.8		14.7	19.8	15.5	36.2	15.6	
LOS		D		D	A		B	B	B	D	B	
Approach Delay		36.3			37.6			18.7			16.7	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 106 (96%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 20.5

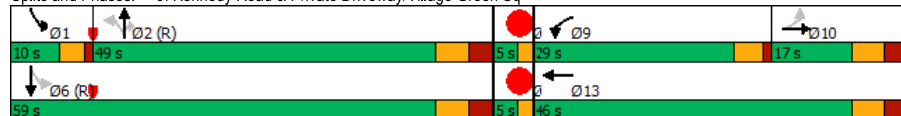
Intersection LOS: C

Intersection Capacity Utilization 100.9%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq



Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> PM

08-10-2022

Lane Group	Ø3	Ø7
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

HCM Signalized Intersection Capacity Analysis
9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> PM
08-10-2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	3	1	5	640	2	183	3	2059	691	131	2309	2
Future Volume (vph)	3	1	5	640	2	183	3	2059	691	131	2309	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0		3.5	6.0		6.0	6.0		6.0	3.0	6.0
Lane Util. Factor		1.00		0.97	1.00		1.00	0.91	1.00	1.00	0.86	
Flt Protected		0.93		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Permitted		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1709		3236	1584		1257	5079	1507	1652	6328	
Flt Permitted		1.00		0.95	1.00		0.08	1.00	1.00	0.07	1.00	
Satd. Flow (perm)		1738		3236	1584		101	5079	1507	125	6328	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	3	1	5	640	2	183	3	2059	691	131	2309	2
RTOR Reduction (vph)	0	5	0	0	127	0	0	0	127	0	0	0
Lane Group Flow (vph)	0	4	0	640	58	0	3	2059	564	131	2311	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	1%	34%	1%	0%	2%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	11	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Actuated Green, G (s)		1.5		26.5	32.5		51.6	51.6	51.6	63.5	63.5	
Effective Green, g (s)		2.5		27.5	33.5		52.6	52.6	52.6	64.5	64.5	
Actuated g/C Ratio		0.02		0.25	0.30		0.48	0.48	0.48	0.59	0.59	
Clearance Time (s)		7.0		4.5	7.0		7.0	7.0	7.0	4.0	7.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)		39		809	482		48	2428	720	196	3710	
v/s Ratio Prot				c0.20	c0.04			c0.41		c0.05	0.37	
v/s Ratio Perm		0.00					0.03		0.37	0.34		
v/c Ratio		0.11		0.79	0.12		0.06	0.85	0.78	0.67	0.62	
Uniform Delay, d1		52.7		38.6	27.6		15.4	25.2	23.9	21.3	14.8	
Progression Factor		1.00		1.00	1.00		0.66	0.72	0.61	1.55	1.20	
Incremental Delay, d2		1.2		5.5	0.1		1.7	2.9	6.2	5.0	0.6	
Delay (s)		53.9		44.1	27.7		11.9	21.0	20.9	37.9	18.3	
Level of Service		D		D	C		B	C	C	D	B	
Approach Delay (s)		53.9			40.4			21.0			19.4	
Approach LOS		D			D			C			B	

Intersection Summary

HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	60		
c Critical Lane Group			

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 4> PM
08-10-2022

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	650	831	1847	0	0	1748
Future Volume (vph)	650	831	1847	0	0	1748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor	0.99	0.98				
Flt Protected	0.969					
Satd. Flow (prot)	3253	1515	5079	0	0	5079
Flt Permitted	0.969					
Satd. Flow (perm)	3241	1492	5079	0	0	5079
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	8	8				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)	7	4		12	12	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	2%	2%	1%
Adj. Flow (vph)	650	831	1847	0	0	1748
Shared Lane Traffic (%)		43%				
Lane Group Flow (vph)	1007	474	1847	0	0	1748
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 4> PM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group						
Total Split (s)	46.0	46.0	64.0			64.0
Total Split (%)	41.8%	41.8%	58.2%			58.2%
Maximum Green (s)	40.0	40.0	57.0			57.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	39.3	39.3	59.7			59.7
Actuated g/C Ratio	0.36	0.36	0.54			0.54
v/c Ratio	0.87	0.88	0.67			0.63
Control Delay	42.3	55.5	21.4			19.1
Queue Delay	0.3	2.0	0.2			0.8
Total Delay	42.6	57.5	21.6			20.0
LOS	D	E	C			B
Approach Delay	47.4		21.6			20.0
Approach LOS	D		C			B

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 104 (95%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 28.6

Intersection LOS: C

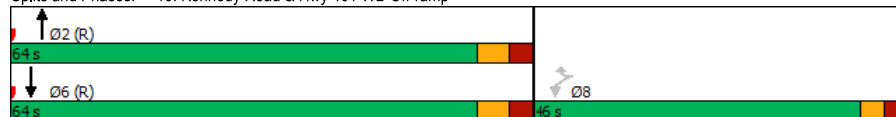
Intersection Capacity Utilization 79.6%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



HCM Signalized Intersection Capacity Analysis
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 4> PM
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Movement						
Lane Configurations	W	W	W	W	W	W
Traffic Volume (vph)	650	831	1847	0	0	1748
Future Volume (vph)	650	831	1847	0	0	1748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Total Lost time (s)	5.0	5.0	6.0			6.0
Lane Util. Factor	*1.00	*1.00	0.91			0.91
Frpb, ped/bikes	0.99	0.98	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.95	0.85	1.00			1.00
Flt Protected	0.97	1.00	1.00			1.00
Satd. Flow (prot)	3239	1492	5079			5079
Flt Permitted	0.97	1.00	1.00			1.00
Satd. Flow (perm)	3239	1492	5079			5079
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	650	831	1847	0	0	1748
RTOR Reduction (vph)	5	5	0	0	0	0
Lane Group Flow (vph)	1002	469	1847	0	0	1748
Confl. Peds. (#/hr)	7	4		12	12	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	1%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	38.3	38.3	58.7			58.7
Effective Green, g (s)	39.3	39.3	59.7			59.7
Actuated g/C Ratio	0.36	0.36	0.54			0.54
Clearance Time (s)	6.0	6.0	7.0			7.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	1157	533	2756			2756
v/s Ratio Prot			c0.36			0.34
v/s Ratio Perm	0.31	c0.31				
v/c Ratio	0.87	0.88	0.67			0.63
Uniform Delay, d1	32.9	33.1	18.1			17.5
Progression Factor	1.00	1.00	1.10			1.01
Incremental Delay, d2	7.6	18.0	0.9			0.9
Delay (s)	40.5	51.2	20.8			18.6
Level of Service	D	D	C			B
Approach Delay (s)	43.9		20.8			18.6
Approach LOS	D		C			B

Intersection Summary

HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	60		

c Critical Lane Group

Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗			↗		↑↑↑			↑↑↑	
Traffic Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Future Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0		0.0	30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.972	0.850			0.865		0.998				
Flt Protected	0.950	0.974										
Satd. Flow (prot)	1503	2969	1332	0	0	1808	0	6324	0	0	5029	0
Flt Permitted	0.950	0.974										
Satd. Flow (perm)	1503	2969	1332	0	0	1808	0	6324	0	0	5029	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		4	40					3				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							3		5	5		3
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	5%	3%	2%	2%	2%	2%	2%	0%	2%	2%	2%
Adj. Flow (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Shared Lane Traffic (%)		50%	29%									
Lane Group Flow (vph)	534	1005	454	0	0	535	0	2169	0	0	1649	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> PM
WSPSynchro 11 Report
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Lanes, Volumes, Timings

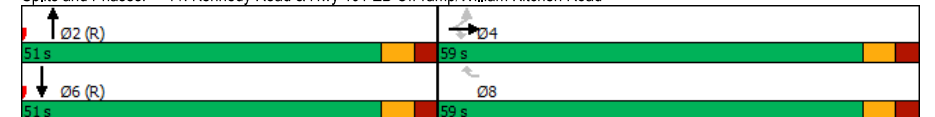
11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	59.0	59.0	59.0			59.0		51.0			51.0	
Total Split (%)	53.6%	53.6%	53.6%			53.6%		46.4%			46.4%	
Maximum Green (s)	52.0	52.0	52.0			52.0		44.0			44.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	48.0	48.0	48.0			48.0		50.0			50.0	
Actuated g/C Ratio	0.44	0.44	0.44			0.44		0.45			0.45	
v/c Ratio	0.82	0.77	0.75			0.68		0.75			0.72	
Control Delay	38.6	30.7	32.2			29.2		27.9			18.9	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	38.6	30.7	32.2			29.2		27.9			18.9	
LOS	D	C	C			C		C			B	
Approach Delay		33.1			29.2			27.9			18.9	
Approach LOS		C			C			C			B	
Intersection Summary												
Area Type:	Other											
Cycle Length: 110												
Actuated Cycle Length: 110												
Offset: 12 (11%), Referenced to phase 2:NBT and 6:SBT, Start of Green												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.82												
Intersection Signal Delay: 27.3												
Intersection Capacity Utilization 110.1%												
Analysis Period (min) 60												

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road








Scenario 1 Agincourt North-South GS EA 11:59 pm 03-08-2020 <Option 4> PM
WSPSynchro 11 Report
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HCM Signalized Intersection Capacity Analysis

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 4> PM

08-10-2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Future Volume (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lane Util. Factor	0.91	0.86	0.91			1.00		0.86			0.91	
Flpb, ped/bikes	1.00	1.00	1.00			1.00		1.00			1.00	
Flpb, ped/bikes	1.00	1.00	1.00			1.00		1.00			1.00	
Frt	1.00	0.97	0.85			0.86		1.00			1.00	
Flt Protected	0.95	0.97	1.00			1.00		1.00			1.00	
Satd. Flow (prot)	1503	2970	1332			1808		6324			5029	
Flt Permitted	0.95	0.97	1.00			1.00		1.00			1.00	
Satd. Flow (perm)	1503	2970	1332			1808		6324			5029	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1068	285	640	0	0	535	0	2139	30	0	1649	0
RTOR Reduction (vph)	0	2	23	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	534	1003	431	0	0	535	0	2167	0	0	1649	0
Confl. Peds. (#/hr)							3		5	5		
Confl. Bikes (#/hr)												7
Heavy Vehicles (%)	2%	5%	3%	2%	2%	2%	2%	2%	0%	2%	2%	2%
Turn Type	Perm	NA	Perm			Perm	NA	NA			NA	
Protected Phases		4					2				6	
Permitted Phases	4		4			8						
Actuated Green, G (s)	47.0	47.0	47.0			47.0		49.0			49.0	
Effective Green, g (s)	48.0	48.0	48.0			48.0		50.0			50.0	
Actuated g/C Ratio	0.44	0.44	0.44			0.44		0.45			0.45	
Clearance Time (s)	7.0	7.0	7.0			7.0		7.0			7.0	
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lane Grp Cap (vph)	655	1296	581			788		2874			2285	
v/s Ratio Prot								c0.34			0.33	
v/s Ratio Perm	c0.36	0.34	0.32			0.30						
v/c Ratio	0.82	0.77	0.74			0.68		0.75			0.72	
Uniform Delay, d1	27.1	26.4	25.8			24.8		24.9			24.4	
Progression Factor	1.00	1.00	1.00			1.00		1.00			0.68	
Incremental Delay, d2	8.2	3.0	5.3			2.4		1.9			1.5	
Delay (s)	35.4	29.4	31.1			27.2		26.8			18.1	
Level of Service	D	C	C			C		C			B	
Approach Delay (s)		31.4			27.2			26.8			18.1	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			26.0			HCM 2000 Level of Service		C				
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		13.0				
Intersection Capacity Utilization			110.1%			ICU Level of Service		H				
Analysis Period (min)			60									







c Critical Lane Group

Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 4> PM

08-10-2022

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	17	8	17	22	43	13
Future Volume (vph)	17	8	17	22	43	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.957				0.969	
Flt Protected				0.979	0.963	
Satd. Flow (prot)	1798	0	0	1748	1602	0
Flt Permitted				0.979	0.963	
Satd. Flow (perm)	1798	0	0	1748	1602	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)						1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	12%	0%	5%	24%
Adj. Flow (vph)	17	8	17	22	43	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	39	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 19.1%	ICU Level of Service A					
Analysis Period (min) 60						

Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 4> PM
08-10-2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (vph)	1227	7	18	1149	7	13
Future Volume (vph)	1227	7	18	1149	7	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.912	
Flt Protected				0.999	0.983	
Satd. Flow (prot)	3215	0	0	3303	1456	0
Flt Permitted				0.999	0.983	
Satd. Flow (perm)	3215	0	0	3303	1456	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)		18	18			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	0%	6%	8%	15%	16%
Adj. Flow (vph)	1227	7	18	1149	7	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1234	0	0	1167	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 54.8%
Analysis Period (min) 60
ICU Level of Service A

Lanes, Volumes, Timings
14: Sheppard Ave E & Reidmount Ave

<Option 4> PM
08-10-2022

	↗	→	←	↖	↘	↙
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑		↖	
Traffic Volume (vph)	20	1270	1206	55	20	15
Future Volume (vph)	20	1270	1206	55	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Frt			0.993		0.942	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	6457	3545	0	1720	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	6457	3545	0	1720	0
Link Speed (k/h)		60	60		40	
Link Distance (m)		35.8	40.6		217.7	
Travel Time (s)		2.1	2.4		19.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	20	1270	1206	55	20	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1290	1261	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		1.8	-1.5		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		24		14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 45.1%
Analysis Period (min) 60
ICU Level of Service A

Lanes, Volumes, Timings

15: Kennedy Road & Jade Street/Collingwood Street

<Option 4> PM

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	5	0	36	18	0	14	66	1808	25	4	1913	20
Future Volume (vph)	5	0	36	18	0	14	66	1808	25	4	1913	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.881			0.941			0.998			0.998	
Flt Protected		0.994			0.973		0.950			0.950		
Satd. Flow (prot)	0	1645	0	0	1664	0	1685	4967	0	1685	4946	0
Flt Permitted		0.994			0.973		0.950			0.950		
Satd. Flow (perm)	0	1645	0	0	1664	0	1685	4967	0	1685	4946	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	6%	0%	0%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	8	0	0	11	0
Adj. Flow (vph)	5	0	36	18	0	14	66	1808	25	4	1913	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	32	0	66	1833	0	4	1933	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.0% ICU Level of Service B

