Hennepin Fallsview Inc.

Oakes Hotel Hydro Corridor Parking Lot, Niagara Falls

Transportation Impact Study

January 16, 2026

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Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By
1.0	-	2026-01-16	699	Final Report for SPA	Chris Stogios

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Acronyms and Abbreviations

AM	Morning Hours
Ave	Avenue
Blvd	Boulevard
Dr	Drive
EX	Existing Conditions
FB	Future Background Conditions
FT	Future Total Conditions
GFA	Gross Floor Area
Hr	Hour
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
Ln	Lane
LOS	Level of Service
PM	Afternoon Hours
s	Second
St	Street
TIS	Transportation Impact Study
TTS	Transportation Tomorrow Survey
v/c	Volume to Capacity Ratio
Veh	Vehicles
ZBL	Zoning By-Law

1 Introduction

Hennepin Fallsview Inc. (the 'proponent') is proposing to construct a parking lot located on the Hydro One land parcel bounded by Ferry Street, Allendale Avenue, Gladstone Avenue, and Peer Street in Niagara Falls known as Ferry Street (PID 4338) (Hydro Corridor – Part of Lot 143) (the 'Parcel') as the offsite primary parking for the Oakes Hotel development in the City of Niagara Falls. The site is currently an empty Hydro One land parcel owned by Infrastructure Ontario. A total of 347 valet parking spaces are proposed for the development which will be accessed through one full movement site entrance via Allendale Avenue.

The Transportation Impact Study (TIS) is being completed in support of the Site Plan Application (PLPCA20250247). This TIS references the Arcadis ***Transportation Impact Study – 6546 Fallsview Boulevard, Niagara Falls*** (April 17, 2024) as this proposed parking site ultimately ties in with the proposed development at 6546 Fallsview Boulevard

The purpose of this TIS is to analyze the impact that the proposed development may have on the surrounding transportation network. This report takes into consideration background traffic growth along all streets in the study area except for turning movements into other proposed developments in the area.

This report is outlined with the following sections:

- **Section 1** through **Section 5** discusses the TIS;
- **Section 6** discusses the parking analysis;
- **Section 7** discusses the vehicle swept path analysis**;**
- **Section 8** discussed the pavement marking and signage plan; and
- **Section 9** discusses the conclusions made and the study recommendations based on the preceding sections.

This report was prepared to respond to submission requirements determined through the pre-consultation process. Section 14 of the City's Official Plan requires a pre-application consultation between an applicant and the City prior to submission of an application under the Planning Act to determine submission requirements for a complete application.

The pre-consultation summary issued in connection with a pre-consultation meeting held on August 7, 2025, included as a submission requirement a Transportation Impact Study, which subject to a Terms of Reference to be determined through discussion with City staff.

This report adheres to the scope of investigation developed by Arcadis and discussed with City of Niagara Falls staff on January 5, 2023. This correspondence is presented in **Appendix A**.

1.1 Study Area

The development is to be located on the Hydro One land parcel bounded by Ferry Street, Allendale Ave, Gladstone Ave, and Peer Street in Niagara Falls as the offsite primary parking for the Oakes Hotel development, which we understand complies with the zoning by-law requirements. This is illustrated in **Figure 1-1.**



Figure 1-1: Study Area
Base map Source: Google Earth. Retrieved December 11, 2025, from https://earth.google.com/web/

The area around the proposed development is surrounded by a mix of residential and commercial uses in all directions.

The study area intersections consist of the following locations (as illustrated in **Figure 1-1**).

1. (#1) Stanley Avenue & Murray Street (signalized);
2. (#2) Stanley Avenue & Main Street / Dixon Street (signalized);
3. (#8) Fallsview Boulevard & Main Street / Portage Road (signalized);
4. (#9) Portage Road & Proposed Hotel Site Access (unsignalized);
5. (#20) Stanley Avenue & Robinson Street (signalized);
6. (#19) Allendale Avenue & Robinson Street (unsignalized);
7. (#14) Ferry Street & Gladstone Avenue (unsignalized)
8. (#15) Ferry Street & Allendale Avenue (unsignalized);
9. (#16) Ferry Street & Stanley Avenue (signalized);
10. (#17) Peer Street & Gladstone Avenue (unsignalized);
11. (#18) Allendale Avenue & Peer Street - Peer Lane (unsignalized); and
12. (#21) Allendale Avenue & Proposed Parking Facility Access (unsignalized).

1.2 Analysis Periods

Based on the proposed development's land uses and size, the following analysis periods were used in this study:

- Weekday PM Peak Period – 4:00 p.m. to 6:00 p.m. on a typical weekday; and
- Saturday Peak Period – 5:00 p.m. to 10:00 p.m. during a summer weekend.

1.3 Proposed Development

The development site is currently a Hydro One land parcel bounded by Ferry Street, Allendale Ave, Gladstone Ave, and Peer Street in Niagara Falls. The proposed development is a surface parking lot that offers 347 parking spaces. This parking lot is an offsite valet parking area in association with the Oakes Hotel Development at 6546 Fallsview Boulevard, Niagara Falls. Access to the proposed parking facility is to be provided one full-movement access point from Allendale Avenue.

The proposed concept site plan is illustrated in **Figure 1-2.**

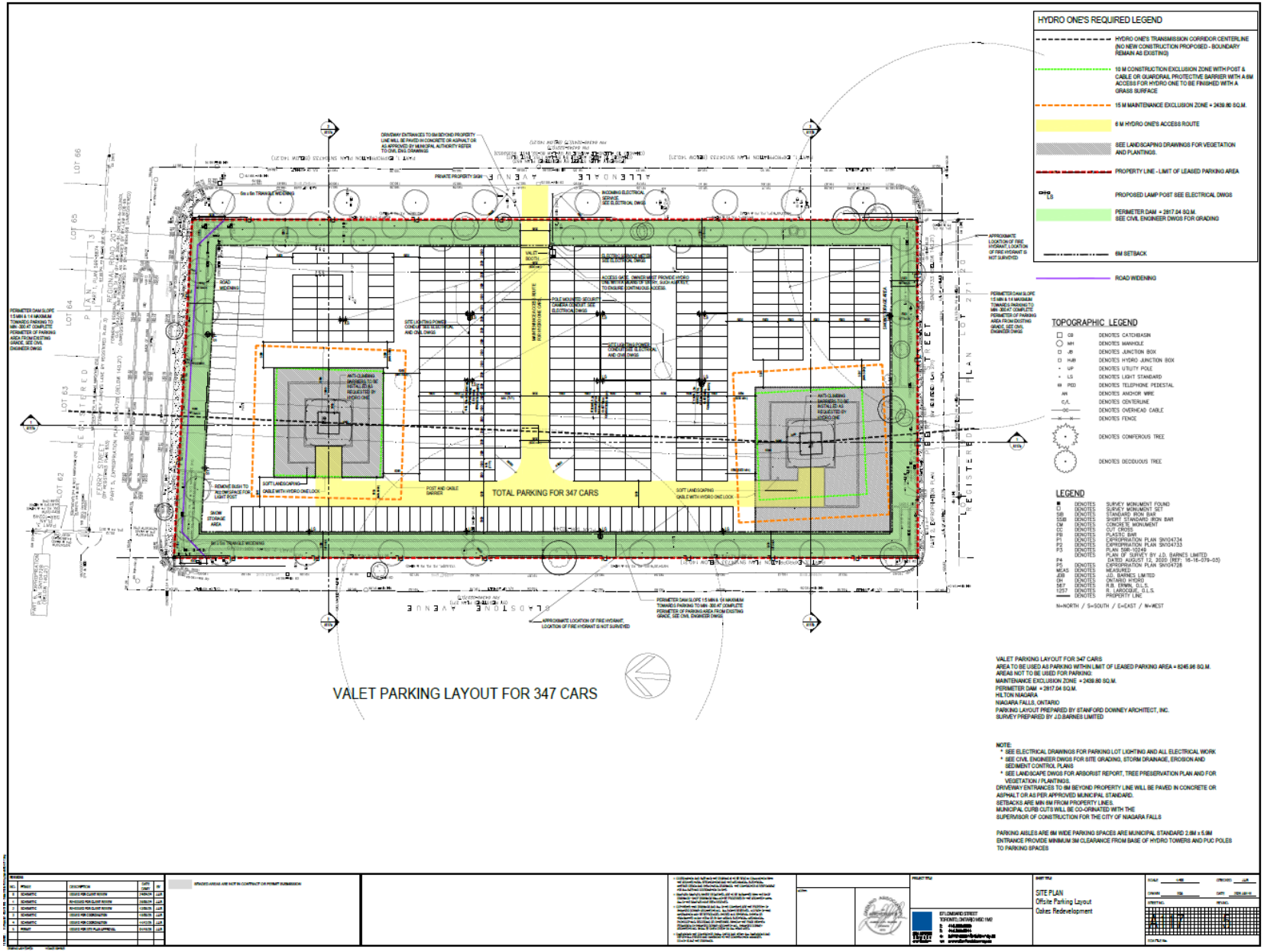


Figure 1-2: Proposed Site Plan

2 2026 Existing Conditions

This section documents the transportation network in the study area in 2026, including existing roadways, traffic control measures, intersection performance, walking and cycling facilities, and transit operations.

2.1 Existing Road Network

Table 2-1 summarizes the characteristics of the study area roadways.

Table 2-1: Study Area Existing Road Network

Street Name	Class[1]	Orientation	Road Width (Lanes)	Traffic Direction	From	To	On-Street Parking	Speed Limit
Fallsview Boulevard	Local	North / South	2-4	Two-way	Ferry Street	Dead End	Prohibited	50 km/h
Murray Street	Local	East / West	2-4	Two-way	Franklin Avenue	Niagara Parkway	Prohibited east of Allendale Avenue	50 km/h
Portage Road	Arterial	North / South	2-4	Two-way	Fallsview Boulevard	Bridgewater Street	Prohibited	50-60 km/h
Main Street	Arterial	North / South	2-4	Two-way	North Street	Fallsview Boulevard	Prohibited east of Allendale Avenue	50 km/h
Stanley Avenue	Arterial	North / South	2-5	Two-way	Stamford Town Line Road	Dead End	Prohibited north of Marineland Parkway	50-70 km/h
Dixon Street	Local	East / West	2	Two-way	Drummond Road	Fallsview Boulevard	Prohibited east of Stanley Avenue	50 km/h
Robinson Street	Local	East / West	2	Two-way	Main Street	Clark Avenue	Prohibited	50 km/h
Ferry Street	Arterial (Regional Road)	East / West	2-4	Two-way	Main Street	Clark Avenue	Prohibited west of Main Street	50 km/h
Allendale Avenue	Collector	North / South	2	Two-way	Spring Street	Peer Street	Permitted	50 km/h

[1] Road classifications were obtained from the City of Niagara Falls Transportation Master Plan, dated October 2011. (https://niagarafalls.ca/pdf/transportation/transportation-master-plan-report.pdf)

Street Name	Class[1]	Orientation	Road Width (Lanes)	Traffic Direction	From	To	On-Street Parking	Speed Limit
Gladstone Avenue	Local	North / South	2	Two-way	Ferry Street	Dixon Road	Prohibited	50 km/h
Peer Street	Local	East / West	2	Two-way	Main Street	Allendale Avenue	Permitted	50 km/h
Peer Lane	Local	East / West	1	Two-Way	Allendale Avenue	Stanley Avenue	Prohibited	40 km/h

Lane configurations for the study area intersections are illustrated in **Figure 2-1.**

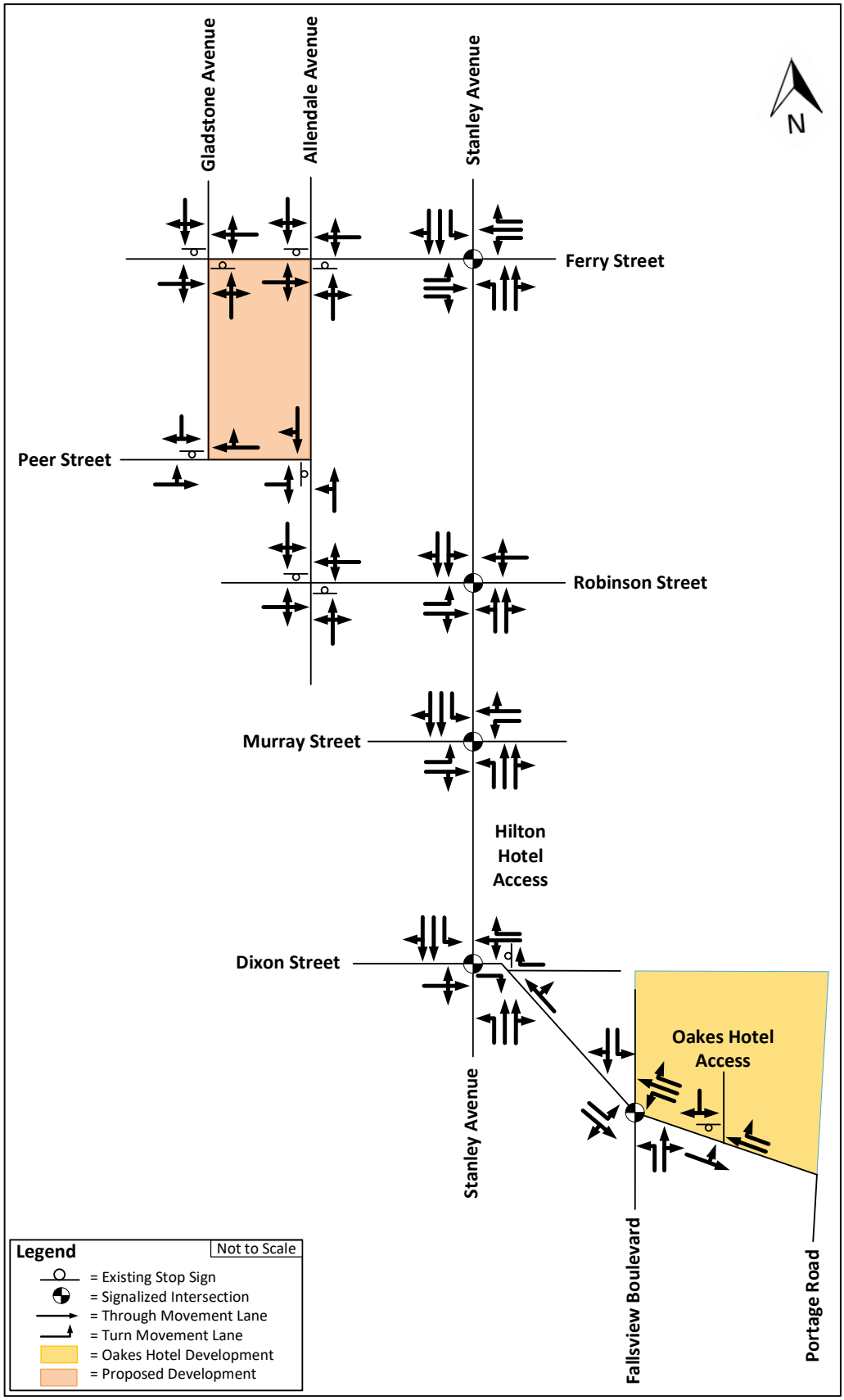


Figure 2-1: Existing Lane Configuration

2.2 Existing Transit Network

The proposed development site is located within proximity to several Niagara Falls Transit bus routes, which primarily provide access to/from the Main Street and Ferry Street transit hub. The closest transit stops to the development are located directly adjacent to the proposed development site along Fallsview Boulevard. It should be noted that the existing Niagara Region Transit, Niagara Falls Transit, St. Catharines Transit, Welland Transit and Fort Erie Transit systems are in the process of amalgamation. As a result, service changes are expected in the coming years as part of the integration process. In addition, the WEGO visitor transit system provides tourist-oriented transit service to major attractions and destinations within Niagara Falls, and reciprocal transfer privileges with Niagara Falls Transit are available. Finally, intercity operators connecting the Greater Toronto Area to the city and to the Fallsview Casino Resort (such as GO Transit and Flixbus) are also available.

Transit services in close proximity to the development site are illustrated in **Figure 2-2** and **Figure 2-3**. Service patterns and destinations of the routes in close proximity to the proposed site are detailed in **Table 2-2**.

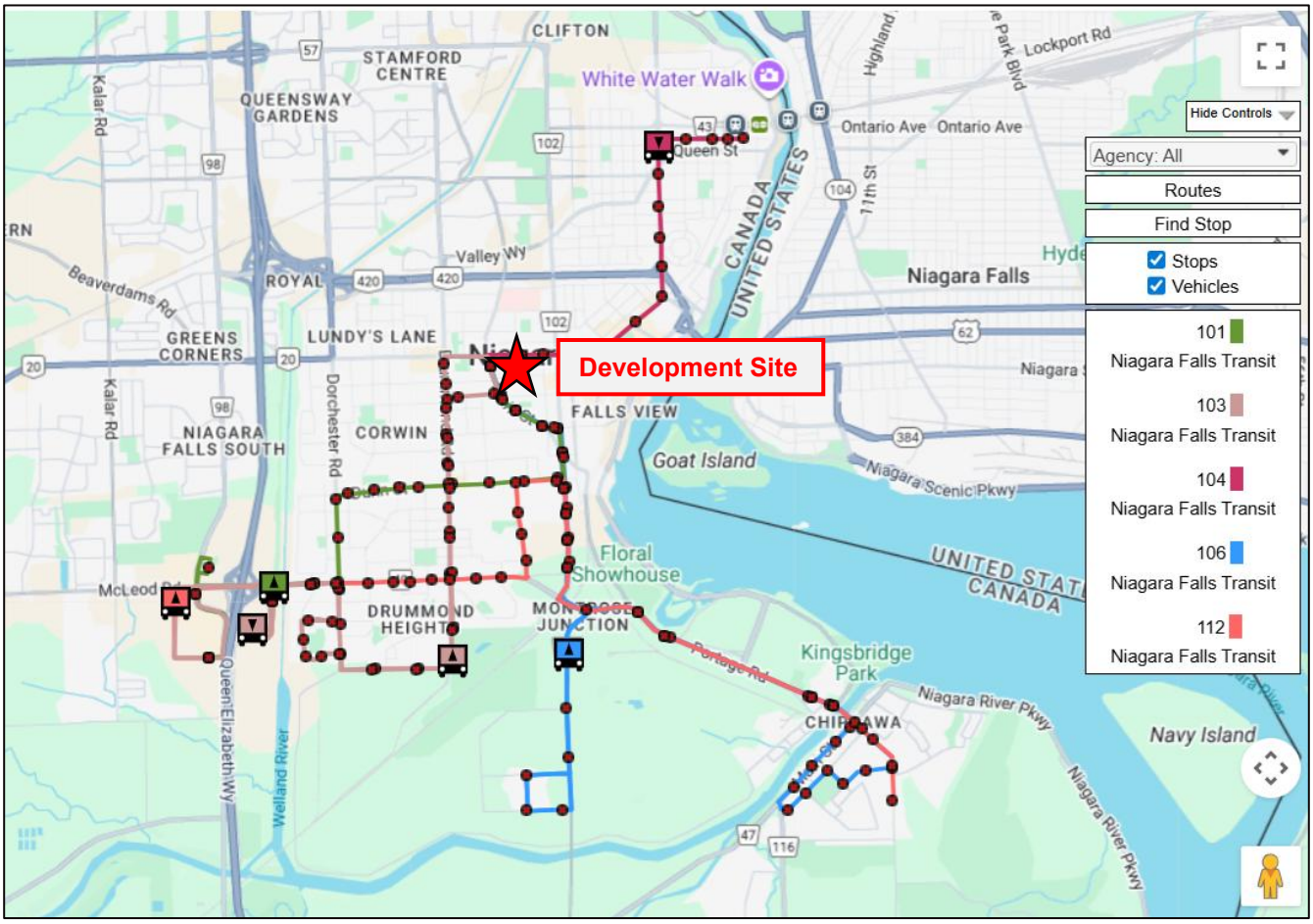


Figure 2-2: Existing Transit Network (Excluding WEGO Routes)
Image Source: Niagara Falls Transit Services Retrieved December 15, 2025, from Niagara Region Transit Map

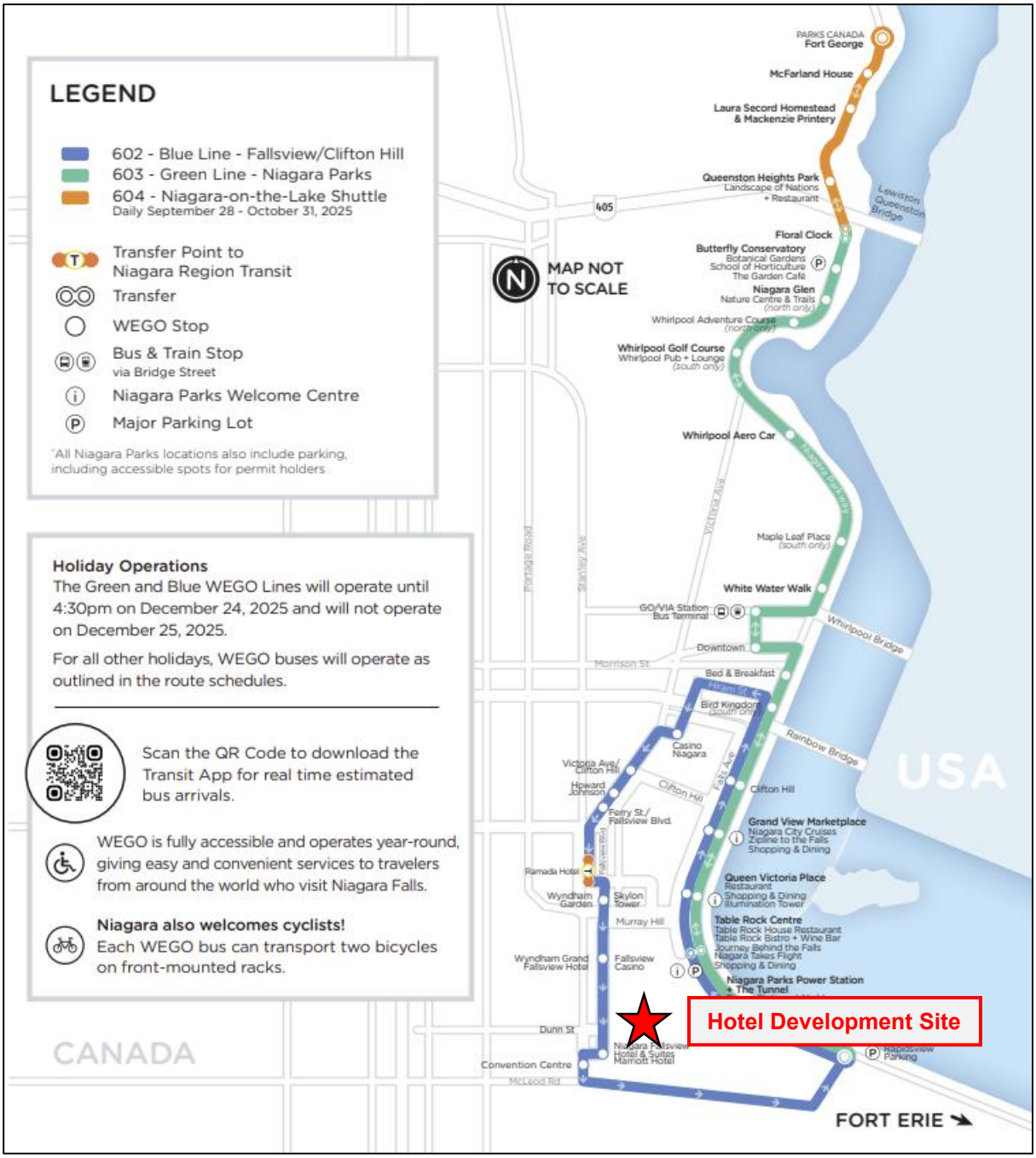


Figure 2-3: WEGO Transit Network
Image *Source:* WEGO Niagara Falls. *Retrieved* December 15*, 2025, from* https://wegoniagarafalls.com/pdf/wego-route-map.pdf

Table 2-2: Existing Transit Service Patterns

Route	Onward Transit Connections	Approximate Walking Distance to Nearest Bus Stop[2]	Average Peak Hour Bus Service Frequency
101	Canadian Drive Hub, Walmart Plaza, Dorchester & Dunn, Main & Ferry Hub	240 metres (4 minutes)	30 minutes
102	Train/Bus Terminal, Morrison/Dorchester, GNGH Hospital, Main & Ferry Hub	1.35 kilometers (23 minutes)	30 minutes
103	Canadian Drive Hub, Walmart Plaza, Dorchester & McLeod, Drummond & McLeod, Main & Ferry Hub	1.35 kilometers (23 minutes)	30 minutes
203	Canadian Drive Hub, Walmart Plaza, Drummond & Dunn, Main & Ferry Hub	1.35 kilometers (23 minutes)	30 minutes
104	Train/Bus Terminal, Ellen & Centre, and Main & Ferry Hub	1.11 kilometers (19 minutes)	30 minutes
204	Train/Bus Terminal, Ellen & Centre, and Main & Ferry Hub	1.11 kilometers (19 minutes)	30 minutes
106	Gunning & Willoughby, Don Murie & Stanley, Stanley & McLeod, Main & Ferry Hub	240 metres (4 minutes)	30 minutes
206	Gunning & Willoughby, Don Murie & Stanley, Dunn & Stanley, Main & Ferry Hub	240 metres (4 minutes)	30 minutes
107	Town & Country Plaza, Church & Stanley, Town & Country Plaza, Main & Ferry Hub	1.35 kilometers (23 minutes)	30 minutes
110	Morrison/Dorchester Hub, Drummond & Valley, Main & Ferry Hub	1.10 kilometers (19 minutes)	30 minutes
210	Morrison/Dorchester Hub, Drummond & Valley, GNGH Hospital, Main & Ferry Hub	1.35 kilometers (23 minutes)	30 minutes
112	Canadian Drive Hub, Walmart Plaza, Ailanthus & McLeod, Gunning & Willoughby	340 metres (6 minutes) (9 minutes)	60 minutes

[2] Approximate walking speed of 1 m/s from the Hotel Development Site.

