Appendix A:
Certification Form

Appendix A

Certification Form

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

By submitting the attached report (and any associated documents) and signing this document, I acknowledge that:

- I have reviewed and have a sound understanding of the objectives, needs, and requirements of the City of Mississauga's Official Plan, Transportation Master Plan, and the Transportation Impact Study Guidelines as they apply to this submission;
- I have sound knowledge of industry standard practices pertaining to the preparation of development-related transportation study reports;
- I have substantial experience (more than five years) in completing development-related transportation studies and strong background knowledge of the transportation planning and engineering principles underpinning these studies; and
- I am registered as a Professional Engineer (P.Eng.), Licensed Engineering Technologist (LET), Certified Engineering Technologist (C.E.T.), or Registered Professional Planner (RPP) in good standing in the Province of Ontario with specific training in transportation planning and engineering.

Dated at City of Mississauga (City) this 29th day of August, 2023.

Name: Steven Kwan, P.Eng.

Professional Title: Senior Associate, BA Group

Signature: 

Office Contact Information (Please Print)

Address: 300 - 45 St Clair Ave W

City/Postal Code: Toronto, ON M4V 1L3

Telephone/Extension: (416) 961-7110 Ext. 126

E-mail Address: Kwan@bagroup.com

Appendix B:
Reduced Scale Architectural Plans

Hurontario Site Statistics by Phase

2023-07-17

	sm	sf
Site Area	13,220	142,298
Total GFA	98,261	1,057,674
FSI (GFA/Site Area)	7.43	

PHASE 1 — B1, B2, PLAZA

	Total									Suite Count										Retail (NLA)		Amenity									Bike Parking				
										Per Level					Subtotal							Provided				Zoning		Mattamy (1.5+1.55M/Unit)			Long-Term		Short-Term		
	No. of Floors	NSA/Flr (SM)	NSA (SM)	NSA (SF)	GCA/Flr (SM)	GCA (SM)	GCA (SF)	GFA/Flr (SM)	GFA (SM)	GFA (SF)	Efficiency (NSA/GCA)	Studio	1BR	1BR+D	2BR	3BR	Studio	1BR	1BR+D	2BR	3BR	Total Suites	Area (SM)	Area (SF)	Indoor Area (SM)	Outdoor Area (SM)	Total Area (SM)	Total Area (SF)	Area/Unit (SM)	Combined Target Area (SM)	Combined Target Area (SF)	Target Indoor Area (SM)	Target Outdoor Area (SM)	Combined Target Area (SM)	Combined Target Area (SF)	Res (0.6 /unit)	Non-Res (0.15/100m2)	Res (0.05 /unit)	Non-Res (0.3/100m2)	Total
Site																																							
Ground L1																								1,173		1,173	12,627												
Sub Total																								1,659		1,659	17,852												
Bldg 1																																							
Ground L1	1				1,782	1,782	19,186	1,014	1,014	10,918													686	7387															
Podium L2 Mech	1				313	313	3,369	59	59	631														1,532		1,532	16,492												
Podium L3	1				1,664	1,664	17,906	46	46	497																													
Podium L4 Void																																							
Podium Roof L5	1	418	418	4,503	764	764	8,228	468	468	5,040	55%	1	1	4	2		1	1	4	2		8			224	598	822	8,850											
Typical Tower L6-40	35	647	22,642	243,711	765	26,789	288,354	696	24,353	262,137	85%	1	2	5	3	1	35	70	175	105	35	420																	
Mech. PH L41	1				647	647	6,964																																
Sub Total	40		23,060	248,213		31,959	344,007		25,941	279,224	72%						36	71	179	107	35	428	686	7387	1,756	598	2,354	25,342	5.50	2,397	25,799	642	642	1,284	13,821	257	1	21	2	281
Bldg 2																																							
Ground L1	1				760	760	8,181	483	483	5,202													474	5,100															
Podium L2 Mech	1				293	293		41	41	436																													
Podium L3	1	650	650	6,995	770	770	8,283	699	699	7,523	84%	1	2	5	4		1	2	5	4		12																	
Podium L4	1	650	650	6,995	770	770	8,283	699	699	7,523	84%	1	2	5	4	1	1	2	5	4	1	13																	
Podium Roof L5	1	513	513	5,519	764	764	8,228	562	562	6,045	67%	1	2	5	2		1	2	5	2		10			130	33	163	1,754											
Typical Tower L6-44	39	646	25,190	271,144	766	29,855	321,351	695	27,098	291,684	84%	1	2	5	3	1	39	78	195	117	39	468																	
Mech. PH L45	1				647	647	6,964																																
Sub Total	45		27,003	290,653		33,858	364,444		29,582	318,413	80%						42	84	210	127	40	503	474	5100	130	33	163	1,754	0.32	2,817	30,328	753	753	1,506	16,210	302	1	25	1	329
Total (SM)			50,062	538,867		65,817	708,451		55,522	597,637	76%						78	155	389	234	75	931	1,160	12,487	1,886	2,290	4,176	44,948	4.49	5,214	56,128	1,395	1,395	2,790	30,031	559	2	47	3	610
																		17%	42%	25%	8%				2.03	2.46	4.49												

PHASE 2 — B3, PARK

	Total									Suite Count										Retail (NLA)		Amenity									Bike Parking				
										Per Level					Subtotal							Provided				Zoning		Mattamy (1.5+1.55M/Unit)			Long-Term		Short-Term		
	No. of Floors	NSA/Flr (SM)	NSA (SM)	NSA (SF)	GCA/Flr (SM)	GCA (SM)	GCA (SF)	GFA/Flr (SM)	GFA (SM)	GFA (SF)	Efficiency by Mattamy (NSA/GCA)	Studio	1BR	1BR+D	2BR	3BR	Studio	1BR	1BR+D	2BR	3BR	Total Suites	Area (SM)	Area (SF)	Indoor Area (SM)	Outdoor Area (SM)	Total Area (SM)	Total Area (SF)	Area/Unit (SM)	Combined Target Area (SM)	Combined Target Area (SF)	Target Indoor Area (SM)	Target Outdoor Area (SM)	Combined Target Area (SM)	Combined Target Area (SF)	Res (0.6 /unit)	Non-Res (0.15/100m2)	Res (0.05 /unit)	Non-Res (0.3/100m2)	Total
Site																																							
Ground L1																								485		485	5,225												
Sub Total																								485		485	5,225												
Bldg 3																																							
Ground L1	1	307	307	3,307	1,207	1,207	12,988	450	450	4,844	25%		1		3	1		1		3	1	5			194		194	2,092											
Podium L2	1	955	955	10,283	1,094	1,094	11,779	1,034	1,034	11,128	87%	4	1	9	2	2	4	1	9	2	2	18																	
Typical Podium L3-6	4	955	3,821	41,131	1,094	4,377	47,116	1,034	4,135	44,513	87%	4	1	9	2	2	16	4	36	8	8	72																	
Podium Roof L7	1	426	426	4,585	764	764	8,220	491	491	5,288	56%		2	4	2			2	4	2		8			212	129	341	3,672											
Typical Tower L8-28	21	642	13,472	145,006	767	16,103	173,329	708	14,869	160,049	84%		3	5	4			63	105	84		252																	
Mech. PH L29	1				760	760	8,185																																
Sub Total	29		18,981	204,312		24,305	261,617		20,980	225,823	78%						20	71	154	99	11	355			406	129	535	5,764	1.51	1,988	21,399	533	533	1,065	11,464	213		18		231
Total (SM)	29		18,981	204,312		24,305	261,617		20,980	225,823	78%						20	71	154	99	11	355			406	615	1,021	10,989	2.88	1,988	21,399	533	533	1,065	11,464	213		18		231
																		6%	20%	43%	28%	3%			1.14	1.73	2.88												

PHASE 3 — B4

	Total									Suite Count										Retail (NLA)		Amenity									Bike Parking				
										Per Level					Subtotal							Provided				Zoning		Mattamy (1.5+1.55M/Unit)			Long-Term		Short-Term		
	No. of Floors	NSA/Flr (SM)	NSA (SM)	NSA (SF)	GCA/Flr (SM)	GCA (SM)	GCA (SF)	GFA/Flr (SM)	GFA (SM)	GFA (SF)	Efficiency by Mattamy (NSA/GCA)	Studio	1BR	1BR+D	2BR	3BR	Studio	1BR	1BR+D	2BR	3BR	Total Suites	Area (SM)	Area (SF)	Indoor Area (SM)	Outdoor Area (SM)	Total Area (SM)	Total Area (SF)	Area/Unit (SM)	Combined Target Area (SM)	Combined Target Area (SF)	Target Indoor Area (SM)	Target Outdoor Area (SM)	Combined Target Area (SM)	Combined Target Area (SF)	Res (0.6 /unit)	Non-Res (0.15/100m2)	Res (0.05 /unit)	Non-Res (0.3/100m2)	Total
Site																																							
Ground L1																																							
Sub Total																																							
Bldg 4																																							
Ground L1	1	1,066	1,066	11,473	1,802	1,802	19,398	1,254	1,254	13,501	59%		1	2	14	1		1	2	14	1	18			156		156	1,680											
Podium L2	1	1,439	1,439	15,484	1,634	1,634	17,590	1,561	1,561	16,807	88%	5	3	17	2	1	5	3	17	2	1	28																	
Typical Podium L3-6	4	1,439	5,754	61,935	1,634	6,537	70,361	1,561	6,246	67,228	88%	5	3	17	2	1	20	12	68	8	4	112																	
Podium Roof L7	1	538	538	5,792	764	764	8,219	604	604	6,502	70%		2	6	2			2	6	2		10			102	331	433	4,663											
Typical Tower L8-24	17	645	10,962	117,990	767	13,036	140,314	711	12,094	130,176	84%		3	5	4			51	85	68		204																	
Mech. PH L25	1				762	762	8,206																																
Sub Total	25		19,758	212,674		24,535	264,089		21,759	234,214	81%						25	69	178	94	6	372			258	331	589	6,343	1.58	2,083	22,423	558	558	1,116	12,013	223		19		242
Total (SM)	25		19,758	212,674		24,535	264,089		21,759	234,214	81%						25	69	178	94	6	372			258	331	589	921	1.58	2,083	22,423	558	558	1,116	12,013	223		19		242
																		7%	19%	48%	25%	2%			0.69	0.89	1.58												

TOTAL BUILDING AREAS	NSA (SM)	GCA (SM)	Effciency	GFA (SM)	GBA (SM)
	88,802	114,657	77%	98,261	135,419

TOTAL AMENITY	Provided		Target	
	Indoor (SM)	Outdoor (SM)	Indoor (SM)	Outdoor (SM)
	2,550	2,750	2,486	2,486
Ratio (SM/U	1.54	1.66	1.50	1.50

TOTAL UNIT COUNT	Studio	1 BR	1BR+D	2 BR	3 BR	TOTAL
	123	295	721	427	92	1,657

Vehicle Parking by Level	Provided				Required			
	GPA (SM)	Parking	Efficiency (GPA/stall)	Parking Ratio	Res	Non-Res	Total	Δ
P1	12,030	208	57.8					
P2	12,010	266	45.2					
P3	12,010	281	42.7					
P4	12,010	283	42.4					
Total	48,060	1038	46.3	0.63	1658	35	1693	-655

Bike Parking by Level	Provided		
	Single	Stacked	Total
L1		74	74
P1	75	536	611
P2	106		106
P3	106		106
P4	103		103
Total	390	610	1000

Residential Units	Total	Phase 1		Phase 2	Phase 3	Ratio	Target
		Tower 1	Tower 2	Tower 3	Tower 4		
Studio	123	36	42	20	25	7.4%	5%
1 BR	295	71	84	71	69	17.8%	25%
1BR+D	721	179	210	154	178	43.5%	40%
2 BR	427	107	127	99	94	25.8%	25%
3 BR	92	35	40	11	6	5.5%	5%
Total Unit Count	1,658	428	503	355	372	100%	100%

Vehicle Parking by Phase	Provided					Required			Δ
	P1	P2	P3	P4	Total	Res	Non-Res	Total	
Phase 1	114	151	166	168	599	605	5	610	-11
Phase 2	10	31	31	31	103	231		231	-128
Phase 3	84	84	84	84	336	242		242	94
Subtotal	208	266	281	283	1,038	1,078	5	1,083	-45

Bike Parking by Phase	Provided			Required			# of Long-Terms Spaces
	Long-Term	Short-Term	Total	Long-Term	Short-Term	Total	
Phase 1	246		246	560	50	610	-314
Phase 2	492		492	213	18	231	279
Phase 3	262		262	223	19	242	39
Total	1000		1000	997	86	1083	3

PHASE 1: Building 1 and Building 2

PHASE 2: Building 3

PHASE 1: Building 4

diamond schmitt

ISSUE
D

Date Description

Contractor Must Check & Verify all Dimensions on the Job.

Do Not Scale Drawings.

This Drawing is Not to be Used for Construction Until Signed by the Architect.

3085 Hurontario St

201016

PHASING

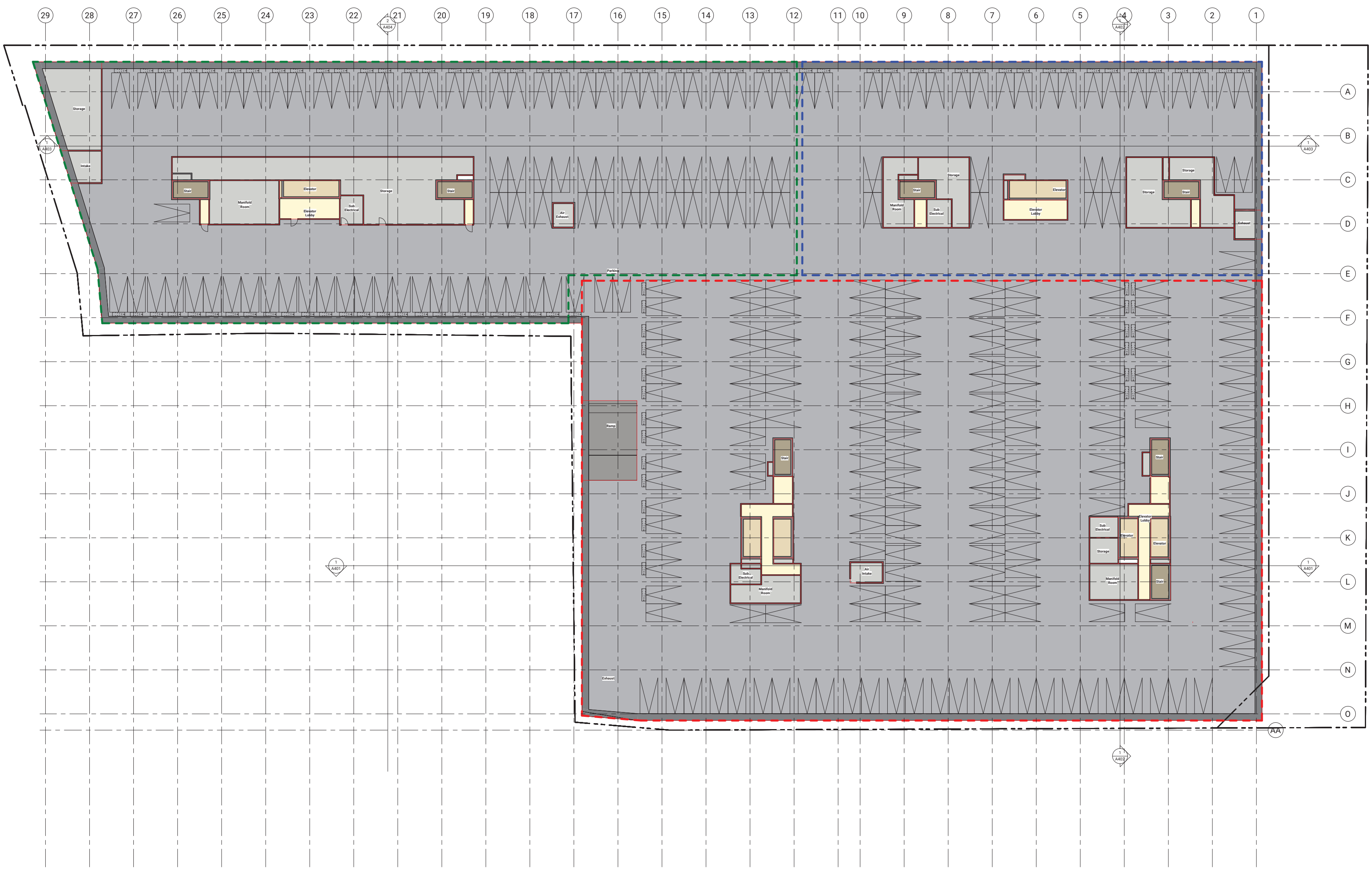
1 : 200

A012

diamond schmitt

No.	Date	Description

ISSUE
D



3085 Hurontario St

201016

LEVEL P4 PLAN

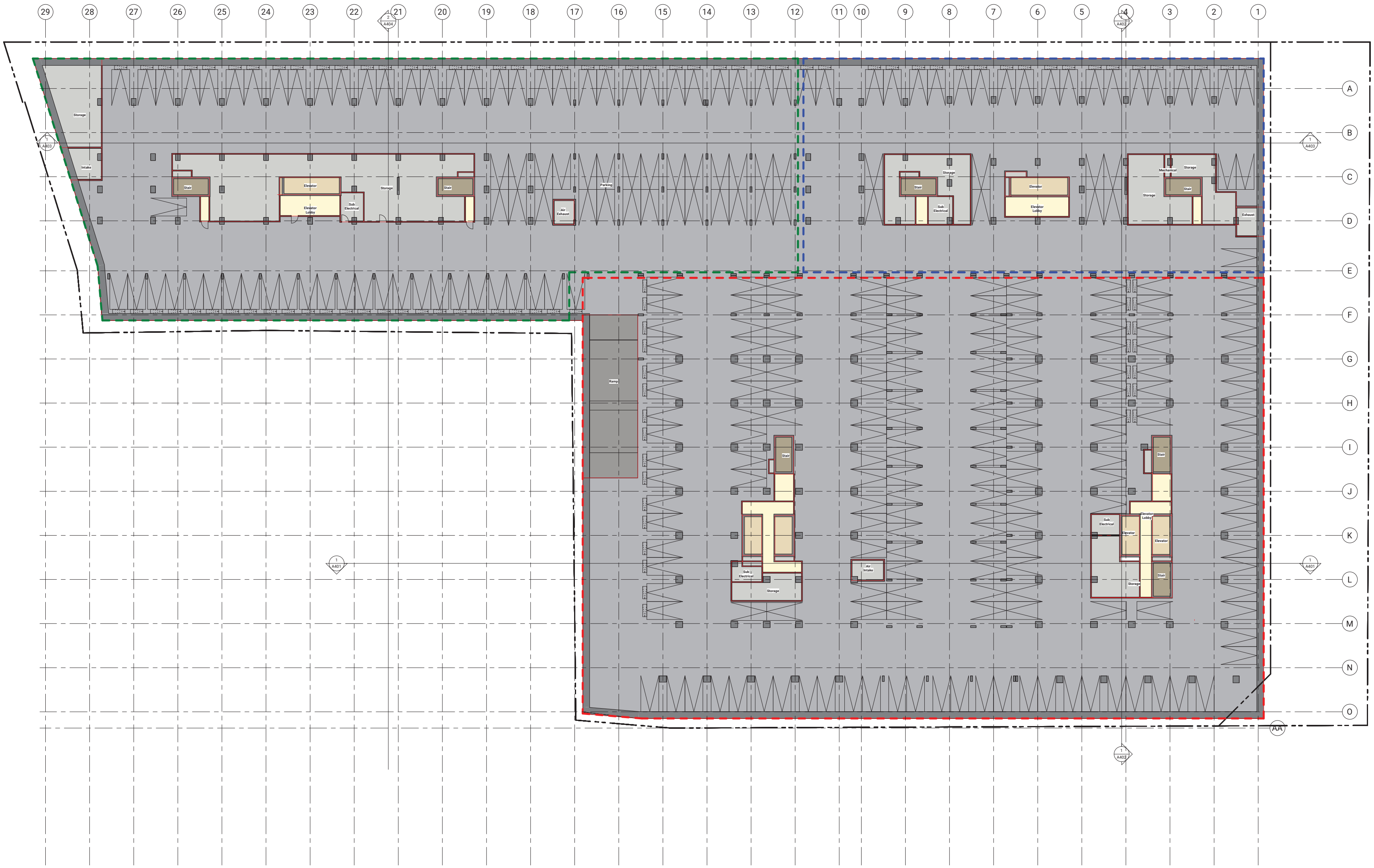
1 : 200

A100

diamond schmitt

No.	Date	Description

ISSUE D



NOT FOR CONSTRUCTION

3085 Hurontario St

201016

LEVEL P3 PLAN

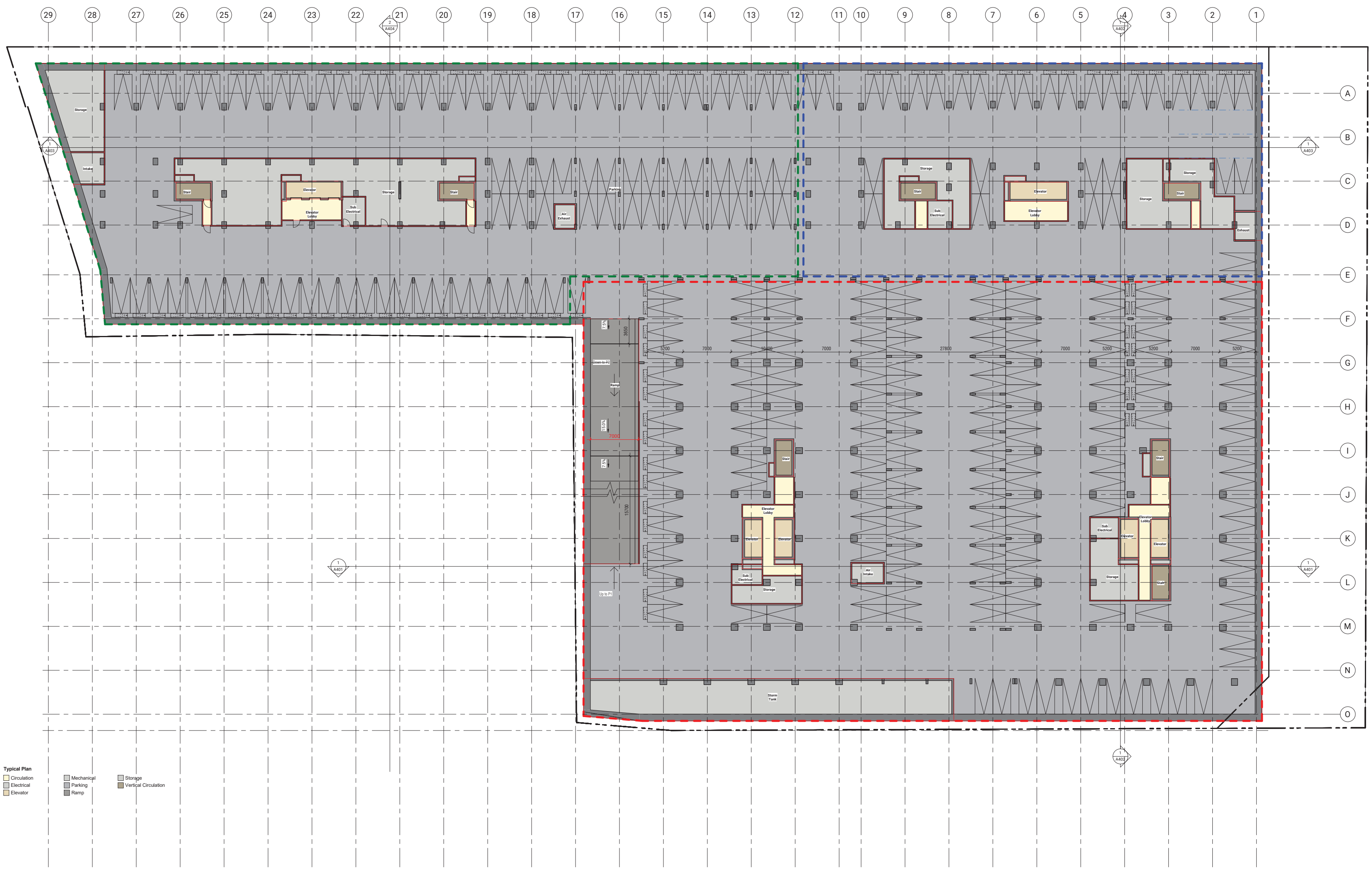
1 : 200

A101

diamond schmitt

No.	Date	Description

ISSUE D



Typical Plan

- Circulation
- Electrical
- Elevator
- Mechanical
- Parking
- Ramp
- Storage
- Vertical Circulation

NOT FOR CONSTRUCTION

3085 Hurontario St

201016

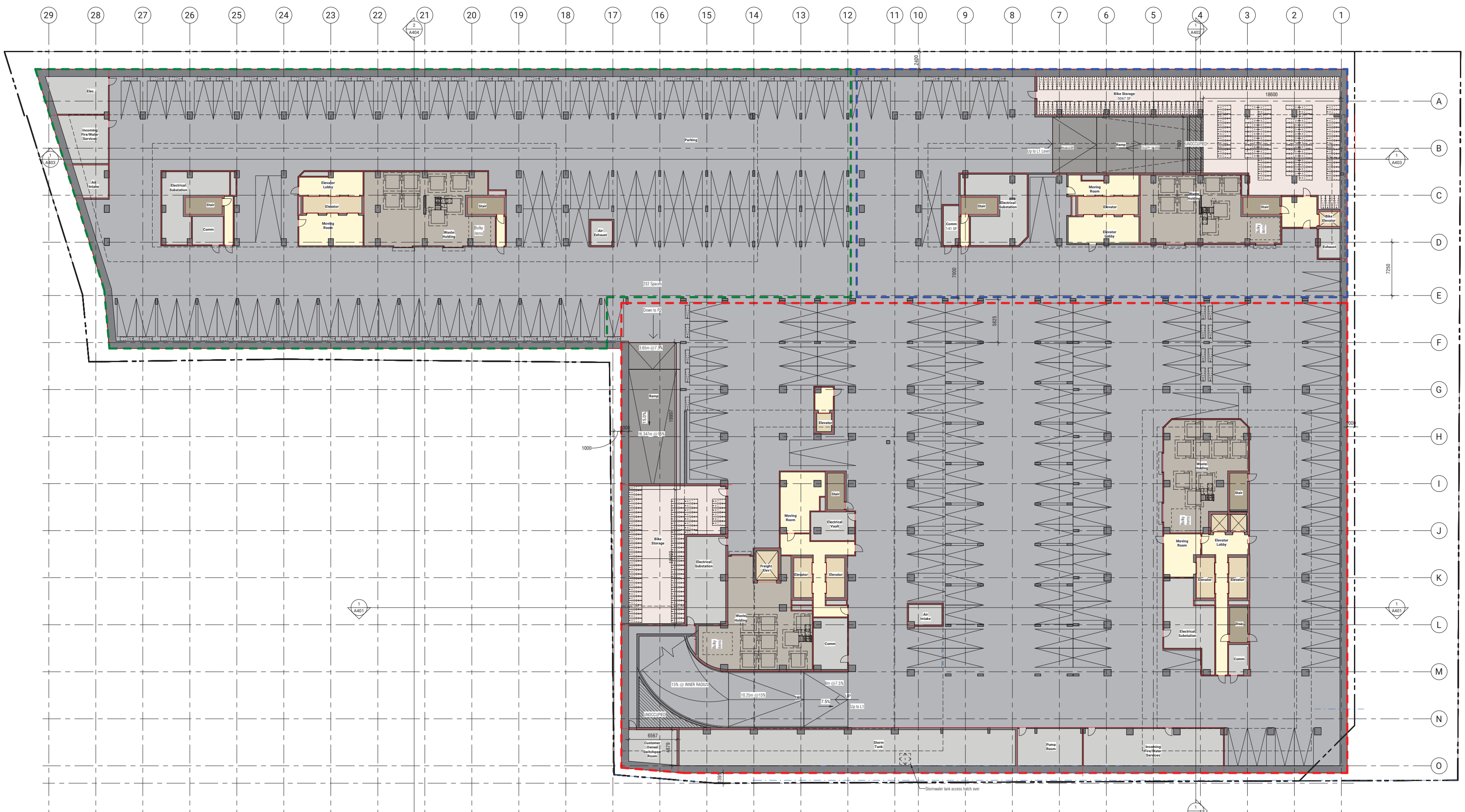
LEVEL P2 PLAN

1 : 200

A102

diamond schmitt

No.	Date	Description	ISSUE D



Typical Plan

- Bicycle Storage
- Circulation
- Common Area
- Electrical
- Elevator
- Garbage
- Mechanical
- Parking
- Ramp
- Vertical Circulation

NOT FOR CONSTRUCTION

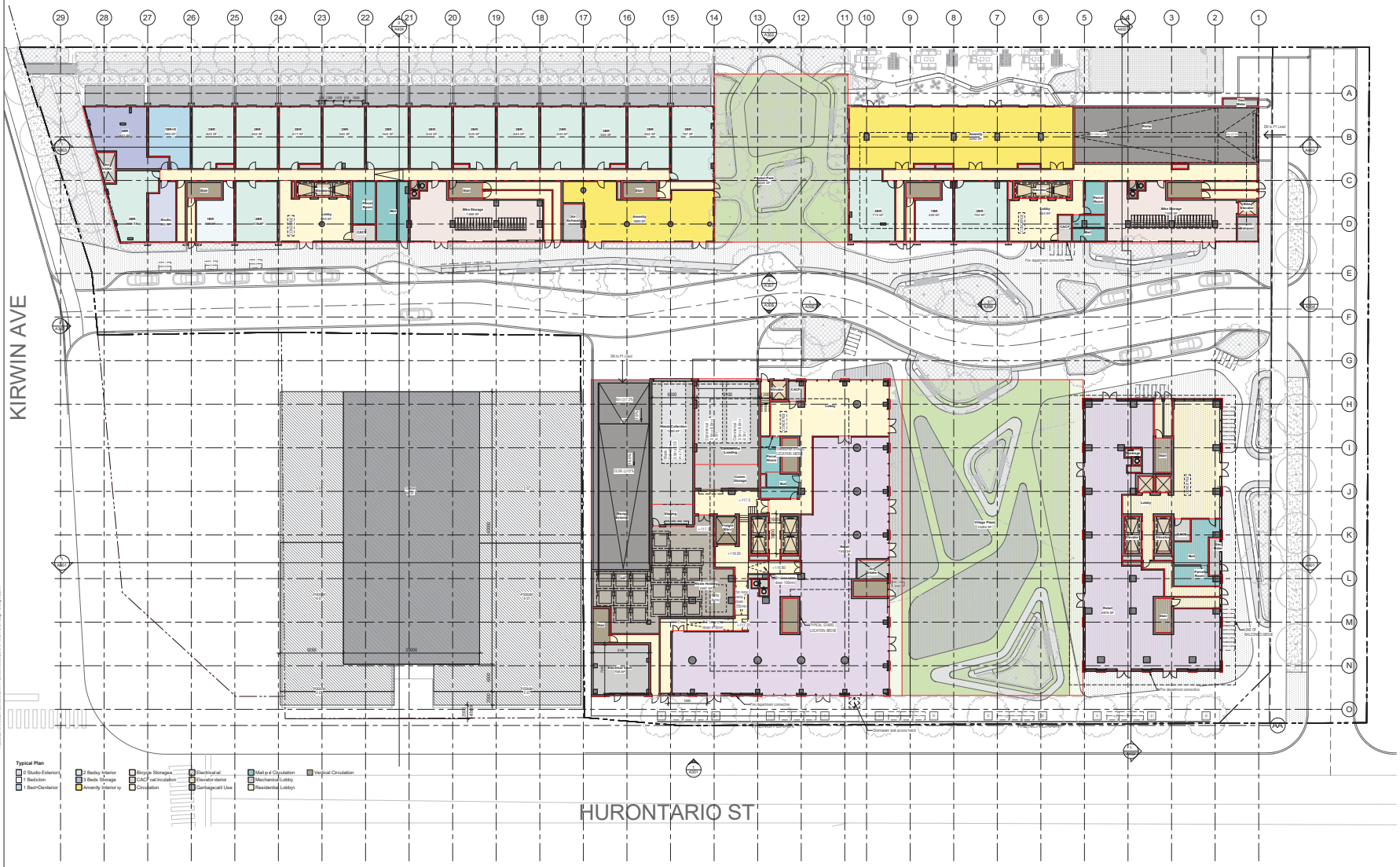
3085 Hurontario St

201016

LEVEL P1 PLAN

1 : 200

A103



diamond schmitt

No.	Date	Description
		ISSUE D

NOT FOR CONSTRUCTION

3085 Hurontario St

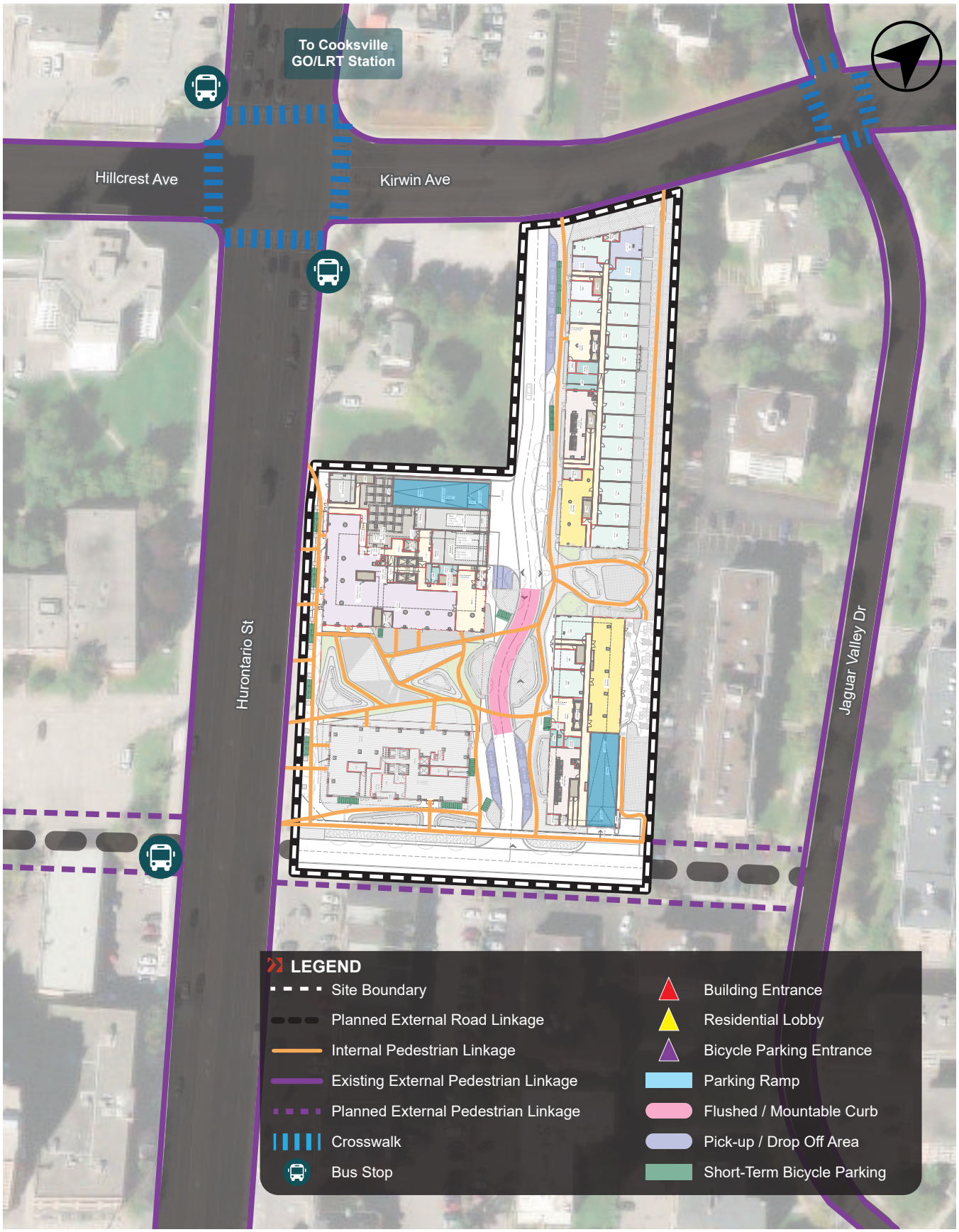
2016/16

GROUND FLOOR PLAN

1 : 200

A104

Appendix C:
Pedestrian Circulation Plan & TDM Checklist



P:\6374\69\Graphics\Adobe\IDs\6374-69.indd

Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographies, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE A PEDESTRIAN CIRCULATION PLAN

Appendix E

Transportation Demand Management and Pedestrian Circulation Checklist

This checklist is designed to evaluate the incorporation of Transportation Demand Management (TDM) measures, including pedestrian circulation techniques, into development proposals. The template is modelled on the prototype Class 2: Medium Density/Moderate Congestion (TDM Moderate) checklist contained in TDM Supportive Guidelines for Development Approvals (ACT Canada, 2008).

The applicant must complete and return this checklist with their **Transportation Demand Management Plan** (TDMP) and/or **Pedestrian Circulation Plan** (PCP).

Application Summary

Development Application No:	Date:
Applicant:	Staff:
SCORE AND RATING:	**TDM SUPPORTIVE?**
72%	Yes X No

Scorecard

Use the scorecard below to determine the TDM rating and supportiveness of the development proposal based on the final score calculated on page E-5. If the proposal does not satisfy the minimum threshold, review and enhance the TDM measures.

Final Score	Rating	TDM Supportive?
91% - 100%	***** (5 Star)	YES
81% - 90%	**** (4 Star)	
71% - 80%	*** (3 Star)	
61% - 70%	** (2 Star)	NO (Review and Enhance TDM Measures)
50% - 60%	* (1 Star)	
Less than 50%	(None)	

CATEGORY A – Pedestrian Circulation					
In creating an environment that facilitates and supports pedestrian activity, the public realm needs to be accessible, safe, and comfortable to encourage movement on the street and in the surrounding area(s).					
	Features	**Yes**	**No**	**N/A**	**Comments**
A1	Development located within 800 m walking distance of residential (if employment) or employment (if residential) uses	☒			
A2	Development located within 400 m walking distance of retail, restaurant, or other pedestrian-oriented uses or similar services provided on-site	☒			
A3	At least one functional building entrance oriented towards public space (i.e., street, park, square)	☒			
A4	At least one functional building entrance located close to on-site or adjacent street transit stop	☒			
A5	Nearest functional building entrance located within 50 m of (and connected to) public street with sidewalk	☒			
A6	Accessible on-site pedestrian routes provided and connected to surrounding network and transit	☒			
A7	Continuous sidewalks (1.5 m min. width) provided along all on-site roads and both sides of adjacent public streets	☒			
A8	No conflict points between pedestrians and other users (i.e., vehicles, cyclists)		☒		Parking ramp and driveways on site plan.
A9	Adequate and properly designed pedestrian crossings provided on-site	☒			
A10	Off-site road works designed to maximize pedestrian safety and minimize pedestrian crossing distances (e.g., no right turn channelization)		☒		
A11	Amenities provided along pedestrian routes (i.e., benches, street furniture)	☒			
A11	Shelters and benches provided at transit stops			☒	
A12	Wayfinding provided to guide pedestrians	☒			Details to be provided at site plan stage.
A13	Lighting provided along pedestrian routes	☒			
A14	Weather protection provided along pedestrian routes		☒		

A15	Vehicle parking areas located away from street and pedestrian routes	☒			Majority of parking is located underground.
A16	Protected pedestrian routes provided through vehicle parking lots and linked to building(s)	☒			Consolidated parking facility below-grade with direct connections to buildings.

CATEGORY A – Pedestrian CATEGORY

In creating an environment that facilitates and supports pedestrian activity, the public realm needs to be accessible, safe, and comfortable to encourage movement on the street and in the surrounding area(s).

	Features	Yes	No	N/A	Comments
A17	Passenger pick-up and drop-off areas located to side or rear of buildings, downstream from major building entrance points, but no more than 30 m away		☒		Layby pick-up / drop-off areas are provided in front of majority of Building lobby entrances.
A18	Loading areas located away from street and pedestrian routes	☒			
	Sub-Total	**14**	**4**	**1**	

CATEGORY B – Cycling Orientation

In creating an environment that facilitates and supports cycling activity, the public realm needs to be accessible, safe, and comfortable to encourage movement on the street and in the surrounding area(s).

	Features	Yes	No	N/A	Comments
B1	On-site cycling routes provided and connected to surrounding network		☒		
B2	Class A (long-term) and Class B (short-term) bicycle parking spaces provided per City of Mississauga Zoning By-law (reproduced at end of this checklist for reference)	☒			
B3	Bicycle repair station provided at-grade or within underground structure close to long-term bicycle parking	☒			
B4	Wayfinding provided to guide cyclists	☒			Details to be provided at site plan stage.
B5	Other amenities provided for cyclists (e.g., showers, change rooms)		☒		
	Sub-Total	**3**	**2**	**0**	

CATEGORY C – Transit Service					
The availability and proximity of convenient public transit service with direct pedestrian linkages to the building expands the range of viable travel options for employees, visitors, and residents.					
	Features	**Yes**	**No**	**N/A**	**Comments**
C1	Development located within 800 m walking distance of a rapid transit station (existing or planned) or within 400 m of two or more public bus routes with minimum 15-minute headway service during peak commuter periods and every 30 minutes throughout the remainder of the day	☒			
C2	Information about public transit routes, schedules, and fares provided in accessible and visible location on-site and in adjacent bus stops	☒			
C3	Sufficient capacity available to accommodate transit riders generated by development	☒			
	Sub-Total	**3**	**0**	**0**	

CATEGORY D – Motor Vehicle Parking					
The location and design of motor vehicle parking facilities can affect the character and cost of a development. Avoiding the oversupply of parking can also help reduce single occupant vehicle travel.					
	Features	**Yes**	**No**	**N/A**	**Comments**
D1	No more than the minimum number of parking spaces required by the Zoning By-law provided	☒			
D2	Priority parking equivalent to 10% of employee spaces provided for carpooling/vanpooling			☒	
D3	Priority parking equivalent to 3% of full-time building occupants provided for auto share and hybrid/alternative fuel vehicles	☒			30% of parking spaces are intended to be Electric Vehicle Ready
D4	Priority parking equivalent to 1% of the parking stalls provided for mopeds, motorcycles, and minicars		☒		
D5	Parking shared for different uses on-site and/or adjoining properties	☒			
D6	50% of parking located underground or in structured parking	☒			100% parking located underground
	Sub-Total	**4**	**1**	**1**	

CATEGORY E – Incentives					
Building owners and tenants can offer occupants Transportation Demand Management incentives that help reduce single occupant vehicle travel.					
	Features	**Yes**	**No**	**N/A**	**Comments**
E1	TDM Plan prepared that targets a 10% reduction in peak hour trips using forecast trip generation with status quo travel characteristics	☒			
E2	Building owner/tenant will provide a ride matching service for car/vanpooling		☒		
E3	Building owner/tenant will provide emergency ride home options		☒		
E4	Building owner/tenant will provide subsidized transit passes for all occupants for a period of at least two years		☒		Details to be provided at site plan.
E5	Building owner/tenant will charge for parking as an unbundled cost to occupants	☒			
E6	Building owner/tenant will reduce cost for users of car/van pool, bicycle, moped/motorcycle/minicar spaces	☒			First-time unit owners will receive credit towards purchase of a bicycle for those who do not purchase a parking space
E7	Building owner/tenant will become a member of a local TMA and appoint a TDM Coordinator to oversee and coordinate promotional opportunities and events on site		☒		
	Sub-Total	**3**	**4**	**0**	

SCORING SUMMARY

Count the number of applicable features for each category (items not assigned "N/A") and enter under the column "Applicable" in the table below.

Assign 1 point to each "Yes" answer, except for Category A (Pedestrian Circulation) where each "Yes" answer is worth ½ a point and Category C (Transit Service) where each "Yes" answer is worth 2 points. Award 0 points for a "No" answer. Tally the points for each category under the column "Points" in the table below.

Calculate "Final Score" as a percentage by dividing total "Points" by the total "Applicable" and enter in the table below and in the "SCORE AND RATING" field on page E-1.

Category	Possible	Applicable	Points	Comments
A – Pedestrian Circulation	9.5 (19/2)	9 (18/2)	7 (14/2)	
B – Cyclist Orientation	5	5	3	
C – Transit Service	6 (3x2)	6 (3x2)	6 (3x2)	
D – Motor Vehicle Parking	6	5	4	
E – Incentives	7	7	3	
TOTAL	**33.5**	**32**	**23**	
Score% (Points/Applicable)			**72%**	

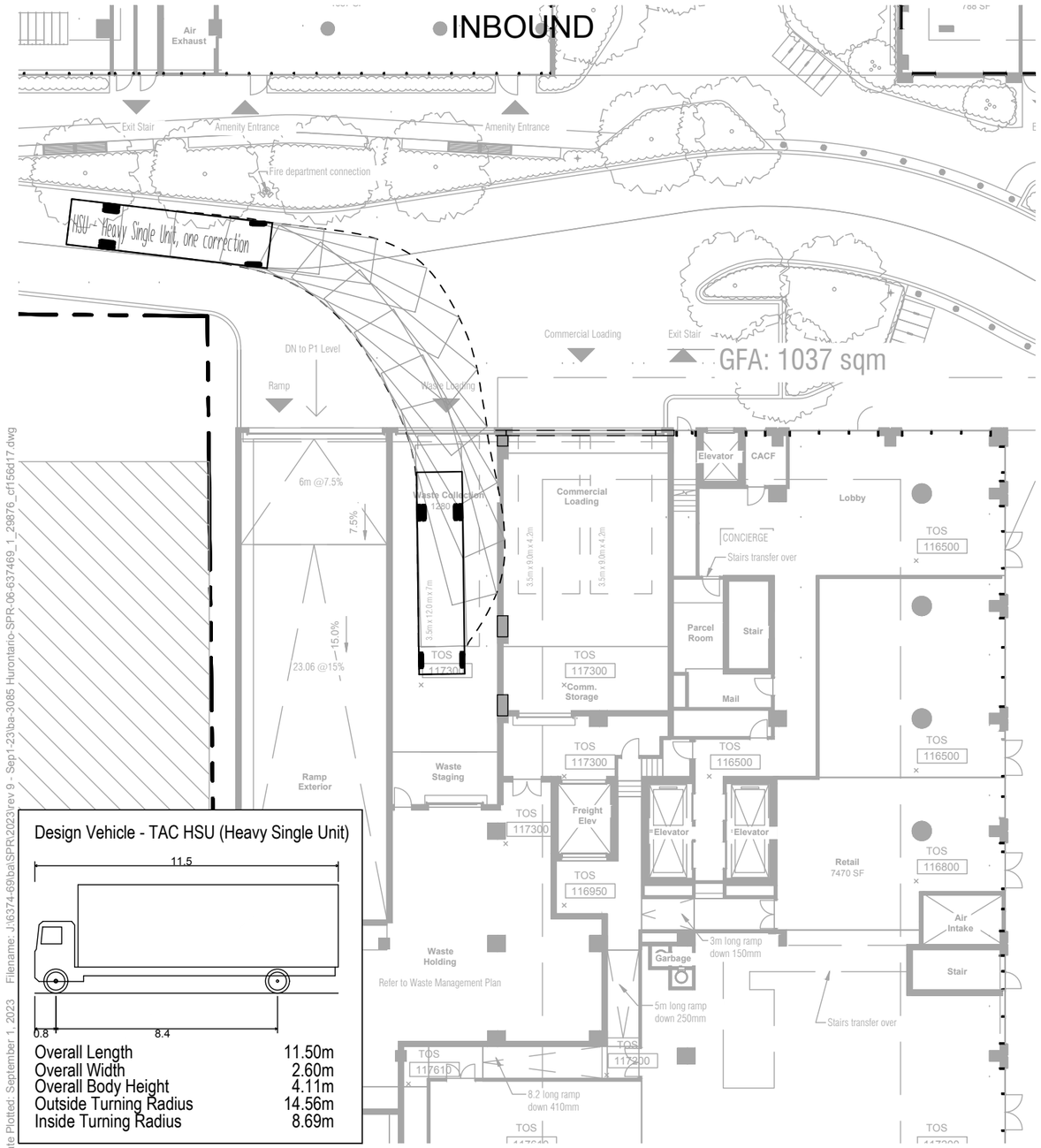
REQUIRED NUMBER OF BICYCLE PARKING SPACES (Excerpt from City of Mississauga City of Mississauga Zoning By-law Table 3.1.6.5.1- Required Number of Bicycle Parking Spaces for Residential Uses) Type of Use	Bicycle Parking Requirement (Spaces)	
	Bicycle Parking Class A (Long Term)	Bicycle Parking Class B (Short Term)
Apartment and stacked townhouse without exclusive garages	0.05 spaces per unit	0.6 spaces per unit
Apartment and stacked townhouse without exclusive garages (within CCI to CC4 and CCO zones)	The greater of 0.05 spaces per unit or 6 spaces	0.6 spaces per unit
Long-Term Care Building	The greater of 0.1 spaces per unit or 6 spaces	0.2 spaces per IOO m2 GFA - residential
residentialTerm Care Building (within CCI to CC4 and CCO zones)	0.2 spaces per IOO m2 GFA - residential	0.3 spaces per IOO m2 GFA - zones)
Retirement Building	0.3 spaces per IOO m2 GFA - zones)	The greater of 0.03 spaces per unit or 6 spaces
Retirement Building (within CCI to CC4 and CCO zones)	0.3 spaces per unit	The greater of 0.05 spaces per unit or 6 spaces
	0.4 spaces per unit	

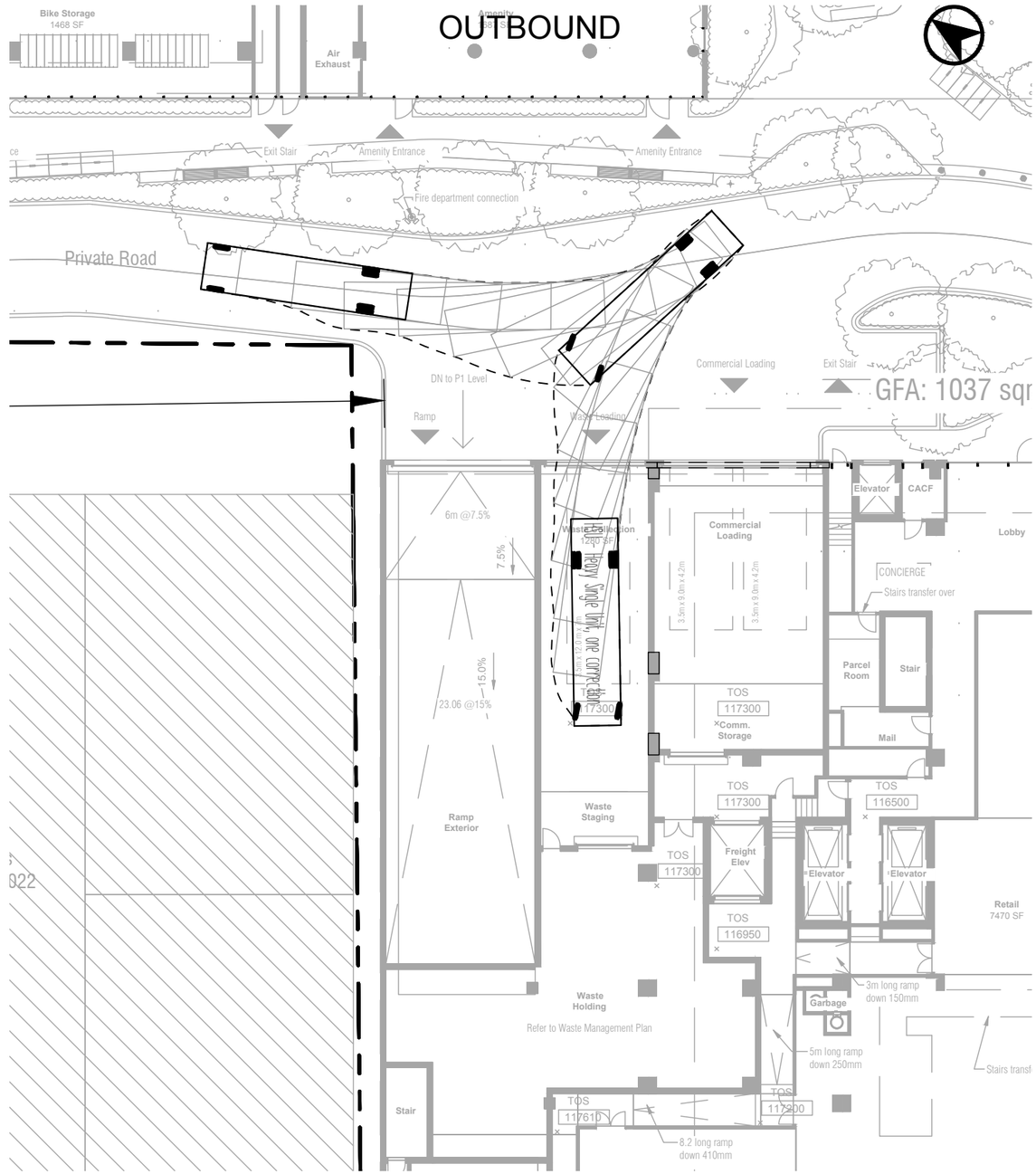
(Excerpt from City of Mississauga City of Mississauga Zoning By-law Table 3.1.6.6 - Required Number of Bicycle Parking Spaces for Non-Residential Uses)

Type of Use	Bicycle Parking Requirement (Spaces)	
	Bicycle Parking Class A (Long Term)	Bicycle Parking Class B (Short Term)
Active Recreational Use, Community Centre, Hospital, Library, Place of Religious Assembly, and Recreational Establishment	0.1 spaces per 100m^2 GFA-non-residential	0.1 spaces per 100m^2 GFA-non-residential
Active Recreational Use, Community Centre, Hospital, Library, Place of Religious Assembly, and Recreational Establishment (within CCI to CC4 and CCO zones)	0.3 spaces per 100m^2 GFA-non-residential	0.3 spaces per 100m^2 GFA-non-residential
College, University	1.0 spaces per 100 m^2 GFA non-residential	1.2 spaces per 100 m^2 GFA non-residential
College, University (within CCI to CC4 and CCO zones)	1.0 spaces per 100 m^2 GFA non-residential	1.2 spaces per 100 m^2 GFA non-residential
Contractor's Yard, Essential Emergency Service, Power Generating Facility, Self Storage Facility, Utilities (Electric Transformer and Distribution Facility, Sewage Treatment Plant, Utility Building, Water Treatment Facility) and Waste Transfer Station	n/a	2.0 spaces
Education and Training Facility, Financial Institution, Manufacturing Facility, Science and Technology Facility, Warehouse/Distribution Facility, and Wholesaling Facility	0.1 spaces per 100 m^2 GFA non-residential	2.0 spaces

Education and Training Facility, Financial Institution, Manufacturing Facility, Science and Technology Facility, Warehouse/Distribution Facility, and Wholesaling Facility (within CCI to CC4 and CCO zones)	0.15 spaces per 100 m^2 GFA non-residential	0.15 spaces per 100 m^2 GFA non-residential
Entertainment Establishment, Restaurant, Convenience Restaurant, Take-out Restaurant non-residential Retail Centre, Retail Store, and Service Establishment	0.15 spaces per 100 m^2 GFA non-residential	0.2 spaces per 100 m^2 GFA non-residential
Entertainment Establishment, Restaurant, Convenience Restaurant, Take-out Restaurant non-residential Retail Centre, Retail Store, and Service Establishment (within CCI to CC4 and CCO zones)	0.15 spaces per 100 m^2 GFA non-residential	0.2 spaces per 100 m^2 GFA nonresidential
Medical Office and Medical Office - Restricted	0.1 spaces per 100 m^2 GFA non-residential	0.1 spaces per 100 m^2 GFA non-residential
Medical Office and Medical Office - Restricted (within CCI to CC4 and CCO zones)	0.15 spaces per 100 m^2 GFA non-residential	0.2 spaces per 100 m^2 GFA non-residential
Office	0.1 spaces per 100 m^2 GFA non-residential	0.1 spaces per 100 m^2 GFA non-residential
Office (within CCI to CC4 and CCO zones)	0.15 spaces per 100 m^2 GFA non-residential	0.2 spaces per 100 m^2 GFA non-residential
Public School and Private School	0.1 spaces per 100 m^2 GFA non-residential	0.4 spaces per 100 m^2 GFA non-residential
Public School/Private School (within CCI to CC4 and CCO zones)	0.1 spaces per 100 m^2 GFA non-residential	0.4 spaces per 100 m^2 GFA non-residential
All other non-residential uses	0.05 spaces per 100 m^2 GFA non-residential	0.1 spaces per 100 m^2 GFA non-residential
All other non-residential uses (within CCI to CC4 and CCO zones)	0.05 spaces per 100 m^2 GFA non-residential	0.1 spaces per 100 m^2 GFA non-residential