Analysis Period (min) 60

Lanes, Volumes, Timings

16: Collingwood Street & Gordon Ave

<Option 4> PM

08-10-2022

	↖	→	←	↖	↗	↙
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Volume (vph)	16	1	3	2	26	29
Future Volume (vph)	16	1	3	2	26	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.946		0.929	
Flt Protected		0.955			0.977	
Satd. Flow (prot)	0	1792	1777	0	1312	0
Flt Permitted		0.955			0.977	
Satd. Flow (perm)	0	1792	1777	0	1312	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	116.5		190.4	
Travel Time (s)		10.5	10.5		17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	16	1	3	2	26	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	5	0	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized










Intersection Capacity Utilization 17.6%

ICU Level of Service A

Analysis Period (min) 60

Lanes, Volumes, Timings
17: Village Green Sq

<Option 4> PM
08-10-2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	174	32	38	201	22
Future Volume (vph)	0	174	32	38	201	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865				0.987	
Flt Protected				0.978	0.957	
Satd. Flow (prot)	1083	0	0	1805	1775	0
Flt Permitted				0.978	0.957	
Satd. Flow (perm)	1083	0	0	1805	1775	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	22.9			152.9	154.8	
Travel Time (s)	2.1			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	0	174	32	38	201	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	174	0	0	70	223	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.9%			ICU Level of Service A		
Analysis Period (min)	60					

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 4> PM
08-10-2022

	↖	↘	↙	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	27	130	200	183	120	11
Future Volume (vph)	27	130	200	183	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.888				0.989	
Flt Protected	0.991			0.975		
Satd. Flow (prot)	1621	0	0	1796	1822	0
Flt Permitted	0.991			0.774		
Satd. Flow (perm)	1621	0	0	1426	1822	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	130				10	
Link Speed (k/h)	40			48	48	
Link Distance (m)	196.4			197.7	142.2	
Travel Time (s)	17.7			14.8	10.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	130	200	183	120	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	157	0	0	383	131	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases				2		
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	28.0		32.0	32.0	32.0	
Total Split (%)	46.7%		53.3%	53.3%	53.3%	
Maximum Green (s)	22.0		26.0	26.0	26.0	

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 4> PM
08-10-2022

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group						
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.1			33.6	33.6	
Actuated g/C Ratio	0.22			0.67	0.67	
v/c Ratio	0.34			0.40	0.11	
Control Delay	7.6			7.4	4.8	
Queue Delay	0.0			0.0	0.0	
Total Delay	7.6			7.4	4.8	
LOS	A			A	A	
Approach Delay	7.6			7.4	4.8	
Approach LOS	A			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 50.2

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 6.9

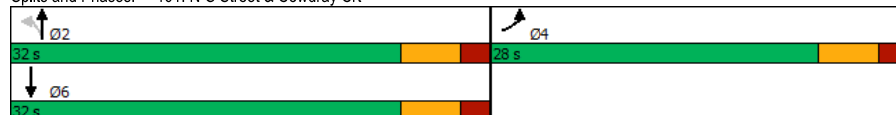
Intersection LOS: A

Intersection Capacity Utilization 51.0%

ICU Level of Service A

Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Crt



HCM Signalized Intersection Capacity Analysis
101: N-S Street & Cowdray Crt

<Option 4> PM
08-10-2022

	EBL	EBR	NBL	NBT	SBT	SBR
Movement						
Lane Configurations	W			W	W	
Traffic Volume (vph)	27	130	200	183	120	11
Future Volume (vph)	27	130	200	183	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.89			1.00	0.99	
Flt Protected	0.99			0.97	1.00	
Satd. Flow (prot)	1622			1795	1821	
Flt Permitted	0.99			0.77	1.00	
Satd. Flow (perm)	1622			1426	1821	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	130	200	183	120	11
RTOR Reduction (vph)	107	0	0	0	4	0
Lane Group Flow (vph)	50	0	0	383	127	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	7.9			31.5	31.5	
Effective Green, g (s)	8.9			32.5	32.5	
Actuated g/C Ratio	0.17			0.63	0.63	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	280			901	1151	
v/s Ratio Prot	c0.03				0.07	
v/s Ratio Perm				c0.27		
v/c Ratio	0.18			0.43	0.11	
Uniform Delay, d1	18.1			4.8	3.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.3			1.5	0.2	
Delay (s)	18.4			6.2	3.9	
Level of Service	B			A	A	
Approach Delay (s)	18.4			6.2	3.9	
Approach LOS	B			A	A	













Intersection Summary

HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	51.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	60		

c Critical Lane Group

Lanes, Volumes, Timings
102: Village Green Sq & N-S Street

<Option 4> PM
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	0	24	153	186	13
Future Volume (vph)	29	0	24	153	186	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991					
Flt Protected	0.950			0.993		
Satd. Flow (prot)	1750	0	0	1829	1825	0
Flt Permitted	0.950			0.993		
Satd. Flow (perm)	1750	0	0	1829	1825	0
Link Speed (k/h)	40			40	48	
Link Distance (m)	35.4			18.7	197.7	
Travel Time (s)	3.2			1.7	14.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	0	24	153	186	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	0	177	199	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other













Control Type: Unsignalized

Intersection Capacity Utilization 33.3% ICU Level of Service A

Analysis Period (min) 60

Lanes, Volumes, Timings
104: N-S Street & Collingwood Street

<Option 4> PM
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	210	131	0
Future Volume (vph)	0	0	0	210	131	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	116.5			142.2	98.7	
Travel Time (s)	8.7			10.7	7.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	210	131	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	210	131	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 14.4% ICU Level of Service A

Analysis Period (min) 60

Lanes, Volumes, Timings

105: N-S Street & 4091 Sheppard Ave E Access

<Option 4> PM

08-10-2022



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y			Y
Traffic Volume (vph)	0	0	211	9	0	131
Future Volume (vph)	0	0	211	9	0	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994					
Flt Protected						
Satd. Flow (prot)	1842	0	1831	0	0	1842
Flt Permitted						
Satd. Flow (perm)	1842	0	1831	0	0	1842
Link Speed (k/h)	48		40			48
Link Distance (m)	102.3		98.7			101.1
Travel Time (s)	7.7		8.9			7.6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	211	9	0	131
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	220	0	0	131
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 15.0% ICU Level of Service A

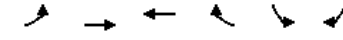
Analysis Period (min) 60





Lanes, Volumes, Timings

18: Village Green Sq

<Option 4> PM

08-19-2022



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	231	505	292	4	1	187
Future Volume (vph)	231	505	292	4	1	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998	0.866		
Flt Protected	0.950					
Satd. Flow (prot)	1716	1860	1875	0	1580	0
Flt Permitted	0.950					
Satd. Flow (perm)	1716	1860	1875	0	1580	0
Link Speed (k/h)	50		50	40		
Link Distance (m)	243.9		158.0	154.8		
Travel Time (s)	17.6		11.4	13.9		
Confl. Peds. (#/hr)	81			81	6	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	1%	0%	0%	0%	3%
Adj. Flow (vph)	231	505	292	4	1	187
Shared Lane Traffic (%)						
Lane Group Flow (vph)	231	505	296	0	188	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	9.5		9.5	3.5		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	1.6		1.6	1.6		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control	Free		Free	Stop		

Intersection Summary

Area Type: Other







Control Type: Unsignalized

Intersection Capacity Utilization 50.3% ICU Level of Service A

Analysis Period (min) 60

HCM Unsignalized Intersection Capacity Analysis 18: Village Green Sq













<Option 4> PM
08-19-2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	231	505	292	4	1	187
Future Volume (Veh/h)	231	505	292	4	1	187
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	231	505	292	4	1	187
Pedestrians		1	6		81	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		7	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	377			1348	376	
vC1, stage 1 conf vol				375		
vC2, stage 2 conf vol				973		
vCu, unblocked vol	377			1348	376	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)				5.4		
tF (s)	2.2			3.5	3.3	
p0 queue free %	79			100	70	
cM capacity (veh/h)	1087			227	620	
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	231	505	296	188		
Volume Left	231	0	0	1		
Volume Right	0	0	4	187		
cSH	1087	1700	1700	614		
Volume to Capacity	0.21	0.30	0.17	0.31		
Queue Length 95th (m)	6.1	0.0	0.0	10.0		
Control Delay (s)	9.2	0.0	0.0	13.4		
Lane LOS	A			B		
Approach Delay (s)	2.9		0.0	13.4		
Approach LOS				B		
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization			50.3%	ICU Level of Service	A	
Analysis Period (min)			60			

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 4> SAT
08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Future Volume (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			12.0			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.89				
Frt		0.998						0.916			0.905	
Flt Protected		0.995		0.950				0.991			0.991	
Satd. Flow (prot)	0	3469	0	1685	3500	0	0	1512	0	0	1652	0
Flt Permitted		0.662		0.208				0.867			0.889	
Satd. Flow (perm)	0	2308	0	369	3500	0	0	1317	0	0	1482	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						50			60	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		391.4			246.0			254.2			290.0	
Travel Time (s)		23.5			14.8			22.9			21.8	
Confl. Peds. (#/hr)			44	44			20		137			
Confl. Bikes (#/hr)								1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	130	1116	15	35	1132	0	15	15	50	15	10	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1261	0	35	1132	0	0	80	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left			Left		
Leading Detector (m)	6.1	0.0		0.0	0.0		6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	9.0		6.1	9.0	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	16.0	16.0		16.0	16.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		12.0	12.0		32.0	32.0	

Lanes, Volumes, Timings

1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	78.0	78.0		78.0	78.0		32.0	32.0		32.0	32.0	
Total Split (%)	70.9%	70.9%		70.9%	70.9%		29.1%	29.1%		29.1%	29.1%	
Maximum Green (s)	72.0	72.0		72.0	72.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0		5.0	5.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		94.4		94.4	94.4			10.0			10.0	
Actuated g/C Ratio		0.86		0.86	0.86			0.09			0.09	
v/c Ratio		0.64		0.11	0.38			0.48			0.45	
Control Delay		5.4		1.0	0.6			31.7			26.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		5.4		1.0	0.6			31.7			26.1	
LOS		A		A	A			C			C	
Approach Delay		5.4			0.6			31.7			26.1	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 104 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 4.7

Intersection LOS: A

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 1: Allanford Rd/Allanford Rd Extension & Sheppard Ave E



Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↕	↔	↕	↕	↔	↕	↕	↔	↕	↕
Traffic Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Future Volume (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Storage Length (m)	30.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	10.0			12.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.96	1.00			0.97			0.98	0.95
Frt		0.999			0.990			0.910				0.850
Flt Protected	0.950			0.950				0.984			0.950	
Satd. Flow (prot)	1685	3457	0	1685	3421	0	0	1647	0	0	1785	1507
Flt Permitted	0.174			0.261				0.906			0.748	
Satd. Flow (perm)	309	3457	0	446	3421	0	0	1503	0	0	1378	1426
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			9			69				80
Link Speed (k/h)		60			60			40				40
Link Distance (m)		246.0			191.5			50.4				142.1
Travel Time (s)		14.8			11.5			4.5				12.8
Confl. Peds. (#/hr)	19		62	62		19	30		14	14		30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	2%	0%	0%	0%	0%
Adj. Flow (vph)	100	1071	10	15	1052	75	5	0	10	245	0	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	1081	0	15	1127	0	0	15	0	0	245	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		0	0		1	1		1	1	1
Detector Template	Thru		Left	Thru		Left				Left		
Leading Detector (m)	21.5	0.0		0.0	0.0		6.1	7.5		6.1	7.5	7.5
Trailing Detector (m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Position(m)	12.5	0.0		0.0	0.0		0.0	-1.5		0.0	-1.5	-1.5
Detector 1 Size(m)	9.0	1.8		6.1	1.8		6.1	9.0		6.1	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												
Minimum Initial (s)	6.0	19.0		19.0	19.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	10.0	25.0		25.0	25.0		13.0	13.0		13.0	13.0	13.0
Total Split (s)	12.0	71.0		59.0	59.0		39.0	39.0		39.0	39.0	39.0

Lanes, Volumes, Timings

2: Private Driveway/Agincourt Mall Access & Sheppard Ave E

<Option 4> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.9%	64.5%		53.6%	53.6%		35.5%	35.5%		35.5%	35.5%	35.5%
Maximum Green (s)	8.0	65.0		53.0	53.0		33.0	33.0		33.0	33.0	33.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		12.0		12.0	12.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)	76.3	74.3		63.7	63.7			25.7		25.7	25.7	
Actuated g/C Ratio	0.69	0.68		0.58	0.58			0.23		0.23	0.23	
v/c Ratio	0.32	0.46		0.06	0.57			0.04		0.76	0.20	
Control Delay	8.2	7.9		13.9	17.0			0.2		55.5	7.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	8.2	7.9		13.9	17.0			0.2		55.5	7.7	
LOS	A	A		B	B			A		E	A	
Approach Delay		7.9			17.0			0.2		43.7		
Approach LOS		A			B			A		D		

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 108 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 16.1