Route	Onward Transit Connections	Approximate Walking Distance to Nearest Bus Stop[2]	Average Peak Hour Bus Service Frequency
WEGO 602 - Blue Line	Convention Center, Table Rock, Clifton, Victoria/Clifton, Skylon Tower, Copacabana, Convention Center	Directly Adjacent (< 1 minute)	40 minutes
WEGO 603 - Green Line	Rapidsview, Table Rock, Downtown, GO/VIA Station, Floral Clock	350 metres[3] (6 minutes)	20-30 minutes
Flixbus	Direct intercity travel	Directly Adjacent (< 1 minute)	Varies

2.3 Active Transportation Network

The proposed development is well connected to the City of Niagara Falls cycling network and is located in close proximity to waterfront trails east of the site. The available cycling routes are illustrated in **Figure 2-4.**

[3] Using the Falls Incline Railway.

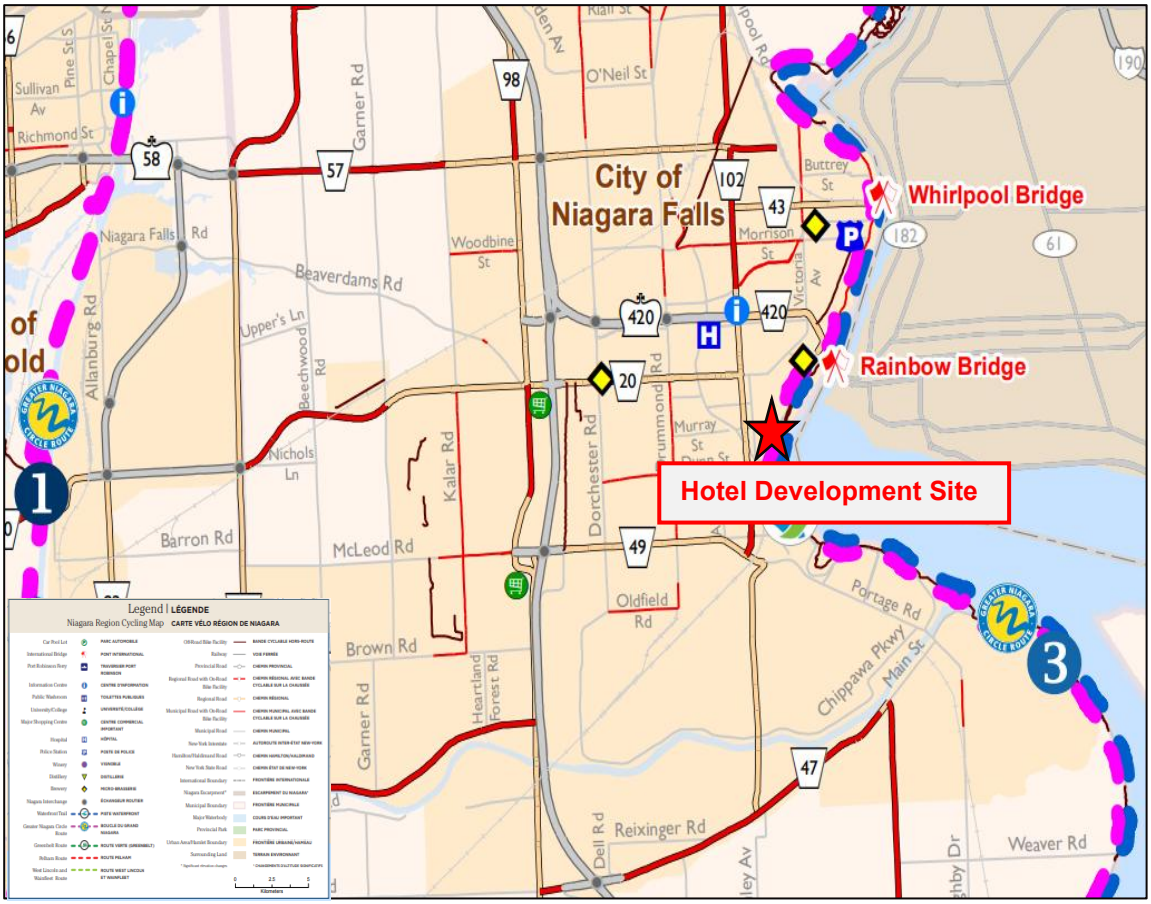


Figure 2-4: City of Niagara Falls Bicycle Route Map
Image Source: Niagara Region. Retrieved December 15, 2025, from https://www.niagararegion.ca/exploring/cycle/bike-map.pdf

2.3.1 Future Road Network Improvements

According to the City of Niagara Falls, there are no planned road capacity improvements for City maintained roads/intersections in the general area.

2.4 Turning Movement Counts

Turning Movement Counts (TMCs) for the study area intersections were conducted by Ontario Traffic Inc. on Thursday, July 18, 2024, Saturday, July 20, 2024, Saturday, August 10,2024, and Tuesday, August 13, 2024. The counts were conducted for weekday PM peak period (4:00 p.m. – 6:00 p.m.), and the weekend peak period (11:00 a.m. – 2:00 p.m. and 5:00 p.m. – 10:00 p.m.).

Details regarding the TMCs used in this study are summarized below in **Table 2-3,** with full TMC data presented in **Appendix B**.

Table 2-3: Traffic Data Information

Intersection	Data Source	Collection Dates	Weekday PM Peak Hour	Saturday Midday Peak Hour	Saturday Evening Peak Hour
Stanley Avenue & Murray Street	Ontario Traffic Inc.	Thursday, July 18, 2024	4:30 pm to 5:30 pm	11:00 am to 12:00 pm	5:45 pm to 6:45 pm
		Saturday, July 20, 2024			
Stanley Avenue & Main Street / Dixon Street		Thursday, July 18, 2024	4:30 pm to 5:30 pm	11:00 am to 12:00 pm	5:00 pm to 6:00 pm
		Saturday, July 20, 2024			
Fallsview Boulevard & Main Street / Portage Road		Thursday, July 18, 2024	4:45 pm to 5:45 pm	12:15 pm to 1:15 pm	6:30 pm to 7:30 pm
		Saturday, July 20, 2024			
Stanley Avenue & Robinson Street		Tuesday, August 13, 2024	4:30 pm to 5:30 pm	12:15 pm to 1:15 pm	5:15 pm to 6:15 pm
		Saturday, August 10, 2024			
Allendale Avenue & Robinson Street		Tuesday, August 13, 2024	4:00 pm to 5:00 pm	11:00 am to 12:00 pm	5:00 pm to 6:00 pm
		Saturday, August 10, 2024			
Gladstone Avenue & Ferry Street		Tuesday, August 13, 2024	4:30 pm to 5:30 pm	11:00 am to 12:00 pm	8:30 pm to 9:30 pm
		Saturday, August 10, 2024			
Allendale Avenue & Ferry Street		Tuesday, August 13, 2024	4:45 pm to 5:45 pm	1:00 pm to 2:00 pm	5:45 pm to 6:45 pm
		Saturday, August 10, 2024			
Stanley Avenue & Ferry Street		Tuesday, August 13, 2024	4:45 pm to 5:45 pm	12:15 pm to 1:15 pm	5:00 pm to 6:00 pm
		Saturday, August 10, 2024			
Peer Street & Gladstone Avenue		Tuesday, August 13, 2024	4:15 pm to 5:15 pm	11:00 am to 12:00 pm	5:00 pm to 6:00 pm
		Saturday, August 10, 2024			
Allendale Avenue & Peer Street - Peer Lane		Tuesday, August 13, 2024	4:45 pm to 5:45 pm	11:00 am to 12:00 pm	5:00 pm to 6:00 pm
		Saturday, August 10, 2024			

The 2024 traffic volumes were inflated to the year 2026 by applying the growth rates described in **Section 3.3** These traffic volumes were used to produce the 2026 Existing Conditions which are used for the intersection capacity analyses. A summary of the 2026 Existing Conditions traffic volumes is presented in **Figure 2-5.**

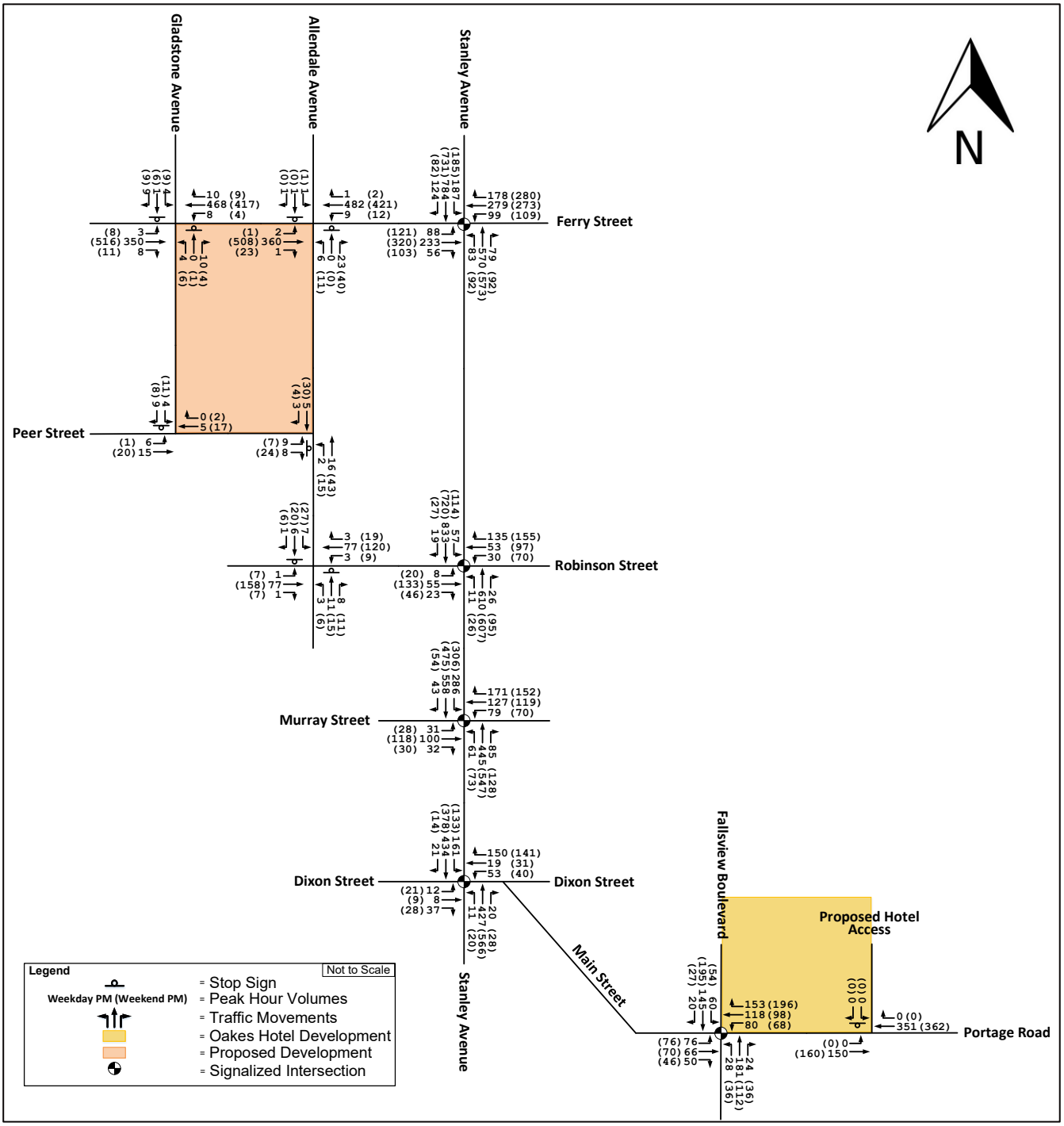


Figure 2-5: 2026 Existing Conditions Traffic Volumes

2.5 Signal Timing Plans

Signal timing plans for the signalized intersections were provided by the Niagara Region and the City of Niagara Falls and are presented in **Appendix C**. The signalized study area intersections mostly function under a fully actuated mode of operation.

2.6 2026 Existing Conditions Analysis

Using the turning movement counts described in **Section 2.4** and the signal timing plans described in **Section 2.5**, the study area intersections were analyzed using the Synchro 11.0 software package, which is based on the **Highway Capacity Manual** methodology.

Based on the Niagara Region Transportation Impact Assessment Guidelines (July 2023), the criteria for identifying critical signalized intersections or movements are as follows:

- V/c ratio greater than 0.85 and/or LOS “E” or worse;
- Any site accesses where entrances or egress is anticipated to be blocked by traffic queues from an upstream/downstream intersection;
- An exclusive turning movement in which the 95th percentile queue will exceed the available storage space;
- V/c ratio exceeds 0.90 for dedicated left-turn movements; and
- Exclusive left-turn and right-turn lanes that are inaccessible due to the length of queues in the adjacent through lanes.

Furthermore, the following criteria were used in identifying critical operations at unsignalized intersections:

- Level of service (LOS) based on average delay per vehicle for individual movements is “D” or worse; or
- 95th percentile queue for an individual lane exceeds the available queuing space.

The following subsections detail existing traffic operations at the study area intersections for the Weekday PM and Saturday PM peak hours. The Synchro output results showcasing the detailed Highway Capacity Manual analysis for the 2026 Existing Conditions is presented in **Appendix D**.

2.6.1 Signalized Intersections

The results of the 2026 Existing Conditions traffic operations analysis for the signalized intersections within the study area during the Weekday PM and Saturday PM peak hours are presented in **Table 2-4.**

Table 2-4: 2026 Existing Conditions Traffic Operations - Signalized Intersections

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Weekday PM Peak Hour									
Stanley Avenue & Murray Street	C	25.1	0.82	EBL	C	27.4	0.24	12.6	30
				EBTR	C	28.9	0.42	35.0	-
				WBL	C	28.6	0.38	25.4	35
				WBTR	**E**	62.1	**0.90**	91.6	-
				NBL	C	23.4	0.32	20.4	75
				NBTR	C	22.4	0.49	56.3	-
				SBL	B	18.0	0.74	44.5	75
				SBTR	B	11.4	0.38	44.0	-
Stanley Avenue & Dixon Street / Main Street	B	16.7	0.44	EBLTR	C	29.0	0.12	12.6	-
				WBLT	C	32.8	0.47	26.0	-
				WBR	C	29.6	0.19	15.6	-
				NBL	B	12.8	0.04	2.8	65
				NBTR	B	16.8	0.36	48.5	-
				SBL	A	8.8	0.41	23.2	140
				SBTR	B	11.2	0.31	41.3	-
Fallsview Boulevard & Main Street / Portage Road	C	23.4	0.49	EBL	C	35.0	0.54	27.3	50
				EBTR	C	30.7	0.39	28.6	-
				WBL	C	21.4	0.31	18.0	25
				WBT	C	21.4	0.27	27.1	-
				WBR	C	21.8	0.27	13.8	85
				NBL	C	20.9	0.17	11.8	20
				NBTR	C	27.1	0.53	65.8	-
				SBL	B	13.3	0.21	13.9	-
				SBTR	B	16.0	0.34	37.5	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Stanley Avenue & Ferry Street	C	31.7	0.75	EBL	D	40.1	0.57	27.2	100
				EBT	D	43.2	0.68	68.9	-
				EBR	C	33.6	0.07	-	40
				WBL	C	32.9	0.37	28.3	35
				WBT	D	43.9	0.73	78.8	-
				WBR	C	32.5	0.19	16.7	40
				NBL	B	18.6	0.41	19.2	20
				NBTR	C	27.6	0.58	85.8	-
				SBL	B	19.1	0.63	46.7	55
				SBTR	C	30.4	0.75	147.7	-
Stanley Avenue & Robinson Street	B	14.8	0.68	EBL	C	20.8	0.05	3.6	30
				EBTR	C	21.8	0.23	14.8	-
				WBLTR	C	24.5	0.53	30.5	-
				NBLTR	B	10.2	0.49	44.9	-
				SBLTR	B	15.1	0.74	91.8	-
Saturday PM Peak Hour									
Stanley Avenue & Murray Street	C	31.6	**0.97**	EBL	C	27.1	0.22	11.8	30
				EBTR	C	29.5	0.48	41.6	-
				WBL	C	28.0	0.33	23.4	35
				WBTR	**E**	65.3	**0.91**	89.5	-
				NBL	C	28.1	0.43	26.0	75
				NBTR	C	27.7	0.68	80.2	-
				SBL	D	48.8	**0.95**	**83.7**	75
				SBTR	B	11.3	0.36	39.7	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Stanley Avenue & Dixon Street / Main Street	B	17.2	0.43	EBLTR	C	29.4	0.16	14.9	-
				WBLT	C	32.0	0.41	24.9	-
				WBR	C	29.7	0.19	16.0	-
				NBL	B	11.6	0.06	4.3	65
				NBTR	B	17.3	0.45	63.0	-
				SBL	A	8.8	0.39	19.1	140
				SBTR	B	11.4	0.26	34.7	-
Fallsview Boulevard & Main Street / Portage Road	C	23.3	0.49	EBL	D	40.9	0.61	27.5	50
				EBTR	C	31.2	0.41	28.5	-
				WBL	C	21.4	0.26	15.0	25
				WBT	C	21.2	0.21	21.7	-
				WBR	C	24.2	0.39	21.3	85
				NBL	C	20.6	0.18	13.9	20
				NBTR	C	23.2	0.38	40.2	-
				SBL	B	12.7	0.17	12.2	-
				SBTR	B	16.9	0.41	48.7	-
Stanley Avenue & Ferry Street	C	34.7	0.76	EBL	D	43.8	0.69	32.7	100
				EBT	D	50.1	0.82	90.2	-
				EBR	C	31.3	0.14	8.3	40
				WBL	D	35.9	0.50	31.8	35
				WBT	D	46.4	0.76	79.5	-
				WBR	D	35.3	0.38	28.2	40
				NBL	B	18.5	0.42	**21.5**	20
				NBTR	C	30.4	0.65	93.5	-
				SBL	C	23.3	0.68	52.4	55
				SBTR	C	31.3	0.72	129.7	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Stanley Avenue & Robinson Street	C	34.3	**0.97**	EBL	B	18.1	0.11	6.7	30
				EBTR	C	20.8	0.49	34.4	-
				WBLTR	**E**	56.2	**0.93**	80.1	-
				NBLTR	B	15.6	0.66	54.7	-
				SBLTR	D	45.2	**0.99**	101.5	-

Note: Red font represents an intersection/lane/movement which exceeds critical operational thresholds

As shown in **Table 2-4**, during the Weekday PM Peak hour, the following critical operations have been observed for individual movements for the study area signalized intersections in 2026 Existing Conditions:

- At the Stanley Avenue & Murray Street intersection, the westbound through/right-turn movement is observed to operate above critical capacity threshold with a v/c ratio 0.90.

Furthermore, the following critical operations are observed during the Saturday PM Peak hour:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is observed to operate above critical capacity threshold with a v/c ratio of 0.97. The westbound through/right-turn and southbound left-turn movements are observed to operate above critical capacity thresholds with v/c ratios of 0.91 and 0.95, respectively. The 95th percentile queue length for the southbound left-turn movement was observed to exceed the available storage lane capacity by 8.7 m (approximately one car length);
- At the Stanley Avenue & Ferry Street intersection, the 95th percentile queue length for the northbound left-turn movement was found to exceed the available storage lane capacity by 1.5 m (less than one car length); and
- At the Stanley Avenue & Robinson Street intersection. The overall intersection v/c ratio is observed to operate above critical capacity threshold with a v/c ratio of 0.97. The westbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are observed to operate above critical capacity thresholds with v/c ratios of 0.93 and 0.99, respectively.