Appendix D:
Vehicle Manoeuvring Diagrams





Design Vehicle - TAC HSU (Heavy Single Unit)

Overall Length	11.50m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	14.56m
Inside Turning Radius	8.69m

Date Plotted: September 1, 2023 Filename: J:\6374-69\ba\SPR\2023\rev 9 - Sep1.23\ba-3085 Hurontario-SPR-06-637469_1_29876_cf156d17.dwg

BA Group

3080 HURONTARIO ROAD

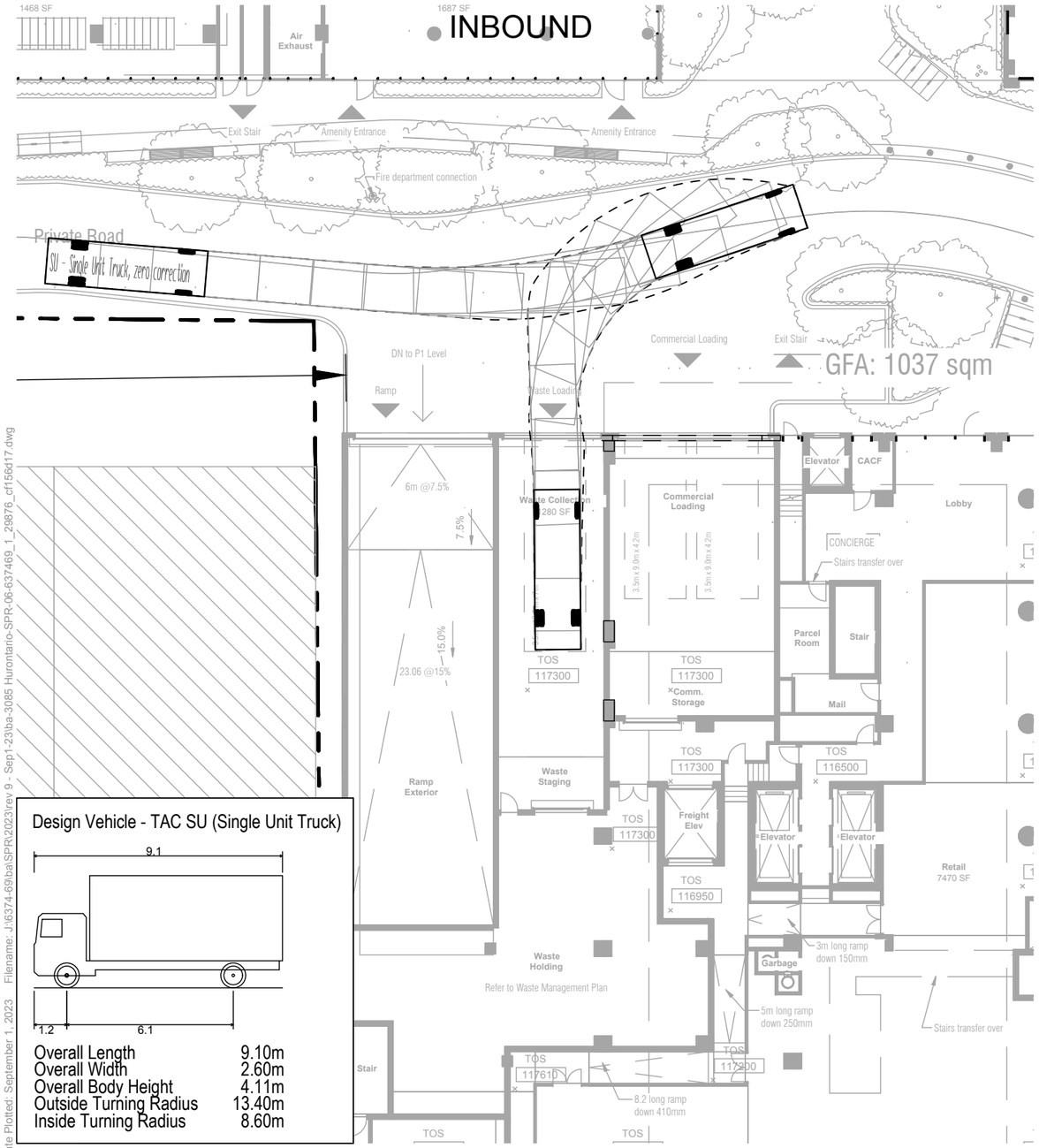
VEHICLE MANOEUVRING DIAGRAM

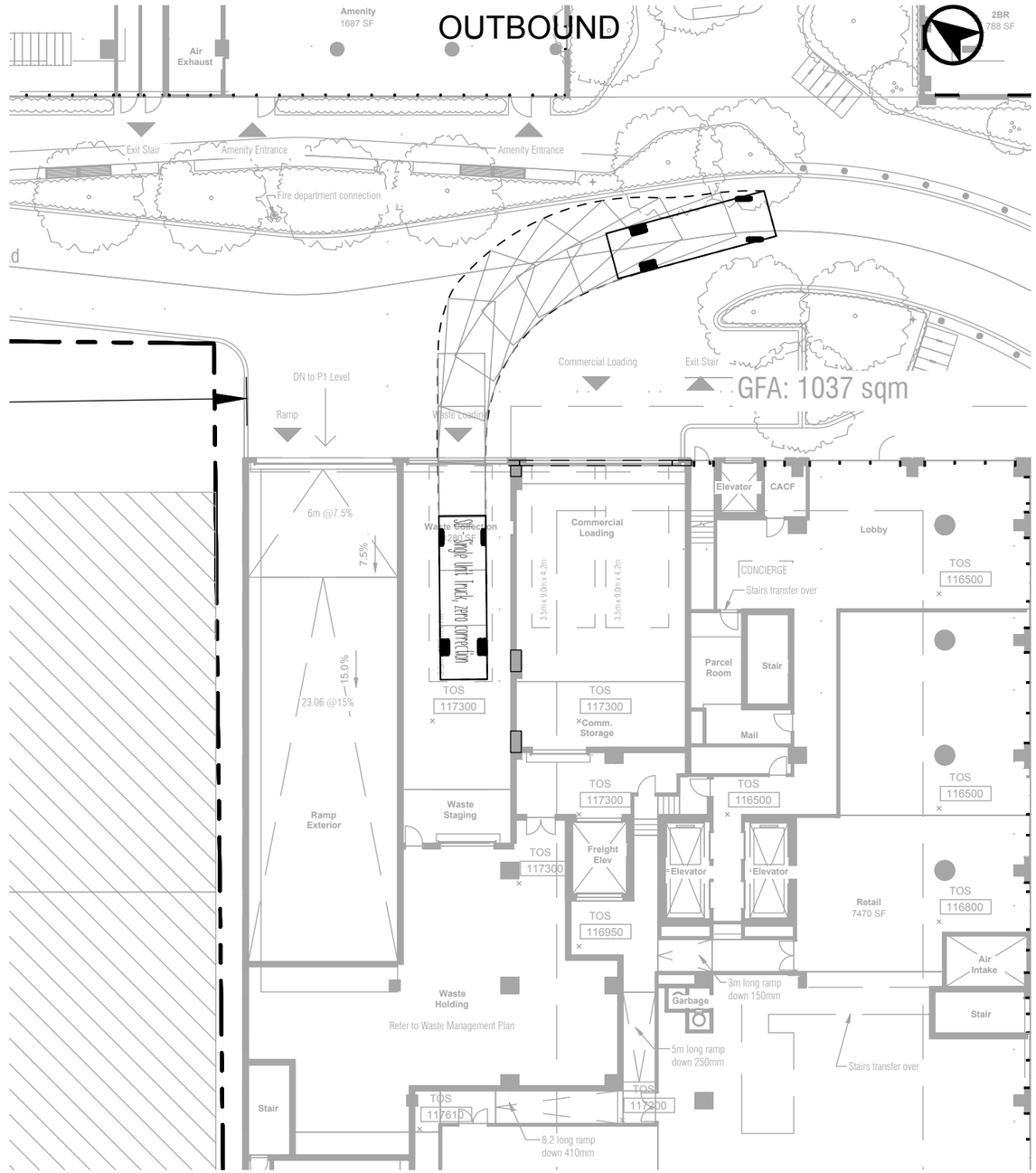
WASTE COLLECTION VEHICLE - FRONT END GARBAGE TRUCK

Project:	3085 Hurontario
Project No.	6374-69
Date:	October 21, 2022
Revised:	September 1, 2023

Scale 1:300 (0 5 10m)

Drawing No. VMD-01





Design Vehicle - TAC SU (Single Unit Truck)

Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Date Plotted: September 1, 2023 Filename: J:\6374-69\baSPR\2023\rev 9 - Sep1-23\ba-3085 Hurontario-SPR-06-637469_1_29876_cf156d17.dwg

BA Group

3080 HURONTARIO ROAD

VEHICLE MANOEUVRING DIAGRAM

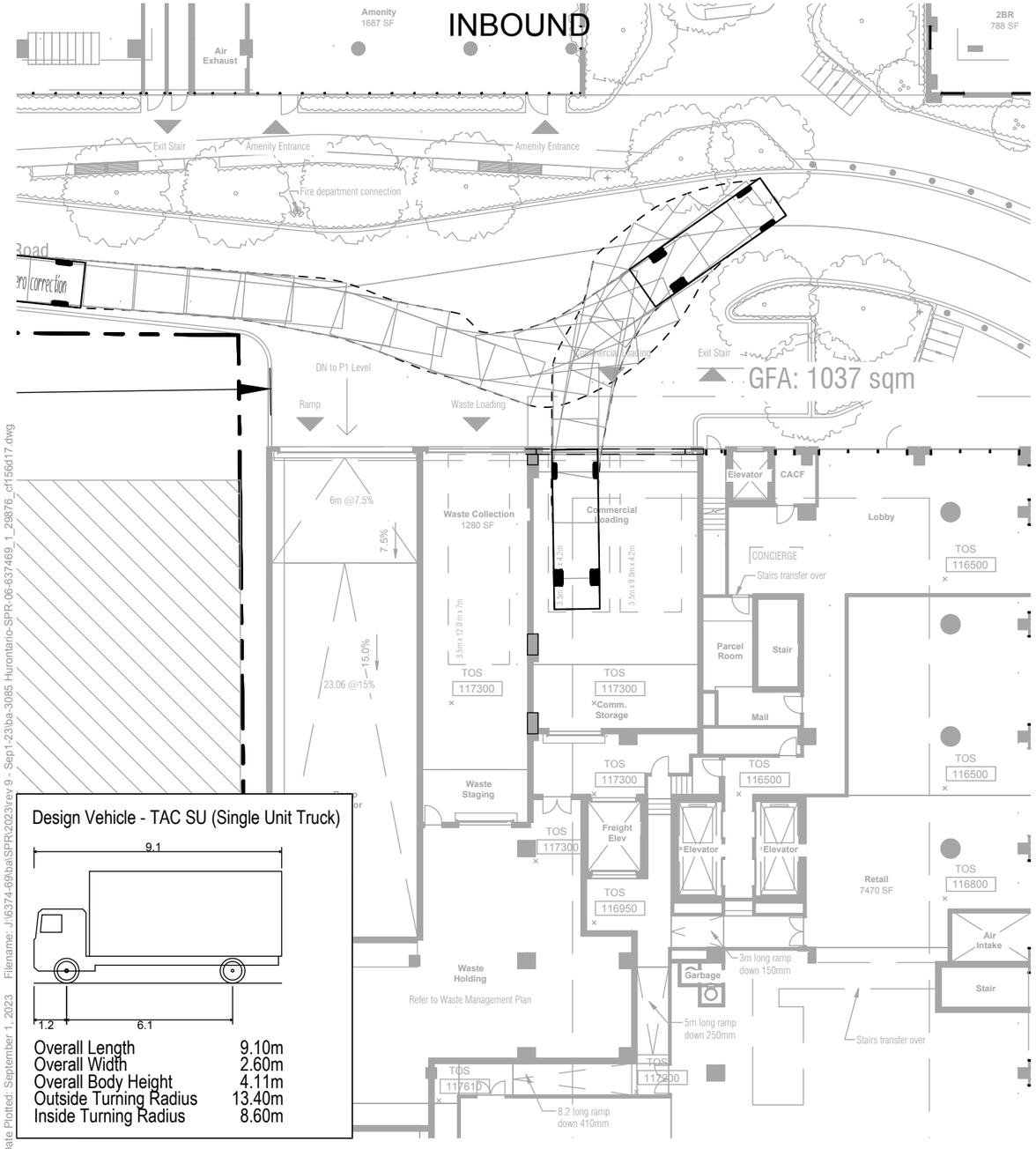
TAC SINGLE UNIT TRUCK

Project:	3085 Hurontario
Project No.	6374-69
Date:	October 21, 2022
Revised:	September 1, 2023

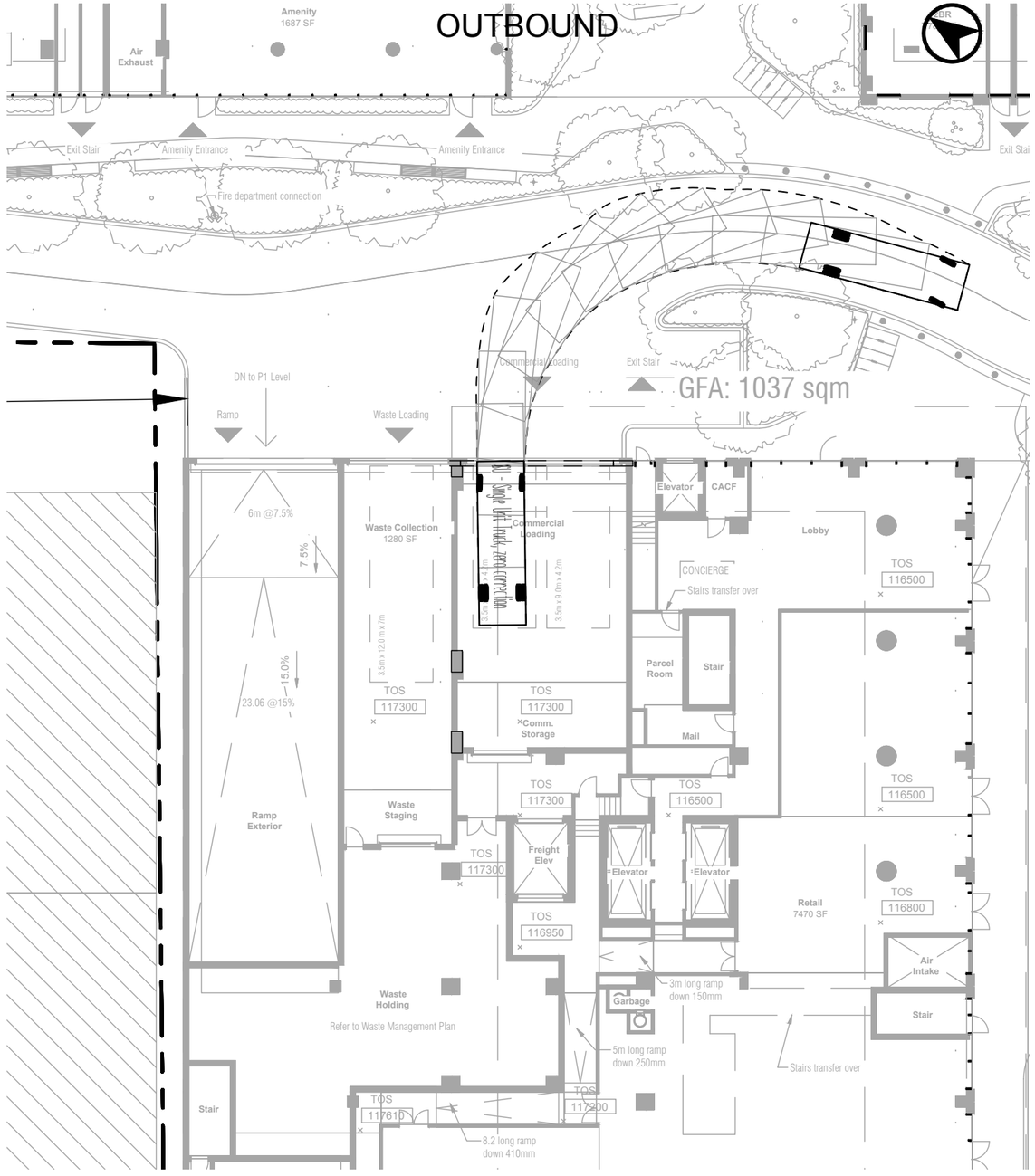
Scale 1:300 (0, 5, 10m)

Drawing No. VMD-02

INBOUND



OUTBOUND



Design Vehicle - TAC SU (Single Unit Truck)

Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

BA Group

3080 HURONTARIO ROAD

VEHICLE MANOEUVRING DIAGRAM

TAC SINGLE UNIT TRUCK

Project:	3085 Hurontario
Project No.	6374-69
Date:	October 21, 2022
Revised:	September 1, 2023

Scale 1:300 (0 – 5 – 10m)

Drawing No. VMD-03

Date Plotted: September 1, 2023 Filename: J:\6374-69\ba\SPR\2023\rev 9 - Sep1.23\ba-3085 Hurontario-SPR-06-637469_1_29876_cf156d17.dwg

INBOUND

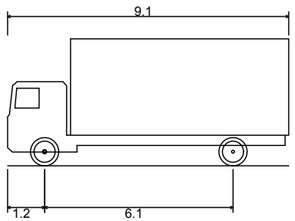
OUTBOUND

GFA: 1037 sqm

GFA: 1037 sqm

Air Exhaust
Exit Stair
Amenity Entrance
Amenity Entrance
Fire department connection
DN to P1 Level
Ramp
Waste Loading
Commercial Loading
Exit Stair
6m @7.5%
7.5%
15.0%
23.06 @15%
Ramp Exterior
Waste Collection 1280 SF
3.5m x 12.0 m x 7m
Commercial Loading
3.5m x 9.0m x 4.2m
Waste Staging
Waste Holding
Refer to Waste Management Plan
Freight Elev
Elevator
Elevator
Garbage
Elevator
CACF
Lobby
CONCIERGE
Stairs transfer over
TOS 116500
Parcel Room
Stair
Mail
Retail 7470 SF
Air Intake
Stair
3m long ramp down 150mm
5m long ramp down 250mm
8.2 long ramp down 410mm
Stairs transfer over
Retail Entrance
Retail Entrance
Exit Stair
Retail Entrance
TOS 117300
TOS 116950
TOS 116800
TOS 117610
TOS 117200
TOS 117950
Comm. Storage
SU - Single Unit Truck, zero correction

Design Vehicle - TAC SU (Single Unit Truck)



Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Date Plotted: September 1, 2023 Filename: J:\6374-69\ba\SPR\2023\rev 9 - Sep1-23\ba-3085 Hurontario-SPR-06-637469_1_29876_cf156d17.dwg

BA Group

3080 HURONTARIO ROAD

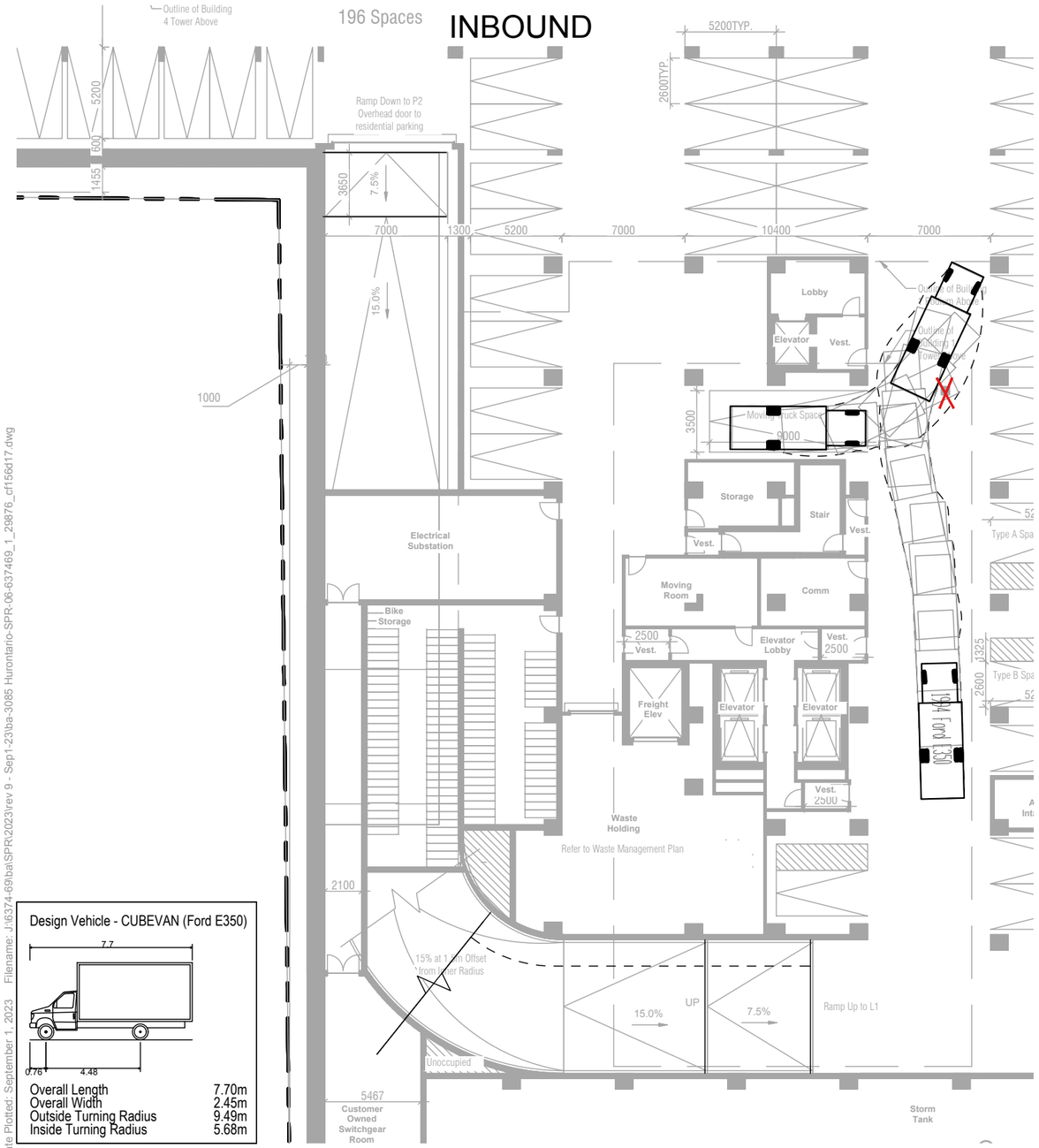
VEHICLE MANOEUVRING DIAGRAM

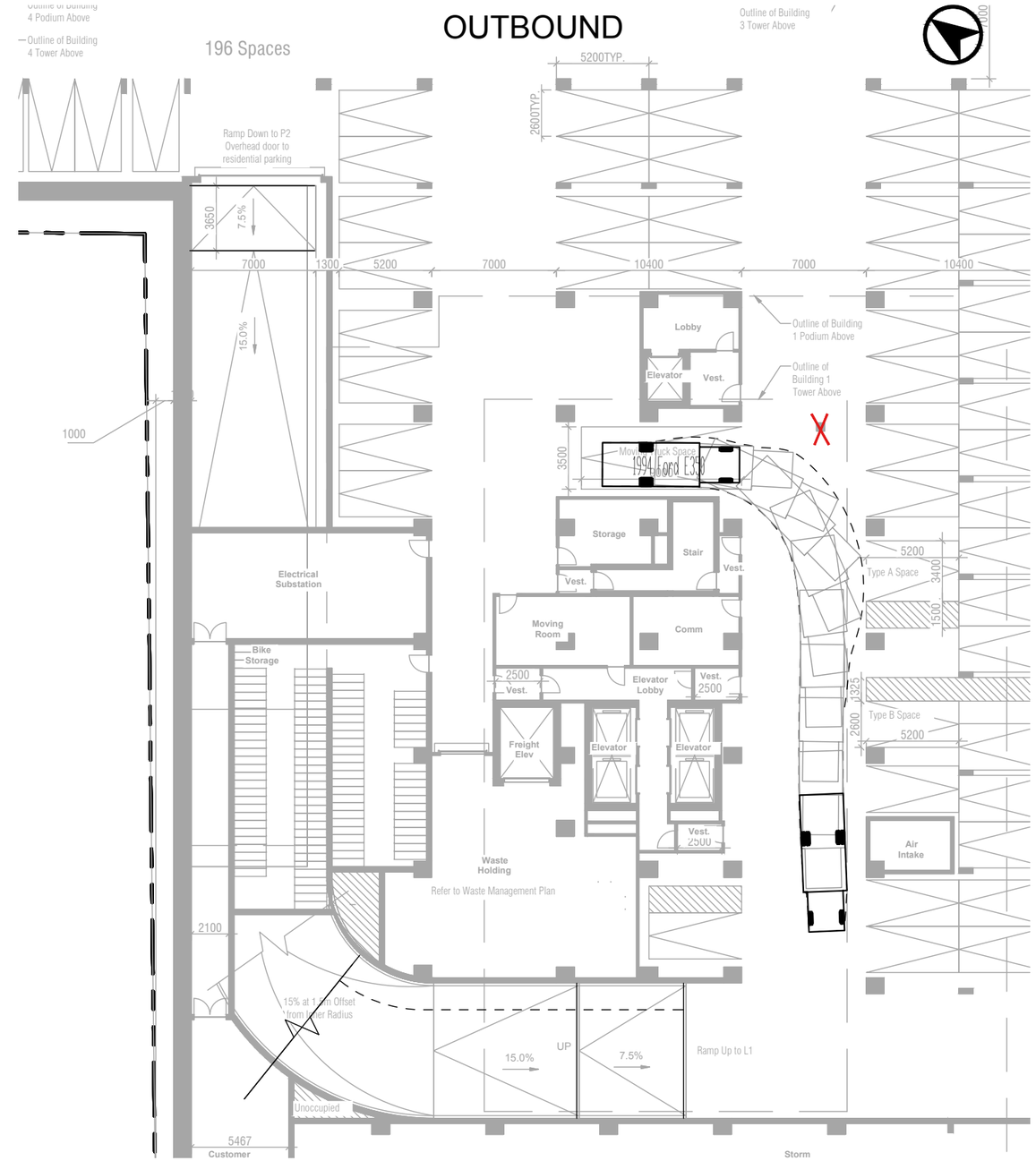
TAC SINGLE UNIT TRUCK

Project:	3085 Hurontario
Project No.	6374-69
Date:	October 21, 2022
Revised:	September 1, 2023

Scale 1:300 0 5 10m

Drawing No. VMD-04





Design Vehicle - CUBEVAN (Ford E350)

Overall Length	7.70m
Overall Width	2.45m
Outside Turning Radius	9.49m
Inside Turning Radius	5.68m

Date Plotted: September 1, 2023 Filename: J:\6374-69\ba\SPR\2023\rev 9 - Sep1-23\ba-3085 Hurontario-SPR-06-637469_1_29876_cf156d17.dwg

BA Group

3080 HURONTARIO ROAD

VEHICLE MANOEUVRING DIAGRAM

CUBE VAN (FORD E350)

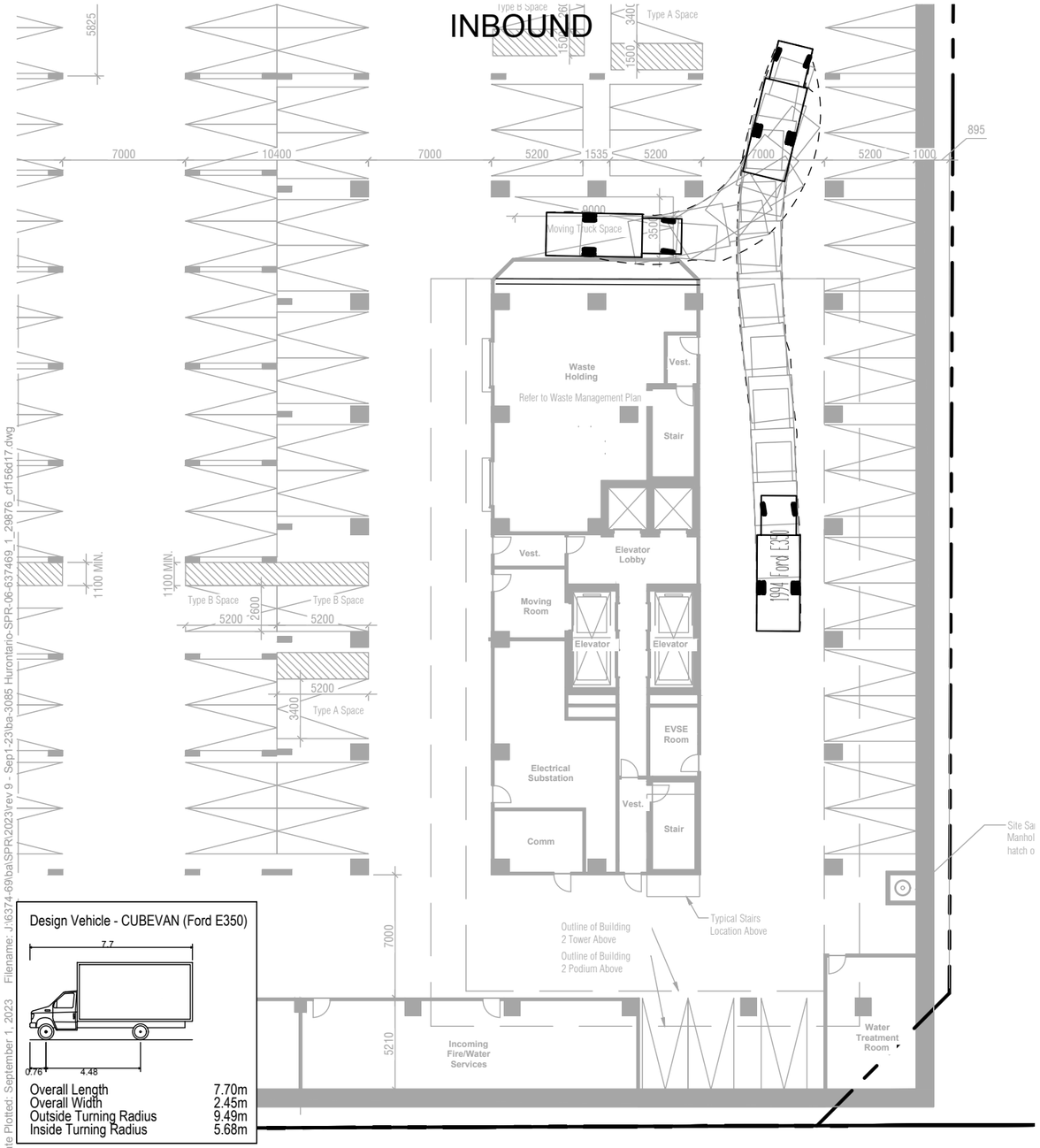
Project:	3085 Hurontario
Project No.	6374-69
Date:	October 21, 2022
Revised:	September 1, 2023

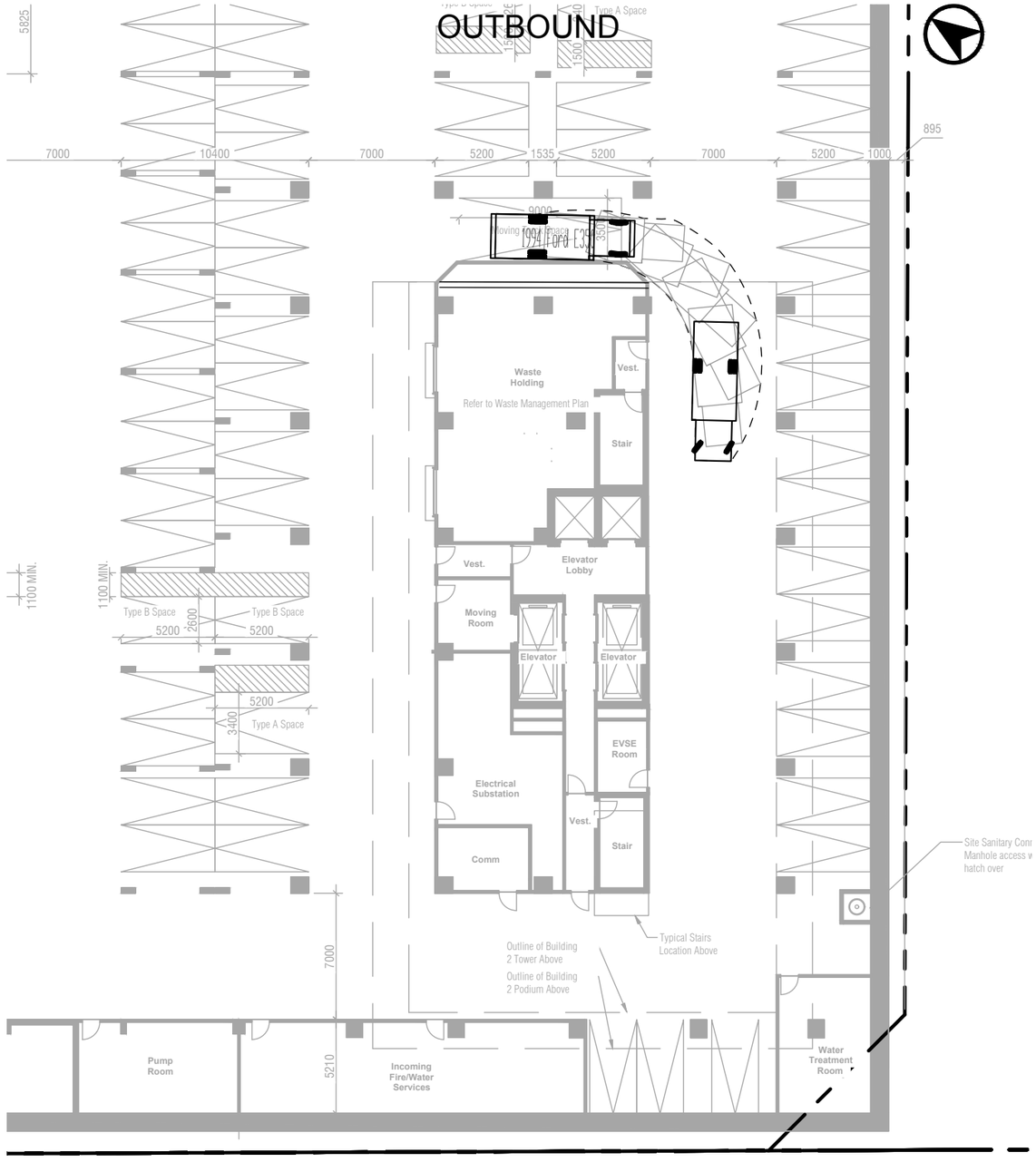
Scale 1:300 (0, 5, 10m)

Drawing No. VMD-05

INBOUND

OUTBOUND





Design Vehicle - CUBEVAN (Ford E350)

Overall Length	7.70m
Overall Width	2.45m
Outside Turning Radius	9.49m
Inside Turning Radius	5.68m

Date Plotted: September 1, 2023 Filename: J:\6374-69\ba\SPR\2023\rev 9 - Sep1-23\ba-3085 Hurontario-SPR-06-637469_1_29876_cf156d17.dwg

BA Group

3080 HURONTARIO ROAD

VEHICLE MANOEUVRING DIAGRAM

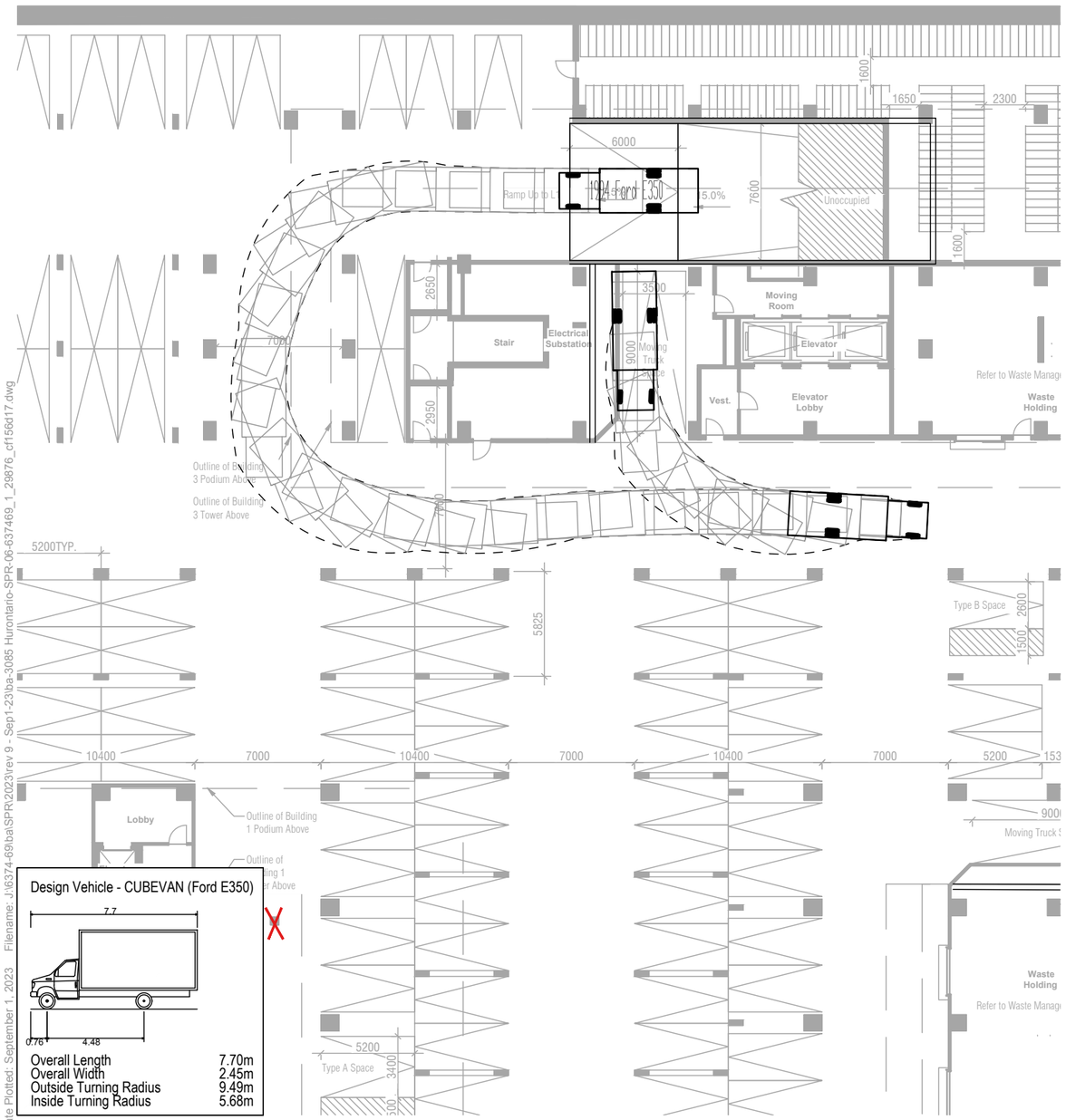
CUBE VAN (FORD E350)

Project:	3085 Hurontario
Project No.	6374-69
Date:	October 21, 2022
Revised:	September 1, 2023

Scale 1:300 (0, 5, 10m)

Drawing No. VMD-06

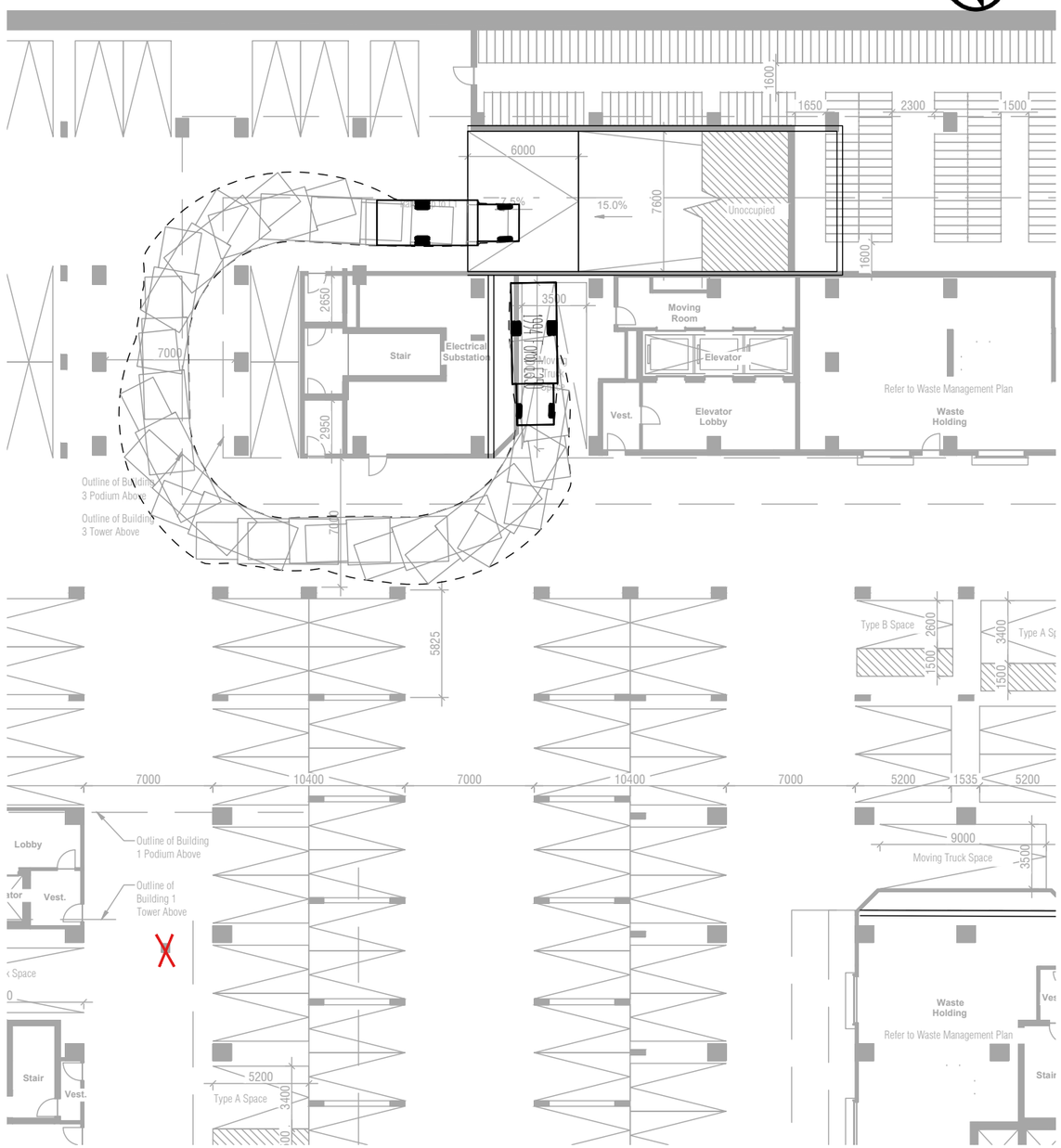
INBOUND



Design Vehicle - CUBEVAN (Ford E350)

Overall Length	7.70m
Overall Width	2.45m
Outside Turning Radius	9.49m
Inside Turning Radius	5.68m

OUTBOUND



BA Group

3080 HURONTARIO ROAD

VEHICLE MANOEUVRING DIAGRAM

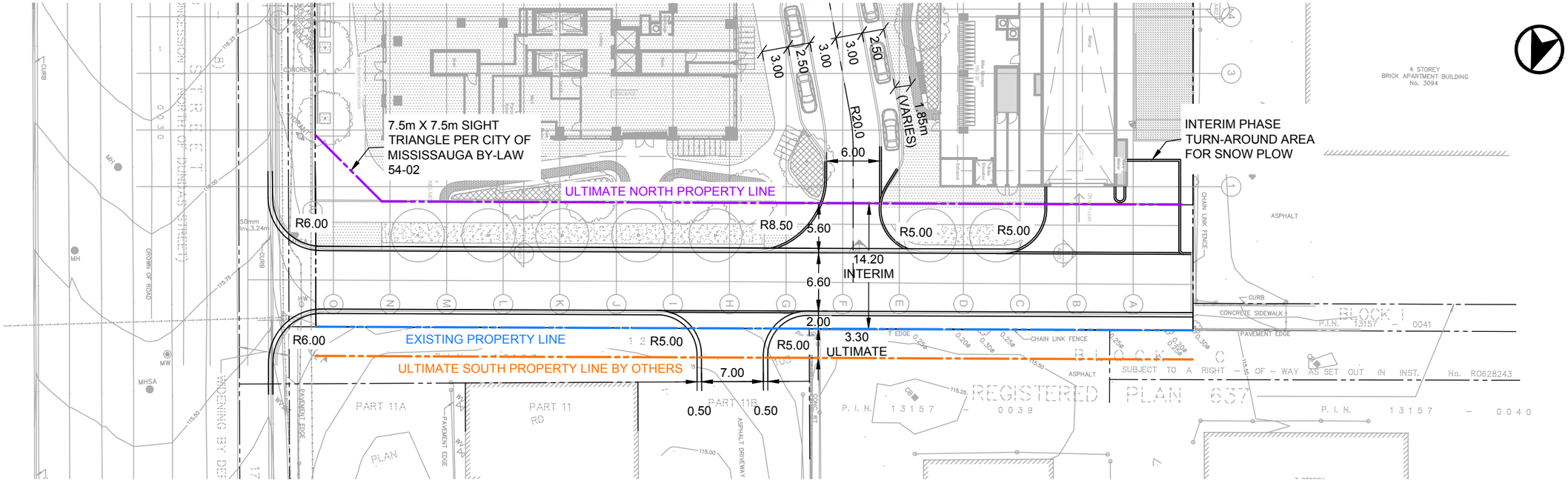
CUBE VAN (FORD E350)

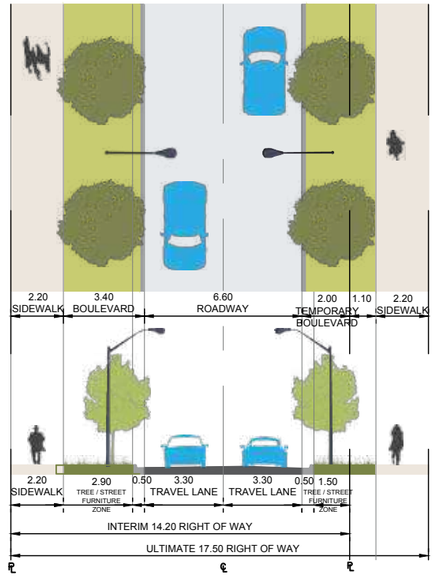
Project:	3085 Hurontario
Project No.	6374-69
Date:	October 21, 2022
Revised:	June 1, 2023

Scale 1:300 (0, 5, 10m)

Drawing No. VMD-07

Appendix E:
Functional Road Plan





3085 HURONTARIO STREET

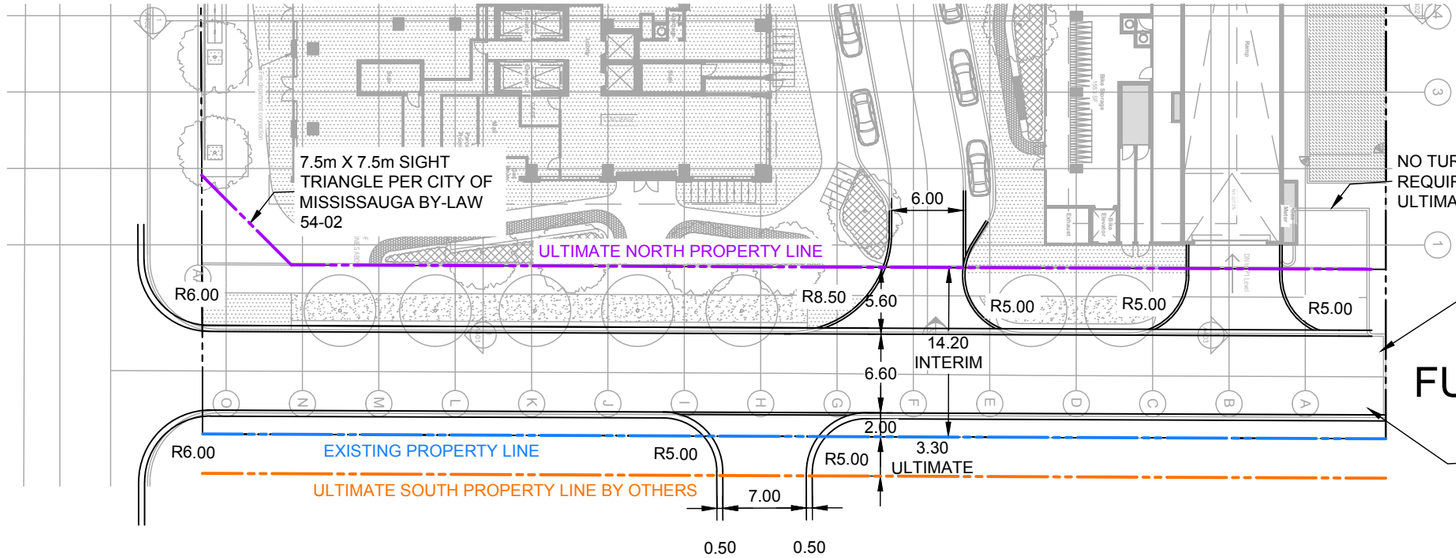
PROPOSED E-W STREET DESIGN

INTERIM 14.5m ROW

Project:	3085 HURONTARIO ST
Project No.	6374-69
Date:	September 1, 2023
Revised:	

Scale 1:500 (0 5 10 15 20m)

Drawing No. FD-01-INT

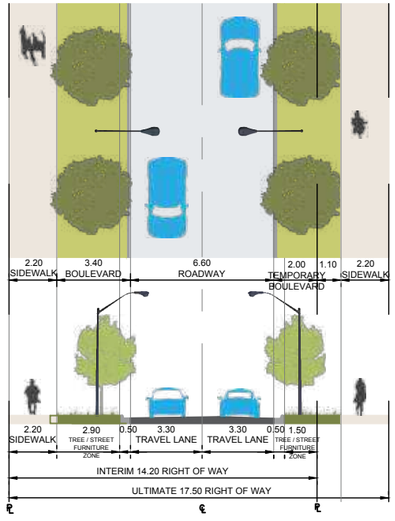


NO TURN-AROUND REQUIRED FOR ULTIMATE CONDITION

CONNECTION TO FUTURE JAGUAR VALLEY

FUTURE JAGUAR VALLEY ROAD CONNECTION

CURBS AND PAVEMENT MARKINGS WILL CONTINUE EAST AND CONNECT; PROPERTY TO BE PROVIDED BY OTHERS; ALIGNMENT OF ROAD TBD SUBJECT TO FURTHER STUDY



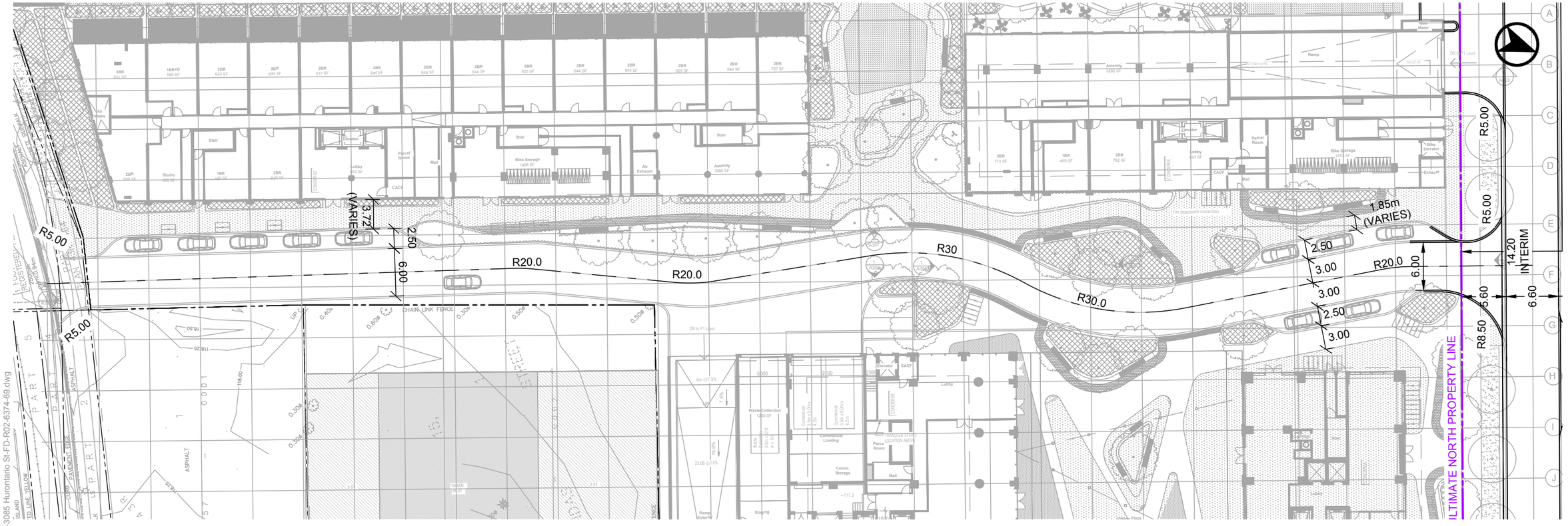
BA Group

3085 HURONTARIO STREET
PROPOSED E-W STREET DESIGN
ULTIMATE 17.5m ROW

Project:	3085 HURONTARIO ST
Project No.	6374-69
Date:	September 1, 2023
Revised:	

Scale 1:500 (0 5 10 15 20m)