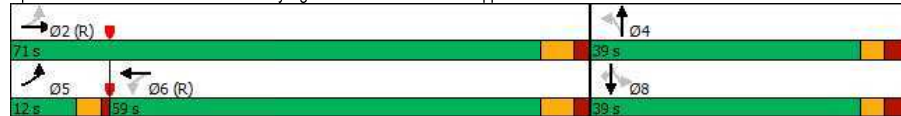
Intersection LOS: B

Intersection Capacity Utilization 78.5%

ICU Level of Service D

Analysis Period (min) 60

Splits and Phases: 2: Private Driveway/Agincourt Mall Access & Sheppard Ave E



Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option 4> SAT

08-10-2022

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↖	↖		↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	104	519	430	374	685	230	240	1214	271	180	1098	84
Future Volume (vph)	104	519	430	374	685	230	240	1214	271	180	1098	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	30.0		35.0	20.0		0.0	50.0		60.0	50.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	20.0			15.0			20.0			20.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	0.91
Ped Bike Factor	0.97		0.92	0.97	0.96		0.99		0.91	0.99	0.99	
Frt			0.850		0.962				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1636	3336	1346	1604	3141	0	*1622	4839	1428	1620	4686	0
Flt Permitted	0.191			0.334			0.107			0.114		
Satd. Flow (perm)	319	3336	1234	547	3141	0	180	4839	1301	192	4686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248		44				235		10	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		191.5			128.3			189.5			289.7	
Travel Time (s)		11.5			7.7			13.6			20.9	
Confl. Peds. (#/hr)	144		75	75		144	99		72	72		99
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	7%	3%	5%	6%	3%	4%	6%	3%	4%	6%	5%
Bus Blockages (#/hr)	0	0	20	0	0	20	0	0	6	0	10	0
Adj. Flow (vph)	104	519	430	374	685	230	240	1214	271	180	1098	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	519	430	374	915	0	240	1214	271	180	1182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.21	1.09	1.01	1.01	1.09	1.01	1.13	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0	0	1	0		1	0	0	1	0	
Detector Template												
Leading Detector (m)	14.0	0.0	0.0	14.0	0.0		14.0	0.0	0.0	14.0	0.0	
Trailing Detector (m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Position(m)	5.0	0.0	0.0	5.0	0.0		5.0	0.0	0.0	5.0	0.0	
Detector 1 Size(m)	9.0	1.8	6.1	9.0	1.8		9.0	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6			4		4	8		
Detector Phase	5	2	2	1	6		7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	6.0	37.0	37.0	6.0	37.0		6.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	10.0	44.0	44.0	10.0	44.0		10.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings

3: Kennedy Road & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	45.0	45.0	17.0	51.0		17.0	43.0	43.0	15.0	41.0	
Total Split (%)	9.2%	37.5%	37.5%	14.2%	42.5%		14.2%	35.8%	35.8%	12.5%	34.2%	
Maximum Green (s)	7.0	38.0	38.0	13.0	44.0		13.0	36.0	36.0	11.0	34.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0		1.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	3.0	3.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		30.0	30.0		30.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effct Green (s)	49.8	39.0	39.0	59.0	45.2		54.2	37.4	37.4	49.6	35.0	
Actuated g/C Ratio	0.42	0.32	0.32	0.49	0.38		0.45	0.31	0.31	0.41	0.29	
v/c Ratio	0.48	0.48	0.76	0.95	0.76		0.96	0.81	0.48	0.83	0.86	
Control Delay	24.9	34.2	25.1	76.3	33.4		114.9	43.2	9.4	63.6	48.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.9	34.2	25.1	76.3	33.4		114.9	43.2	9.4	63.6	48.0	
LOS	C	C	C	E	C		F	D	A	E	D	
Approach Delay		29.6			45.9			47.9			50.1	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 77 (64%), Referenced to phase 4:NBTL and 8:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 44.4

Intersection LOS: D

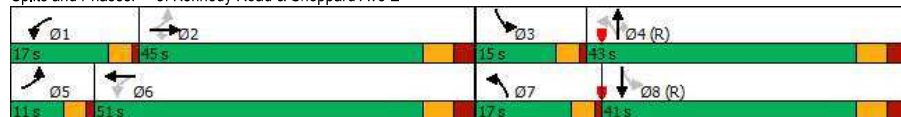
Intersection Capacity Utilization 109.0%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 3: Kennedy Road & Sheppard Ave E



Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Future Volume (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0	0.0	60.0	0.0	0.0	40.0	0.0	40.0	0.0	40.0	0.0	0.0
Storage Lanes	1	1	1	1	1	1	0	1	0	1	0	0
Taper Length (m)	2.5			30.0			15.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99		0.93	0.94		0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.998			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	0	1492	1685	0	1507	1685	4977	0	1589	5022	0
Flt Permitted	0.950			0.950			0.131			0.193		
Satd. Flow (perm)	1662	0	1394	1592	0	1470	232	4977	0	322	5022	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170			69		4			12	
Link Speed (k/h)		30			50			50			50	
Link Distance (m)		161.3			269.5			289.7			517.8	
Travel Time (s)		19.4			19.4			20.9			37.3	
Confl. Peds. (#/hr)	12		50	50		12	26		11	11		26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	0%	2%	0%	0%	2%	0%	6%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	0	0
Adj. Flow (vph)	195	0	170	30	0	35	215	1316	20	15	1357	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	0	170	30	0	35	215	1336	0	15	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1		1	1		1	1	0		0		0
Detector Template								Thru		Left		Thru
Leading Detector (m)	7.5		7.5	7.5		7.5	21.5	0.0		0.0		0.0
Trailing Detector (m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0		0.0
Detector 1 Position(m)	-1.5		-1.5	-1.5		-1.5	12.5	0.0		0.0		0.0
Detector 1 Size(m)	9.0		9.0	9.0		9.0	9.0	1.8		6.1		1.8
Detector 1 Type	C+Ex		C+Ex	C+Ex		C+Ex	C+Ex	C+Ex		C+Ex		C+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0		0.0
Detector 1 Queue (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0		0.0
Detector 1 Delay (s)	0.0		0.0	0.0		0.0	0.0	0.0		0.0		0.0
Turn Type	Perm		Perm	Perm		Perm	pm+pt	NA		Perm		NA
Protected Phases							5	2				6
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4		4	8		8	5	2		6		6
Switch Phase												
Minimum Initial (s)	7.0		7.0	7.0		7.0	6.0	26.0		26.0		26.0
Minimum Split (s)	13.0		13.0	13.0		13.0	10.0	32.0		32.0		32.0

Lanes, Volumes, Timings

4: Kennedy Road & Bonis Ave/Cardwell Avenue

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	31.0		31.0	31.0		31.0	25.0	79.0		54.0	54.0	
Total Split (%)	28.2%		28.2%	28.2%		28.2%	22.7%	71.8%		49.1%	49.1%	
Maximum Green (s)	25.0		25.0	25.0		25.0	21.0	73.0		48.0	48.0	
Yellow Time (s)	4.0		4.0	4.0		4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0		2.0	1.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0		5.0	5.0		5.0	3.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0		3.0	2.0	3.0		3.0	3.0	
Recall Mode	None		None	None		None	C-Max			C-Max	C-Max	
Walk Time (s)	7.0		7.0	7.0		7.0		7.0		7.0	7.0	
Flash Dont Walk (s)	23.0		23.0	23.0		23.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0		0	0		0		0		0	0	
Act Effct Green (s)	19.3		19.3	19.3		19.3	82.7	80.7		65.8	65.8	
Actuated g/C Ratio	0.18		0.18	0.18		0.18	0.75	0.73		0.60	0.60	
v/c Ratio	0.67		0.44	0.11		0.11	0.65	0.37		0.08	0.48	
Control Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Total Delay	54.0		9.3	36.6		2.3	18.6	6.1		15.0	14.5	
LOS	D		A	D		A	B	A		B	B	
Approach Delay		33.2			18.1			7.8			14.5	
Approach LOS		C			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 13.5

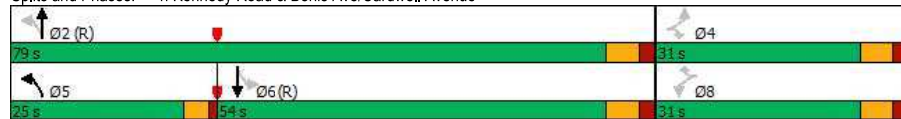
Intersection LOS: B

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 60

Splits and Phases: 4: Kennedy Road & Bonis Ave/Cardwell Avenue



Lanes, Volumes, Timings

5: N-S Street/GO Station Access & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	0	1156	83	144	1261	0	181	0	312	0	0	0
Future Volume (vph)	0	1156	83	144	1261	0	181	0	312	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	25.0		55.0	0.0		30.0	35.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			30.0			2.5			25.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00			1.00		0.98			
Frt		0.990							0.850			
Flt Protected				0.950			0.950					
Satd. Flow (prot)	1773	4790	0	1685	3500	1615	1685	0	1507	1773	0	1773
Flt Permitted				0.184			0.950					
Satd. Flow (perm)	1773	4790	0	325	3500	1615	1679	0	1477	1773	0	1773
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12							227			
Link Speed (k/h)		60					40			40		
Link Distance (m)		40.6			63.5		101.1			115.9		
Travel Time (s)		2.4			3.8		9.1			10.4		
Confl. Peds. (#/hr)	46		15	15		46	3		8	8		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	20	0	0	0	20	0	0	0	0	0	0
Adj. Flow (vph)	0	1156	83	144	1261	0	181	0	312	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1239	0	144	1261	0	181	0	312	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Right	Right
Median Width(m)		7.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.01	1.21	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0	0	1		1	1		1
Detector Template												
Leading Detector (m)	18.0	0.0		18.0	0.0	0.0	7.5		7.5	7.5		7.5
Trailing Detector (m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Position(m)	9.0	0.0		9.0	0.0	0.0	-1.5		-1.5	-1.5		-1.5
Detector 1 Size(m)	9.0	1.8		9.0	1.8	6.1	9.0		9.0	9.0		9.0
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0		0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm		Perm	pm+pt		Perm
Protected Phases		2		1	6				3			
Permitted Phases	2			6		6	4		4	8		8
Detector Phase	2	2		1	6	6	4		4	3		8
Switch Phase												
Minimum Initial (s)	24.0	24.0		6.0	24.0	24.0	7.0		7.0	6.0		7.0
Minimum Split (s)	31.0	31.0		10.0	31.0	31.0	40.0		40.0	10.0		40.0

Lanes, Volumes, Timings

5: N-S Street/GO Station Access & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	60.0	60.0		10.0	70.0	70.0	40.0		40.0	10.0		50.0
Total Split (%)	50.0%	50.0%		8.3%	58.3%	58.3%	33.3%		33.3%	8.3%		41.7%
Maximum Green (s)	53.0	53.0		6.0	63.0	63.0	34.0		34.0	6.0		44.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0		3.0	3.0		3.0
All-Red Time (s)	3.0	3.0		1.0	3.0	3.0	3.0		3.0	1.0		3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0
Total Lost Time (s)	6.0	6.0		3.0	6.0	6.0	5.0		5.0	3.0		5.0
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		2.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	C-Max	C-Max	None		None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0		7.0			7.0
Flash Dont Walk (s)	17.0	17.0			17.0	17.0	27.0		27.0			27.0
Pedestrian Calls (#/hr)	0	0			0	0	0		0			0
Act Effct Green (s)		78.2			92.4	89.4	19.6		19.6			
Actuated g/C Ratio		0.65			0.77	0.74	0.16		0.16			
v/c Ratio		0.40			0.42	0.48	0.66		0.72			
Control Delay		9.2			8.0	7.4	58.6		23.8			
Queue Delay		0.0			0.0	0.0	0.0		0.0			
Total Delay		9.2			8.0	7.4	58.6		23.8			
LOS		A			A	A	E		C			
Approach Delay		9.2				7.5		36.6				
Approach LOS		A				A		D				

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 12.7

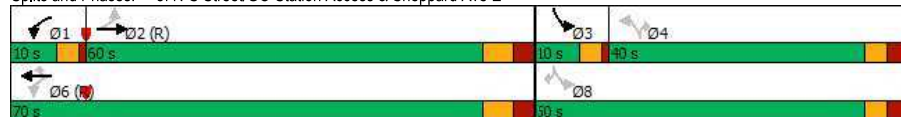
Intersection LOS: B

Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 60

Splits and Phases: 5: N-S Street/GO Station Access & Sheppard Ave E



Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Future Volume (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0	0.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	1	0	1	0	0	0	0	0	0
Taper Length (m)	55.0		10.0			2.5			2.5			
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.99		0.95		0.98		0.99			
Frt					0.850		0.890		0.946			
Flt Protected	0.950		0.950				0.991		0.971			
Satd. Flow (prot)	1685	3368	0	1685	3368	1597	0	1630	0	0	1715	0
Flt Permitted	0.187		0.203				0.985					
Satd. Flow (perm)	330	3368	0	356	3368	1513	0	1619	0	0	1758	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)						40		30			30	
Link Speed (k/h)		60			60			40			48	
Link Distance (m)		215.0			246.0			211.6			41.8	
Travel Time (s)		12.9			14.8			19.0			3.1	
Confl. Peds. (#/hr)	12		31	31		12	3		7	7		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	17%	0%	6%	0%	0%	0%	0%	0%	2%	0%
Adj. Flow (vph)	1	1308	0	3	1381	2	2	0	9	3	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1308	0	3	1381	2	0	11	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	0	0		0	0	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left			Left		
Leading Detector (m)	0.0	0.0		0.0	0.0	6.1	6.1	7.5		6.1	7.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	-1.5		0.0	-1.5	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	9.0		6.1	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6		4			8		
Permitted Phases		2			6		4			8		
Detector Phase		2			6		4			8		
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0	20.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	14.0	14.0		14.0	14.0	
Total Split (s)	93.0	93.0		93.0	93.0	93.0	17.0	17.0		17.0	17.0	

Lanes, Volumes, Timings

6: Lamont Ave/Private Driveway & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	84.5%	84.5%		84.5%	84.5%	84.5%	15.5%	15.5%		15.5%	15.5%	
Maximum Green (s)	87.0	87.0		87.0	87.0	87.0	10.0	10.0		10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	21.0	21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	106.2	106.2		106.2	106.2	106.2		8.0			8.0	
Actuated g/C Ratio	0.97	0.97		0.97	0.97	0.97		0.07			0.07	
v/c Ratio	0.00	0.40		0.01	0.42	0.00		0.08			0.03	
Control Delay	1.0	1.1		0.3	0.4	0.0		4.5			0.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay	1.0	1.1		0.3	0.4	0.0		4.5			0.4	
LOS	A	A		A	A	A		A			A	
Approach Delay		1.1			0.4			4.5			0.4	
Approach LOS		A			A			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 76 (69%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 0.7