2.6.2 Unsignalized Intersections

The results of the 2026 Existing Conditions traffic operations analysis for the study area unsignalized intersection during the Weekday PM and Saturday PM peak hours are presented in **Table 2-5.**

Table 2-5: 2026 Existing Conditions Traffic Operations - Unsignalized Intersections

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Weekday PM Peak Hour							
Gladstone Avenue & Ferry Street	0.7	EBLTR	A	0.1	0.00	0.1	-
		WBLTR	A	0.2	0.01	0.2	-
		NBLTR	C	15.2	0.04	1.0	-
		SBLTR	C	15.7	0.04	1.0	-
Allendale Avenue / Commercial Access & Ferry Street	0.7	EBLTR	A	0.1	0.00	0.0	-
		WBLTR	A	0.3	0.01	0.2	-
		NBLTR	B	14.6	0.07	1.8	-
		SBLTR	C	19.8	0.01	0.3	-
Peer Street & Gladstone Avenue	4.1	EBLT	A	2.2	0.01	0.2	-
		SBLR	A	8.6	0.02	0.5	-
Allendale Avenue & Peer Street	3.8	EBLR	A	8.7	0.02	0.6	-
		NBLT	A	0.8	0.00	0.0	-
Allendale Avenue & Robinson Street	2.0	EBLTR	A	0.1	0.00	0.0	-
		WBLTR	A	0.3	0.00	0.1	-
		NBLTR	B	10.1	0.04	0.9	-
		SBLTR	B	10.4	0.02	0.5	-
Saturday PM Peak Hour							
Gladstone Avenue & Ferry Street	1.0	EBLTR	A	0.2	0.01	0.2	-
		WBLTR	A	0.1	0.00	0.1	-
		NBLTR	**D**	26.4	0.06	1.5	-
		SBLTR	C	23.4	0.11	2.8	-
Allendale Avenue / Commercial Access & Ferry Street	1.2	EBLTR	A	0.0	0.00	0.0	-
		WBLTR	A	0.4	0.01	0.3	-
		NBLTR	C	20.1	0.19	5.1	-
		SBLTR	**E**	36.7	0.01	0.2	-
Peer Street & Gladstone Avenue	3.0	EBLT	A	0.5	0.00	0.0	-
		SBLR	A	8.9	0.03	0.7	-

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Allendale Avenue & Peer Street	3.1	EBLR	A	8.9	0.04	0.9	-
		NBLT	A	2.0	0.01	0.3	-
Allendale Avenue & Robinson Street	3.1	EBLTR	A	0.4	0.01	0.1	-
		WBLTR	A	0.6	0.01	0.2	-
		NBLTR	B	12.6	0.07	1.7	-
		SBLTR	B	13.4	0.12	3.1	-

Note: Red font represents an intersection / lane / movement which exceeds critical operational thresholds

As shown in **Table 2-5**, there are no movements exceeding critical thresholds observed in existing conditions at the study area's unsignalized intersections during the Weekday PM peak hour. Furthermore, the following critical operations were observed during the Saturday PM peak hour:

- At the Gladstone Avenue & Ferry Street intersection, the northbound left-turn/through/right-turn movement is observed to operate at the critical operational threshold with a LOS of "D"; and
- At the Allendale Avenue / Commercial Access & Ferry Street intersection, the southbound left-turn/through/right-turn movement is observed to operate at the critical operational threshold with a LOS of "E".

3 Future Background Conditions

This section discusses the proposed development horizon year, background traffic growth rates, anticipated future road network improvements, and other development-related traffic in the study area.

3.1 Horizon Year

As per the ***Niagara Region Guidelines for Transportation Impact Assessment*** (July 2023), the horizon years of 2028 (full build-out year of the proposed development) and 2033 (five-years after the full build-out year of the proposed development) were selected for the Future Background Conditions analysis and Future Total Conditions analysis.

3.2 Background Developments

Based on the information provided by the City of Niagara, the following background development was identified to be included in the future conditions analysis:

- 5528 Ferry Street (Phase 1 & 2 Condominium Building with 7 storeys and a total of 65 suites will be provided).

Site-generated trips from the one background development were accounted for and extracted from the development's respective Transportation Impact Study (TIS) report. Excerpts from the future background developments' respective TIS report is presented in **Appendix E**.

3.3 Background Traffic Growth

Based on the information provided by the City of Niagara, an annual growth rate of 2.0% was assumed to account for the impact of growth occurring outside of the study area, which matches the Region's planning model.

3.4 Future Transportation Network Improvements

As per the ***City of Niagara Falls Sustainable Transportation Master Plan*** (October 2011), and information provided by the City of Niagara Falls, there are no planned road capacity improvements for City maintained roads/intersections in the general area.

3.5 2028 Future Background Conditions Analysis

New trips resulting from the assumed background traffic growth were added to the 2026 Existing Conditions scenario, producing the 2028 Future Background Conditions traffic volumes as illustrated in **Figure 3-1.**

The results of the 2028 Future Background Conditions traffic analysis are summarized in the following subsections. The Synchro output results showcasing the detailed Highway Capacity Manual analysis for the 2028 Future Background Conditions scenario is presented in **Appendix F.**

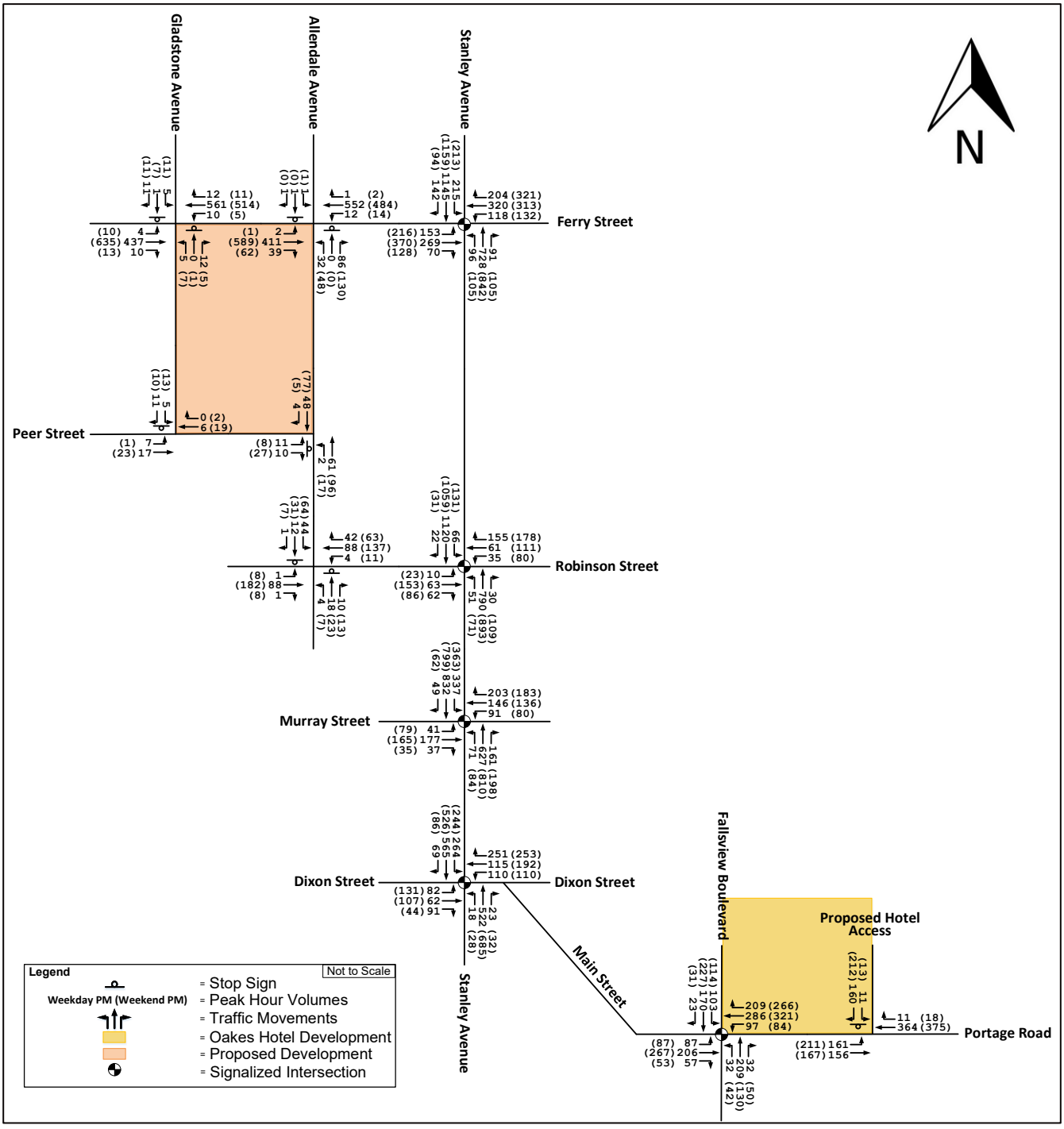


Figure 3-1: 2028 Future Background Conditions Traffic Volumes

3.5.1 Signalized Intersections

The results of the 2028 Future Background Conditions traffic operations analysis for the study area signalized intersections during the Weekday PM and Saturday PM peak hours are presented in **Table 3-1.**

Table 3-1: 2028 Future Background Conditions Traffic Operations - Signalized Intersection

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Weekday PM Peak Hour									
Stanley Avenue & Murray Street	C	30.6	**0.95**	EBL	C	27.5	0.29	14.7	30
				EBTR	C	32.9	0.63	55.8	-
				WBL	C	28.9	0.43	27.1	35
				WBTR	**E**	69.8	**0.94**	100.1	-
				NBL	C	28.9	0.41	23.0	75
				NBTR	C	27.6	0.67	77.7	-
				SBL	D	40.7	**0.92**	70.4	75
				SBTR	B	13.2	0.50	61.4	-
Stanley Avenue & Dixon Street / Main Street	D	53.5	**0.88**	EBLTR	**F**	118.7	**1.10**	108.5	-
				WBLT	**F**	181.0	**1.26**	114.4	-
				WBR	C	25.3	0.25	17.5	-
				NBL	B	17.1	0.08	4.2	65
				NBTR	C	24.3	0.50	58.0	-
				SBL	B	15.1	0.62	33.6	140
				SBTR	B	17.6	0.47	59.1	-
Fallsview Boulevard & Main Street / Portage Road	C	31.1	0.70	EBL	C	34.3	0.56	29.7	50
				EBTR	**E**	62.9	**0.91**	90.3	-
				WBL	C	20.9	0.39	19.6	25
				WBT	C	24.5	0.58	64.4	-
				WBR	C	21.2	0.33	17.1	85
				NBL	C	23.6	0.19	12.4	20
				NBTR	C	32.5	0.62	73.3	-
				SBL	B	16.0	0.37	21.0	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				SBTR	B	18.1	0.38	40.5	-
Stanley Avenue & Ferry Street	D	46.6	**0.92**	EBL	D	53.4	0.77	42.6	100
				EBT	D	44.0	0.70	70.9	-
				EBR	C	33.4	0.08	-	40
				WBL	C	34.1	0.40	29.8	35
				WBT	D	48.3	0.78	81.3	-
				WBR	C	33.1	0.20	16.9	40
				NBL	C	30.5	0.64	**23.8**	20
				NBTR	C	31.9	0.69	112.0	-
				SBL	C	28.8	0.75	54.4	55
				SBTR	**E**	63.1	**1.02**	220.4	-
Stanley Avenue & Robinson Street	C	20.7	0.84	EBL	C	20.7	0.06	3.9	30
				EBTR	C	21.7	0.23	15.3	-
				WBLTR	C	27.8	0.64	36.7	-
				NBLTR	B	11.6	0.58	56.7	-
				SBLTR	C	25.5	**0.92**	125.7	-
Saturday PM Peak Hour									
Stanley Avenue & Murray Street	D	51.8	**1.19**	EBL	C	34.6	0.60	**33.0**	30
				EBTR	C	31.0	0.58	52.3	-
				WBL	C	27.8	0.36	24.8	35
				WBTR	**E**	74.7	**0.96**	98.9	-
				NBL	D	37.1	0.56	32.9	75
				NBTR	D	44.4	**0.93**	132.8	-
				SBL	**F**	164.3	**1.26**	**121.7**	75
				SBTR	B	13.8	0.53	64.6	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Stanley Avenue & Dixon Street / Main Street	F	108.8	1.09	EBLTR	F	391.3	1.75	146.6	-
				WBLT	F	272.6	1.49	148.3	-
				WBR	C	25.5	0.26	19.1	-
				NBL	B	16.1	0.10	5.6	65
				NBTR	C	26.3	0.62	78.1	-
				SBL	B	17.1	0.66	30.8	140
				SBTR	B	18.2	0.46	55.8	-
Fallsview Boulevard & Main Street / Portage Road	C	32.8	0.71	EBL	C	30.2	0.52	32.2	50
				EBTR	E	69.3	0.95	113.2	-
				WBL	B	18.1	0.31	16.3	25
				WBT	C	21.8	0.56	69.8	-
				WBR	C	21.7	0.48	34.1	85
				NBL	C	28.7	0.25	14.5	20
				NBTR	C	34.8	0.55	44.7	-
				SBL	B	18.2	0.38	22.1	-
				SBTR	C	22.8	0.50	52.1	-
Stanley Avenue & Ferry Street	E	62.6	1.04	EBL	F	122.7	1.08	73.0	100
				EBT	D	50.3	0.83	93.7	-
				EBR	C	30.7	0.16	11.8	40
				WBL	D	36.2	0.53	33.0	35
				WBT	D	46.0	0.76	78.5	-
				WBR	D	37.7	0.55	40.6	40
				NBL	C	30.5	0.64	31.6	20
				NBTR	D	44.3	0.89	162.6	-
				SBL	E	64.0	0.93	75.8	55
				SBTR	F	88.2	1.09	232.8	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Stanley Avenue & Robinson Street	F	123.0	1.29	EBL	B	17.4	0.11	6.9	30
				EBTR	C	20.0	0.49	36.3	-
				WBLTR	E	67.3	0.98	89.9	-
				NBLTR	C	28.0	0.90	98.8	-
				SBLTR	F	238.8	1.48	151.9	-

Note: Red font represents an intersection/lane/movement which exceeds critical operational thresholds

As shown in **Table 3-1**, during the Weekday PM Peak hour, the following critical operations are anticipated for individual movements for the study area signalized intersections in 2028 Future Background Conditions:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 0.95. The westbound through/right-turn and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.94 and 0.92, respectively;
- At the Stanley Avenue & Dixon Street / Main Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 0.88. The eastbound left-turn/through/right-turn and westbound left-turn/through movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.10 and 1.26, respectively;
- At the Fallsview Boulevard & Main Street / Portage Road intersection, the eastbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 0.91;
- At the Stanley Avenue & Ferry Street intersection, the southbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 0.92. The southbound through/right-turn movement is anticipated to operate above critical capacity thresholds with a v/c ratio of 1.02. The 95th percentile queue length for the northbound left-turn movement is anticipated to exceed the available storage lane capacity by 3.8 m (approximately less than one car length); and
- At the Stanley Avenue & Robinson Street intersection the southbound left-turn/through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 0.92.

Furthermore, the following critical operations are anticipated during the Saturday PM Peak hour:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.19. The westbound through/right-turn, northbound through/right-turn, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.96, 0.93 and 1.26, respectively. The 95th percentile queue length for the eastbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 3.0 m and 46.7 m (approximately less than one car, and seven car lengths);
- At the Stanley Avenue & Dixon Street / Main Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.09. The eastbound left-turn/through/right-turn and westbound left-turn/through movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.75 and 1.49, respectively;

- At the Fallsview Boulevard & Main Street / Portage Road intersection, the eastbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 0.95;
- At the Stanley Avenue & Ferry Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.04. The eastbound left-turn, northbound through/right-turn, southbound left-turn, and southbound through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.08, 0.89, 0.93, and 1.09, respectively. The 95th percentile queue lengths for the westbound right-turn, northbound left-turn, and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 0.6 m, 11.6 m, and 20.8 m (approximately less than one car, two car, three car lengths, respectively); and
- At the Stanley Avenue & Robinson Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.29. The westbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.98 and 1.48, respectively.

3.5.2 Unsignalized Intersections

The results of the 2028 Future Background Conditions traffic operations analysis for the study area unsignalized intersections during the Weekday PM and Saturday PM peak hours are presented in **Table 3-2.**

Table 3-2: 2028 Future Background Conditions Traffic Operations - Unsignalized Intersection

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Weekday PM Peak Hour							
Portage Road & Proposed Hotel Access	4.6	EBLT	A	6.9	0.15	4.2	
		SBLR	C	15.4	0.35	11.9	
Gladstone Avenue & Ferry Street	0.7	EBLTR	A	0.1	0.00	0.1	-
		WBLTR	A	0.3	0.01	0.2	-
		NBLTR	C	16.5	0.05	1.2	-
		SBLTR	C	17.1	0.05	1.2	-
Allendale Avenue / Commercial Access & Ferry Street	2.6	EBLTR	A	0.1	0.00	0.0	-
		WBLTR	A	0.3	0.01	0.3	-
		NBLTR	C	21.4	0.36	12.0	-
		SBLTR	C	23.7	0.02	0.4	-
Peer Street & Gladstone Avenue	4.2	EBLT	A	2.2	0.01	0.2	-
		SBLR	A	8.6	0.02	0.6	-

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Allendale Avenue & Peer Street	3.2	EBLR	A	8.7	0.03	0.6	-
		NBLT	A	0.7	0.00	0.0	-
Allendale Avenue & Robinson Street	2.5	EBLTR	A	0.1	0.00	0.0	-
		WBLTR	A	0.3	0.00	0.1	-
		NBLTR	B	10.3	0.05	1.2	-
		SBLTR	B	10.6	0.04	0.9	-
Saturday PM Peak Hour							
Portage Road & Proposed Hotel Access	5.9	EBLT	A	7.4	0.21	6.0	
		SBLR	C	19.2	0.49	20.6	
Gladstone Avenue & Ferry Street	1.1	EBLTR	A	0.3	0.01	0.2	-
		WBLTR	A	0.1	0.00	0.1	-
		NBLTR	D	31.9	0.08	1.8	-
		SBLTR	D	28.0	0.14	3.7	-
Allendale Avenue / Commercial Access & Ferry Street	8.0	EBLTR	A	0.0	0.00	0.0	-
		WBLTR	A	0.5	0.02	0.4	-
		NBLTR	F	54.8	0.76	41.8	-
		SBLTR	F	65.0	0.02	0.4	-
Peer Street & Gladstone Avenue	3.2	EBLT	A	0.4	0.00	0.0	-
		SBLR	A	8.9	0.03	0.8	-
Allendale Avenue & Peer Street	2.9	EBLR	A	9.0	0.04	1.0	-
		NBLT	A	1.8	0.01	0.3	-
Allendale Avenue & Robinson Street	3.6	EBLTR	A	0.4	0.01	0.2	-
		WBLTR	A	0.6	0.01	0.2	-
		NBLTR	B	13.0	0.09	2.2	-
		SBLTR	B	14.1	0.15	3.9	-

Note: Red font represents an intersection/lane/movement which exceeds critical operational thresholds

As shown in **Table 3-2**, there are no movements exceeding critical thresholds anticipated in future background conditions at the study area's unsignalized intersections during the Weekday PM peak hour. Furthermore, the following critical operations are anticipated during the Saturday PM peak hour:

- At the Gladstone Avenue & Ferry Street intersection, the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate at the critical operational threshold with LOS of "D"; and
- At the Allendale Avenue / Commercial Access & Ferry Street intersection, the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate at the critical operational threshold with LOS of "F".

3.6 2033 Future Background Conditions Analysis

New trips resulting from the assumed background traffic growth were added to the 2026 Existing Conditions scenario, producing the 2033 Future Background Conditions traffic volumes as illustrated in **Figure 3-2.**

The results of the 2033 Future Background Conditions traffic analysis are summarized in the following subsections. The Synchro output results showcasing the detailed Highway Capacity Manual analysis for the 2033 Future Background Conditions scenario is presented in **Appendix G.**

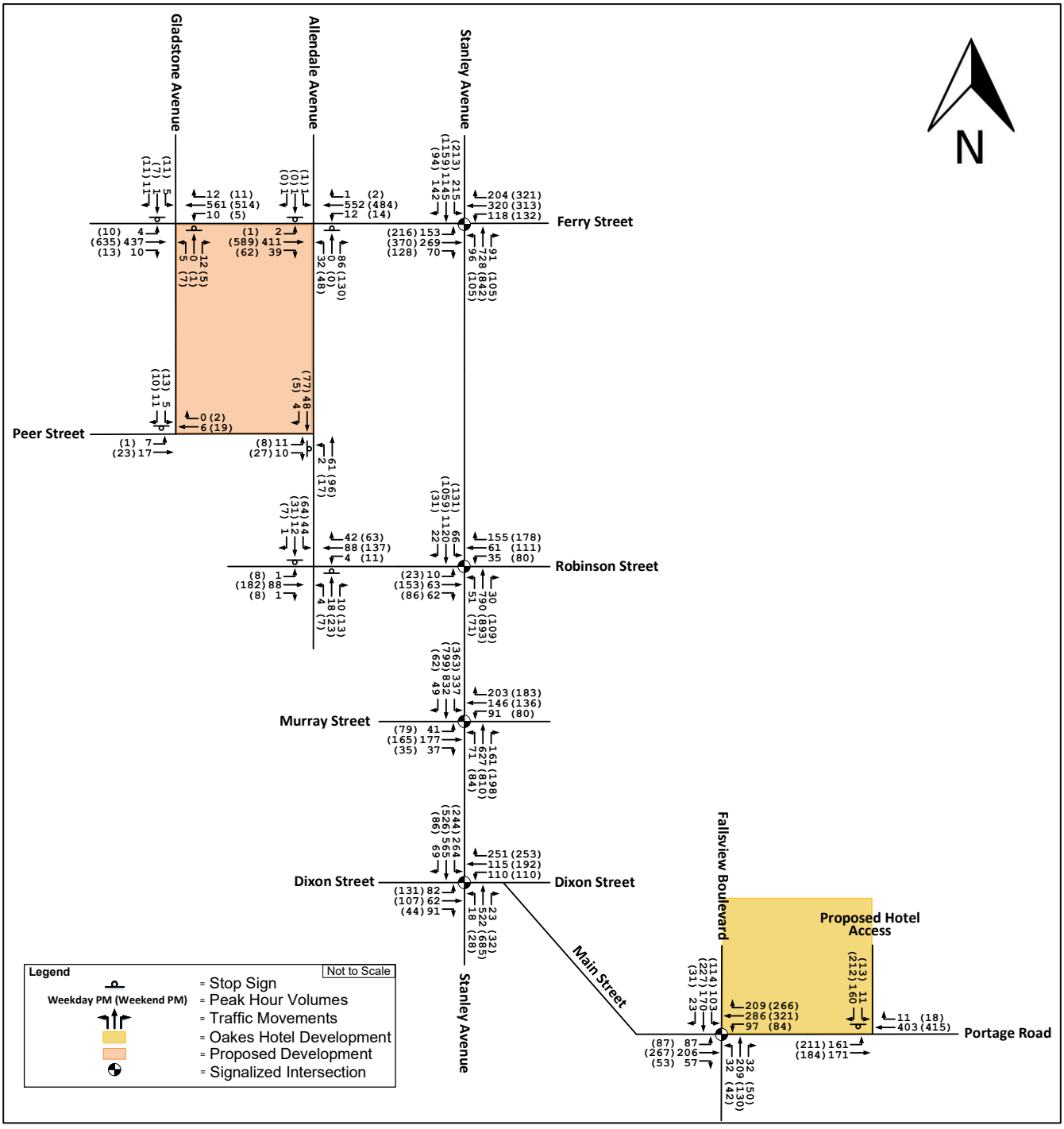


Figure 3-2: 2033 Future Background Conditions Traffic Volumes

3.6.1 Signalized Intersections

The results of the 2033 Future Background Conditions traffic operations analysis for the study area signalized intersections during the Weekday PM and Saturday PM peak hours are presented in **Table 3-3.**