Drawing No. FD-01-ULT



BA Group

3085 HURONTARIO STREET

PROPOSED PRIVATE N-S STREET DESIGN

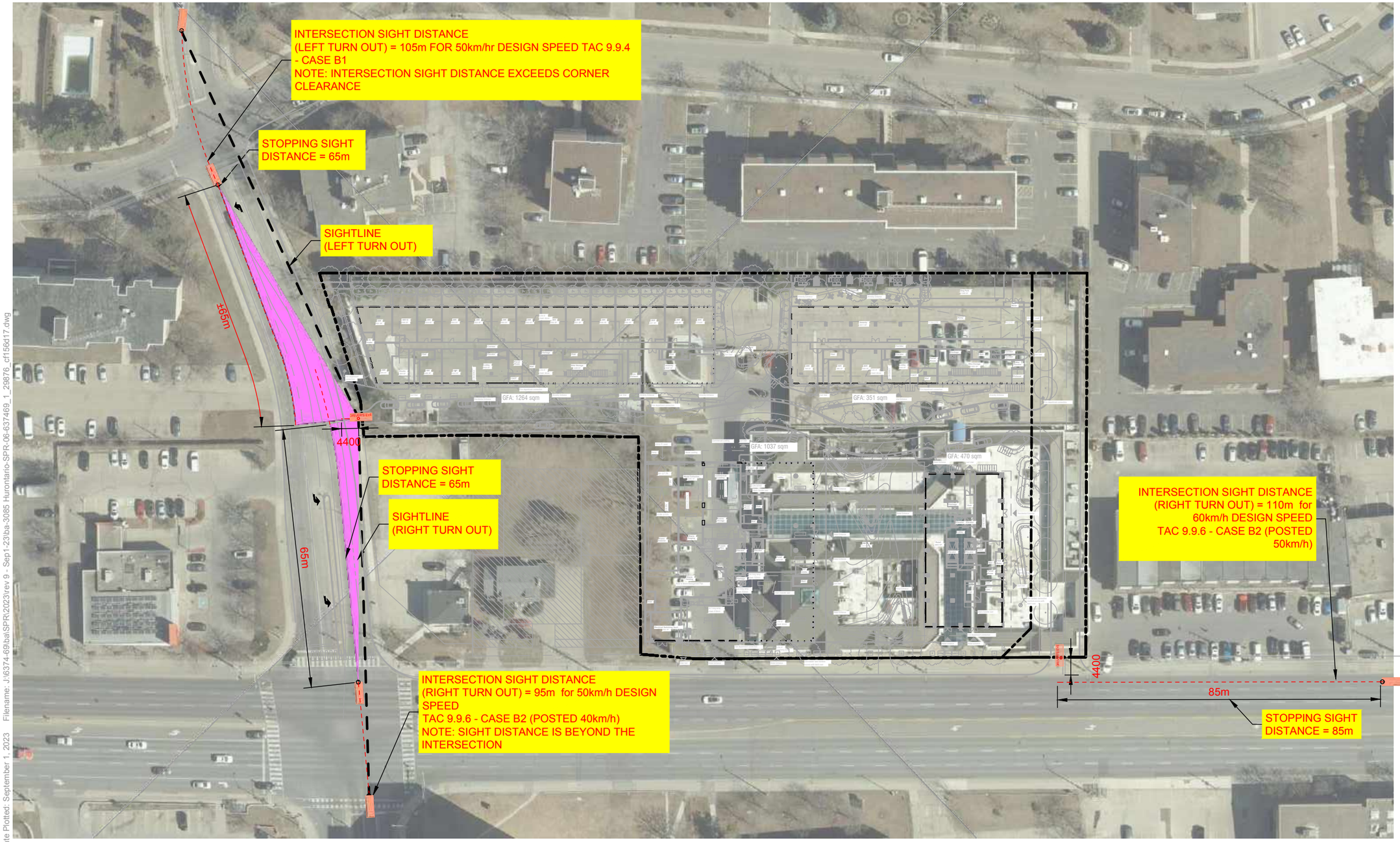
6m PAVEMENT WIDTH

Project:	3085 HURONTARIO ST
Project No.	6374-69
Date:	September 1, 2023
Revised:	

Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. FD-02

Appendix F:
Site Access Plan



Date Plotted: September 1, 2023 Filename: J:\6374-69\ba\SPR\2023\rev 9 - Sep1-23\ba-3085 Hurontario-SPR-06-637469_1_29876_cf156d17.dwg

BA Group

3085 HURONTARIO ROAD

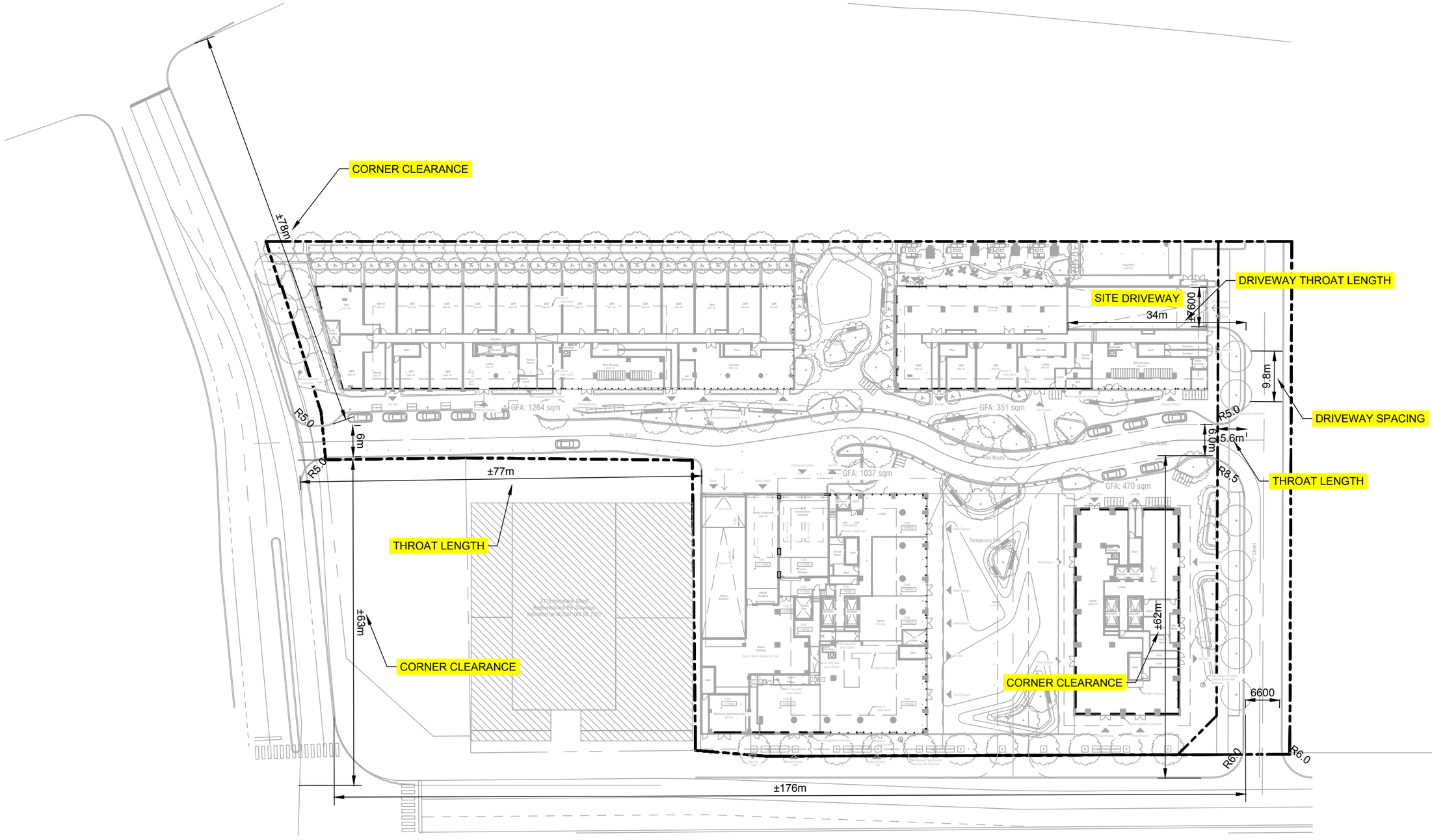
DRIVEWAY REVIEW

INTERSECTION SIGHT DISTANCE

Project:	3085 Hurontario
Project No.	6374-69
Date:	September 1, 2023
Revised:	--

Scale 1:1,000 (0 10 20 30 40 50m)

Drawing No. ISD-1



Date Plotted: September 1, 2023 Filename: J:\6374-69\ba\SPR\2023\rev 9 - Sep1-23\ba-3085 Hurontario-SPR-06-637469_1_29876_cf156d17.dwg

BA Group

3085 HURONTARIO ROAD

SITE ACCESS REVIEW

CORNER CLEARANCE, DRIVEWAY THROAT LENGTH

Project:	3085 Hurontario
Project No.	6374-69
Date:	October 21, 2022
Revised:	September 1, 2023

Scale 1:750 (0, 15, 30m)

Drawing No. SA-1

Appendix G:
TTS Query Sheets

PM	RESIDENTIAL VEHICLE TRIP DISTRIBUTION
Inbound	Traffic Volume Allocation
2023-09-01	

Zone	Trips	%	NORTH Hurontario Street	NORTH Confederation Parkway	SOUTH Hurontario Street	SOUTH Confederation Parkway	EAST Dundas Street East	WEST Hillcrest Avenue	WEST Dundas Street West	TOTAL
PD 1 of Toronto	32	1%			80%		20%			100.00%
PD 5 of Toronto	28	1%	50%		40%		10%			100.00%
PD 8 of Toronto	135	4%	40%		40%		20%			100.00%
PD 9 of Toronto	44	1%	50%		40%		10%			100.00%
PD 10 of Toronto	68	2%	50%		40%		10%			100.00%
PD 11 of Toronto	21	1%	50%		40%		10%			100.00%
PD 16 of Toronto	36	1%	50%		30%		20%			100.00%
Vaughan	27	1%	80%		20%					100.00%
Brampton	126	4%	100%							100.00%
Milton	57	2%	100%							100.00%
Oakville	48	2%			80%				20%	100.00%
Burlington	12	0%			100%					100.00%
Stoney Creek	12	0%			100%					100.00%
3608	67	2%	10%	90%						100.00%
3609	18	1%	100%							100.00%
3610	22	1%	50%				50%			100.00%
3611	25	1%	100%							100.00%
3612	33	1%		100%						100.00%
3614	19	1%			40%	30%			30%	100.00%
3618	36	1%	50%	50%						100.00%
3621	45	1%	90%				10%			100.00%
3626	28	1%	100%							100.00%
3632	7	0%			100%					100.00%
3634	64	2%	30%	30%					40%	100.00%
3635	16	1%	30%	30%					40%	100.00%
3639	18	1%			40%	30%			30%	100.00%
3641	12	0%			100%					100.00%
3643	48	2%			50%		50%			100.00%
3648	38	1%			100%					100.00%
3649	47	2%			50%		50%			100.00%
3653	21	1%			100%					100.00%
3655	22	1%			50%				50%	100.00%
3656	46	1%			20%				80%	100.00%
3659	11	0%			50%		50%			100.00%
3660	40	1%			30%		70%			100.00%
3662	46	1%	30%	30%					40%	100.00%
3665	48	2%						100%		100.00%
3670	12	0%					100%			100.00%
3671	173	6%		30%				70%		100.00%
3673	94	3%	50%				50%			100.00%
3677	39	1%	50%	50%						100.00%
3680	10	0%	100%							100.00%
3685	14	0%	50%	50%						100.00%
3692	34	1%	100%							100.00%
3693	94	3%	100%							100.00%
3696	20	1%	100%							100.00%
3700	13	0%	100%							100.00%
3701	50	2%	100%							100.00%
3702	67	2%	100%							100.00%
3709	47	2%	60%		40%					100.00%
3710	32	1%	100%							100.00%
3721	68	2%	100%							100.00%
3816	47	2%	100%							100.00%
3822	11	0%	100%							100.00%
3834	22	1%	100%							100.00%
3843	10	0%		100%						100.00%
3847	81	3%	50%	50%						100.00%
3850	106	3%	50%	50%						100.00%
3851	84	3%	50%	50%						100.00%
3853	82	3%	50%	50%						100.00%
3858	64	2%	50%				50%			100.00%
3859	35	1%	50%				50%			100.00%
3861	45	1%					100%			100.00%
3863	85	3%	100%							100.00%
3864	35	1%	50%	50%						100.00%
3867	33	1%	50%	50%						100.00%
3868	20	1%	10%	10%	5%	5%		20%	50%	100.00%
3874	126	4%					100%			100.00%
3877	16	1%			100%					100.00%
	3092	100%								

Route Split Totals

NORTH Hurontario Street	NORTH Confederation Parkway	SOUTH Hurontario Street	SOUTH Confederation Parkway	EAST Dundas Street East	WEST Hillcrest Avenue	WEST Dundas Street West	TOTAL
0.00%	0.00%	0.83%	0.00%	0.21%	0.00%	0.00%	1.0%
0.45%	0.00%	0.36%	0.00%	0.09%	0.00%	0.00%	0.9%
1.75%	0.00%	1.75%	0.00%	0.87%	0.00%	0.00%	4.4%
0.71%	0.00%	0.57%	0.00%	0.14%	0.00%	0.00%	1.4%
1.10%	0.00%	0.88%	0.00%	0.22%	0.00%	0.00%	2.2%
0.34%	0.00%	0.27%	0.00%	0.07%	0.00%	0.00%	0.7%
0.58%	0.00%	0.35%	0.00%	0.23%	0.00%	0.00%	1.2%
0.70%	0.00%	0.17%	0.00%	0.00%	0.00%	0.00%	0.9%
4.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.1%
1.84%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.8%
0.00%	0.00%	1.24%	0.00%	0.00%	0.00%	0.31%	1.6%
0.00%	0.00%	0.39%	0.00%	0.00%	0.00%	0.00%	0.4%
0.00%	0.00%	0.39%	0.00%	0.00%	0.00%	0.00%	0.4%
0.22%	1.95%	0.00%	0.00%	0.00%	0.00%	0.00%	2.2%
0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.6%
0.36%	0.00%	0.00%	0.00%	0.36%	0.00%	0.00%	0.7%
0.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.8%
0.00%	1.07%	0.00%	0.00%	0.00%	0.00%	0.00%	1.1%
0.00%	0.00%	0.25%	0.18%	0.00%	0.00%	0.18%	0.6%
0.58%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	1.2%
1.31%	0.00%	0.00%	0.00%	0.15%	0.00%	0.00%	1.5%
0.91%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.9%
0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.2%
0.62%	0.62%	0.00%	0.00%	0.00%	0.00%	0.83%	2.1%
0.16%	0.16%	0.00%	0.00%	0.00%	0.00%	0.21%	0.5%
0.00%	0.00%	0.23%	0.17%	0.00%	0.00%	0.17%	0.6%
0.00%	0.00%	0.39%	0.00%	0.00%	0.00%	0.00%	0.4%
0.00%	0.00%	0.78%	0.00%	0.78%	0.00%	0.00%	1.6%
0.00%	0.00%	1.23%	0.00%	0.00%	0.00%	0.00%	1.2%
0.00%	0.00%	0.76%	0.00%	0.76%	0.00%	0.00%	1.5%
0.00%	0.00%	0.68%	0.00%	0.00%	0.00%	0.00%	0.7%
0.00%	0.00%	0.36%	0.00%	0.00%	0.00%	0.36%	0.7%
0.00%	0.00%	0.30%	0.00%	0.00%	0.00%	1.19%	1.5%
0.00%	0.00%	0.18%	0.00%	0.18%	0.00%	0.00%	0.4%
0.00%	0.00%	0.39%	0.00%	0.91%	0.00%	0.00%	1.3%
0.45%	0.45%	0.00%	0.00%	0.00%	0.00%	0.60%	1.5%
0.00%	0.00%	0.00%	0.00%	0.00%	1.55%	0.00%	1.6%
0.00%	0.00%	0.00%	0.00%	0.39%	0.00%	0.00%	0.4%
0.00%	1.68%	0.00%	0.00%	0.00%	3.92%	0.00%	5.6%
1.52%	0.00%	0.00%	0.00%	1.52%	0.00%	0.00%	3.0%
0.63%	0.63%	0.00%	0.00%	0.00%	0.00%	0.00%	1.3%
0.32%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.3%
0.23%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.5%
1.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.1%
3.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.0%
0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.6%
0.42%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.4%
1.62%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.6%
2.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.2%
0.91%	0.00%	0.61%	0.00%	0.00%	0.00%	0.00%	1.5%
1.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.0%
2.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.2%
1.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.5%
0.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.4%
0.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.7%
0.00%	0.32%	0.00%	0.00%	0.00%	0.00%	0.00%	0.3%
1.31%	1.31%	0.00%	0.00%	0.00%	0.00%	0.00%	2.6%
1.71%	1.71%	0.00%	0.00%	0.00%	0.00%	0.00%	3.4%
1.36%	1.36%	0.00%	0.00%	0.00%	0.00%	0.00%	2.7%
1.33%	1.33%	0.00%	0.00%	0.00%	0.00%	0.00%	2.7%
1.03%	0.00%	0.00%	0.00%	1.03%	0.00%	0.00%	2.1%
0.57%	0.00%	0.00%	0.00%	0.57%	0.00%	0.00%	1.1%
0.00%	0.00%	0.00%	0.00%	1.46%	0.00%	0.00%	1.5%
2.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.7%
0.57%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	1.1%
0.53%	0.53%	0.00%	0.00%	0.00%	0.00%	0.00%	1.1%
0.06%	0.06%	0.03%	0.03%	0.00%	0.13%	0.32%	0.6%
0.00%	0.00%	0.00%	0.00%	4.08%	0.00%	0.00%	4.1%
0.00%	0.00%	0.52%	0.00%	0.00%	0.00%	0.00%	0.5%
47.2%	**14.6%**	**14.1%**	**0.4%**	**14.0%**	**5.6%**	**4.2%**	**100.0%**

45.00%	**15.00%**	**15.00%**	**0.00%**	**15.00%**	**5.00%**	**5.00%**	100%

AM	**RESIDENTIAL VEHICLE TRIP DISTRIBUTION**
Outbound	**Traffic Volume Allocation**
2023-09-01	

Zone	Trips	%	NORTH Hurontario Street	NORTH Confederation Parkway	SOUTH Hurontario Street	SOUTH Confederation Parkway	EAST Dundas Street East	WEST Hillcrest Avenue	WEST Dundas Street West	TOTAL
PD 1 of Toronto	80	2%			80%		20%			100.00%
PD 3 of Toronto	60	2%	50%		40%		10%			100.00%
PD 5 of Toronto	12	0%	50%		40%		10%			100.00%
PD 7 of Toronto	13	0%			90%		10%			100.00%
PD 8 of Toronto	28	1%	40%		40%		20%			100.00%
PD 9 of Toronto	93	3%	50%		40%		10%			100.00%
PD 10 of Toronto	44	1%	50%		40%		10%			100.00%
PD 11 of Toronto	8	0%	50%		40%		10%			100.00%
PD 16 of Toronto	24	1%	50%		30%		20%			100.00%
Markham	55	2%	50%		30%		20%			100.00%
Vaughan	39	1%	80%		20%					100.00%
Brampton	132	4%	100%							100.00%
Oakville	163	5%			80%				20%	100.00%
Burlington	97	3%			100%					100.00%
Stoney Creek	12	0%			100%					100.00%
Barrie	16	0%	50%		20%		30%			100.00%
Brantford	24	1%			100%					100.00%
3606	54	2%	10%	90%						100.00%
3608	45	1%	10%	90%						100.00%
3609	65	2%	100%							100.00%
3612	33	1%		100%						100.00%
3613	13	0%		100%						100.00%
3614	19	1%			40%	30%			30%	100.00%
3618	56	2%	50%	50%						100.00%
3621	25	1%	90%				10%			100.00%
3626	28	1%	100%							100.00%
3632	45	1%			100%					100.00%
3634	45	1%	30%	30%					40%	100.00%
3635	16	0%	30%	30%					40%	100.00%
3639	18	1%			40%	30%			30%	100.00%
3643	48	1%			50%		50%			100.00%
3648	58	2%			100%					100.00%
3649	146	4%			50%		50%			100.00%
3656	65	2%			20%				80%	100.00%
3657	15	0%			50%	50%				100.00%
3659	11	0%			50%		50%			100.00%
3660	40	1%			30%		70%			100.00%
3662	46	1%	30%	30%					40%	100.00%
3671	344	10%		30%				70%		100.00%
3673	94	3%	50%				50%			100.00%
3677	39	1%	50%	50%						100.00%
3686	12	0%	50%	50%						100.00%
3693	156	5%	100%							100.00%
3700	13	0%	100%							100.00%
3701	25	1%	100%							100.00%
3702	59	2%	100%							100.00%
3703	20	1%	100%							100.00%
3704	25	1%	100%							100.00%
3705	8	0%	100%							100.00%
3710	74	2%	100%							100.00%
3721	68	2%	100%							100.00%
3724	22	1%	100%							100.00%
3820	17	1%	100%							100.00%
3822	11	0%	100%							100.00%
3834	22	1%	50%	50%						100.00%
3847	12	0%	50%	50%						100.00%
3850	85	3%	50%	50%						100.00%
3851	55	2%	50%	50%						100.00%
3853	132	4%	50%	50%						100.00%
3859	35	1%	50%				50%			100.00%
3863	54	2%	100%							100.00%
3864	52	2%	50%	50%						100.00%
3867	33	1%	50%	50%						100.00%
3870	10	0%							100%	100.00%
3874	11	0%					100%			100.00%
	3279	100%								

Route Split Totals

NORTH Hurontario Street	NORTH Confederation Parkway	SOUTH Hurontario Street	SOUTH Confederation Parkway	EAST Dundas Street East	WEST Hillcrest Avenue	WEST Dundas Street West	TOTAL
0.00%	0.00%	1.95%	0.00%	0.49%	0.00%	0.00%	2.4%
0.91%	0.00%	0.73%	0.00%	0.18%	0.00%	0.00%	1.8%
0.18%	0.00%	0.15%	0.00%	0.04%	0.00%	0.00%	0.4%
0.00%	0.00%	0.36%	0.00%	0.04%	0.00%	0.00%	0.4%
0.34%	0.00%	0.34%	0.00%	0.17%	0.00%	0.00%	0.9%
1.42%	0.00%	1.13%	0.00%	0.28%	0.00%	0.00%	2.8%
0.67%	0.00%	0.54%	0.00%	0.13%	0.00%	0.00%	1.3%
0.12%	0.00%	0.10%	0.00%	0.02%	0.00%	0.00%	0.2%
0.37%	0.00%	0.22%	0.00%	0.15%	0.00%	0.00%	0.7%
0.84%	0.00%	0.50%	0.00%	0.34%	0.00%	0.00%	1.7%
0.95%	0.00%	0.24%	0.00%	0.00%	0.00%	0.00%	1.2%
4.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.0%
0.00%	0.00%	3.98%	0.00%	0.00%	0.00%	0.99%	5.0%
0.00%	0.00%	2.96%	0.00%	0.00%	0.00%	0.00%	3.0%
0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.00%	0.4%
0.24%	0.00%	0.10%	0.00%	0.15%	0.00%	0.00%	0.5%
0.00%	0.00%	0.73%	0.00%	0.00%	0.00%	0.00%	0.7%
0.16%	1.48%	0.00%	0.00%	0.00%	0.00%	0.00%	1.6%
0.14%	1.24%	0.00%	0.00%	0.00%	0.00%	0.00%	1.4%
1.98%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.0%
0.00%	1.01%	0.00%	0.00%	0.00%	0.00%	0.00%	1.0%
0.00%	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.4%
0.00%	0.00%	0.23%	0.17%	0.00%	0.00%	0.17%	0.6%
0.85%	0.85%	0.00%	0.00%	0.00%	0.00%	0.00%	1.7%
0.69%	0.00%	0.00%	0.00%	0.08%	0.00%	0.00%	0.8%
0.85%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.9%
0.00%	0.00%	1.37%	0.00%	0.00%	0.00%	0.00%	1.4%
0.41%	0.41%	0.00%	0.00%	0.00%	0.00%	0.55%	1.4%
0.15%	0.15%	0.00%	0.00%	0.00%	0.00%	0.20%	0.5%
0.00%	0.00%	0.22%	0.16%	0.00%	0.00%	0.16%	0.5%
0.00%	0.00%	0.73%	0.00%	0.73%	0.00%	0.00%	1.5%
0.00%	0.00%	1.77%	0.00%	0.00%	0.00%	0.00%	1.8%
0.00%	0.00%	2.23%	0.00%	2.23%	0.00%	0.00%	4.5%
0.00%	0.00%	0.40%	0.00%	0.00%	0.00%	1.59%	2.0%
0.00%	0.00%	0.23%	0.23%	0.00%	0.00%	0.00%	0.5%
0.00%	0.00%	0.17%	0.00%	0.17%	0.00%	0.00%	0.3%
0.00%	0.00%	0.37%	0.00%	0.85%	0.00%	0.00%	1.2%
0.42%	0.42%	0.00%	0.00%	0.00%	0.00%	0.56%	1.4%
0.00%	3.15%	0.00%	0.00%	0.00%	7.34%	0.00%	10.5%
1.43%	0.00%	0.00%	0.00%	1.43%	0.00%	0.00%	2.9%
0.59%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	1.2%
0.18%	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.4%
4.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.8%
0.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.4%
0.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.8%
1.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.8%
0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.6%
0.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.8%
0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.2%
2.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.3%
2.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.1%
0.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.7%
0.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.5%
0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.3%
0.34%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.7%
0.18%	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.4%
1.30%	1.30%	0.00%	0.00%	0.00%	0.00%	0.00%	2.6%
0.84%	0.84%	0.00%	0.00%	0.00%	0.00%	0.00%	1.7%
2.01%	2.01%	0.00%	0.00%	0.00%	0.00%	0.00%	4.0%
0.53%	0.00%	0.00%	0.00%	0.53%	0.00%	0.00%	1.1%
1.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.6%
0.79%	0.79%	0.00%	0.00%	0.00%	0.00%	0.00%	1.6%
0.50%	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%	1.0%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.30%	0.3%
0.00%	0.00%	0.00%	0.00%	0.34%	0.00%	0.00%	0.3%
41.3%	**15.8%**	**22.1%**	**0.6%**	**8.3%**	**7.3%**	**4.5%**	**100.0%**

40.00%	**15.00%**	**25.00%**	**0.00%**	**10.00%**	**5.00%**	**5.00%**	100%

Appendix H:
Traffic Movement Counts

Turning Movement Count (3 . HURONTARIO ST & HILLCREST AVE / KIRWIN AVE)

Start Time	N Approach HURONTARIO ST						E Approach KIRWIN AVE						S Approach HURONTARIO ST						W Approach HILLCREST AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	7	131	2	0	4	140	17	10	2	0	4	29	2	106	6	0	1	114	10	10	11	0	2	31	314	
07:15:00	9	135	4	0	6	148	4	8	4	0	5	16	2	127	6	0	0	135	16	15	14	0	5	45	344	
07:30:00	15	113	6	0	2	134	17	12	2	0	1	31	1	159	6	1	1	167	22	18	20	0	4	60	392	
07:45:00	16	183	5	0	7	204	14	10	6	0	5	30	5	147	16	0	13	168	22	19	25	0	3	66	468	1518
08:00:00	22	185	5	0	3	212	11	27	5	0	19	43	4	159	13	0	26	176	31	29	23	0	21	83	514	1718
08:15:00	18	171	4	0	4	193	16	22	6	0	17	44	5	177	8	0	23	190	25	38	21	0	25	84	511	1885
08:30:00	10	182	9	0	1	201	9	17	4	0	4	30	7	165	10	0	5	182	14	29	28	0	7	71	484	1977
08:45:00	10	172	12	0	2	194	23	20	6	0	5	49	8	169	11	0	5	188	25	26	10	0	7	61	492	2001
09:00:00	13	183	8	0	3	204	17	15	7	0	10	39	9	163	7	0	2	179	24	29	20	0	5	73	495	1982
09:15:00	13	150	10	0	3	173	14	13	5	0	5	32	5	155	13	0	4	173	19	23	20	0	5	62	440	1911
09:30:00	20	149	8	0	1	177	12	16	11	0	5	39	8	148	7	0	10	163	24	26	20	0	2	70	449	1876
09:45:00	14	176	12	0	6	202	13	23	10	0	7	46	8	139	7	0	4	154	12	32	14	0	9	58	460	1844
BREAK																										
16:00:00	24	172	15	0	6	211	29	56	15	0	7	100	8	209	15	1	8	233	22	38	19	0	12	79	623	
16:15:00	21	207	8	0	10	236	24	54	3	0	11	81	12	184	22	0	5	218	28	32	25	0	7	85	620	
16:30:00	12	183	16	0	3	211	16	78	6	0	17	100	10	208	24	0	7	242	23	38	13	0	9	74	627	
16:45:00	28	187	14	0	8	229	23	63	8	0	9	94	6	195	16	0	3	217	28	31	21	0	11	80	620	2490
17:00:00	29	220	12	1	10	262	14	37	6	0	9	57	7	164	21	0	7	192	29	37	23	0	22	89	600	2467
17:15:00	20	184	10	2	11	216	21	55	7	0	12	83	9	208	21	0	7	238	22	32	26	0	10	80	617	2464
17:30:00	26	200	6	0	4	232	24	49	8	0	10	81	9	173	16	1	5	199	13	40	25	0	15	78	590	2427
17:45:00	28	218	16	0	13	262	21	50	10	0	10	81	10	150	23	0	7	183	29	35	21	0	19	85	611	2418
18:00:00	30	168	14	0	9	212	28	52	11	0	25	91	9	214	26	0	10	249	21	33	25	0	9	79	631	2449
18:15:00	27	211	18	1	4	257	19	47	3	0	9	69	5	173	22	0	5	200	36	34	23	0	5	93	619	2451
18:30:00	24	198	14	0	12	236	21	40	6	0	11	67	9	172	20	0	4	201	34	34	21	0	5	89	593	2454
18:45:00	20	173	13	0	7	206	35	38	8	0	10	81	7	198	16	0	9	221	29	32	23	0	8	84	592	2435
Grand Total	456	4251	241	4	139	4952	442	812	159	0	227	1413	165	4062	352	3	171	4582	558	710	491	0	227	1759	**12706**	-
Approach%	9.2%	85.8%	4.9%	0.1%		-	31.3%	57.5%	11.3%	0%		-	3.6%	88.7%	7.7%	0.1%		-	31.7%	40.4%	27.9%	0%		-	-	-
Totals %	3.6%	33.5%	1.9%	0%		39%	3.5%	6.4%	1.3%	0%		11.1%	1.3%	32%	2.8%	0%		36.1%	4.4%	5.6%	3.9%	0%		13.8%	-	-
Heavy	18	195	5	0		-	10	10	5	0		-	4	196	21	0		-	12	5	32	0		-	-	-
Heavy %	3.9%	4.6%	2.1%	0%		-	2.3%	1.2%	3.1%	0%		-	2.4%	4.8%	6%	0%		-	2.2%	0.7%	6.5%	0%		-	-	-
Bicycles	0	0	0	0		-	0	2	0	0		-	1	1	0	0		-	0	2	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0.2%	0%	0%		-	0.6%	0%	0%	0%		-	0%	0.3%	0%	0%		-	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (16.96 °C)

Start Time	N Approach HURONTARIO ST						E Approach KIRWIN AVE						S Approach HURONTARIO ST						W Approach HILLCREST AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	22	185	5	0	3	212	11	27	5	0	19	43	4	159	13	0	26	176	31	29	23	0	21	83	514
08:15:00	18	171	4	0	4	193	16	22	6	0	17	44	5	177	8	0	23	190	25	38	21	0	25	84	511
08:30:00	10	182	9	0	1	201	9	17	4	0	4	30	7	165	10	0	5	182	14	29	28	0	7	71	484
08:45:00	10	172	12	0	2	194	23	20	6	0	5	49	8	169	11	0	5	188	25	26	10	0	7	61	492
Grand Total	60	710	30	0	10	800	59	86	21	0	45	166	24	670	42	0	59	736	95	122	82	0	60	299	**2001**
Approach%	7.5%	88.8%	3.8%	0%		-	35.5%	51.8%	12.7%	0%		-	3.3%	91%	5.7%	0%		-	31.8%	40.8%	27.4%	0%		-	-
Totals %	3%	35.5%	1.5%	0%		40%	2.9%	4.3%	1%	0%		8.3%	1.2%	33.5%	2.1%	0%		36.8%	4.7%	6.1%	4.1%	0%		14.9%	-
PHF	0.68	0.96	0.63	0		0.94	0.64	0.8	0.88	0		0.85	0.75	0.95	0.81	0		0.97	0.77	0.8	0.73	0		0.89	-
Heavy	7	44	1	0		52	5	5	0	0		10	1	35	14	0		50	5	0	10	0		15	-
Heavy %	11.7%	6.2%	3.3%	0%		6.5%	8.5%	5.8%	0%	0%		6%	4.2%	5.2%	33.3%	0%		6.8%	5.3%	0%	12.2%	0%		5%	-
Lights	53	666	29	0		748	54	81	21	0		156	23	635	28	0		686	90	122	72	0		284	-
Lights %	88.3%	93.8%	96.7%	0%		93.5%	91.5%	94.2%	100%	0%		94%	95.8%	94.8%	66.7%	0%		93.2%	94.7%	100%	87.8%	0%		95%	-
Single-Unit Trucks	0	16	1	0		17	1	1	0	0		2	0	13	0	0		13	0	0	1	0		1	-
Single-Unit Trucks %	0%	2.3%	3.3%	0%		2.1%	1.7%	1.2%	0%	0%		1.2%	0%	1.9%	0%	0%		1.8%	0%	0%	1.2%	0%		0.3%	-
Buses	7	25	0	0		32	4	4	0	0		8	1	20	14	0		35	5	0	9	0		14	-
Buses %	11.7%	3.5%	0%	0%		4%	6.8%	4.7%	0%	0%		4.8%	4.2%	3%	33.3%	0%		4.8%	5.3%	0%	11%	0%		4.7%	-
Articulated Trucks	0	3	0	0		3	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	-
Articulated Trucks %	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	10	-	-	-	-	-	43	-	-	-	-	-	55	-	-	-	-	-	56	-	-
Pedestrians%	-	-	-	-	5.7%	-	-	-	-	-	24.7%	-	-	-	-	-	31.6%	-	-	-	-	-	33.3%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	1.1%	-	-	-	-	-	2.3%	-	-	-	-	-	1.1%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (21.66 °C)

Start Time	N Approach HURONTARIO ST						E Approach KIRWIN AVE						S Approach HURONTARIO ST						W Approach HILLCREST AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:00:00	24	172	15	0	6	211	29	56	15	0	7	100	8	209	15	1	8	233	22	38	19	0	12	79	623
16:15:00	21	207	8	0	10	236	24	54	3	0	11	81	12	184	22	0	5	218	28	32	25	0	7	85	620
16:30:00	12	183	16	0	3	211	16	78	6	0	17	100	10	208	24	0	7	242	23	38	13	0	9	74	627
16:45:00	28	187	14	0	8	229	23	63	8	0	9	94	6	195	16	0	3	217	28	31	21	0	11	80	620
Grand Total	85	749	53	0	27	887	92	251	32	0	44	375	36	796	77	1	23	910	101	139	78	0	39	318	**2490**
Approach%	9.6%	84.4%	6%	0%		-	24.5%	66.9%	8.5%	0%		-	4%	87.5%	8.5%	0.1%		-	31.8%	43.7%	24.5%	0%		-	-
Totals %	3.4%	30.1%	2.1%	0%		35.6%	3.7%	10.1%	1.3%	0%		15.1%	1.4%	32%	3.1%	0%		36.5%	4.1%	5.6%	3.1%	0%		12.8%	-
PHF	0.76	0.9	0.83	0		0.94	0.79	0.8	0.53	0		0.94	0.75	0.95	0.8	0.25		0.94	0.9	0.91	0.78	0		0.94	-
Heavy	1	26	1	0		28	2	2	0	0		4	0	39	2	0		41	0	2	3	0		5	-
Heavy %	1.2%	3.5%	1.9%	0%		3.2%	2.2%	0.8%	0%	0%		1.1%	0%	4.9%	2.6%	0%		4.5%	0%	1.4%	3.8%	0%		1.6%	-
Lights	84	723	52	0		859	90	249	32	0		371	36	757	75	1		869	101	137	75	0		313	-
Lights %	98.8%	96.5%	98.1%	0%		96.8%	97.8%	99.2%	100%	0%		98.9%	100%	95.1%	97.4%	100%		95.5%	100%	98.6%	96.2%	0%		98.4%	-
Single-Unit Trucks	0	10	1	0		11	0	1	0	0		1	0	15	0	0		15	0	1	1	0		2	-
Single-Unit Trucks %	0%	1.3%	1.9%	0%		1.2%	0%	0.4%	0%	0%		0.3%	0%	1.9%	0%	0%		1.6%	0%	0.7%	1.3%	0%		0.6%	-
Buses	1	16	0	0		17	2	1	0	0		3	0	22	2	0		24	0	1	2	0		3	-
Buses %	1.2%	2.1%	0%	0%		1.9%	2.2%	0.4%	0%	0%		0.8%	0%	2.8%	2.6%	0%		2.6%	0%	0.7%	2.6%	0%		0.9%	-
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	24	-	-	-	-	-	41	-	-	-	-	-	21	-	-	-	-	-	38	-	-
Pedestrians%	-	-	-	-	18%	-	-	-	-	-	30.8%	-	-	-	-	-	15.8%	-	-	-	-	-	28.6%	-	-
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	2.3%	-	-	-	-	-	2.3%	-	-	-	-	-	1.5%	-	-	-	-	-	0.8%	-	-
Bicycles on Road	0	0	0	0	0	-	0	1	0	0	0	-	0	1	0	0	0	-	0	2	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (16.96 °C)

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (21.66 °C)

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (9 . HURONTARIO ST & CENTRAL PKWY)

Start Time	N Approach HURONTARIO ST						E Approach CENTRAL PKWY						S Approach HURONTARIO ST						W Approach CENTRAL PKWY						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	5	151	30	0	0	186	12	34	27	0	5	73	17	184	6	0	4	207	7	36	7	1	8	51	517	
07:15:00	12	114	15	1	2	142	17	45	28	0	5	90	15	139	5	0	6	159	8	49	7	0	4	64	455	
07:30:00	16	149	22	0	3	187	13	70	32	0	13	115	25	202	9	0	7	236	6	66	19	0	12	91	629	
07:45:00	18	138	47	0	9	203	12	99	30	0	12	141	24	205	8	0	14	237	12	113	16	0	12	141	722	2323
08:00:00	21	174	43	0	0	238	15	130	40	0	7	185	18	186	10	0	9	214	5	124	24	0	6	153	790	2596
08:15:00	18	126	41	0	0	185	17	84	31	0	3	132	34	238	7	0	5	279	9	103	34	0	6	146	742	2983
08:30:00	19	117	39	0	0	175	33	95	35	0	9	163	21	215	9	0	10	245	13	101	23	1	7	138	721	2975
08:45:00	15	169	39	0	2	223	18	102	34	0	15	154	30	195	11	0	6	236	7	99	17	0	4	123	736	2989
BREAK																										
16:00:00	25	155	31	1	0	212	18	135	30	0	8	183	25	171	32	0	4	228	13	166	18	0	3	197	820	
16:15:00	29	165	46	0	0	240	22	113	32	0	10	167	30	214	24	0	9	268	14	138	26	0	11	178	853	
16:30:00	21	129	37	0	3	187	19	167	31	0	11	217	21	176	27	0	2	224	12	139	19	0	8	170	798	
16:45:00	38	155	34	0	1	227	26	168	34	0	8	228	20	167	32	0	6	219	7	129	19	0	4	155	829	3300
17:00:00	21	172	37	0	3	230	21	124	18	0	14	163	25	210	37	0	6	272	9	142	22	0	11	173	838	3318
17:15:00	15	168	25	0	6	208	23	188	53	0	14	264	23	164	30	0	5	217	14	156	18	0	12	188	877	3342
17:30:00	24	162	39	0	2	225	16	160	38	0	8	214	15	160	40	0	3	215	20	145	25	0	8	190	844	3388
17:45:00	24	134	43	0	3	201	17	161	37	1	16	216	31	213	40	0	8	284	20	139	17	0	12	176	877	3436
Grand Total	321	2378	568	2	34	3269	299	1875	530	1	158	2705	374	3039	327	0	104	3740	176	1845	311	2	128	2334	**12048**	-
Approach%	9.8%	72.7%	17.4%	0.1%		-	11.1%	69.3%	19.6%	0%		-	10%	81.3%	8.7%	0%		-	7.5%	79%	13.3%	0.1%		-	-	-
Totals %	2.7%	19.7%	4.7%	0%		27.1%	2.5%	15.6%	4.4%	0%		22.5%	3.1%	25.2%	2.7%	0%		31%	1.5%	15.3%	2.6%	0%		19.4%	-	-
Heavy	4	121	11	0		-	9	40	27	0		-	21	120	8	0		-	7	30	10	0		-	-	-
Heavy %	1.2%	5.1%	1.9%	0%		-	3%	2.1%	5.1%	0%		-	5.6%	3.9%	2.4%	0%		-	4%	1.6%	3.2%	0%		-	-	-
Bicycles	0	1	0	0		-	0	2	0	0		-	0	0	0	0		-	0	0	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: HURONTARIO ST & CENTRAL PKWY
Date: Wed, Nov 09, 2022 Deployment Lead: Peter Ilias

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach HURONTARIO ST						E Approach CENTRAL PKWY						S Approach HURONTARIO ST						W Approach CENTRAL PKWY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	21	174	43	0	0	238	15	130	40	0	7	185	18	186	10	0	9	214	5	124	24	0	6	153	790
08:15:00	18	126	41	0	0	185	17	84	31	0	3	132	34	238	7	0	5	279	9	103	34	0	6	146	742
08:30:00	19	117	39	0	0	175	33	95	35	0	9	163	21	215	9	0	10	245	13	101	23	1	7	138	721
08:45:00	15	169	39	0	2	223	18	102	34	0	15	154	30	195	11	0	6	236	7	99	17	0	4	123	736
Grand Total	73	586	162	0	2	821	83	411	140	0	34	634	103	834	37	0	30	974	34	427	98	1	23	560	**2989**
Approach%	8.9%	71.4%	19.7%	0%		-	13.1%	64.8%	22.1%	0%		-	10.6%	85.6%	3.8%	0%		-	6.1%	76.3%	17.5%	0.2%		-	-
Totals %	2.4%	19.6%	5.4%	0%		27.5%	2.8%	13.8%	4.7%	0%		21.2%	3.4%	27.9%	1.2%	0%		32.6%	1.1%	14.3%	3.3%	0%		18.7%	-
PHF	0.87	0.84	0.94	0		0.86	0.63	0.79	0.88	0		0.86	0.76	0.88	0.84	0		0.87	0.65	0.86	0.72	0.25		0.92	-
Heavy	1	29	5	0		35	3	15	9	0		27	5	34	2	0		41	3	13	8	0		24	-
Heavy %	1.4%	4.9%	3.1%	0%		4.3%	3.6%	3.6%	6.4%	0%		4.3%	4.9%	4.1%	5.4%	0%		4.2%	8.8%	3%	8.2%	0%		4.3%	-
Lights	72	557	157	0		786	80	396	131	0		607	98	800	35	0		933	31	414	90	1		536	-
Lights %	98.6%	95.1%	96.9%	0%		95.7%	96.4%	96.4%	93.6%	0%		95.7%	95.1%	95.9%	94.6%	0%		95.8%	91.2%	97%	91.8%	100%		95.7%	-
Single-Unit Trucks	0	13	1	0		14	2	3	2	0		7	0	16	0	0		16	3	6	4	0		13	-
Single-Unit Trucks %	0%	2.2%	0.6%	0%		1.7%	2.4%	0.7%	1.4%	0%		1.1%	0%	1.9%	0%	0%		1.6%	8.8%	1.4%	4.1%	0%		2.3%	-
Buses	1	15	4	0		20	1	12	7	0		20	5	18	2	0		25	0	7	4	0		11	-
Buses %	1.4%	2.6%	2.5%	0%		2.4%	1.2%	2.9%	5%	0%		3.2%	4.9%	2.2%	5.4%	0%		2.6%	0%	1.6%	4.1%	0%		2%	-
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Articulated Trucks %	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	33	-	-	-	-	-	28	-	-	-	-	-	23	-	-
Pedestrians%	-	-	-	-	2.2%		-	-	-	-	37.1%		-	-	-	-	31.5%		-	-	-	-	25.8%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	1.1%		-	-	-	-	2.2%		-	-	-	-	0%		-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Spectrum

Turning Movement Count
Location Name: HURONTARIO ST & CENTRAL PKWY
Date: Wed, Nov 09, 2022 Deployment Lead: Peter Ilias

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (11.66 °C)

Start Time	N Approach HURONTARIO ST						E Approach CENTRAL PKWY						S Approach HURONTARIO ST						W Approach CENTRAL PKWY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	21	172	37	0	3	230	21	124	18	0	14	163	25	210	37	0	6	272	9	142	22	0	11	173	838
17:15:00	15	168	25	0	6	208	23	188	53	0	14	264	23	164	30	0	5	217	14	156	18	0	12	188	877
17:30:00	24	162	39	0	2	225	16	160	38	0	8	214	15	160	40	0	3	215	20	145	25	0	8	190	844
17:45:00	24	134	43	0	3	201	17	161	37	1	16	216	31	213	40	0	8	284	20	139	17	0	12	176	877
Grand Total	84	636	144	0	14	864	77	633	146	1	52	857	94	747	147	0	22	988	63	582	82	0	43	727	**3436**
Approach%	9.7%	73.6%	16.7%	0%		-	9%	73.9%	17%	0.1%		-	9.5%	75.6%	14.9%	0%		-	8.7%	80.1%	11.3%	0%		-	-
Totals %	2.4%	18.5%	4.2%	0%		25.1%	2.2%	18.4%	4.2%	0%		24.9%	2.7%	21.7%	4.3%	0%		28.8%	1.8%	16.9%	2.4%	0%		21.2%	-
PHF	0.88	0.92	0.84	0		0.94	0.84	0.84	0.69	0.25		0.81	0.76	0.88	0.92	0		0.87	0.79	0.93	0.82	0		0.96	-
Heavy	0	21	2	0		23	1	2	3	0		6	3	26	1	0		30	0	2	0	0		2	-
Heavy %	0%	3.3%	1.4%	0%		2.7%	1.3%	0.3%	2.1%	0%		0.7%	3.2%	3.5%	0.7%	0%		3%	0%	0.3%	0%	0%		0.3%	-
Lights	84	615	142	0		841	76	631	143	1		851	91	721	146	0		958	63	580	82	0		725	-
Lights %	100%	96.7%	98.6%	0%		97.3%	98.7%	99.7%	97.9%	100%		99.3%	96.8%	96.5%	99.3%	0%		97%	100%	99.7%	100%	0%		99.7%	-
Single-Unit Trucks	0	6	2	0		8	1	1	0	0		2	0	10	0	0		10	0	1	0	0		1	-
Single-Unit Trucks %	0%	0.9%	1.4%	0%		0.9%	1.3%	0.2%	0%	0%		0.2%	0%	1.3%	0%	0%		1%	0%	0.2%	0%	0%		0.1%	-
Buses	0	13	0	0		13	0	1	3	0		4	3	13	1	0		17	0	0	0	0		0	-
Buses %	0%	2%	0%	0%		1.5%	0%	0.2%	2.1%	0%		0.5%	3.2%	1.7%	0.7%	0%		1.7%	0%	0%	0%	0%		0%	-
Articulated Trucks	0	2	0	0		2	0	0	0	0		0	0	3	0	0		3	0	1	0	0		1	-
Articulated Trucks %	0%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	0%	0.2%	0%	0%		0.1%	-
Pedestrians	-	-	-	-	14	-	-	-	-	-	52	-	-	-	-	-	22	-	-	-	-	-	41	-	-
Pedestrians%	-	-	-	-	10.7%		-	-	-	-	39.7%		-	-	-	-	16.8%		-	-	-	-	31.3%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	1.5%		-
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather:

Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (11.66 °C)

Turning Movement Count (8 . DUNDAS ST & KIRWIN AVE / CAMILLA RD)

Start Time	N Approach KIRWIN AVE						E Approach DUNDAS ST						S Approach CAMILLA RD						W Approach DUNDAS ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	5	8	24	0	0	37	11	70	2	0	2	83	10	9	1	0	0	20	6	133	2	0	5	141	281	
07:15:00	3	8	21	0	0	32	19	73	8	0	1	100	11	8	3	0	1	22	7	168	3	0	1	178	332	
07:30:00	4	13	49	0	2	66	17	85	5	0	1	107	13	18	3	0	1	34	11	181	3	0	6	195	402	
07:45:00	2	17	40	0	1	59	28	79	11	0	2	118	15	12	4	0	2	31	11	240	1	0	6	252	460	1475
08:00:00	6	23	37	0	5	66	26	129	13	0	2	168	19	15	11	0	0	45	25	300	2	0	1	327	606	1800
08:15:00	4	20	54	0	0	78	28	127	6	0	0	161	24	17	17	0	2	58	15	234	3	0	4	252	549	2017
08:30:00	6	13	32	0	4	51	40	142	13	0	0	195	16	17	2	0	4	35	20	236	5	0	6	261	542	2157
08:45:00	8	19	42	0	5	69	25	132	22	0	0	179	12	21	13	0	0	46	12	218	3	0	7	233	527	2224
BREAK																										
16:00:00	8	12	24	0	12	44	82	244	14	0	3	340	18	25	8	0	2	51	10	205	9	1	5	225	660	
16:15:00	8	24	36	0	1	68	70	265	28	0	2	363	9	28	18	0	7	55	8	167	6	0	6	181	667	
16:30:00	4	15	33	0	8	52	63	249	14	0	2	326	10	33	24	0	5	67	12	197	7	1	9	217	662	
16:45:00	5	19	33	0	4	57	75	255	14	0	6	344	12	27	32	0	9	71	13	195	11	0	7	219	691	2680
17:00:00	8	14	36	0	2	58	97	220	28	0	0	345	19	22	16	0	1	57	9	152	12	0	5	173	633	2653
17:15:00	11	19	41	0	4	71	76	262	15	0	0	353	18	22	12	0	1	52	12	190	5	0	1	207	683	2669
17:30:00	14	19	36	0	1	69	80	251	26	0	0	357	13	23	17	0	4	53	11	187	14	0	1	212	691	2698
17:45:00	5	15	36	0	6	56	62	196	17	0	1	275	13	26	12	0	3	51	7	183	9	1	2	200	582	2589
Grand Total	101	258	574	0	55	933	799	2779	236	0	22	3814	232	323	193	0	42	748	189	3186	95	3	72	3473	**8968**	-
Approach%	10.8%	27.7%	61.5%	0%		-	20.9%	72.9%	6.2%	0%		-	31%	43.2%	25.8%	0%		-	5.4%	91.7%	2.7%	0.1%		-	-	-
Totals %	1.1%	2.9%	6.4%	0%		10.4%	8.9%	31%	2.6%	0%		42.5%	2.6%	3.6%	2.2%	0%		8.3%	2.1%	35.5%	1.1%	0%		38.7%	-	-
Heavy	2	7	11	0		-	13	103	4	0		-	2	11	9	0		-	7	101	5	0		-	-	-
Heavy %	2%	2.7%	1.9%	0%		-	1.6%	3.7%	1.7%	0%		-	0.9%	3.4%	4.7%	0%		-	3.7%	3.2%	5.3%	0%		-	-	-
Bicycles	2	4	0	0		-	2	1	0	0		-	0	1	0	0		-	0	0	1	0		-	-	-
Bicycle %	2%	1.6%	0%	0%		-	0.3%	0%	0%	0%		-	0%	0.3%	0%	0%		-	0%	0%	1.1%	0%		-	-	-

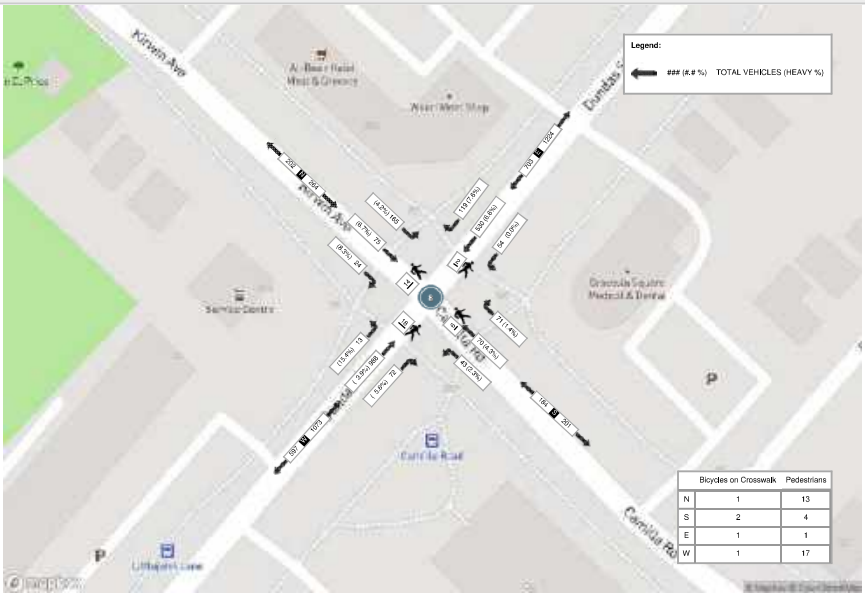
Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach KIRWIN AVE						E Approach DUNDAS ST						S Approach CAMILLA RD						W Approach DUNDAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	6	23	37	0	5	66	26	129	13	0	2	168	19	15	11	0	0	45	25	300	2	0	1	327	606
08:15:00	4	20	54	0	0	78	28	127	6	0	0	161	24	17	17	0	2	58	15	234	3	0	4	252	549
08:30:00	6	13	32	0	4	51	40	142	13	0	0	195	16	17	2	0	4	35	20	236	5	0	6	261	542
08:45:00	8	19	42	0	5	69	25	132	22	0	0	179	12	21	13	0	0	46	12	218	3	0	7	233	527
Grand Total	24	75	165	0	14	264	119	530	54	0	2	703	71	70	43	0	6	184	72	988	13	0	18	1073	**2224**
Approach%	9.1%	28.4%	62.5%	0%		-	16.9%	75.4%	7.7%	0%		-	38.6%	38%	23.4%	0%		-	6.7%	92.1%	1.2%	0%		-	-
Totals %	1.1%	3.4%	7.4%	0%		11.9%	5.4%	23.8%	2.4%	0%		31.6%	3.2%	3.1%	1.9%	0%		8.3%	3.2%	44.4%	0.6%	0%		48.2%	-
PHF	0.75	0.82	0.76	0		0.85	0.74	0.93	0.61	0		0.9	0.74	0.83	0.63	0		0.79	0.72	0.82	0.65	0		0.82	-
Heavy	2	5	7	0		14	9	35	0	0		44	1	3	1	0		5	4	39	2	0		45	-
Heavy %	8.3%	6.7%	4.2%	0%		5.3%	7.6%	6.6%	0%	0%		6.3%	1.4%	4.3%	2.3%	0%		2.7%	5.6%	3.9%	15.4%	0%		4.2%	-
Lights	22	70	158	0		250	110	495	54	0		659	70	67	42	0		179	68	949	11	0		1028	-
Lights %	91.7%	93.3%	95.8%	0%		94.7%	92.4%	93.4%	100%	0%		93.7%	98.6%	95.7%	97.7%	0%		97.3%	94.4%	96.1%	84.6%	0%		95.8%	-
Single-Unit Trucks	0	1	1	0		2	3	17	0	0		20	0	0	0	0		0	1	20	0	0		21	-
Single-Unit Trucks %	0%	1.3%	0.6%	0%		0.8%	2.5%	3.2%	0%	0%		2.8%	0%	0%	0%	0%		0%	1.4%	2%	0%	0%		2%	-
Buses	2	4	6	0		12	6	18	0	0		24	1	3	1	0		5	3	15	2	0		20	-
Buses %	8.3%	5.3%	3.6%	0%		4.5%	5%	3.4%	0%	0%		3.4%	1.4%	4.3%	2.3%	0%		2.7%	4.2%	1.5%	15.4%	0%		1.9%	-
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	4	0	0		4	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	-
Pedestrians	-	-	-	-	13		-	-	-	-	1		-	-	-	-	4		-	-	-	-	17		-
Pedestrians%	-	-	-	-	32.5%		-	-	-	-	2.5%		-	-	-	-	10%		-	-	-	-	42.5%		-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	2.5%		-	-	-	-	2.5%		-	-	-	-	5%		-	-	-	-	2.5%		-
Bicycles on Road	1	0	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

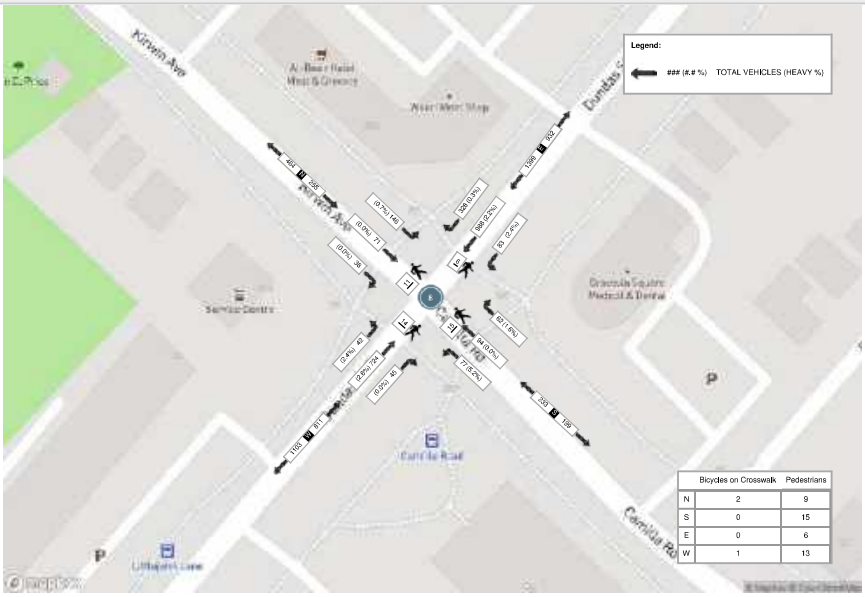
Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (11.66 °C)