Intersection LOS: A

Intersection Capacity Utilization 56.8%

ICU Level of Service B

Analysis Period (min) 60

Splits and Phases: 6: Lamont Ave/Private Driveway & Sheppard Ave E



Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔
Traffic Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Future Volume (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	25.0		50.0	90.0		0.0	40.0		20.0	40.0		20.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	20.0			10.0			100.0			100.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.99	0.99		0.97		0.95	0.98		0.93
Frt		0.966			0.979			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	4586	0	1652	3288	0	*1622	3500	1434	1668	3500	1463
Flt Permitted	0.109			0.101			0.393			0.470		
Satd. Flow (perm)	191	4586	0	174	3288	0	639	3500	1360	808	3500	1363
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			19			167				159
Link Speed (k/h)	60			60			50			50		
Link Distance (m)	246.0			207.6			580.5			408.6		
Travel Time (s)	14.8			12.5			41.8			29.4		
Confl. Peds. (#/hr)	81		71	71		81	59		42	42		59
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	4%	2%	2%	2%	6%	2%	3%	1%	2%	1%
Bus Blockages (#/hr)	0	20	0	0	14	0	0	0	5	0	0	5
Adj. Flow (vph)	121	1020	296	218	1008	162	256	498	214	132	437	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	1316	0	218	1170	0	256	498	214	132	437	115
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Right	Right
Median Width(m)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.05	1.09	1.09	1.05	1.01	1.09	1.01	1.12	1.09	1.01	1.12
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	0		1	0		1	0	0	1	0	0
Detector Template	Left						Left			Left		
Leading Detector (m)	21.5	0.0		21.5	0.0		21.5	0.0	0.0	21.5	0.0	0.0
Trailing Detector (m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Position(m)	12.5	0.0		12.5	0.0		12.5	0.0	0.0	12.5	0.0	0.0
Detector 1 Size(m)	9.0	1.8		9.0	1.8		9.0	1.8	6.1	9.0	1.8	6.1
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4		8		8
Permitted Phases	2			6			4		4	8		8
Detector Phase	5	2		1	6		7	4	4	8		8
Switch Phase												
Minimum Initial (s)	6.0	33.0		6.0	33.0		6.0	34.0	34.0	34.0	34.0	34.0
Minimum Split (s)	10.0	40.0		10.0	40.0		10.0	41.0	41.0	41.0	41.0	41.0

Lanes, Volumes, Timings

7: Midland Ave & Sheppard Ave E

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	10.0	42.0		16.0	48.0		11.0	52.0	52.0	41.0	41.0	41.0
Total Split (%)	9.1%	38.2%		14.5%	43.6%		10.0%	47.3%	47.3%	37.3%	37.3%	37.3%
Maximum Green (s)	6.0	35.0		12.0	41.0		7.0	45.0	45.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0		1.0	3.0		1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0			26.0			27.0	27.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	46.7	36.7		55.0	42.0		49.0	46.0	46.0	35.0	35.0	35.0
Actuated g/C Ratio	0.42	0.33		0.50	0.38		0.45	0.42	0.42	0.32	0.32	0.32
v/c Ratio	0.69	0.84		0.87	0.92		0.72	0.34	0.32	0.51	0.39	0.21
Control Delay	42.5	37.3		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	37.3		64.4	47.9		35.5	22.5	7.0	39.2	30.5	2.5
LOS	D	D		E	D		D	C	A	D	C	A
Approach Delay		37.7			50.5			22.5			27.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 68 (62%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 36.8

Intersection LOS: D

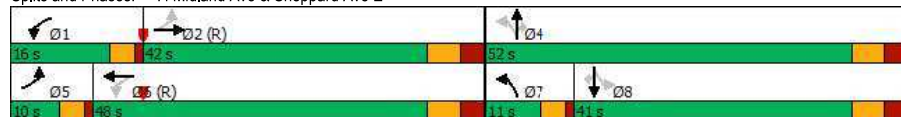
Intersection Capacity Utilization 115.5%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 7: Midland Ave & Sheppard Ave E



Lanes, Volumes, Timings

8: Kennedy Road & Cowdray Crt

<Option 4> SAT

08-10-2022

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	160	129	1802	261	82	1895
Future Volume (vph)	160	129	1802	261	82	1895
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.5
Storage Length (m)	0.0	0.0			0.0	20.0
Storage Lanes	1	0			0	1
Taper Length (m)	2.5				10.0	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.91
Ped Bike Factor	1.00					
Frt	0.940		0.981			
Flt Protected	0.973				0.950	
Satd. Flow (prot)	1674	0	4703	0	1123	4839
Flt Permitted	0.973				0.056	
Satd. Flow (perm)	1672	0	4703	0	66	4839
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	33		40			
Link Speed (k/h)	40		50			50
Link Distance (m)	196.4		251.0			134.4
Travel Time (s)	17.7		18.1			9.7
Confl. Peds. (#/hr)	2					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	6%	5%	14%	50%	6%
Bus Blockages (#/hr)	0	0	6	0	0	0
Adj. Flow (vph)	160	129	1802	261	82	1895
Shared Lane Traffic (%)						
Lane Group Flow (vph)	289	0	2063	0	82	1895
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.0			3.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.03	1.01	1.09	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		0		0	0
Detector Template						
Leading Detector (m)	7.5		0.0		0.0	0.0
Trailing Detector (m)	-0.2		0.0		0.0	0.0
Detector 1 Position(m)	-0.2		0.0		0.0	0.0
Detector 1 Size(m)	7.7		1.8		6.1	1.8
Detector 1 Type	CI+Ex		CI+Ex		CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	7.0		22.0		5.0	22.0
Minimum Split (s)	13.0		28.0		9.5	28.0

Lanes, Volumes, Timings
8: Kennedy Road & Cowdray Crt

<Option 4> SAT
08-10-2022

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	26.0		67.0		17.0	84.0
Total Split (%)	23.6%		60.9%		15.5%	76.4%
Maximum Green (s)	20.0		61.0		12.5	78.0
Yellow Time (s)	3.0		4.0		3.5	4.0
All-Red Time (s)	3.0		2.0		1.0	2.0
Lost Time Adjust (s)	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0		5.0		3.5	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		None	C-Max
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	22.0		15.0		15.0	15.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.1		68.5		81.4	79.9
Actuated g/C Ratio	0.18		0.62		0.74	0.73
v/c Ratio	0.87		0.70		0.57	0.54
Control Delay	71.1		6.8		35.0	7.6
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	71.1		6.8		35.0	7.6
LOS	E		A		D	A
Approach Delay	71.1		6.8		8.7	
Approach LOS	E		A		A	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 100 (91%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 12.0

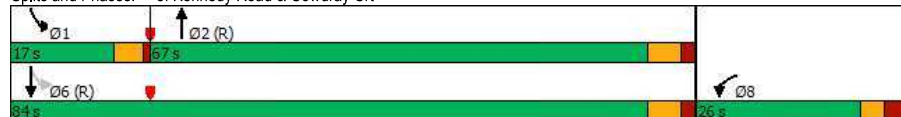
Intersection LOS: B

Intersection Capacity Utilization 73.6%

ICU Level of Service D

Analysis Period (min) 60

Splits and Phases: 8: Kennedy Road & Cowdray Crt



Lanes, Volumes, Timings
9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> SAT
08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	15	539	0	160	10	1893	698	84	2043	0
Future Volume (vph)	0	0	15	539	0	160	10	1893	698	84	2043	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0	0.0	100.0	0.0	0.0	25.0	0.0	30.0	80.0	20.0	0.0	0.0
Storage Lanes	0	0	2	0	1	1	1	1	1	1	0	0
Taper Length (m)	2.5		90.0		30.0			35.0				
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.91	1.00	1.00	0.86	0.86	0.86
Ped Bike Factor		0.98	1.00	0.97		1.00		0.95				
Frt		0.865		0.850				0.850				
Flt Protected			0.950		0.950			0.950		0.950		
Satd. Flow (prot)	0	1088	0	3173	1553	0	1203	4932	1463	1685	6153	0
Flt Permitted			0.950		0.071			0.067				
Satd. Flow (perm)	0	1088	0	3169	1553	0	90	4932	1396	119	6153	0
Right Turn on Red			Yes		Yes			Yes			Yes	
Satd. Flow (RTOR)		144		193				268				
Link Speed (k/h)		48		50				50			50	
Link Distance (m)		70.0		243.9				64.3			130.1	
Travel Time (s)		5.3		17.6				4.6			9.4	
Confl. Peds. (#/hr)	19		1	1		19	1		16	16		1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	47%	3%	2%	0%	40%	4%	3%	0%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	10	0
Adj. Flow (vph)	0	0	15	539	0	160	10	1893	698	84	2043	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	539	160	0	10	1893	698	84	2043	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Right	Right
Median Width(m)		6.0		6.0				3.0			3.0	
Link Offset(m)		0.0		0.0				0.0			0.0	
Crosswalk Width(m)		1.6		1.6				1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.09	1.09	1.01	1.09	1.09	1.03	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		0	0	0	1	0	
Detector Template	Left											
Leading Detector (m)	6.1	7.5		7.5	7.5		0.0	0.0	0.0	18.0	0.0	
Trailing Detector (m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Position(m)	0.0	-1.5		-1.5	-1.5		0.0	0.0	0.0	9.0	0.0	
Detector 1 Size(m)	6.1	9.0		9.0	9.0		6.1	1.8	6.1	9.0	1.8	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type		NA		Prot	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		10		9	13			2		1	6	
Permitted Phases	10						2		2	6		
Detector Phase	10	10		9	13		2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	7.0		33.0	33.0	33.0	6.0	33.0	
Minimum Split (s)	14.0	14.0		9.5	46.0		40.0	40.0	40.0	10.0	40.0	

Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> SAT

08-10-2022

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 4> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings

9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	14.5	14.5		31.5	46.0		49.0	49.0	49.0	10.0	59.0	
Total Split (%)	13.2%	13.2%		28.6%	41.8%		44.5%	44.5%	44.5%	9.1%	53.6%	
Maximum Green (s)	7.5	7.5		27.0	39.0		42.0	42.0	42.0	6.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	3.0	3.0		1.0	3.0		3.0	3.0	3.0	1.0	3.0	
Lost Time Adjust (s)		-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		6.0		3.5	6.0		6.0	6.0	6.0	3.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None			C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)					7.0			7.0	7.0		7.0	
Flash Dont Walk (s)					32.0			26.0	26.0		26.0	
Pedestrian Calls (#/hr)					0			0	0		0	
Act Effct Green (s)		8.0		24.9	28.0		61.3	61.3	61.3	73.0	70.0	
Actuated g/C Ratio		0.07		0.23	0.25		0.56	0.56	0.56	0.66	0.64	
v/c Ratio		0.07		0.75	0.30		0.20	0.69	0.78	0.44	0.52	
Control Delay		0.7		46.6	3.2		30.3	20.5	18.6	28.1	11.2	
Queue Delay		0.0		1.8	0.0		0.0	43.6	16.9	0.0	0.0	
Total Delay		0.7		48.5	3.2		30.3	64.1	35.6	28.1	11.2	
LOS		A		D	A		C	E	D	C	B	
Approach Delay		0.7			38.1			56.3			11.9	
Approach LOS		A			D			E			B	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 93 (85%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 36.5

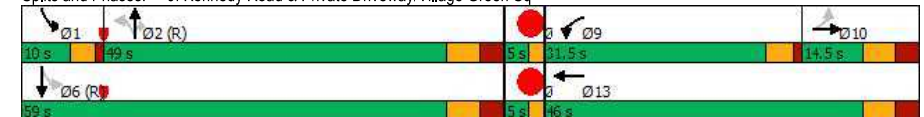
Intersection LOS: D

Intersection Capacity Utilization 99.1%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 9: Kennedy Road & Private Driveway/Village Green Sq

Scenario 1 Agincourt North-South GS EA 5:00 pm 03-09-2020 <Option 4> SAT
WSPSynchro 11 Report
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Lanes, Volumes, Timings
9: Kennedy Road & Private Driveway/Village Green Sq

<Option 4> SAT
08-10-2022

Lane Group	Ø3	Ø7
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 4> SAT
08-10-2022

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group						
Lane Configurations	W	W	U	U	U	U
Traffic Volume (vph)	787	855	1655	0	0	1410
Future Volume (vph)	787	855	1655	0	0	1410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	-3%		0%			0%
Storage Length (m)	0.0	100.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	*1.00	*1.00	0.91	1.00	1.00	0.91
Ped Bike Factor						
Frt	0.955	0.850				
Flt Protected	0.966					
Satd. Flow (prot)	3121	1457	4932	0	0	4932
Flt Permitted	0.966					
Satd. Flow (perm)	3121	1457	4932	0	0	4932
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	4	4				
Link Speed (k/h)	70		50			50
Link Distance (m)	531.4		306.6			38.0
Travel Time (s)	27.3		22.1			2.7
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	5%	4%	0%	0%	4%
Adj. Flow (vph)	787	855	1655	0	0	1410
Shared Lane Traffic (%)		39%				
Lane Group Flow (vph)	1120	522	1655	0	0	1410
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	0			0
Detector Template						
Leading Detector (m)	7.5	7.5	0.0			0.0
Trailing Detector (m)	-1.5	-1.5	0.0			0.0
Detector 1 Position(m)	-1.5	-1.5	0.0			0.0
Detector 1 Size(m)	9.0	9.0	1.8			1.8
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	7.0	7.0	26.0			26.0
Minimum Split (s)	13.0	13.0	33.0			33.0