Table 3-3: 2033 Future Background Conditions Traffic Operations - Signalized Intersection

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Weekday PM Peak Hour									
Stanley Avenue & Murray Street	D	40.6	**1.09**	EBL	C	27.2	0.34	16.7	30
				EBTR	C	32.3	0.64	60.2	-
				WBL	C	28.4	0.47	30.4	35
				WBTR	**F**	85.8	**1.01**	115.2	-
				NBL	D	35.8	0.52	26.8	75
				NBTR	C	31.9	0.77	86.6	-
				SBL	**F**	89.1	**1.08**	**99.2**	75
				SBTR	B	14.9	0.56	68.6	-
Stanley Avenue & Dixon Street / Main Street	**E**	58.4	**0.95**	EBLTR	**F**	137.4	**1.15**	112.2	-
				WBLT	**F**	205.9	**1.32**	119.7	-
				WBR	C	25.5	0.27	18.7	-
				NBL	B	17.4	0.08	4.3	65
				NBTR	C	25.6	0.56	64.4	-
				SBL	B	18.1	0.70	36.6	140
				SBTR	B	18.3	0.51	65.5	-
Fallsview Boulevard & Main Street / Portage Road	C	33.4	0.75	EBL	D	36.7	0.61	35.7	50
				EBTR	**E**	68.0	**0.93**	96.1	-
				WBL	C	21.1	0.44	21.2	25
				WBT	C	24.7	0.60	67.9	-
				WBR	C	21.3	0.36	18.4	85
				NBL	C	26.0	0.23	13.3	20
				NBTR	D	39.8	0.73	85.0	-
				SBL	B	16.7	0.40	22.4	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				SBTR	B	19.3	0.42	45.2	-
Stanley Avenue & Ferry Street	E	72.5	1.01	EBL	E	59.3	0.82	46.5	100
				EBT	D	46.4	0.75	76.6	-
				EBR	C	32.9	0.09	0.9	40
				WBL	C	33.6	0.43	31.5	35
				WBT	D	50.0	0.82	87.9	-
				WBR	C	32.3	0.22	17.5	40
				NBL	C	30.6	0.63	29.6	20
				NBTR	D	36.8	0.79	136.9	-
				SBL	E	62.4	0.93	76.0	55
				SBTR	F	124.6	1.18	251.9	-
Stanley Avenue & Robinson Street	C	34.2	0.95	EBL	C	20.4	0.07	4.3	30
				EBTR	C	21.4	0.25	16.4	-
				WBLTR	D	35.8	0.77	50.9	-
				NBLTR	B	13.0	0.65	65.3	-
				SBLTR	D	49.5	1.03	143.6	-
Saturday PM Peak Hour									
Stanley Avenue & Murray Street	E	76.6	1.37	EBL	D	38.4	0.65	37.4	30
				EBTR	C	31.3	0.61	58.1	-
				WBL	C	27.4	0.40	27.5	35
				WBTR	F	93.3	1.03	113.3	-
				NBL	D	47.9	0.67	39.4	75
				NBTR	E	70.8	1.04	150.3	-
				SBL	F	267.8	1.49	146.1	75
				SBTR	B	15.3	0.58	71.5	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Stanley Avenue & Dixon Street / Main Street	F	114.2	1.17	EBLTR	F	425.2	1.82	150.0	-
				WBLT	F	296.7	1.54	152.6	-
				WBR	C	25.7	0.28	20.5	-
				NBL	B	16.5	0.11	5.9	65
				NBTR	C	28.7	0.70	88.1	-
				SBL	C	22.3	0.74	36.2	140
				SBTR	B	18.7	0.49	61.3	-
Fallsview Boulevard & Main Street / Portage Road	D	35.2	0.75	EBL	C	32.6	0.57	36.9	50
				EBTR	E	76.6	0.98	118.7	-
				WBL	B	18.3	0.35	17.9	25
				WBT	C	21.8	0.57	72.7	-
				WBR	C	24.1	0.57	52.1	85
				NBL	C	30.2	0.29	15.9	20
				NBTR	D	38.1	0.61	49.4	-
				SBL	B	18.7	0.41	23.1	-
				SBTR	C	24.6	0.55	58.7	-
Stanley Avenue & Ferry Street	F	90.2	1.14	EBL	F	142.9	1.14	81.8	100
				EBT	D	52.7	0.87	103.8	-
				EBR	C	29.7	0.19	14.7	40
				WBL	D	36.8	0.57	34.6	35
				WBT	D	47.7	0.80	84.7	-
				WBR	D	46.5	0.71	66.5	40
				NBL	D	35.6	0.69	37.6	20
				NBTR	E	64.2	1.00	188.1	-
				SBL	F	139.6	1.16	96.1	55

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				SBTR	F	141.7	1.22	261.9	-
Stanley Avenue & Robinson Street	F	176.4	1.46	EBL	B	17.5	0.12	7.4	30
				EBTR	C	20.9	0.54	40.5	-
				WBLTR	F	108.0	1.11	103.6	-
				NBLTR	E	55.7	1.04	116.8	-
				SBLTR	F	328.2	1.68	170.4	-

Note: Red font represents an intersection/lane/movement which exceeds critical operational thresholds

As shown in **Table 3-3,** during the Weekday PM Peak hour, the following critical operations are anticipated for individual movements for the study area signalized intersections in 2033 Future Background Conditions:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.09. The westbound through/right-turn and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.01 and 1.08, respectively;
- At the Stanley Avenue & Dixon Street / Main Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 0.95. The eastbound left-turn/through/right-turn and westbound left-turn/through movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.15 and 1.32, respectively;
- At the Fallsview Boulevard & Main Street / Portage Road intersection, the eastbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 0.93;
- At the Stanley Avenue & Ferry Street intersection, the southbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 1.01. The southbound left-turn and southbound through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.93 and 1.02, respectively. The 95th percentile queue length for the northbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 9.6 m and 21.0 m, respectively (approximately one car, and three car lengths); and
- At the Stanley Avenue & Robinson Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 0.95. The southbound left-turn/through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 1.03.

Furthermore, the following critical operations are anticipated during the Saturday PM Peak hour:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.37. The westbound through/right-turn, northbound through/right-turn, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.03, 1.04 and 1.49, respectively. The 95th percentile queue length for the eastbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 7.4 m and 71.1 m (approximately one car and ten car lengths);

- At the Stanley Avenue & Dixon Street / Main Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.17. The eastbound left-turn/through/right-turn and westbound left-turn/through movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.82 and 1.54, respectively;
- At the Fallsview Boulevard & Main Street / Portage Road intersection, the eastbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 0.98;
- At the Stanley Avenue & Ferry Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.14. The eastbound left-turn, eastbound through, northbound through/right-turn, southbound left-turn, and southbound through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.14, 0.87, 1.00, 1.16, and 1.22, respectively. The 95th percentile queue lengths for the westbound right-turn, northbound left-turn, and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 26.5 m, 17.6 m, and 41.1 m (approximately four car, two car lengths, and six car lengths, respectively); and
- At the Stanley Avenue & Robinson Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.29. The westbound left-turn/through/right-turn, northbound left-turn/through/right-turn, and southbound left-turn/through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.11, 1.04 and 1.68, respectively.

3.6.2 Unsignalized Intersections

The results of the 2033 Future Background Conditions traffic operations analysis for the study area unsignalized intersections during the Weekday PM and Saturday PM peak hours are presented in **Table 3-4.**

Table 3-4: 2033 Future Background Conditions Traffic Operations - Unsignalized Intersection

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Weekday PM Peak Hour							
Portage Road & Proposed Hotel Access	4.6	EBLT	A	6.9	0.16	4.3	
		SBLR	C	16.5	0.37	13.1	
Gladstone Avenue & Ferry Street	0.8	EBLTR	A	0.1	0.00	0.1	-
		WBLTR	A	0.3	0.01	0.3	-
		NBLTR	C	19.1	0.07	1.6	-
		SBLTR	C	19.7	0.07	1.7	-
Allendale Avenue / Commercial Access & Ferry Street	3.0	EBLTR	A	0.1	0.00	0.1	-
		WBLTR	A	0.4	0.01	0.3	-
		NBLTR	D	25.7	0.42	15.2	-
		SBLTR	D	27.7	0.02	0.4	-

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Peer Street & Gladstone Avenue	4.1	EBLT	A	2.2	0.01	0.2	-
		SBLR	A	8.7	0.03	0.6	-
Allendale Avenue & Peer Street	3.2	EBLR	A	8.8	0.03	0.7	-
		NBLT	A	0.6	0.00	0.0	-
Allendale Avenue & Robinson Street	2.5	EBLTR	A	0.1	0.00	0.0	-
		WBLTR	A	0.4	0.00	0.1	-
		NBLTR	B	10.5	0.05	1.3	-
		SBLTR	B	10.8	0.04	0.9	-
Saturday PM Peak Hour							
Portage Road & Proposed Hotel Access	6.1	EBLT	A	7.5	0.22	6.3	
		SBLR	C	21.3	0.53	23.1	
Gladstone Avenue & Ferry Street	1.4	EBLTR	A	0.3	0.01	0.3	-
		WBLTR	A	0.2	0.01	0.1	-
		NBLTR	**E**	39.0	0.11	2.7	-
		SBLTR	**D**	34.9	0.19	5.3	-
Allendale Avenue / Commercial Access & Ferry Street	12.6	EBLTR	A	0.0	0.00	0.0	-
		WBLTR	A	0.5	0.02	0.4	-
		NBLTR	**F**	92.4	0.93	57.8	-
		SBLTR	**F**	88.3	0.02	0.5	-
Peer Street & Gladstone Avenue	3.2	EBLT	A	0.4	0.00	0.0	-
		SBLR	A	8.9	0.04	0.9	-
Allendale Avenue & Peer Street	2.8	EBLR	A	9.0	0.04	1.0	-
		NBLT	A	1.8	0.01	0.3	-

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Allendale Avenue & Robinson Street	3.8	EBLTR	A	0.4	0.01	0.2	-
		WBLTR	A	0.6	0.01	0.3	-
		NBLTR	B	13.6	0.10	2.5	-
		SBLTR	B	14.9	0.17	4.7	-

Note: Red font represents an intersection/lane/movement which exceeds critical operational thresholds

As shown in **Table 3-4**, during the Weekday PM Peak hour, the following critical operations are anticipated for individual movements for the study area unsignalized intersections in 2033 Future Background Conditions:

- At the Gladstone Avenue & Ferry Street intersection, the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate at the critical operational thresholds with LOS of “D”.

Furthermore, the following critical operations are anticipated during the Saturday PM peak hour:

- At the Gladstone Avenue & Ferry Street intersection, the northbound left-turn/through/right-turn movement is anticipated to operate the critical operational threshold with a LOS of “E”. The southbound left-turn/through/right-turn movement is anticipated to operate at the critical operational threshold with a LOS of “D”; and
- At the Allendale Avenue / Commercial Access & Ferry Street intersection, the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate at the critical operational thresholds with LOS of “F”.

4 Future Total Conditions

This section of the report analyzes the impact of the proposed development on the transportation network.

4.1 Proposed Site Accesses

As discussed in **Section 1.3**, the proposed development is planned to be accessed through a full movement proposed site access coming off Allendale Avenue.

The proposed site access for the Oakes Hotel will be exclusively utilized by valet drivers, who will follow a designated route between the hotel entrance and the associated parking lot. The primary traffic movements at this access point will consist of northbound left turns for entry and eastbound right turns for exit. Arcadis have also reviewed the background development at 5528 Ferry Street, which includes two site accesses proposed on Allendale Avenue directly opposite the proposed parking lot access. According to the site traffic diagrams for 5528 Ferry Street (refer to **Appendix E**), the named East and South accesses are intended to serve as the main entry and exit points for residents and visitors.

These accesses will experience similar turning movements, but in opposite directions compared to the proposed parking lot access. Importantly, no through movements are anticipated between the background development and the proposed parking lot. Therefore, it is expected that the respective accesses will operate independently and compatibly, without interference.

The proposed full build-out lane configuration is illustrated in **Figure 4-1.**

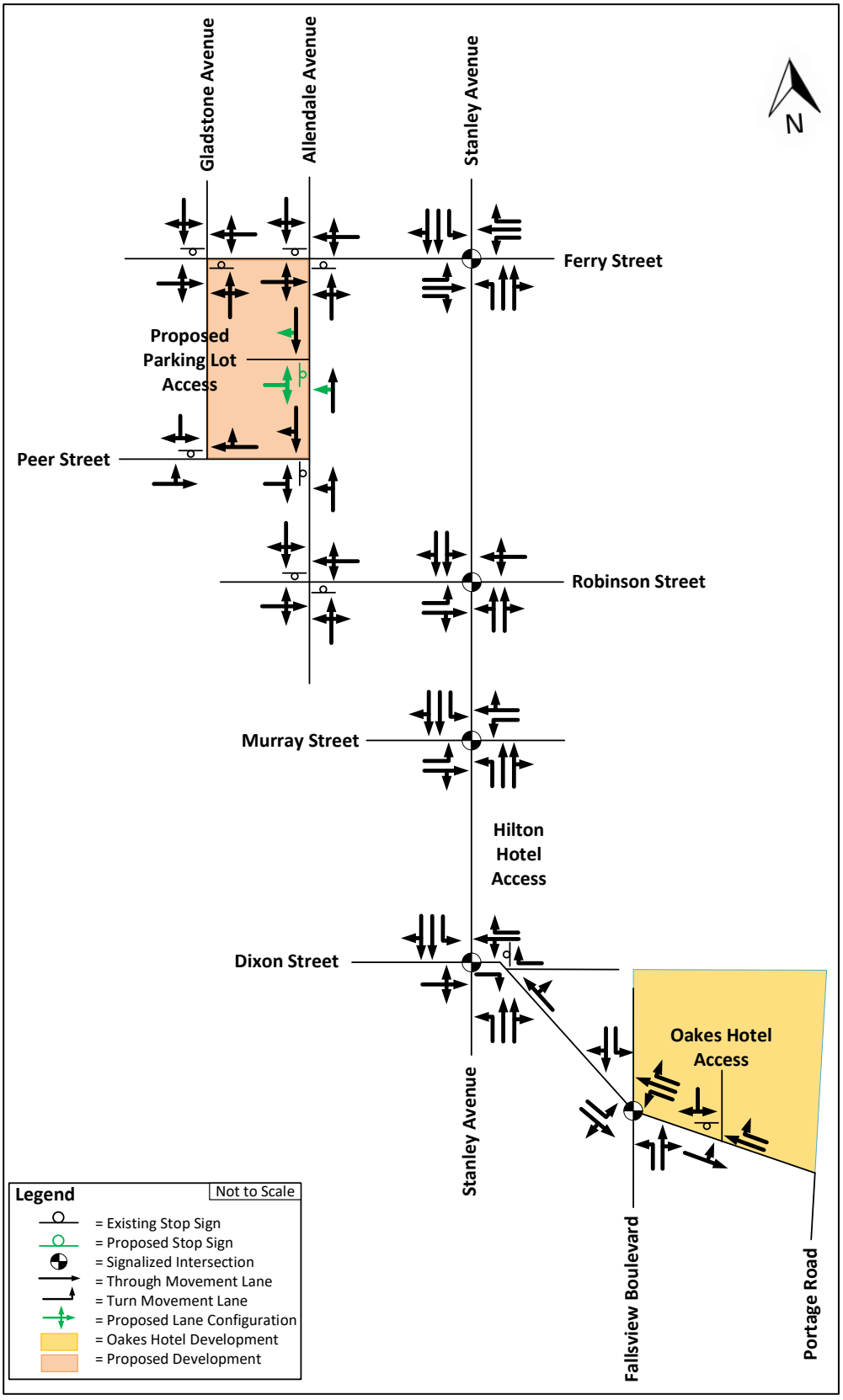


Figure 4-1: Future Total Lane Configurations

4.2 Trip Generation

The gross trips expected to be generated by the proposed development are examined in this section. The trips are then assigned and distributed to the study area road network.

4.2.1 Gross Vehicle Trip Generation

As a valet parking facility in association with the Oakes Hotel Development at 6546 Fallsview Boulevard, the proposed parking lot generates only valet operated traffic between the parking lot and the Oakes Hotel Development.

According to ***Transportation Impact Study of 6546 Fallsview Boulevard*** (April 2024), the net new trips generation from the Oakes Hotel is up to 797 new vehicle trips during the Saturday Peak hour with 444 inbound trips and 353 outbound trips.

As planned operation of the Oakes Hotel, 5% of guests will seek to park at the hotel site, and 25% of guests will drop-off or pick-up individuals at the hotel site but park their vehicle at the off-site parking facility. These parking rate references that were based on a discussion from the proponent come from the ***Transportation Impact Study of 6546 Fallsview Boulevard*** (April 2024) is presented in **Appendix H.** The proposed parking lot is expected to handle the parking demand of this proportion of guests by using valet services, i.e. the guests will drop-off or pick-up at the hotel and their vehicles will be parked by valet using the proposed parking lot. Although it is expected there still will be a certain proportion of guests who will park at the hotel site, all of these 5% of guests are assumed to use valet services as a conservative estimation in this study.

The estimated inbound and outbound vehicle trips for the proposed parking lot development are presented in **Table 4-1.**

Table 4-1: Existing Development Vehicle Trip Generation

Proposed Parking Lot - 347 Valet Parking Spaces						
Term	**Weekday PM Peak Hour**			**Saturday PM Peak Hour**		
	Inbound	**Outbound**	**Total**	**Inbound**	**Outbound**	**Total**
Total Trip Generation of Oakes Hotel Development	444	353	797	444	353	797
5% of guests who seek to park at the hotel site	22	18	40	22	18	40
25% of guests who drop-off or pick-up individuals at the hotel site but park their vehicle at the off-site parking facility;	111	88	199	111	88	199
Total Trip Generation of the proposed parking lot	**133**	**106**	**239**	**133**	**106**	**239**

Based on the calculations presented in **Table 4-1**, the proposed development is expected to generate 239 vehicle trips during the Weekday PM peak hour and Saturday Peak hour (133 inbound trips and 106 outbound

trips). Trip generation reference from ***Transportation Impact Study of 6546 Fallsview Boulevard*** (April 2024) is presented in **Appendix H.**

4.2.2 Trip Distribution and Assignment

Since the Oakes Hotel will be the only trip orientation destination of the proposed valet parking lot, all the valet transportation route is expected to be fixed through Allendale Avenue, Robinson Street, Stanley Avenue, Main Street and Portage Road.

As the trip generation of the Oakes Hotel is considered as background development, and the 25% of guests who drop-off or pick-up individuals at the hotel site was expected to park their vehicle at another off-site parking facility, these trips between Oakes Hotel and the other off-site parking lot will be deducted and replaced by valet trips between Oakes Hotel and the proposed valet parking lot. The reduced trips are illustrated in **Figure 4-2**, and the proposed parking lot generated trips are assigned in **Figure 4-3**.