Start Time	N Approach KIRWIN AVE						E Approach DUNDAS ST						S Approach CAMILLA RD						W Approach DUNDAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:45:00	5	19	33	0	4	57	75	255	14	0	6	344	12	27	32	0	9	71	13	195	11	0	7	219	691
17:00:00	8	14	36	0	2	58	97	220	28	0	0	345	19	22	16	0	1	57	9	152	12	0	5	173	633
17:15:00	11	19	41	0	4	71	76	262	15	0	0	353	18	22	12	0	1	52	12	190	5	0	1	207	683
17:30:00	14	19	36	0	1	69	80	251	26	0	0	357	13	23	17	0	4	53	11	187	14	0	1	212	691
Grand Total	38	71	146	0	11	255	328	988	83	0	6	1399	62	94	77	0	15	233	45	724	42	0	14	811	**2698**
Approach%	14.9%	27.8%	57.3%	0%		-	23.4%	70.6%	5.9%	0%		-	26.6%	40.3%	33%	0%		-	5.5%	89.3%	5.2%	0%		-	-
Totals %	1.4%	2.6%	5.4%	0%		9.5%	12.2%	36.6%	3.1%	0%		51.9%	2.3%	3.5%	2.9%	0%		8.6%	1.7%	26.8%	1.6%	0%		30.1%	-
PHF	0.68	0.93	0.89	0		0.9	0.85	0.94	0.74	0		0.98	0.82	0.87	0.6	0		0.82	0.87	0.93	0.75	0		0.93	-
Heavy	0	0	1	0		1	1	22	2	0		25	1	0	4	0		5	0	19	1	0		20	-
Heavy %	0%	0%	0.7%	0%		0.4%	0.3%	2.2%	2.4%	0%		1.8%	1.6%	0%	5.2%	0%		2.1%	0%	2.6%	2.4%	0%		2.5%	-
Lights	38	71	145	0		254	327	966	81	0		1374	61	94	73	0		228	45	705	41	0		791	-
Lights %	100%	100%	99.3%	0%		99.6%	99.7%	97.8%	97.6%	0%		98.2%	98.4%	100%	94.8%	0%		97.9%	100%	97.4%	97.6%	0%		97.5%	-
Single-Unit Trucks	0	0	0	0		0	1	9	2	0		12	1	0	2	0		3	0	8	1	0		9	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	0.3%	0.9%	2.4%	0%		0.9%	1.6%	0%	2.6%	0%		1.3%	0%	1.1%	2.4%	0%		1.1%	-
Buses	0	0	1	0		1	0	11	0	0		11	0	0	2	0		2	0	10	0	0		10	-
Buses %	0%	0%	0.7%	0%		0.4%	0%	1.1%	0%	0%		0.8%	0%	0%	2.6%	0%		0.9%	0%	1.4%	0%	0%		1.2%	-
Articulated Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	-
Pedestrians	-	-	-	-	9	-	-	-	-	-	6	-	-	-	-	-	15	-	-	-	-	-	13	-	-
Pedestrians%	-	-	-	-	19.6%		-	-	-	-	13%		-	-	-	-	32.6%		-	-	-	-	28.3%		-
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	4.3%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	2.2%		-
Bicycles on Road	0	1	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather:



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (11.66 °C)



Turning Movement Count (7 . DUNDAS ST & JAGUAR VALLEY DR)

Start Time	N Approach JAGUAR VALLEY DR						E Approach DUNDAS ST						S Approach SOUTH DRIVEWAY						W Approach DUNDAS ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	5	0	4	0	0	9	4	81	0	0	0	85	1	0	1	0	1	2	0	138	3	0	0	141	237	
07:15:00	7	0	8	0	0	15	1	77	0	0	0	78	0	0	0	0	2	0	1	150	3	0	2	154	247	
07:30:00	3	0	4	0	1	7	1	104	0	0	0	105	0	0	0	0	4	0	0	190	5	0	0	195	307	
07:45:00	10	0	5	0	2	15	5	83	1	0	0	89	0	0	0	0	10	0	0	232	2	0	0	234	338	1129
08:00:00	10	0	5	0	3	15	3	136	0	0	0	139	0	0	0	0	6	0	0	286	3	0	0	289	443	1335
08:15:00	12	0	5	0	2	17	5	143	0	0	2	148	0	0	0	0	9	0	0	248	2	0	0	250	415	1503
08:30:00	6	0	4	0	4	10	3	146	1	0	2	150	0	0	0	0	8	0	0	249	5	0	0	254	414	1610
08:45:00	10	0	6	0	4	16	7	152	0	0	1	159	1	0	0	0	8	1	0	229	6	0	0	235	411	1683
BREAK																										
16:00:00	12	0	4	0	18	16	7	220	7	0	4	234	4	1	3	0	12	8	2	216	12	1	3	231	489	
16:15:00	16	1	3	0	11	20	14	237	8	0	2	259	9	3	1	0	7	13	1	177	12	0	2	190	482	
16:30:00	13	1	3	0	12	17	14	263	8	0	1	285	10	0	1	0	20	11	2	210	11	2	3	225	538	
16:45:00	14	1	1	0	16	16	13	225	8	1	0	247	4	1	1	0	10	6	3	220	12	0	0	235	504	2013
17:00:00	9	2	4	0	9	15	8	249	8	0	2	265	4	0	1	0	13	5	1	173	14	0	2	188	473	1997
17:15:00	15	0	3	0	12	18	7	274	3	0	1	284	5	1	0	0	18	6	3	205	7	0	0	215	523	2038
17:30:00	13	0	1	0	6	14	9	238	7	0	3	254	7	0	2	0	5	9	6	205	17	0	1	228	505	2005
17:45:00	16	0	2	0	18	18	11	234	6	0	1	251	17	0	1	0	4	18	2	196	14	1	4	213	500	2001
Grand Total	171	5	62	0	118	238	112	2862	57	1	19	3032	62	6	11	0	137	79	21	3324	128	4	17	3477	**6826**	-
Approach%	71.8%	2.1%	26.1%	0%		-	3.7%	94.4%	1.9%	0%		-	78.5%	7.6%	13.9%	0%		-	0.6%	95.6%	3.7%	0.1%		-	-	-
Totals %	2.5%	0.1%	0.9%	0%		3.5%	1.6%	41.9%	0.8%	0%		44.4%	0.9%	0.1%	0.2%	0%		1.2%	0.3%	48.7%	1.9%	0.1%		50.9%	-	-
Heavy	5	0	4	0		-	2	107	1	0		-	2	0	0	0		-	1	108	6	0		-	-	-
Heavy %	2.9%	0%	6.5%	0%		-	1.8%	3.7%	1.8%	0%		-	3.2%	0%	0%	0%		-	4.8%	3.2%	4.7%	0%		-	-	-
Bicycles	0	0	0	0		-	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach JAGUAR VALLEY DR						E Approach DUNDAS ST						S Approach SOUTH DRIVEWAY						W Approach DUNDAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	10	0	5	0	3	15	3	136	0	0	0	139	0	0	0	0	6	0	0	286	3	0	0	289	443
08:15:00	12	0	5	0	2	17	5	143	0	0	2	148	0	0	0	0	9	0	0	248	2	0	0	250	415
08:30:00	6	0	4	0	4	10	3	146	1	0	2	150	0	0	0	0	8	0	0	249	5	0	0	254	414
08:45:00	10	0	6	0	4	16	7	152	0	0	1	159	1	0	0	0	8	1	0	229	6	0	0	235	411
Grand Total	38	0	20	0	13	58	18	577	1	0	5	596	1	0	0	0	31	1	0	1012	16	0	0	1028	**1683**
Approach%	65.5%	0%	34.5%	0%		-	3%	96.8%	0.2%	0%		-	100%	0%	0%	0%		-	0%	98.4%	1.6%	0%		-	-
Totals %	2.3%	0%	1.2%	0%		3.4%	1.1%	34.3%	0.1%	0%		35.4%	0.1%	0%	0%	0%		0.1%	0%	60.1%	1%	0%		61.1%	-
PHF	0.79	0	0.83	0		0.85	0.64	0.95	0.25	0		0.94	0.25	0	0	0		0.25	0	0.88	0.67	0		0.89	-
Heavy	3	0	3	0		6	1	35	0	0		36	0	0	0	0		0	0	43	2	0		45	-
Heavy %	7.9%	0%	15%	0%		10.3%	5.6%	6.1%	0%	0%		6%	0%	0%	0%	0%		0%	0%	4.2%	12.5%	0%		4.4%	-
Lights	35	0	17	0		52	17	542	1	0		560	1	0	0	0		1	0	969	14	0		983	-
Lights %	92.1%	0%	85%	0%		89.7%	94.4%	93.9%	100%	0%		94%	100%	0%	0%	0%		100%	0%	95.8%	87.5%	0%		95.6%	-
Single-Unit Trucks	1	0	1	0		2	0	13	0	0		13	0	0	0	0		0	0	20	0	0		20	-
Single-Unit Trucks %	2.6%	0%	5%	0%		3.4%	0%	2.3%	0%	0%		2.2%	0%	0%	0%	0%		0%	0%	2%	0%	0%		1.9%	-
Buses	2	0	2	0		4	1	21	0	0		22	0	0	0	0		0	0	18	2	0		20	-
Buses %	5.3%	0%	10%	0%		6.9%	5.6%	3.6%	0%	0%		3.7%	0%	0%	0%	0%		0%	0%	1.8%	12.5%	0%		1.9%	-
Articulated Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	5	0	0		5	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	-
Pedestrians	-	-	-	-	12	-	-	-	-	-	5	-	-	-	-	-	28	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	-	24.5%		-	-	-	-	10.2%		-	-	-	-	57.1%		-	-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	2%		-	-	-	-	0%		-	-	-	-	6.1%		-	-	-	-	0%		-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 04:30 PM - 05:30 PM Weather: Clear Sky (11.66 °C)

Start Time	N Approach JAGUAR VALLEY DR						E Approach DUNDAS ST						S Approach SOUTH DRIVEWAY						W Approach DUNDAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:30:00	13	1	3	0	12	17	14	263	8	0	1	285	10	0	1	0	20	11	2	210	11	2	3	225	538
16:45:00	14	1	1	0	16	16	13	225	8	1	0	247	4	1	1	0	10	6	3	220	12	0	0	235	504
17:00:00	9	2	4	0	9	15	8	249	8	0	2	265	4	0	1	0	13	5	1	173	14	0	2	188	473
17:15:00	15	0	3	0	12	18	7	274	3	0	1	284	5	1	0	0	18	6	3	205	7	0	0	215	523
Grand Total	51	4	11	0	49	66	42	1011	27	1	4	1081	23	2	3	0	61	28	9	808	44	2	5	863	**2038**
Approach%	77.3%	6.1%	16.7%	0%		-	3.9%	93.5%	2.5%	0.1%		-	82.1%	7.1%	10.7%	0%		-	1%	93.6%	5.1%	0.2%		-	-
Totals %	2.5%	0.2%	0.5%	0%		3.2%	2.1%	49.6%	1.3%	0%		53%	1.1%	0.1%	0.1%	0%		1.4%	0.4%	39.6%	2.2%	0.1%		42.3%	-
PHF	0.85	0.5	0.69	0		0.92	0.75	0.92	0.84	0.25		0.95	0.58	0.5	0.75	0		0.64	0.75	0.92	0.79	0.25		0.92	-
Heavy	0	0	0	0		0	1	24	0	0		25	1	0	0	0		1	1	19	1	0		21	-
Heavy %	0%	0%	0%	0%		0%	2.4%	2.4%	0%	0%		2.3%	4.3%	0%	0%	0%		3.6%	11.1%	2.4%	2.3%	0%		2.4%	-
Lights	51	4	11	0		66	41	987	27	1		1056	22	2	3	0		27	8	789	43	2		842	-
Lights %	100%	100%	100%	0%		100%	97.6%	97.6%	100%	100%		97.7%	95.7%	100%	100%	0%		96.4%	88.9%	97.6%	97.7%	100%		97.6%	-
Single-Unit Trucks	0	0	0	0		0	1	7	0	0		8	1	0	0	0		1	1	7	0	0		8	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	2.4%	0.7%	0%	0%		0.7%	4.3%	0%	0%	0%		3.6%	11.1%	0.9%	0%	0%		0.9%	-
Buses	0	0	0	0		0	0	16	0	0		16	0	0	0	0		0	0	9	1	0		10	-
Buses %	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.5%	0%	0%	0%	0%		0%	0%	1.1%	2.3%	0%		1.2%	-
Articulated Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	3	0	0		3	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	-
Pedestrians	-	-	-	-	47	-	-	-	-	-	4	-	-	-	-	-	61	-	-	-	-	-	5	-	-
Pedestrians%	-	-	-	-	39.5%		-	-	-	-	3.4%		-	-	-	-	51.3%		-	-	-	-	4.2%		-
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	1.7%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather:

Peak Hour: 04:30 PM - 05:30 PM Weather: Clear Sky (11.66 °C)

Turning Movement Count (6 . HURONTARIO ST & DUNDAS ST)

Start Time	N Approach HURONTARIO ST						E Approach DUNDAS ST						S Approach HURONTARIO ST						W Approach DUNDAS ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	8	74	24	0	3	106	6	73	8	0	9	87	7	94	18	0	26	119	11	119	15	0	17	145	457	
07:15:00	12	101	13	0	5	126	8	51	13	0	10	72	10	97	16	0	18	123	13	126	19	0	23	158	479	
07:30:00	10	88	13	0	6	111	8	80	10	0	13	98	4	105	23	0	45	132	12	186	14	0	32	212	553	
07:45:00	12	111	20	0	12	143	8	57	8	0	10	73	9	123	21	0	24	153	9	195	8	0	33	212	581	2070
08:00:00	13	78	30	0	16	121	18	113	12	0	19	143	11	120	35	0	63	166	10	243	13	0	48	266	696	2309
08:15:00	10	74	18	0	9	102	14	133	7	0	15	154	7	102	30	0	29	139	14	223	9	0	29	246	641	2471
08:30:00	15	76	29	0	10	120	18	101	6	0	11	125	18	122	21	0	43	161	10	194	15	0	27	219	625	2543
08:45:00	12	72	27	0	16	111	15	128	13	0	14	156	10	114	26	0	51	150	17	195	12	0	47	224	641	2603
BREAK																										
16:00:00	19	87	29	0	25	135	29	195	20	0	34	244	17	108	38	0	92	163	14	189	30	0	49	233	775	
16:15:00	21	100	24	0	26	145	28	183	16	0	46	227	17	131	43	0	67	191	13	159	22	0	46	194	757	
16:30:00	22	113	31	0	19	166	33	221	17	0	38	271	24	125	35	0	87	184	24	166	28	0	54	218	839	
16:45:00	19	87	19	0	40	125	24	227	11	0	48	262	14	119	61	0	84	194	22	198	29	0	60	249	830	3201
17:00:00	20	114	16	0	13	150	25	205	20	0	32	250	13	102	50	0	55	165	22	154	28	0	49	204	769	3195
17:15:00	22	104	26	0	22	152	19	217	25	0	35	261	16	127	41	0	64	184	21	188	20	0	86	229	826	3264
17:30:00	24	125	27	0	26	176	25	204	23	0	35	252	18	139	37	0	54	194	21	187	26	0	47	234	856	3281
17:45:00	23	105	21	0	19	149	26	190	23	0	49	241	21	120	42	0	52	183	26	154	23	1	57	204	777	3228
Grand Total	262	1509	367	0	267	2138	306	2378	232	0	418	2916	216	1848	537	0	854	2601	259	2876	311	1	704	3447	**11102**	-
Approach%	12.3%	70.6%	17.2%	0%		-	10.5%	81.6%	8%	0%		-	8.3%	71%	20.6%	0%		-	7.5%	83.4%	9%	0%		-	-	-
Totals %	2.4%	13.6%	3.3%	0%		19.3%	2.8%	21.4%	2.1%	0%		26.3%	1.9%	16.6%	4.8%	0%		23.4%	2.3%	25.9%	2.8%	0%		31%	-	-
Heavy	13	86	11	0		-	10	101	8	0		-	8	95	14	0		-	5	92	8	0		-	-	-
Heavy %	5%	5.7%	3%	0%		-	3.3%	4.2%	3.4%	0%		-	3.7%	5.1%	2.6%	0%		-	1.9%	3.2%	2.6%	0%		-	-	-
Bicycles	0	0	0	0		-	1	1	0	0		-	0	1	0	0		-	1	1	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0.3%	0%	0%	0%		-	0%	0.1%	0%	0%		-	0.4%	0%	0%	0%		-	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach HURONTARIO ST						E Approach DUNDAS ST						S Approach HURONTARIO ST						W Approach DUNDAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	13	78	30	0	16	121	18	113	12	0	19	143	11	120	35	0	63	166	10	243	13	0	48	266	696
08:15:00	10	74	18	0	9	102	14	133	7	0	15	154	7	102	30	0	29	139	14	223	9	0	29	246	641
08:30:00	15	76	29	0	10	120	18	101	6	0	11	125	18	122	21	0	43	161	10	194	15	0	27	219	625
08:45:00	12	72	27	0	16	111	15	128	13	0	14	156	10	114	26	0	51	150	17	195	12	0	47	224	641
Grand Total	50	300	104	0	51	454	65	475	38	0	59	578	46	458	112	0	186	616	51	855	49	0	151	955	**2603**
Approach%	11%	66.1%	22.9%	0%		-	11.2%	82.2%	6.6%	0%		-	7.5%	74.4%	18.2%	0%		-	5.3%	89.5%	5.1%	0%		-	-
Totals %	1.9%	11.5%	4%	0%		17.4%	2.5%	18.2%	1.5%	0%		22.2%	1.8%	17.6%	4.3%	0%		23.7%	2%	32.8%	1.9%	0%		36.7%	-
PHF	0.83	0.96	0.87	0		0.94	0.9	0.89	0.73	0		0.93	0.64	0.94	0.8	0		0.93	0.75	0.88	0.82	0		0.9	-
Heavy	5	18	7	0		30	4	32	0	0		36	1	31	2	0		34	3	33	2	0		38	-
Heavy %	10%	6%	6.7%	0%		6.6%	6.2%	6.7%	0%	0%		6.2%	2.2%	6.8%	1.8%	0%		5.5%	5.9%	3.9%	4.1%	0%		4%	-
Lights	45	282	97	0		424	61	443	38	0		542	45	427	110	0		582	48	822	47	0		917	-
Lights %	90%	94%	93.3%	0%		93.4%	93.8%	93.3%	100%	0%		93.8%	97.8%	93.2%	98.2%	0%		94.5%	94.1%	96.1%	95.9%	0%		96%	-
Single-Unit Trucks	2	5	5	0		12	2	12	0	0		14	1	11	0	0		12	2	14	0	0		16	-
Single-Unit Trucks %	4%	1.7%	4.8%	0%		2.6%	3.1%	2.5%	0%	0%		2.4%	2.2%	2.4%	0%	0%		1.9%	3.9%	1.6%	0%	0%		1.7%	-
Buses	2	13	2	0		17	2	19	0	0		21	0	19	1	0		20	1	16	2	0		19	-
Buses %	4%	4.3%	1.9%	0%		3.7%	3.1%	4%	0%	0%		3.6%	0%	4.1%	0.9%	0%		3.2%	2%	1.9%	4.1%	0%		2%	-
Articulated Trucks	1	0	0	0		1	0	1	0	0		1	0	1	1	0		2	0	3	0	0		3	-
Articulated Trucks %	2%	0%	0%	0%		0.2%	0%	0.2%	0%	0%		0.2%	0%	0.2%	0.9%	0%		0.3%	0%	0.4%	0%	0%		0.3%	-
Pedestrians	-	-	-	-	51	-	-	-	-	-	57	-	-	-	-	-	184	-	-	-	-	-	149	-	-
Pedestrians%	-	-	-	-	11.4%		-	-	-	-	12.8%		-	-	-	-	41.2%		-	-	-	-	33.3%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0.4%		-	-	-	-	0.4%		-	-	-	-	0.4%		-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (11.66 °C)

Start Time	N Approach HURONTARIO ST						E Approach DUNDAS ST						S Approach HURONTARIO ST						W Approach DUNDAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:45:00	19	87	19	0	40	125	24	227	11	0	48	262	14	119	61	0	84	194	22	198	29	0	60	249	830
17:00:00	20	114	16	0	13	150	25	205	20	0	32	250	13	102	50	0	55	165	22	154	28	0	49	204	769
17:15:00	22	104	26	0	22	152	19	217	25	0	35	261	16	127	41	0	64	184	21	188	20	0	86	229	826
17:30:00	24	125	27	0	26	176	25	204	23	0	35	252	18	139	37	0	54	194	21	167	26	0	47	234	856
Grand Total	85	430	88	0	101	603	93	853	79	0	150	1025	61	487	189	0	257	737	86	727	103	0	242	916	**3281**
Approach%	14.1%	71.3%	14.6%	0%		-	9.1%	83.2%	7.7%	0%		-	8.3%	66.1%	25.6%	0%		-	9.4%	79.4%	11.2%	0%		-	-
Totals %	2.6%	13.1%	2.7%	0%		18.4%	2.8%	26%	2.4%	0%		31.2%	1.9%	14.8%	5.8%	0%		22.5%	2.6%	22.2%	3.1%	0%		27.9%	-
PHF	0.89	0.86	0.81	0		0.86	0.93	0.94	0.79	0		0.98	0.85	0.88	0.77	0		0.95	0.98	0.92	0.89	0		0.92	-
Heavy	2	16	0	0		18	0	21	2	0		23	2	14	5	0		21	0	19	2	0		21	-
Heavy %	2.4%	3.7%	0%	0%		3%	0%	2.5%	2.5%	0%		2.2%	3.3%	2.9%	2.6%	0%		2.8%	0%	2.6%	1.9%	0%		2.3%	-
Lights	83	414	88	0		585	93	832	77	0		1002	59	473	184	0		716	86	708	101	0		895	-
Lights %	97.6%	96.3%	100%	0%		97%	100%	97.5%	97.5%	0%		97.8%	96.7%	97.1%	97.4%	0%		97.2%	100%	97.4%	98.1%	0%		97.7%	-
Single-Unit Trucks	2	4	0	0		6	0	7	2	0		9	1	3	5	0		9	0	6	0	0		6	-
Single-Unit Trucks %	2.4%	0.9%	0%	0%		1%	0%	0.8%	2.5%	0%		0.9%	1.6%	0.6%	2.6%	0%		1.2%	0%	0.8%	0%	0%		0.7%	-
Buses	0	10	0	0		10	0	12	0	0		12	0	9	0	0		9	0	11	0	0		11	-
Buses %	0%	2.3%	0%	0%		1.7%	0%	1.4%	0%	0%		1.2%	0%	1.8%	0%	0%		1.2%	0%	1.5%	0%	0%		1.2%	-
Articulated Trucks	0	2	0	0		2	0	2	0	0		2	1	2	0	0		3	0	2	2	0		4	-
Articulated Trucks %	0%	0.5%	0%	0%		0.3%	0%	0.2%	0%	0%		0.2%	1.6%	0.4%	0%	0%		0.4%	0%	0.3%	1.9%	0%		0.4%	-
Pedestrians	-	-	-	-	100	-	-	-	-	-	149	-	-	-	-	-	257	-	-	-	-	-	241	-	-
Pedestrians%	-	-	-	-	13.3%		-	-	-	-	19.9%		-	-	-	-	34.3%		-	-	-	-	32.1%		-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	0.1%		-	-	-	-	0.1%		-	-	-	-	0%		-	-	-	-	0.1%		-
Bicycles on Road	0	0	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather:

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (11.66 °C)

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (5 . KIRWIN AVE & JAGUAR VALLEY DR)

Start Time	N Approach JAGUAR VALLEY DR						E Approach KIRWIN AVE						S Approach JAGUAR VALLEY DR						W Approach KIRWIN AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	5	3	1	0	1	9	3	11	1	0	2	15	3	3	4	0	4	10	2	15	0	0	2	17	51	
07:15:00	1	4	2	0	1	7	2	12	3	0	0	17	3	3	3	0	2	9	4	7	2	0	3	13	46	
07:30:00	2	2	3	0	1	7	7	13	0	0	3	20	1	11	6	0	3	18	4	22	5	0	3	31	76	
07:45:00	3	6	4	0	3	13	2	19	3	0	4	24	3	12	4	0	2	19	5	23	9	0	3	37	93	266
08:00:00	4	2	4	0	4	10	5	29	6	0	5	40	3	11	6	0	10	20	7	20	7	0	1	34	104	319
08:15:00	4	11	9	0	3	24	4	16	0	0	1	20	2	9	3	0	7	14	3	30	5	0	2	38	96	369
08:30:00	1	4	3	0	2	8	4	31	1	0	1	36	2	7	3	0	3	12	4	31	2	0	4	37	93	386
08:45:00	1	10	6	0	2	17	4	24	4	0	0	32	4	10	1	0	7	15	3	29	4	0	6	36	100	393
BREAK																										
16:00:00	12	11	2	0	3	25	8	57	2	0	5	67	6	9	7	0	0	22	6	27	10	0	8	43	157	
16:15:00	5	8	4	0	3	17	6	50	5	0	5	61	2	11	10	0	6	23	10	36	8	0	3	54	155	
16:30:00	2	8	8	0	6	18	2	62	2	0	2	66	7	9	10	0	7	26	8	21	10	1	4	40	150	
16:45:00	4	11	8	0	6	23	12	55	6	0	3	73	3	9	18	0	3	30	12	32	11	0	2	55	181	643
17:00:00	11	8	7	0	0	26	10	70	6	0	1	86	6	14	10	0	8	30	11	39	4	2	4	56	198	684
17:15:00	4	7	9	0	4	20	4	52	4	0	1	60	4	5	11	0	4	20	7	36	8	0	3	51	151	680
17:30:00	7	16	4	0	2	27	3	64	5	0	2	72	6	11	10	0	5	27	4	38	6	0	2	48	174	704
17:45:00	7	7	5	0	4	19	7	46	2	0	2	55	5	17	12	0	9	34	15	24	13	0	2	52	160	683
Grand Total	73	118	79	0	45	270	83	611	50	0	37	744	60	151	118	0	80	329	105	430	104	3	52	642	**1985**	-
Approach%	27%	43.7%	29.3%	0%		-	11.2%	82.1%	6.7%	0%		-	18.2%	45.9%	35.9%	0%		-	16.4%	67%	16.2%	0.5%		-	-	-
Totals %	3.7%	5.9%	4%	0%		13.6%	4.2%	30.8%	2.5%	0%		37.5%	3%	7.6%	5.9%	0%		16.6%	5.3%	21.7%	5.2%	0.2%		32.3%	-	-
Heavy	4	3	2	0		-	5	14	3	0		-	3	4	6	0		-	4	10	5	0		-	-	-
Heavy %	5.5%	2.5%	2.5%	0%		-	6%	2.3%	6%	0%		-	5%	2.6%	5.1%	0%		-	3.8%	2.3%	4.8%	0%		-	-	-
Bicycles	1	0	0	0		-	0	3	0	0		-	4	1	0	0		-	2	2	0	0		-	-	-
Bicycle %	1.4%	0%	0%	0%		-	0%	0.5%	0%	0%		-	6.7%	0.7%	0%	0%		-	1.9%	0.5%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: KIRWIN AVE & JAGUAR VALLEY DR
Date: Wed, Nov 09, 2022 Deployment Lead: Peter Ilias

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach JAGUAR VALLEY DR						E Approach KIRWIN AVE						S Approach JAGUAR VALLEY DR						W Approach KIRWIN AVE						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	4	2	4	0	4	10	5	29	6	0	5	40	3	11	6	0	10	20	7	20	7	0	1	34	104
08:15:00	4	11	9	0	3	24	4	16	0	0	1	20	2	9	3	0	7	14	3	30	5	0	2	38	96
08:30:00	1	4	3	0	2	8	4	31	1	0	1	36	2	7	3	0	3	12	4	31	2	0	4	37	93
08:45:00	1	10	6	0	2	17	4	24	4	0	0	32	4	10	1	0	7	15	3	29	4	0	6	36	100
Grand Total	10	27	22	0	11	59	17	100	11	0	7	128	11	37	13	0	27	61	17	110	18	0	13	145	**393**
Approach%	16.9%	45.8%	37.3%	0%		-	13.3%	78.1%	8.6%	0%		-	18%	60.7%	21.3%	0%		-	11.7%	75.9%	12.4%	0%		-	-
Totals %	2.5%	6.9%	5.6%	0%		15%	4.3%	25.4%	2.8%	0%		32.6%	2.8%	9.4%	3.3%	0%		15.5%	4.3%	28%	4.6%	0%		36.9%	-
PHF	0.63	0.61	0.61	0		0.61	0.85	0.81	0.46	0		0.8	0.69	0.84	0.54	0		0.76	0.61	0.89	0.64	0		0.95	-
Heavy	0	3	2	0		5	4	6	1	0		11	2	2	0	0		4	2	5	4	0		11	-
Heavy %	0%	11.1%	9.1%	0%		8.5%	23.5%	6%	9.1%	0%		8.6%	18.2%	5.4%	0%	0%		6.6%	11.8%	4.5%	22.2%	0%		7.6%	-
Lights	10	24	20	0		54	13	94	10	0		117	9	35	13	0		57	15	105	14	0		134	-
Lights %	100%	88.9%	90.9%	0%		91.5%	76.5%	94%	90.9%	0%		91.4%	81.8%	94.6%	100%	0%		93.4%	88.2%	95.5%	77.8%	0%		92.4%	-
Single-Unit Trucks	0	1	0	0		1	1	1	0	0		2	0	0	0	0		0	0	1	0	0		1	-
Single-Unit Trucks %	0%	3.7%	0%	0%		1.7%	5.9%	1%	0%	0%		1.6%	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.7%	-
Buses	0	2	2	0		4	3	5	1	0		9	2	2	0	0		4	2	4	4	0		10	-
Buses %	0%	7.4%	9.1%	0%		6.8%	17.6%	5%	9.1%	0%		7%	18.2%	5.4%	0%	0%		6.6%	11.8%	3.6%	22.2%	0%		6.9%	-
Pedestrians	-	-	-	-	9	-	-	-	-	-	6	-	-	-	-	-	25	-	-	-	-	-	13	-	-
Pedestrians%	-	-	-	-	15.5%		-	-	-	-	10.3%		-	-	-	-	43.1%		-	-	-	-	22.4%		-
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	3.4%		-	-	-	-	1.7%		-	-	-	-	3.4%		-	-	-	-	0%		-
Bicycles on Road	1	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	1	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Spectrum

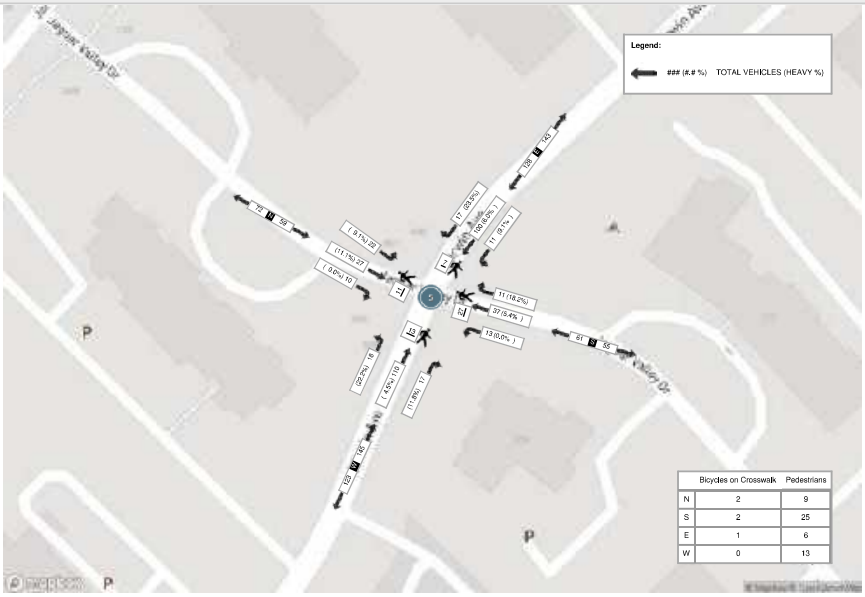
Turning Movement Count
Location Name: KIRWIN AVE & JAGUAR VALLEY DR
Date: Wed, Nov 09, 2022 Deployment Lead: Peter Ilias

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

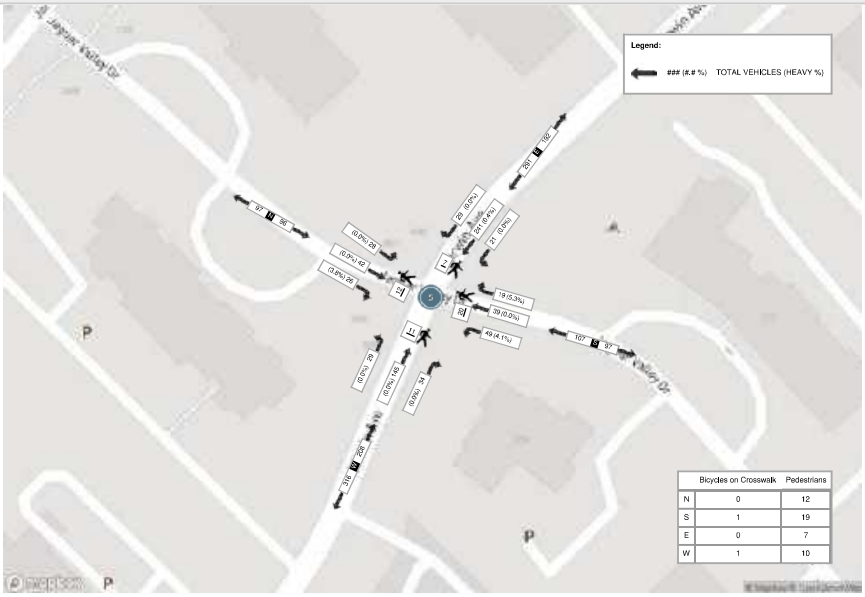
Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (11.66 °C)

Start Time	N Approach JAGUAR VALLEY DR						E Approach KIRWIN AVE						S Approach JAGUAR VALLEY DR						W Approach KIRWIN AVE						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:45:00	4	11	8	0	6	23	12	55	6	0	3	73	3	9	18	0	3	30	12	32	11	0	2	55	181
17:00:00	11	8	7	0	0	26	10	70	6	0	1	86	6	14	10	0	8	30	11	39	4	2	4	56	198
17:15:00	4	7	9	0	4	20	4	52	4	0	1	60	4	5	11	0	4	20	7	36	8	0	3	51	151
17:30:00	7	16	4	0	2	27	3	64	5	0	2	72	6	11	10	0	5	27	4	38	6	0	2	48	174
Grand Total	26	42	28	0	12	96	29	241	21	0	7	291	19	39	49	0	20	107	34	145	29	2	11	210	**704**
Approach%	27.1%	43.8%	29.2%	0%		-	10%	82.8%	7.2%	0%		-	17.8%	36.4%	45.8%	0%		-	16.2%	69%	13.8%	1%		-	-
Totals %	3.7%	6%	4%	0%		13.6%	4.1%	34.2%	3%	0%		41.3%	2.7%	5.5%	7%	0%		15.2%	4.8%	20.6%	4.1%	0.3%		29.8%	-
PHF	0.59	0.66	0.78	0		0.89	0.6	0.86	0.88	0		0.85	0.79	0.7	0.68	0		0.89	0.71	0.93	0.66	0.25		0.94	-
Heavy	1	0	0	0		1	0	1	0	0		1	1	0	2	0		3	0	0	0	0		0	-
Heavy %	3.8%	0%	0%	0%		1%	0%	0.4%	0%	0%		0.3%	5.3%	0%	4.1%	0%		2.8%	0%	0%	0%	0%		0%	-
Lights	25	42	28	0		95	29	240	21	0		290	18	39	47	0		104	34	145	29	2		210	-
Lights %	96.2%	100%	100%	0%		99%	100%	99.6%	100%	0%		99.7%	94.7%	100%	95.9%	0%		97.2%	100%	100%	100%	100%		100%	-
Single-Unit Trucks	1	0	0	0		1	0	1	0	0		1	0	0	2	0		2	0	0	0	0		0	-
Single-Unit Trucks %	3.8%	0%	0%	0%		1%	0%	0.4%	0%	0%		0.3%	0%	0%	4.1%	0%		1.9%	0%	0%	0%	0%		0%	-
Buses	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	-
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	5.3%	0%	0%	0%		0.9%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	12	-	-	-	-	-	7	-	-	-	-	-	19	-	-	-	-	-	10	-	-
Pedestrians%	-	-	-	-	24%		-	-	-	-	14%		-	-	-	-	38%		-	-	-	-	20%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	2%		-	-	-	-	2%		-
Bicycles on Road	0	0	0	0	0	-	0	2	0	0	0	-	2	0	0	0	0	-	2	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather:



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (11.66 °C)



Turning Movement Count (4 . KIRWIN AVENUE & 3085 HURONTARIO ST PARKING ACCESS)

Start Time	E Approach KIRWIN AVE					S Approach 3085 HURONTARIO ST PARKING ACCESS					W Approach KIRWIN AVE					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	U-Turn W:W	Peds W:	Approach Total		
07:00:00	19	1	1	0	21	0	0	0	2	0	0	15	0	0	15	36	
07:15:00	16	0	0	0	16	0	0	0	3	0	0	13	1	0	14	30	
07:30:00	20	1	0	0	21	1	0	0	2	1	0	28	0	0	28	50	
07:45:00	26	0	0	0	26	0	0	0	3	0	0	34	0	0	34	60	176
08:00:00	39	1	0	0	40	1	0	0	10	1	1	36	0	0	37	78	218
08:15:00	20	1	0	0	21	1	0	0	9	1	1	34	0	0	35	57	245
08:30:00	30	4	0	0	34	2	0	0	2	2	1	35	0	0	36	72	267
08:45:00	27	1	0	0	28	1	0	0	7	1	3	38	0	0	41	70	277
BREAK																	
16:00:00	65	9	1	0	75	11	9	0	2	20	8	29	0	0	37	132	
16:15:00	61	4	0	0	65	5	11	0	5	16	4	49	2	1	55	136	
16:30:00	64	10	0	0	74	5	11	0	4	16	1	35	1	0	37	127	
16:45:00	73	3	0	0	76	4	8	0	4	12	5	52	0	1	57	145	540
17:00:00	85	9	1	0	95	5	7	0	4	12	3	53	1	2	57	164	572
17:15:00	60	9	1	0	70	5	5	0	7	10	10	46	1	0	57	137	573
17:30:00	71	6	1	0	78	1	4	0	4	5	3	50	0	1	53	136	582
17:45:00	62	7	2	0	71	10	11	0	5	21	6	40	0	0	46	138	575
Grand Total	738	66	7	0	811	52	66	0	73	118	46	587	6	5	639	**1568**	-
Approach%	91%	8.1%	0.9%		-	44.1%	55.9%	0%		-	7.2%	91.9%	0.9%		-	-	-
Totals %	47.1%	4.2%	0.4%		51.7%	3.3%	4.2%	0%		7.5%	2.9%	37.4%	0.4%		40.8%	-	-
Heavy	24	0	0		-	0	0	0		-	0	18	0		-	-	-
Heavy %	3.3%	0%	0%		-	0%	0%	0%		-	0%	3.1%	0%		-	-	-
Bicycles	4	3	0		-	1	0	0		-	0	3	0		-	-	-
Bicycle %	0.5%	4.5%	0%		-	1.9%	0%	0%		-	0%	0.5%	0%		-	-	-

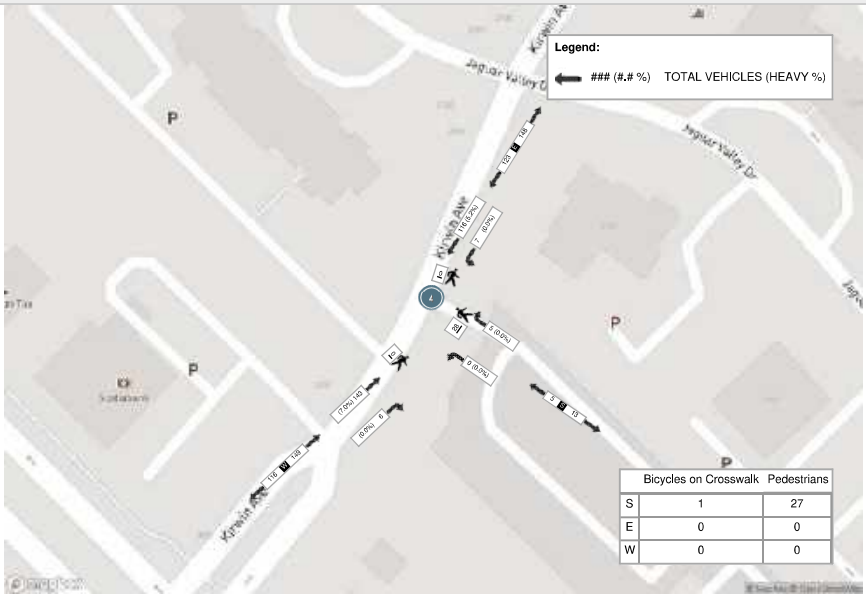
Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	E Approach KIRWIN AVE					S Approach 3085 HURONTARIO ST PARKING ACCESS					W Approach KIRWIN AVE					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
08:00:00	39	1	0	0	40	1	0	0	10	1	1	36	0	0	37	78
08:15:00	20	1	0	0	21	1	0	0	9	1	1	34	0	0	35	57
08:30:00	30	4	0	0	34	2	0	0	2	2	1	35	0	0	36	72
08:45:00	27	1	0	0	28	1	0	0	7	1	3	38	0	0	41	70
Grand Total	116	7	0	0	123	5	0	0	28	5	6	143	0	0	149	**277**
Approach%	94.3%	5.7%	0%		-	100%	0%	0%		-	4%	96%	0%		-	-
Totals %	41.9%	2.5%	0%		44.4%	1.8%	0%	0%		1.8%	2.2%	51.6%	0%		53.8%	-
PHF	0.74	0.44	0		0.77	0.63	0	0		0.63	0.5	0.94	0		0.91	-
Heavy	6	0	0		6	0	0	0		0	0	10	0		10	-
Heavy %	5.2%	0%	0%		4.9%	0%	0%	0%		0%	0%	7%	0%		6.7%	-
Lights	110	7	0		117	5	0	0		5	6	133	0		139	-
Lights %	94.8%	100%	0%		95.1%	100%	0%	0%		100%	100%	93%	0%		93.3%	-
Single-Unit Trucks	1	0	0		1	0	0	0		0	0	0	0		0	-
Single-Unit Trucks %	0.9%	0%	0%		0.8%	0%	0%	0%		0%	0%	0%	0%		0%	-
Buses	5	0	0		5	0	0	0		0	0	10	0		10	-
Buses %	4.3%	0%	0%		4.1%	0%	0%	0%		0%	0%	7%	0%		6.7%	-
Pedestrians	-	-	-	0	-	-	-	-	27	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%		-	-	-	96.4%		-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	3.6%		-	-	-	0%		-
Bicycles on Road	1	2	0	0	-	0	0	0	0	-	0	1	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (11.66 °C)

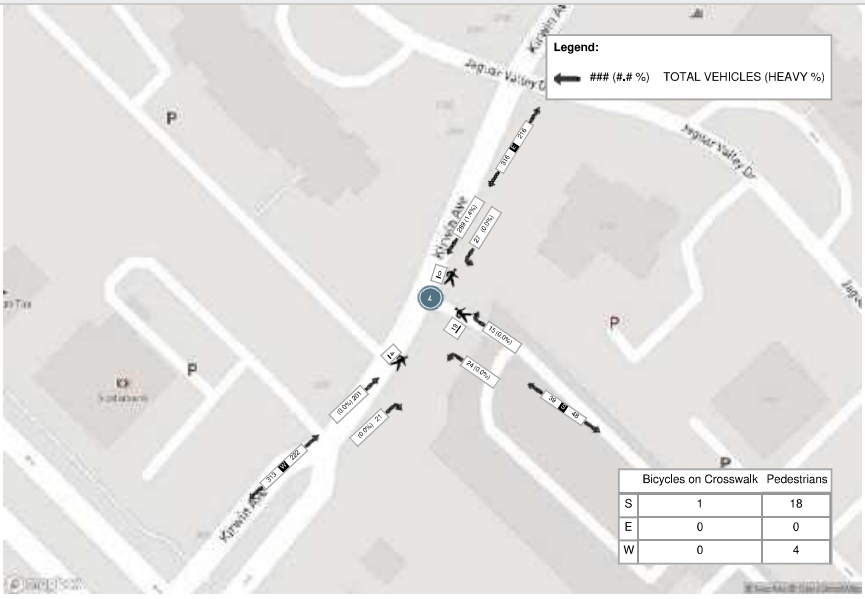
Start Time	E Approach KIRWIN AVE					S Approach 3085 HURONTARIO ST PARKING ACCESS					W Approach KIRWIN AVE					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
16:45:00	73	3	0	0	76	4	8	0	4	12	5	52	0	1	57	145
17:00:00	85	9	1	0	95	5	7	0	4	12	3	53	1	2	57	164
17:15:00	60	9	1	0	70	5	5	0	7	10	10	46	1	0	57	137
17:30:00	71	6	1	0	78	1	4	0	4	5	3	50	0	1	53	136
Grand Total	289	27	3	0	319	15	24	0	19	39	21	201	2	4	224	**582**
Approach%	90.6%	8.5%	0.9%		-	38.5%	61.5%	0%		-	9.4%	89.7%	0.9%		-	-
Totals %	49.7%	4.6%	0.5%		54.8%	2.6%	4.1%	0%		6.7%	3.6%	34.5%	0.3%		38.5%	-
PHF	0.85	0.75	0.75		0.84	0.75	0.75	0		0.81	0.53	0.95	0.5		0.98	-
Heavy	4	0	0		4	0	0	0		0	0	0	0		0	-
Heavy %	1.4%	0%	0%		1.3%	0%	0%	0%		0%	0%	0%	0%		0%	-
Lights	285	27	3		315	15	24	0		39	21	201	2		224	-
Lights %	98.6%	100%	100%		98.7%	100%	100%	0%		100%	100%	100%	100%		100%	-
Single-Unit Trucks	4	0	0		4	0	0	0		0	0	0	0		0	-
Single-Unit Trucks %	1.4%	0%	0%		1.3%	0%	0%	0%		0%	0%	0%	0%		0%	-
Buses	0	0	0		0	0	0	0		0	0	0	0		0	-
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	18	-	-	-	-	4	-	-
Pedestrians%	-	-	-	0%		-	-	-	78.3%		-	-	-	17.4%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	4.3%		-	-	-	0%		-
Bicycles on Road	2	1	0	0	-	1	0	0	0	-	0	1	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather:



	Bicycles on Crosswalk	Pedestrians
S	1	27
E	0	0
W	0	0

Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (11.66 °C)



Turning Movement Count (3 . HURONTARIO ST & 3085 HURONTARIO ST MAIN ACCESS)

Start Time	N Approach HURONTARIO ST					E Approach 3085 HURONTARIO ST MAIN ACCESS					S Approach HURONTARIO ST					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	U-Turn S:S	Peds S:	Approach Total		
07:00:00	112	1	0	0	113	2	0	0	5	2	0	117	0	0	117	232	
07:15:00	127	0	0	0	127	0	0	0	1	0	1	123	0	0	124	251	
07:30:00	139	0	0	0	139	1	1	0	3	2	2	132	0	0	134	275	
07:45:00	139	0	0	0	139	0	0	0	2	0	2	142	0	0	144	283	1041
08:00:00	139	1	0	0	140	0	0	0	6	0	1	141	0	0	142	282	1091
08:15:00	171	0	0	0	171	2	0	0	2	2	2	167	1	0	170	343	1183
08:30:00	130	0	0	0	130	0	0	0	5	0	2	158	0	0	160	290	1198
08:45:00	126	0	0	0	126	0	3	0	4	3	2	151	0	0	153	282	1197
BREAK																	
16:00:00	166	6	1	0	173	3	2	0	25	5	9	193	0	0	202	380	
16:15:00	134	4	0	0	138	5	8	0	13	13	13	165	0	0	178	329	
16:30:00	156	1	1	0	158	7	2	0	21	9	11	192	0	0	203	370	
16:45:00	151	5	1	0	157	7	5	0	21	12	5	181	0	0	186	355	1434
17:00:00	153	2	0	0	155	12	5	0	9	17	7	154	0	0	161	333	1387
17:15:00	148	2	0	0	150	13	5	0	18	18	12	172	0	0	184	352	1410
17:30:00	169	4	0	0	173	8	2	0	12	10	9	186	0	0	195	378	1418
17:45:00	159	6	0	0	165	13	5	0	21	18	5	184	0	0	189	372	1435
Grand Total	2319	32	3	0	2354	73	38	0	168	111	83	2558	1	0	2642	**5107**	-
Approach%	98.5%	1.4%	0.1%		-	65.8%	34.2%	0%		-	3.1%	96.8%	0%		-	-	-
Totals %	45.4%	0.6%	0.1%		46.1%	1.4%	0.7%	0%		2.2%	1.6%	50.1%	0%		51.7%	-	-
Heavy	128	2	0		-	2	0	0		-	1	134	0		-	-	-
Heavy %	5.5%	6.3%	0%		-	2.7%	0%	0%		-	1.2%	5.2%	0%		-	-	-
Bicycles	1	0	0		-	0	0	0		-	0	0	0		-	-	-
Bicycle %	0%	0%	0%		-	0%	0%	0%		-	0%	0%	0%		-	-	-

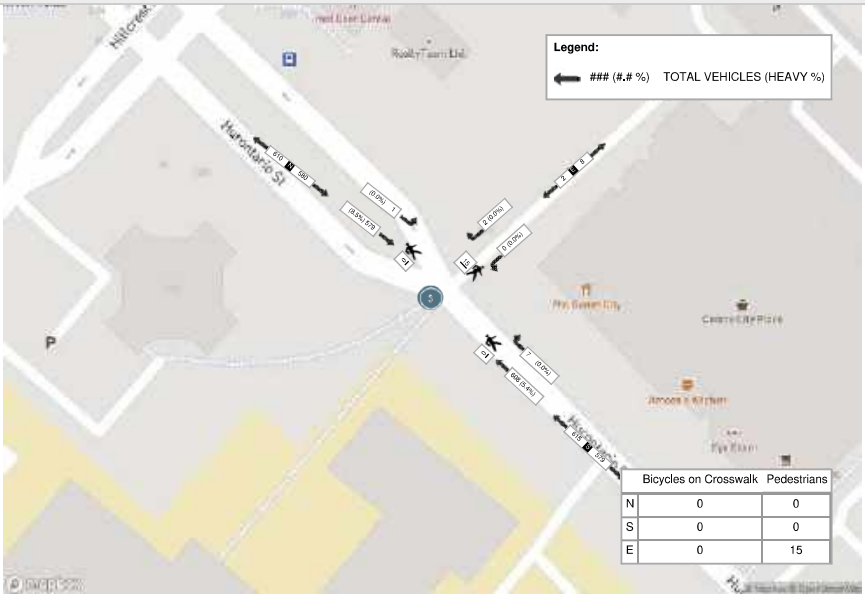
Peak Hour: 07:45 AM - 08:45 AM Weather:

Start Time	N Approach HURONTARIO ST					E Approach 3085 HURONTARIO ST MAIN ACCESS					S Approach HURONTARIO ST					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
07:45:00	139	0	0	0	139	0	0	0	2	0	2	142	0	0	144	283
08:00:00	139	1	0	0	140	0	0	0	6	0	1	141	0	0	142	282
08:15:00	171	0	0	0	171	2	0	0	2	2	2	167	1	0	170	343
08:30:00	130	0	0	0	130	0	0	0	5	0	2	158	0	0	160	290
Grand Total	579	1	0	0	580	2	0	0	15	2	7	608	1	0	616	**1198**
Approach%	99.8%	0.2%	0%		-	100%	0%	0%		-	1.1%	98.7%	0.2%		-	-
Totals %	48.3%	0.1%	0%		48.4%	0.2%	0%	0%		0.2%	0.6%	50.8%	0.1%		51.4%	-
PHF	0.85	0.25	0		0.85	0.25	0	0		0.25	0.88	0.91	0.25		0.91	-
Heavy	49	0	0		49	0	0	0		0	0	33	0		33	-
Heavy %	8.5%	0%	0%		8.4%	0%	0%	0%		0%	0%	5.4%	0%		5.4%	-
Lights	530	1	0		531	2	0	0		2	7	575	1		583	-
Lights %	91.5%	100%	0%		91.6%	100%	0%	0%		100%	100%	94.6%	100%		94.6%	-
Single-Unit Trucks	22	0	0		22	0	0	0		0	0	13	0		13	-
Single-Unit Trucks %	3.8%	0%	0%		3.8%	0%	0%	0%		0%	0%	2.1%	0%		2.1%	-
Buses	26	0	0		26	0	0	0		0	0	17	0		17	-
Buses %	4.5%	0%	0%		4.5%	0%	0%	0%		0%	0%	2.8%	0%		2.8%	-
Articulated Trucks	1	0	0		1	0	0	0		0	0	3	0		3	-
Articulated Trucks %	0.2%	0%	0%		0.2%	0%	0%	0%		0%	0%	0.5%	0%		0.5%	-
Pedestrians	-	-	-	0	-	-	-	-	15	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%		-	-	-	100%		-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-
Bicycles on Road	1	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (11.66 °C)

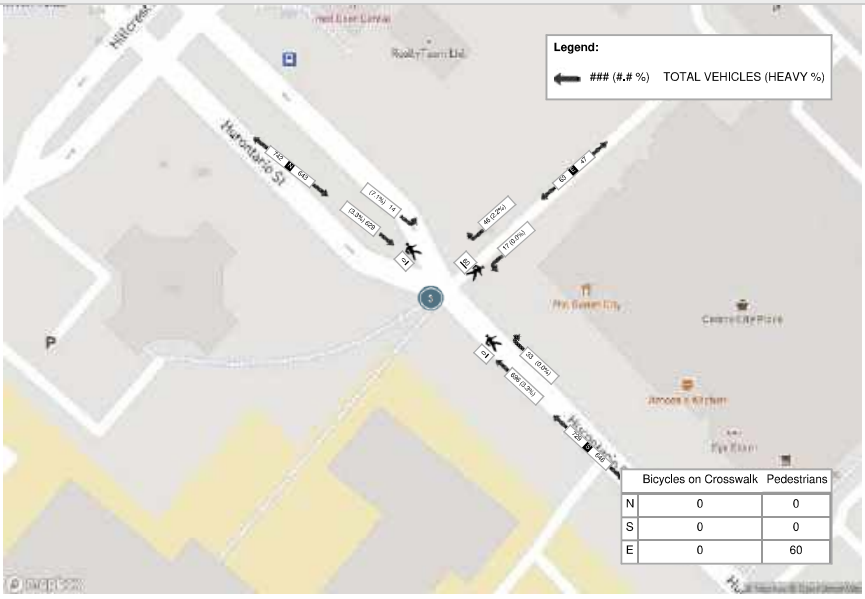
Start Time	N Approach HURONTARIO ST					E Approach 3085 HURONTARIO ST MAIN ACCESS					S Approach HURONTARIO ST					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
17:00:00	153	2	0	0	155	12	5	0	9	17	7	154	0	0	161	333
17:15:00	148	2	0	0	150	13	5	0	18	18	12	172	0	0	184	352
17:30:00	169	4	0	0	173	8	2	0	12	10	9	186	0	0	195	378
17:45:00	159	6	0	0	165	13	5	0	21	18	5	184	0	0	189	372
Grand Total	629	14	0	0	643	46	17	0	60	63	33	696	0	0	729	**1435**
Approach%	97.8%	2.2%	0%		-	73%	27%	0%		-	4.5%	95.5%	0%		-	-
Totals %	43.8%	1%	0%		44.8%	3.2%	1.2%	0%		4.4%	2.3%	48.5%	0%		50.8%	-
PHF	0.93	0.58	0		0.93	0.88	0.85	0		0.88	0.69	0.94	0		0.93	-
Heavy	21	1	0		22	1	0	0		1	0	23	0		23	-
Heavy %	3.3%	7.1%	0%		3.4%	2.2%	0%	0%		1.6%	0%	3.3%	0%		3.2%	-
Lights	608	13	0		621	45	17	0		62	33	673	0		706	-
Lights %	96.7%	92.9%	0%		96.6%	97.8%	100%	0%		98.4%	100%	96.7%	0%		96.8%	-
Single-Unit Trucks	6	1	0		7	1	0	0		1	0	10	0		10	-
Single-Unit Trucks %	1%	7.1%	0%		1.1%	2.2%	0%	0%		1.6%	0%	1.4%	0%		1.4%	-
Buses	12	0	0		12	0	0	0		0	0	12	0		12	-
Buses %	1.9%	0%	0%		1.9%	0%	0%	0%		0%	0%	1.7%	0%		1.6%	-
Articulated Trucks	3	0	0		3	0	0	0		0	0	1	0		1	-
Articulated Trucks %	0.5%	0%	0%		0.5%	0%	0%	0%		0%	0%	0.1%	0%		0.1%	-
Pedestrians	-	-	-	0	-	-	-	-	60	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%		-	-	-	100%		-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 07:45 AM - 08:45 AM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	15

Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (11.66 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	60

Turning Movement Count (2 . HURONTARIO ST & HILLCREST AVE / KIRWIN AVE)

Start Time	N Approach HURONTARIO ST						E Approach KIRWIN AVE						S Approach HURONTARIO ST						W Approach HILLCREST AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	0	101	3	0	0	104	8	9	2	0	6	19	0	123	0	0	2	123	10	12	8	0	4	30	276	
07:15:00	1	112	1	0	0	114	6	11	3	0	2	20	1	119	1	0	4	121	12	11	4	0	9	27	282	
07:30:00	0	127	4	0	0	131	5	13	2	0	3	20	3	135	1	0	5	139	10	27	6	0	12	43	333	
07:45:00	3	131	3	0	0	137	8	19	2	0	6	29	3	136	1	0	14	140	12	28	5	0	6	45	351	1242
08:00:00	3	127	3	0	0	133	9	31	2	0	17	42	2	138	1	0	44	141	9	32	4	0	29	45	361	1327
08:15:00	1	149	4	0	0	154	9	10	3	0	11	22	5	170	1	0	33	176	13	34	6	0	49	53	405	1450
08:30:00	5	122	6	0	0	133	13	23	0	0	7	36	4	157	1	0	7	162	10	32	4	0	16	46	377	1494
08:45:00	2	111	5	0	0	118	13	15	0	0	6	28	6	146	1	0	9	153	14	35	9	0	8	58	357	1500
BREAK																										
16:00:00	3	152	9	0	0	164	20	42	2	0	15	64	11	185	0	0	6	196	16	27	3	0	9	46	470	
16:15:00	1	122	7	0	3	130	16	59	4	0	9	79	9	153	6	0	12	168	14	45	1	0	22	60	437	
16:30:00	1	129	7	0	4	137	11	59	5	0	16	75	18	183	2	0	9	203	18	24	4	0	16	46	461	
16:45:00	7	128	5	0	4	140	10	65	7	0	17	82	9	173	3	0	14	185	17	36	3	0	13	56	463	1831
17:00:00	3	131	17	0	1	151	12	92	4	0	9	108	9	162	3	0	19	174	18	30	8	0	9	56	489	1850
17:15:00	6	146	5	0	1	157	18	59	3	0	21	80	17	186	6	0	15	209	9	41	8	0	17	58	504	1917
17:30:00	11	149	6	0	1	166	24	60	3	0	12	87	15	171	4	0	23	190	16	39	6	0	25	61	504	1960
17:45:00	8	134	16	0	0	158	20	64	5	0	18	89	6	179	15	0	12	200	24	36	12	0	14	72	519	2016
Grand Total	55	2071	101	0	14	2227	202	631	47	0	175	880	118	2516	46	0	228	2680	222	489	91	0	258	802	**6589**	-
Approach%	2.5%	93%	4.5%	0%		-	23%	71.7%	5.3%	0%		-	4.4%	93.9%	1.7%	0%		-	27.7%	61%	11.3%	0%		-	-	-
Totals %	0.8%	31.4%	1.5%	0%		33.8%	3.1%	9.6%	0.7%	0%		13.4%	1.8%	38.2%	0.7%	0%		40.7%	3.4%	7.4%	1.4%	0%		12.2%	-	-
Heavy	3	112	3	0		-	6	15	3	0		-	6	125	3	0		-	10	9	8	0		-	-	-
Heavy %	5.5%	5.4%	3%	0%		-	3%	2.4%	6.4%	0%		-	5.1%	5%	6.5%	0%		-	4.5%	1.8%	8.8%	0%		-	-	-
Bicycles	0	0	0	0		-	1	0	0	0		-	1	2	0	0		-	3	1	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0.5%	0%	0%	0%		-	0.8%	0.1%	0%	0%		-	1.4%	0.2%	0%	0%		-	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach HURONTARIO ST						E Approach KIRWIN AVE						S Approach HURONTARIO ST						W Approach HILLCREST AVE						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	3	127	3	0	0	133	9	31	2	0	17	42	2	138	1	0	44	141	9	32	4	0	29	45	361
08:15:00	1	149	4	0	0	154	9	10	3	0	11	22	5	170	1	0	33	176	13	34	6	0	49	53	405
08:30:00	5	122	6	0	0	133	13	23	0	0	7	36	4	157	1	0	7	162	10	32	4	0	16	46	377
08:45:00	2	111	5	0	0	118	13	15	0	0	6	28	6	146	1	0	9	153	14	35	9	0	8	58	357
Grand Total	11	509	18	0	0	538	44	79	5	0	41	128	17	611	4	0	93	632	46	133	23	0	102	202	**1500**
Approach%	2%	94.6%	3.3%	0%		-	34.4%	61.7%	3.9%	0%		-	2.7%	96.7%	0.6%	0%		-	22.8%	65.8%	11.4%	0%		-	-
Totals %	0.7%	33.9%	1.2%	0%		35.9%	2.9%	5.3%	0.3%	0%		8.5%	1.1%	40.7%	0.3%	0%		42.1%	3.1%	8.9%	1.5%	0%		13.5%	-
PHF	0.55	0.85	0.75	0		0.87	0.85	0.64	0.42	0		0.76	0.71	0.9	1	0		0.9	0.82	0.95	0.64	0		0.87	-
Heavy	2	28	1	0		31	2	5	0	0		7	3	38	1	0		42	7	6	2	0		15	-
Heavy %	18.2%	5.5%	5.6%	0%		5.8%	4.5%	6.3%	0%	0%		5.5%	17.6%	6.2%	25%	0%		6.6%	15.2%	4.5%	8.7%	0%		7.4%	-
Lights	9	481	17	0		507	42	74	5	0		121	14	573	3	0		590	39	127	21	0		187	-
Lights %	81.8%	94.5%	94.4%	0%		94.2%	95.5%	93.7%	100%	0%		94.5%	82.4%	93.8%	75%	0%		93.4%	84.8%	95.5%	91.3%	0%		92.8%	-
Single-Unit Trucks	0	14	1	0		15	1	1	0	0		2	0	18	0	0		18	0	0	1	0		1	-
Single-Unit Trucks %	0%	2.8%	5.6%	0%		2.8%	2.3%	1.3%	0%	0%		1.6%	0%	2.9%	0%	0%		2.8%	0%	0%	4.3%	0%		0.5%	-
Buses	2	13	0	0		15	1	4	0	0		5	3	19	1	0		23	7	6	1	0		14	-
Buses %	18.2%	2.6%	0%	0%		2.8%	2.3%	5.1%	0%	0%		3.9%	17.6%	3.1%	25%	0%		3.6%	15.2%	4.5%	4.3%	0%		6.9%	-
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	-
Articulated Trucks %	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	39	-	-	-	-	-	88	-	-	-	-	-	100	-	-
Pedestrians%	-	-	-	-	0%		-	-	-	-	16.5%		-	-	-	-	37.3%		-	-	-	-	42.4%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0.8%		-	-	-	-	2.1%		-	-	-	-	0.8%		-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (11.66 °C)

Start Time	N Approach HURONTARIO ST						E Approach KIRWIN AVE						S Approach HURONTARIO ST						W Approach HILLCREST AVE						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	3	131	17	0	1	151	12	92	4	0	9	108	9	162	3	0	19	174	18	30	8	0	9	56	489
17:15:00	6	146	5	0	1	157	18	59	3	0	21	80	17	186	6	0	15	209	9	41	8	0	17	58	504
17:30:00	11	149	6	0	1	166	24	60	3	0	12	87	15	171	4	0	23	190	16	39	6	0	25	61	504
17:45:00	8	134	16	0	0	158	20	64	5	0	18	89	6	179	15	0	12	200	24	36	12	0	14	72	519
Grand Total	28	560	44	0	3	632	74	275	15	0	60	364	47	698	28	0	69	773	67	146	34	0	65	247	**2016**
Approach%	4.4%	88.6%	7%	0%		-	20.3%	75.5%	4.1%	0%		-	6.1%	90.3%	3.6%	0%		-	27.1%	59.1%	13.8%	0%		-	-
Totals %	1.4%	27.8%	2.2%	0%		31.3%	3.7%	13.6%	0.7%	0%		18.1%	2.3%	34.6%	1.4%	0%		38.3%	3.3%	7.2%	1.7%	0%		12.3%	-
PHF	0.64	0.94	0.65	0		0.95	0.77	0.75	0.75	0		0.84	0.69	0.94	0.47	0		0.92	0.7	0.89	0.71	0		0.86	-
Heavy	0	23	0	0		23	2	0	0	0		2	0	25	0	0		25	0	0	0	0		0	-
Heavy %	0%	4.1%	0%	0%		3.6%	2.7%	0%	0%	0%		0.5%	0%	3.6%	0%	0%		3.2%	0%	0%	0%	0%		0%	-
Lights	28	537	44	0		609	72	275	15	0		362	47	673	28	0		748	67	146	34	0		247	-
Lights %	100%	95.9%	100%	0%		96.4%	97.3%	100%	100%	0%		99.5%	100%	96.4%	100%	0%		96.8%	100%	100%	100%	0%		100%	-
Single-Unit Trucks	0	8	0	0		8	2	0	0	0		2	0	11	0	0		11	0	0	0	0		0	-
Single-Unit Trucks %	0%	1.4%	0%	0%		1.3%	2.7%	0%	0%	0%		0.5%	0%	1.6%	0%	0%		1.4%	0%	0%	0%	0%		0%	-
Buses	0	12	0	0		12	0	0	0	0		0	0	12	0	0		12	0	0	0	0		0	-
Buses %	0%	2.1%	0%	0%		1.9%	0%	0%	0%	0%		0%	0%	1.7%	0%	0%		1.6%	0%	0%	0%	0%		0%	-
Articulated Trucks	0	3	0	0		3	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	-
Articulated Trucks %	0%	0.5%	0%	0%		0.5%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	59	-	-	-	-	-	67	-	-	-	-	-	62	-	-
Pedestrians%	-	-	-	-	1%		-	-	-	-	29.9%		-	-	-	-	34%		-	-	-	-	31.5%		-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	3	-	-
Bicycles on Crosswalk%	-	-	-	-	0.5%		-	-	-	-	0.5%		-	-	-	-	1%		-	-	-	-	1.5%		-
Bicycles on Road	0	0	0	0	0	-	1	0	0	0	0	-	0	2	0	0	0	-	2	1	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather:

Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (11.66 °C)

Turning Movement Count (1 . HURONTARIO ST & JOHN ST)

Start Time	N Approach HURONTARIO ST						E Approach JOHN ST						S Approach HURONTARIO ST						W Approach JOHN ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	70	105	10	0	19	185	31	2	0	0	9	33	2	126	4	1	1	133	2	0	41	0	2	43	394	
07:15:00	25	106	14	0	8	145	19	3	4	0	5	26	3	111	6	0	4	120	1	2	22	0	4	25	316	
07:30:00	72	128	22	0	14	222	55	4	3	0	6	62	6	137	6	0	2	149	8	7	35	0	6	50	483	
07:45:00	53	127	20	0	7	200	48	1	4	0	9	53	0	142	3	0	4	145	2	4	40	0	18	46	444	1637
08:00:00	82	131	29	0	16	242	42	1	0	0	20	43	1	145	7	0	8	153	5	9	42	0	10	56	494	1737
08:15:00	27	129	38	0	7	194	63	2	0	0	15	65	1	178	2	0	2	181	9	5	36	0	37	50	490	1911
08:30:00	30	113	29	0	2	172	47	1	2	0	9	50	1	178	3	0	5	182	4	1	18	0	14	23	427	1855
08:45:00	35	116	37	0	6	188	44	4	3	0	7	51	2	155	8	0	3	165	4	5	26	0	5	35	439	1850
BREAK																										
16:00:00	26	144	33	0	9	203	56	3	4	0	16	63	4	177	8	1	12	190	3	4	23	0	7	30	486	
16:15:00	30	140	44	0	3	214	52	1	5	0	9	58	8	173	5	0	7	186	4	3	24	0	13	31	489	
16:30:00	22	132	28	0	10	182	50	6	3	0	18	59	6	184	3	0	7	193	3	3	11	0	17	17	451	
16:45:00	24	134	39	0	8	197	56	7	4	0	6	67	6	154	9	0	19	169	8	11	28	1	33	48	481	1907
17:00:00	21	165	41	1	6	228	70	6	3	0	8	79	1	187	8	1	4	197	3	6	37	0	15	46	550	1971
17:15:00	31	153	44	0	9	228	53	7	0	0	16	60	1	192	7	0	3	200	1	5	17	0	10	23	511	1993
17:30:00	49	155	49	1	14	254	34	5	3	0	14	42	5	168	8	0	9	181	1	4	18	0	32	23	500	2042
17:45:00	29	149	35	0	20	213	62	6	6	0	18	74	1	213	4	0	5	218	13	14	52	0	9	79	584	2145
Grand Total	626	2127	512	2	158	3267	782	59	44	0	185	885	48	2620	91	3	95	2762	71	83	470	1	232	625	**7539**	-
Approach%	19.2%	65.1%	15.7%	0.1%		-	88.4%	6.7%	5%	0%		-	1.7%	94.9%	3.3%	0.1%		-	11.4%	13.3%	75.2%	0.2%		-	-	-
Totals %	8.3%	28.2%	6.8%	0%		43.3%	10.4%	0.8%	0.6%	0%		11.7%	0.6%	34.8%	1.2%	0%		36.6%	0.9%	1.1%	6.2%	0%		8.3%	-	-
Heavy	32	112	15	0		-	20	1	1	0		-	2	113	8	0		-	1	0	22	0		-	-	-
Heavy %	5.1%	5.3%	2.9%	0%		-	2.6%	1.7%	2.3%	0%		-	4.2%	4.3%	8.8%	0%		-	1.4%	0%	4.7%	0%		-	-	-
Bicycles	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: HURONTARIO ST & JOHN ST
Date: Wed, Nov 09, 2022 Deployment Lead: Peter Ilias

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:30 AM - 08:30 AM Weather:

Start Time	N Approach HURONTARIO ST						E Approach JOHN ST						S Approach HURONTARIO ST						W Approach JOHN ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
07:30:00	72	128	22	0	14	222	55	4	3	0	6	62	6	137	6	0	2	149	8	7	35	0	6	50	483
07:45:00	53	127	20	0	7	200	48	1	4	0	9	53	0	142	3	0	4	145	2	4	40	0	18	46	444
08:00:00	82	131	29	0	16	242	42	1	0	0	20	43	1	145	7	0	8	153	5	9	42	0	10	56	494
08:15:00	27	129	38	0	7	194	63	2	0	0	15	65	1	178	2	0	2	181	9	5	36	0	37	50	490
Grand Total	234	515	109	0	44	858	208	8	7	0	50	223	8	602	18	0	16	628	24	25	153	0	71	202	**1911**
Approach%	27.3%	60%	12.7%	0%		-	93.3%	3.6%	3.1%	0%		-	1.3%	95.9%	2.9%	0%		-	11.9%	12.4%	75.7%	0%		-	-
Totals %	12.2%	26.9%	5.7%	0%		44.9%	10.9%	0.4%	0.4%	0%		11.7%	0.4%	31.5%	0.9%	0%		32.9%	1.3%	1.3%	8%	0%		10.6%	-
PHF	0.71	0.98	0.72	0		0.89	0.83	0.5	0.44	0		0.86	0.33	0.85	0.64	0		0.87	0.67	0.69	0.91	0		0.9	-
Heavy	9	36	9	0		54	9	0	1	0		10	1	30	1	0		32	0	0	5	0		5	-
Heavy %	3.8%	7%	8.3%	0%		6.3%	4.3%	0%	14.3%	0%		4.5%	12.5%	5%	5.6%	0%		5.1%	0%	0%	3.3%	0%		2.5%	-
Lights	225	479	100	0		804	199	8	6	0		213	7	572	17	0		596	24	25	148	0		197	-
Lights %	96.2%	93%	91.7%	0%		93.7%	95.7%	100%	85.7%	0%		95.5%	87.5%	95%	94.4%	0%		94.9%	100%	100%	96.7%	0%		97.5%	-
Single-Unit Trucks	1	14	4	0		19	3	0	1	0		4	1	10	0	0		11	0	0	1	0		1	-
Single-Unit Trucks %	0.4%	2.7%	3.7%	0%		2.2%	1.4%	0%	14.3%	0%		1.8%	12.5%	1.7%	0%	0%		1.8%	0%	0%	0.7%	0%		0.5%	-
Buses	7	20	5	0		32	6	0	0	0		6	0	17	1	0		18	0	0	4	0		4	-
Buses %	3%	3.9%	4.6%	0%		3.7%	2.9%	0%	0%	0%		2.7%	0%	2.8%	5.6%	0%		2.9%	0%	0%	2.6%	0%		2%	-
Articulated Trucks	1	2	0	0		3	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	-
Articulated Trucks %	0.4%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	43	-	-	-	-	-	48	-	-	-	-	-	16	-	-	-	-	-	71	-	-
Pedestrians%	-	-	-	-	23.8%		-	-	-	-	26.5%		-	-	-	-	6.8%		-	-	-	-	39.2%		-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0.6%		-	-	-	-	1.1%		-	-	-	-	0%		-	-	-	-	0%		-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Spectrum

Turning Movement Count
Location Name: HURONTARIO ST & JOHN ST
Date: Wed, Nov 09, 2022 Deployment Lead: Peter Ilias

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (11.66 °C)

Start Time	N Approach HURONTARIO ST						E Approach JOHN ST						S Approach HURONTARIO ST						W Approach JOHN ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	21	165	41	1	6	228	70	6	3	0	8	79	1	187	8	1	4	197	3	6	37	0	15	46	550
17:15:00	31	153	44	0	9	228	53	7	0	0	16	60	1	192	7	0	3	200	1	5	17	0	10	23	511
17:30:00	49	155	49	1	14	254	34	5	3	0	14	42	5	168	8	0	9	181	1	4	18	0	32	23	500
17:45:00	29	149	35	0	20	213	62	6	6	0	18	74	1	213	4	0	5	218	13	14	52	0	9	79	584
Grand Total	130	622	169	2	49	923	219	24	12	0	56	255	8	760	27	1	21	796	18	29	124	0	66	171	**2145**
Approach%	14.1%	67.4%	18.3%	0.2%		-	85.9%	9.4%	4.7%	0%		-	1%	95.5%	3.4%	0.1%		-	10.5%	17%	72.5%	0%		-	-
Totals %	6.1%	29%	7.9%	0.1%		43%	10.2%	1.1%	0.6%	0%		11.9%	0.4%	35.4%	1.3%	0%		37.1%	0.8%	1.4%	5.8%	0%		8%	-
PHF	0.66	0.94	0.86	0.5		0.91	0.78	0.86	0.5	0		0.81	0.4	0.89	0.84	0.25		0.91	0.35	0.52	0.6	0		0.54	-
Heavy	5	23	0	0		28	0	0	0	0		0	0	27	0	0		27	0	0	3	0		3	-
Heavy %	3.8%	3.7%	0%	0%		3%	0%	0%	0%	0%		0%	0%	3.6%	0%	0%		3.4%	0%	0%	2.4%	0%		1.8%	-
Lights	125	599	169	2		895	219	24	12	0		255	8	733	27	1		769	18	29	121	0		168	-
Lights %	96.2%	96.3%	100%	100%		97%	100%	100%	100%	0%		100%	100%	96.4%	100%	100%		96.6%	100%	100%	97.6%	0%		98.2%	-
Single-Unit Trucks	1	8	0	0		9	0	0	0	0		0	0	13	0	0		13	0	0	0	0		0	-
Single-Unit Trucks %	0.8%	1.3%	0%	0%		1%	0%	0%	0%	0%		0%	0%	1.7%	0%	0%		1.6%	0%	0%	0%	0%		0%	-
Buses	4	12	0	0		16	0	0	0	0		0	0	12	0	0		12	0	0	3	0		3	-
Buses %	3.1%	1.9%	0%	0%		1.7%	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.5%	0%	0%	2.4%	0%		1.8%	-
Articulated Trucks	0	3	0	0		3	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	-
Articulated Trucks %	0%	0.5%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	48	-	-	-	-	-	54	-	-	-	-	-	21	-	-	-	-	-	63	-	-
Pedestrians%	-	-	-	-	25%		-	-	-	-	28.1%		-	-	-	-	10.9%		-	-	-	-	32.8%		-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	-	-
Bicycles on Crosswalk%	-	-	-	-	0.5%		-	-	-	-	1%		-	-	-	-	0%		-	-	-	-	1.6%		-
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 07:30 AM - 08:30 AM Weather:

	Bicycles on Crosswalk	Pedestrians
N	1	43
S	0	16
E	2	48
W	0	71

Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (11.66 °C)

	Bicycles on Crosswalk	Pedestrians
N	1	48
S	0	21
E	2	54
W	3	63

Appendix I:
Signal Timing Plans

Signal Timing Report

Runtime: 2021-08-04 08:47:54

Device: 2216

Region: Mississauga **Signal ID:** 2216 **Location:** CONFEDERATION PARKWAY N at Hillcrest Avenue

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	13	0	12	0	0	0	0
Ped Clear	Sec	0	28	0	26	0	0	0	0
Min Green	Sec	5	8	0	8	0	0	0	0
Passage	Sec	2.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	10	36	0	30	0	0	0	0
Maximum 2	Sec	10	36	0	30	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
Red Clearance	Sec	0.0	3.0	0.0	3.5	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	0	Enabled Non Lock Det	0	0	0	0
[P2] Ring	Ring	1	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	120	110	110	0	0	0	0	0
Offset	Sec	81	91	71	0	0	0	0	0
Split	Split	1	2	3	0	0	0	0	0
Sequence	Sequence	1	1	1	0	0	0	0	0

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	21	53	0	46	0	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	11	51	0	48	0	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	14	48	0	48	0	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false	false

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F---------	---A--------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	-----S	S------	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890123456789011	12345678901234567890123456789011	12345678901234567890123456789011	1---------- -------	----------5--------- -------	-2---------- ---------	---------- -----4-	1---------- -------
Day Plan	Number	1	2	3	3	3	3	3	3

TB Schedule	Units	9	10	11	12	13	14	15	16
Month	Bit	--------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-2---------- -------	-----6---------- ------	--------1---------- ------	---------- -7----	---------- --8---	---------- 4-------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	7	9	16	18	21	3	0
Plan 1 Minute	Min	0	0	0	0	30	30	0	0
Plan 1 Action	Number	8	1	2	3	2	8	7	0
Plan 2 Hour	Hour	0	9	21	0	0	0	3	0
Plan 2 Minute	Min	0	0	30	0	0	0	0	0
Plan 2 Action	Number	8	2	8	0	0	0	7	0
Plan 3 Hour	Hour	0	10	18	0	0	0	3	0
Plan 3 Minute	Min	0	0	30	0	0	0	0	0
Plan 3 Action	Number	8	2	8	0	0	0	7	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Interconnect	Interconnect	Interconnect	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Signal Timing Report

Runtime: 2021-08-04 09:05:26

Device: 1401

Region: Mississauga **Signal ID:** 1401 **Location:** HURONTARIO STREET N at Dundas Street E

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	14	0	16	0	14	0	16
Ped Clear	Sec	0	20	0	22	0	20	0	22
Min Green	Sec	5	8	5	8	5	8	5	8
Passage	Sec	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
Maximum 1	Sec	10	15	10	40	10	15	10	40
Maximum 2	Sec	10	15	10	40	10	15	10	40
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	3.0	0.0	3.5	0.0	3.0	0.0	3.5
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn	phaseNotOn	redClear	phaseNotOn	phaseNotOn
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In Walk	Enabled Non Lock Det	Enabled Ped Recall Dual Entry	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In Walk	Enabled Non Lock Det	Enabled Ped Recall Dual Entry
[P2] Ring	Ring	1	1	1	1	2	2	2	2
[P2] Concurrency	Phase (,)	(5,6)	(5,6)	(7,8)	(7,8)	(1,2)	(1,2)	(3,4)	(3,4)

Phase	Units	9	10	11	12	13	14	15	16
Walk	Sec	0	0	0	0	0	0	0	0
Ped Clear	Sec	0	0	0	0	0	0	0	0
Min Green	Sec	0	0	1	1	1	1	1	1
Passage	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	0	0	0	0	0	0	0	0
Maximum 2	Sec	0	0	0	0	0	0	0	0
Yellow Change	Sec	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clearance	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	other	other	other	other	other	other	other
[P2] Options	Bit	0	0	0	0	0	0	0	0
[P2] Ring	Ring	0	0	0	0	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Veh Detector	Units	1	2	3	4	5	6	7	8
Options	Bit	Passage Call	0	Passage Call	Passage Call	Passage Call	0	Passage Call	Passage Call
Call Phase	Phase	1	0	3	4	5	0	7	8
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	60	0	60	60	60	0	60	60
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	255	0	255	255	255	0	255	255

Veh Detector	Units	9	10	11	12	13	14	15	16
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0

Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Vol/Occ	**Units**	**Value**							
Period	Sec	0							

Ped Detector	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Call Phase	Phase	0	2	0	4	0	6	0	8
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	1	0	0	0	1
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Unit Param	**Units**	**Value**							
Start Up Flash	Sec	0							
Auto Ped Clear	Enum	enable							
Back Up Time	Sec	300							
Red Revert	Sec	0.0							
Coord Param	**Units**	**Value**							
Operational Mode	Enum	Automatic							
Correction Mode	Enum	shortway							
Maximum Mode	Enum	maxInhibit							
Force Mode	Enum	other							
Coord Pattern	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cycle Time	Sec	160	160	160	0	0	0	0	0
Offset	Sec	72	88	130	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1
Coord Pattern	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Cycle Time	Sec	0	0	0	0	0	0	0	0
Offset	Sec	0	0	0	0	0	0	0	0
Split	Split	9	10	11	12	13	14	15	16
Sequence	Sequence	1	1	1	1	1	1	1	1
Coord Split	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	14	66	14	66	14	66	14	66
Split 1 - Coord	Enum	false	true	false	false	false	true	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	18	61	16	65	18	61	16	65
Split 2 - Coord	Enum	false	true	false	false	false	true	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	14	61	14	71	14	61	14	71
Split 3 - Coord	Enum	false	true	false	false	false	true	false	false
Split 4 - Mode	Enum	none	none	none	none	none	none	none	none
Split 4 - Time	Sec	0	0	0	0	0	0	0	0
Split 4 - Coord	Enum	false	false	false	false	false	false	false	false
Split 5 - Mode	Enum	none	none	none	none	none	none	none	none
Split 5 - Time	Sec	0	0	0	0	0	0	0	0
Split 5 - Coord	Enum	false	false	false	false	false	false	false	false
Split 6 - Mode	Enum	none	none	none	none	none	none	none	none
Split 6 - Time	Sec	0	0	0	0	0	0	0	0
Split 6 - Coord	Enum	false	false	false	false	false	false	false	false
Split 7 - Mode	Enum	none	none	none	none	none	none	none	none
Split 7 - Time	Sec	0	0	0	0	0	0	0	0
Split 7 - Coord	Enum	false	false	false	false	false	false	false	false
Split 8 - Mode	Enum	none	none	none	none	none	none	none	none
Split 8 - Time	Sec	0	0	0	0	0	0	0	0
Split 8 - Coord	Enum	false	false	false	false	false	false	false	false
Split 9 - Mode	Enum	none	none	none	none	none	none	none	none
Split 9 - Time	Sec	0	0	0	0	0	0	0	0
Split 9 - Coord	Enum	false	false	false	false	false	false	false	false
Split 10 - Mode	Enum	none	none	none	none	none	none	none	none
Split 10 - Time	Sec	0	0	0	0	0	0	0	0
Split 10 - Coord	Enum	false	false	false	false	false	false	false	false
Split 11 - Mode	Enum	none	none	none	none	none	none	none	none
Split 11 - Time	Sec	0	0	0	0	0	0	0	0
Split 11 - Coord	Enum	false	false	false	false	false	false	false	false
Split 12 - Mode	Enum	none	none	none	none	none	none	none	none
Split 12 - Time	Sec	0	0	0	0	0	0	0	0
Split 12 - Coord	Enum	false	false	false	false	false	false	false	false
Split 13 - Mode	Enum	none	none	none	none	none	none	none	none
Split 13 - Time	Sec	0	0	0	0	0	0	0	0
Split 13 - Coord	Enum	false	false	false	false	false	false	false	false
Split 14 - Mode	Enum	none	none	none	none	none	none	none	none
Split 14 - Time	Sec	0	0	0	0	0	0	0	0
Split 14 - Coord	Enum	false	false	false	false	false	false	false	false
Split 15 - Mode	Enum	none	none	none	none	none	none	none	none
Split 15 - Time	Sec	0	0	0	0	0	0	0	0
Split 15 - Coord	Enum	false	false	false	false	false	false	false	false
Split 16 - Time	Sec	0	0	0	0	0	0	0	0
Split 16 - Mode	Enum	none	none	none	none	none	none	none	none
Split 16 - Coord	Enum	false	false	false	false	false	false	false	false
Coord Split	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**

Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	0	0	0	0	0	0	0
Split 1 - Coord	Enum	false	false	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	false	false	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	0	0	0	0	0	0	0
Split 3 - Coord	Enum	false	false	false	false	false	false	false	false
Split 4 - Mode	Enum	none	none	none	none	none	none	none	none
Split 4 - Time	Sec	0	0	0	0	0	0	0	0
Split 4 - Coord	Enum	false	false	false	false	false	false	false	false
Split 5 - Mode	Enum	none	none	none	none	none	none	none	none
Split 5 - Time	Sec	0	0	0	0	0	0	0	0
Split 5 - Coord	Enum	false	false	false	false	false	false	false	false
Split 6 - Mode	Enum	none	none	none	none	none	none	none	none
Split 6 - Time	Sec	0	0	0	0	0	0	0	0
Split 6 - Coord	Enum	false	false	false	false	false	false	false	false
Split 7 - Mode	Enum	none	none	none	none	none	none	none	none
Split 7 - Time	Sec	0	0	0	0	0	0	0	0
Split 7 - Coord	Enum	false	false	false	false	false	false	false	false
Split 8 - Mode	Enum	none	none	none	none	none	none	none	none
Split 8 - Time	Sec	0	0	0	0	0	0	0	0
Split 8 - Coord	Enum	false	false	false	false	false	false	false	false
Split 9 - Mode	Enum	none	none	none	none	none	none	none	none
Split 9 - Time	Sec	0	0	0	0	0	0	0	0
Split 9 - Coord	Enum	false	false	false	false	false	false	false	false
Split 10 - Mode	Enum	none	none	none	none	none	none	none	none
Split 10 - Time	Sec	0	0	0	0	0	0	0	0
Split 10 - Coord	Enum	false	false	false	false	false	false	false	false
Split 11 - Mode	Enum	none	none	none	none	none	none	none	none
Split 11 - Time	Sec	0	0	0	0	0	0	0	0
Split 11 - Coord	Enum	false	false	false	false	false	false	false	false
Split 12 - Mode	Enum	none	none	none	none	none	none	none	none
Split 12 - Time	Sec	0	0	0	0	0	0	0	0
Split 12 - Coord	Enum	false	false	false	false	false	false	false	false
Split 13 - Mode	Enum	none	none	none	none	none	none	none	none
Split 13 - Time	Sec	0	0	0	0	0	0	0	0
Split 13 - Coord	Enum	false	false	false	false	false	false	false	false
Split 14 - Mode	Enum	none	none	none	none	none	none	none	none
Split 14 - Time	Sec	0	0	0	0	0	0	0	0
Split 14 - Coord	Enum	false	false	false	false	false	false	false	false
Split 15 - Mode	Enum	none	none	none	none	none	none	none	none
Split 15 - Time	Sec	0	0	0	0	0	0	0	0
Split 15 - Coord	Enum	false	false	false	false	false	false	false	false
Split 16 - Time	Sec	0	0	0	0	0	0	0	0
Split 16 - Mode	Enum	none	none	none	none	none	none	none	none
Split 16 - Coord	Enum	false	false	false	false	false	false	false	false

TB Param	**Units**	**Value**
Daylight Saving	Enum	3
Standard Time Zone	Sec	-18000
Pattern Sync	Sec	0

TB Schedule	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F---------	J----------	-F---------	---A-------
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890 1	12345678901234567890 1	12345678901234567890 1	-2---------- -------	----------0---- -------	-2---------- -------	----------0---- ------	----------4---------- ------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Month	Bit	----M-------	-----J-----	-------A----	--------S---	---------O--	----------D	----------D	----------D
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	----------2-- -------	--3---------- ------	------7---------- ------	---4---------- -------	--------9---------- -------	---------- -5------	---------- 6-----	---------- -7----
Day Plan	Number	3	3	3	3	3	3	3	3

TB Dayplan	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Plan 1 Hour	Hour	0	6	9	15	19	3	0	0
Plan 1 Minute	Min	0	0	30	0	30	0	0	0
Plan 1 Action	Number	8	1	2	3	2	7	0	0
Plan 2 Hour	Hour	0	7	3	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	2	7	0	0	0	0	0
Plan 3 Hour	Hour	0	8	23	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	7	0	0	0	0
Plan 4 Hour	Hour	0	0	0	0	0	0	0	0
Plan 4 Minute	Min	0	0	0	0	0	0	0	0
Plan 4 Action	Number	0	0	0	0	0	0	0	0
Plan 5 Hour	Hour	0	0	0	0	0	0	0	0
Plan 5 Minute	Min	0	0	0	0	0	0	0	0
Plan 5 Action	Number	0	0	0	0	0	0	0	0
Plan 6 Hour	Hour	0	0	0	0	0	0	0	0
Plan 6 Minute	Min	0	0	0	0	0	0	0	0
Plan 6 Action	Number	0	0	0	0	0	0	0	0
Plan 7 Hour	Hour	0	0	0	0	0	0	0	0
Plan 7 Minute	Min	0	0	0	0	0	0	0	0
Plan 7 Action	Number	0	0	0	0	0	0	0	0
Plan 8 Hour	Hour	0	0	0	0	0	0	0	0
Plan 8 Minute	Min	0	0	0	0	0	0	0	0
Plan 8 Action	Number	0	0	0	0	0	0	0	0

TB Dayplan	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Plan 1 Hour	Hour	0	0	0	0	0	0	0	0
Plan 1 Minute	Min	0	0	0	0	0	0	0	0
Plan 1 Action	Number	0	0	0	0	0	0	0	0
Plan 2 Hour	Hour	0	0	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	0	0	0	0	0	0	0	0
Plan 3 Hour	Hour	0	0	0	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	0	0	0	0	0	0	0	0
Plan 4 Hour	Hour	0	0	0	0	0	0	0	0
Plan 4 Minute	Min	0	0	0	0	0	0	0	0
Plan 4 Action	Number	0	0	0	0	0	0	0	0
Plan 5 Hour	Hour	0	0	0	0	0	0	0	0
Plan 5 Minute	Min	0	0	0	0	0	0	0	0
Plan 5 Action	Number	0	0	0	0	0	0	0	0
Plan 6 Hour	Hour	0	0	0	0	0	0	0	0
Plan 6 Minute	Min	0	0	0	0	0	0	0	0
Plan 6 Action	Number	0	0	0	0	0	0	0	0
Plan 7 Hour	Hour	0	0	0	0	0	0	0	0
Plan 7 Minute	Min	0	0	0	0	0	0	0	0
Plan 7 Action	Number	0	0	0	0	0	0	0	0
Plan 8 Hour	Hour	0	0	0	0	0	0	0	0
Plan 8 Minute	Min	0	0	0	0	0	0	0	0
Plan 8 Action	Number	0	0	0	0	0	0	0	0

TB Action	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Pattern 7	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

TB Action	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Pattern	Enum	Pattern 9	Pattern 10	Interconnect	Interconnect	Interconnect	Interconnect	Interconnect	Interconnect
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

TB DST	**Units**	**Value**
Begin Month	Enum	
Begin Occurrence	Enum	
Begin DOW	Enum	
Begin DOM	Date	
End Occurrence	Enum	
End DOW	Enum	
End DOM	Date	
End Seconds	Sec	
Adjustment	Sec	

Preempt Param	**Units**	**1**	**2**	**3**	**4**	**5**	**6**
Control	Bit	0	0	0	0	0	0
Link	Preempt	0	0	0	0	0	0
Delay	Sec	0	0	0	0	0	0
Min Duration	Sec	0	0	0	0	0	0
Min Green	Sec	255	255	255	255	255	255
Min Walk	Sec	255	255	255	255	255	255
Enter Ped Clear	Sec	255	255	255	255	255	255
Track Green	Sec	0	0	0	0	0	0
Min Dwell	Sec	5	5	5	5	5	5
Max Presence	Sec	0	0	0	0	0	0
[P2] Track Phase	Phase (,)	()	()	()	()	()	()
[P2] Dwell Phase	Phase (,)	()	()	(2,6)	(4,8)	()	()
[P2] Dwell Ped	Phase (,)	()	()	()	()	()	()
[P2] Exit Phase	Phase (,)	()	()	()	()	()	()
[S] State	Enum						
[P2] Track Overlap	Phase (,)	()	()	()	()	()	()
[P2] Dwell Overlap	Phase (,)	()	()	()	()	()	()

Signal Timing Report

Runtime: 2021-08-03 15:56:08

Device: 2217

Region: Mississauga **Signal ID:** 2217 **Location:** HILLCREST AVENUE E at GO West Access

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	10	0	9	0	0	0	0
Ped Clear	Sec	0	21	0	16	0	0	0	0
Min Green	Sec	5	8	0	8	0	0	0	0
Passage	Sec	2.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	10	31	0	25	0	0	0	0
Maximum 2	Sec	10	31	0	25	0	0	0	0
Yellow Change	Sec	3.0	4.0	0.0	4.0	0.0	0.0	0.0	0.0
Red Clearance	Sec	0.0	3.5	0.0	2.5	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	0	Enabled Non Lock Det	0	0	0	0
[P2] Ring	Ring	1	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Phase	Units	9	10	11	12	13	14	15	16
Walk	Sec	0	0	0	0	0	0	0	0
Ped Clear	Sec	0	0	0	0	0	0	0	0
Min Green	Sec	1	1	1	1	1	1	1	1
Passage	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	0	0	0	0	0	0	0	0
Maximum 2	Sec	0	0	0	0	0	0	0	0
Yellow Change	Sec	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clearance	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn
[P2] Options	Bit	0	0	0	0	0	0	0	0
[P2] Ring	Ring	0	0	0	0	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Veh Detector	Units	1	2	3	4	5	6	7	8
Options	Bit	Passage Call	0	0	Passage Call	0	0	0	0
Call Phase	Phase	1	0	0	4	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	60	0	0	60	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	255	0	0	255	0	0	0	0

Veh Detector	Units	9	10	11	12	13	14	15	16
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

[P2] Cycling Phase	Phase (,)	()	()	()	()	()	()
[P2] Cycling Ped	Phase (,)	()	()	()	()	()	()
[P2] Cycling Overlap	Phase (,)	()	()	()	()	()	()
Enter Yellow Change	Sec	25.5	25.5	25.5	25.5	25.5	25.5
Enter Red Clear	Sec	25.5	25.5	25.5	25.5	25.5	25.5
Track Yellow	Sec	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	Sec	25.5	25.5	25.5	25.5	25.5	25.5

Ring	Units	1	2	3	4
[P2] Sequence 1	Phase (,)	()	()	()	()
[P2] Sequence 2	Phase (,)	()	()	()	()
[P2] Sequence 3	Phase (,)	()	()	()	()
[P2] Sequence 4	Phase (,)	()	()	()	()

Channel Param	Units	1	2	3	4	5	6	7	8
Control Source	Phase or Overlap	1	2	3	4	5	6	7	8
Control Type	Enum	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle
Flash	Bit	0	Flash Red	0	Flash Red Half Hertz	0	Flash Red	0	Flash Red Half Hertz
Dimming	Bit	0	0	0	0	0	0	0	0

Channel Param	Units	9	10	11	12	13	14	15	16
Control Source	Phase or Overlap	2	4	6	8	0	0	0	0
Control Type	Enum	phasePedestrian	phasePedestrian	phasePedestrian	phasePedestrian	other	other	other	other
Flash	Bit	0	0	0	0	0	0	0	0
Dimming	Bit	0	0	0	0	0	0	0	0

Overlap	Units	1	2	3	4	5	6	7	8
[P2] Type	Enum	other	other	other	other	other	other	other	other
[P2] Included	Phase (,)	()	()	()	()	()	()	()	()
[P2] Modifier Phases	Phase (,)	()	()	()	()	()	()	()	()
Trail Green	Sec	0	0	0	0	0	0	0	0
Trail Yellow	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap	Units	9	10	11	12	13	14	15	16
[P2] Type	Enum	other	other	other	other	other	other	other	other
[P2] Included	Phase (,)	()	()	()	()	()	()	()	()
[P2] Modifier Phases	Phase (,)	()	()	()	()	()	()	()	()
Trail Green	Sec	0	0	0	0	0	0	0	0
Trail Yellow	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
Options	Bit	0	0	Volume Occupancy	Volume Occupancy	0	0	0	0
Call Phase	Phase	0	0	2	2	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0
Veh Detector	**Units**	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**
Options	Bit	0	0	0	0	0	0	0	0
Call Phase	Phase	0	0	0	0	0	0	0	0
Switch Phase	Phase	0	0	0	0	0	0	0	0
Delay	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extend	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Limit	Sec	0	0	0	0	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	0	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0
Fail Time	Sec	0	0	0	0	0	0	0	0

Veh Vol/Occ	**Units**	**Value**
Period	Sec	60

Ped Detector	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Call Phase	Phase	0	2	0	4	0	0	0	0
No Activity	Min	0	0	0	0	0	0	0	0
Max Presence	Min	0	0	0	1	0	0	0	0
Erratic Counts	Counts/Min	0	0	0	0	0	0	0	0

Unit Param	**Units**	**Value**
Start Up Flash	Sec	0
Auto Ped Clear	Enum	enable
Back Up Time	Sec	300
Red Revert	Sec	0.0

Coord Param	**Units**	**Value**
Operational Mode	Enum	Automatic
Correction Mode	Enum	shortway
Maximum Mode	Enum	maxInhibit
Force Mode	Enum	fixed

Coord Pattern	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cycle Time	Sec	105	0	110	0	0	0	0	0
Offset	Sec	90	0	109	0	0	0	0	0
Split	Split	1	2	3	1	1	1	1	1
Sequence	Sequence	1	1	1	1	1	1	1	1
Coord Pattern	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Cycle Time	Sec	0	100	0	0	0	0	0	0
Offset	Sec	0	76	0	0	0	0	0	0
Split	Split	1	10	1	1	1	1	1	1
Sequence	Sequence	1	1	1	1	1	1	1	1

Coord Split	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	10	62	0	33	0	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	false	false	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	10	53	0	47	0	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false	false
Split 4 - Mode	Enum	none	none	none	none	none	none	none	none
Split 4 - Time	Sec	0	0	0	0	0	0	0	0
Split 4 - Coord	Enum	false	false	false	false	false	false	false	false
Split 5 - Mode	Enum	none	none	none	none	none	none	none	none
Split 5 - Time	Sec	0	0	0	0	0	0	0	0
Split 5 - Coord	Enum	false	false	false	false	false	false	false	false
Split 6 - Mode	Enum	none	none	none	none	none	none	none	none
Split 6 - Time	Sec	0	0	0	0	0	0	0	0
Split 6 - Coord	Enum	false	false	false	false	false	false	false	false
Split 7 - Mode	Enum	none	none	none	none	none	none	none	none
Split 7 - Time	Sec	0	0	0	0	0	0	0	0
Split 7 - Coord	Enum	false	false	false	false	false	false	false	false
Split 8 - Mode	Enum	none	none	none	none	none	none	none	none
Split 8 - Time	Sec	0	0	0	0	0	0	0	0
Split 8 - Coord	Enum	false	false	false	false	false	false	false	false
Split 9 - Mode	Enum	none	none	none	none	none	none	none	none
Split 9 - Time	Sec	0	0	0	0	0	0	0	0
Split 9 - Coord	Enum	false	false	false	false	false	false	false	false
Split 10 - Mode	Enum	none	none	none	none	none	none	none	none
Split 10 - Time	Sec	12	33	0	55	0	0	0	0
Split 10 - Coord	Enum	false	true	false	false	false	false	false	false
Split 11 - Mode	Enum	none	none	none	none	none	none	none	none
Split 11 - Time	Sec	0	0	0	0	0	0	0	0
Split 11 - Coord	Enum	false	false	false	false	false	false	false	false
Split 12 - Mode	Enum	none	none	none	none	none	none	none	none
Split 12 - Time	Sec	0	0	0	0	0	0	0	0
Split 12 - Coord	Enum	false	false	false	false	false	false	false	false
Split 13 - Mode	Enum	none	none	none	none	none	none	none	none
Split 13 - Time	Sec	0	0	0	0	0	0	0	0
Split 13 - Coord	Enum	false	false	false	false	false	false	false	false
Split 14 - Mode	Enum	none	none	none	none	none	none	none	none
Split 14 - Time	Sec	0	0	0	0	0	0	0	0
Split 14 - Coord	Enum	false	false	false	false	false	false	false	false
Split 15 - Mode	Enum	none	none	none	none	none	none	none	none
Split 15 - Time	Sec	0	0	0	0	0	0	0	0
Split 15 - Coord	Enum	false	false	false	false	false	false	false	false
Split 16 - Time	Sec	0	0	0	0	0	0	0	0
Split 16 - Mode	Enum	none	none	none	none	none	none	none	none
Split 16 - Coord	Enum	false	false	false	false	false	false	false	false
Coord Split	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**

Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	0	0	0	0	0	0	0
Split 1 - Coord	Enum	false	false	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	false	false	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	0	0	0	0	0	0	0
Split 3 - Coord	Enum	false	false	false	false	false	false	false	false
Split 4 - Mode	Enum	none	none	none	none	none	none	none	none
Split 4 - Time	Sec	0	0	0	0	0	0	0	0
Split 4 - Coord	Enum	false	false	false	false	false	false	false	false
Split 5 - Mode	Enum	none	none	none	none	none	none	none	none
Split 5 - Time	Sec	0	0	0	0	0	0	0	0
Split 5 - Coord	Enum	false	false	false	false	false	false	false	false
Split 6 - Mode	Enum	none	none	none	none	none	none	none	none
Split 6 - Time	Sec	0	0	0	0	0	0	0	0
Split 6 - Coord	Enum	false	false	false	false	false	false	false	false
Split 7 - Mode	Enum	none	none	none	none	none	none	none	none
Split 7 - Time	Sec	0	0	0	0	0	0	0	0
Split 7 - Coord	Enum	false	false	false	false	false	false	false	false
Split 8 - Mode	Enum	none	none	none	none	none	none	none	none
Split 8 - Time	Sec	0	0	0	0	0	0	0	0
Split 8 - Coord	Enum	false	false	false	false	false	false	false	false
Split 9 - Mode	Enum	none	none	none	none	none	none	none	none
Split 9 - Time	Sec	0	0	0	0	0	0	0	0
Split 9 - Coord	Enum	false	false	false	false	false	false	false	false
Split 10 - Mode	Enum	none	none	none	none	none	none	none	none
Split 10 - Time	Sec	0	0	0	0	0	0	0	0
Split 10 - Coord	Enum	false	false	false	false	false	false	false	false
Split 11 - Mode	Enum	none	none	none	none	none	none	none	none
Split 11 - Time	Sec	0	0	0	0	0	0	0	0
Split 11 - Coord	Enum	false	false	false	false	false	false	false	false
Split 12 - Mode	Enum	none	none	none	none	none	none	none	none
Split 12 - Time	Sec	0	0	0	0	0	0	0	0
Split 12 - Coord	Enum	false	false	false	false	false	false	false	false
Split 13 - Mode	Enum	none	none	none	none	none	none	none	none
Split 13 - Time	Sec	0	0	0	0	0	0	0	0
Split 13 - Coord	Enum	false	false	false	false	false	false	false	false
Split 14 - Mode	Enum	none	none	none	none	none	none	none	none
Split 14 - Time	Sec	0	0	0	0	0	0	0	0
Split 14 - Coord	Enum	false	false	false	false	false	false	false	false
Split 15 - Mode	Enum	none	none	none	none	none	none	none	none
Split 15 - Time	Sec	0	0	0	0	0	0	0	0
Split 15 - Coord	Enum	false	false	false	false	false	false	false	false
Split 16 - Time	Sec	0	0	0	0	0	0	0	0
Split 16 - Mode	Enum	none	none	none	none	none	none	none	none
Split 16 - Coord	Enum	false	false	false	false	false	false	false	false

TB Param	**Units**	**Value**
Daylight Saving	Enum	3
Standard Time Zone	Sec	-18000
Pattern Sync	Sec	0

TB Schedule	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F---------	---A-------	----M------	------J----
Day of Week	Bit	-MTWTF-	------S	S------	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890 1	12345678901234567890 1	12345678901234567890 1	1-------	-------5--------	-2-------	----------4-	1-------
Day Plan	Number	1	2	3	3	3	3	3	3

TB Schedule	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Month	Bit	--------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-2-------	-----6----------	---------1----------	-7----	--8---	4-------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Plan 1 Hour	Hour	0	7	8	16	18	3	0	0
Plan 1 Minute	Min	0	30	30	30	30	0	0	0
Plan 1 Action	Number	8	1	8	3	8	7	0	0
Plan 2 Hour	Hour	0	0	0	0	0	3	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	0	0	0	0	7	0	0
Plan 3 Hour	Hour	0	0	0	0	0	3	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	0	0	0	0	7	0	0
Plan 4 Hour	Hour	0	0	0	0	0	0	0	0
Plan 4 Minute	Min	0	0	0	0	0	0	0	0
Plan 4 Action	Number	0	0	0	0	0	0	0	0
Plan 5 Hour	Hour	0	0	0	0	0	0	0	0
Plan 5 Minute	Min	0	0	0	0	0	0	0	0
Plan 5 Action	Number	0	0	0	0	0	0	0	0
Plan 6 Hour	Hour	0	0	0	0	0	0	0	0
Plan 6 Minute	Min	0	0	0	0	0	0	0	0
Plan 6 Action	Number	0	0	0	0	0	0	0	0
Plan 7 Hour	Hour	0	0	0	0	0	0	0	0
Plan 7 Minute	Min	0	0	0	0	0	0	0	0
Plan 7 Action	Number	0	0	0	0	0	0	0	0
Plan 8 Hour	Hour	0	0	0	0	0	0	0	0
Plan 8 Minute	Min	0	0	0	0	0	0	0	0
Plan 8 Action	Number	0	0	0	0	0	0	0	0

TB Dayplan	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Plan 1 Hour	Hour	0	0	0	0	0	0	0	0
Plan 1 Minute	Min	0	0	0	0	0	0	0	0
Plan 1 Action	Number	0	0	0	0	0	0	0	0
Plan 2 Hour	Hour	0	0	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	0	0	0	0	0	0	0	0
Plan 3 Hour	Hour	0	0	0	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	0	0	0	0	0	0	0	0
Plan 4 Hour	Hour	0	0	0	0	0	0	0	0
Plan 4 Minute	Min	0	0	0	0	0	0	0	0
Plan 4 Action	Number	0	0	0	0	0	0	0	0
Plan 5 Hour	Hour	0	0	0	0	0	0	0	0
Plan 5 Minute	Min	0	0	0	0	0	0	0	0
Plan 5 Action	Number	0	0	0	0	0	0	0	0
Plan 6 Hour	Hour	0	0	0	0	0	0	0	0
Plan 6 Minute	Min	0	0	0	0	0	0	0	0
Plan 6 Action	Number	0	0	0	0	0	0	0	0
Plan 7 Hour	Hour	0	0	0	0	0	0	0	0
Plan 7 Minute	Min	0	0	0	0	0	0	0	0
Plan 7 Action	Number	0	0	0	0	0	0	0	0
Plan 8 Hour	Hour	0	0	0	0	0	0	0	0
Plan 8 Minute	Min	0	0	0	0	0	0	0	0
Plan 8 Action	Number	0	0	0	0	0	0	0	0

TB Action	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Interconnect	Interconnect	Interconnect	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

TB Action	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Pattern	Enum	Interconnect	Interconnect	Interconnect	Interconnect	Interconnect	Interconnect	Interconnect	Interconnect
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

TB DST	**Units**	**Value**
Begin Month	Enum	
Begin Occurrence	Enum	
Begin DOW	Enum	
Begin DOM	Date	
End Occurrence	Enum	
End DOW	Enum	
End DOM	Date	
End Seconds	Sec	
Adjustment	Sec	

Preempt Param	**Units**	**1**	**2**	**3**	**4**	**5**	**6**
Control	Bit	0	0	0	0	0	0
Link	Preempt	0	0	0	0	0	0
Delay	Sec	0	0	0	0	0	0
Min Duration	Sec	0	0	0	0	0	0
Min Green	Sec	255	255	255	255	255	255
Min Walk	Sec	255	255	255	255	255	255
Enter Ped Clear	Sec	255	255	255	255	255	255
Track Green	Sec	0	0	0	0	0	0
Min Dwell	Sec	1	1	1	1	1	1
Max Presence	Sec	0	0	0	0	0	0
[P2] Track Phase	Phase (,)	()	()	()	()	()	()
[P2] Dwell Phase	Phase (,)	()	()	(2)	(4)	()	()
[P2] Dwell Ped	Phase (,)	()	()	()	()	()	()
[P2] Exit Phase	Phase (,)	()	()	(2)	(2)	()	()
[S] State	Enum						
[P2] Track Overlap	Phase (,)	()	()	()	()	()	()
[P2] Dwell Overlap	Phase (,)	()	()	(1)	()	()	()

[P2] Cycling Phase	Phase (,)	()	()	()	()	()	()	
[P2] Cycling Ped	Phase (,)	()	()	()	()	()	()	
[P2] Cycling Overlap	Phase (,)	()	()	()	()	()	()	
Enter Yellow Change	Sec	25.5	25.5	25.5	25.5	25.5	25.5	
Enter Red Clear	Sec	25.5	25.5	25.5	25.5	25.5	25.5	
Track Yellow	Sec	25.5	25.5	25.5	25.5	25.5	25.5	
Track Red Clear	Sec	25.5	25.5	25.5	25.5	25.5	25.5	

Ring	**Units**	**1**	**2**	**3**	**4**
[P2] Sequence 1	Phase (,)	(1,2,4)		()	()
[P2] Sequence 2	Phase (,)	()		()	()
[P2] Sequence 3	Phase (,)	()		()	()
[P2] Sequence 4	Phase (,)	()		()	()