Lanes, Volumes, Timings

10: Kennedy Road & Hwy 401 WB Off-ramp

<Option 4> SAT

08-10-2022



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Split (s)	58.0	58.0	52.0			52.0
Total Split (%)	52.7%	52.7%	47.3%			47.3%
Maximum Green (s)	52.0	52.0	45.0			45.0
Yellow Time (s)	3.0	3.0	4.0			4.0
All-Red Time (s)	3.0	3.0	3.0			3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0
Total Lost Time (s)	5.0	5.0	6.0			6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)			7.0			7.0
Flash Dont Walk (s)			19.0			19.0
Pedestrian Calls (#/hr)			0			0
Act Effct Green (s)	48.5	48.5	50.5			50.5
Actuated g/C Ratio	0.44	0.44	0.46			0.46
v/c Ratio	0.81	0.81	0.73			0.62
Control Delay	32.0	38.0	25.0			24.6
Queue Delay	0.0	0.0	183.3			0.6
Total Delay	32.0	38.0	208.3			25.2
LOS	C	D	F			C
Approach Delay	33.9		208.3			25.2
Approach LOS	C		F			C

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 60 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 92.6

Intersection LOS: F

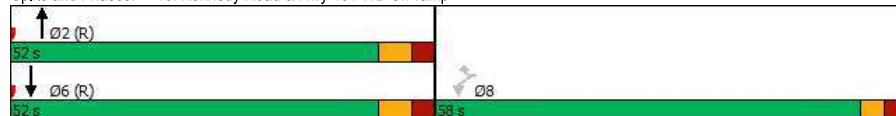
Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 10: Kennedy Road & Hwy 401 WB Off-ramp



Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 4> SAT

08-10-2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔			↔		↑↑↑			↑↑↑	
Traffic Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Future Volume (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	4.7	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.86	0.91	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor								1.00				
Frt		0.966	0.850			0.865		0.997				
Flt Protected	0.950	0.980										
Satd. Flow (prot)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Flt Permitted	0.950	0.980										
Satd. Flow (perm)	1474	2889	1294	0	0	1724	0	6076	0	0	4839	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		5	40					4				
Link Speed (k/h)		80			48			50			50	
Link Distance (m)		686.3			278.1			91.1			71.5	
Travel Time (s)		30.9			20.9			6.6			5.1	
Confl. Peds. (#/hr)							6		20	20		6
Confl. Bikes (#/hr)												7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	8%	6%	0%	0%	7%	0%	6%	5%	0%	6%	0%
Adj. Flow (vph)	879	343	644	0	0	515	0	1967	40	0	1619	0
Shared Lane Traffic (%)	45%		33%									
Lane Group Flow (vph)	483	952	431	0	0	515	0	2007	0	0	1619	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	0.86	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1	1			1		0			0	
Detector Template												
Leading Detector (m)	7.5	7.5	7.5			7.5		0.0			0.0	
Trailing Detector (m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Position(m)	-1.5	-1.5	-1.5			-1.5		0.0			0.0	
Detector 1 Size(m)	9.0	9.0	9.0			9.0		1.8			1.8	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex			CI+Ex		CI+Ex			CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0		0.0			0.0	
Turn Type	Perm	NA	Perm			Perm		NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4		4			8						
Detector Phase	4	4	4			8		2			6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0			7.0		28.0			28.0	
Minimum Split (s)	14.0	14.0	14.0			14.0		35.0			35.0	

Lanes, Volumes, Timings

11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

<Option 4> SAT

08-10-2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	58.0	58.0	58.0			58.0		52.0			52.0	
Total Split (%)	52.7%	52.7%	52.7%			52.7%		47.3%			47.3%	
Maximum Green (s)	51.0	51.0	51.0			51.0		45.0			45.0	
Yellow Time (s)	4.0	4.0	4.0			4.0		4.0			4.0	
All-Red Time (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0			-1.0		-1.0			-1.0	
Total Lost Time (s)	6.0	6.0	6.0			6.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0			3.0		3.0			3.0	
Recall Mode	None	None	None			None		C-Max			C-Max	
Walk Time (s)								7.0			7.0	
Flash Dont Walk (s)								21.0			21.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)	46.4	46.4	46.4			46.4		51.6			51.6	
Actuated g/C Ratio	0.42	0.42	0.42			0.42		0.47			0.47	
v/c Ratio	0.78	0.78	0.76			0.71		0.70			0.71	
Control Delay	37.0	32.1	33.8			31.8		25.6			27.4	
Queue Delay	0.0	0.0	0.0			0.0		0.0			0.0	
Total Delay	37.0	32.1	33.8			31.8		25.6			27.4	
LOS	D	C	C			C		C			C	
Approach Delay		33.7			31.8			25.6			27.4	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 4 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 29.2

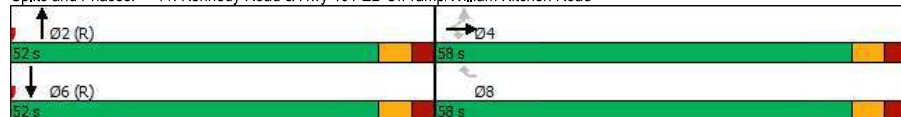
Intersection LOS: C

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 60

Splits and Phases: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road



Lanes, Volumes, Timings

12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 4> SAT

08-10-2022

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	5	14	12	11	49	6
Future Volume (vph)	5	14	12	11	49	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.901				0.985	
Flt Protected				0.975	0.957	
Satd. Flow (prot)	1693	0	0	1832	1665	0
Flt Permitted				0.975	0.957	
Satd. Flow (perm)	1693	0	0	1832	1665	0
Link Speed (k/h)	50			50	40	
Link Distance (m)	269.5			126.6	217.7	
Travel Time (s)	19.4			9.1	19.6	
Confl. Peds. (#/hr)		6	6			2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	3%	34%
Adj. Flow (vph)	5	14	12	11	49	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	0	23	55	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized










Intersection Capacity Utilization 18.6%

ICU Level of Service A

Analysis Period (min) 60










HCM Unsignalized Intersection Capacity Analysis
12: Reidmount Ave & Cardwell Avenue/Dowry Street

<Option 4> SAT
08-10-2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	5	14	12	11	49	6
Future Volume (Veh/h)	5	14	12	11	49	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	14	12	11	49	6
Pedestrians				2	6	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	269					
pX, platoon unblocked						
vC, conflicting volume			25		53	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		53	20
tC, single (s)			4.1		6.4	6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.6
p0 queue free %			99		95	99
cM capacity (veh/h)			1594		941	966
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	19	23	55			
Volume Left	0	12	49			
Volume Right	14	0	6			
cSH	1700	1594	943			
Volume to Capacity	0.01	0.01	0.06			
Queue Length 95th (m)	0.0	0.2	1.4			
Control Delay (s)	0.0	3.8	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	3.8	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			6.0			
Intersection Capacity Utilization	18.6%		ICU Level of Service		A	
Analysis Period (min)	60					










Lanes, Volumes, Timings
13: Gordon Ave & Sheppard Ave E

<Option 4> SAT
08-10-2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1129	6	25	1499	0	29
Future Volume (vph)	1129	6	25	1499	0	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.865	
Flt Protected				0.999		
Satd. Flow (prot)	3430	0	0	3399	1519	0
Flt Permitted				0.999		
Satd. Flow (perm)	3430	0	0	3399	1519	0
Link Speed (k/h)	60			60	40	
Link Distance (m)	128.3			79.4	190.4	
Travel Time (s)	7.7			4.8	17.1	
Confl. Peds. (#/hr)	40		40	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	0%	0%	5%	0%	7%
Adj. Flow (vph)	1129	6	25	1499	0	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1135	0	0	1524	29	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.0			3.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14		24	24		
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 69.8%				ICU Level of Service C		
Analysis Period (min) 60						







HCM Unsignalized Intersection Capacity Analysis
13: Gordon Ave & Sheppard Ave E

<Option 4> SAT
08-10-2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1129	6	25	1499	0	29
Future Volume (Veh/h)	1129	6	25	1499	0	29
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1129	6	25	1499	0	29
Pedestrians				2	40	
Lane Width (m)				3.5	3.5	
Walking Speed (m/s)				1.1	1.1	
Percent Blockage				0	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	128			156		
pX, platoon unblocked			0.88		0.91	0.88
vC, conflicting volume			1175		1972	610
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			929		1287	287
tC, single (s)			4.1		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			96		100	95
cM capacity (veh/h)			633		134	589
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	753	382	525	999	29	
Volume Left	0	0	25	0	0	
Volume Right	0	6	0	0	29	
cSH	1700	1700	633	1700	589	
Volume to Capacity	0.44	0.22	0.04	0.59	0.05	
Queue Length 95th (m)	0.0	0.0	0.9	0.0	1.2	
Control Delay (s)	0.0	0.0	1.1	0.0	11.4	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.4		11.4	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			69.8%		ICU Level of Service	
Analysis Period (min)	60					
	C					









Lanes, Volumes, Timings
14: Sheppard Ave E & Reidmount Ave

<Option 4> SAT
08-10-2022

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	16	1138	1510	39	18	14
Future Volume (vph)	16	1138	1510	39	18	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.86	0.86	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.941	
Flt Protected	0.999				0.973	
Satd. Flow (prot)	0	6206	3385	0	1720	0
Flt Permitted	0.999				0.973	
Satd. Flow (perm)	0	6206	3385	0	1720	0
Link Speed (k/h)	60		60		40	
Link Distance (m)	35.8		40.6		217.7	
Travel Time (s)	2.1		2.4		19.6	
Confl. Peds. (#/hr)	23				8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	4%	5%	6%	0%	0%
Adj. Flow (vph)	16	1138	1510	39	18	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1154	1549	0	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0		3.5	
Link Offset(m)	1.8		-1.5		0.0	
Crosswalk Width(m)	1.6		1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14		24	
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:		Other				
Control Type: Unsignalized						
Intersection Capacity Utilization 57.4%				ICU Level of Service B		
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
14: Sheppard Ave E & Reidmount Ave

<Option 4> SAT
08-10-2022

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	16	1138	1510	39	18	14	
Future Volume (Veh/h)	16	1138	1510	39	18	14	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	16	1138	1510	39	18	14	
Pedestrians		17	8		23		
Lane Width (m)		3.5	3.5		3.5		
Walking Speed (m/s)		1.1	1.1		1.1		
Percent Blockage		2	1		2		
Right turn flare (veh)							
Median type		None	None				
Median storage (veh)							
Upstream signal (m)		244	41				
pX, platoon unblocked	0.85				0.85	0.85	
vC, conflicting volume	1572				1877	814	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1328				1685	441	
tC, single (s)	4.2				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.3				3.5	3.3	
p0 queue free %	96				74	97	
cM capacity (veh/h)	410				69	469	
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	179	325	325	325	1007	542	32
Volume Left	16	0	0	0	0	0	18
Volume Right	0	0	0	0	0	39	14
cSH	410	1700	1700	1700	1700	1700	110
Volume to Capacity	0.04	0.19	0.19	0.19	0.59	0.32	0.29
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	0.0	9.0
Control Delay (s)	1.8	0.0	0.0	0.0	0.0	0.0	50.8
Lane LOS	A						F
Approach Delay (s)	0.3				0.0		50.8
Approach LOS							F
Intersection Summary							
Average Delay			0.7				
Intersection Capacity Utilization			57.4%		ICU Level of Service		B
Analysis Period (min)			60				























Lanes, Volumes, Timings
15: Kennedy Road & Jade Street/Collingwood Street

<Option 4> SAT
08-10-2022

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↑↑			↑↑		↑	↑↑↑		↑	↑↑↑	
Traffic Volume (vph)	12	1	32	17	0	12	29	1874	29	6	1925	20
Future Volume (vph)	12	1	32	17	0	12	29	1874	29	6	1925	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		15.0	30.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			10.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.904			0.944			0.998			0.998	
Flt Protected		0.987			0.972		0.950			0.950		
Satd. Flow (prot)	0	1597	0	0	1724	0	1574	4840	0	1685	4763	0
Flt Permitted		0.987			0.972		0.950			0.950		
Satd. Flow (perm)	0	1597	0	0	1724	0	1574	4840	0	1685	4763	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		183.4			116.5			134.4			189.5	
Travel Time (s)		16.5			10.5			9.7			13.6	
Confl. Peds. (#/hr)							5		5	5		5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	7%	0%	0%	0%	7%	5%	0%	0%	6%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	0	0	10	0
Adj. Flow (vph)	12	1	32	17	0	12	29	1874	29	6	1925	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	0	29	0	29	1903	0	6	1945	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		13.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.03	1.01	1.09	1.03	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 47.7%	ICU Level of Service A											
Analysis Period (min) 60												









HCM Unsignalized Intersection Capacity Analysis
15: Kennedy Road & Jade Street/Collingwood Street

<Option 4> SAT
08-10-2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (veh/h)	12	1	32	17	0	12	29	1874	29	6	1925	20
Future Volume (Veh/h)	12	1	32	17	0	12	29	1874	29	6	1925	20
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	12	1	32	17	0	12	29	1874	29	6	1925	20
Pedestrians	5				5							
Lane Width (m)	3.5				3.5							
Walking Speed (m/s)	1.1				1.1							
Percent Blockage	0				0							
Right turn flare (veh)												
Median type	None								None			
Median storage (veh)												
Upstream signal (m)	134								190			
pX, platoon unblocked	0.83	0.83	0.78	0.83	0.83	0.72	0.78					0.72
vC, conflicting volume	2647	3918	657	2638	3914	644	1950					1908
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	486	2023	0	476	2017	0	1241					894
tC, single (s)	7.5	6.5	7.0	7.5	6.5	6.9	4.2					4.1
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3					2.2
p0 queue free %	97	98	96	95	100	98	93					99
cM capacity (veh/h)	354	44	832	346	45	781	413					549
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	45	29	29	750	750	404	6	770	770	405		
Volume Left	12	17	29	0	0	0	6	0	0	0		
Volume Right	32	12	0	0	0	29	0	0	0	20		
cSH	474	450	413	1700	1700	1700	549	1700	1700	1700		
Volume to Capacity	0.09	0.06	0.07	0.44	0.44	0.24	0.01	0.45	0.45	0.24		
Queue Length 95th (m)	2.4	1.6	1.7	0.0	0.0	0.0	0.3	0.0	0.0	0.0		
Control Delay (s)	13.4	13.6	14.4	0.0	0.0	0.0	11.6	0.0	0.0	0.0		
Lane LOS	B	B	B				B					
Approach Delay (s)	13.4	13.6	0.2				0.0					
Approach LOS	B	B										
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	47.7%			ICU Level of Service			A					
Analysis Period (min)	60											