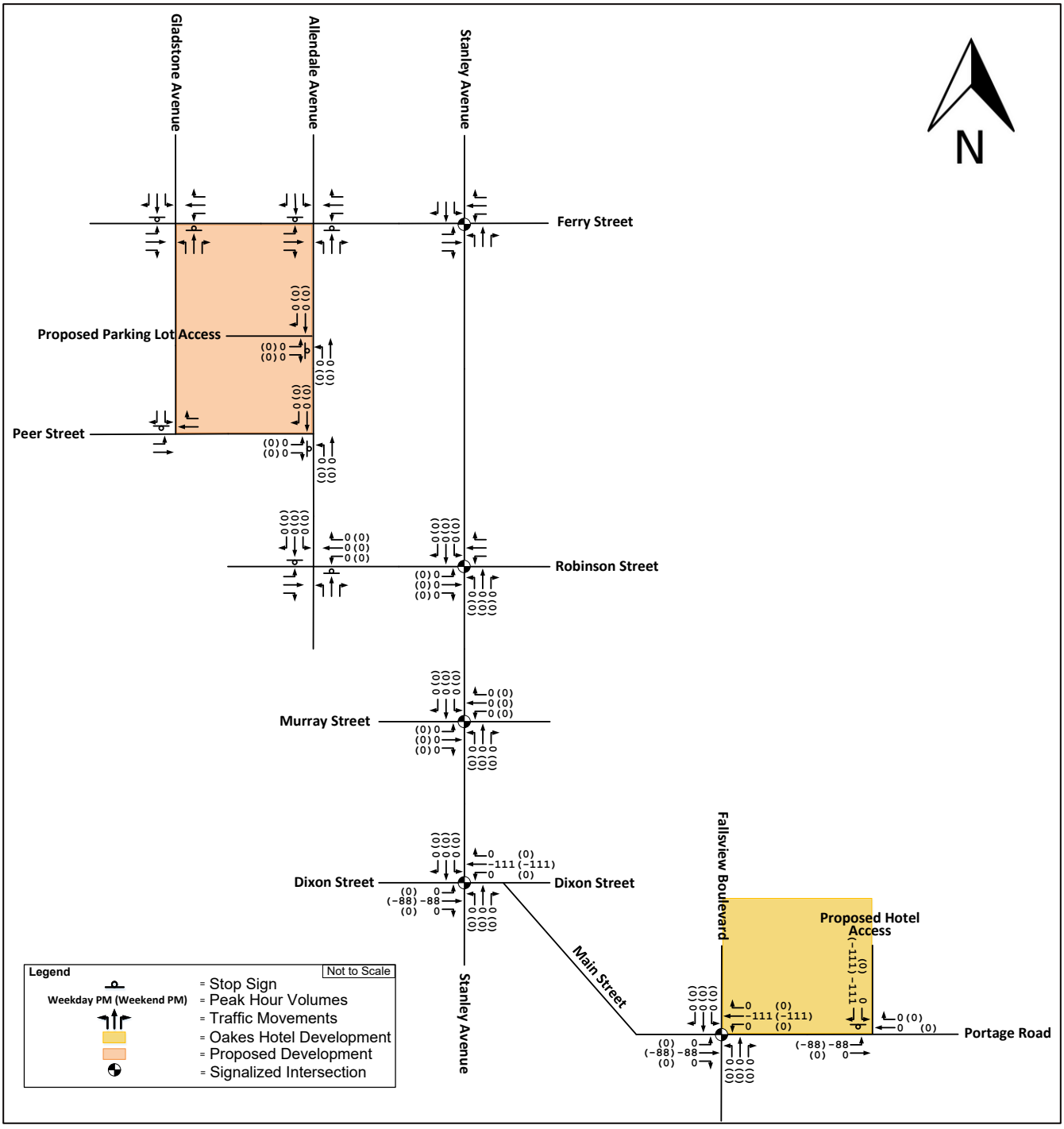


Figure 4-2: Deducted Background Volumes

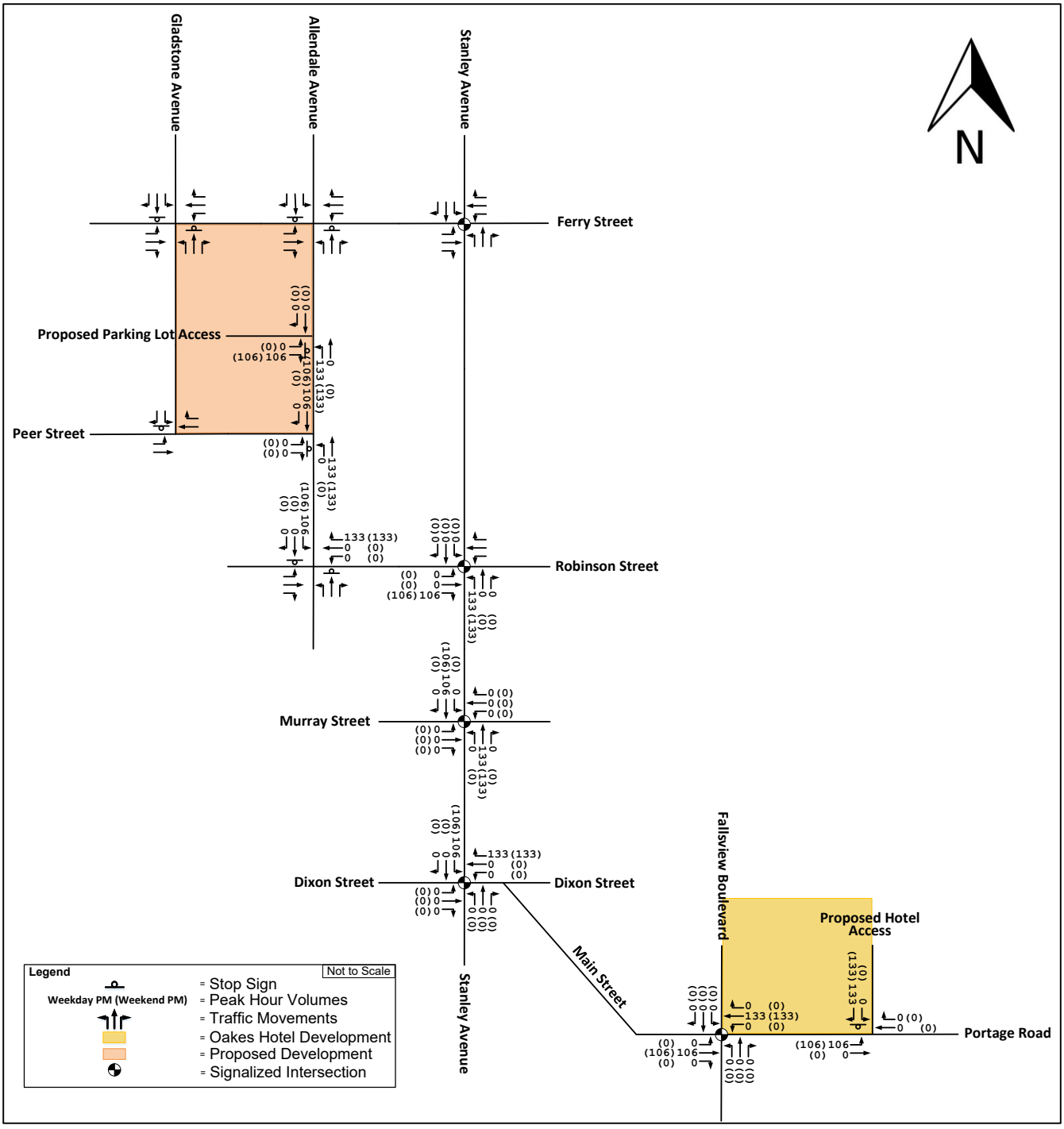


Figure 4-3: New Site Traffic Volumes

4.3 2028 Future Total Conditions Analysis

New trips resulting from the proposed development were added to the 2028 Future Background Conditions scenario, producing the 2028 Future Total Conditions traffic volumes illustrated in **Figure 4-4.**

Using the volumes illustrated in **Figure 4-4**, traffic operations analysis was conducted to determine future intersection performance with the impact of the proposed development. The results of the traffic operations analysis are presented in the following subsections. The Synchro output results showcasing the detailed Highway Capacity Manual analysis for the 2028 Future Total Conditions scenario is presented in **Appendix I.**

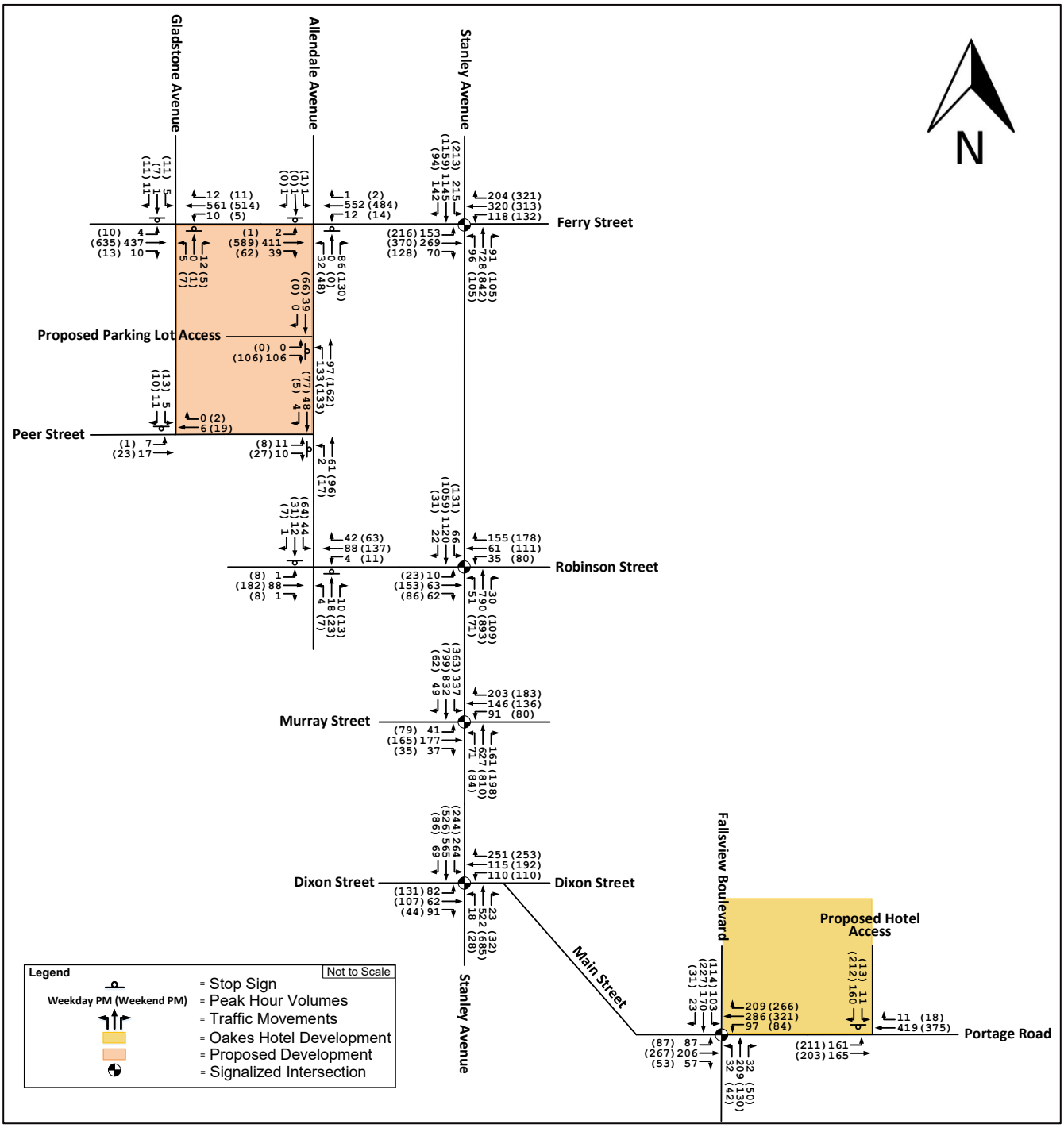


Figure 4-4: 2028 Future Total Conditions Traffic Volumes

4.3.1 Signalized Intersections

The results of the 2028 Future Total Conditions traffic operations analysis for the study area signalized intersections during the Weekday PM and Saturday PM peak hours are presented in **Table 4-2.**

Table 4-2: 2028 Future Total Conditions Traffic Operations – Signalized Intersections

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Weekday PM Peak Hour									
Stanley Avenue & Murray Street	D	38.5	**1.06**	EBL	D	37.0	0.63	**34.1**	30
				EBTR	C	29.8	0.52	45.7	-
				WBL	C	28.3	0.39	26.5	35
				WBTR	**E**	70.4	**0.94**	101.0	-
				NBL	C	34.1	0.49	25.9	75
				NBTR	D	36.0	**0.86**	118.5	-
				SBL	**F**	92.9	**1.07**	**98.3**	75
				SBTR	B	15.0	0.60	80.3	-
Stanley Avenue & Dixon Street / Main Street	D	43.1	**1.04**	EBLTR	**F**	87.3	**0.99**	91.1	-
				WBLT	**F**	127.4	**1.11**	99.5	-
				WBR	C	27.3	0.43	29.3	-
				NBL	B	18.6	0.08	4.2	65
				NBTR	C	26.6	0.54	58.0	-
				SBL	D	45.7	**0.94**	83.7	140
				SBTR	B	18.2	0.51	64.0	-
Fallsview Boulevard & Main Street / Portage Road	D	38.8	0.82	EBL	C	29.6	0.51	32.6	50
				EBTR	**F**	86.3	**1.02**	127.4	-
				WBL	B	19.1	0.41	19.8	25
				WBT	C	25.0	0.68	89.5	-
				WBR	B	18.9	0.35	17.6	85
				NBL	C	28.9	0.23	12.4	20
				NBTR	D	45.1	0.75	74.8	-
				SBL	B	19.5	0.47	24.7	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				SBTR	C	21.3	0.41	40.5	-
Stanley Avenue & Ferry Street	D	53.7	**0.95**	EBL	D	53.4	0.77	42.6	100
				EBT	D	44.0	0.70	70.9	-
				EBR	C	33.4	0.08	-	40
				WBL	C	34.1	0.40	29.8	35
				WBT	D	48.3	0.78	81.3	-
				WBR	C	33.1	0.20	16.9	40
				NBL	C	31.1	0.64	**23.8**	20
				NBTR	D	35.5	0.79	137.7	-
				SBL	D	41.4	0.84	**65.0**	55
				SBTR	**E**	78.6	**1.07**	235.2	-
Stanley Avenue & Robinson Street	**F**	86.1	**1.12**	EBL	C	20.3	0.05	3.9	30
				EBTR	C	27.4	0.64	36.0	-
				WBLTR	C	31.1	0.71	40.9	-
				NBLTR	**F**	158.3	**1.30**	137.4	-
				SBLTR	D	45.0	**1.02**	138.5	-
Saturday PM Peak Hour									
Stanley Avenue & Murray Street	**E**	67.9	**1.26**	EBL	C	34.6	0.60	**33.0**	30
				EBTR	C	31.0	0.58	52.3	-
				WBL	C	27.8	0.36	24.8	35
				WBTR	**E**	74.7	**0.96**	98.9	-
				NBL	D	42.6	0.61	35.6	75
				NBTR	**E**	78.5	**1.07**	164.5	-
				SBL	**F**	211.7	**1.36**	**131.0**	75
				SBTR	B	15.0	0.60	77.6	-
Stanley Avenue & Dixon Street / Main Street	D	42.9	**1.02**	EBLTR	**F**	93.5	**1.00**	92.0	-
				WBLT	**F**	108.5	**1.06**	95.7	-
				WBR	C	28.0	0.48	39.4	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				NBL	B	17.9	0.11	5.6	65
				NBTR	C	29.7	0.68	78.1	-
				SBL	D	50.7	**0.95**	81.0	140
				SBTR	B	18.2	0.46	55.8	-
Fallsview Boulevard & Main Street / Portage Road	D	35.5	0.73	EBL	C	29.9	0.52	32.4	50
				EBTR	**E**	80.0	**1.00**	121.9	-
				WBL	B	18.0	0.31	16.3	25
				WBT	C	22.3	0.60	76.2	-
				WBR	C	21.4	0.48	34.1	85
				NBL	C	29.2	0.26	14.5	20
				NBTR	D	35.5	0.55	44.7	-
				SBL	B	18.5	0.38	22.1	-
				SBTR	C	23.2	0.50	52.1	-
Stanley Avenue & Ferry Street	**E**	62.6	**1.04**	EBL	**F**	122.7	**1.08**	73.0	100
				EBT	D	50.3	0.83	93.7	-
				EBR	C	30.7	0.16	11.8	40
				WBL	D	36.2	0.53	33.0	35
				WBT	D	46.0	0.76	78.5	-
				WBR	D	37.7	0.55	**40.6**	40
				NBL	C	30.5	0.64	**31.6**	20
				NBTR	D	44.3	**0.89**	162.6	-
				SBL	**E**	64.0	**0.93**	**75.8**	55
				SBTR	**F**	88.2	**1.09**	232.8	-
Stanley Avenue & Robinson Street	**F**	258	**1.48**	EBL	B	17.4	0.11	6.9	30
				EBTR	D	35.8	0.82	73.7	-
				WBLTR	**F**	135.2	**1.18**	97.9	-
				NBLTR	**F**	328.9	**1.68**	153.7	-
				SBLTR	**F**	288.4	**1.59**	156.3	-

Note: Red font represents a lane/movement which exceeds critical operational thresholds.

As shown in **Table 4-2,** during the Weekday PM Peak hour, the following critical operations are anticipated for individual movements for the study area signalized intersections in 2028 Future Total Conditions:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.06. The westbound through/right-turn, northbound through/right-turn, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.94, 0.86, and 0.1.07, respectively. The 95th percentile queue length for the eastbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 4.1 m and 23.3 m (approximately less than one car, and three car lengths, respectively);
- At the Stanley Avenue & Dixon Street / Main Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.04. The eastbound left-turn/through/right-turn, and westbound left-turn/through movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.90, 1.11, and 0.94, respectively;
- At the Fallsview Boulevard & Main Street / Portage Road intersection, the eastbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 1.02;
- At the Stanley Avenue & Ferry Street intersection, the southbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 0.95. The southbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 1.07. The 95th percentile queue length for the northbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 3.8 m and 10.0 m (approximately less than one car and two car lengths, respectively); and
- At the Stanley Avenue & Robinson Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.12. The northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.30 and 0.92, respectively.

Furthermore, the following critical operations are anticipated during the Saturday PM Peak hour:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.26. The westbound through/right-turn, northbound through/right-turn, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.96, 1.07 and 1.36, respectively. The 95th percentile queue length for the eastbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 3.0 m and 56.0 m (approximately less than one car, and eight car lengths);
- At the Stanley Avenue & Dixon Street / Main Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.02. The eastbound left-turn/through/right-turn, westbound left-turn/through, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.00, 1.06, and 0.95, respectively;
- At the Fallsview Boulevard & Main Street / Portage Road intersection, the eastbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 1.00;
- At the Stanley Avenue & Ferry Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.04. The eastbound left-turn, northbound through/right-turn, southbound left-turn, and southbound through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.08, 0.89, 0.93, and 1.09, respectively. The 95th percentile queue lengths for the westbound right-turn, northbound left-turn, and southbound left-turn movements are

anticipated to exceed the available storage lane capacities by 0.6 m, 11.6 m, and 20.8 m (approximately less than one car, two car, three car lengths, respectively); and

- At the Stanley Avenue & Robinson Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.48. The westbound left-turn/through/right-turn, northbound left-turn/through/right-turn, and southbound left-turn/through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.18, 1.68, and 1.59, respectively.

4.3.2 Unsignalized Intersections

The results of the 2028 Future Total Conditions traffic operations analysis for the study area unsignalized intersections during the Weekday PM and Saturday PM peak hours are presented in **Table 4-3.**

Table 4-3: 2028 Future Total Conditions Traffic Operations - Unsignalized Intersections

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Weekday PM Peak Hour							
Portage Road & Proposed Hotel Access	6.6	EBLT	A	7.6	0.22	6.6	-
		SBLR	C	20.1	0.53	23.7	-
Gladstone Avenue & Ferry Street	0.7	EBLTR	A	0.1	0.00	0.1	-
		WBLTR	A	0.3	0.01	0.2	-
		NBLTR	C	16.5	0.05	1.2	-
		SBLTR	C	17.1	0.05	1.2	-
Allendale Avenue / Commercial Access & Ferry Street	2.6	EBLTR	A	0.1	0.00	0.0	-
		WBLTR	A	0.3	0.01	0.3	-
		NBLTR	C	21.4	0.36	12.0	-
		SBLTR	C	23.7	0.02	0.4	-
Peer Street & Gladstone Avenue	4.2	EBLT	A	2.2	0.01	0.2	-
		SBLR	A	8.6	0.02	0.6	-
Allendale Avenue & Peer Street	0.7	EBLR	B	10.3	0.04	0.9	-
		NBLT	A	0.1	0.00	0.0	-
Allendale Avenue & Robinson Street	4.5	EBLTR	A	0.1	0.00	0.0	-
		WBLTR	A	0.1	0.00	0.1	-
		NBLTR	B	11.2	0.06	1.4	-

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
		SBLTR	B	13.4	0.26	7.9	-
Allendale Avenue & Proposed Parking Lot Access	5.4	EBLR	A	8.9	0.11	2.9	-
		NBLT	A	4.7	0.09	2.3	-
Saturday PM Peak Hour							
Portage Road & Proposed Hotel Access	6.6	EBLT	A	7.6	0.23	6.6	-
		SBLR	C	20.8	0.55	24.5	-
Gladstone Avenue & Ferry Street	1.1	EBLTR	A	0.3	0.01	0.2	-
		WBLTR	A	0.1	0.00	0.1	-
		NBLTR	D	31.9	0.08	1.8	-
		SBLTR	D	28.0	0.14	3.7	-
Allendale Avenue / Commercial Access & Ferry Street	8.0	EBLTR	A	0.0	0.00	0.0	-
		WBLTR	A	0.5	0.02	0.4	-
		NBLTR	F	54.8	0.76	41.8	-
		SBLTR	F	65.0	0.02	0.4	-
Peer Street & Gladstone Avenue	3.2	EBLT	A	0.4	0.00	0.0	-
		SBLR	A	8.9	0.03	0.8	-
Allendale Avenue & Peer Street	1.2	EBLR	B	10.0	0.05	1.2	-
		NBLT	A	0.7	0.01	0.3	-
Allendale Avenue & Robinson Street	6.6	EBLTR	A	0.4	0.01	0.2	-
		WBLTR	A	0.4	0.01	0.2	-
		NBLTR	B	14.4	0.10	2.5	-
		SBLTR	C	21.6	0.46	18.2	-
Allendale Avenue & Proposed Parking Lot Access	4.5	EBLR	A	9.1	0.12	3.0	-
		NBLT	A	3.9	0.09	2.4	-

Note: Red font represents a lane/movement which exceeds critical operational thresholds

As shown in **Table 4-3,** there are no movements exceeding critical thresholds anticipated in future total conditions at the study area's unsignalized intersections during the Weekday PM peak hour. Furthermore, the following critical operations are anticipated during the Saturday PM peak hour:

- At the Gladstone Avenue & Ferry Street intersection, the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate at the critical operational threshold with LOS of "D"; and
- At the Allendale Avenue / Commercial Access & Ferry Street intersection, the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate at the critical operational threshold with LOS of "F".