Channel Param	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Control Source	Phase or Overlap	1	2	0	4	0	0	0	0
Control Type	Enum	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle
Flash	Bit	Flash Red	Flash Red	Flash Red Half Hertz	Flash Red Half Hertz	0	0	0	0
Dimming	Bit	0	0	0	0	0	0	0	0

Channel Param	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Control Source	Phase or Overlap	2	4	0	0	1	0	0	0
Control Type	Enum	phasePedestrian	phasePedestrian	phasePedestrian	phasePedestrian	overlap	overlap	overlap	overlap
Flash	Bit	0	0	0	0	Flash Red	Flash Red	Flash Red	Flash Yellow Half Hertz
Dimming	Bit	0	0	0	0	0	0	0	0

Overlap	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
[P2] Type	Enum	normal	normal	normal	normal	normal	normal	normal	normal
[P2] Included	Phase (,)	(1,2)	()	()	()	()	()	()	()
[P2] Modifier Phases	Phase (,)	()	()	()	()	()	()	()	()
Trail Green	Sec	0	0	0	0	0	0	0	0
Trail Yellow	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
[P2] Type	Enum	normal	normal	normal	normal	normal	normal	normal	normal
[P2] Included	Phase (,)	()	()	()	()	()	()	()	()
[P2] Modifier Phases	Phase (,)	()	()	()	()	()	()	()	()
Trail Green	Sec	0	0	0	0	0	0	0	0
Trail Yellow	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Signal Timing Report

Runtime: 2021-08-03 15:52:42

Device: 2218

Region: Mississauga **Signal ID:** 2218 **Location:** HILLCREST AVENUE E at GO East

Phase	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Walk	Sec	0	9	0	8	0	0	0	0
Ped Clear	Sec	0	17	0	12	0	0	0	0
Min Green	Sec	5	8	0	8	0	0	0	0
Passage	Sec	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	25	32	0	45	0	0	0	0
Maximum 2	Sec	25	32	0	45	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	3.5	0.0	2.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	0	Enabled Non Lock Det	0	0	0	0
[P2] Ring	Ring	1	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coord Pattern	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cycle Time	Sec	0	0	160	0	0	0	0	0
Offset	Sec	0	0	74	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1

Coord Split	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	0	0	0	0	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	pedRecall	none	none	none	none
Split 3 - Time	Sec	10	77	0	73	0	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false	false

TB Schedule	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F---------	---A-------	----M------	-----J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890123456789 1	12345678901234567890123456789 1	12345678901234567890123456789 1	1---------- -------	----------5-------- -------	-2---------- ---------	----------4- -----	1---------- -------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Month	Bit	--------A---	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-2---------- -------	----6---------- -----	---------1---------- -----	---------- -7----	---------- --8---	---------- 4-------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Plan 1 Hour	Hour	0	3	16	19	0	0	0	0
Plan 1 Minute	Min	0	0	30	30	0	0	0	0
Plan 1 Action	Number	8	7	3	8	0	0	0	0
Plan 2 Hour	Hour	0	0	0	3	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	0	0	7	0	0	0	0
Plan 3 Hour	Hour	0	0	0	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	0	0	7	0	0	0	0

TB Action	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Signal Timing Audit Report

Runtime: 2021-08-03 15:26:05

Device: 2114

Region: Mississauga **Signal ID:** 2114 **Location:** HURONTARIO STREET N at Fairview Road E

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	9	0	14	0	9	0	14
Ped Clear	Sec	0	13	0	19	0	13	0	19
Min Green	Sec	5	8	0	8	0	8	5	8
Passage	Sec	2.0	3.0	0.0	3.0	0.0	3.0	2.0	3.0
Maximum 1	Sec	12	39	0	30	0	39	10	30
Maximum 2	Sec	12	39	0	30	0	39	10	30
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	other	phaseNotOn	other	redClear	phaseNotOn	phaseNotOn
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In Walk	0	Enabled Non Lock Det Dual Entry	0	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In Walk	Enabled Max Veh Recall	Enabled Non Lock Det Dual Entry
[P2] Ring	Ring	1	1	0	1	0	2	2	2
[P2] Concurrency	Phase (,)	(6)	(6)	()	(7,8)	()	(1,2)	(4)	(4)

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	160	160	160	0	0	0	0	0
Offset	Sec	35	18	106	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	13	88	0	59	0	101	0	59
Split 1 - Coord	Enum	false	true	false	false	false	true	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	14	90	0	56	0	104	0	56
Split 2 - Coord	Enum	false	true	false	false	false	true	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	16	91	0	53	0	107	0	53
Split 3 - Coord	Enum	false	true	false	false	false	true	false	false

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F----------	---A-------	----M------	-----J-----
Day of Week	Bit	-MTWTF-	S------	-----S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890123456789012345678901	12345678901234567890123456789012345678901	12345678901234567890123456789012345678901	1----------	----------5--------	-2----------	----------	1----------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-2----------	-----6----------	---------1----------	----------	----------	----------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	6	9	15	19	3	0	0
Plan 1 Minute	Min	0	0	30	0	30	0	0	0
Plan 1 Action	Number	8	1	2	3	2	7	0	0
Plan 2 Hour	Hour	0	7	3	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	2	7	0	0	0	0	0
Plan 3 Hour	Hour	0	8	23	3	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	7	0	0	0	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Signal Timing Report

Runtime: 2021-08-03 15:45:04

Device: 2115

Region: Mississauga **Signal ID:** 2115 **Location:** HURONTARIO STREET N at Hillcrest Avenue / Kirwin Avenue

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	14	0	15	0	14	0	15
Ped Clear	Sec	0	30	0	33	0	30	0	33
Min Green	Sec	7	8	5	8	5	8	0	8
Passage	Sec	2.0	3.0	2.0	3.0	2.0	3.0	0.0	3.0
Maximum 1	Sec	15	35	15	25	15	35	0	25
Maximum 2	Sec	15	35	15	25	15	35	0	25
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	3.5	0.0	4.0	0.0	3.5	0.0	4.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn	phaseNotOn	redClear	other	phaseNotOn
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In Walk	Enabled Non Lock Det	Enabled Non Lock Det Dual Entry	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In	Enabled Non Lock Det	Enabled Non Lock Det Dual Entry
[P2] Ring	Ring	1	1	1	1	2	2	0	2
[P2] Concurrency	Phase (,)	(5,6)	(5,6)	(8)	(8)	(1,2)	(1,2)	()	(3,4)

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	160	160	160	160	160	0	0	0
Offset	Sec	99	93	107	62	104	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	13	62	21	64	13	62	0	85
Split 1 - Coord	Enum	false	true	false	false	false	true	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	13	78	13	56	13	78	0	69
Split 2 - Coord	Enum	false	true	false	false	false	true	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	16	54	26	64	16	54	0	90
Split 3 - Coord	Enum	false	true	false	false	false	true	false	false
Split 4 - Mode	Enum	none	none	none	pedRecall	none	none	none	pedRecall
Split 4 - Time	Sec	13	62	21	64	13	62	0	85
Split 4 - Coord	Enum	false	true	false	false	false	true	false	false
Split 5 - Mode	Enum	none	none	none	none	none	none	none	none
Split 5 - Time	Sec	13	78	13	56	13	78	0	69
Split 5 - Coord	Enum	false	true	false	false	false	true	false	false

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F----------	---A-------	----M------	-----J-----
Day of Week	Bit	-MTWTF-	S------	-----S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890123456789012345678901	12345678901234567890123456789012345678901	12345678901234567890123456789012345678901	1----------	----------5--------	-2----------	----------4-	1----------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-2----------	-----6----------	---------1----------	----------	----------	----------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	6	7	9	9	15	3	16
Plan 1 Minute	Min	0	0	0	0	30	0	0	0
Plan 1 Action	Number	8	1	4	1	2	5	7	3
Plan 2 Hour	Hour	0	7	0	0	0	0	3	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	2	0	0	0	0	7	0
Plan 3 Hour	Hour	0	8	23	0	0	0	3	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	0	0	0	7	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Signal Timing Report

Runtime: 2021-08-03 15:38:08

Device: 2117

Region: Mississauga **Signal ID:** 2117 **Location:** HURONTARIO STREET N at John Street

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	10	0	12	0	10	0	12
Ped Clear	Sec	0	21	0	26	0	21	0	26
Min Green	Sec	5	8	5	8	5	8	0	8
Passage	Sec	2.0	3.0	2.0	3.0	2.0	3.0	0.0	3.0
Maximum 1	Sec	15	30	15	35	15	30	0	35
Maximum 2	Sec	15	30	15	35	15	30	0	35
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	3.0	0.0	4.0	0.0	3.0	0.0	4.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn	phaseNotOn	redClear	other	phaseNotOn
[P2] Options	Bit	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In Walk	Enabled Non Lock Det	Enabled Non Lock Det Dual Entry	Enabled Non Lock Det	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Dual Entry Act Rest In	0	Enabled Non Lock Det Dual Entry
[P2] Ring	Ring	1	1	1	1	2	2	0	2
[P2] Concurrency	Phase (,)	(5,6)	(5,6)	(8)	(8)	(1,2)	(1,2)	()	(3,4)

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	160	160	160	160	160	0	0	0
Offset	Sec	107	102	115	107	115	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	20	79	15	46	20	79	0	61
Split 1 - Coord	Enum	false	true	false	false	false	true	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	20	79	15	46	20	79	0	61
Split 2 - Coord	Enum	false	true	false	false	false	true	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	20	74	20	46	20	74	0	66
Split 3 - Coord	Enum	false	true	false	false	false	true	false	false
Split 4 - Mode	Enum	none	none	none	pedRecall	none	none	none	pedRecall
Split 4 - Time	Sec	20	79	15	46	20	79	0	61
Split 4 - Coord	Enum	false	true	false	false	false	true	false	false
Split 5 - Mode	Enum	none	none	none	pedRecall	none	none	none	pedRecall
Split 5 - Time	Sec	20	74	20	46	20	74	0	66
Split 5 - Coord	Enum	false	true	false	false	false	true	false	false

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F---------	---A-------	----M------	-----J----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890123456789012345678901	12345678901234567890123456789012345678901	12345678901234567890123456789012345678901	1----------	----------5--------	-2----------	----------4-	1----------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	Units	9	10	11	12	13	14	15	16
Month	Bit	-------A----	--------S---	--------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	-2----------	-----6----------	---------1----------	----------	----------	----------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	6	7	9	9	15	16	18
Plan 1 Minute	Min	0	0	0	0	30	0	30	30
Plan 1 Action	Number	8	1	4	1	2	3	5	3
Plan 2 Hour	Hour	0	7	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	2	0	0	0	0	0	0
Plan 3 Hour	Hour	0	8	23	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	0	0	0	0	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Pattern 7	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Appendix J:
Synchro Output Sheets

Queues

1: Hurontario Street & Fairview Road West/Fairview Road East

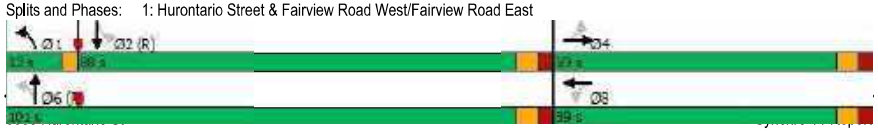
Existing AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	105	100	205	75	60	1140	35	1880
Future Volume (vph)	105	100	205	75	60	1140	35	1880
Lane Group Flow (vph)	121	305	236	161	69	1540	40	2218
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		4		8	1	6		2
Permitted Phases	4		8		6		2	
Detector Phase	4	4	8	8	1	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	40.0	40.0	40.0	40.0	8.0	29.0	29.0	29.0
Total Split (s)	59.0	59.0	59.0	59.0	13.0	101.0	88.0	88.0
Total Split (%)	36.9%	36.9%	36.9%	36.9%	8.1%	63.1%	55.0%	55.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	0.0	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)	6.0	6.0	6.0	6.0	2.0	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.32	0.52	0.96	0.27	0.48	0.55	0.35	0.87
Control Delay	42.2	37.9	98.6	32.8	29.5	36.0	33.5	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	37.9	98.6	32.8	29.5	36.0	33.5	38.9
Queue Length 50th (m)	30.5	68.3	~79.6	32.4	16.7	168.2	7.6	225.9
Queue Length 95th (m)	48.3	96.2	#133.3	50.9	23.7	171.8	18.7	238.0
Internal Link Dist (m)		78.1		66.2		577.8		77.3
Turn Bay Length (m)	75.0		40.0		120.0		50.0	
Base Capacity (vph)	381	586	246	591	163	2872	117	2598
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.52	0.96	0.27	0.42	0.54	0.34	0.85

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 35 (22%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Hurontario Street & Fairview Road West/Fairview Road East



HCM Signalized Intersection Capacity Analysis

1: Hurontario Street & Fairview Road West/Fairview Road East

Existing AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	100	165	205	75	65	60	1140	200	35	1880	50
Future Volume (vph)	105	100	165	205	75	65	60	1140	200	35	1880	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		6.0	6.0		2.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.95		1.00	0.98		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.96	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.91		1.00	0.93		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1729	1584		1622	1649		1700	4810		1675	5033	
Flt Permitted	0.60	1.00		0.42	1.00		0.05	1.00		0.13	1.00	
Satd. Flow (perm)	1100	1584		710	1649		86	4810		228	5033	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	121	115	190	236	86	75	69	1310	230	40	2161	57
RTOR Reduction (vph)	0	37	0	0	19	0	0	16	0	0	1	0
Lane Group Flow (vph)	121	268	0	236	142	0	69	1524	0	40	2217	0
Confl. Peds. (#/hr)	20		50	50		20	60		50	50		60
Heavy Vehicles (%)	1%	3%	5%	6%	4%	9%	5%	3%	6%	5%	3%	10%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	54.5	54.5		54.5	54.5		91.5	91.5		80.4	80.4	
Effective Green, g (s)	55.5	55.5		55.5	55.5		92.5	92.5		81.4	81.4	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.58	0.58		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0		3.0	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	
Lane Grp Cap (vph)	381	549		246	571		141	2780		115	2560	
v/s Ratio Prot		0.17			0.09		0.03	c0.32			c0.44	
v/s Ratio Perm	0.11			c0.33			0.25			0.18		
v/c Ratio	0.32	0.49		0.96	0.25		0.49	0.55		0.35	0.87	
Uniform Delay, d1	38.4	41.1		51.1	37.3		29.6	20.8		23.5	34.5	
Progression Factor	1.00	1.00		1.00	1.00		0.98	1.74		1.00	1.00	
Incremental Delay, d2	0.5	0.7		45.5	0.2		2.5	0.7		8.1	4.2	
Delay (s)	38.8	41.8		96.7	37.6		31.4	37.1		31.6	38.7	
Level of Service	D	D		F	D		C	D		C	D	
Approach Delay (s)		40.9			72.7			36.9			38.6	
Approach LOS		D			E			D			D	

Intersection Summary

HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Queues
2: Hurontario Street & John Street

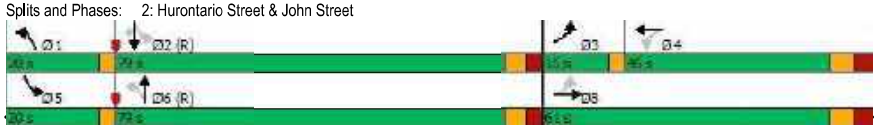
Existing AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	100	10	10	30	215	1100	80	1530	295
Future Volume (vph)	100	10	10	30	215	1100	80	1530	295
Lane Group Flow (vph)	106	38	11	154	229	1186	85	1628	314
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	3	8		4	1	6	5	2	
Permitted Phases	8		4		6		2		2
Detector Phase	3	8	4	4	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0	8.0
Minimum Split (s)	8.0	46.0	46.0	46.0	8.0	38.0	8.0	38.0	38.0
Total Split (s)	15.0	61.0	46.0	46.0	20.0	79.0	20.0	79.0	79.0
Total Split (%)	9.4%	38.1%	28.8%	28.8%	12.5%	49.4%	12.5%	49.4%	49.4%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	4.0	4.0	4.0	0.0	3.0	0.0	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)	2.0	7.0	7.0	7.0	2.0	6.0	2.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
v/c Ratio	0.35	0.08	0.05	0.42	0.72	0.41	0.28	0.63	0.49
Control Delay	43.4	16.5	48.3	18.8	65.1	4.7	7.2	20.3	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	43.4	16.5	48.3	18.8	65.1	4.8	7.2	20.3	7.8
Queue Length 50th (m)	24.1	2.5	2.9	10.8	38.7	11.1	3.9	188.5	38.2
Queue Length 95th (m)	39.2	11.5	8.7	31.8	#86.4	49.0	m5.1	m197.5	m52.3
Internal Link Dist (m)		151.9		56.1		37.7		577.8	
Turn Bay Length (m)					15.0		30.0		40.0
Base Capacity (vph)	305	581	297	482	320	2909	392	2627	650
Starvation Cap Reductn	0	0	0	0	0	541	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.07	0.04	0.32	0.72	0.50	0.22	0.62	0.48

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 107 (67%), Referenced to phase 2:SBTL and 6:NBTL, 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: 2: Hurontario Street & John Street



HCM Signalized Intersection Capacity Analysis
2: Hurontario Street & John Street

Existing AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	10	25	10	30	115	215	1100	15	80	1530	295
Future Volume (vph)	100	10	25	10	30	115	215	1100	15	80	1530	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	7.0		7.0	7.0		2.0	6.0		2.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.97		1.00	0.96		1.00	1.00		1.00	1.00	0.78
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		0.99	1.00	1.00
Frt	1.00	0.89		1.00	0.88		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1632	1672		1584	1627		1785	4925		1672	4948	1109
Flt Permitted	0.49	1.00		0.73	1.00		0.09	1.00		0.22	1.00	1.00
Satd. Flow (perm)	842	1672		1221	1627		160	4925		380	4948	1109
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	11	27	11	32	122	229	1170	16	85	1628	314
RTOR Reduction (vph)	0	20	0	0	94	0	0	1	0	0	0	63
Lane Group Flow (vph)	106	18	0	11	60	0	229	1185	0	85	1628	251
Confl. Peds. (#/hr)	30		20	20		30	80		90	90		80
Heavy Vehicles (%)	8%	0%	0%	10%	0%	0%	0%	6%	0%	6%	6%	12%
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	40.0	40.0		26.0	26.0		105.0	93.5		90.8	82.3	82.3
Effective Green, g (s)	41.0	41.0		27.0	27.0		106.0	94.5		92.8	83.3	83.3
Actuated g/C Ratio	0.26	0.26		0.17	0.17		0.66	0.59		0.58	0.52	0.52
Clearance Time (s)	3.0	8.0		8.0	8.0		3.0	7.0		3.0	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
Lane Grp Cap (vph)	275	428		206	274		316	2908		297	2576	577
v/s Ratio Prot	c0.03	0.01			0.04		c0.09	0.24		0.02	c0.33	
v/s Ratio Perm	0.07			0.01			0.39			0.15		0.23
v/c Ratio	0.39	0.04		0.05	0.22		0.72	0.41		0.29	0.63	0.44
Uniform Delay, d1	47.5	44.7		55.8	57.4		33.9	17.7		14.9	27.4	23.8
Progression Factor	1.00	1.00		1.00	1.00		1.94	0.21		0.51	0.65	0.39
Incremental Delay, d2	0.9	0.0		0.1	0.4		7.2	0.4		0.3	0.6	1.2
Delay (s)	48.4	44.8		55.9	57.8		72.9	4.2		7.9	18.5	10.4
Level of Service	D	D		E	E		E	A		A	B	B
Approach Delay (s)		47.5			57.7			15.3			16.8	
Approach LOS		D			E			B			B	

Intersection Summary

HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	88.5%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Queues
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Existing AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	85	130	145	20	140	60	145	1180	30	1295	235
Future Volume (vph)	85	130	145	20	140	60	145	1180	30	1295	235
Lane Group Flow (vph)	88	134	149	21	144	62	149	1242	31	1335	242
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov
Protected Phases	3	8			4		1	6	5	2	3
Permitted Phases	8		8	4		4	6		2		2
Detector Phase	3	8	8	4	4	4	1	6	5	2	3
Switch Phase											
Minimum Initial (s)	5.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0
Minimum Split (s)	8.0	56.0	56.0	56.0	56.0	56.0	8.0	51.5	8.0	51.5	8.0
Total Split (s)	21.0	85.0	85.0	64.0	64.0	64.0	13.0	62.0	13.0	62.0	21.0
Total Split (%)	13.1%	53.1%	53.1%	40.0%	40.0%	40.0%	8.1%	38.8%	8.1%	38.8%	13.1%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	0.0	4.0	4.0	4.0	4.0	4.0	0.0	3.5	0.0	3.5	0.0
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)	2.0	7.0	7.0	7.0	7.0	7.0	2.0	6.5	2.0	6.5	2.0
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min	None
v/c Ratio	0.19	0.18	0.24	0.06	0.26	0.13	0.59	0.53	0.14	0.76	0.37
Control Delay	28.6	31.9	5.0	40.0	43.4	6.6	74.0	15.5	17.4	30.3	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.2
Total Delay	28.6	31.9	5.0	40.0	43.4	6.6	74.0	15.5	17.4	31.0	2.0
Queue Length 50th (m)	17.8	29.2	0.0	5.0	36.5	0.0	38.2	39.7	2.2	50.0	0.0
Queue Length 95th (m)	29.3	43.9	14.6	12.5	56.5	9.4	64.2	48.3	m5.5	74.3	0.0
Internal Link Dist (m)		194.0			74.1			66.6		54.3	
Turn Bay Length (m)	50.0			50.0		10.0	75.0		65.0		
Base Capacity (vph)	495	936	729	408	651	556	253	2339	253	1746	711
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	154	118
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	0.18	0.14	0.20	0.05	0.22	0.11	0.59	0.53	0.12	0.84	0.41

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 99 (62%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

HCM Signalized Intersection Capacity Analysis
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Existing AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	130	145	20	140	60	145	1180	25	30	1295	235
Future Volume (vph)	85	130	145	20	140	60	145	1180	25	30	1295	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	7.0	7.0	7.0	7.0	7.0	2.0	6.5		2.0	6.5	2.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.88	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.81
Flpb, ped/bikes	0.99	1.00	1.00	0.91	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	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	1.00
Satd. Flow (prot)	1579	1921	1339	1622	1830	1432	1341	4961		1725	4948	1161
Flt Permitted	0.60	1.00	1.00	0.67	1.00	1.00	0.08	1.00		0.20	1.00	1.00
Satd. Flow (perm)	1005	1921	1339	1146	1830	1432	113	4961		360	4948	1161
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	134	149	21	144	62	149	1216	26	31	1335	242
RTOR Reduction (vph)	0	0	90	0	0	43	0	1	0	0	0	139
Lane Group Flow (vph)	88	134	59	21	144	19	149	1241	0	31	1335	103
Confl. Peds. (#/hr)	20		110	110		20	120		90	90		120
Heavy Vehicles (%)	12%	0%	5%	0%	5%	8%	33%	5%	4%	3%	6%	11%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8			4		1	6		5	2	3
Permitted Phases	8		8	4		4	6			2		2
Actuated Green, G (s)	62.0	62.0	62.0	48.0	48.0	48.0	82.5	73.8		61.1	55.4	66.4
Effective Green, g (s)	63.0	63.0	63.0	49.0	49.0	49.0	83.5	74.8		63.1	56.4	68.4
Actuated g/C Ratio	0.39	0.39	0.39	0.31	0.31	0.31	0.52	0.47		0.39	0.35	0.43
Clearance Time (s)	3.0	8.0	8.0	8.0	8.0	8.0	3.0	7.5		3.0	7.5	3.0
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)	438	756	527	350	560	438	251	2319		199	1744	496
v/s Ratio Prot	0.02	0.07			c0.08		c0.09	0.25		0.01	c0.27	c0.02
v/s Ratio Perm	0.06		0.04	0.02		0.01	0.22			0.05		0.07
v/c Ratio	0.20	0.18	0.11	0.06	0.26	0.04	0.59	0.54		0.16	0.77	0.21
Uniform Delay, d1	31.2	31.6	30.8	39.2	41.8	39.0	35.5	30.3		29.9	45.9	28.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.99	0.48		0.89	0.60	0.17
Incremental Delay, d2	0.2	0.1	0.1	0.1	0.2	0.0	3.1	0.7		0.3	2.6	0.2
Delay (s)	31.4	31.7	30.8	39.3	42.0	39.1	73.8	15.3		26.8	30.1	5.2
Level of Service	C	C	C	D	D	D	E	B		C	C	A
Approach Delay (s)		31.3			41.0			21.5			26.3	
Approach LOS		C			D			C			C	

Intersection Summary

HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Hurontario Street & 3085 Hurontario South Access

Existing AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1350	5	0	1565
Future Volume (Veh/h)	0	0	1350	5	0	1565
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	1552	6	0	1799
Pedestrians	15					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			334			91
pX, platoon unblocked	0.86	0.81			0.81	
vC, conflicting volume	2170	535			1573	
vC1, stage 1 conf vol	1570					
vC2, stage 2 conf vol	600					
vCu, unblocked vol	308	0			903	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	594	877			612	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	621	621	316	600	600	600
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	6	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.37	0.37	0.19	0.35	0.35	0.35
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	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		33.6%	ICU Level of Service	A
Analysis Period (min)		15		

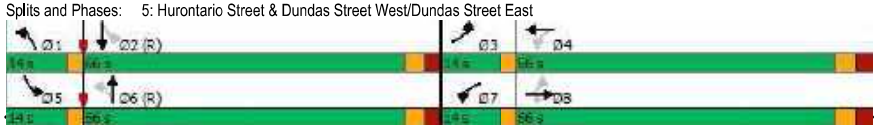
Queues
5: Hurontario Street & Dundas Street West/Dundas Street East

Existing AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	145	1100	120	60	435	115	1090	150	1175
Future Volume (vph)	145	1100	120	60	435	115	1090	150	1175
Lane Group Flow (vph)	156	1183	129	65	656	124	1242	161	1344
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8		7	4	1	6	5	2
Permitted Phases	8		8	4		6		2	
Detector Phase	3	8	8	7	4	1	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	8.0	45.5	45.5	8.0	45.5	8.0	41.0	8.0	41.0
Total Split (s)	14.0	66.0	66.0	14.0	66.0	14.0	66.0	14.0	66.0
Total Split (%)	8.8%	41.3%	41.3%	8.8%	41.3%	8.8%	41.3%	8.8%	41.3%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	3.5	3.5	0.0	3.5	0.0	3.0	0.0	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)	2.0	6.5	6.5	2.0	6.5	2.0	6.0	2.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.50	0.90	0.21	0.40	0.61	0.63	0.63	0.71	0.67
Control Delay	30.0	57.9	16.7	49.6	71.3	38.4	41.7	69.0	77.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	57.9	16.7	49.6	71.3	38.4	41.7	69.0	77.4
Queue Length 50th (m)	29.0	192.8	13.1	19.2	113.0	22.6	130.6	49.8	168.3
Queue Length 95th (m)	44.1	228.5	29.8	31.3	134.0	38.8	143.9	m#68.1	180.2
Internal Link Dist (m)		110.1			216.1		99.4		99.2
Turn Bay Length (m)	35.0		25.0	25.0		40.0		65.0	
Base Capacity (vph)	314	1346	620	183	1176	205	2033	231	2049
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.88	0.21	0.36	0.56	0.60	0.61	0.70	0.66

Intersection Summary
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 72 (45%), Referenced to phase 2:SBTL and 6:NBTL, 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.

Splits and Phases: 5: Hurontario Street & Dundas Street West/Dundas Street East



HCM Signalized Intersection Capacity Analysis
5: Hurontario Street & Dundas Street West/Dundas Street East

Existing AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	1100	120	60	435	175	115	1090	65	150	1175	75
Future Volume (vph)	145	1100	120	60	435	175	115	1090	65	150	1175	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	6.5	6.5	2.0	6.5		2.0	6.0		2.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.96		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	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	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1704	3544	1521	1767	3087		1683	4989		1716	4972	
Flt Permitted	0.26	1.00	1.00	0.07	1.00		0.10	1.00		0.12	1.00	
Satd. Flow (perm)	460	3544	1521	136	3087		183	4989		215	4972	
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)	156	1183	129	65	468	188	124	1172	70	161	1263	81
RTOR Reduction (vph)	0	0	43	0	28	0	0	4	0	0	4	0
Lane Group Flow (vph)	156	1183	86	65	628	0	124	1238	0	161	1340	0
Confl. Peds. (#/hr)	90					90	60		20	20		60
Heavy Vehicles (%)	4%	3%	5%	1%	8%	12%	6%	4%	4%	4%	4%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	69.1	58.2	58.2	61.5	53.6		72.1	61.6		74.7	62.9	
Effective Green, g (s)	70.1	59.2	59.2	63.5	54.6		74.1	62.6		76.7	63.9	
Actuated g/C Ratio	0.44	0.37	0.37	0.40	0.34		0.46	0.39		0.48	0.40	
Clearance Time (s)	3.0	7.5	7.5	3.0	7.5		3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	306	1311	562	144	1053		192	1951		223	1985	
v/s Ratio Prot	c0.04	c0.33		0.02	0.20		0.05	0.25		c0.06	c0.27	
v/s Ratio Perm	0.18		0.06	0.15			0.25			0.29		
v/c Ratio	0.51	0.90	0.15	0.45	0.60		0.65	0.63		0.72	0.67	
Uniform Delay, d1	29.5	47.7	33.7	36.5	43.6		29.0	39.4		28.2	39.5	
Progression Factor	1.00	1.00	1.00	1.89	1.69		1.00	1.00		2.37	1.88	
Incremental Delay, d2	1.3	8.9	0.1	2.2	0.9		7.3	1.6		9.1	1.5	
Delay (s)	30.8	56.5	33.8	71.2	74.7		36.3	41.0		75.9	75.7	
Level of Service	C	E	C	E	E		D	D		E	E	
Approach Delay (s)		51.8			74.3			40.6			75.8	
Approach LOS		D			E			D			E	

Intersection Summary				
HCM 2000 Control Delay	59.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	92.8%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
6: 3085 Hurontario North Access & Kirwin Avenue

Existing AM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	260	10	5	155	0	5
Future Volume (Veh/h)	260	10	5	155	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	292	11	6	174	0	6
Pedestrians					30	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	98					
pX, platoon unblocked			0.96		0.96	0.96
vC, conflicting volume			333		514	328
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			279		468	273
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1208		517	718

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	303	180	6
Volume Left	0	6	0
Volume Right	11	0	6
cSH	1700	1208	718
Volume to Capacity	0.18	0.00	0.01
Queue Length 95th (m)	0.0	0.1	0.2
Control Delay (s)	0.0	0.3	10.1
Lane LOS		A	B
Approach Delay (s)	0.0	0.3	10.1
Approach LOS			B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Jaguar Valley Dr & Kirwin Avenue

Existing AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	200	30	10	130	15	20	35	10	20	25	10
Future Volume (vph)	35	200	30	10	130	15	20	35	10	20	25	10
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)	37	213	32	11	138	16	21	37	11	21	27	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	250	32	11	154	69	59
Volume Left (vph)	37	0	11	0	21	21
Volume Right (vph)	0	32	0	16	11	11
Hadj (s)	0.19	-0.51	0.65	0.04	0.06	0.10
Departure Headway (s)	5.2	4.5	5.8	5.2	5.1	5.2
Degree Utilization, x	0.36	0.04	0.02	0.22	0.10	0.08
Capacity (veh/h)	667	772	597	673	642	630
Control Delay (s)	9.9	6.5	7.7	8.4	8.7	8.7
Approach Delay (s)	9.5		8.4		8.7	8.7
Approach LOS	A		A		A	A

Intersection Summary					
Delay	9.0				
Level of Service	A				
Intersection Capacity Utilization	40.4%	ICU Level of Service		A	
Analysis Period (min)	15				

HCM Unsignalized Intersection Capacity Analysis
8: 60 Dundas St E Access/Jaguar Valley Dr & Dundas Street East

Existing AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1295	0	0	625	20	0	0	0	20	0	45
Future Volume (Veh/h)	20	1295	0	0	625	20	0	0	0	20	0	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	21	1363	0	0	658	21	0	0	0	21	0	47
Pedestrians					5			30			15	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					0			3			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		240			236							
pX, platoon unblocked	0.91			0.68			0.73	0.73	0.68	0.73	0.73	0.91
vC, conflicting volume	694			1393			1811	2129	716	1412	2118	354
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	466			642			805	1243	0	256	1229	93
tC, single (s)	4.3			4.1			7.5	6.5	6.9	7.8	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	98			100			100	100	100	95	100	94
cM capacity (veh/h)	920			632			177	120	721	438	123	836

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	21	909	454	439	240	0	68
Volume Left	21	0	0	0	0	0	21
Volume Right	0	0	0	0	21	0	47
cSH	920	1700	1700	1700	1700	1700	653
Volume to Capacity	0.02	0.53	0.27	0.26	0.14	0.08	0.10
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	0.0	2.8
Control Delay (s)	9.0	0.0	0.0	0.0	0.0	0.0	11.2
Lane LOS	A					A	B
Approach Delay (s)	0.1			0.0		0.0	11.2
Approach LOS						A	B

Intersection Summary					
Average Delay	0.4				
Intersection Capacity Utilization	47.3%	ICU Level of Service		A	
Analysis Period (min)	15				

Queues
9: Kirwin Ave/Camilla Rd & Dundas Street East

Existing AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	20	1210	85	55	570	120	50	70	165	75	25
Future Volume (vph)	20	1210	85	55	570	120	50	70	165	75	25
Lane Group Flow (vph)	22	1315	92	60	620	130	54	152	0	261	27
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	custom	NA	Perm
Protected Phases		2			6			4		8	
Permitted Phases	2		2	6		6	4		3		8
Detector Phase	2	2	2	6	6	6	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	44.0	44.0	44.0	44.0	44.0	44.0	43.0	43.0	8.0	43.0	43.0
Total Split (s)	98.0	98.0	98.0	98.0	98.0	98.0	45.0	45.0	17.0	62.0	62.0
Total Split (%)	61.3%	61.3%	61.3%	61.3%	61.3%	61.3%	28.1%	28.1%	10.6%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	0.0	4.0	4.0
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	6.0	6.0	6.0	6.0	6.0		6.0	6.0
Lead/Lag							Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes		
Recall Mode	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
v/c Ratio	0.07	0.68	0.11	0.50	0.33	0.16	0.16	0.23		0.57	0.05
Control Delay	5.3	10.8	0.6	42.1	21.0	3.4	33.5	27.2		44.6	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	5.3	10.8	0.6	42.1	21.0	3.4	33.5	27.2		44.6	10.0
Queue Length 50th (m)	0.6	82.8	0.0	12.9	62.0	0.5	11.5	26.3		66.3	0.0
Queue Length 95th (m)	m1.6	240.3	m2.9	31.9	73.0	11.0	23.3	45.3		100.5	7.2
Internal Link Dist (m)		212.3			203.9			114.1		69.6	
Turn Bay Length (m)	25.0		40.0	25.0		40.0	40.0				
Base Capacity (vph)	346	2063	877	127	2005	876	332	671		469	562
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	0.06	0.64	0.10	0.47	0.31	0.15	0.16	0.23		0.56	0.05

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 38 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kirwin Ave/Camilla Rd & Dundas Street East

HCM Signalized Intersection Capacity Analysis
9: Kirwin Ave/Camilla Rd & Dundas Street East

Existing AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1210	85	55	570	120	50	70	70	165	75	25
Future Volume (vph)	20	1210	85	55	570	120	50	70	70	165	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	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	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.95	1.00	1.00			1.00	0.96
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.97	1.00
Satd. Flow (prot)	1534	3544	1474	1785	3444	1415	1722	1734			1775	1422
Flt Permitted	0.37	1.00	1.00	0.12	1.00	1.00	0.49	1.00			0.67	1.00
Satd. Flow (perm)	596	3544	1474	218	3444	1415	887	1734			1222	1422
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	1315	92	60	620	130	54	76	76	179	82	27
RTOR Reduction (vph)	0	0	22	0	0	57	0	19	0	0	0	17
Lane Group Flow (vph)	22	1315	70	60	620	73	54	133	0	0	261	10
Confl. Peds. (#/hr)	15		5	5		15	20					20
Heavy Vehicles (%)	15%	3%	5%	0%	6%	7%	2%	4%	1%	4%	6%	8%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		custom	NA	Perm
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			3		8
Actuated Green, G (s)	86.8	86.8	86.8	86.8	86.8	86.8	59.2	59.2			59.2	59.2
Effective Green, g (s)	87.8	87.8	87.8	87.8	87.8	87.8	60.2	60.2			60.2	60.2
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.55	0.55	0.38	0.38			0.38	0.38
Clearance Time (s)	7.0	7.0	7.0	7.0	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	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	327	1944	808	119	1889	776	333	652			459	535
v/s Ratio Prot		c0.37			0.18			0.08				
v/s Ratio Perm	0.04		0.05	0.28		0.05	0.06				c0.21	0.01
v/c Ratio	0.07	0.68	0.09	0.50	0.33	0.09	0.16	0.20			0.57	0.02
Uniform Delay, d1	16.9	25.9	17.1	22.5	19.9	17.2	33.1	33.7			39.6	31.3
Progression Factor	0.27	0.36	0.05	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.2	1.1	0.1	14.4	0.5	0.2	0.2	0.2			1.6	0.0
Delay (s)	4.8	10.5	1.0	37.0	20.3	17.4	33.4	33.9			41.2	31.4
Level of Service	A	B	A	D	C	B	C	C			D	C
Approach Delay (s)		9.8			21.1			33.7			40.3	
Approach LOS		A			C			C			D	

Intersection Summary

HCM 2000 Control Delay	18.2	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.65				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	89.4%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Queues

1: Hurontario Street & Fairview Road West/Fairview Road East

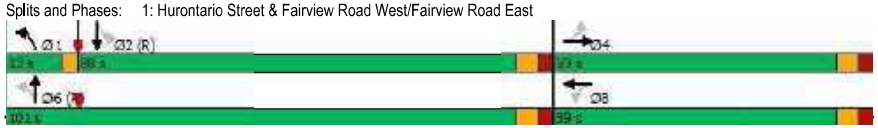
Existing PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	45	70	115	90	105	1715	50	1680
Future Volume (vph)	45	70	115	90	105	1715	50	1680
Lane Group Flow (vph)	47	137	121	158	111	2047	53	1879
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		4		8	1	6		2
Permitted Phases	4		8		6		2	
Detector Phase	4	4	8	8	1	6	2	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	40.0	40.0	40.0	40.0	8.0	29.0	29.0	29.0
Total Split (s)	59.0	59.0	59.0	59.0	13.0	101.0	88.0	88.0
Total Split (%)	36.9%	36.9%	36.9%	36.9%	8.1%	63.1%	55.0%	55.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	0.0	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)	6.0	6.0	6.0	6.0	2.0	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.27	0.39	0.65	0.47	0.49	0.57	0.54	0.57
Control Delay	57.4	46.6	75.3	57.1	14.2	14.8	42.7	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	46.6	75.3	57.1	14.2	14.8	42.7	17.1
Queue Length 50th (m)	13.2	30.9	36.7	42.7	14.8	204.6	9.6	128.1
Queue Length 95th (m)	26.6	52.8	61.0	66.9	m13.2	211.4	#37.2	156.1
Internal Link Dist (m)		78.1		66.2		577.8		77.3
Turn Bay Length (m)	75.0		40.0		120.0		50.0	
Base Capacity (vph)	309	593	331	579	239	3619	99	3312
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.23	0.37	0.27	0.46	0.57	0.54	0.57

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 35 (22%), Referenced to phase 2:SBTL and 6:NBTL, 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: 1: Hurontario Street & Fairview Road West/Fairview Road East



HCM Signalized Intersection Capacity Analysis

1: Hurontario Street & Fairview Road West/Fairview Road East

Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	70	60	115	90	60	105	1715	230	50	1680	105
Future Volume (vph)	45	70	60	115	90	60	105	1715	230	50	1680	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		6.0	6.0		2.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.97		1.00	0.98	
Flpb, ped/bikes	0.97	1.00		0.96	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.93		1.00	0.94		1.00	0.98		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)	1729	1732		1688	1725		1785	4901		1765	5057	
Flt Permitted	0.51	1.00		0.56	1.00		0.08	1.00		0.08	1.00	
Satd. Flow (perm)	936	1732		1003	1725		146	4901		150	5057	
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)	47	74	63	121	95	63	111	1805	242	53	1768	111
RTOR Reduction (vph)	0	24	0	0	10	0	0	7	0	0	3	0
Lane Group Flow (vph)	47	113	0	121	148	0	111	2040	0	53	1876	0
Confl. Peds. (#/hr)	30		40	40		30	80		70	70		80
Heavy Vehicles (%)	0%	0%	0%	1%	0%	6%	0%	2%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	29.0	29.0		29.0	29.0		117.0	117.0		103.8	103.8	
Effective Green, g (s)	30.0	30.0		30.0	30.0		118.0	118.0		104.8	104.8	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.74	0.74		0.65	0.65	
Clearance Time (s)	7.0	7.0		7.0	7.0		3.0	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	
Lane Grp Cap (vph)	175	324		188	323		222	3614		98	3312	
v/s Ratio Prot		0.07			0.09		0.03	c0.42			0.37	
v/s Ratio Perm	0.05			c0.12			0.33			0.35		
v/c Ratio	0.27	0.35		0.64	0.46		0.50	0.56		0.54	0.57	
Uniform Delay, d1	55.6	56.5		60.1	57.8		12.2	9.4		14.7	15.1	
Progression Factor	1.00	1.00		1.00	1.00		0.85	1.41		1.00	1.00	
Incremental Delay, d2	0.8	0.7		7.3	1.0		1.6	0.6		19.7	0.7	
Delay (s)	56.4	57.2		67.4	58.8		11.9	13.9		34.5	15.8	
Level of Service	E	E		E	E		B	B		C	B	
Approach Delay (s)		57.0			62.5			13.8			16.4	
Approach LOS		E			E			B			B	

Intersection Summary

HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	94.8%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Queues
2: Hurontario Street & John Street

Existing PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	340	30	15	15	55	1320	100	1345	130
Future Volume (vph)	340	30	15	15	55	1320	100	1345	130
Lane Group Flow (vph)	362	117	16	165	59	1431	106	1431	138
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	3	8		4	1	6	5	2	
Permitted Phases	8		4		6		2		2
Detector Phase	3	8	4	4	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0	8.0
Minimum Split (s)	8.0	46.0	46.0	46.0	8.0	38.0	8.0	38.0	38.0
Total Split (s)	15.0	61.0	46.0	46.0	20.0	79.0	20.0	79.0	79.0
Total Split (%)	9.4%	38.1%	28.8%	28.8%	12.5%	49.4%	12.5%	49.4%	49.4%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	4.0	4.0	4.0	0.0	3.0	0.0	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)	2.0	7.0	7.0	7.0	2.0	6.0	2.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
v/c Ratio	0.74	0.20	0.08	0.43	0.28	0.59	0.48	0.56	0.23
Control Delay	46.4	10.1	49.5	12.7	15.2	18.6	16.3	23.9	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	46.4	10.1	49.5	12.7	15.2	18.6	16.3	23.9	8.9
Queue Length 50th (m)	78.5	6.0	4.2	4.1	4.2	90.4	14.8	150.6	20.7
Queue Length 95th (m)	116.2	20.2	11.2	24.9	m7.6	143.0	21.2	171.7	38.1
Internal Link Dist (m)		151.9		56.1		37.7		577.8	
Turn Bay Length (m)					15.0		30.0		40.0
Base Capacity (vph)	486	631	284	490	303	2610	291	2696	627
Starvation Cap Reductn	0	0	0	0	0	151	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.19	0.06	0.34	0.19	0.58	0.36	0.53	0.22

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 107 (67%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Hurontario Street & John Street

HCM Signalized Intersection Capacity Analysis
2: Hurontario Street & John Street

Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	30	80	15	15	140	55	1320	25	100	1345	130
Future Volume (vph)	340	30	80	15	15	140	55	1320	25	100	1345	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	7.0		7.0	7.0		2.0	6.0		2.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.96		1.00	0.93		1.00	1.00		1.00	1.00	0.78
Flpb, ped/bikes	0.98	1.00		0.96	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89		1.00	0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1683	1465		1627	1550		1783	5110		1784	5142	1129
Flt Permitted	0.46	1.00		0.68	1.00		0.12	1.00		0.10	1.00	1.00
Satd. Flow (perm)	820	1465		1168	1550		222	5110		197	5142	1129
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	362	32	85	16	16	149	59	1404	27	106	1431	138
RTOR Reduction (vph)	0	54	0	0	124	0	0	1	0	0	0	38
Lane Group Flow (vph)	362	63	0	16	41	0	59	1430	0	106	1431	100
Confl. Peds. (#/hr)	50		40	40		50	80		70	70		80
Heavy Vehicles (%)	4%	0%	16%	5%	0%	0%	0%	2%	0%	0%	2%	10%
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	57.6	57.6		26.0	26.0		81.1	74.3		87.4	77.6	77.6
Effective Green, g (s)	58.6	58.6		27.0	27.0		83.1	75.3		88.4	78.6	78.6
Actuated g/C Ratio	0.37	0.37		0.17	0.17		0.52	0.47		0.55	0.49	0.49
Clearance Time (s)	3.0	8.0		8.0	8.0		3.0	7.0		3.0	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
Lane Grp Cap (vph)	459	536		197	261		191	2404		218	2526	554
v/s Ratio Prot	c0.15	0.04			0.03		0.02	c0.28		c0.03	0.28	
v/s Ratio Perm	0.14			0.01			0.14			0.23		0.09
v/c Ratio	0.79	0.12		0.08	0.16		0.31	0.59		0.49	0.57	0.18
Uniform Delay, d1	41.3	33.6		56.0	56.8		21.3	31.1		21.4	28.7	22.7
Progression Factor	1.00	1.00		1.00	1.00		0.67	0.52		0.57	0.74	0.60
Incremental Delay, d2	8.7	0.1		0.2	0.3		0.8	1.0		1.4	0.8	0.6
Delay (s)	50.0	33.7		56.2	57.1		15.2	17.2		13.6	22.0	14.2
Level of Service	D	C		E	E		B	B		B	C	B
Approach Delay (s)		46.0			57.0			17.1			20.9	
Approach LOS		D			E			B			C	

Intersection Summary

HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Queues
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Existing PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	205	150	340	30	260	90	125	1100	65	1260	105
Future Volume (vph)	205	150	340	30	260	90	125	1100	65	1260	105
Lane Group Flow (vph)	207	152	343	30	263	91	126	1146	66	1273	106
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+ov
Protected Phases	3	8			4		1	6	5	2	3
Permitted Phases	8		8	4		4	6		2		2
Detector Phase	3	8	8	4	4	4	1	6	5	2	3
Switch Phase											
Minimum Initial (s)	5.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0
Minimum Split (s)	8.0	56.0	56.0	56.0	56.0	56.0	8.0	51.5	8.0	51.5	8.0
Total Split (s)	21.0	85.0	85.0	64.0	64.0	64.0	13.0	62.0	13.0	62.0	21.0
Total Split (%)	13.1%	53.1%	53.1%	40.0%	40.0%	40.0%	8.1%	38.8%	8.1%	38.8%	13.1%
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	0.0	4.0	4.0	4.0	4.0	4.0	0.0	3.5	0.0	3.5	0.0
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)	2.0	7.0	7.0	7.0	7.0	7.0	2.0	6.5	2.0	6.5	2.0
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min	None
v/c Ratio	0.45	0.19	0.46	0.08	0.45	0.18	0.54	0.56	0.28	0.64	0.14
Control Delay	29.5	28.6	17.1	40.5	47.6	13.1	48.1	20.0	12.7	19.6	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0
Total Delay	29.5	28.6	17.1	40.5	47.6	13.1	48.1	20.1	12.7	19.8	1.0
Queue Length 50th (m)	41.6	31.1	38.7	7.2	71.2	4.5	21.9	51.0	3.2	27.7	0.0
Queue Length 95th (m)	60.4	47.2	67.0	16.3	100.3	19.0	m38.8	51.3	0.0	34.7	0.2
Internal Link Dist (m)		194.0			74.1			66.6		54.3	
Turn Bay Length (m)	50.0			50.0		10.0	75.0		65.0		
Base Capacity (vph)	470	927	826	427	684	569	236	2064	250	1978	789
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	150	0
Spillback Cap Reductn	0	0	0	0	0	1	0	121	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.16	0.42	0.07	0.38	0.16	0.53	0.59	0.26	0.70	0.13

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 99 (62%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

HCM Signalized Intersection Capacity Analysis
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	150	340	30	260	90	125	1100	35	65	1260	105
Future Volume (vph)	205	150	340	30	260	90	125	1100	35	65	1260	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	7.0	7.0	7.0	7.0	7.0	2.0	6.5		2.0	6.5	2.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.94	1.00	1.00		1.00	1.00	0.87
Flpb, ped/bikes	0.99	1.00	1.00	0.97	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	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	1.00
Satd. Flow (prot)	1712	1902	1515	1727	1921	1469	1748	5001		1762	5092	1380
Flt Permitted	0.43	1.00	1.00	0.66	1.00	1.00	0.11	1.00		0.17	1.00	1.00
Satd. Flow (perm)	781	1902	1515	1201	1921	1469	204	5001		309	5092	1380
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	207	152	343	30	263	91	126	1111	35	66	1273	106
RTOR Reduction (vph)	0	0	98	0	0	50	0	2	0	0	0	53
Lane Group Flow (vph)	207	152	245	30	263	41	126	1144	0	66	1273	53
Confl. Peds. (#/hr)	50		40	40		50	80		80	80		80
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	3%	1%	0%	0%	0%	2%	2%	4%	0%	1%	3%	1%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	3	8			4		1	6		5	2	3
Permitted Phases	8		8	4		4	6			2		2
Actuated Green, G (s)	67.9	67.9	67.9	48.0	48.0	48.0	76.6	65.1		69.7	61.2	78.1
Effective Green, g (s)	68.9	68.9	68.9	49.0	49.0	49.0	77.6	66.1		71.7	62.2	80.1
Actuated g/C Ratio	0.43	0.43	0.43	0.31	0.31	0.31	0.48	0.41		0.45	0.39	0.50
Clearance Time (s)	3.0	8.0	8.0	8.0	8.0	8.0	3.0	7.5		3.0	7.5	3.0
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)	440	819	652	367	588	449	228	2066		224	1979	690
v/s Ratio Prot	c0.05	0.08			c0.14		c0.05	0.23		0.02	c0.25	0.01
v/s Ratio Perm	0.15		0.16	0.02		0.03	0.22			0.11		0.03
v/c Ratio	0.47	0.19	0.38	0.08	0.45	0.09	0.55	0.55		0.29	0.64	0.08
Uniform Delay, d1	30.3	28.2	30.9	39.5	44.6	39.6	27.0	35.7		26.5	39.9	20.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.97	0.53		0.49	0.45	0.21
Incremental Delay, d2	0.8	0.1	0.4	0.1	0.5	0.1	2.2	0.8		0.6	1.4	0.0
Delay (s)	31.1	28.3	31.3	39.6	45.2	39.7	55.3	19.7		13.5	19.2	4.3
Level of Service	C	C	C	D	D	D	E	B		B	B	A
Approach Delay (s)		30.6			43.4			23.2			17.9	
Approach LOS		C			D			C			B	

Intersection Summary

HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	107.9%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Hurontario Street & 3085 Hurontario South Access

Existing PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	45	1215	35	15	1675
Future Volume (Veh/h)	15	45	1215	35	15	1675
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	47	1279	37	16	1763
Pedestrians	60					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	5					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			334			91
pX, platoon unblocked	0.88	0.84			0.84	
vC, conflicting volume	1977	505			1376	
vC1, stage 1 conf vol	1358					
vC2, stage 2 conf vol	620					
vCu, unblocked vol	416	0			799	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.3	
p0 queue free %	95	95			97	
cM capacity (veh/h)	351	871			633	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	63	512	512	293	369	705	705
Volume Left	16	0	0	0	16	0	0
Volume Right	47	0	0	37	0	0	0
cSH	633	1700	1700	1700	633	1700	1700
Volume to Capacity	0.10	0.30	0.30	0.17	0.03	0.41	0.41
Queue Length 95th (m)	2.6	0.0	0.0	0.0	0.6	0.0	0.0
Control Delay (s)	11.3	0.0	0.0	0.0	0.8	0.0	0.0
Lane LOS	B				A		
Approach Delay (s)	11.3	0.0			0.2		
Approach LOS	B						

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		53.0%	ICU Level of Service	A
Analysis Period (min)		15		

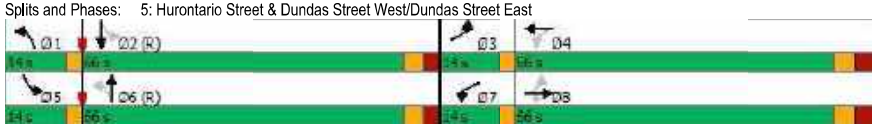
Queues
5: Hurontario Street & Dundas Street West/Dundas Street East

Existing PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	165	725	125	120	915	145	980	170	1200
Future Volume (vph)	165	725	125	120	915	145	980	170	1200
Lane Group Flow (vph)	172	755	130	125	1135	151	1156	177	1479
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8		7	4	1	6	5	2
Permitted Phases	8		8	4		6		2	
Detector Phase	3	8	8	7	4	1	6	5	2
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	8.0	45.5	45.5	8.0	45.5	8.0	41.0	8.0	41.0
Total Split (s)	14.0	66.0	66.0	14.0	66.0	14.0	66.0	14.0	66.0
Total Split (%)	8.8%	41.3%	41.3%	8.8%	41.3%	8.8%	41.3%	8.8%	41.3%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	3.5	3.5	0.0	3.5	0.0	3.0	0.0	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)	2.0	6.5	6.5	2.0	6.5	2.0	6.0	2.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.82	0.56	0.20	0.41	0.91	0.82	0.62	0.75	0.80
Control Delay	66.0	41.4	16.9	37.8	76.9	67.6	42.3	70.6	70.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	41.4	16.9	37.8	76.9	67.6	42.3	70.6	70.6
Queue Length 50th (m)	38.2	102.4	13.1	25.9	163.7	34.0	116.9	49.5	162.5
Queue Length 95th (m)	#90.0	127.4	29.9	47.7	204.4	#74.3	129.4	#85.4	191.7
Internal Link Dist (m)		110.1			216.1		99.4		99.2
Turn Bay Length (m)	35.0		25.0	25.0		40.0		65.0	
Base Capacity (vph)	211	1357	642	311	1292	186	1932	236	1918
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.56	0.20	0.40	0.88	0.81	0.60	0.75	0.77

Intersection Summary
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 72 (45%), Referenced to phase 2:SBTL and 6:NBTL, 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.