Lanes, Volumes, Timings
16: Collingwood Street & Gordon Ave

<Option 4> SAT
08-10-2022

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	2	1	0	33	43
Future Volume (vph)	24	2	1	0	33	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.924	
Flt Protected		0.956			0.979	
Satd. Flow (prot)	0	1793	1879	0	1323	0
Flt Permitted		0.956			0.979	
Satd. Flow (perm)	0	1793	1879	0	1323	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		116.5	116.5		190.4	
Travel Time (s)		10.5	10.5		17.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	0%	0%	50%	12%
Adj. Flow (vph)	24	2	1	0	33	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	1	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 19.2% ICU Level of Service A						
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
16: Collingwood Street & Gordon Ave

<Option 4> SAT
08-10-2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Volume (veh/h)	24	2	1	0	33	43
Future Volume (Veh/h)	24	2	1	0	33	43
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	24	2	1	0	33	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1				51	1
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1				51	1
tC, single (s)	4.1				6.9	6.3
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.4
p0 queue free %	99				96	96
cM capacity (veh/h)	1635				837	1055
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	26	1	76			
Volume Left	24	0	33			
Volume Right	0	0	43			
cSH	1635	1700	948			
Volume to Capacity	0.01	0.00	0.08			
Queue Length 95th (m)	0.3	0.0	2.0			
Control Delay (s)	6.7	0.0	9.1			
Lane LOS	A		A			
Approach Delay (s)	6.7	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			8.4			
Intersection Capacity Utilization			19.2%		ICU Level of Service	A
Analysis Period (min)			60			











Lanes, Volumes, Timings
17: Village Green Sq

<Option 4> SAT
08-10-2022

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	0	136	77	39	326	43
Future Volume (vph)	0	136	77	39	326	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865				0.984	
Flt Protected				0.968	0.958	
Satd. Flow (prot)	1083	0	0	1772	1771	0
Flt Permitted				0.968	0.958	
Satd. Flow (perm)	1083	0	0	1772	1771	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	19.8			152.9	154.8	
Travel Time (s)	1.8			13.8	13.9	
Confl. Peds. (#/hr)		5	5		3	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	50%	4%	0%	0%	0%
Adj. Flow (vph)	0	136	77	39	326	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	116	369	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 46.6%	ICU Level of Service A					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
17: Village Green Sq

<Option 4> SAT
08-10-2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	136	77	39	326	43
Future Volume (vph)	0	136	77	39	326	43
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	136	77	39	326	43
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	136	116	369			
Volume Left (vph)	0	77	326			
Volume Right (vph)	136	0	43			
Hadj (s)	0.25	0.18	0.11			
Departure Headway (s)	5.3	5.2	4.7			
Degree Utilization, x	0.20	0.17	0.48			
Capacity (veh/h)	635	637	743			
Control Delay (s)	9.6	9.3	12.0			
Approach Delay (s)	9.6	9.3	12.0			
Approach LOS	A	A	B			
Intersection Summary						
Delay			11.0			
Level of Service			B			
Intersection Capacity Utilization			46.6%	ICU Level of Service	A	
Analysis Period (min)			60			

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 4> SAT
08-10-2022

	↖	↘	↙	↑	↓	↗
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	88	141	155	352	153	33
Future Volume (vph)	88	141	155	352	153	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.917				0.976	
Flt Protected	0.981			0.985		
Satd. Flow (prot)	1657	0	0	1814	1798	0
Flt Permitted	0.981			0.841		
Satd. Flow (perm)	1657	0	0	1549	1798	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	141				24	
Link Speed (k/h)	40			48	48	
Link Distance (m)	196.4			205.0	142.2	
Travel Time (s)	17.7			15.4	10.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	88	141	155	352	153	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	229	0	0	507	186	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (m)	6.1		6.1	30.5	30.5	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	6.1		6.1	1.8	1.8	
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	
Minimum Split (s)	28.0		28.0	28.0	28.0	
Total Split (s)	28.0		32.0	32.0	32.0	
Total Split (%)	46.7%		53.3%	53.3%	53.3%	
Maximum Green (s)	22.0		26.0	26.0	26.0	

Lanes, Volumes, Timings
101: N-S Street & Cowdray Crt

<Option 4> SAT
08-10-2022

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group						
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	5.0			5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)	11.7			30.1	30.1	
Actuated g/C Ratio	0.23			0.58	0.58	
v/c Ratio	0.47			0.57	0.18	
Control Delay	10.4			10.4	5.3	
Queue Delay	0.0			0.0	0.0	
Total Delay	10.4			10.4	5.3	
LOS	B			B	A	
Approach Delay	10.4			10.4	5.3	
Approach LOS	B			B	A	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 51.9

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 9.4

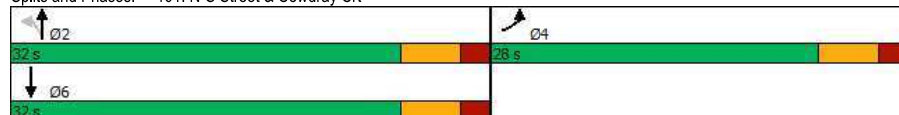
Intersection LOS: A

Intersection Capacity Utilization 63.2%

ICU Level of Service B

Analysis Period (min) 60

Splits and Phases: 101: N-S Street & Cowdray Crt



Lanes, Volumes, Timings
102: Village Green Sq & N-S Street

<Option 4> SAT
08-10-2022

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group						
Lane Configurations	W			W	W	
Traffic Volume (vph)	29	2	23	286	144	9
Future Volume (vph)	29	2	23	286	144	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991				0.992	
Flt Protected	0.955			0.996		
Satd. Flow (prot)	1743	0	0	1835	1827	0
Flt Permitted	0.955			0.996		
Satd. Flow (perm)	1743	0	0	1835	1827	0
Link Speed (k/h)	40			40	48	
Link Distance (m)	35.4			13.3	205.0	
Travel Time (s)	3.2			1.2	15.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	2	23	286	144	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	309	153	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized











Intersection Capacity Utilization 37.8%

ICU Level of Service A

Analysis Period (min) 60











HCM Unsignalized Intersection Capacity Analysis
102: Village Green Sq & N-S Street

<Option 4> SAT
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	2	23	286	144	9
Future Volume (Veh/h)	29	2	23	286	144	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	29	2	23	286	144	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (m)				205		
pX, platoon unblocked						
vC, conflicting volume	480	148	153			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	480	148	153			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	98			
cM capacity (veh/h)	536	898	1428			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	31	309	153			
Volume Left	29	23	0			
Volume Right	2	0	9			
cSH	550	1428	1700			
Volume to Capacity	0.06	0.02	0.09			
Queue Length 95th (m)	1.4	0.4	0.0			
Control Delay (s)	11.9	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.9	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			37.8%	ICU Level of Service	A	
Analysis Period (min)			60			













Lanes, Volumes, Timings
104: N-S Street & Collingwood Street

<Option 4> SAT
08-10-2022

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	440	186	0
Future Volume (vph)	0	0	0	440	186	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	116.5			142.2	98.7	
Travel Time (s)	8.7			10.7	7.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	440	186	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	440	186	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 26.5%	ICU Level of Service A					
Analysis Period (min) 60						













HCM Unsignalized Intersection Capacity Analysis
104: N-S Street & Collingwood Street

<Option 4> SAT
08-10-2022

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	440	186	0
Future Volume (Veh/h)	0	0	0	440	186	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	440	186	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				142	200	
pX, platoon unblocked	0.93					
vC, conflicting volume	626	186	186			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	562	186	186			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	455	856	1388			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	440	186			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1388	1700			
Volume to Capacity	0.00	0.00	0.11			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		26.5%		ICU Level of Service	A	
Analysis Period (min)		60				

Lanes, Volumes, Timings
105: N-S Street & 4091 Sheppard Ave E Access

<Option 4> SAT
08-10-2022

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	430	9	0	186
Future Volume (vph)	0	0	430	9	0	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997			
Flt Protected						
Satd. Flow (prot)	1842	0	1837	0	0	1842
Flt Permitted						
Satd. Flow (perm)	1842	0	1837	0	0	1842
Link Speed (k/h)	48		40			48
Link Distance (m)	102.3		98.7			101.1
Travel Time (s)	7.7		8.9			7.6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	430	9	0	186
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	439	0	0	186
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 26.5%	ICU Level of Service A					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
105: N-S Street & 4091 Sheppard Ave E Access

<Option 4> SAT
08-10-2022

	←	↖	↑	↗	→	↘
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Volume (veh/h)	0	0	430	9	0	186
Future Volume (Veh/h)	0	0	430	9	0	186
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	430	9	0	186
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)			241		101	
pX, platoon unblocked						
vC, conflicting volume	620	434			439	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620	434			439	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	451	622			1121	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	439	186			
Volume Left	0	0	0			
Volume Right	0	9	0			
cSH	1700	1700	1121			
Volume to Capacity	0.00	0.26	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		26.5%		ICU Level of Service	A	
Analysis Period (min)		60				

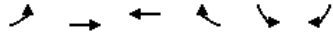
Lanes, Volumes, Timings
18: Village Green Sq

<Option 4> SAT
08-19-2022

	↖	→	←	↗	↘	↙
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	Y	Y	Y		Y	Y
Traffic Volume (vph)	376	356	315	3	74	112
Future Volume (vph)	376	356	315	3	74	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.919	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1750	1807	1841	0	1056	0
Flt Permitted	0.950				0.980	
Satd. Flow (perm)	1750	1807	1841	0	1056	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		243.9	158.0		154.8	
Travel Time (s)		17.6	11.4		13.9	
Confl. Peds. (#/hr)	32			32	2	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	4%	2%	0%	0%	100%
Adj. Flow (vph)	376	356	315	3	74	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	376	356	318	0	186	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		9.5	9.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 59.3%	ICU Level of Service B					
Analysis Period (min) 60						

HCM Unsignalized Intersection Capacity Analysis
18: Village Green Sq

<Option 4> SAT
08-19-2022



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	376	356	315	3	74	112
Future Volume (Veh/h)	376	356	315	3	74	112
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	376	356	315	3	74	112
Pedestrians		6	2		32	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		1	0		3	
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage (veh)		1	1			
Upstream signal (m)		244				
pX, platoon unblocked						
vC, conflicting volume	350			1458	354	
vC1, stage 1 conf vol				348		
vC2, stage 2 conf vol				1110		
vCu, unblocked vol	350			1458	354	
tC, single (s)	4.1			6.4	7.2	
tC, 2 stage (s)				5.4		
tF (s)	2.2			3.5	4.2	
p0 queue free %	68			59	78	
cM capacity (veh/h)	1175			179	498	
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	376	356	318	186		
Volume Left	376	0	0	74		
Volume Right	0	0	3	112		
cSH	1175	1700	1700	291		
Volume to Capacity	0.32	0.21	0.19	0.64		
Queue Length 95th (m)	10.7	0.0	0.0	37.0		
Control Delay (s)	9.5	0.0	0.0	38.6		
Lane LOS	A			E		
Approach Delay (s)	4.9		0.0	38.6		
Approach LOS				E		
Intersection Summary						
Average Delay			8.7			
Intersection Capacity Utilization			59.3%	ICU Level of Service	B	
Analysis Period (min)			60			

SimTraffic Simulation Summary
Agincourt North-South GS EA

<Option 4> AM
08-08-2022

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	15452	15361	15292	15415	15223	15345
Vehs Exited	14861	14735	14528	14721	14489	14669
Starting Vehs	776	806	809	750	772	777
Ending Vehs	1367	1432	1573	1444	1506	1462
Travel Distance (km)	17550	17336	17092	17249	16985	17243
Travel Time (hr)	1259.2	1276.5	1418.1	1263.3	1394.1	1322.3
Total Delay (hr)	908.7	929.7	1076.3	918.4	1054.6	977.5
Total Stops	38635	39899	39639	39811	39701	39537
Fuel Used (l)	2171.5	2158.4	2258.3	2145.6	2236.5	2194.1

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00					
End Time	8:00					
Total Time (min)	60					
Volumes adjusted by Growth Factors.						
Run Number	1	2	3	4	5	Avg
Vehs Entered	15452	15361	15292	15415	15223	15345
Vehs Exited	14861	14735	14528	14721	14489	14669
Starting Vehs	776	806	809	750	772	777
Ending Vehs	1367	1432	1573	1444	1506	1462
Travel Distance (km)	17550	17336	17092	17249	16985	17243
Travel Time (hr)	1259.2	1276.5	1418.1	1263.3	1394.1	1322.3
Total Delay (hr)	908.7	929.7	1076.3	918.4	1054.6	977.5
Total Stops	38635	39899	39639	39811	39701	39537
Fuel Used (l)	2171.5	2158.4	2258.3	2145.6	2236.5	2194.1

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 4> AM
08-08-2022

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.5	185.3	181.5	55.0	35.0	114.3	118.8	69.9	143.4	145.9	123.9	99.9
Average Queue (m)	15.3	136.2	171.7	54.7	34.8	106.7	108.5	55.9	78.3	73.4	73.3	31.4
95th Queue (m)	36.0	212.7	200.9	58.6	36.4	121.8	123.9	82.4	132.7	121.6	109.4	73.4
Link Distance (m)		172.2	172.2			104.1	104.1		172.3	172.3	172.3	
Upstream Blk Time (%)		4	34			49	37		1	0		
Queuing Penalty (veh)		19	177			391	296		3	0		
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	1	24	49	63	82	38		26	15		19	0
Queuing Penalty (veh)	3	12	219	178	394	126		105	31		34	0