4.4 2033 Future Total Conditions Analysis

New trips resulting from the proposed development were added to the 2033 Future Background Conditions scenario, producing the 2033 Future Total Conditions traffic volumes illustrated in **Figure 4-5.**

Using the volumes illustrated in **Figure 4-5**, traffic operations analysis was conducted to determine future intersection performance with the impact of the proposed development. The results of the traffic operations analysis are presented in the following subsections. The Synchro output results showcasing the detailed Highway Capacity Manual analysis for the 2033 Future Total Conditions scenario is presented in **Appendix J.**

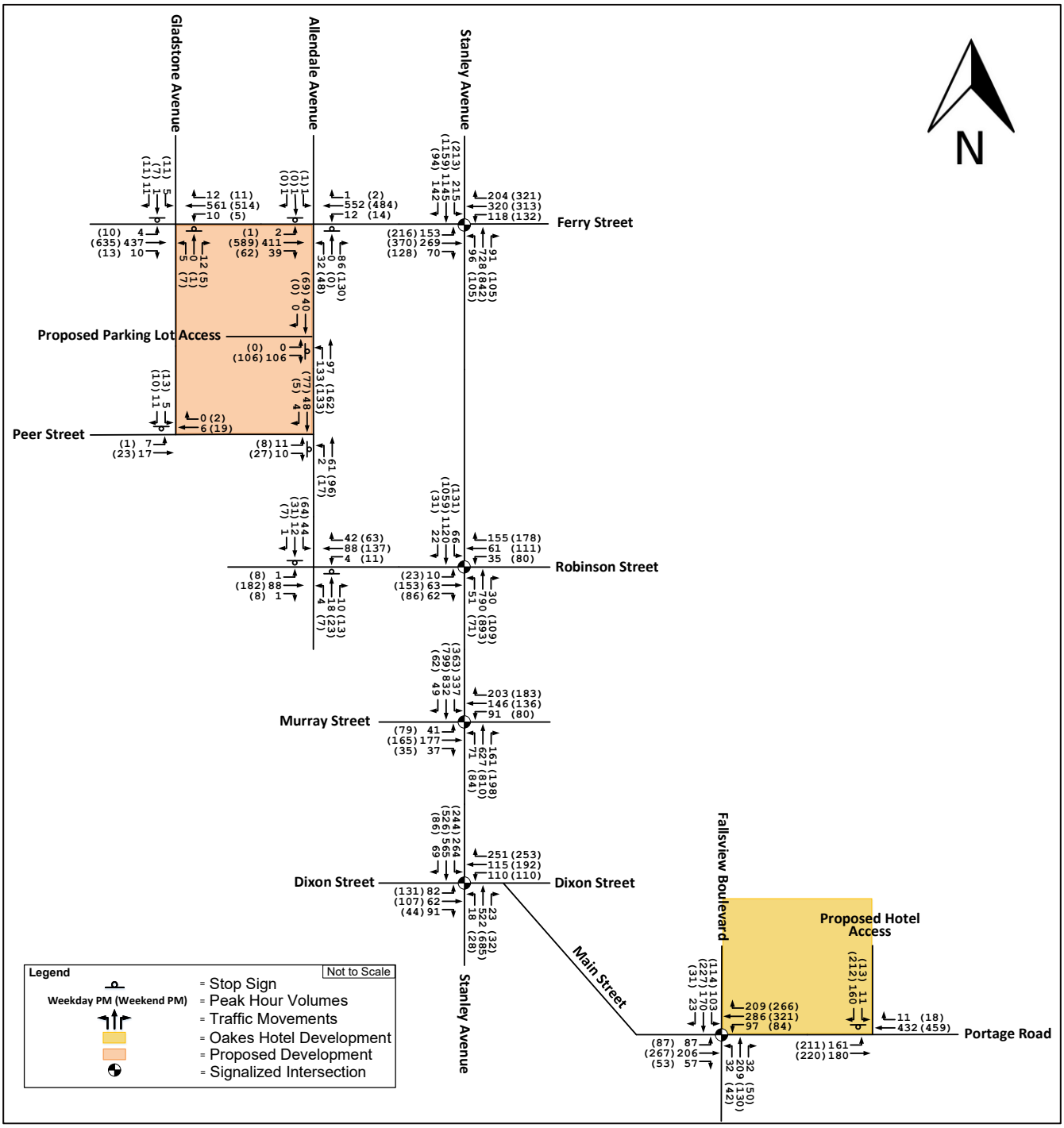


Figure 4-5: 2033 Future Total Conditions Traffic Volumes

4.4.1 Signalized Intersections

The results of the 2033 Future Total Conditions traffic operations analysis for the study area signalized intersections during the Weekday PM and Saturday PM peak hours are presented in **Table 4-4.**

Table 4-4: 2033 Future Total Conditions Traffic Operations – Signalized Intersections

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Weekday PM Peak Hour									
Stanley Avenue & Murray Street	D	53.9	**1.22**	EBL	D	42.1	0.69	**38.7**	30
				EBTR	C	29.3	0.54	49.8	-
				WBL	C	27.8	0.43	29.7	35
				WBTR	**F**	87.8	**1.01**	116.2	-
				NBL	D	43.9	0.60	32.7	75
				NBTR	D	47.5	**0.95**	131.8	-
				SBL	**F**	170.5	**1.27**	**121.2**	75
				SBTR	B	16.9	0.66	89.0	-
Stanley Avenue & Dixon Street / Main Street	D	50.6	**1.12**	EBLTR	**F**	101.7	**1.04**	95.1	-
				WBLT	**F**	148.7	**1.17**	104.8	-
				WBR	C	28.7	0.52	41.1	-
				NBL	B	18.6	0.09	4.3	65
				NBTR	C	27.6	0.59	64.4	-
				SBL	**E**	72.6	**1.03**	98.9	140
				SBTR	B	18.9	0.55	70.7	-
Fallsview Boulevard & Main Street / Portage Road	D	42.8	**0.88**	EBL	C	32.1	0.57	37.4	50
				EBTR	**F**	99.5	**1.07**	133.5	-
				WBL	B	19.8	0.46	21.5	25
				WBT	C	26.0	0.70	93.7	-
				WBR	B	19.3	0.38	19.4	85
				NBL	C	29.8	0.26	13.3	20

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				NBTR	D	53.1	0.84	86.2	-
				SBL	C	20.2	0.51	26.0	-
				SBTR	C	22.3	0.46	45.2	-
Stanley Avenue & Ferry Street	F	84.2	1.05	EBL	E	59.3	0.82	46.5	100
				EBT	D	46.4	0.75	76.6	-
				EBR	C	32.9	0.09	0.9	40
				WBL	C	33.6	0.43	31.5	35
				WBT	D	50.0	0.82	87.9	-
				WBR	C	32.3	0.22	17.5	40
				NBL	C	31.3	0.63	29.6	20
				NBTR	D	43.4	0.89	162.7	-
				SBL	F	96.8	1.04	85.3	55
				SBTR	F	147.4	1.23	266.6	-
Stanley Avenue & Robinson Street	F	138.6	1.26	EBL	C	20.1	0.07	4.3	30
				EBTR	C	28.9	0.68	39.0	-
				WBLTR	D	42.2	0.82	56.1	-
				NBLTR	F	226.6	1.45	151.2	-
				SBLTR	F	101.2	1.17	158.7	-
Saturday PM Peak Hour									
Stanley Avenue & Murray Street	F	93.4	1.37	EBL	D	38.4	0.65	37.4	30
				EBTR	C	31.3	0.61	58.1	-
				WBL	C	27.4	0.40	27.5	35
				WBTR	F	93.3	1.03	113.3	-
				NBL	E	57.7	0.74	41.9	75
				NBTR	F	123.7	1.19	181.9	-
				SBL	F	268.4	1.49	145.4	75

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				SBTR	B	16.7	0.65	85.7	-
Stanley Avenue & Dixon Street / Main Street	D	50.2	1.11	EBLTR	F	106.6	1.05	95.8	-
				WBLT	F	123.9	1.10	100.8	-
				WBR	C	30.1	0.56	58.0	-
				NBL	B	18.0	0.12	5.9	65
				NBTR	C	31.9	0.74	88.1	-
				SBL	F	82.4	1.06	96.6	140
				SBTR	B	18.7	0.49	61.3	-
Fallsview Boulevard & Main Street / Portage Road	D	38.6	0.78	EBL	C	33.0	0.58	37.1	50
				EBTR	F	91.2	1.04	127.3	-
				WBL	B	18.5	0.36	17.9	25
				WBT	C	22.8	0.61	79.0	-
				WBR	C	24.1	0.57	52.1	85
				NBL	C	30.2	0.29	15.9	20
				NBTR	D	38.1	0.61	49.4	-
				SBL	B	18.7	0.41	23.1	-
				SBTR	C	24.6	0.55	58.7	-
Stanley Avenue & Ferry Street	F	90.2	1.14	EBL	F	142.9	1.14	81.8	100
				EBT	D	52.7	0.87	103.8	-
				EBR	C	29.7	0.19	14.7	40
				WBL	D	36.8	0.57	34.6	35
				WBT	D	47.7	0.80	84.7	-
				WBR	D	46.5	0.71	66.5	40
				NBL	D	35.6	0.69	37.6	20
				NBTR	E	64.2	1.00	188.1	-
				SBL	F	139.6	1.16	96.1	55

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				SBTR	F	141.7	1.22	261.9	-
Stanley Avenue & Robinson Street	F	338.6	1.69	EBL	B	17.5	0.12	7.4	30
				EBTR	D	46.6	0.89	82.0	-
				WBLTR	F	223.9	1.40	113.3	-
				NBLTR	F	413.8	1.87	168.5	-
				SBLTR	F	382.0	1.80	174.4	-

Note: Red font represents a lane/movement which exceeds critical operational thresholds.

As shown in **Table 4-4,** during the Weekday PM Peak hour, the following critical operations are anticipated for individual movements for the study area signalized intersections in 2033 Future Total Conditions:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.22.The westbound through/right-turn, northbound through/right-turn, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.01, 0.95, and 1.27, respectively. The 95th percentile queue length for the eastbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 8.7m and 46.2 m (approximately one car, and seven car lengths, respectively);
- At the Stanley Avenue & Dixon Street / Main Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.12. The eastbound left-turn/through/right-turn, westbound left-turn/through, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.04, 1.17, and 1.03, respectively;
- At the Fallsview Boulevard & Main Street / Portage Road intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 0.88. The eastbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 1.07;
- At the Stanley Avenue & Ferry Street intersection, the southbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 1.05. The northbound through/right-turn, southbound left-turn and southbound through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.89, 1.04, and 1.23, respectively. The 95th percentile queue length for the northbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 9.6 m and 30.3 m, respectively (approximately one car, and four car lengths); and
- At the Stanley Avenue & Robinson Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.26. The northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.45, and 1.17, respectively.

Furthermore, the following critical operations are anticipated during the Saturday PM Peak hour:

- At the Stanley Avenue & Murray Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.37. The westbound through/right-turn, northbound through/right-turn, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.03, 1.19 and 1.49, respectively. The northbound left-turn movement is anticipated to operate above critical capacity threshold with a LOS of "E". The 95th percentile queue length for the eastbound left-turn and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 7.4 m and 70.4 m (approximately one car and ten car lengths);
- At the Stanley Avenue & Dixon Street / Main Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.11. The eastbound left-turn/through/right-turn, westbound left-turn/through, and southbound left-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.05, 1.10, and 1.06, respectively;
- At the Fallsview Boulevard & Main Street / Portage Road intersection, the eastbound through/right-turn movement is anticipated to operate above critical capacity threshold with a v/c ratio of 1.04;
- At the Stanley Avenue & Ferry Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.14. The eastbound left-turn, eastbound through, northbound through/right-turn, southbound left-turn, and southbound through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 1.14, 0.87, 1.00, 1.16, and 1.22, respectively. The 95th percentile queue lengths for the westbound right-turn, northbound left-turn, and southbound left-turn movements are anticipated to exceed the available storage lane capacities by 26.5 m, 17.6 m, and 41.1 m (approximately four car, two car lengths, and six car lengths, respectively); and
- At the Stanley Avenue & Robinson Street intersection, the overall intersection v/c ratio is anticipated to operate above critical capacity threshold with a v/c ratio of 1.69. The eastbound through/right-turn, westbound left-turn/through/right-turn, northbound left-turn/through/right-turn, and southbound left-turn/through/right-turn movements are anticipated to operate above critical capacity thresholds with v/c ratios of 0.89, 1.40, 1.87 and 1.80, respectively.

4.4.2 Unsignalized Intersections

The results of the 2033 Future Total Conditions traffic operations analysis for the study area unsignalized intersections during the Weekday PM and Saturday PM peak hours are presented in **Table 4-5.**

Table 4-5: 2033 Future Total Conditions Traffic Operations - Unsignalized Intersections

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Weekday PM Peak Hour							
Portage Road & Proposed Hotel Access	6.8	EBLT	A	7.7	0.23	6.9	-
		SBLR	C	22.5	0.57	26.7	-
Gladstone Avenue & Ferry Street	0.8	EBLTR	A	0.1	0.00	0.1	-
		WBLTR	A	0.3	0.01	0.3	-
		NBLTR	C	19.1	0.07	1.6	-
		SBLTR	C	19.7	0.07	1.7	-
Allendale Avenue / Commercial Access & Ferry Street	3.0	EBLTR	A	0.1	0.00	0.1	-
		WBLTR	A	0.4	0.01	0.3	-
		NBLTR	D	25.7	0.42	15.2	-
		SBLTR	D	27.7	0.02	0.4	-
Peer Street & Gladstone Avenue	4.1	EBLT	A	2.2	0.01	0.2	-
		SBLR	A	8.7	0.03	0.6	-
Allendale Avenue & Peer Street	0.8	EBLR	B	10.4	0.04	1.0	-
		NBLT	A	0.1	0.00	0.0	-
Allendale Avenue & Robinson Street	4.5	EBLTR	A	0.1	0.00	0.0	-
		WBLTR	A	0.2	0.00	0.1	-
		NBLTR	B	11.4	0.06	1.5	-
		SBLTR	B	13.9	0.27	8.4	-
Allendale Avenue & Proposed Parking Lot Access	5.4	EBLR	A	8.9	0.11	2.9	-
		NBLT	A	4.7	0.09	2.3	-

Intersection	Intersection Delay (s)	Lane	Lane LOS	Lane Delay (s)	Lane v/c Ratio	95th Percentile Queue (m)	Lane Storage Capacity (m)
Saturday PM Peak Hour							
Portage Road & Proposed Hotel Access	6.9	EBLT	A	7.7	0.24	7.0	-
		SBLR	C	23.3	0.58	27.8	-
Gladstone Avenue & Ferry Street	1.4	EBLTR	A	0.3	0.01	0.3	-
		WBLTR	A	0.2	0.01	0.1	-
		NBLTR	E	39.0	0.11	2.7	-
		SBLTR	D	34.9	0.19	5.3	-
Allendale Avenue / Commercial Access & Ferry Street	12.6	EBLTR	A	0.0	0.00	0.0	-
		WBLTR	A	0.5	0.02	0.4	-
		NBLTR	F	92.4	0.93	57.8	-
		SBLTR	F	88.3	0.02	0.5	-
Peer Street & Gladstone Avenue	3.2	EBLT	A	0.4	0.00	0.0	-
		SBLR	A	8.9	0.04	0.9	-
Allendale Avenue & Peer Street	1.3	EBLR	B	10.0	0.05	1.3	-
		NBLT	A	0.7	0.01	0.3	-
Allendale Avenue & Robinson Street	7.1	EBLTR	A	0.4	0.01	0.2	-
		WBLTR	A	0.4	0.01	0.3	-
		NBLTR	C	15.1	0.12	3.0	-
		SBLTR	C	24.2	0.51	21.2	-
Allendale Avenue & Proposed Parking Lot Access	4.5	EBLR	A	9.1	0.12	3.0	-
		NBLT	A	3.9	0.10	2.4	-

Note: Red font represents a lane/movement which exceeds critical operational thresholds

As shown in **Table 4-5,** during the Weekday PM Peak hour, the following critical operations are anticipated for individual movements for the study area unsignalized intersections in 2033 Future Total Conditions:

- At the Gladstone Avenue & Ferry Street intersection, the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate at the critical operational thresholds with LOS of “D”.

Furthermore, the following critical operations are anticipated during the Saturday PM peak hour:

- At the Gladstone Avenue & Ferry Street intersection, the northbound left-turn/through/right-turn movement is anticipated to operate the critical operational threshold with a LOS of “E”. The southbound left-turn/through/right-turn movement is anticipated to operate at the critical operational threshold with a LOS of “D”; and
- At the Allendale Avenue / Commercial Access & Ferry Street intersection, the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn movements are anticipated to operate at the critical operational thresholds with LOS of “F”.

5 Traffic Analysis Summary

Based on the analysis presented in this study, the proposed development is expected to generate 239 vehicle trips during both the Weekday PM and Saturday PM peak hour (133 inbound trips and 106 outbound trips). Overall, the results of the traffic operations analysis indicate that few movements are near or exceed capacity under the 2026 Existing Conditions scenario and are exacerbated through the growth (i.e., the 2033 Future Background Conditions and 2033 Future Total Conditions scenario).

To demonstrate the potential impacts of development site traffic to traffic operations within the study area, a comparison of signalized and unsignalized intersection operations under the 2033 Future Background Conditions and 2033 Future Total Conditions scenarios are presented in **Table 5-1** and **Table 5-2**.

Table 5-1: 2033 Future Background Conditions and Future Total Conditions Traffic Operations Comparison – Signalized Intersections

Intersection	v/c Ratio			Movement	v/c Ratio		
	2033 FB	2033 FT	Difference		2033 FB	2033 FT	Difference
Weekday PM Peak Hour							
Stanley Avenue & Murray Street	**1.09**	**1.22**	0.13	EBL	0.34	0.69	0.35
				EBTR	0.64	0.54	-0.10
				WBL	0.47	0.43	-0.04
				WBTR	**1.01**	**1.01**	0.00
				NBL	0.52	0.60	0.08
				NBTR	0.77	**0.95**	0.18
				SBL	**1.08**	**1.27**	0.19
				SBTR	0.56	0.66	0.10
Stanley Avenue & Dixon Street / Main Street	**0.95**	**1.12**	0.17	EBLTR	**1.15**	**1.04**	-0.11
				WBLT	**1.32**	**1.17**	-0.15
				WBR	0.27	0.52	0.25
				NBL	0.08	0.09	0.01
				NBTR	0.56	0.59	0.03
				SBL	0.70	**1.03**	0.33
				SBTR	0.51	0.55	0.04

Intersection	v/c Ratio			Movement	v/c Ratio		
	2033 FB	2033 FT	Difference		2033 FB	2033 FT	Difference
Fallsview Boulevard & Main Street / Portage Road	0.75	**0.88**	0.13	EBL	0.61	0.57	-0.04
				EBTR	**0.93**	**1.07**	0.14
				WBL	0.44	0.46	0.02
				WBT	0.60	0.70	0.10
				WBR	0.36	0.38	0.02
				NBL	0.23	0.26	0.03
				NBTR	0.73	0.84	0.11
				SBL	0.40	0.51	0.11
				SBTR	0.42	0.46	0.04
Stanley Avenue & Ferry Street	**1.01**	**1.05**	0.04	EBL	0.82	0.82	0.00
				EBT	0.75	0.75	0.00
				EBR	0.09	0.09	0.00
				WBL	0.43	0.43	0.00
				WBT	0.82	0.82	0.00
				WBR	0.22	0.22	0.00
				NBL	0.63	0.63	0.00
				NBTR	0.79	**0.89**	0.10
				SBL	**0.93**	**1.04**	0.11
				SBTR	**1.18**	**1.23**	0.05
Stanley Avenue & Robinson Street	**0.95**	**1.26**	0.31	EBL	0.07	0.07	0.00
				EBTR	0.25	0.68	0.43
				WBLTR	0.77	0.82	0.05
				NBLTR	0.65	**1.45**	0.80
				SBLTR	**1.03**	**1.17**	0.14

Intersection	v/c Ratio			Movement	v/c Ratio		
	2033 FB	2033 FT	Difference		2033 FB	2033 FT	Difference
Saturday PM Peak Hour							
Stanley Avenue & Murray Street	**1.37**	**1.37**	0.00	EBL	0.65	0.65	0.00
				EBTR	0.61	0.61	0.00
				WBL	0.40	0.40	0.00
				WBTR	**1.03**	**1.03**	0.00
				NBL	0.67	0.74	0.07
				NBTR	**1.04**	**1.19**	0.15
				SBL	**1.49**	**1.49**	0.00
				SBTR	0.58	0.65	0.07
Stanley Avenue & Dixon Street / Main Street	**1.17**	**1.11**	-0.06	EBLTR	**1.82**	**1.05**	-0.77
				WBLT	**1.54**	**1.10**	-0.44
				WBR	0.28	0.56	0.28
				NBL	0.11	0.12	0.01
				NBTR	0.70	0.74	0.04
				SBL	0.74	**1.06**	0.32
				SBTR	0.49	0.49	0.00
Fallsview Boulevard & Main Street / Portage Road	0.75	0.78	0.03	EBL	0.57	0.58	0.01
				EBTR	**0.98**	**1.04**	0.06
				WBL	0.35	0.36	0.01
				WBT	0.57	0.61	0.04
				WBR	0.57	0.57	0.00
				NBL	0.29	0.29	0.00
				NBTR	0.61	0.61	0.00
				SBL	0.41	0.41	0.00
				SBTR	0.55	0.55	0.00

Intersection	v/c Ratio			Movement	v/c Ratio		
	2033 FB	2033 FT	Difference		2033 FB	2033 FT	Difference
Stanley Avenue & Ferry Street	**1.14**	**1.14**	0.00	EBL	**1.14**	**1.14**	0.00
				EBT	**0.87**	**0.87**	0.00
				EBR	0.19	0.19	0.00
				WBL	0.57	0.57	0.00
				WBT	0.80	0.80	0.00
				WBR	0.71	0.71	0.00
				NBL	0.69	0.69	0.00
				NBTR	**1.00**	**1.00**	0.00
				SBL	**1.16**	**1.16**	0.00
				SBTR	**1.22**	**1.22**	0.00
Stanley Avenue & Robinson Street	**1.46**	**1.69**	0.23	EBL	0.12	0.12	0.00
				EBTR	0.54	**0.89**	0.35
				WBLTR	**1.11**	**1.40**	0.29
				NBLTR	**1.04**	**1.87**	0.83
				SBLTR	**1.68**	**1.80**	0.12

Note: Red font represents a lane/movement which exceeds critical operational thresholds.

Based on the comparison of 2033 Future Background and 2033 Future Total Conditions for signalized intersections, as presented in **Table 5-1**, the traffic generated by the proposed development is expected to have a some impact on most turning movements of the signalized intersections within the study area during both the Weekday PM and Saturday PM peak hours.

Table 5-2: 2033 Future Background Conditions and Future Total Conditions Traffic Operations Comparison – Unsignalized Intersections

Intersection	Movement	v/c Ratio		
		2033 FB	2033 FT	Difference
Weekday PM Peak Hour				
Portage Road & Proposed Hotel Access	EBLT	0.16	0.23	0.07
	SBLR	0.37	0.57	0.20
Gladstone Avenue & Ferry Street	EBLTR	0.00	0.00	0.00
	WBLTR	0.01	0.01	0.00
	NBLTR	0.07	0.07	0.00
	SBLTR	0.07	0.07	0.00
Allendale Avenue / Commercial Access & Ferry Street	EBLTR	0.00	0.00	0.00
	WBLTR	0.01	0.01	0.00
	NBLTR	**0.42**	**0.42**	0.00
	SBLTR	**0.02**	**0.02**	0.00
Peer Street & Gladstone Avenue	EBLT	0.01	0.01	0.00
	SBLR	0.03	0.03	0.00
Allendale Avenue & Peer Street	EBLR	0.03	0.04	0.01
	NBLT	0.00	0.00	0.00
Allendale Avenue & Robinson Street	EBLTR	0.00	0.00	0.00
	WBLTR	0.00	0.00	0.00
	NBLTR	0.05	0.06	0.01
	SBLTR	0.04	0.27	0.23
Allendale Avenue & Proposed Parking Lot Access	EBLR	-	0.11	-
	NBLT	-	0.09	-
Saturday PM Peak Hour				
Portage Road & Proposed Hotel Access	EBLT	0.22	0.24	0.02
	SBLR	0.53	0.58	0.05
Gladstone Avenue & Ferry Street	EBLTR	0.01	0.01	0.00
	WBLTR	0.01	0.01	0.00

Intersection	Movement	v/c Ratio		
		2033 FB	2033 FT	Difference
	NBLTR	**0.11**	**0.11**	0.00
	SBLTR	**0.19**	**0.19**	0.00
Allendale Avenue / Commercial Access & Ferry Street	EBLTR	0.00	0.00	0.00
	WBLTR	0.02	0.02	0.00
	NBLTR	**0.93**	**0.93**	0.00
	SBLTR	**0.02**	**0.02**	0.00
Peer Street & Gladstone Avenue	EBLT	0.00	0.00	0.00
	SBLR	0.04	0.04	0.00
Allendale Avenue & Peer Street	EBLR	0.04	0.05	0.01
	NBLT	0.01	0.01	0.00
Allendale Avenue & Robinson Street	EBLTR	0.01	0.01	0.00
	WBLTR	0.01	0.01	0.00
	NBLTR	0.10	0.12	0.02
	SBLTR	0.17	0.51	0.34
Allendale Avenue & Proposed Parking Lot Access	EBLR	-	0.12	-
	NBLT	-	0.10	-

Note: Red font represents a lane/movement which exceeds critical operational thresholds.

Based on the comparison of 2033 Future Background and 2033 Future Total Conditions for unsignalized intersections, as presented in **Table 5-2,** the traffic generated by the proposed development is anticipated to have very minimal impact on most turning movements at the unsignalized intersections within the study area during both the Weekday PM and Saturday PM peak hours.

5.1 Mitigation Measures

As noted in **Section 2.6, Section 3.5**, and **Section 4.3**, many movement-specific traffic operations are anticipated to exceed critical operational thresholds under existing and future conditions. This section discusses recommended measures to mitigate these anticipated issues.