Splits and Phases: 5: Hurontario Street & Dundas Street West/Dundas Street East



HCM Signalized Intersection Capacity Analysis
5: Hurontario Street & Dundas Street West/Dundas Street East

Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	725	125	120	915	175	145	980	130	170	1200	220
Future Volume (vph)	165	725	125	120	915	175	145	980	130	170	1200	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	6.5	6.5	2.0	6.5		2.0	6.0		2.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	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	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1785	3579	1581	1767	3448		1750	5032		1766	4983	
Flt Permitted	0.07	1.00	1.00	0.24	1.00		0.07	1.00		0.14	1.00	
Satd. Flow (perm)	127	3579	1581	456	3448		124	5032		251	4983	
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)	172	755	130	125	953	182	151	1021	135	177	1250	229
RTOR Reduction (vph)	0	0	42	0	10	0	0	11	0	0	16	0
Lane Group Flow (vph)	172	755	88	125	1125	0	151	1145	0	177	1463	0
Confl. Peds. (#/hr)	70					70	80		30	30		80
Heavy Vehicles (%)	0%	2%	1%	1%	2%	0%	2%	2%	0%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	72.7	59.2	59.2	66.9	56.3		69.8	58.3		69.6	58.2	
Effective Green, g (s)	73.8	60.2	60.2	68.9	57.3		71.8	59.3		71.6	59.2	
Actuated g/C Ratio	0.46	0.38	0.38	0.43	0.36		0.45	0.37		0.45	0.37	
Clearance Time (s)	3.0	7.5	7.5	3.0	7.5		3.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	208	1346	594	291	1234		182	1864		229	1843	
v/s Ratio Prot	c0.07	0.21		0.03	c0.33		c0.06	0.23		0.06	c0.29	
v/s Ratio Perm	0.31		0.06	0.15			0.31			0.28		
v/c Ratio	0.83	0.56	0.15	0.43	0.91		0.83	0.61		0.77	0.79	
Uniform Delay, d1	44.3	39.5	33.0	29.3	48.9		40.6	41.0		30.4	45.0	
Progression Factor	1.00	1.00	1.00	1.51	1.38		1.00	1.00		2.20	1.51	
Incremental Delay, d2	22.8	0.5	0.1	0.9	9.6		25.7	1.5		12.9	3.1	
Delay (s)	67.1	40.0	33.1	45.1	76.8		66.3	42.6		79.8	71.1	
Level of Service	E	D	C	D	E		E	D		E	E	
Approach Delay (s)		43.6			73.7			45.3			72.0	
Approach LOS		D			E			D			E	

Intersection Summary				
HCM 2000 Control Delay	60.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.5	
Intersection Capacity Utilization	95.6%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
6: 3085 Hurontario North Access & Kirwin Avenue

Existing PM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	230	20	25	355	25	15
Future Volume (Veh/h)	230	20	25	355	25	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	258	22	28	399	28	17
Pedestrians	5				20	
Lane Width (m)	3.7				3.5	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	0				2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	98					
pX, platoon unblocked			0.94		0.94	0.94
vC, conflicting volume			300		749	289
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			217		697	206
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		92	98
cM capacity (veh/h)			1256		367	773

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	280	427	45
Volume Left	0	28	28
Volume Right	22	0	17
cSH	1700	1256	458
Volume to Capacity	0.16	0.02	0.10
Queue Length 95th (m)	0.0	0.5	2.6
Control Delay (s)	0.0	0.7	13.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.7	13.7
Approach LOS			B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Jaguar Valley Dr & Kirwin Avenue

Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	170	40	20	290	30	60	40	20	30	40	30
Future Volume (vph)	35	170	40	20	290	30	60	40	20	30	40	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	39	191	45	22	326	34	67	45	22	34	45	34

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	230	45	22	360	134	113
Volume Left (vph)	39	0	22	0	67	34
Volume Right (vph)	0	45	0	34	22	34
Hadj (s)	0.08	-0.70	0.50	-0.07	0.05	-0.11
Departure Headway (s)	5.8	5.0	6.1	5.5	5.9	5.8
Degree Utilization, x	0.37	0.06	0.04	0.55	0.22	0.18
Capacity (veh/h)	586	675	562	630	543	551
Control Delay (s)	11.0	7.2	8.1	14.0	10.5	10.0
Approach Delay (s)	10.4		13.7		10.5	10.0
Approach LOS	B		B		B	B

Intersection Summary					
Delay			11.7		
Level of Service			B		
Intersection Capacity Utilization		50.8%	ICU Level of Service		A
Analysis Period (min)			15		

HCM Unsignalized Intersection Capacity Analysis
8: 60 Dundas St E Access/Jaguar Valley Dr & Dundas Street East

Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	960	10	25	1150	40	5	0	25	10	5	55
Future Volume (Veh/h)	55	960	10	25	1150	40	5	0	25	10	5	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	58	1011	11	26	1211	42	5	0	26	11	5	58
Pedestrians		5			5			60			50	
Lane Width (m)		3.6			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			5			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		240			236							
pX, platoon unblocked	0.83			0.84			0.91	0.91	0.84	0.91	0.91	0.83
vC, conflicting volume	1303			1082			1916	2548	576	1986	2532	682
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	963			712			1018	1709	109	1096	1692	217
tC, single (s)	4.1			4.1			7.5	6.5	7.0	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 %	90			96			96	100	96	91	93	91
cM capacity (veh/h)	567			713			120	66	727	120	67	630

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	58	674	348	632	648	31	74
Volume Left	58	0	0	26	0	5	11
Volume Right	0	0	11	0	42	26	58
cSH	567	1700	1700	713	1700	401	287
Volume to Capacity	0.10	0.40	0.20	0.04	0.38	0.08	0.26
Queue Length 95th (m)	2.7	0.0	0.0	0.9	0.0	2.0	8.0
Control Delay (s)	12.1	0.0	0.0	1.0	0.0	14.7	21.9
Lane LOS	B			A		B	C
Approach Delay (s)	0.6			0.5		14.7	21.9
Approach LOS						B	C

Intersection Summary					
Average Delay			1.4		
Intersection Capacity Utilization		64.7%	ICU Level of Service		C
Analysis Period (min)			15		

Queues
9: Kirwin Ave/Camilla Rd & Dundas Street East

Existing PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	50	890	55	85	1090	330	85	95	145	70	40
Future Volume (vph)	50	890	55	85	1090	330	85	95	145	70	40
Lane Group Flow (vph)	51	908	56	87	1112	337	87	158	0	219	41
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	custom	NA	Perm
Protected Phases		2		1	6			4		8	
Permitted Phases	2		2	6		6	4		3		8
Detector Phase	2	2	2	1	6	6	4	4	3	8	8
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	44.0	44.0	44.0	9.5	44.0	44.0	43.0	43.0	8.0	43.0	43.0
Total Split (s)	85.0	85.0	85.0	17.0	102.0	102.0	45.0	45.0	13.0	58.0	58.0
Total Split (%)	53.1%	53.1%	53.1%	10.6%	63.8%	63.8%	28.1%	28.1%	8.1%	36.3%	36.3%
Yellow Time (s)	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.5	3.5	3.5	0.0	3.5	3.5	4.0	4.0	0.0	4.0	4.0
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	2.0	6.0	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes		
Recall Mode	C-Min	C-Min	C-Min	None	C-Max	C-Max	None	None	None	None	None
v/c Ratio	0.21	0.44	0.06	0.23	0.48	0.32	0.36	0.31		0.65	0.09
Control Delay	11.5	9.8	0.1	12.1	16.6	6.6	48.6	39.5		59.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	11.5	9.8	0.1	12.1	16.6	6.6	48.6	39.5		59.0	7.8
Queue Length 50th (m)	3.2	30.8	0.0	10.2	102.0	19.0	22.8	35.6		63.1	0.0
Queue Length 95th (m)	m6.6	44.7	m0.0	18.9	128.0	39.2	39.3	54.6		91.2	7.9
Internal Link Dist (m)		212.3			203.9			114.1		69.6	
Turn Bay Length (m)	25.0		40.0	25.0		40.0	40.0				
Base Capacity (vph)	238	2045	894	420	2300	1053	248	534		388	535
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	0.21	0.44	0.06	0.21	0.48	0.32	0.35	0.30		0.56	0.08

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 26 (16%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kirwin Ave/Camilla Rd & Dundas Street East

HCM Signalized Intersection Capacity Analysis
9: Kirwin Ave/Camilla Rd & Dundas Street East

Existing PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	890	55	85	1090	330	85	95	60	145	70	40
Future Volume (vph)	50	890	55	85	1090	330	85	95	60	145	70	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0	6.0	2.0	6.0	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	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.96	1.00	0.99			1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.97	1.00
Satd. Flow (prot)	1743	3579	1514	1748	3579	1531	1678	1790			1852	1547
Flt Permitted	0.23	1.00	1.00	0.24	1.00	1.00	0.48	1.00			0.62	1.00
Satd. Flow (perm)	418	3579	1514	449	3579	1531	856	1790			1195	1547
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)	51	908	56	87	1112	337	87	97	61	148	71	41
RTOR Reduction (vph)	0	0	24	0	0	69	0	14	0	0	0	29
Lane Group Flow (vph)	51	908	32	87	1112	268	87	144	0	0	219	12
Confl. Peds. (#/hr)	10		15	15		10	15		5	5		15
Heavy Vehicles (%)	2%	2%	0%	2%	2%	0%	5%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		custom	NA	Perm
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4			3		8
Actuated Green, G (s)	90.5	90.5	90.5	101.9	101.9	101.9	44.1	44.1			44.1	44.1
Effective Green, g (s)	91.5	91.5	91.5	102.9	102.9	102.9	45.1	45.1			45.1	45.1
Actuated g/C Ratio	0.57	0.57	0.57	0.64	0.64	0.64	0.28	0.28			0.28	0.28
Clearance Time (s)	7.0	7.0	7.0	3.0	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	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	239	2046	865	365	2301	984	241	504			336	436
v/s Ratio Prot		0.25		0.01	c0.31			0.08				
v/s Ratio Perm	0.12		0.02	0.14		0.17	0.10				c0.18	0.01
v/c Ratio	0.21	0.44	0.04	0.24	0.48	0.27	0.36	0.29			0.65	0.03
Uniform Delay, d1	16.7	19.7	15.0	12.3	14.8	12.4	45.9	44.9			50.5	41.6
Progression Factor	0.48	0.44	0.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	1.7	0.6	0.1	0.3	0.7	0.7	0.9	0.3			4.5	0.0
Delay (s)	9.6	9.2	0.1	12.6	15.5	13.0	46.9	45.2			55.0	41.6
Level of Service	A	A	A	B	B	B	D	D			E	D
Approach Delay (s)		8.7			14.8			45.8			52.9	
Approach LOS		A			B			D			D	

Intersection Summary

HCM 2000 Control Delay	18.5	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.55				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)		17.0	
Intersection Capacity Utilization	88.5%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Queues

1: Hurontario Street & Fairview Road West/Fairview Road East

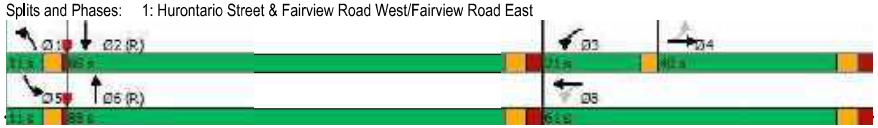
Future Background AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	105	100	220	75	65	1045	50	1475
Future Volume (vph)	105	100	220	75	65	1045	50	1475
Lane Group Flow (vph)	121	310	253	241	75	1448	57	1752
Turn Type	Perm	NA	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases		4	3	8	1	6	5	2
Permitted Phases	4		8					
Detector Phase	4	4	3	8	1	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	40.0	40.0	9.5	40.0	9.0	29.0	9.5	29.0
Total Split (s)	40.0	40.0	21.0	61.0	11.0	88.0	11.0	88.0
Total Split (%)	25.0%	25.0%	13.1%	38.1%	6.9%	55.0%	6.9%	55.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	3.0	3.0	0.0	3.0	1.0	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	2.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.55	0.88	0.95	0.42	0.83	0.81	0.67	0.97
Control Delay	67.0	76.9	84.3	32.3	113.5	41.9	109.6	51.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	76.9	84.3	32.3	113.5	41.9	109.6	51.6
Queue Length 50th (m)	36.2	86.1	63.6	45.5	24.8	259.2	19.1	295.7
Queue Length 95th (m)	57.4	#126.8	#108.5	68.5	m#52.4	248.0	#40.6	#322.6
Internal Link Dist (m)		78.1		66.2		577.8		77.3
Turn Bay Length (m)	75.0		40.0		120.0		50.0	
Base Capacity (vph)	235	373	266	583	90	1788	85	1814
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	0.51	0.83	0.95	0.41	0.83	0.81	0.67	0.97

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 35 (22%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 140
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: 1: Hurontario Street & Fairview Road West/Fairview Road East



HCM Signalized Intersection Capacity Analysis

1: Hurontario Street & Fairview Road West/Fairview Road East

Future Background AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	100	170	220	75	135	65	1045	215	50	1475	50
Future Volume (vph)	105	100	170	220	75	135	65	1045	215	50	1475	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.0	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		2.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.95		1.00	0.97		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.90		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1730	1581		1582	1577		1700	3320		1700	3492	
Flt Permitted	0.61	1.00		0.19	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1109	1581		316	1577		1700	3320		1700	3492	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	121	115	195	253	86	155	75	1201	247	57	1695	57
RTOR Reduction (vph)	0	38	0	0	41	0	0	10	0	0	1	0
Lane Group Flow (vph)	121	272	0	253	200	0	75	1438	0	57	1751	0
Confl. Peds. (#/hr)	20		50	50		20	60		50	50		60
Heavy Vehicles (%)	1%	3%	5%	6%	4%	9%	5%	3%	6%	5%	3%	10%
Turn Type	Perm	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases		4		3	8		1	6		5	2	
Permitted Phases	4			8								
Actuated Green, G (s)	30.9	30.9		52.4	52.4		7.5	84.0		5.6	82.1	
Effective Green, g (s)	31.9	31.9		53.4	53.4		8.5	85.0		6.6	83.1	
Actuated g/C Ratio	0.20	0.20		0.33	0.33		0.05	0.53		0.04	0.52	
Clearance Time (s)	7.0	7.0		3.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	315		259	526		90	1763		70	1813	
v/s Ratio Prot		c0.17		c0.12	0.13		c0.04	0.43		0.03	c0.50	
v/s Ratio Perm	0.11			0.21								
v/c Ratio	0.55	0.86		0.98	0.38		0.83	0.82		0.81	0.97	
Uniform Delay, d1	57.6	61.9		45.3	40.7		75.0	31.0		76.1	37.1	
Progression Factor	1.00	1.00		1.00	1.00		0.83	1.22		1.00	1.00	
Incremental Delay, d2	2.8	20.8		49.0	0.5		41.7	3.8		49.3	14.4	
Delay (s)	60.3	82.7		94.2	41.1		103.6	41.5		125.4	51.5	
Level of Service	E	F		F	D		F	D		F	D	
Approach Delay (s)		76.4			68.3			44.6			53.8	
Approach LOS		E			E			D			D	

Intersection Summary

HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Queues
2: Hurontario Street & John Street

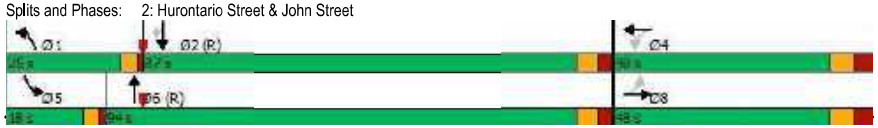
Future Background AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	230	10	10	20	175	910	80	1145	300
Future Volume (vph)	230	10	10	20	175	910	80	1145	300
Lane Group Flow (vph)	245	144	11	143	186	984	85	1218	319
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		8		4	1	6	5	2	
Permitted Phases	8		4						2
Detector Phase	8	8	4	4	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0	8.0
Minimum Split (s)	46.0	46.0	46.0	46.0	9.0	38.0	9.0	38.0	38.0
Total Split (s)	48.0	48.0	48.0	48.0	25.0	94.0	18.0	87.0	87.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	15.6%	58.8%	11.3%	54.4%	54.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	4.0	4.0	4.0	4.0	1.0	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
Total Lost Time (s)	7.0	7.0	7.0	7.0	3.0	6.0	3.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
v/c Ratio	0.86	0.27	0.04	0.27	0.81	0.53	0.62	0.71	0.51
Control Delay	82.6	9.4	42.2	11.3	104.0	14.8	93.2	21.0	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	82.6	9.4	42.2	11.3	104.0	15.0	93.2	21.0	6.3
Queue Length 50th (m)	75.6	2.6	2.6	5.0	61.0	77.7	28.2	161.6	16.6
Queue Length 95th (m)	#130.8	21.0	8.4	23.7	#95.1	83.0	m27.8	m188.7	m33.4
Internal Link Dist (m)		151.9		56.1		37.7		577.8	
Turn Bay Length (m)					15.0		30.0		40.0
Base Capacity (vph)	291	542	288	536	248	1937	157	1794	642
Starvation Cap Reductn	0	0	0	0	0	235	0	0	0
Spillback Cap Reductn	0	1	0	0	0	0	0	27	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.27	0.04	0.27	0.75	0.58	0.54	0.69	0.50

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 107 (67%), Referenced to phase 2:SBT and 6:NBT, 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: 2: Hurontario Street & John Street



HCM Signalized Intersection Capacity Analysis
2: Hurontario Street & John Street

Future Background AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	10	125	10	20	115	175	910	15	80	1145	300
Future Volume (vph)	230	10	125	10	20	115	175	910	15	80	1145	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.0	7.0		7.0	7.0		3.0	6.0		3.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97		1.00	0.96		1.00	1.00		1.00	1.00	0.78
Flpb, ped/bikes	0.97	1.00		0.98	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.87		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1603	1599		1590	1605		1785	3424		1684	3444	1109
Flt Permitted	0.62	1.00		0.62	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1045	1599		1034	1605		1785	3424		1684	3444	1109
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	245	11	133	11	21	122	186	968	16	85	1218	319
RTOR Reduction (vph)	0	97	0	0	89	0	0	1	0	0	0	68
Lane Group Flow (vph)	245	47	0	11	54	0	186	983	0	85	1218	251
Confl. Peds. (#/hr)	30		20	20		30	80		90	90		80
Heavy Vehicles (%)	8%	0%	0%	10%	0%	0%	0%	6%	0%	6%	6%	12%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								2
Actuated Green, G (s)	42.5	42.5		42.5	42.5		19.8	86.3		12.2	78.7	78.7
Effective Green, g (s)	43.5	43.5		43.5	43.5		20.8	87.3		13.2	79.7	79.7
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.13	0.55		0.08	0.50	0.50
Clearance Time (s)	8.0	8.0		8.0	8.0		4.0	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
Lane Grp Cap (vph)	284	434		281	436		232	1868		138	1715	552
v/s Ratio Prot		0.03			0.03		c0.10	0.29		0.05	c0.35	
v/s Ratio Perm	c0.23			0.01								0.23
v/c Ratio	0.86	0.11		0.04	0.12		0.80	0.53		0.62	0.71	0.45
Uniform Delay, d1	55.4	43.7		42.9	43.9		67.6	23.2		70.9	31.2	26.0
Progression Factor	1.00	1.00		1.00	1.00		1.20	0.58		1.22	0.62	0.34
Incremental Delay, d2	22.6	0.1		0.1	0.1		16.7	1.0		2.6	0.8	0.9
Delay (s)	78.0	43.8		42.9	44.0		97.8	14.3		89.5	20.2	9.7
Level of Service	E	D		D	D		F	B		F	C	A
Approach Delay (s)		65.4			43.9			27.6			21.8	
Approach LOS		E			D			C			C	

Intersection Summary

HCM 2000 Control Delay	29.9	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.77				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)		16.0	
Intersection Capacity Utilization	98.0%	ICU Level of Service		F	
Analysis Period (min)	15				

c Critical Lane Group

Queues
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

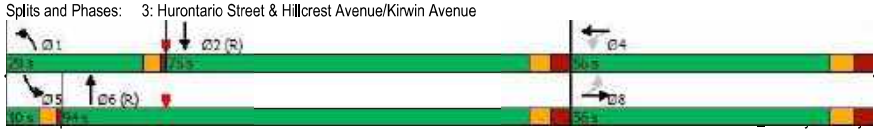
Future Background AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	120	20	140	215	870	35	995
Future Volume (vph)	85	120	20	140	215	870	35	995
Lane Group Flow (vph)	88	304	21	221	222	923	36	1284
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		8		4	1	6	5	2
Permitted Phases	8		4					
Detector Phase	8	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	56.0	56.0	56.0	56.0	9.0	51.5	9.0	51.5
Total Split (s)	56.0	56.0	56.0	56.0	29.0	94.0	10.0	75.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	18.1%	58.8%	6.3%	46.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	4.0	4.0	4.0	4.0	1.0	3.5	1.0	3.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	3.0	6.5	3.0	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.29	0.29	0.08	0.21	0.95	0.48	0.48	0.95
Control Delay	45.4	17.4	40.5	29.5	124.5	12.7	103.4	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	17.4	40.5	29.5	124.5	12.7	103.4	30.1
Queue Length 50th (m)	22.5	15.8	5.0	20.2	~79.9	39.8	12.6	19.3
Queue Length 95th (m)	39.6	29.1	12.6	31.8	m#111.8	50.2	m19.3	#79.2
Internal Link Dist (m)		194.0		74.1		66.6		54.3
Turn Bay Length (m)	50.0		50.0		75.0		65.0	
Base Capacity (vph)	306	1043	279	1032	233	1928	76	1390
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	17	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.29	0.08	0.21	0.95	0.48	0.47	0.92

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 99 (62%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue



HCM Signalized Intersection Capacity Analysis
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Future Background AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	120	175	20	140	75	215	870	25	35	995	250
Future Volume (vph)	85	120	175	20	140	75	215	870	25	35	995	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.0	7.0		7.0	7.0		3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	0.99	1.00		0.93	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.95		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1570	3001		1661	3226		1342	3445		1733	3215	
Flt Permitted	0.61	1.00		0.52	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1001	3001		913	3226		1342	3445		1733	3215	
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	124	180	21	144	77	222	897	26	36	1026	258
RTOR Reduction (vph)	0	125	0	0	44	0	0	1	0	0	14	0
Lane Group Flow (vph)	88	179	0	21	177	0	222	922	0	36	1270	0
Confl. Peds. (#/hr)	20		110	110		20	120		90	90		120
Heavy Vehicles (%)	12%	0%	5%	0%	5%	8%	33%	5%	4%	3%	6%	11%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	48.0	48.0		48.0	48.0		26.8	87.6		4.9	65.7	
Effective Green, g (s)	49.0	49.0		49.0	49.0		27.8	88.6		5.9	66.7	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.17	0.55		0.04	0.42	
Clearance Time (s)	8.0	8.0		8.0	8.0		4.0	7.5		4.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	306	919		279	987		233	1907		63	1340	
v/s Ratio Prot		0.06			0.05		c0.17	0.27		0.02	c0.40	
v/s Ratio Perm	c0.09			0.02								
v/c Ratio	0.29	0.19		0.08	0.18		0.95	0.48		0.57	0.95	
Uniform Delay, d1	42.2	40.9		39.4	40.7		65.5	21.8		75.8	45.0	
Progression Factor	1.00	1.00		1.00	1.00		1.43	0.56		1.16	0.39	
Incremental Delay, d2	0.5	0.1		0.1	0.1		33.9	0.5		9.3	12.3	
Delay (s)	42.7	41.1		39.5	40.8		127.8	12.7		97.4	29.9	
Level of Service	D	D		D	D		F	B		F	C	
Approach Delay (s)		41.4			40.7			35.0			31.8	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	115.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Hurontario Street & 3085 Hurontario South Access

Future Background AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1110	5	0	1295
Future Volume (Veh/h)	0	0	1110	5	0	1295
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	1276	6	0	1489
Pedestrians	15					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			334			91
pX, platoon unblocked	0.74	0.78			0.78	
vC, conflicting volume	2038	656			1297	
vC1, stage 1 conf vol	1294					
vC2, stage 2 conf vol	744					
vCu, unblocked vol	347	0			814	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	412	840			632	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	851	431	744	744
Volume Left	0	0	0	0	0
Volume Right	0	0	6	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.50	0.25	0.44	0.44
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	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		39.1%	ICU Level of Service	A
Analysis Period (min)		15		

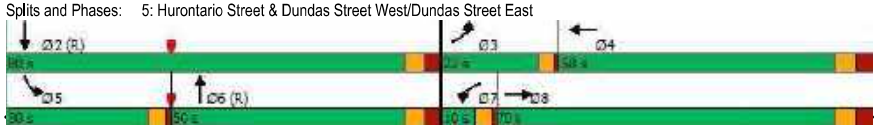
Queues
5: Hurontario Street & Dundas Street West/Dundas Street East

Future Background AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	185	1210	90	575	755	295	765
Future Volume (vph)	185	1210	90	575	755	295	765
Lane Group Flow (vph)	185	1365	90	805	855	295	930
Turn Type	Prot	NA	Prot	NA	NA	Prot	NA
Protected Phases	3	8	7	4	6	5	2
Permitted Phases							
Detector Phase	3	8	7	4	6	5	2
Switch Phase							
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	9.0	45.5	9.0	45.5	41.0	9.0	41.0
Total Split (s)	22.0	70.0	10.0	58.0	50.0	30.0	80.0
Total Split (%)	13.8%	43.8%	6.3%	36.3%	31.3%	18.8%	50.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.5	1.0	3.5	3.0	1.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	2.0	5.5	2.0	5.5	5.0	2.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.84	0.97	0.85	0.75	0.90	0.94	0.59
Control Delay	98.3	64.1	123.3	61.5	68.7	85.7	53.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.3	64.1	123.3	61.5	68.7	85.7	53.3
Queue Length 50th (m)	61.4	233.3	31.8	107.0	143.5	103.3	159.4
Queue Length 95th (m)	#103.4	#285.5	#72.2	131.8	#172.9 m	#128.5	m177.4
Internal Link Dist (m)		110.1		216.1	99.4		99.2
Turn Bay Length (m)	35.0		25.0			65.0	
Base Capacity (vph)	226	1407	106	1070	971	316	1588
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	0.82	0.97	0.85	0.75	0.88	0.93	0.59

Intersection Summary
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 72 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 125
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: Hurontario Street & Dundas Street West/Dundas Street East



HCM Signalized Intersection Capacity Analysis
5: Hurontario Street & Dundas Street West/Dundas Street East

Future Background AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	1210	155	90	575	230	0	755	100	295	765	165
Future Volume (vph)	185	1210	155	90	575	230	0	755	100	295	765	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	5.5		2.0	5.5			5.0		2.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96			0.98		1.00	0.97	
Flt Protected	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Satd. Flow (prot)	1807	3476		1860	3088			3432		1807	3364	
Flt Permitted	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Satd. Flow (perm)	1807	3476		1860	3088			3432		1807	3364	
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)	185	1210	155	90	575	230	0	755	100	295	765	165
RTOR Reduction (vph)	0	6	0	0	26	0	0	7	0	0	12	0
Lane Group Flow (vph)	185	1359	0	90	779	0	0	848	0	295	918	0
Confl. Peds. (#/hr)	90					90	60		20	20		60
Heavy Vehicles (%)	4%	3%	5%	1%	8%	12%	6%	4%	4%	4%	4%	3%
Turn Type	Prot	NA		Prot	NA			NA		Prot	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases												
Actuated Green, G (s)	17.6	62.5		7.2	52.1			41.8		26.0	71.8	
Effective Green, g (s)	19.6	64.5		9.2	54.1			43.8		28.0	73.8	
Actuated g/C Ratio	0.12	0.40		0.06	0.34			0.27		0.18	0.46	
Clearance Time (s)	4.0	7.5		4.0	7.5			7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	221	1401		106	1044			939		316	1551	
v/s Ratio Prot	c0.10	c0.39		c0.05	0.25			c0.25		c0.16	0.27	
v/s Ratio Perm												
v/c Ratio	0.84	0.97		0.85	0.75			0.90		0.93	0.59	
Uniform Delay, d1	68.6	46.8		74.7	46.9			56.1		65.1	31.9	
Progression Factor	1.00	1.00		0.99	1.25			1.00		0.86	1.67	
Incremental Delay, d2	23.2	17.3		41.8	2.8			13.7		27.2	1.2	
Delay (s)	91.8	64.1		115.9	61.5			69.7		83.2	54.5	
Level of Service	F	E		F	E			E		F	D	
Approach Delay (s)		67.4			67.0			69.7			61.4	
Approach LOS		E			E			E			E	

Intersection Summary				
HCM 2000 Control Delay	66.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	103.5%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
6: 3085 Hurontario North Access & Kirwin Avenue

Future Background AM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	245	10	5	170	0	5
Future Volume (Veh/h)	245	10	5	170	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	275	11	6	191	0	6
Pedestrians					30	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	98					
pX, platoon unblocked			0.94		0.94	0.94
vC, conflicting volume			316		514	310
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			247		456	241
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1227		519	740

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	286	197	6
Volume Left	0	6	0
Volume Right	11	0	6
cSH	1700	1227	740
Volume to Capacity	0.17	0.00	0.01
Queue Length 95th (m)	0.0	0.1	0.2
Control Delay (s)	0.0	0.3	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	0.3	9.9
Approach LOS			A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Jaguar Valley Dr & Kirwin Avenue

Future Background AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	190	25	10	145	15	20	35	10	20	25	10
Future Volume (vph)	35	190	25	10	145	15	20	35	10	20	25	10
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)	37	202	27	11	154	16	21	37	11	21	27	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	239	27	11	170	69	59
Volume Left (vph)	37	0	11	0	21	21
Volume Right (vph)	0	27	0	16	11	11
Hadj (s)	0.19	-0.51	0.65	0.05	0.06	0.10
Departure Headway (s)	5.2	4.5	5.8	5.1	5.1	5.2
Degree Utilization, x	0.35	0.03	0.02	0.24	0.10	0.09
Capacity (veh/h)	664	769	599	675	641	629
Control Delay (s)	9.7	6.5	7.7	8.6	8.7	8.7
Approach Delay (s)	9.4		8.5		8.7	8.7
Approach LOS	A		A		A	A

Intersection Summary					
Delay	9.0				
Level of Service	A				
Intersection Capacity Utilization	40.7%	ICU Level of Service		A	
Analysis Period (min)	15				

HCM Unsignalized Intersection Capacity Analysis
8: 60 Dundas St E Access/Jaguar Valley Dr & Dundas Street East

Future Background AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1495	70	20	725	20	80	5	35	20	5	45
Future Volume (Veh/h)	20	1495	70	20	725	20	80	5	35	20	5	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	21	1574	74	21	763	21	84	5	37	21	5	47
Pedestrians					5			30			15	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					0			3			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		240			236							
pX, platoon unblocked	0.87			0.63			0.69	0.69	0.63	0.69	0.69	0.87
vC, conflicting volume	799			1678			2156	2524	859	1704	2550	407
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	473			889			938	1470	0	283	1509	23
tC, single (s)	4.3			4.1			7.5	6.5	6.9	7.8	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	98			96			32	94	94	94	93	95
cM capacity (veh/h)	875			470			124	80	663	346	75	888

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	21	1049	599	402	402	126	73
Volume Left	21	0	0	21	0	84	21
Volume Right	0	0	74	0	21	37	47
cSH	875	1700	1700	470	1700	158	406
Volume to Capacity	0.02	0.62	0.35	0.04	0.24	0.80	0.18
Queue Length 95th (m)	0.6	0.0	0.0	1.1	0.0	41.2	5.2
Control Delay (s)	9.2	0.0	0.0	1.4	0.0	83.1	15.8
Lane LOS	A			A		F	C
Approach Delay (s)	0.1			0.7		83.1	15.8
Approach LOS						F	C

Intersection Summary					
Average Delay	4.6				
Intersection Capacity Utilization	64.0%	ICU Level of Service		B	
Analysis Period (min)	15				

Queues
9: Kirwin Ave/Camilla Rd & Dundas Street East

Future Background AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	1445	55	675	50	70	175	75	35
Future Volume (vph)	20	1445	55	675	50	70	175	75	35
Lane Group Flow (vph)	22	1663	60	870	54	152	0	272	38
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	custom	NA	Perm
Protected Phases		2	1	6		4		8	
Permitted Phases	2		6		4		3		8
Detector Phase	2	2	1	6	4	4	3	8	8
Switch Phase									
Minimum Initial (s)	8.0	8.0	5.0	8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	44.0	44.0	9.5	44.0	43.0	43.0	8.0	43.0	43.0
Total Split (s)	88.2	88.2	9.8	98.0	54.0	54.0	8.0	62.0	62.0
Total Split (%)	55.1%	55.1%	6.1%	61.3%	33.8%	33.8%	5.0%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.5	3.5	1.0	3.5	4.0	4.0	0.0	4.0	4.0
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	3.5	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lag	Lag	Lead		Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		
Recall Mode	C-Min	C-Min	None	C-Min	Max	Max	Min	Min	Min
v/c Ratio	0.09	0.93	0.51	0.46	0.17	0.27		0.74	0.07
Control Delay	13.2	26.2	33.5	21.0	43.2	34.5		58.5	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	13.2	26.2	33.5	21.0	43.2	34.5		58.5	3.3
Queue Length 50th (m)	1.7	231.6	8.2	83.0	13.5	30.5		81.0	0.0
Queue Length 95th (m)	m2.2	m285.6	19.4	99.7	26.2	51.1		#127.3	4.2
Internal Link Dist (m)		212.3		203.9		114.1		69.6	
Turn Bay Length (m)	25.0		25.0		40.0				
Base Capacity (vph)	239	1803	117	1925	310	566		370	556
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	0.09	0.92	0.51	0.45	0.17	0.27		0.74	0.07

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 125
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: 9: Kirwin Ave/Camilla Rd & Dundas Street East

HCM Signalized Intersection Capacity Analysis
9: Kirwin Ave/Camilla Rd & Dundas Street East

Future Background AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1445	85	55	675	125	50	70	70	175	75	35
Future Volume (vph)	20	1445	85	55	675	125	50	70	70	175	75	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		3.5	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00			1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.98	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1539	3505		1785	3331		1720	1734			1775	1422
Flt Permitted	0.29	1.00		0.05	1.00		0.55	1.00			0.55	1.00
Satd. Flow (perm)	467	3505		89	3331		989	1734			1013	1422
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	1571	92	60	734	136	54	76	76	190	82	38
RTOR Reduction (vph)	0	2	0	0	10	0	0	22	0	0	0	24
Lane Group Flow (vph)	22	1661	0	60	860	0	54	130	0	0	272	14
Confl. Peds. (#/hr)	15		5	5		15	20					20
Heavy Vehicles (%)	15%	3%	5%	0%	6%	7%	2%	4%	1%	4%	6%	8%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		custom	NA	Perm
Protected Phases		2		1	6			4			8	
Permitted Phases	2			6			4			3		8
Actuated Green, G (s)	79.9	79.9		88.6	88.6		49.2	49.2			57.4	57.4
Effective Green, g (s)	80.9	80.9		89.6	89.6		50.2	50.2			58.4	58.4
Actuated g/C Ratio	0.51	0.51		0.56	0.56		0.31	0.31			0.36	0.36
Clearance Time (s)	7.0	7.0		4.5	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
Lane Grp Cap (vph)	236	1772		104	1865		310	544			369	519
v/s Ratio Prot		c0.47		c0.02	0.26			0.08				
v/s Ratio Perm	0.05			0.30			0.05				c0.27	0.01
v/c Ratio	0.09	0.94		0.58	0.46		0.17	0.24			0.74	0.03
Uniform Delay, d1	20.5	37.2		34.1	20.9		39.9	40.7			44.1	32.6
Progression Factor	0.63	0.56		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.4	6.0		7.5	0.8		1.2	1.0			7.5	0.0
Delay (s)	13.2	27.0		41.7	21.7		41.1	41.8			51.6	32.6
Level of Service	B	C		D	C		D	D			D	C
Approach Delay (s)		26.8			23.0			41.6			49.3	
Approach LOS		C			C			D			D	

Intersection Summary

HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.5	
Intersection Capacity Utilization	90.3%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Queues
1: Hurontario Street & Fairview Road West/Fairview Road East

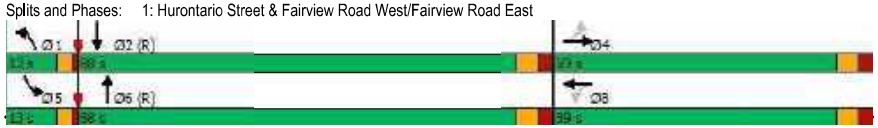
Future Background PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	45	70	125	90	110	1410	115	1395
Future Volume (vph)	45	70	125	90	110	1410	115	1395
Lane Group Flow (vph)	47	142	132	200	116	1747	121	1579
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	1	6	5	2
Permitted Phases	4		8					
Detector Phase	4	4	8	8	1	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	4.5	8.0
Minimum Split (s)	40.0	40.0	40.0	40.0	9.0	29.0	9.0	29.0
Total Split (s)	59.0	59.0	59.0	59.0	13.0	88.0	13.0	88.0
Total Split (%)	36.9%	36.9%	36.9%	36.9%	8.1%	55.0%	8.1%	55.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	1.0	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	3.0	6.0	3.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.31	0.40	0.73	0.57	0.52	0.89	0.51	0.77
Control Delay	58.7	45.5	82.5	52.6	67.1	44.4	73.0	29.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	45.5	82.5	52.6	67.1	44.4	73.0	29.3
Queue Length 50th (m)	13.4	31.8	41.0	48.9	32.0	309.4	38.6	210.0
Queue Length 95th (m)	26.4	53.1	66.0	74.8	m50.2	#355.7	60.5	263.5
Internal Link Dist (m)		78.1		66.2		577.8		77.3
Turn Bay Length (m)	75.0		40.0		120.0		50.0	
Base Capacity (vph)	257	591	309	576	222	1961	235	2058
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.24	0.43	0.35	0.52	0.89	0.51	0.77

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 35 (22%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 110
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: 1: Hurontario Street & Fairview Road West/Fairview Road East



HCM Signalized Intersection Capacity Analysis
1: Hurontario Street & Fairview Road West/Fairview Road East

Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	70	65	125	90	100	110	1410	250	115	1395	105
Future Volume (vph)	45	70	65	125	90	100	110	1410	250	115	1395	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.0	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.97	1.00		0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.92		1.00	0.98		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)	1735	1724		1594	1666		1785	3366		1785	3502	
Flt Permitted	0.43	1.00		0.56	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	777	1724		936	1666		1785	3366		1785	3502	
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)	47	74	68	132	95	105	116	1484	263	121	1468	111
RTOR Reduction (vph)	0	25	0	0	30	0	0	8	0	0	3	0
Lane Group Flow (vph)	47	117	0	132	170	0	116	1739	0	121	1576	0
Confl. Peds. (#/hr)	30		40	40		30	80		70	70		80
Heavy Vehicles (%)	0%	0%	0%	1%	0%	6%	0%	2%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8								
Actuated Green, G (s)	30.0	30.0		30.0	30.0		19.0	91.9		20.1	93.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0		20.0	92.9		21.1	94.0	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.12	0.58		0.13	0.59	
Clearance Time (s)	7.0	7.0		7.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	150	334		181	322		223	1954		235	2057	
v/s Ratio Prot		0.07			0.10		0.06	c0.52		c0.07	0.45	
v/s Ratio Perm	0.06			c0.14								
v/c Ratio	0.31	0.35		0.73	0.53		0.52	0.89		0.51	0.77	
Uniform Delay, d1	55.4	55.8		60.6	57.9		65.5	29.1		64.7	24.8	
Progression Factor	1.00	1.00		1.00	1.00		0.91	1.30		1.00	1.00	
Incremental Delay, d2	1.2	0.6		13.7	1.6		1.8	5.5		1.9	2.8	
Delay (s)	56.6	56.4		74.2	59.5		61.6	43.3		66.6	27.6	
Level of Service	E	E		E	E		E	D		E	C	
Approach Delay (s)		56.5			65.4			44.4			30.3	
Approach LOS		E			E			D			C	

Intersection Summary

HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Queues
2: Hurontario Street & John Street

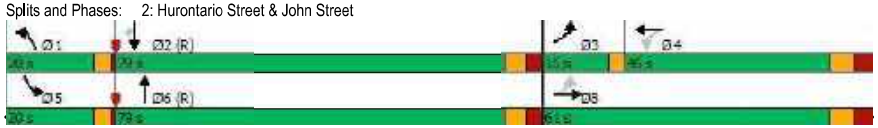
Future Background PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	400	20	15	10	75	985	100	1010	205
Future Volume (vph)	400	20	15	10	75	985	100	1010	205
Lane Group Flow (vph)	426	154	16	160	80	1075	106	1074	218
Turn Type	pm+pt	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases	3	8		4	1	6	5	2	
Permitted Phases	8		4						2
Detector Phase	3	8	4	4	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0	8.0
Minimum Split (s)	8.0	46.0	46.0	46.0	9.0	44.0	9.0	38.0	38.0
Total Split (s)	15.0	61.0	46.0	46.0	20.0	79.0	20.0	79.0	79.0
Total Split (%)	9.4%	38.1%	28.8%	28.8%	12.5%	49.4%	12.5%	49.4%	49.4%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	4.0	4.0	4.0	1.0	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
Total Lost Time (s)	2.0	7.0	7.0	7.0	3.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
v/c Ratio	0.81	0.25	0.08	0.42	0.54	0.72	0.65	0.70	0.40
Control Delay	51.3	8.0	49.6	11.8	109.8	30.1	92.8	26.8	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	51.3	8.0	49.6	11.8	109.8	30.3	92.8	26.8	8.7
Queue Length 50th (m)	100.7	4.0	4.2	2.8	28.3	175.1	31.2	178.7	31.9
Queue Length 95th (m)	#199.2	21.3	11.2	23.0	47.8	185.7	m44.1	186.1	m37.7
Internal Link Dist (m)		151.9		56.1		37.7		577.8	
Turn Bay Length (m)					15.0		30.0		40.0
Base Capacity (vph)	525	617	275	487	189	1630	189	1658	574
Starvation Cap Reductn	0	0	0	0	0	96	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.25	0.06	0.33	0.42	0.70	0.56	0.65	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 107 (67%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 110
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: 2: Hurontario Street & John Street



HCM Signalized Intersection Capacity Analysis
2: Hurontario Street & John Street

Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	400	20	125	15	10	140	75	985	25	100	1010	205
Future Volume (vph)	400	20	125	15	10	140	75	985	25	100	1010	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	7.0		7.0	7.0		3.0	6.0		3.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95		1.00	0.93		1.00	1.00		1.00	1.00	0.78
Flpb, ped/bikes	0.98	1.00		0.96	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.87		1.00	0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1682	1391		1631	1539		1785	3549		1785	3579	1129
Flt Permitted	0.48	1.00		0.66	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	841	1391		1131	1539		1785	3549		1785	3579	1129
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	426	21	133	16	11	149	80	1048	27	106	1074	218
RTOR Reduction (vph)	0	82	0	0	124	0	0	1	0	0	0	55
Lane Group Flow (vph)	426	72	0	16	36	0	80	1074	0	106	1074	163
Confl. Peds. (#/hr)	50		40	40		50	80		70	70		80
Heavy Vehicles (%)	4%	0%	16%	5%	0%	0%	0%	2%	0%	0%	2%	10%
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								2
Actuated Green, G (s)	60.7	60.7		26.0	26.0		12.2	66.6		13.7	68.1	68.1
Effective Green, g (s)	61.7	61.7		27.0	27.0		13.2	67.6		14.7	69.1	69.1
Actuated g/C Ratio	0.39	0.39		0.17	0.17		0.08	0.42		0.09	0.43	0.43
Clearance Time (s)	3.0	8.0		8.0	8.0		4.0	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
Lane Grp Cap (vph)	496	536		190	259		147	1499		163	1545	487
v/s Ratio Prot	c0.18	0.05			0.02		0.04	c0.30		c0.06	0.30	
v/s Ratio Perm	0.16			0.01								0.14
v/c Ratio	0.86	0.13		0.08	0.14		0.54	0.72		0.65	0.70	0.34
Uniform Delay, d1	40.9	31.9		56.1	56.6		70.5	38.3		70.2	36.9	30.2
Progression Factor	1.00	1.00		1.00	1.00		1.40	0.70		1.14	0.66	0.40
Incremental Delay, d2	13.8	0.1		0.2	0.2		3.6	2.6		6.2	1.8	1.3
Delay (s)	54.7	32.0		56.3	56.9		102.2	29.4		86.5	26.1	13.5
Level of Service	D	C		E	E		F	C		F	C	B
Approach Delay (s)		48.7			56.8			34.5			28.7	
Approach LOS		D			E			C			C	

Intersection Summary

HCM 2000 Control Delay	35.7	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)		18.0	
Intersection Capacity Utilization	101.5%	ICU Level of Service		G	
Analysis Period (min)	15				

c Critical Lane Group

Queues
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Future Background PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	205	140	30	250	235	780	80	920
Future Volume (vph)	205	140	30	250	235	780	80	920
Lane Group Flow (vph)	207	515	30	354	237	823	81	1081
Turn Type	pm+pt	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases	3	8		4	1	6	5	2
Permitted Phases	8		4					
Detector Phase	3	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	5.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	8.0	56.0	56.0	56.0	9.0	51.5	9.0	51.5
Total Split (s)	8.0	64.0	56.0	56.0	25.0	71.0	25.0	71.0
Total Split (%)	5.0%	40.0%	35.0%	35.0%	15.6%	44.4%	15.6%	44.4%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	4.0	4.0	4.0	1.0	3.5	1.0	3.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	2.0	7.0	7.0	7.0	3.0	6.5	3.0	6.5
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.51	0.37	0.12	0.33	0.93	0.56	0.54	0.86
Control Delay	38.3	15.5	41.6	38.9	109.1	26.8	107.8	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.3
Total Delay	38.3	15.5	41.6	38.9	109.1	27.9	107.8	25.1
Queue Length 50th (m)	44.9	25.8	7.3	42.8	84.0	60.8	28.6	31.6
Queue Length 95th (m)	70.3	44.3	16.7	58.0	m#94.9	m59.7	m44.9	57.2
Internal Link Dist (m)		194.0		74.1		66.6		54.3
Turn Bay Length (m)	50.0		50.0		75.0		65.0	
Base Capacity (vph)	404	1392	260	1071	255	1468	242	1391
Starvation Cap Reductn	0	0	0	0	0	0	0	43
Spillback Cap Reductn	0	0	0	2	0	388	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.37	0.12	0.33	0.93	0.76	0.33	0.80

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 99 (62%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 135
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: 3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

HCM Signalized Intersection Capacity Analysis
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	140	370	30	250	100	235	780	35	80	920	150
Future Volume (vph)	205	140	370	30	250	100	235	780	35	80	920	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	7.0		7.0	7.0		3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.96		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.96		1.00	0.99		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)	1712	3123		1750	3413		1750	3469		1767	3430	
Flt Permitted	0.46	1.00		0.46	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	824	3123		851	3413		1750	3469		1767	3430	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	207	141	374	30	253	101	237	788	35	81	929	152
RTOR Reduction (vph)	0	178	0	0	27	0	0	2	0	0	9	0
Lane Group Flow (vph)	207	337	0	30	327	0	237	821	0	81	1072	0
Confl. Peds. (#/hr)	50		40	40		50	80		80	80		80
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	3%	1%	0%	0%	0%	2%	2%	4%	0%	1%	3%	1%
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	61.2	61.2		48.0	48.0		22.3	66.6		12.7	57.0	
Effective Green, g (s)	62.2	62.2		49.0	49.0		23.3	67.6		13.7	58.0	
Actuated g/C Ratio	0.39	0.39		0.31	0.31		0.15	0.42		0.09	0.36	
Clearance Time (s)	3.0	8.0		8.0	8.0		4.0	7.5		4.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	382	1214		260	1045		254	1465		151	1243	
v/s Ratio Prot	c0.04	0.11			c0.10		c0.14	0.24		0.05	c0.31	
v/s Ratio Perm	0.17			0.04								
v/c Ratio	0.54	0.28		0.12	0.31		0.93	0.56		0.54	0.86	
Uniform Delay, d1	35.4	33.5		39.9	42.6		67.6	35.0		70.1	47.3	
Progression Factor	1.00	1.00		1.00	1.00		1.34	0.75		1.40	0.39	
Incremental Delay, d2	1.6	0.1		0.2	0.2		20.9	0.6		2.9	6.6	
Delay (s)	36.9	33.6		40.1	42.8		111.7	26.8		101.2	25.2	
Level of Service	D	C		D	D		F	C		F	C	
Approach Delay (s)		34.6			42.5			45.8			30.5	
Approach LOS		C			D			D			C	

Intersection Summary

HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.5	
Intersection Capacity Utilization	113.5%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Hurontario Street & 3085 Hurontario South Access

Future Background PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	45	1005	35	15	1365
Future Volume (Veh/h)	15	45	1005	35	15	1365
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	47	1058	37	16	1437
Pedestrians	60					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	5					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			334			91
pX, platoon unblocked	0.79	0.84			0.84	
vC, conflicting volume	1887	608			1155	
vC1, stage 1 conf vol	1136					
vC2, stage 2 conf vol	750					
vCu, unblocked vol	704	163			812	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.3	
p0 queue free %	95	93			97	
cM capacity (veh/h)	322	684			625	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	63	705	390	495	958
Volume Left	16	0	0	16	0
Volume Right	47	0	37	0	0
cSH	532	1700	1700	625	1700
Volume to Capacity	0.12	0.41	0.23	0.03	0.56
Queue Length 95th (m)	3.2	0.0	0.0	0.6	0.0
Control Delay (s)	12.7	0.0	0.0	0.7	0.0
Lane LOS	B			A	
Approach Delay (s)	12.7	0.0		0.2	
Approach LOS	B				

Intersection Summary				
Average Delay		0.4		
Intersection Capacity Utilization		Err%	ICU Level of Service	H
Analysis Period (min)		15		

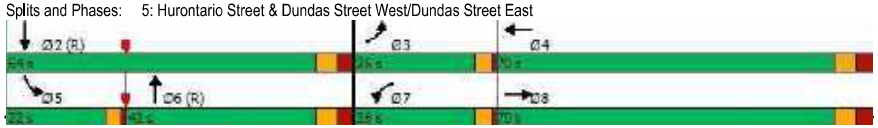
Queues
5: Hurontario Street & Dundas Street West/Dundas Street East

Future Background PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	265	890	140	1055	555	230	735
Future Volume (vph)	265	890	140	1055	555	230	735
Lane Group Flow (vph)	265	1050	140	1365	755	230	1030
Turn Type	Prot	NA	Prot	NA	NA	Prot	NA
Protected Phases	3	8	7	4	6	5	2
Permitted Phases							
Detector Phase	3	8	7	4	6	5	2
Switch Phase							
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	9.0	45.5	9.0	45.5	41.0	9.0	41.0
Total Split (s)	26.0	70.0	26.0	70.0	42.0	22.0	64.0
Total Split (%)	16.3%	43.8%	16.3%	43.8%	26.3%	13.8%	40.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.5	1.0	3.5	3.0	1.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	2.0	5.5	2.0	5.5	5.0	2.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.94	0.68	0.63	0.99	0.94	0.99	0.82
Control Delay	105.2	39.2	64.1	78.6	77.3	111.1	65.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.2	39.2	64.1	78.6	77.3	111.1	65.5
Queue Length 50th (m)	89.1	146.5	45.5	230.3	127.2	80.5	181.0
Queue Length 95th (m)	#147.1	182.2	m61.7	#284.4	#166.4	m#131.0	207.0
Internal Link Dist (m)		110.1		216.1	99.4		99.2
Turn Bay Length (m)	35.0		25.0			65.0	
Base Capacity (vph)	283	1533	279	1385	810	232	1261
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	0.94	0.68	0.50	0.99	0.93	0.99	0.82

Intersection Summary
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 72 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 145
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: Hurontario Street & Dundas Street West/Dundas Street East



HCM Signalized Intersection Capacity Analysis
5: Hurontario Street & Dundas Street West/Dundas Street East

Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	890	160	140	1055	310	0	555	200	230	735	295
Future Volume (vph)	265	890	160	140	1055	310	0	555	200	230	735	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	5.5		2.0	5.5			5.0		2.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98			0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97			0.96		1.00	0.96	
Flt Protected	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Satd. Flow (prot)	1879	3502		1860	3394			3405		1860	3347	
Flt Permitted	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Satd. Flow (perm)	1879	3502		1860	3394			3405		1860	3347	
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)	265	890	160	140	1055	310	0	555	200	230	735	295
RTOR Reduction (vph)	0	8	0	0	17	0	0	23	0	0	27	0
Lane Group Flow (vph)	265	1042	0	140	1348	0	0	732	0	230	1003	0
Confl. Peds. (#/hr)	70					70	80		30	30		80
Heavy Vehicles (%)	0%	2%	1%	1%	2%	0%	2%	2%	0%	1%	1%	0%
Turn Type	Prot	NA		Prot	NA			NA		Prot	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases												
Actuated Green, G (s)	22.2	67.7		17.0	62.5			34.8		18.0	56.8	
Effective Green, g (s)	24.2	69.7		19.0	64.5			36.8		20.0	58.8	
Actuated g/C Ratio	0.15	0.44		0.12	0.40			0.23		0.12	0.37	
Clearance Time (s)	4.0	7.5		4.0	7.5			7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	284	1525		220	1368			783		232	1230	
v/s Ratio Prot	c0.14	0.30		0.08	c0.40			c0.21		c0.12	0.30	
v/s Ratio Perm												
v/c Ratio	0.93	0.68		0.64	0.99			0.93		0.99	0.82	
Uniform Delay, d1	67.1	36.3		67.2	47.3			60.4		69.9	45.7	
Progression Factor	1.00	1.00		0.81	1.34			1.00		0.87	1.37	
Incremental Delay, d2	35.8	1.3		4.6	17.7			19.7		50.7	5.0	
Delay (s)	102.9	37.6		59.0	81.1			80.1		111.3	67.5	
Level of Service	F	D		E	F			F		F	E	
Approach Delay (s)		50.7			79.0			80.1			75.5	
Approach LOS		D			E			F			E	

Intersection Summary				
HCM 2000 Control Delay	70.6	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	111.4%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
6: 3085 Hurontario North Access & Kirwin Avenue

Future Background PM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	225	20	25	355	25	15
Future Volume (Veh/h)	225	20	25	355	25	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	253	22	28	399	28	17
Pedestrians	5				20	
Lane Width (m)	3.7				3.5	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	0				2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	98					
pX, platoon unblocked						
vC, conflicting volume			295		744	284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			295		744	284
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		92	98
cM capacity (veh/h)			1257		369	747

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	275	427	45
Volume Left	0	28	28
Volume Right	22	0	17
cSH	1700	1257	456
Volume to Capacity	0.16	0.02	0.10
Queue Length 95th (m)	0.0	0.5	2.6
Control Delay (s)	0.0	0.7	13.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.7	13.8
Approach LOS			B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Jaguar Valley Dr & Kirwin Avenue

Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	170	35	20	300	30	60	40	20	30	40	30
Future Volume (vph)	35	170	35	20	300	30	60	40	20	30	40	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	39	191	39	22	337	34	67	45	22	34	45	34

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	230	39	22	371	134	113
Volume Left (vph)	39	0	22	0	67	34
Volume Right (vph)	0	39	0	34	22	34
Hadj (s)	0.08	-0.70	0.50	-0.06	0.05	-0.11
Departure Headway (s)	5.8	5.0	6.1	5.5	5.9	5.8
Degree Utilization, x	0.37	0.05	0.04	0.57	0.22	0.18
Capacity (veh/h)	584	670	563	631	541	548
Control Delay (s)	11.1	7.1	8.1	14.4	10.5	10.1
Approach Delay (s)	10.5		14.1		10.5	10.1
Approach LOS	B		B		B	B

Intersection Summary					
Delay	12.0				
Level of Service	B				
Intersection Capacity Utilization	51.3%	ICU Level of Service		A	
Analysis Period (min)	15				

HCM Unsignalized Intersection Capacity Analysis
8: 60 Dundas St E Access/Jaguar Valley Dr & Dundas Street East

Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1050	150	65	1340	40	75	5	60	10	15	55
Future Volume (Veh/h)	55	1050	150	65	1340	40	75	5	60	10	15	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	58	1105	158	68	1411	42	79	5	63	11	16	58
Pedestrians		5			5			60			50	
Lane Width (m)		3.6			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			5			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		240			236							
pX, platoon unblocked	0.67			0.78			0.78	0.78	0.78	0.78	0.78	0.67
vC, conflicting volume	1503			1323			2272	2999	696	2357	3057	782
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	753			848			784	1719	44	893	1794	0
tC, single (s)	4.1			4.1			7.5	6.5	7.0	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 %	89			88			29	90	92	91	65	92
cM capacity (veh/h)	544			590			111	50	744	118	45	693

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	58	737	526	774	748	147	85
Volume Left	58	0	0	68	0	79	11
Volume Right	0	0	158	0	42	63	58
cSH	544	1700	1700	590	1700	165	160
Volume to Capacity	0.11	0.43	0.31	0.12	0.44	0.89	0.53
Queue Length 95th (m)	2.8	0.0	0.0	3.1	0.0	51.3	21.1
Control Delay (s)	12.4	0.0	0.0	3.2	0.0	99.7	50.2
Lane LOS	B			A		F	F
Approach Delay (s)	0.5			1.6		99.7	50.2
Approach LOS						F	F

Intersection Summary					
Average Delay	7.2				
Intersection Capacity Utilization	99.7%	ICU Level of Service		F	
Analysis Period (min)	15				

Queues
9: Kirwin Ave/Camilla Rd & Dundas Street East

Future Background PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	55	1010	85	1315	85	95	150	70	45
Future Volume (vph)	55	1010	85	1315	85	95	150	70	45
Lane Group Flow (vph)	56	1087	87	1699	87	158	0	224	46
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	custom	NA	Perm
Protected Phases		2	1	6		4		8	
Permitted Phases	2		6		4		3		8
Detector Phase	2	2	1	6	4	4	3	8	8
Switch Phase									
Minimum Initial (s)	8.0	8.0	5.0	8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	44.0	44.0	8.0	44.0	43.0	43.0	8.0	43.0	43.0
Total Split (s)	85.0	85.0	17.0	102.0	45.0	45.0	13.0	58.0	58.0
Total Split (%)	53.1%	53.1%	10.6%	63.8%	28.1%	28.1%	8.1%	36.3%	36.3%
Yellow Time (s)	3.5	3.5	3.0	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.5	3.5	0.0	3.5	4.0	4.0	0.0	4.0	4.0
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	2.0	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lag	Lag	Lead		Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None	None
v/c Ratio	0.67	0.54	0.29	0.77	0.36	0.30		0.65	0.10
Control Delay	50.9	14.7	13.2	24.2	48.1	39.1		58.7	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	50.9	14.7	13.2	24.2	48.1	39.1		58.7	9.1
Queue Length 50th (m)	14.8	105.4	10.5	212.0	22.6	35.2		64.1	0.0
Queue Length 95th (m)	m#26.0	m104.7	18.9	255.4	39.3	54.6		93.6	9.5
Internal Link Dist (m)		212.3		203.9		114.1		69.6	
Turn Bay Length (m)	25.0		25.0		40.0				
Base Capacity (vph)	83	2009	354	2213	249	539		389	535
Starvation Cap Reductn	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.67	0.54	0.25	0.77	0.35	0.29		0.58	0.09

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 22.5 (14%), Referenced to phase 2:EBTL and 6: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.