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	283.3	283.2	280.7
Average Queue (m)	54.7	218.0	220.3	218.3
95th Queue (m)	89.3	341.6	341.7	340.9
Link Distance (m)		272.7	272.7	272.7
Upstream Blk Time (%)		16	17	19
Queuing Penalty (veh)		98	102	116
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	5	66		
Queuing Penalty (veh)	23	104		

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 4> AM
08-08-2022

Intersection: 5: N-S Street/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	29.1	36.9	40.8	31.2	52.1	79.8	80.7	52.3	210.8	215.0	73.1	32.5
Average Queue (m)	16.6	27.6	28.0	12.2	31.5	70.0	70.5	31.3	132.1	135.6	38.6	22.1
95th Queue (m)	28.0	34.1	39.2	28.1	65.6	81.9	82.6	71.0	256.3	256.2	66.6	40.2
Link Distance (m)	26.4	26.4	26.4	26.4		52.3	52.3		204.7	204.7	81.9	
Upstream Blk Time (%)	2	15	17	2	0	52	52	1	7	8	0	
Queuing Penalty (veh)	6	35	41	6	0	398	395	0	53	60	0	
Storage Bay Dist (m)					25.0			55.0				30.0
Storage Blk Time (%)					2	59	52	1			15	1
Queuing Penalty (veh)					16	57	62	6			22	1

Intersection: 5: N-S Street/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	19.7	18.8
Average Queue (m)	4.8	6.9
95th Queue (m)	14.7	15.6
Link Distance (m)		103.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	17.8	106.8	118.8	108.6	21.0	52.3	67.1	73.4	51.0	4.2	17.8	32.5
Average Queue (m)	4.2	66.4	76.4	33.3	3.9	40.4	50.2	60.7	42.4	0.1	1.3	12.6
95th Queue (m)	13.7	97.4	107.5	70.2	14.3	57.5	66.1	77.0	62.4	3.0	8.8	33.7
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)					0	1	4	11	1	0	0	5
Queuing Penalty (veh)					0	7	31	86	0	0	2	38
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)		0	2	0	0	15		25	8			
Queuing Penalty (veh)		1	5	2	0	1		123	47			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	114.9	139.6	143.9	143.8	121.9	247.1	250.5	247.4
Average Queue (m)	67.3	131.8	132.8	132.3	110.5	206.8	212.0	213.3
95th Queue (m)	154.9	141.7	142.5	141.2	150.8	317.2	319.5	317.0
Link Distance (m)		116.2	116.2	116.2	116.2	239.2	239.2	239.2
Upstream Blk Time (%)	0	68	80	83	5	5	10	16
Queuing Penalty (veh)	0	431	506	530	35	43	88	132
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)		70						
Queuing Penalty (veh)		62						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	107.5	109.2	91.0	87.8	98.9	118.9	20.5	48.8	67.2	68.0	45.9	42.2
Average Queue (m)	71.5	75.7	61.2	54.0	62.6	77.1	0.7	2.9	6.0	4.0	37.4	37.0
95th Queue (m)	99.9	101.6	86.6	79.2	91.2	112.3	10.4	23.3	36.0	29.4	40.9	39.8
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)							0	0	0	0	43	45
Queuing Penalty (veh)							0	1	3	1	457	475
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		1	0									
Queuing Penalty (veh)		4	0									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44
Directions Served	T	T	T	T
Maximum Queue (m)	44.7	77.1	75.1	81.7
Average Queue (m)	37.0	71.1	70.7	71.2
95th Queue (m)	40.4	78.7	77.6	77.6
Link Distance (m)	21.4	51.0	51.0	51.0
Upstream Blk Time (%)	44	29	30	31
Queuing Penalty (veh)	471	228	236	244
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 4> AM
08-08-2022

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	SB
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	153.4	155.0	137.8	95.2	161.2	97.6	87.2	78.6	61.4	54.3	23.6	70.8
Average Queue (m)	96.3	101.3	80.0	56.4	76.6	80.9	67.2	47.4	5.1	13.0	1.2	53.7
95th Queue (m)	145.7	147.4	125.4	87.7	135.2	98.3	85.0	72.8	31.5	40.8	10.8	70.4
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	54.6
Upstream Blk Time (%)						12	3	1	0	0		5
Queuing Penalty (veh)						0	0	0	0	0		42
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T
Maximum Queue (m)	70.8	69.4	14.5	25.7	19.8
Average Queue (m)	61.2	53.7	1.0	5.3	2.4
95th Queue (m)	77.0	74.6	7.0	18.7	11.6
Link Distance (m)	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	11	7			
Queuing Penalty (veh)	83	52			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 48: Bend

Movement	SB	SB
Directions Served	T	T
Maximum Queue (m)	14.2	15.2
Average Queue (m)	0.6	0.5
95th Queue (m)	10.3	10.7
Link Distance (m)	71.3	71.3
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 8055

SimTraffic Simulation Summary
Agincourt North-South GS EA

<Option 4> PM
08-08-2022

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	15515	15532	15500	15522	15531	15519
Vehs Exited	15212	15282	15154	15240	15212	15215
Starting Vehs	853	767	777	761	773	786
Ending Vehs	1156	1017	1123	1043	1092	1080
Travel Distance (km)	17462	17610	17567	17640	17606	17577
Travel Time (hr)	1292.2	1261.0	1256.3	1378.0	1368.3	1311.2
Total Delay (hr)	941.8	907.7	903.6	1024.2	1015.1	958.5
Total Stops	32931	31746	34102	33635	32574	32992
Fuel Used (l)	2229.9	2215.5	2207.1	2304.8	2303.1	2252.1

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	5:00					
End Time	6:00					
Total Time (min)	60					
Volumes adjusted by Growth Factors.						
Run Number	1	2	3	4	5	Avg
Vehs Entered	15515	15532	15500	15522	15531	15519
Vehs Exited	15212	15282	15154	15240	15212	15215
Starting Vehs	853	767	777	761	773	786
Ending Vehs	1156	1017	1123	1043	1092	1080
Travel Distance (km)	17462	17610	17567	17640	17606	17577
Travel Time (hr)	1292.2	1261.0	1256.3	1378.0	1368.3	1311.2
Total Delay (hr)	941.8	907.7	903.6	1024.2	1015.1	958.5
Total Stops	32931	31746	34102	33635	32574	32992
Fuel Used (l)	2229.9	2215.5	2207.1	2304.8	2303.1	2252.1

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 4> PM
08-08-2022

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.8	185.5	181.6	55.0	35.0	113.4	117.0	69.9	133.7	124.7	131.0	99.8
Average Queue (m)	19.9	162.5	175.8	53.0	34.3	97.3	95.1	53.5	83.8	81.3	81.9	46.6
95th Queue (m)	43.8	208.6	179.4	66.0	37.9	132.0	132.2	84.4	125.2	117.3	117.7	95.7
Link Distance (m)	172.2		172.2			104.1	104.1			172.3	172.3	
Upstream Blk Time (%)	11		45			35	17			0		
Queuing Penalty (veh)	75		315			199	101			1		
Storage Bay Dist (m)	30.0			35.0	20.0			50.0				60.0
Storage Blk Time (%)	3	19	60	31	77	30			16	27	27	2
Queuing Penalty (veh)	13	20	293	124	269	85			70	53	71	8

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	263.9	261.7	257.8
Average Queue (m)	61.6	184.8	184.4	182.2
95th Queue (m)	87.7	297.6	295.2	293.5
Link Distance (m)	272.7		272.7	272.7
Upstream Blk Time (%)	3		4	4
Queuing Penalty (veh)	18		20	22
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	38	58		
Queuing Penalty (veh)	175	104		

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 4> PM
08-08-2022

Intersection: 5: N-S Street/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B53	B53	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	T	T	L	R
Maximum Queue (m)	16.8	41.0	42.1	35.0	52.0	73.8	71.5	52.2	43.2	47.8	84.6	32.5
Average Queue (m)	3.4	29.7	31.5	16.9	19.2	42.2	43.6	5.3	5.5	6.8	46.8	25.4
95th Queue (m)	11.7	36.1	40.1	32.2	43.1	78.3	78.3	24.7	25.5	28.9	76.2	41.8
Link Distance (m)	26.4	26.4	26.4	26.4	52.3		52.3	204.7		204.7	81.9	
Upstream Blk Time (%)	0	26	28	7	0	8	8	0	1			
Queuing Penalty (veh)	0	83	91	21	0	43	45	0	2			
Storage Bay Dist (m)					25.0			55.0	30.0			
Storage Blk Time (%)					1	18	8	0	21			
Queuing Penalty (veh)					5	15	2	0	42			

Intersection: 5: N-S Street/GO Station Access & Sheppard Ave E

Movement	SB	SB
Directions Served	L	R
Maximum Queue (m)	23.4	14.0
Average Queue (m)	8.2	4.8
95th Queue (m)	18.4	12.6
Link Distance (m)	103.0	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	35.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	9.1	88.0	98.7	67.1	13.3	57.9	69.4	69.3	51.0	11.8	36.1	32.5
Average Queue (m)	1.8	55.1	66.4	23.8	1.1	38.7	51.2	60.5	44.8	0.4	5.4	19.1
95th Queue (m)	7.5	79.9	92.5	47.2	6.7	59.6	73.1	79.0	61.4	4.5	23.1	42.6
Link Distance (m)	53.1			222.2		51.0	51.0	51.0		21.4	21.4	21.4
Upstream Blk Time (%)						1	5	12	4	0	2	9
Queuing Penalty (veh)						12	45	105	0	0	15	76
Storage Bay Dist (m)		100.0	100.0		25.0				30.0			
Storage Blk Time (%)			0		0	15		22	18			
Queuing Penalty (veh)			0		0	0		150	124			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45	B45
Directions Served	L	T	T	T	TR	T	T	T
Maximum Queue (m)	58.6	114.1	121.0	121.7	81.4	5.2	13.0	11.4
Average Queue (m)	21.6	70.7	81.3	85.5	8.0	0.2	0.7	0.7
95th Queue (m)	44.3	111.3	119.1	120.8	50.5	3.7	7.4	7.6
Link Distance (m)		116.2	116.2	116.2	116.2	239.2	239.2	239.2
Upstream Blk Time (%)		1	1	2	0			
Queuing Penalty (veh)		3	8	11	0			
Storage Bay Dist (m)	80.0							
Storage Blk Time (%)		5						
Queuing Penalty (veh)		7						

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	160.0	189.9	147.7	102.0	125.8	144.6	10.8	46.3	68.2	57.6	40.7	40.2
Average Queue (m)	95.8	106.0	97.0	63.1	76.2	100.4	0.4	2.4	8.4	3.2	36.9	36.9
95th Queue (m)	147.0	162.8	147.5	88.3	105.4	132.6	7.6	21.1	42.0	25.9	38.6	38.7
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)							0	0	0	0	32	32
Queuing Penalty (veh)							0	0	4	1	316	311
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		19	15									
Queuing Penalty (veh)		77	114									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44
Directions Served	T	T	T	T
Maximum Queue (m)	38.4	76.4	74.0	74.0
Average Queue (m)	36.5	65.5	69.2	69.5
95th Queue (m)	37.5	85.0	81.4	79.4
Link Distance (m)	21.4	51.0	51.0	51.0
Upstream Blk Time (%)	32	16	20	22
Queuing Penalty (veh)	316	120	151	162
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	119.2	114.9	93.2	68.7	162.4	97.4	93.4	96.9	71.4	78.2	75.4	76.4
Average Queue (m)	74.1	79.9	58.6	42.4	89.1	87.7	86.9	86.9	43.9	67.7	67.3	65.6
95th Queue (m)	102.4	106.0	83.5	66.8	149.2	92.6	90.7	92.0	96.2	72.8	75.1	84.9
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)						58	57	58	1	48	50	57
Queuing Penalty (veh)						0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	73.7	69.8	71.5	41.0	48.8	37.9
Average Queue (m)	56.5	62.2	52.7	5.6	10.8	5.5
95th Queue (m)	77.7	80.3	75.1	25.7	35.0	26.4
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	10	15	9			
Queuing Penalty (veh)	78	122	70			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

Zone wide Queuing Penalty: 4793

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	14971	15038	14838	15173	15306	15060
Vehs Exited	14268	14472	14384	14584	14795	14502
Starting Vehs	643	716	743	696	770	710
Ending Vehs	1346	1282	1197	1285	1281	1280
Travel Distance (km)	17178	17173	16962	17434	17512	17252
Travel Time (hr)	1173.2	1126.3	1186.5	1141.7	1150.6	1155.7
Total Delay (hr)	831.1	783.5	847.8	794.0	801.3	811.6
Total Stops	35810	35761	35396	36039	37116	36026
Fuel Used (l)	2080.1	2043.0	2081.2	2075.2	2084.4	2072.8

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	14971	15038	14838	15173	15306	15060
Vehs Exited	14268	14472	14384	14584	14795	14502
Starting Vehs	643	716	743	696	770	710
Ending Vehs	1346	1282	1197	1285	1281	1280
Travel Distance (km)	17178	17173	16962	17434	17512	17252
Travel Time (hr)	1173.2	1126.3	1186.5	1141.7	1150.6	1155.7
Total Delay (hr)	831.1	783.5	847.8	794.0	801.3	811.6
Total Stops	35810	35761	35396	36039	37116	36026
Fuel Used (l)	2080.1	2043.0	2081.2	2075.2	2084.4	2072.8

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 4> SAT
08-08-2022

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	T	T	T	R
Maximum Queue (m)	49.9	187.1	181.6	55.0	35.0	117.5	119.4	69.8	132.8	124.1	121.9	94.8
Average Queue (m)	27.5	151.1	171.2	53.1	34.9	108.3	107.4	53.4	76.6	73.7	73.3	38.9
95th Queue (m)	50.6	218.1	200.2	64.8	35.1	112.9	120.2	81.6	125.0	113.6	106.2	79.8
Link Distance (m)	172.2		172.2			104.1	104.1			172.3	172.3	172.3
Upstream Blk Time (%)	11		35			58	31			0		
Queuing Penalty (veh)	74		234			435	235			1		
Storage Bay Dist (m)	30.0			35.0	20.0			50.0			60.0	
Storage Blk Time (%)	5	9	62	31	86	35		21	17		21	2
Queuing Penalty (veh)	12	9	267	79	295	132		84	40		57	8