5.1.1 Signalized Intersections

Based on anticipated instances of movements exceeding critical thresholds outlined in **Section 4.4.1**, signal timing phase changes were considered to improve operations at the study area signalized intersections during the Weekday PM and Saturday PM peak hours. The changes considered are as follows:

- At the Stanley Avenue & Murray Street intersection:
  - During the Weekday PM peak hour, the southbound left-turn phase split is increased from 18 seconds to 20 seconds, the northbound phase split is decreased from 42 seconds to 40 seconds. The cycle length remains at 95 seconds.
- At the Stanley Avenue & Dixon Street / Main Street intersection:
  - During the Weekday PM peak hour, the southbound left-turn phase split is increased from 18 seconds to 22 seconds, the northbound phase split is decreased from 42 seconds to 37 seconds, the southbound phase split is decreased from 42 seconds to 41 seconds, the eastbound and westbound phase splits are increased from 37 seconds to 38 seconds. The cycle length remains at 97 seconds.
  - During the Saturday PM peak hour, the southbound left-turn phase split is increased from 18 seconds to 21 seconds, the northbound phase split is decreased from 42 seconds to 38 seconds, the southbound phase split is decreased from 42 seconds to 41 seconds, the eastbound and westbound phase splits are increased from 37 seconds to 38 seconds. The cycle length remains at 97 seconds
- At the Fallsview Boulevard & Main Street / Portage Road intersection:
  - During the Weekday PM peak hour, the northbound phase split is decreased from 34.5 seconds to 34 seconds, the southbound phase split is decreased from 47.5 seconds to 47 seconds, the westbound left-turn phase split is decreased from 13 seconds to 10.5 seconds, the eastbound phase split is increased from 33.5 seconds to 36.5 seconds, and the westbound phase split is increased from 46.5 seconds to 47 seconds. The cycle length remains at 94 seconds.
  - During the Saturday PM peak hour, the southbound left-turn phase split is decreased from 13 seconds to 12 seconds, the northbound phase split is decreased from 34.5 seconds to 34 seconds, the southbound phase split is decreased from 47.5 seconds to 46 seconds, the westbound left-turn phase split is decreased from 13 seconds to 11.5 seconds, the eastbound phase split is increased from 33.5 seconds to 36.5 seconds, and the westbound phase split is increased from 46.5 seconds to 48 seconds. The cycle length remains at 94 seconds.
- At the Stanley Avenue & Ferry Street intersection:
  - During Weekday PM peak hour, the southbound left-turn phase split is increased from 13 seconds to 15 seconds, the northbound phase split is decreased from 35.5 seconds to 35 seconds, the southbound phase split is increased from 35.5 seconds to 37 seconds, the eastbound phase split is decreased from 46.5 seconds to 45 seconds, and the eastbound left-turn phase split is decreased from 15 seconds to 13.5 seconds. The cycle length remains at 110 seconds.
- At the Stanley Avenue & Robinson Street intersection:
  - During the Weekday PM peak hour, the northbound and southbound phase splits are increased from 41 seconds to 51 seconds, and the eastbound and westbound phase splits are increased from 28 seconds to 39 seconds. The cycle length is increased from 69 seconds to 90 seconds.

The results of the 2033 Future Total Mitigated Conditions traffic operations analysis for signalized intersections are presented in

Table 5-3. The Synchro output results showcasing the detailed Highway Capacity Manual analysis for the 2033 Future Total Mitigated Conditions scenario is presented in **Appendix K**.

Table 5-3: 2033 Future Total Mitigated Conditions Traffic Operations – Signalized Intersections

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Weekday PM Peak Hour									
Stanley Avenue & Murray Street	**E**	55.5	**1.17**	EBL	D	42.1	0.69	**38.7**	30
				EBTR	C	29.3	0.54	49.8	-
				WBL	C	27.8	0.43	29.7	35
				WBTR	**F**	87.8	**1.01**	116.2	-
				NBL	D	50.1	0.64	34.1	75
				NBTR	**E**	61.7	**1.01**	137.8	-
				SBL	**F**	145.0	**1.20**	**120.5**	75
				SBTR	B	16.9	0.66	89.0	-
Stanley Avenue & Dixon Street / Main Street	D	46.7	**1.07**	EBLTR	**F**	85.9	**0.99**	92.7	-
				WBLT	**F**	132.8	**1.13**	103.3	-
				WBR	C	26.9	0.45	30.3	-
				NBL	C	21.9	0.10	4.5	65
				NBTR	C	33.7	0.69	70.2	-
				SBL	**E**	57.2	**0.98**	95.6	140
				SBTR	B	19.7	0.56	72.4	-
Fallsview Boulevard & Main Street / Portage Road	D	37.5	**0.86**	EBL	C	28.3	0.53	32.9	50
				EBTR	**E**	72.4	**0.98**	126.6	-
				WBL	B	19.4	0.47	21.3	25
				WBT	C	25.3	0.70	92.8	-
				WBR	B	19.0	0.38	19.1	85
				NBL	C	30.3	0.26	13.4	20
				NBTR	E	55.3	0.85	87.3	-
				SBL	C	20.8	0.52	26.4	-
				SBTR	C	22.7	0.46	45.6	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Stanley Avenue & Ferry Street	E	77.8	**1.04**	EBL	**E**	74.0	0.88	44.4	100
				EBT	D	46.4	0.75	76.8	-
				EBR	C	32.9	0.09	0.9	40
				WBL	C	33.6	0.43	31.5	35
				WBT	D	50.0	0.82	87.9	-
				WBR	C	32.3	0.22	17.5	40
				NBL	C	31.6	0.63	**29.5**	20
				NBTR	D	45.8	**0.90**	164.3	-
				SBL	**E**	68.0	**0.95**	**80.6**	55
				SBTR	**F**	130.9	**1.20**	261.8	-
Stanley Avenue & Robinson Street	F	103.5	**1.19**	EBL	C	26.8	0.08	4.9	30
				EBTR	D	38.7	0.71	44.8	-
				WBLTR	**E**	56.6	**0.86**	56.2	-
				NBLTR	**F**	172.6	**1.33**	190.9	-
				SBLTR	**E**	65.0	**1.07**	201.4	-
Saturday PM Peak Hour									
Stanley Avenue & Murray Street	**F**	93.4	**1.37**	EBL	D	38.4	0.65	**37.4**	30
				EBTR	C	31.3	0.61	58.1	-
				WBL	C	27.4	0.40	27.5	35
				WBTR	**F**	93.3	**1.03**	113.3	-
				NBL	**E**	57.7	0.74	41.9	75
				NBTR	**F**	123.7	**1.19**	181.9	-
				SBL	**F**	268.4	**1.49**	**145.4**	75
				SBTR	B	16.7	0.65	85.7	-
Stanley Avenue &	D	48.8	**1.06**	EBLTR	**F**	92.7	**1.00**	93.8	-
				WBLT	**F**	112.0	**1.07**	99.2	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Dixon Street / Main Street				WBR	C	27.7	0.51	45.7	-
				NBL	C	20.5	0.13	6.0	65
				NBTR	D	39.8	0.84	101.0	-
				SBL	**E**	72.8	**1.01**	98.9	140
				SBTR	B	19.6	0.50	62.8	-
Fallsview Boulevard & Main Street / Portage Road	C	34.3	0.77	EBL	C	29.2	0.54	34.1	50
				EBTR	**E**	69.3	**0.97**	120.7	-
				WBL	B	17.6	0.35	17.3	25
				WBT	C	21.6	0.59	76.5	-
				WBR	C	25.0	0.61	55.6	85
				NBL	C	30.7	0.29	16.0	20
				NBTR	D	38.9	0.62	49.9	-
				SBL	B	19.6	0.42	23.9	-
				SBTR	C	25.9	0.57	60.6	-
Stanley Avenue & Ferry Street	**F**	90.2	**1.14**	EBL	**F**	142.9	**1.14**	81.8	100
				EBT	D	52.7	**0.87**	103.8	-
				EBR	C	29.7	0.19	14.7	40
				WBL	D	36.8	0.57	34.6	35
				WBT	D	47.7	0.80	84.7	-
				WBR	D	46.5	0.71	**66.5**	40
				NBL	D	35.6	0.69	**37.6**	20
				NBTR	**E**	64.2	**1.00**	188.1	-
				SBL	**F**	139.6	**1.16**	**96.1**	55
				SBTR	**F**	141.7	**1.22**	261.9	-
Stanley Avenue &	**F**	338.6	**1.69**	EBL	B	17.5	0.12	7.4	30
				EBTR	D	46.6	**0.89**	82.0	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Robinson Street				WBLTR	F	223.9	1.40	113.3	-
				NBLTR	F	413.8	1.87	168.5	-
				SBLTR	F	382.0	1.80	174.4	-

Note: Red font represents a lane/movement which exceeds critical operational thresholds

As shown in **Table 5-3,** applying these signal timing plan adjustments is expected to improve some critical operations at the signalized intersections within the study area during the Weekday PM and Saturday PM peak hour periods, compared to the unmitigated conditions. With these signal timing changes, some critical movements for the overall and shared movements have a v/c ratio exceeding 0.85, and some exclusive turning movements exceed a v/c ratio of 0.90.

To demonstrate effects of the mitigation measures, a comparison of signalized intersection operations under the 2033 Future Total Conditions and 2033 Mitigated Future Total Conditions scenarios are presented in **Table 5-4**. The signal timing changes for many intersections helped reduce the v/c ratio for the overall intersections for both Weekday PM and Saturday PM peak hour periods. However, many critical movements remain and operate above critical capacity thresholds.

Table 5-4: 2033 Future Total Conditions and 2033 Mitigated Future Total Conditions Traffic Operations Comparison – Signalized Intersections

Intersection	v/c Ratio			Movement	v/c Ratio		
	2033 FT	2033 Mitigated FT	Difference		2033 FT	2033 Mitigated FT	Difference
Weekday PM Peak Hour							
Stanley Avenue & Murray Street	1.22	1.17	-0.05	EBL	0.69	0.69	0.00
				EBTR	0.54	0.54	0.00
				WBL	0.43	0.43	0.00
				WBTR	1.01	1.01	0.00
				NBL	0.60	0.64	0.04
				NBTR	0.95	1.01	0.06
				SBL	1.27	1.20	-0.07
				SBTR	0.66	0.66	0.00

Intersection	v/c Ratio			Movement	v/c Ratio		
	2033 FT	2033 Mitigated FT	Difference		2033 FT	2033 Mitigated FT	Difference
Stanley Avenue & Dixon Street / Main Street	**1.12**	**1.07**	-0.05	EBLTR	**1.04**	**0.99**	-0.05
				WBLT	**1.17**	**1.13**	-0.04
				WBR	0.52	0.45	-0.07
				NBL	0.09	0.10	0.01
				NBTR	0.59	0.69	0.10
				SBL	**1.03**	**0.98**	-0.05
				SBTR	0.55	0.56	0.01
Fallsview Boulevard & Main Street / Portage Road	**0.88**	**0.86**	-0.02	EBL	0.57	0.53	-0.04
				EBTR	**1.07**	**0.98**	-0.09
				WBL	0.46	0.47	0.01
				WBT	0.70	0.70	0.00
				WBR	0.38	0.38	0.00
				NBL	0.26	0.26	0.00
				NBTR	0.84	0.85	0.01
				SBL	0.51	0.52	0.01
				SBTR	0.46	0.46	0.00
Stanley Avenue & Ferry Street	**1.05**	**1.04**	-0.01	EBL	0.82	0.88	0.06
				EBT	0.75	0.75	0.00
				EBR	0.09	0.09	0.00
				WBL	0.43	0.43	0.00
				WBT	0.82	0.82	0.00
				WBR	0.22	0.22	0.00
				NBL	0.63	0.63	0.00
				NBTR	**0.89**	**0.90**	0.01
				SBL	**1.04**	**0.95**	-0.09
				SBTR	**1.23**	**1.20**	-0.03
	1.26	**1.19**	-0.07	EBL	0.07	0.08	0.01

Intersection	v/c Ratio			Movement	v/c Ratio		
	2033 FT	2033 Mitigated FT	Difference		2033 FT	2033 Mitigated FT	Difference
Stanley Avenue & Robinson Street				EBTR	0.68	0.71	0.03
				WBLTR	0.82	**0.86**	0.04
				NBLTR	**1.45**	**1.33**	-0.12
				SBLTR	**1.17**	**1.07**	-0.10
Saturday PM Peak Hour							
Stanley Avenue & Murray Street	**1.37**	**1.37**	0.00	EBL	0.65	0.65	0.00
				EBTR	0.61	0.61	0.00
				WBL	0.40	0.40	0.00
				WBTR	**1.03**	**1.03**	0.00
				NBL	0.74	0.74	0.00
				NBTR	**1.19**	**1.19**	0.00
				SBL	**1.49**	**1.49**	0.00
				SBTR	0.65	0.65	0.00
Stanley Avenue & Dixon Street / Main Street	**1.11**	**1.06**	-0.05	EBLTR	**1.05**	**1.00**	-0.05
				WBLT	**1.10**	**1.07**	-0.03
				WBR	0.56	0.51	-0.05
				NBL	0.12	0.13	0.01
				NBTR	0.74	0.84	0.10
				SBL	**1.06**	**1.01**	-0.05
				SBTR	0.49	0.50	0.01
Fallsview Boulevard & Main Street / Portage Road	0.78	0.77	-0.01	EBL	0.58	0.54	-0.04
				EBTR	**1.04**	**0.97**	-0.07
				WBL	0.36	0.35	-0.01
				WBT	0.61	0.59	-0.02
				WBR	0.57	0.61	0.04
				NBL	0.29	0.29	0.00

Intersection	v/c Ratio			Movement	v/c Ratio		
	2033 FT	2033 Mitigated FT	Difference		2033 FT	2033 Mitigated FT	Difference
				NBTR	0.61	0.62	0.01
				SBL	0.41	0.42	0.01
				SBTR	0.55	0.57	0.02
Stanley Avenue & Ferry Street	**1.14**	**1.14**	0.00	EBL	**1.14**	**1.14**	0.00
				EBT	**0.87**	**0.87**	0.00
				EBR	0.19	0.19	0.00
				WBL	0.57	0.57	0.00
				WBT	0.80	0.80	0.00
				WBR	0.71	0.71	0.00
				NBL	0.69	0.69	0.00
				NBTR	**1.00**	**1.00**	0.00
				SBL	**1.16**	**1.16**	0.00
				SBTR	**1.22**	**1.22**	0.00
Stanley Avenue & Robinson Street	**1.69**	**1.69**	0.00	EBL	0.12	0.12	0.00
				EBTR	**0.89**	**0.89**	0.00
				WBLTR	**1.40**	**1.40**	0.00
				NBLTR	**1.87**	**1.87**	0.00
				SBLTR	**1.80**	**1.80**	0.00

Note: Red font represents a lane/movement which exceeds critical operational thresholds

If the proposed signal timing plan adjustments are consistently applied to the 2033 Future Background Conditions scenario, the traffic operations at the study area intersections will be as presented in **Table 5-5.** The Synchro output results showcasing the detailed Highway Capacity Manual analysis for the 2033 Future Background Mitigated Conditions scenario is presented in **Appendix L**.

Table 5-5: 2033 Future Background Mitigated Conditions Traffic Operations – Signalized Intersections

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
Weekday PM Peak Hour									
Stanley Avenue & Murray Street	D	43.7	**1.09**	EBL	D	42.1	0.69	**38.7**	30
				EBTR	C	29.3	0.54	49.8	-
				WBL	C	27.8	0.43	29.7	35
				WBTR	**F**	87.8	**1.01**	116.2	-
				NBL	D	42.3	0.58	31.5	75
				NBTR	D	39.0	**0.86**	107.0	-
				SBL	**F**	96.0	**1.09**	**106.3**	75
				SBTR	B	15.5	0.59	75.1	-
Stanley Avenue & Dixon Street / Main Street	**F**	118.2	**1.17**	EBLTR	**F**	409.3	**1.79**	150.8	-
				WBLT	**F**	320.1	**1.60**	156.9	-
				WBR	C	24.9	0.28	18.7	-
				NBL	B	19.1	0.09	4.5	65
				NBTR	C	28.4	0.60	70.2	-
				SBL	C	20.8	0.74	40.7	140
				SBTR	B	19.7	0.56	72.4	-
Fallsview Boulevard & Main Street / Portage Road	D	35.7	0.83	EBL	C	29.6	0.54	31.8	50
				EBTR	**E**	69.4	**0.97**	117.3	-
				WBL	C	20.1	0.47	21.3	25
				WBT	C	25.3	0.68	85.4	-
				WBR	B	19.7	0.38	19.1	85
				NBL	C	28.8	0.25	13.4	20
				NBTR	D	49.4	0.81	87.3	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				SBL	B	19.6	0.50	26.4	-
				SBTR	C	21.6	0.45	45.6	-
Stanley Avenue & Ferry Street	E	77.8	1.04	EBL	E	74.0	0.88	44.4	100
				EBT	D	46.4	0.75	76.8	-
				EBR	C	32.9	0.09	0.9	40
				WBL	C	33.6	0.43	31.5	35
				WBT	D	50.0	0.82	87.9	-
				WBR	C	32.3	0.22	17.5	40
				NBL	C	31.6	0.63	29.5	20
				NBTR	D	45.8	0.90	164.3	-
				SBL	E	68.0	0.95	80.6	55
				SBTR	F	130.9	1.20	261.8	-
Stanley Avenue & Robinson Street	C	34.9	0.97	EBL	C	26.9	0.08	4.9	30
				EBTR	C	28.2	0.26	18.8	-
				WBLTR	D	54.7	0.85	55.5	-
				NBLTR	B	14.1	0.67	102.3	-
				SBLTR	D	46.9	1.02	196.4	-
Saturday PM Peak Hour									
Stanley Avenue & Murray Street	E	76.6	1.37	EBL	D	38.4	0.65	37.4	30
				EBTR	C	31.3	0.61	58.1	-
				WBL	C	27.4	0.40	27.5	35
				WBTR	F	93.3	1.03	113.3	-
				NBL	D	47.9	0.67	39.4	75
				NBTR	E	70.8	1.04	150.3	-

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				SBL	F	267.8	1.49	146.1	75
				SBTR	B	15.3	0.58	71.5	-
Stanley Avenue & Dixon Street / Main Street	F	105.7	1.14	EBLTR	F	378.8	1.72	147.6	-
				WBLT	F	271.8	1.49	151.0	-
				WBR	C	25.1	0.28	20.1	-
				NBL	B	17.7	0.12	6.0	65
				NBTR	C	31.5	0.74	101.0	-
				SBL	C	22.6	0.74	38.5	140
				SBTR	B	19.6	0.50	62.8	-
Fallsview Boulevard & Main Street / Portage Road	C	34	0.75	EBL	C	31.6	0.56	33.8	50
				EBTR	E	70.4	0.96	112.2	-
				WBL	B	18.6	0.35	17.3	25
				WBT	C	22.2	0.58	70.4	-
				WBR	C	26.5	0.61	55.6	85
				NBL	C	28.7	0.28	16.0	20
				NBTR	D	35.6	0.58	49.9	-
				SBL	B	18.5	0.41	23.9	-
				SBTR	C	24.2	0.55	60.6	-
Stanley Avenue & Ferry Street	F	90.2	1.14	EBL	F	142.9	1.14	81.8	100
				EBT	D	52.7	0.87	103.8	-
				EBR	C	29.7	0.19	14.7	40
				WBL	D	36.8	0.57	34.6	35
				WBT	D	47.7	0.80	84.7	-
				WBR	D	46.5	0.71	66.5	40

Intersection	Intersection			Individual Movement					
	LOS	Delay	Overall v/c Ratio	Movement	LOS	Delay (s)	v/c Ratio	95th Percentile Queue (m)	Storage Capacity (m)
				NBL	D	35.6	0.69	**37.6**	20
				NBTR	**E**	64.2	**1.00**	188.1	-
				SBL	**F**	139.6	**1.16**	**96.1**	55
				SBTR	**F**	141.7	**1.22**	261.9	-
Stanley Avenue & Robinson Street	**F**	176.4	**1.46**	EBL	B	17.5	0.12	7.4	30
				EBTR	C	20.9	0.54	40.5	-
				WBLTR	**F**	108.0	**1.11**	103.6	-
				NBLTR	**E**	55.7	**1.04**	116.8	-
				SBLTR	**F**	328.2	**1.68**	170.4	-

Note: Red font represents a lane/movement which exceeds critical operational thresholds.

As shown in **Table 5-5,** many critical movements still remain after applying signal timing changes to the 2033 Future Background Conditions. Many of these critical movements are not a result of the proposed parking lot as shown in **Table 5-2**. The background developments and annual growth have inflated volumes to create congested conditions with significant delays at some of these signalized intersections.

5.1.2 Unsignalized Intersections

Mitigative measures were considered to improve the critical conditions anticipated within the study area's unsignalized intersections in the 2033 Future Total Conditions outlined in **Section 4.4.2**, specifically for the northbound left-turn/through/right-turn and southbound left-turn/through/right-turn critical movements at the Allendale Avenue / Commercial Access & Ferry Street intersection during the Weekday PM and Saturday PM peak hour periods.

Despite the critical movement LOS being classified as "F" at this intersection, the actual performance indicators present a more favorable outlook. The v/c ratio is below 1.00, indicating that the traffic demand is well within the intersections capacity and does not approach congestion levels. Furthermore, the average delay per vehicle is minimal, suggesting that vehicles are expected to experience brief stoppages. This implies that, although the LOS rating may suggest severe congestion, the intersection's operational performance is still operating within capacity. However, given the fact that the intersection is unsignalized and the volume present, vehicles are experiencing

long delays. Mitigation considerations could be signalization of the intersection. However, the results are likely not to reach the thresholds to warrant any intervention at this stage.

It should also be noted that the traffic growth rate assumptions in this study are conservative, impacting the eastbound and westbound through volumes at this intersection. The proposed parking lot also does not have any impact on this intersection as the valet drivers do not use this intersection to travel to and from the proposed parking lot to the Oakes Hotel development.

Ferry Street, being the major road with right-of-way, may present challenges for vehicles attempting to turn left or right coming from the south. However, in practice, drivers typically coordinate with through traffic along Ferry Street to execute turns more effectively.

6 Parking Analysis

The purpose of the parking analysis is to determine if the proposed parking supply is appropriate to accommodate anticipated demand from the Oakes Hotel development. This section analyses the Zoning By-law requirements of the development site from the ***Transportation Impact Study – 6546 Fallsview Boulevard, Niagara Falls*** (April 17, 2024) as this proposed parking site ultimately ties in with the proposed development at 6546 Fallsview Boulevard.

The ***Transportation Impact Study – 6546 Fallsview Boulevard, Niagara Falls*** (April 17, 2024), contemplated an off-site an off-site structured parking facility with capacity for approximately 1,047 vehicles located at 6519 Stanley Avenue. Access to this facility would be via Stanley Avenue and via Dixon Street. The conceptual site plan for the structured parking facility also includes a terminal that will accommodate hotel guest check-in, luggage transfer/storage, ancillary services, and a guest waiting area for a frequent, dedicated shuttle service connecting to the 6546 Fallsview Boulevard site.