Splits and Phases: 9: Kirwin Ave/Camilla Rd & Dundas Street East

HCM Signalized Intersection Capacity Analysis
9: Kirwin Ave/Camilla Rd & Dundas Street East

Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1010	55	85	1315	350	85	95	60	150	70	45
Future Volume (vph)	55	1010	55	85	1315	350	85	95	60	150	70	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		2.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99			1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.97		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1750	3545		1749	3450		1679	1790			1851	1547
Flt Permitted	0.08	1.00		0.18	1.00		0.48	1.00			0.62	1.00
Satd. Flow (perm)	147	3545		336	3450		850	1790			1196	1547
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)	56	1031	56	87	1342	357	87	97	61	153	71	46
RTOR Reduction (vph)	0	2	0	0	13	0	0	14	0	0	0	33
Lane Group Flow (vph)	56	1085	0	87	1686	0	87	144	0	0	224	13
Confl. Peds. (#/hr)	10		15	15		10	15		5	5		15
Heavy Vehicles (%)	2%	2%	0%	2%	2%	0%	5%	0%	1%	0%	0%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		custom	NA	Perm
Protected Phases		2		1	6			4			8	
Permitted Phases	2			6			4			3		8
Actuated Green, G (s)	89.6	89.6		101.1	101.1		44.9	44.9			44.9	44.9
Effective Green, g (s)	90.6	90.6		102.1	102.1		45.9	45.9			45.9	45.9
Actuated g/C Ratio	0.57	0.57		0.64	0.64		0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0		3.0	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
Lane Grp Cap (vph)	83	2007		298	2201		243	513			343	443
v/s Ratio Prot		0.31		0.02	c0.49			0.08				
v/s Ratio Perm	0.38			0.17			0.10				c0.19	0.01
v/c Ratio	0.67	0.54		0.29	0.77		0.36	0.28			0.65	0.03
Uniform Delay, d1	24.4	21.7		14.1	20.5		45.3	44.3			50.1	41.0
Progression Factor	0.68	0.61		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	25.7	0.7		0.5	2.6		0.9	0.3			4.4	0.0
Delay (s)	42.1	13.9		14.6	23.1		46.2	44.6			54.5	41.1
Level of Service	D	B		B	C		D	D			D	D
Approach Delay (s)		15.3			22.7			45.2			52.2	
Approach LOS		B			C			D			D	

Intersection Summary

HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Queues
1: Hurontario Street & Fairview Road West/Fairview Road East

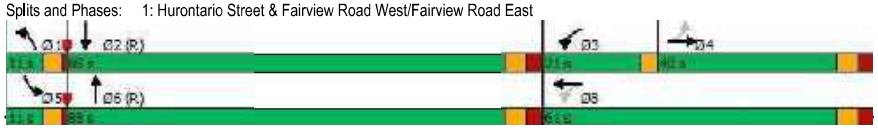
Future Total AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	105	100	220	75	65	1185	50	1485
Future Volume (vph)	105	100	220	75	65	1185	50	1485
Lane Group Flow (vph)	121	310	253	241	75	1609	57	1764
Turn Type	Perm	NA	pm+pt	NA	Prot	NA	Prot	NA
Protected Phases		4	3	8	1	6	5	2
Permitted Phases	4		8					
Detector Phase	4	4	3	8	1	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	40.0	40.0	9.5	40.0	9.0	29.0	9.5	29.0
Total Split (s)	40.0	40.0	21.0	61.0	11.0	88.0	11.0	88.0
Total Split (%)	25.0%	25.0%	13.1%	38.1%	6.9%	55.0%	6.9%	55.0%
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	3.0	3.0	0.0	3.0	1.0	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	2.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.55	0.88	0.95	0.42	0.83	0.89	0.67	0.97
Control Delay	67.0	76.9	83.8	32.3	110.3	48.6	109.6	53.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	76.9	83.8	32.3	110.3	48.6	109.6	53.1
Queue Length 50th (m)	36.2	86.1	63.6	45.5	25.1	294.3	19.1	299.6
Queue Length 95th (m)	57.4	#126.8	#108.5	68.5	m#52.6	292.8	#40.6	#337.3
Internal Link Dist (m)		78.1		66.2		577.8		77.3
Turn Bay Length (m)	75.0		40.0		120.0		50.0	
Base Capacity (vph)	235	373	267	583	90	1799	85	1812
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	0.51	0.83	0.95	0.41	0.83	0.89	0.67	0.97

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 35 (22%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 140
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: 1: Hurontario Street & Fairview Road West/Fairview Road East



HCM Signalized Intersection Capacity Analysis
1: Hurontario Street & Fairview Road West/Fairview Road East

Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	100	170	220	75	135	65	1185	215	50	1485	50
Future Volume (vph)	105	100	170	220	75	135	65	1185	215	50	1485	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.0	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		2.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.95		1.00	0.97		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.90		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1730	1581		1582	1577		1700	3342		1700	3492	
Flt Permitted	0.61	1.00		0.19	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1109	1581		316	1577		1700	3342		1700	3492	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	121	115	195	253	86	155	75	1362	247	57	1707	57
RTOR Reduction (vph)	0	38	0	0	41	0	0	9	0	0	1	0
Lane Group Flow (vph)	121	272	0	253	200	0	75	1600	0	57	1763	0
Confl. Peds. (#/hr)	20		50	50		20	60		50	50		60
Heavy Vehicles (%)	1%	3%	5%	6%	4%	9%	5%	3%	6%	5%	3%	10%
Turn Type	Perm	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases		4		3	8		1	6		5	2	
Permitted Phases	4			8								
Actuated Green, G (s)	30.9	30.9		52.5	52.5		7.5	83.9		5.6	82.0	
Effective Green, g (s)	31.9	31.9		53.5	53.5		8.5	84.9		6.6	83.0	
Actuated g/C Ratio	0.20	0.20		0.33	0.33		0.05	0.53		0.04	0.52	
Clearance Time (s)	7.0	7.0		3.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	315		260	527		90	1773		70	1811	
v/s Ratio Prot		c0.17		c0.12	0.13		c0.04	0.48		0.03	c0.50	
v/s Ratio Perm	0.11			0.21								
v/c Ratio	0.55	0.86		0.97	0.38		0.83	0.90		0.81	0.97	
Uniform Delay, d1	57.6	61.9		45.1	40.6		75.0	33.8		76.1	37.4	
Progression Factor	1.00	1.00		1.00	1.00		0.80	1.24		1.00	1.00	
Incremental Delay, d2	2.8	20.8		48.0	0.5		40.6	7.0		49.3	15.7	
Delay (s)	60.3	82.7		93.1	41.0		100.4	49.1		125.4	53.1	
Level of Service	E	F		F	D		F	D		F	D	
Approach Delay (s)		76.4			67.7			51.3			55.4	
Approach LOS		E			E			D			E	

Intersection Summary

HCM 2000 Control Delay	57.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Queues
2: Hurontario Street & John Street

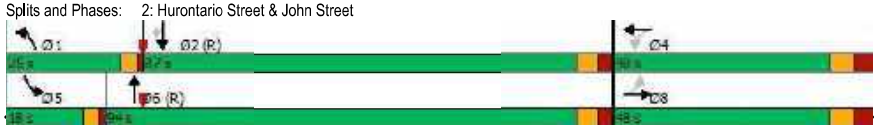
Future Total AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	230	10	10	20	175	1050	80	1155	300
Future Volume (vph)	230	10	10	20	175	1050	80	1155	300
Lane Group Flow (vph)	245	144	11	143	186	1133	85	1229	319
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases		8		4	1	6	5	2	
Permitted Phases	8		4						2
Detector Phase	8	8	4	4	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0	8.0
Minimum Split (s)	46.0	46.0	46.0	46.0	9.0	38.0	9.0	38.0	38.0
Total Split (s)	48.0	48.0	48.0	48.0	25.0	94.0	18.0	87.0	87.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	15.6%	58.8%	11.3%	54.4%	54.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	4.0	4.0	4.0	4.0	1.0	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
Total Lost Time (s)	7.0	7.0	7.0	7.0	3.0	6.0	3.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
v/c Ratio	0.87	0.27	0.04	0.27	0.81	0.60	0.62	0.71	0.51
Control Delay	83.2	9.5	42.4	11.4	102.5	17.8	92.6	21.0	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	83.2	9.5	42.4	11.4	102.5	17.9	92.6	21.1	6.3
Queue Length 50th (m)	75.6	2.6	2.6	5.0	60.6	96.4	27.9	165.2	17.0
Queue Length 95th (m)	#131.5	21.1	8.4	23.7	#95.7	131.4	m27.5	m189.9	m33.3
Internal Link Dist (m)		151.9		56.1		37.7		577.8	
Turn Bay Length (m)					15.0		30.0		40.0
Base Capacity (vph)	290	540	287	535	248	1937	157	1794	642
Starvation Cap Reductn	0	0	0	0	0	188	0	0	0
Spillback Cap Reductn	0	1	0	0	0	0	0	30	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.27	0.04	0.27	0.75	0.65	0.54	0.70	0.50

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 107 (67%), Referenced to phase 2:SBT and 6:NBT, 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: 2: Hurontario Street & John Street



HCM Signalized Intersection Capacity Analysis
2: Hurontario Street & John Street

Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	10	125	10	20	115	175	1050	15	80	1155	300
Future Volume (vph)	230	10	125	10	20	115	175	1050	15	80	1155	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.0	7.0		7.0	7.0		3.0	6.0		3.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97		1.00	0.96		1.00	1.00		1.00	1.00	0.78
Flpb, ped/bikes	0.97	1.00		0.98	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.87		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1603	1599		1591	1605		1785	3427		1684	3444	1109
Flt Permitted	0.62	1.00		0.62	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1045	1599		1033	1605		1785	3427		1684	3444	1109
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	245	11	133	11	21	122	186	1117	16	85	1229	319
RTOR Reduction (vph)	0	97	0	0	89	0	0	0	0	0	0	68
Lane Group Flow (vph)	245	47	0	11	54	0	186	1133	0	85	1229	251
Confl. Peds. (#/hr)	30		20	20		30	80		90	90		80
Heavy Vehicles (%)	8%	0%	0%	10%	0%	0%	0%	6%	0%	6%	6%	12%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								2
Actuated Green, G (s)	42.4	42.4		42.4	42.4		19.8	86.4		12.2	78.8	78.8
Effective Green, g (s)	43.4	43.4		43.4	43.4		20.8	87.4		13.2	79.8	79.8
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.13	0.55		0.08	0.50	0.50
Clearance Time (s)	8.0	8.0		8.0	8.0		4.0	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
Lane Grp Cap (vph)	283	433		280	435		232	1871		138	1717	553
v/s Ratio Prot		0.03			0.03		c0.10	0.33		0.05	c0.36	
v/s Ratio Perm	c0.23			0.01								0.23
v/c Ratio	0.87	0.11		0.04	0.12		0.80	0.61		0.62	0.72	0.45
Uniform Delay, d1	55.5	43.8		42.9	44.0		67.6	24.6		70.9	31.3	26.0
Progression Factor	1.00	1.00		1.00	1.00		1.18	0.64		1.22	0.62	0.34
Incremental Delay, d2	23.0	0.1		0.1	0.1		16.4	1.3		2.5	0.8	0.8
Delay (s)	78.6	43.9		43.0	44.1		96.4	17.2		89.0	20.3	9.6
Level of Service	E	D		D	D		F	B		F	C	A
Approach Delay (s)		65.7			44.0			28.3			21.8	
Approach LOS		E			D			C			C	

Intersection Summary

HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.77				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	98.2%	ICU Level of Service	F		
Analysis Period (min)	15				

c Critical Lane Group

Queues
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

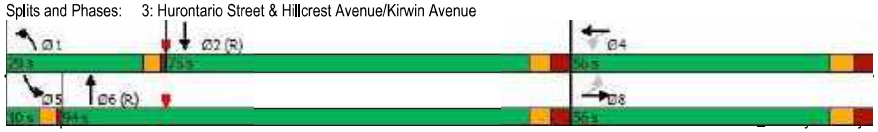
Future Total AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	120	130	210	215	940	45	995
Future Volume (vph)	85	120	130	210	215	940	45	995
Lane Group Flow (vph)	88	304	134	365	222	995	46	1284
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		8		4	1	6	5	2
Permitted Phases	8		4					
Detector Phase	8	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	56.0	56.0	56.0	56.0	9.0	51.5	9.0	51.5
Total Split (s)	56.0	56.0	56.0	56.0	29.0	94.0	10.0	75.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	18.1%	58.8%	6.3%	46.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	4.0	4.0	4.0	4.0	1.0	3.5	1.0	3.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	3.0	6.5	3.0	6.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.37	0.29	0.48	0.35	0.95	0.52	0.60	0.95
Control Delay	49.1	17.4	52.1	30.3	125.1	13.3	111.0	30.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	17.4	52.1	30.3	125.1	13.4	111.0	30.0
Queue Length 50th (m)	23.2	15.8	36.6	34.2	~79.9	45.7	16.0	20.1
Queue Length 95th (m)	41.7	29.1	60.5	49.5	m#113.5	56.8	m25.0	#80.4
Internal Link Dist (m)		194.0		74.1		66.6		54.3
Turn Bay Length (m)	50.0		50.0		75.0		65.0	
Base Capacity (vph)	236	1043	279	1053	233	1929	77	1390
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	1	0	78	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.29	0.48	0.35	0.95	0.54	0.60	0.92

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 99 (62%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue



HCM Signalized Intersection Capacity Analysis
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	120	175	130	210	145	215	940	25	45	995	250
Future Volume (vph)	85	120	175	130	210	145	215	940	25	45	995	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	7.0	7.0		7.0	7.0		3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.99	1.00		0.93	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.94		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1576	3001		1661	3184		1342	3447		1733	3215	
Flt Permitted	0.47	1.00		0.52	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	773	3001		913	3184		1342	3447		1733	3215	
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	124	180	134	216	149	222	969	26	46	1026	258
RTOR Reduction (vph)	0	125	0	0	78	0	0	1	0	0	14	0
Lane Group Flow (vph)	88	179	0	134	287	0	222	994	0	46	1270	0
Confl. Peds. (#/hr)	20		110	110		20	120		90	90		120
Heavy Vehicles (%)	12%	0%	5%	0%	5%	8%	33%	5%	4%	3%	6%	11%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	48.0	48.0		48.0	48.0		26.8	87.6		4.9	65.7	
Effective Green, g (s)	49.0	49.0		49.0	49.0		27.8	88.6		5.9	66.7	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.17	0.55		0.04	0.42	
Clearance Time (s)	8.0	8.0		8.0	8.0		4.0	7.5		4.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	236	919		279	975		233	1908		63	1340	
v/s Ratio Prot		0.06			0.09		c0.17	0.29		0.03	c0.40	
v/s Ratio Perm	0.11			c0.15								
v/c Ratio	0.37	0.19		0.48	0.29		0.95	0.52		0.73	0.95	
Uniform Delay, d1	43.5	40.9		45.1	42.3		65.5	22.4		76.3	45.0	
Progression Factor	1.00	1.00		1.00	1.00		1.41	0.57		1.17	0.39	
Incremental Delay, d2	1.0	0.1		1.3	0.2		35.7	0.7		28.0	12.3	
Delay (s)	44.5	41.1		46.4	42.5		128.0	13.3		117.6	29.8	
Level of Service	D	D		D	D		F	B		F	C	
Approach Delay (s)		41.8			43.6			34.3			32.8	
Approach LOS		D			D			C			C	

Intersection Summary

HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	115.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Hurontario Street & 3085 Hurontario South Access

Future Total AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	70	1110	10	0	1405
Future Volume (Veh/h)	0	70	1110	10	0	1405
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	80	1276	11	0	1615
Pedestrians	15					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			334			91
pX, platoon unblocked	0.74	0.78			0.78	
vC, conflicting volume	2104	658			1302	
vC1, stage 1 conf vol	1296					
vC2, stage 2 conf vol	808					
vCu, unblocked vol	429	0			817	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	90			100	
cM capacity (veh/h)	324	838			630	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	80	851	436	808	808
Volume Left	0	0	0	0	0
Volume Right	80	0	11	0	0
cSH	838	1700	1700	1700	1700
Volume to Capacity	0.10	0.50	0.26	0.47	0.47
Queue Length 95th (m)	2.5	0.0	0.0	0.0	0.0
Control Delay (s)	9.7	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.7	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

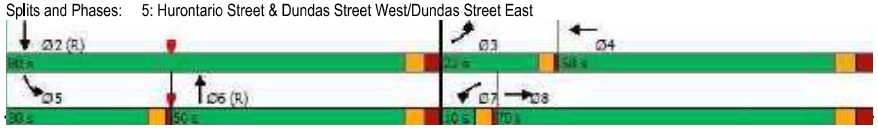
Queues
5: Hurontario Street & Dundas Street West/Dundas Street East

Future Total AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	185	1210	90	575	760	295	855
Future Volume (vph)	185	1210	90	575	760	295	855
Lane Group Flow (vph)	185	1365	90	805	860	295	1040
Turn Type	Prot	NA	Prot	NA	NA	Prot	NA
Protected Phases	3	8	7	4	6	5	2
Permitted Phases							
Detector Phase	3	8	7	4	6	5	2
Switch Phase							
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	9.0	45.5	9.0	45.5	41.0	9.0	41.0
Total Split (s)	22.0	70.0	10.0	58.0	50.0	30.0	80.0
Total Split (%)	13.8%	43.8%	6.3%	36.3%	31.3%	18.8%	50.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.5	1.0	3.5	3.0	1.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	2.0	5.5	2.0	5.5	5.0	2.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.84	0.97	0.86	0.75	0.90	0.94	0.66
Control Delay	98.6	64.1	125.8	61.5	68.9	84.0	52.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.6	64.1	125.8	61.5	68.9	84.0	52.8
Queue Length 50th (m)	61.4	233.3	31.8	107.0	144.6	102.3	180.1
Queue Length 95th (m)	#103.4	#285.5	#72.2	131.8	#175.2	m#130.8	m201.0
Internal Link Dist (m)		110.1		216.1	99.4		99.2
Turn Bay Length (m)	35.0		25.0			65.0	
Base Capacity (vph)	226	1407	105	1068	972	316	1588
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	0.82	0.97	0.86	0.75	0.88	0.93	0.65

Intersection Summary
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 72 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 125
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: Hurontario Street & Dundas Street West/Dundas Street East



HCM Signalized Intersection Capacity Analysis
5: Hurontario Street & Dundas Street West/Dundas Street East

Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	1210	155	90	575	230	0	760	100	295	855	185
Future Volume (vph)	185	1210	155	90	575	230	0	760	100	295	855	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	5.5		2.0	5.5			5.0		2.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.96			0.98		1.00	0.97	
Flt Protected	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Satd. Flow (prot)	1807	3476		1860	3088			3433		1807	3364	
Flt Permitted	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Satd. Flow (perm)	1807	3476		1860	3088			3433		1807	3364	
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)	185	1210	155	90	575	230	0	760	100	295	855	185
RTOR Reduction (vph)	0	6	0	0	27	0	0	7	0	0	12	0
Lane Group Flow (vph)	185	1359	0	90	779	0	0	853	0	295	1028	0
Confl. Peds. (#/hr)	90					90	60		20	20		60
Heavy Vehicles (%)	4%	3%	5%	1%	8%	12%	6%	4%	4%	4%	4%	3%
Turn Type	Prot	NA		Prot	NA			NA		Prot	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases												
Actuated Green, G (s)	17.5	62.5		7.0	52.0			42.0		26.0	72.0	
Effective Green, g (s)	19.5	64.5		9.0	54.0			44.0		28.0	74.0	
Actuated g/C Ratio	0.12	0.40		0.06	0.34			0.28		0.18	0.46	
Clearance Time (s)	4.0	7.5		4.0	7.5			7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	220	1401		104	1042			944		316	1555	
v/s Ratio Prot	c0.10	c0.39		c0.05	0.25			c0.25		c0.16	0.31	
v/s Ratio Perm												
v/c Ratio	0.84	0.97		0.87	0.75			0.90		0.93	0.66	
Uniform Delay, d1	68.7	46.8		74.9	47.0			56.0		65.1	33.3	
Progression Factor	1.00	1.00		0.99	1.25			1.00		0.83	1.56	
Incremental Delay, d2	24.1	17.3		46.5	2.8			13.7		27.6	1.7	
Delay (s)	92.8	64.1		120.7	61.6			69.6		81.3	53.7	
Level of Service	F	E		F	E			E		F	D	
Approach Delay (s)		67.6			67.5			69.6			59.8	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	65.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
6: 3085 Hurontario North Access & Kirwin Avenue

Future Total AM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	245	20	5	170	250	35
Future Volume (Veh/h)	245	20	5	170	250	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	275	22	6	191	281	39
Pedestrians					30	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	98					
pX, platoon unblocked			0.94		0.94	0.94
vC, conflicting volume			327		519	316
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			259		462	247
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		45	95
cM capacity (veh/h)			1215		515	735

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	297	197	320
Volume Left	0	6	281
Volume Right	22	0	39
cSH	1700	1215	535
Volume to Capacity	0.17	0.00	0.60
Queue Length 95th (m)	0.0	0.1	31.2
Control Delay (s)	0.0	0.3	21.3
Lane LOS		A	C
Approach Delay (s)	0.0	0.3	21.3
Approach LOS			C

Intersection Summary			
Average Delay	8.4		
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Jaguar Valley Dr & Kirwin Avenue

Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	220	25	10	145	15	20	35	10	20	25	10
Future Volume (vph)	35	220	25	10	145	15	20	35	10	20	25	10
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)	37	234	27	11	154	16	21	37	11	21	27	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	271	27	11	170	69	59
Volume Left (vph)	37	0	11	0	21	21
Volume Right (vph)	0	27	0	16	11	11
Hadj (s)	0.18	-0.51	0.65	0.05	0.06	0.10
Departure Headway (s)	5.2	4.5	5.8	5.2	5.2	5.3
Degree Utilization, x	0.39	0.03	0.02	0.24	0.10	0.09
Capacity (veh/h)	666	769	595	670	628	617
Control Delay (s)	10.3	6.5	7.7	8.7	8.8	8.8
Approach Delay (s)	10.0		8.6		8.8	8.8
Approach LOS	A		A		A	A

Intersection Summary				
Delay	9.3			
Level of Service	A			
Intersection Capacity Utilization	41.5%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
8: 60 Dundas St E Access/Jaguar Valley Dr & Dundas Street East

Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1495	70	20	725	20	80	5	35	20	5	45
Future Volume (Veh/h)	20	1495	70	20	725	20	80	5	35	20	5	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	21	1574	74	21	763	21	84	5	37	21	5	47
Pedestrians					5			30			15	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					0			3			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		240			236							
pX, platoon unblocked	0.87			0.63			0.69	0.69	0.63	0.69	0.69	0.87
vC, conflicting volume	799			1678			2156	2524	859	1704	2550	407
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	473			889			938	1470	0	283	1509	23
tC, single (s)	4.3			4.1			7.5	6.5	6.9	7.8	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	98			96			32	94	94	94	93	95
cM capacity (veh/h)	875			470			124	80	663	346	75	888

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	21	1049	599	402	402	126	73
Volume Left	21	0	0	21	0	84	21
Volume Right	0	0	74	0	21	37	47
cSH	875	1700	1700	470	1700	158	406
Volume to Capacity	0.02	0.62	0.35	0.04	0.24	0.80	0.18
Queue Length 95th (m)	0.6	0.0	0.0	1.1	0.0	41.2	5.2
Control Delay (s)	9.2	0.0	0.0	1.4	0.0	83.1	15.8
Lane LOS	A			A		F	C
Approach Delay (s)	0.1			0.7		83.1	15.8
Approach LOS						F	C

Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	64.0%	ICU Level of Service	B	
Analysis Period (min)	15			

Queues
9: Kirwin Ave/Camilla Rd & Dundas Street East

Future Total AM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	20	1445	55	675	50	70	210	75	35
Future Volume (vph)	20	1445	55	675	50	70	210	75	35
Lane Group Flow (vph)	22	1663	60	870	54	152	0	310	38
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	custom	NA	Perm
Protected Phases		2	1	6		4		8	
Permitted Phases	2		6		4		3		8
Detector Phase	2	2	1	6	4	4	3	8	8
Switch Phase									
Minimum Initial (s)	8.0	8.0	5.0	8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	44.0	44.0	9.5	44.0	43.0	43.0	8.0	43.0	43.0
Total Split (s)	88.2	88.2	9.8	98.0	54.0	54.0	8.0	62.0	62.0
Total Split (%)	55.1%	55.1%	6.1%	61.3%	33.8%	33.8%	5.0%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.5	3.5	1.0	3.5	4.0	4.0	0.0	4.0	4.0
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	3.5	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lag	Lag	Lead		Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		
Recall Mode	C-Min	C-Min	None	C-Min	Max	Max	Min	Min	Min
v/c Ratio	0.09	0.93	0.51	0.46	0.19	0.27		0.85	0.07
Control Delay	13.2	26.2	33.5	21.0	43.9	34.5		69.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	13.2	26.2	33.5	21.0	43.9	34.5		69.7	3.3
Queue Length 50th (m)	1.8	229.3	8.2	83.0	13.5	30.5		97.9	0.0
Queue Length 95th (m)	m2.2	m285.7	19.4	99.7	26.6	51.1		#157.7	4.2
Internal Link Dist (m)		212.3		203.9		114.1		69.6	
Turn Bay Length (m)	25.0		25.0		40.0				
Base Capacity (vph)	239	1803	117	1925	280	566		364	556
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	0.09	0.92	0.51	0.45	0.19	0.27		0.85	0.07

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 125
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: 9: Kirwin Ave/Camilla Rd & Dundas Street East

HCM Signalized Intersection Capacity Analysis
9: Kirwin Ave/Camilla Rd & Dundas Street East

Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1445	85	55	675	125	50	70	70	210	75	35
Future Volume (vph)	20	1445	85	55	675	125	50	70	70	210	75	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		3.5	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00			1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.98	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1539	3505		1785	3331		1723	1734			1773	1422
Flt Permitted	0.29	1.00		0.05	1.00		0.49	1.00			0.54	1.00
Satd. Flow (perm)	467	3505		89	3331		893	1734			998	1422
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	1571	92	60	734	136	54	76	76	228	82	38
RTOR Reduction (vph)	0	2	0	0	10	0	0	22	0	0	0	24
Lane Group Flow (vph)	22	1661	0	60	860	0	54	130	0	0	310	14
Confl. Peds. (#/hr)	15		5	5		15	20					20
Heavy Vehicles (%)	15%	3%	5%	0%	6%	7%	2%	4%	1%	4%	6%	8%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		custom	NA	Perm
Protected Phases		2		1	6			4			8	
Permitted Phases	2			6			4			3		8
Actuated Green, G (s)	79.9	79.9		88.6	88.6		49.2	49.2			57.4	57.4
Effective Green, g (s)	80.9	80.9		89.6	89.6		50.2	50.2			58.4	58.4
Actuated g/C Ratio	0.51	0.51		0.56	0.56		0.31	0.31			0.36	0.36
Clearance Time (s)	7.0	7.0		4.5	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
Lane Grp Cap (vph)	236	1772		104	1865		280	544			364	519
v/s Ratio Prot		c0.47		c0.02	0.26			0.08				
v/s Ratio Perm	0.05			0.30			0.06				c0.31	0.01
v/c Ratio	0.09	0.94		0.58	0.46		0.19	0.24			0.85	0.03
Uniform Delay, d1	20.5	37.2		34.1	20.9		40.1	40.7			46.8	32.6
Progression Factor	0.63	0.56		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.4	6.0		7.5	0.8		1.5	1.0			17.2	0.0
Delay (s)	13.2	27.0		41.7	21.7		41.6	41.8			64.0	32.6
Level of Service	B	C		D	C		D	D			E	C
Approach Delay (s)		26.8			23.0			41.7			60.5	
Approach LOS		C			C			D			E	

Intersection Summary

HCM 2000 Control Delay	30.3	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.91				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)		18.5	
Intersection Capacity Utilization	91.3%	ICU Level of Service		F	
Analysis Period (min)	15				

c Critical Lane Group

Queues
1: Hurontario Street & Fairview Road West/Fairview Road East

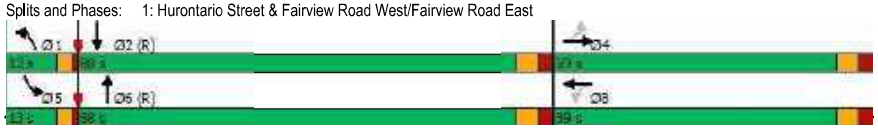
Future Total PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	45	70	125	90	110	1415	115	1480
Future Volume (vph)	45	70	125	90	110	1415	115	1480
Lane Group Flow (vph)	47	142	132	200	116	1752	121	1669
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	1	6	5	2
Permitted Phases	4		8					
Detector Phase	4	4	8	8	1	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	4.5	8.0
Minimum Split (s)	40.0	40.0	40.0	40.0	9.0	29.0	9.0	29.0
Total Split (s)	59.0	59.0	59.0	59.0	13.0	88.0	13.0	88.0
Total Split (%)	36.9%	36.9%	36.9%	36.9%	8.1%	55.0%	8.1%	55.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	1.0	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	3.0	6.0	3.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.31	0.40	0.73	0.57	0.52	0.89	0.51	0.81
Control Delay	58.7	45.5	82.5	52.6	66.2	44.0	73.0	31.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	45.5	82.5	52.6	66.2	44.0	73.0	31.2
Queue Length 50th (m)	13.4	31.8	41.0	48.9	32.0	310.8	38.6	232.4
Queue Length 95th (m)	26.4	53.1	66.0	74.8	m49.5	#357.3	60.5	291.3
Internal Link Dist (m)		78.1		66.2		577.8		77.3
Turn Bay Length (m)	75.0		40.0		120.0		50.0	
Base Capacity (vph)	257	591	309	576	222	1961	235	2063
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.24	0.43	0.35	0.52	0.89	0.51	0.81

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 35 (22%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 110
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: 1: Hurontario Street & Fairview Road West/Fairview Road East



HCM Signalized Intersection Capacity Analysis
1: Hurontario Street & Fairview Road West/Fairview Road East

Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	70	65	125	90	100	110	1415	250	115	1480	105
Future Volume (vph)	45	70	65	125	90	100	110	1415	250	115	1480	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.0	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		6.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.97	1.00		0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.92		1.00	0.98		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)	1735	1724		1594	1666		1785	3366		1785	3508	
Flt Permitted	0.43	1.00		0.56	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	777	1724		936	1666		1785	3366		1785	3508	
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)	47	74	68	132	95	105	116	1489	263	121	1558	111
RTOR Reduction (vph)	0	25	0	0	30	0	0	8	0	0	3	0
Lane Group Flow (vph)	47	117	0	132	170	0	116	1744	0	121	1666	0
Confl. Peds. (#/hr)	30		40	40		30	80		70	70		80
Heavy Vehicles (%)	0%	0%	0%	1%	0%	6%	0%	2%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4			8								
Actuated Green, G (s)	30.0	30.0		30.0	30.0		19.0	91.9		20.1	93.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0		20.0	92.9		21.1	94.0	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.12	0.58		0.13	0.59	
Clearance Time (s)	7.0	7.0		7.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	150	334		181	322		223	1954		235	2060	
v/s Ratio Prot		0.07			0.10		0.06	c0.52		c0.07	0.47	
v/s Ratio Perm	0.06			c0.14								
v/c Ratio	0.31	0.35		0.73	0.53		0.52	0.89		0.51	0.81	
Uniform Delay, d1	55.4	55.8		60.6	57.9		65.5	29.2		64.7	25.9	
Progression Factor	1.00	1.00		1.00	1.00		0.90	1.28		1.00	1.00	
Incremental Delay, d2	1.2	0.6		13.7	1.6		1.8	5.6		1.9	3.5	
Delay (s)	56.6	56.4		74.2	59.5		60.8	42.9		66.6	29.5	
Level of Service	E	E		E	E		E	D		E	C	
Approach Delay (s)		56.5			65.4			44.0			32.0	
Approach LOS		E			E			D			C	

Intersection Summary

HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Queues
2: Hurontario Street & John Street

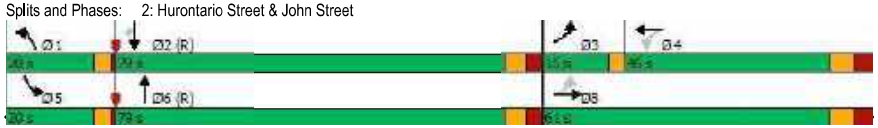
Future Total PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	400	20	15	10	75	990	100	1095	205
Future Volume (vph)	400	20	15	10	75	990	100	1095	205
Lane Group Flow (vph)	426	154	16	160	80	1080	106	1165	218
Turn Type	pm+pt	NA	Perm	NA	Prot	NA	Prot	NA	Perm
Protected Phases	3	8		4	1	6	5	2	
Permitted Phases	8		4						2
Detector Phase	3	8	4	4	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0	8.0
Minimum Split (s)	8.0	46.0	46.0	46.0	9.0	44.0	9.0	38.0	38.0
Total Split (s)	15.0	61.0	46.0	46.0	20.0	79.0	20.0	79.0	79.0
Total Split (%)	9.4%	38.1%	28.8%	28.8%	12.5%	49.4%	12.5%	49.4%	49.4%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	4.0	4.0	4.0	1.0	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
Total Lost Time (s)	2.0	7.0	7.0	7.0	3.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
v/c Ratio	0.86	0.26	0.08	0.42	0.54	0.69	0.65	0.72	0.39
Control Delay	59.2	8.6	49.6	11.8	106.9	28.1	92.9	25.2	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	59.2	8.6	49.6	11.8	106.9	28.4	92.9	25.2	8.0
Queue Length 50th (m)	105.2	4.2	4.2	2.8	28.2	170.5	31.7	195.4	30.0
Queue Length 95th (m)	#224.9	22.2	11.2	23.0	47.8	188.0	m41.8	200.0	m34.1
Internal Link Dist (m)		151.9		56.1		37.7		577.8	
Turn Bay Length (m)					15.0		30.0		40.0
Base Capacity (vph)	493	596	275	487	189	1647	189	1676	575
Starvation Cap Reductn	0	0	0	0	0	149	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.26	0.06	0.33	0.42	0.72	0.56	0.70	0.38

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 107 (67%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 110
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: 2: Hurontario Street & John Street



HCM Signalized Intersection Capacity Analysis
2: Hurontario Street & John Street

Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	400	20	125	15	10	140	75	990	25	100	1095	205
Future Volume (vph)	400	20	125	15	10	140	75	990	25	100	1095	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	7.0		7.0	7.0		3.0	6.0		3.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.95		1.00	0.93		1.00	1.00		1.00	1.00	0.78
Flpb, ped/bikes	0.98	1.00		0.96	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.87		1.00	0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1682	1391		1631	1539		1785	3549		1785	3579	1129
Flt Permitted	0.48	1.00		0.66	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	841	1391		1131	1539		1785	3549		1785	3579	1129
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	426	21	133	16	11	149	80	1053	27	106	1165	218
RTOR Reduction (vph)	0	84	0	0	124	0	0	1	0	0	0	48
Lane Group Flow (vph)	426	70	0	16	36	0	80	1079	0	106	1165	170
Confl. Peds. (#/hr)	50		40	40		50	80		70	70		80
Heavy Vehicles (%)	4%	0%	16%	5%	0%	0%	0%	2%	0%	0%	2%	10%
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								2
Actuated Green, G (s)	57.8	57.8		26.0	26.0		12.2	69.5		13.7	71.0	71.0
Effective Green, g (s)	58.8	58.8		27.0	27.0		13.2	70.5		14.7	72.0	72.0
Actuated g/C Ratio	0.37	0.37		0.17	0.17		0.08	0.44		0.09	0.45	0.45
Clearance Time (s)	3.0	8.0		8.0	8.0		4.0	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
Lane Grp Cap (vph)	465	511		190	259		147	1563		163	1610	508
v/s Ratio Prot	c0.17	0.05			0.02		0.04	0.30		c0.06	c0.33	
v/s Ratio Perm	0.17			0.01								0.15
v/c Ratio	0.92	0.14		0.08	0.14		0.54	0.69		0.65	0.72	0.33
Uniform Delay, d1	44.4	33.7		56.1	56.6		70.5	36.0		70.2	35.9	28.5
Progression Factor	1.00	1.00		1.00	1.00		1.36	0.70		1.16	0.63	0.38
Incremental Delay, d2	22.6	0.1		0.2	0.2		3.5	2.2		5.7	1.8	1.1
Delay (s)	67.0	33.8		56.3	56.9		99.4	27.5		87.0	24.6	11.9
Level of Service	E	C		E	E		F	C		F	C	B
Approach Delay (s)		58.2			56.8			32.5			27.2	
Approach LOS		E			E			C			C	

Intersection Summary

HCM 2000 Control Delay	35.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Queues
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Future Total PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	205	185	60	275	235	765	180	905
Future Volume (vph)	205	185	60	275	235	765	180	905
Lane Group Flow (vph)	207	561	61	399	237	808	182	1066
Turn Type	pm+pt	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases	3	8		4	1	6	5	2
Permitted Phases	8		4					
Detector Phase	3	8	4	4	1	6	5	2
Switch Phase								
Minimum Initial (s)	5.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	8.0	56.0	56.0	56.0	9.0	51.5	9.0	51.5
Total Split (s)	8.0	64.0	56.0	56.0	25.0	71.0	25.0	71.0
Total Split (%)	5.0%	40.0%	35.0%	35.0%	15.6%	44.4%	15.6%	44.4%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	4.0	4.0	4.0	1.0	3.5	1.0	3.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	2.0	7.0	7.0	7.0	3.0	6.5	3.0	6.5
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.54	0.40	0.24	0.37	0.93	0.61	0.81	0.86
Control Delay	39.2	17.2	44.9	39.6	106.6	31.0	116.6	28.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.6
Total Delay	39.2	17.2	44.9	39.6	106.6	31.5	116.6	28.8
Queue Length 50th (m)	44.6	31.9	15.4	49.0	84.0	82.7	64.4	45.3
Queue Length 95th (m)	70.3	51.8	29.7	65.3	m#90.5	m68.1	#96.8	67.2
Internal Link Dist (m)		194.0		74.1		66.6		54.3
Turn Bay Length (m)	50.0		50.0		75.0		65.0	
Base Capacity (vph)	384	1412	249	1071	256	1400	242	1391
Starvation Cap Reductn	0	0	0	0	0	0	0	90
Spillback Cap Reductn	0	0	0	1	0	251	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.40	0.24	0.37	0.93	0.70	0.75	0.82

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 99 (62%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 135
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: 3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

HCM Signalized Intersection Capacity Analysis
3: Hurontario Street & Hillcrest Avenue/Kirwin Avenue

Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	185	370	60	275	120	235	765	35	180	905	150
Future Volume (vph)	205	185	370	60	275	120	235	765	35	180	905	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	7.0		7.0	7.0		3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	0.95		1.00	0.99		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)	1716	3162		1752	3398		1750	3468		1767	3429	
Flt Permitted	0.42	1.00		0.44	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	757	3162		815	3398		1750	3468		1767	3429	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	207	187	374	61	278	121	237	773	35	182	914	152
RTOR Reduction (vph)	0	179	0	0	31	0	0	2	0	0	9	0
Lane Group Flow (vph)	207	382	0	61	368	0	237	806	0	182	1057	0
Confl. Peds. (#/hr)	50		40	40		50	80		80	80		80
Confl. Bikes (#/hr)						1			1			2
Heavy Vehicles (%)	3%	1%	0%	0%	0%	2%	2%	4%	0%	1%	3%	1%
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	61.4	61.4		48.0	48.0		22.4	59.7		19.4	56.7	
Effective Green, g (s)	62.4	62.4		49.0	49.0		23.4	60.7		20.4	57.7	
Actuated g/C Ratio	0.39	0.39		0.31	0.31		0.15	0.38		0.13	0.36	
Clearance Time (s)	3.0	8.0		8.0	8.0		4.0	7.5		4.0	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	363	1233		249	1040		255	1315		225	1236	
v/s Ratio Prot	c0.04	0.12			c0.11		c0.14	c0.23		0.10	c0.31	
v/s Ratio Perm	0.18			0.07								
v/c Ratio	0.57	0.31		0.24	0.35		0.93	0.61		0.81	0.86	
Uniform Delay, d1	35.5	33.9		41.6	43.2		67.5	40.2		67.9	47.3	
Progression Factor	1.00	1.00		1.00	1.00		1.35	0.75		1.42	0.48	
Incremental Delay, d2	2.2	0.1		0.5	0.2		18.1	0.8		14.9	6.0	
Delay (s)	37.6	34.0		42.1	43.4		108.9	31.0		111.6	28.6	
Level of Service	D	C		D	D		F	C		F	C	
Approach Delay (s)		35.0			43.2			48.6			40.7	
Approach LOS		C			D			D			D	

Intersection Summary

HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	18.5	
Intersection Capacity Utilization	113.8%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Hurontario Street & 3085 Hurontario South Access

Future Total PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	30	1005	65	0	1395
Future Volume (Veh/h)	0	30	1005	65	0	1395
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	32	1058	68	0	1468
Pedestrians	60					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	5					
Right turn flare (veh)						
Median type			None			TWLTL
Median storage veh)						2
Upstream signal (m)			334			91
pX, platoon unblocked	0.80	0.84			0.84	
vC, conflicting volume	1886	623			1186	
vC1, stage 1 conf vol	1152					
vC2, stage 2 conf vol	734					
vCu, unblocked vol	691	160			833	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.3	
p0 queue free %	100	95			100	
cM capacity (veh/h)	320	682			609	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	32	705	421	734	734
Volume Left	0	0	0	0	0
Volume Right	32	0	68	0	0
cSH	682	1700	1700	1700	1700
Volume to Capacity	0.05	0.41	0.25	0.43	0.43
Queue Length 95th (m)	1.2	0.0	0.0	0.0	0.0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	10.5	0.0		0.0	
Approach LOS	B				

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		41.9%	ICU Level of Service	A
Analysis Period (min)		15		

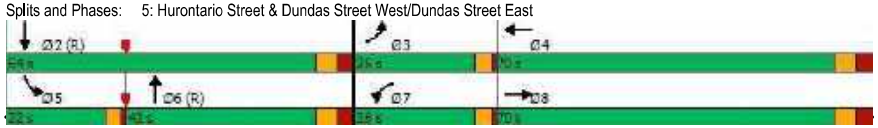
Queues
5: Hurontario Street & Dundas Street West/Dundas Street East

Future Total PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	270	890	140	1055	570	230	750
Future Volume (vph)	270	890	140	1055	570	230	750
Lane Group Flow (vph)	270	1050	140	1375	770	230	1045
Turn Type	Prot	NA	Prot	NA	NA	Prot	NA
Protected Phases	3	8	7	4	6	5	2
Permitted Phases							
Detector Phase	3	8	7	4	6	5	2
Switch Phase							
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	5.0	8.0
Minimum Split (s)	9.0	45.5	9.0	45.5	41.0	9.0	41.0
Total Split (s)	26.0	70.0	26.0	70.0	42.0	22.0	64.0
Total Split (%)	16.3%	43.8%	16.3%	43.8%	26.3%	13.8%	40.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.5	1.0	3.5	3.0	1.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	2.0	5.5	2.0	5.5	5.0	2.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	C-Min	None	C-Min
v/c Ratio	0.96	0.69	0.63	0.99	0.95	0.99	0.83
Control Delay	110.3	39.4	62.3	82.2	79.7	110.5	65.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.3	39.4	62.3	82.2	79.7	110.5	65.6
Queue Length 50th (m)	91.1	146.5	45.5	239.5	130.7	80.9	184.7
Queue Length 95th (m)	#150.6	182.2	m60.2	#288.3	#172.3 m	#133.5	211.0
Internal Link Dist (m)		110.1		216.1	99.4		99.2
Turn Bay Length (m)	35.0		25.0			65.0	
Base Capacity (vph)	282	1530	279	1384	810	232	1261
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	0.96	0.69	0.50	0.99	0.95	0.99	0.83

Intersection Summary
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 72 (45%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle: 135
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: Hurontario Street & Dundas Street West/Dundas Street East



HCM Signalized Intersection Capacity Analysis
5: Hurontario Street & Dundas Street West/Dundas Street East

Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	890	160	140	1055	320	0	570	200	230	750	295
Future Volume (vph)	270	890	160	140	1055	320	0	570	200	230	750	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	5.5		2.0	5.5			5.0		2.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98			0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97			0.96		1.00	0.96	
Flt Protected	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Satd. Flow (prot)	1879	3502		1860	3390			3409		1860	3350	
Flt Permitted	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Satd. Flow (perm)	1879	3502		1860	3390			3409		1860	3350	
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)	270	890	160	140	1055	320	0	570	200	230	750	295
RTOR Reduction (vph)	0	8	0	0	18	0	0	22	0	0	26	0
Lane Group Flow (vph)	270	1042	0	140	1357	0	0	748	0	230	1019	0
Confl. Peds. (#/hr)	70					70	80		30	30		80
Heavy Vehicles (%)	0%	2%	1%	1%	2%	0%	2%	2%	0%	1%	1%	0%
Turn Type	Prot	NA		Prot	NA			NA		Prot	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases												
Actuated Green, G (s)	22.0	67.5		17.0	62.5			35.0		18.0	57.0	
Effective Green, g (s)	24.0	69.5		19.0	64.5			37.0		20.0	59.0	
Actuated g/C Ratio	0.15	0.43		0.12	0.40			0.23		0.12	0.37	
Clearance Time (s)	4.0	7.5		4.0	7.5			7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	281	1521		220	1366			788		232	1235	
v/s Ratio Prot	c0.14	0.30		0.08	c0.40			c0.22		c0.12	0.30	
v/s Ratio Perm												
v/c Ratio	0.96	0.68		0.64	0.99			0.95		0.99	0.83	
Uniform Delay, d1	67.5	36.4		67.2	47.5			60.6		69.9	45.8	
Progression Factor	1.00	1.00		0.78	1.39			1.00		0.86	1.36	
Incremental Delay, d2	42.9	1.3		4.5	19.4			21.8		50.7	5.2	
Delay (s)	110.4	37.7		57.2	85.4			82.3		110.7	67.5	
Level of Service	F	D		E	F			F		F	E	
Approach Delay (s)		52.6			82.8			82.3			75.3	
Approach LOS		D			F			F			E	

Intersection Summary				
HCM 2000 Control Delay	72.6	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	112.0%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
6: 3085 Hurontario North Access & Kirwin Avenue

Future Total PM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	225	165	25	355	100	15
Future Volume (Veh/h)	225	165	25	355	100	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	253	185	28	399	112	17
Pedestrians	5				20	
Lane Width (m)	3.7				3.5	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	0				2	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	98					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			458		826	366
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			360		762	258
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		66	98
cM capacity (veh/h)			1088		328	706

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	438	427	129
Volume Left	0	28	112
Volume Right	185	0	17
cSH	1700	1088	353
Volume to Capacity	0.26	0.03	0.37
Queue Length 95th (m)	0.0	0.6	13.1
Control Delay (s)	0.0	0.8	21.0
Lane LOS		A	C
Approach Delay (s)	0.0	0.8	21.0
Approach LOS			C

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
7: Jaguar Valley Dr & Kirwin Avenue

Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	170	35	20	300	30	60	40	20	30	40	30
Future Volume (vph)	35	170	35	20	300	30	60	40	20	30	40	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	39	191	39	22	337	34	67	45	22	34	45	34

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	230	39	22	371	134	113
Volume Left (vph)	39	0	22	0	67	34
Volume Right (vph)	0	39	0	34	22	34
Hadj (s)	0.08	-0.70	0.50	-0.06	0.05	-0.11
Departure Headway (s)	5.8	5.0	6.1	5.5	5.9	5.8
Degree Utilization, x	0.37	0.05	0.04	0.57	0.22	0.18
Capacity (veh/h)	584	670	563	631	541	548
Control Delay (s)	11.1	7.1	8.1	14.4	10.5	10.1
Approach Delay (s)	10.5		14.1		10.5	10.1
Approach LOS	B		B		B	B

Intersection Summary					
Delay	12.0				
Level of Service	B				
Intersection Capacity Utilization	51.3%	ICU Level of Service		A	
Analysis Period (min)	15				

HCM Unsignalized Intersection Capacity Analysis
8: 60 Dundas St E Access/Jaguar Valley Dr & Dundas Street East

Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1050	150	65	1350	40	75	5	60	10	15	55
Future Volume (Veh/h)	55	1050	150	65	1350	40	75	5	60	10	15	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	58	1105	158	68	1421	42	79	5	63	11	16	58
Pedestrians		5			5			60			50	
Lane Width (m)		3.6			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			5			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		240			236							
pX, platoon unblocked	0.65			0.78			0.76	0.76	0.78	0.76	0.76	0.65
vC, conflicting volume	1513			1323			2278	3009	696	2367	3067	786
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	708			846			737	1700	42	855	1777	0
tC, single (s)	4.1			4.1			7.5	6.5	7.0	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 %	89			88			33	90	92	91	65	91
cM capacity (veh/h)	550			591			118	51	746	123	46	675

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	58	737	526	778	752	147	85
Volume Left	58	0	0	68	0	79	11
Volume Right	0	0	158	0	42	63	58
cSH	550	1700	1700	591	1700	172	161
Volume to Capacity	0.11	0.43	0.31	0.12	0.44	0.85	0.53
Queue Length 95th (m)	2.8	0.0	0.0	3.1	0.0	48.2	21.0
Control Delay (s)	12.3	0.0	0.0	3.2	0.0	88.7	49.8
Lane LOS	B			A		F	E
Approach Delay (s)	0.5			1.6		88.7	49.8
Approach LOS						F	E

Intersection Summary					
Average Delay	6.6				
Intersection Capacity Utilization	99.9%	ICU Level of Service		F	
Analysis Period (min)	15				

Queues
9: Kirwin Ave/Camilla Rd & Dundas Street East

Future Total PM Peak Hour

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	55	1010	85	1325	85	95	165	70	45
Future Volume (vph)	55	1010	85	1325	85	95	165	70	45
Lane Group Flow (vph)	56	1087	87	1709	87	158	0	239	46
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	custom	NA	Perm
Protected Phases		2	1	6		4		8	
Permitted Phases	2		6		4		3		8
Detector Phase	2	2	1	6	4	4	3	8	8
Switch Phase									
Minimum Initial (s)	8.0	8.0	5.0	8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	44.0	44.0	8.0	44.0	43.0	43.0	8.0	43.0	43.0
Total Split (s)	85.0	85.0	17.0	102.0	45.0	45.0	13.0	58.0	58.0
Total Split (%)	53.1%	53.1%	10.6%	63.8%	28.1%	28.1%	8.1%	36.3%	36.3%
Yellow Time (s)	3.5	3.5	3.0	3.5	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.5	3.5	0.0	3.5	4.0	4.0	0.0	4.0	4.0
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	2.0	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lag	Lag	Lead		Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes		
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None	None
v/c Ratio	0.77	0.56	0.29	0.79	0.35	0.29		0.66	0.09
Control Delay	66.2	15.6	13.9	25.9	46.9	37.9		57.9	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	66.2	15.6	13.9	25.9	46.9	37.9		57.9	9.1
Queue Length 50th (m)	15.7	128.3	11.0	224.2	22.0	34.3		67.6	0.0
Queue Length 95th (m)	m#14.7	m103.7	18.9	258.1	39.6	54.6		100.6	9.5
Internal Link Dist (m)		212.3		203.9		114.1		69.6	
Turn Bay Length (m)	25.0		25.0		40.0				
Base Capacity (vph)	73	1958	344	2169	250	555		389	535
Starvation Cap Reductn	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.77	0.56	0.25	0.79	0.35	0.28		0.61	0.09

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 22.5 (14%), Referenced to phase 2:EBTL and 6: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.

Splits and Phases: 9: Kirwin Ave/Camilla Rd & Dundas Street East

HCM Signalized Intersection Capacity Analysis
9: Kirwin Ave/Camilla Rd & Dundas Street East

Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	1010	55	85	1325	350	85	95	60	165	70	45
Future Volume (vph)	55	1010	55	85	1325	350	85	95	60	165	70	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.0	6.0		2.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99			1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.97		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1750	3545		1749	3451		1679	1790			1849	1547
Flt Permitted	0.07	1.00		0.18	1.00		0.47	1.00			0.63	1.00
Satd. Flow (perm)	134	3545		327	3451		829	1790			1198	1547
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)	56	1031	56	87	1352	357	87	97	61	168	71	46
RTOR Reduction (vph)	0	2	0	0	14	0	0	13	0	0	0	32
Lane Group Flow (vph)	56	1085	0	87	1695	0	87	145	0	0	239	14
Confl. Peds. (#/hr)	10		15	15		10	15		5	5		15
Heavy Vehicles (%)	2%	2%	0%	2%	2%	0%	5%	0%	1%	0%	0%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		custom	NA	Perm
Protected Phases		2		1	6			4			8	
Permitted Phases	2			6			4			3		8
Actuated Green, G (s)	87.4	87.4		98.9	98.9		47.1	47.1			47.1	47.1
Effective Green, g (s)	88.4	88.4		99.9	99.9		48.1	48.1			48.1	48.1
Actuated g/C Ratio	0.55	0.55		0.62	0.62		0.30	0.30			0.30	0.30
Clearance Time (s)	7.0	7.0		3.0	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
Lane Grp Cap (vph)	74	1958		288	2154		249	538			360	465
v/s Ratio Prot		0.31		0.02	c0.49			0.08				
v/s Ratio Perm	0.42			0.17			0.10				c0.20	0.01
v/c Ratio	0.76	0.55		0.30	0.79		0.35	0.27			0.66	0.03
Uniform Delay, d1	27.5	23.1		15.2	22.2		43.7	42.6			48.9	39.5
Progression Factor	0.68	0.61		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	37.5	0.8		0.6	3.0		0.9	0.3			4.6	0.0
Delay (s)	56.3	14.9		15.8	25.2		44.6	42.8			53.5	39.5
Level of Service	E	B		B	C		D	D			D	D
Approach Delay (s)		17.0			24.7			43.5			51.2	
Approach LOS		B			C			D			D	

Intersection Summary

HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group