Intersection: 3: Kennedy Road & Sheppard Ave E

Movement	SB	SB	SB	SB
Directions Served	L	T	T	TR
Maximum Queue (m)	69.9	157.9	146.2	154.9
Average Queue (m)	56.7	99.5	96.5	95.2
95th Queue (m)	87.9	151.1	145.4	145.5
Link Distance (m)	272.7		272.7	272.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	50.0			
Storage Blk Time (%)	17	38		
Queuing Penalty (veh)	61	68		

Intersection: 5: N-S Street/GO Station Access & Sheppard Ave E

Movement	EB	EB	EB	WB	WB	WB	B53	B53	NB	NB	
Directions Served	T	T	TR	L	T	T	T	T	L	R	
Maximum Queue (m)	38.3	41.8	27.4	52.2	77.2	79.2	215.7	220.5	85.6	32.5	
Average Queue (m)	29.1	30.5	13.0	44.5	67.1	67.3	161.8	162.5	49.0	27.2	
95th Queue (m)	36.4	39.4	23.9	70.9	78.7	83.3	289.5	291.2	90.0	41.2	
Link Distance (m)	26.4	26.4	26.4	52.3		52.3	204.7	204.7	81.9		
Upstream Blk Time (%)	28	30	1	1	72	53	33	24	7		
Queuing Penalty (veh)	81	87	2	0	498	367	227	168	30		
Storage Bay Dist (m)				25.0						30.0	
Storage Blk Time (%)				10	80	53			23	7	
Queuing Penalty (veh)				61	115	0			71	12	

Queuing and Blocking Report
Agincourt North-South GS EA

<Option 4> SAT
08-08-2022

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	EB	WB	WB	WB	NB	NB	NB	NB	NB	B44	B44	B44
Directions Served	LTR	L	L	TR	L	T	T	T	R	T	T	T
Maximum Queue (m)	20.2	144.8	189.5	226.3	45.0	75.3	75.0	73.6	51.0	49.7	50.4	46.0
Average Queue (m)	5.8	103.4	121.2	107.1	7.2	64.0	66.0	65.7	48.9	32.6	33.2	30.2
95th Queue (m)	17.4	166.0	193.3	245.1	25.4	80.4	78.4	77.6	60.9	58.4	57.7	56.0
Link Distance (m)	53.1			222.2			51.0	51.0	51.0			21.4
Upstream Blk Time (%)			9		0	15	16	15	4	14	14	15
Queuing Penalty (veh)			37		0	127	132	124	0	116	120	122
Storage Bay Dist (m)	100.0		100.0	25.0				30.0				
Storage Blk Time (%)	37	53	11	1	22			31	7			
Queuing Penalty (veh)	59	85	60	6	2			216	45			

Intersection: 9: Kennedy Road & Private Driveway/Village Green Sq

Movement	SB	SB	SB	SB	SB	B45	B45
Directions Served	L	T	T	T	TR	T	T
Maximum Queue (m)	56.0	116.2	126.6	126.6	106.8	2.7	7.1
Average Queue (m)	17.7	74.5	84.5	86.8	12.3	0.1	0.2
95th Queue (m)	37.5	108.2	116.5	117.2	63.8	1.9	3.7
Link Distance (m)		116.2	116.2	116.2	116.2	239.2	239.2
Upstream Blk Time (%)	0	0	1	1	0		
Queuing Penalty (veh)	0	2	6	6	0		
Storage Bay Dist (m)	80.0						
Storage Blk Time (%)		5					
Queuing Penalty (veh)		4					

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	WB	WB	WB	NB	NB	NB	B47	B47	B47	B47	SB	SB
Directions Served	L	LR	R	T	T	T	T	T	T	T	T	T
Maximum Queue (m)	115.9	116.1	108.2	318.8	322.7	325.8	81.1	76.0	80.7	71.5	45.7	44.8
Average Queue (m)	74.5	82.3	70.7	190.0	248.0	267.9	26.1	33.2	38.4	30.9	37.7	37.5
95th Queue (m)	103.8	108.2	98.8	355.6	387.8	388.3	76.5	83.5	92.8	84.3	42.1	41.4
Link Distance (m)	516.4	516.4		298.4	298.4	298.4	54.6	54.6	54.6	54.6	21.4	21.4
Upstream Blk Time (%)				4	13	36	2	5	15	8	46	49
Queuing Penalty (veh)				46	140	407	20	43	122	68	399	423
Storage Bay Dist (m)			100.0									
Storage Blk Time (%)		1	0									
Queuing Penalty (veh)		6	4									

Intersection: 10: Kennedy Road & Hwy 401 WB Off-ramp

Movement	SB	B44	B44	B44	B44
Directions Served	T	T	T	T	T
Maximum Queue (m)	46.5	84.4	81.0	83.6	11.5
Average Queue (m)	37.2	70.4	66.3	64.4	1.0
95th Queue (m)	41.2	87.5	80.5	80.8	11.7
Link Distance (m)	21.4	51.0	51.0	51.0	51.0
Upstream Blk Time (%)	50	28	30	28	0
Queuing Penalty (veh)	432	181	192	183	0
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	EB	EB	EB	EB	WB	NB	NB	NB	NB	B48	B48	B48
Directions Served	L	LT	TR	R	R	T	T	T	TR	T	T	T
Maximum Queue (m)	166.4	168.2	147.2	91.1	274.6	99.6	97.6	93.9	72.5	78.5	75.0	77.7
Average Queue (m)	79.1	87.5	73.8	49.6	157.8	89.1	86.6	81.8	37.5	65.5	51.6	39.7
95th Queue (m)	135.1	139.6	121.1	77.8	301.8	95.7	96.9	99.6	88.8	84.7	91.4	90.9
Link Distance (m)	672.7	672.7	672.7	672.7	260.0	71.3	71.3	71.3	71.3	62.7	62.7	62.7
Upstream Blk Time (%)					26	50	40	34	1	28	19	21
Queuing Penalty (veh)					0	0	0	0	0	0	0	0
Storage Bay Dist (m)												
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 11: Kennedy Road & Hwy 401 EB Off-ramp/William Kitchen Road

Movement	SB	SB	SB	B47	B47	B47
Directions Served	T	T	T	T	T	T
Maximum Queue (m)	78.9	76.7	78.3	55.1	61.3	63.0
Average Queue (m)	65.7	68.4	69.3	15.8	24.7	31.5
95th Queue (m)	80.8	77.9	77.4	42.9	53.8	60.4
Link Distance (m)	54.6	54.6	54.6	298.4	298.4	298.4
Upstream Blk Time (%)	15	18	20			
Queuing Penalty (veh)	109	131	145			
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

Zone wide Queuing Penalty: 8131

Arterial Level of Service

<Option 4> AM
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	16.9	30.8	0.16	18.6	E
Hwy 401 WB Off-ramp	III	50	29.8	15.8	45.6	0.38	29.9	C
Village Green Sq	III	50	9.9	18.6	28.5	0.10	12.9	F
Cowdray Crt	III	50	30.1	16.3	46.4	0.38	29.6	C
Sheppard Ave E	III	50	25.6	39.6	65.2	0.32	17.9	E
Cardwell Avenue	III	50	22.9	6.3	29.2	0.29	35.7	C
Total	III		132.2	113.5	245.7	1.63	23.9	D

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.1	55.0	0.52	33.9	C
Sheppard Ave E	III	50	22.9	75.8	98.7	0.29	10.6	F
Cowdray Crt	III	50	25.6	16.5	42.1	0.32	27.7	D
Private Driveway	III	50	30.1	15.5	45.6	0.38	30.1	C
Hwy 401 WB Off-ramp	III	50	9.9	17.4	27.3	0.10	13.5	F
Hwy 401 EB Off-ramp	III	50	29.8	14.6	44.4	0.38	30.7	C
Total	III		159.2	153.9	313.1	1.99	22.9	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	4.4	31.2	0.39	45.2	B
Private Driveway	II	60	17.6	8.5	26.1	0.25	33.9	D
Kennedy Road	II	60	13.7	36.2	49.9	0.19	13.8	F
N-S Street	II	60	20.3	4.3	24.6	0.28	41.6	C
Lamont Ave	II	60	19.9	0.9	20.8	0.28	48.2	B
Midland Ave	II	60	17.6	27.2	44.8	0.25	19.8	F
Total	II		115.9	81.5	197.4	1.64	29.9	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	81.9	96.7	0.21	7.7	F
Private Driveway	II	60	17.6	0.5	18.1	0.25	48.9	B
GO Station Access	II	60	19.9	13.1	33.0	0.28	30.4	D
Kennedy Road	II	60	20.3	24.7	45.0	0.28	22.7	E
Agincourt Mall Acces	II	60	13.7	20.1	33.8	0.19	20.4	F
Allanford Rd Extensi	II	60	17.6	0.6	18.2	0.25	48.7	B
Total	II		103.9	140.9	244.8	1.45	21.4	E

Arterial Level of Service

<Option 4> PM
08-10-2022

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	27.9	41.8	0.16	13.7	F
Hwy 401 WB Off-ramp	III	50	29.8	21.4	51.2	0.38	26.6	D
Village Green Sq	III	50	9.9	18.4	28.3	0.10	13.0	F
Cowdray Crt	III	50	30.1	12.2	42.3	0.38	32.4	C
Sheppard Ave E	III	50	25.6	44.1	69.7	0.32	16.7	E
Cardwell Avenue	III	50	22.9	7.6	30.5	0.29	34.2	C
Total	III		132.2	131.6	263.8	1.63	22.3	E

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	17.7	58.6	0.52	31.8	C
Sheppard Ave E	III	50	22.9	61.2	84.1	0.29	12.4	F
Cowdray Crt	III	50	25.6	14.9	40.5	0.32	28.8	D
Private Driveway	III	50	30.1	15.6	45.7	0.38	30.0	C
Hwy 401 WB Off-ramp	III	50	9.9	19.1	29.0	0.10	12.7	F
Hwy 401 EB Off-ramp	III	50	29.8	18.9	48.7	0.38	27.9	D
Total	III		159.2	147.4	306.6	1.99	23.4	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.2	32.0	0.39	44.0	C
Private Driveway	II	60	17.6	6.2	23.8	0.25	37.2	C
Kennedy Road	II	60	13.7	43.4	57.1	0.19	12.1	F
N-S Street	II	60	20.3	16.9	37.2	0.28	27.5	D
Lamont Ave	II	60	19.9	2.6	22.5	0.28	44.6	C
Midland Ave	II	60	17.6	30.7	48.3	0.25	18.3	F
Total	II		115.9	105.0	220.9	1.64	26.7	E

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	33.3	48.1	0.21	15.5	F
Private Driveway	II	60	17.6	0.9	18.5	0.25	47.9	B
GO Station Access	II	60	19.9	10.8	30.7	0.28	32.7	D
Kennedy Road	II	60	20.3	33.0	53.3	0.28	19.2	F
Agincourt Mall Acces	II	60	13.7	13.2	26.9	0.19	25.6	E
Allanford Rd Extensi	II	60	17.6	1.8	19.4	0.25	45.6	B
Total	II		103.9	93.0	196.9	1.45	26.6	E

Arterial Level of Service: NB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
William Kitchen Road	III	50	13.9	25.6	39.5	0.16	14.5	F
Hwy 401 WB Off-ramp	III	50	29.8	25.0	54.8	0.38	24.8	D
Village Green Sq	III	50	9.9	20.5	30.4	0.10	12.1	F
Cowdray Crt	III	50	30.1	6.8	36.9	0.38	37.2	C
Sheppard Ave E	III	50	25.6	43.2	68.8	0.32	16.9	E
Cardwell Avenue	III	50	22.9	6.1	29.0	0.29	36.0	C
Total	III		132.2	127.2	259.4	1.63	22.7	D

Arterial Level of Service: SB Kennedy Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Bonis Ave	III	50	40.9	14.5	55.4	0.52	33.6	C
Sheppard Ave E	III	50	22.9	48.0	70.9	0.29	14.7	F
Cowdray Crt	III	50	25.6	7.6	33.2	0.32	35.1	C
Private Driveway	III	50	30.1	11.2	41.3	0.38	33.2	C
Hwy 401 WB Off-ramp	III	50	9.9	24.6	34.5	0.10	10.7	F
Hwy 401 EB Off-ramp	III	50	29.8	27.4	57.2	0.38	23.8	D
Total	III		159.2	133.3	292.5	1.99	24.5	D

Arterial Level of Service: EB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Allanford Rd	II	60	26.8	5.4	32.2	0.39	43.8	C
Private Driveway	II	60	17.6	7.9	25.5	0.25	34.7	D
Kennedy Road	II	60	13.7	34.2	47.9	0.19	14.4	F
N-S Street	II	60	20.3	9.2	29.5	0.28	34.7	D
Lamont Ave	II	60	19.9	1.1	21.0	0.28	47.7	B
Midland Ave	II	60	17.6	37.3	54.9	0.25	16.1	F
Total	II		115.9	95.1	211.0	1.64	27.9	D

Arterial Level of Service: WB Sheppard Ave E

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (km)	Arterial Speed	Arterial LOS
Midland Ave	II	60	14.8	47.9	62.7	0.21	11.9	F
Private Driveway	II	60	17.6	0.4	18.0	0.25	49.2	B
GO Station Access	II	60	19.9	7.4	27.3	0.28	36.7	C
Kennedy Road	II	60	20.3	33.4	53.7	0.28	19.0	F
Agincourt Mall Acces	II	60	13.7	17.0	30.7	0.19	22.5	E
Allanford Rd Extensi	II	60	17.6	0.6	18.2	0.25	48.7	B
Total	II		103.9	106.7	210.6	1.45	24.8	E