The 347 valet parking spaces proposed at the parking lot are intended to decrease the number of parking spaces at the contemplated parking structure proposed at 6519 Stanley Avenue. There is a direct connection between the parking at the Oakes Hotel development, the proposed parking lot at the Hydro Corridor, and 6519 Stanley Avenue. As of now, these are all integral to the evolving parking strategy that will service the parking supply needs of the Oakes Hotel and meet municipal parking requirements. This strategy could change in the future if the proponent finds other methods to help meet the City's minimum parking requirements.

The Oakes Hotel and proposed parking lot are presently governed by the City of Niagara Falls Zoning By-Law 79-200 (ZBL). The parking rates from this ZBL will be applied when the parking strategy is finalized by the proponent to determine if there is compliance with the ZBL.

6.1 Transportation Demand Management Considerations

Transportation Demand Management (TDM) refers to policies, design features, and incentives which encourage sustainable transportation choices. TDM can reduce the intensity of peak hour trips by encouraging deferred travel, can reduce general automobile trips by encouraging the use of non-automobile transportation modes, and can reduce the demand for parking by reducing the need to own and operate a personal vehicle.

As mentioned in **Section 2.2** and **Section 2.3**, the Oakes Hotel development is well connected to the City of Niagara Falls cycling network and is located in close proximity to the Niagara Parkway trail system along the Niagara River. As such, consideration could be given to facilitating bicycle tourism by providing bicycle rental options for guests as well as associated secure bicycle parking. These measures can encourage guests to utilize sustainable transportation options – rather than the automobile – to explore the broader Niagara region.

7 Vehicle Swept Path Analysis

A vehicle swept path analysis was conducted using AutoTurn to demonstrate that vehicles can enter and exit the site in a forward motion, and that access to loading and waste collection areas are functional. The analysis consisted of the following:

- Aerial Fire Truck vehicle accessing the fire route and the site access;
- Ford F-550 truck (similar to the Hydro One service vehicle bucket trucks) accessing the transmission towers on both ends of the site and site access; and
- Overall review of critical parking spaces and the driving aisles.

The vehicle swept path analysis is presented in **Appendix M** and indicates that the site access and parking spaces are functional.

8 Pavement Marking and Signage Plan

The pavement marking and signage plan was prepared to be consistent with Ontario Traffic Manual Book 5: Regulatory Signs, Book 6: Warning Signs and Book 11: Pavement, Hazard and Delineation Markings, and is presented in **Appendix N** for the surface parking lot.

9 Conclusions

This section summarizes the key findings of this transportation impact study.

9.1 Traffic Operations Analysis

Based on the analysis presented in this study, the proposed development is expected to generate 239 vehicle trips during both the Weekday PM and Saturday PM peak hour (133 inbound trips and 106 outbound trips). These vehicles trips are to be a part of the valet services the Oakes Hote development is looking to provide with a designated route in place through the study area.

Based on the comparison of 2033 Future Background and 2033 Future Total Conditions, as presented in **Table 5-1** and **Table 5-2**, the traffic generated by the proposed development is expected to have certain impact on traffic movements at the study area intersections during the Weekday PM and Saturday PM peak hours.

To mitigate and improve critical movements at the signalized intersections within the study area outlined in **Section 4.4.1**, signal timing adjustments are considered and evaluated. Implementing these changes results in improvements to some critical operations at the signalized intersections during both the Weekday PM and Saturday PM peak hours, compared to the unmitigated conditions.

As shown in **Table 5-5,** many critical movements still remain after applying signal timing changes to the 2033 Future Background Conditions. Many of these critical movements are not a result of the proposed parking lot as shown in **Table 5-2**. The background developments and annual growth have inflated volumes to create congested conditions with significant delays at some of these signalized intersections

Mitigative measures are considered for the Allendale Avenue / Commercial Access & Ferry Street intersection during both the Weekday PM and Saturday PM peak hours in the 2033 Future Total Conditions, specifically focusing on northbound and southbound movements. Although the LOS is “F”, the traffic volumes indicate that traffic conditions remain manageable. This suggests that the intersection performs under critical thresholds despite the poor LOS rating. Additionally, since Ferry Street has the right of way, turning right or left from the south can be challenging in terms of finding the gap. However, in practice, drivers often coordinate with the through traffic to make turns more efficient.

9.2 Parking Analysis

The parking analysis assesses whether the proposed parking supply will adequately meet the anticipated demand for the Oakes Hotel development. The study considers the requirements set by the City of Niagara Falls Zoning By-law 79-200 and examines the integration of multiple parking facilities:

- The ***Transportation Impact Study - 6546 Fallsview Boulevard, Niagara Falls*** (April 17, 2024) proposes a contemplated off-site structured parking facility at 6519 Stanley Avenue, offering approximately 1,047 spaces and featuring amenities such as guest check-in and a dedicated shuttle to the hotel site.
- An additional 347 valet parking spaces at the Hydro Corridor parking lot are intended to reduce demand on the Stanley Avenue facility.
- All proposed parking locations including the Oakes Hotel, Hydro Corridor, and Stanley Avenue form a coordinated parking strategy to satisfy municipal requirements.

This evolving strategy will be finalized in alignment with Zoning By-law 79-200 to ensure compliance. Adjustments may occur if alternative solutions are found to meet the City's minimum parking standards.

TDM considerations include facilitating bicycle tourism by providing bicycle rental options for guests as well as associated secure bicycle parking. These measures can encourage guests to utilize sustainable transportation options – rather than the automobile – to explore the broader Niagara region.

9.3 Vehicle Swept Path Analysis

A vehicle swept path analysis was conducted using AutoTurn to demonstrate that vehicles can enter and exit the site in a forward motion. The analysis consisted of a firetruck, bucket truck service vehicle for Hydro One, and passenger vehicle.

The vehicle swept path analysis is presented in **Appendix M** and indicates that the site access and parking spaces are functional.

9.4 Pavement Marking and Signage Plan

The pavement marking and signage plan was prepared to be consistent with Ontario Traffic Manual Book 5: Regulatory Signs, Book 6: Warning Signs and Book 11: Pavement, Hazard and Delineation Markings, and is presented in **Appendix N** for the surface parking lot.

Appendix A

Scope of Investigation

Li, Ken

From: John Grubich <jgrubich@niagarafalls.ca>
Sent: December 16, 2025 8:50 AM
To: Jagjait, Gurminder
Cc: Stogios, Chris; Li, Ken; David Chemla; Cale Vanderveen
Subject: RE: [EXTERNAL]-Transportation Impact Study – Terms of Reference for Proposed Parking Structure (Cityview #PLPCA20250247)

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Gurminder;

Thanks for expanding the study area to include all intersections that valet traffic will be travelling through to/from the primary hotel site at 6546 Fallsview Boulevard. We will also accept the 4-6 PM peak period.

John Grubich, C.E.T. | Traffic Planning Supervisor | Municipal Works - Transportation Services | City of Niagara Falls
4343 Morrison Street, Niagara Falls, ON L2E 6Z9 | (905) 356-7521 ext 5214 | jgrubich@niagarafalls.ca

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From: Jagjait, Gurminder <gurminder.jagjait@arcadis.com>
Sent: Thursday, December 11, 2025 2:48 PM
To: John Grubich <jgrubich@niagarafalls.ca>
Cc: Stogios, Chris <chris.stogios@arcadis.com>; Li, Ken <ken.li@arcadis.com>; David Chemla <davidchemla@sympatico.ca>; Cale Vanderveen <cvanderveen@bousfields.ca>
Subject: RE: [EXTERNAL]-Transportation Impact Study – Terms of Reference for Proposed Parking Structure (Cityview #PLPCA20250247)

Hi John,

Thank you for your prompt response. I have commented on your responses below.

Section 1 – We can verify that the TMCs for the Weekday and Saturday were collected in the summer of Aug 2024. The PM peak hour period for the collected TMCs was from 4PM to 6PM. We hope these counts can be used for our study. If we can request the historical data from the City for one or two intersections that covers a daily profile in 15mins counts, then we can identify if 3-4pm is the peak and if yes, we can apply a rate to the TMC we have to get an adjusted peak data.

Section 1 – We have increased the number of intersections in our study area to include all intersections that valet traffic will be travelling through to/from the primary hotel site at 6546 Fallsview Blvd. I have included the study area map diagram and a list of intersections for your review below:



1. (#1) Stanley Avenue & Murray Street (signalized);
2. (#2) Stanley Avenue & Main Street / Dixon Street (signalized);
3. (#8) Fallsview Boulevard & Main Street / Portage Road (signalized);
4. (#9) Portage Road & Proposed Hotel Site Access (unsignalized);
5. (#20) Stanley Avenue & Robinson Street (unsignalized);
6. (#19) Allendale Avenue & Robinson Street (unsignalized);

7. (#14) Ferry Street & Gladstone Avenue (unsignalized)
8. (#15) Ferry Street & Allendale Avenue (unsignalized);
9. (#16) Ferry Street & Stanley Avenue (signalized);
10. (#17) Peer Street & Gladstone Avenue (unsignalized);
11. (#18) Allendale Avenue & Peer Street - Peer Lane (unsignalized); and
12. (#21) Allendale Avenue & Proposed Parking Facility Access (unsignalized).

I look forward in hearing from you.

Thank you,

Gurminder Jagjait EIT.
Transportation Systems Analyst
Arcadis Professional Services (Canada) Inc.
7th Floor - 55 St. Clair Avenue West | Toronto | ON | M4V 2Y7 | Canada
T: +1 416 596 1930 ext 61356
www.arcadis.com

From: John Grubich <jgrubich@niagarafalls.ca>
Sent: December 8, 2025 12:00 PM
To: Jagjait, Gurminder <gurminder.jagjait@arcadis.com>
Cc: Stogios, Chris <chris.stogios@arcadis.com>; Li, Ken <ken.li@arcadis.com>; David Chemla <davidchemla@sympatico.ca>; Cale Vanderveen <cvanderveen@bousfields.ca>
Subject: RE: [EXTERNAL]-Transportation Impact Study – Terms of Reference for Proposed Parking Structure (Cityview #PLPCA20250247)

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Jagjait;

Thank you for forwarding your work plan for the proposed off-site parking lot bounded by Ferry Street, Allendale Avenue, Peer Street, and Gladstone Avenue.

You noted the plan is for a parking structure, but the site has hydro towers and overhead wires spanning the entire property, and the plan only show surface parking.

My comments on your terms of reference:

Section 1 – You may omit the weekday AM analysis. The PM peak should be expanded from 3PM to 6PM. The study area intersections should include all intersections that valet traffic will be travelling through to/from the primary hotel site at 6546 Fallsview Boulevard. Please verify if the TMC's were done in the summer given that the site is within the tourist core.

Section 3 – a 2% annual growth rate is to be used, which matches the Region's planning model.

Section 4 – Please use the background traffic from the development at 5528 Ferry Street only – site traffic diagrams attached. The site is across the street from the subject lands.

Section 5 – There are no planned road capacity improvements for City maintained roads/intersections in the general area.

Section 8 – provide commentary to support the location of the driveway on Allendale Avenue given its location to Ferry Street and proposed driveways across the street.

City Staff has no comments on the remainder of the work plan.

Please let me know if you have any questions.

John Grubich, C.E.T. | Traffic Planning Supervisor | Municipal Works - Transportation Services | City of Niagara Falls
4343 Morrison Street, Niagara Falls, ON L2E 6Z9 | (905) 356-7521 ext 5214 | jgrubich@niagarafalls.ca

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From: Jagjait, Gurminder <gurminder.jagjait@arcadis.com>
Sent: Friday, December 5, 2025 2:57 PM
To: John Grubich <jgrubich@niagarafalls.ca>
Cc: Stogios, Chris <chris.stogios@arcadis.com>; Li, Ken <ken.li@arcadis.com>; David Chemla <davidchemla@sympatico.ca>; Cale Vanderveen <cvanderveen@bousfields.ca>
Subject: [EXTERNAL]-Transportation Impact Study – Terms of Reference for Proposed Parking Structure (Cityview #PLPCA20250247)

Hello John,

I hope this message finds you well.

I am reaching out regarding the proposed parking structure apart of the Oakes Hotel development which is bounded by Ferry Street, Allendale Avenue, Peer Street, and Gladstone Avenue (Cityview Project No. PLPCA20250247).

Attached, please find the Terms of Reference for the Transportation Impact Study and conceptual site plan. This document has been prepared to address the comments and requirements identified during the Pre-Consultation meeting held on August 7, 2025.

We would appreciate your review of the attached Terms of Reference and any feedback or additional guidance you may have to ensure the study meets the City's expectations.

Thank you in advance for your time and consideration.

Gurminder Jagjait EIT.
Transportation Systems Analyst
Arcadis Professional Services (Canada) Inc.
7th Floor - 55 St. Clair Avenue West | Toronto | ON | M4V 2Y7 | Canada
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Appendix B

Turning Movement Counts

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Traffic Monitoring • Services & Products

Project #24-314 - Arcadis Professional Services (Canada) Inc.

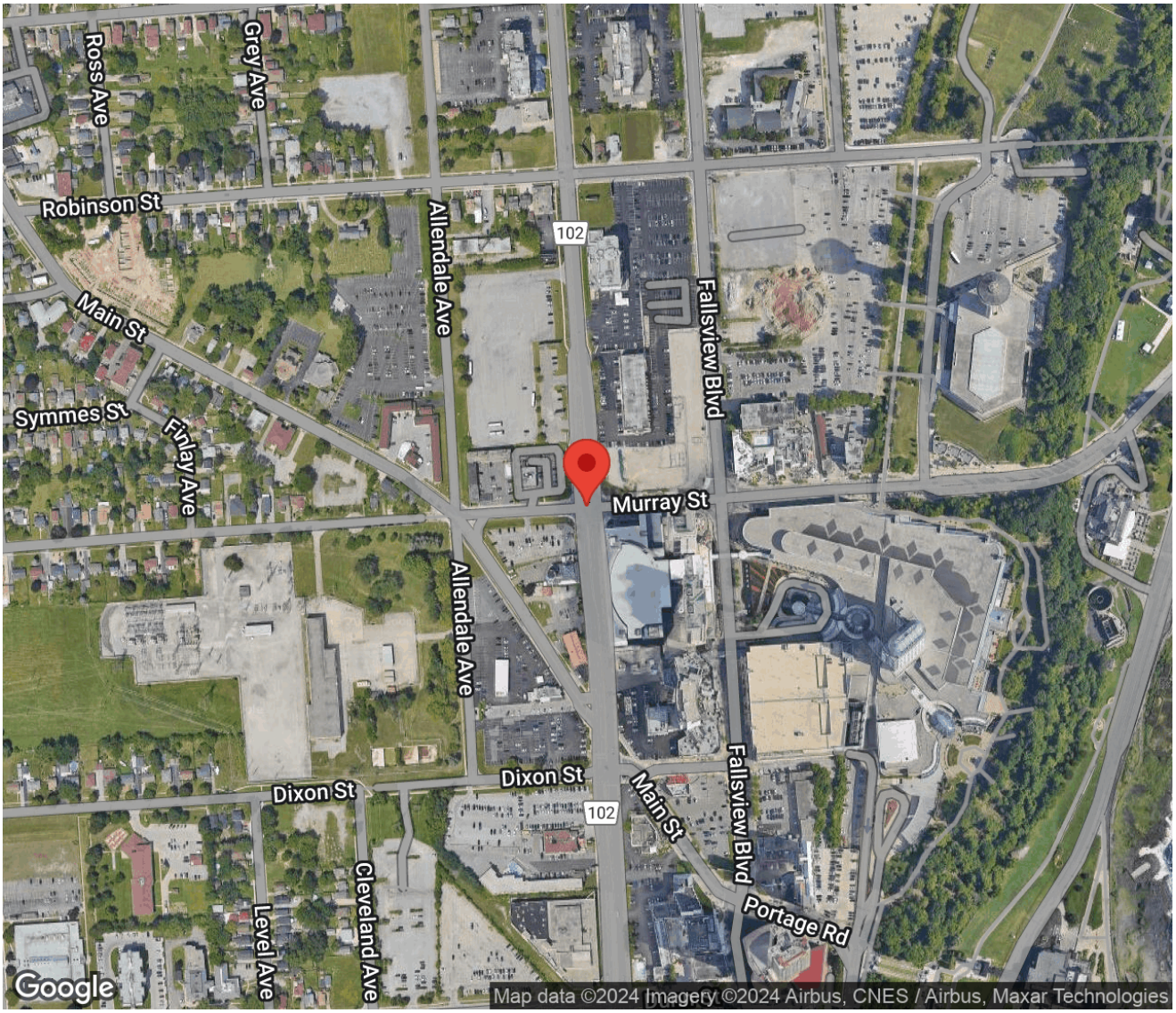
Intersection Count Report

Intersection:	Stanley Ave & Murray St
Municipality:	Niagara Falls
Count Date:	Thursday, Jul 18, 2024
Site Code:	2431400001
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Stanley Ave & Murray St
Site Code:	2431400001
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024



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Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Murray St
Site Code:	2431400001
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024

Stanley Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	67	192	25	0	284	31	36	212	39	1	288	42	572
08:00 - 09:00	85	272	30	1	388	48	64	251	57	0	372	38	760
BREAK													
16:00 - 17:00	241	513	39	0	793	99	75	437	87	1	600	114	1393
17:00 - 18:00	267	493	36	1	797	169	54	420	82	0	556	152	1353
GRAND TOTAL	**660**	**1470**	**130**	**2**	**2262**	**347**	**229**	**1320**	**265**	**2**	**1816**	**346**	**4078**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Murray St
Site Code:	2431400001
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024

Murray St - Traffic Summary

Hour	East Approach Totals (Includes Cars, Trucks, Bicycles)						West Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	29	23	30	0	82	13	23	42	27	0	92	13	174
08:00 - 09:00	28	34	39	1	102	36	21	68	32	0	121	36	223
BREAK													
16:00 - 17:00	64	145	137	0	346	75	28	78	24	0	130	87	476
17:00 - 18:00	77	114	174	0	365	129	31	87	28	0	146	75	511
GRAND TOTAL	**198**	**316**	**380**	**1**	**895**	**253**	**103**	**275**	**111**	**0**	**489**	**211**	**1384**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Municipality: Niagara Falls
Count Date: Jul 18, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	12	31	6	0	49	0	1	0	0	1	0	0	0	0	0	9
07:15	15	38	6	0	59	1	2	0	0	3	0	0	0	0	0	5
07:30	17	47	6	0	70	0	7	0	0	7	0	0	0	0	0	9
07:45	20	63	7	0	90	2	3	0	0	5	0	0	0	0	0	8
08:00	14	55	7	0	76	0	3	0	0	3	0	0	0	0	0	19
08:15	22	52	10	0	84	1	4	0	0	5	0	0	0	0	0	5
08:30	21	67	3	1	92	1	5	0	0	6	0	0	0	0	0	12
08:45	25	83	10	0	118	1	3	0	0	4	0	0	0	0	0	12
SUBTOTAL	146	436	55	1	638	6	28	0	0	34	0	0	0	0	0	79

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Municipality: Niagara Falls
Count Date: Jul 18, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	50	129	8	0	187	0	2	0	0	2	0	0	0	0	0	32
16:15	64	101	8	0	173	1	2	0	0	3	0	0	0	0	0	12
16:30	63	134	9	0	206	0	5	0	0	5	0	0	0	0	0	31
16:45	63	139	14	0	216	0	1	0	0	1	0	0	0	0	0	24
17:00	71	140	10	0	221	2	0	0	0	2	0	0	0	0	0	52
17:15	67	138	11	0	216	0	1	0	0	1	0	0	0	0	0	24
17:30	69	116	6	1	192	3	1	0	0	4	0	0	0	0	0	49
17:45	54	96	9	0	159	1	1	0	0	2	0	0	0	0	0	44
SUBTOTAL	501	993	75	1	1570	7	13	0	0	20	0	0	0	0	0	268
GRAND TOTAL	647	1429	130	2	2208	13	41	0	0	54	0	0	0	0	0	347

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Municipality: Niagara Falls
Count Date: Jul 18, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	8	37	5	0	50	0	2	1	0	3	0	0	0	0	0	6
07:15	2	36	9	1	48	3	6	1	0	10	0	0	0	0	0	11
07:30	10	62	11	0	83	0	1	0	0	1	0	0	0	0	0	12
07:45	11	64	12	0	87	2	4	0	0	6	0	0	0	0	0	13
08:00	12	47	10	0	69	0	1	3	0	4	0	0	0	0	0	16
08:15	16	61	10	0	87	2	2	1	0	5	0	0	0	0	0	5
08:30	16	58	18	0	92	0	3	1	0	4	0	0	0	0	0	7
08:45	16	76	14	0	106	2	3	0	0	5	0	0	0	0	0	10
SUBTOTAL	91	441	89	1	622	9	22	7	0	38	0	0	0	0	0	80

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Municipality: Niagara Falls
Count Date: Jul 18, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	13	115	23	0	151	0	7	0	0	7	0	3	0	0	3	12
16:15	18	105	18	1	142	2	3	1	0	6	0	0	0	0	0	32
16:30	21	107	23	0	151	0	1	0	0	1	0	0	0	0	0	18
16:45	19	93	22	0	134	1	2	0	0	3	1	1	0	0	2	52
17:00	14	127	16	0	157	1	2	0	0	3	0	0	0	0	0	44
17:15	6	92	21	0	119	2	2	1	0	5	0	0	0	0	0	33
17:30	14	97	22	0	133	1	3	0	0	4	0	0	0	0	0	28
17:45	14	95	22	0	131	2	2	0	0	4	0	0	0	0	0	47
SUBTOTAL	119	831	167	1	1118	9	22	2	0	33	1	4	0	0	5	266
GRAND TOTAL	**210**	**1272**	**256**	**2**	**1740**	**18**	**44**	**9**	**0**	**71**	**1**	**4**	**0**	**0**	**5**	**346**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Municipality: Niagara Falls
Count Date: Jul 18, 2024

East Approach - Murray St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	8	3	4	0	15	0	0	0	0	0	0	0	0	0	0	2
07:15	8	5	4	0	17	0	0	0	0	0	0	0	0	0	0	4
07:30	3	8	8	0	19	2	0	0	0	2	0	0	0	0	0	4
07:45	7	7	13	0	27	1	0	1	0	2	0	0	0	0	0	3
08:00	9	6	8	1	24	1	1	1	0	3	0	0	0	0	0	4
08:15	4	8	10	0	22	0	3	0	0	3	0	0	0	0	0	10
08:30	7	8	13	0	28	0	2	1	0	3	0	0	0	0	0	6
08:45	7	5	5	0	17	0	1	1	0	2	0	0	0	0	0	16
SUBTOTAL	53	50	65	1	169	4	7	4	0	15	0	0	0	0	0	49

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Municipality: Niagara Falls
Count Date: Jul 18, 2024

East Approach - Murray St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	11	36	24	0	71	1	1	0	0	2	0	0	0	0	0	18
16:15	18	34	45	0	97	0	1	0	0	1	0	0	0	0	0	15
16:30	16	29	34	0	79	0	2	0	0	2	0	0	0	0	0	25
16:45	18	40	33	0	91	0	2	1	0	3	0	0	0	0	0	17
17:00	20	26	40	0	86	0	1	2	0	3	0	0	0	0	0	41
17:15	21	38	35	0	94	1	0	0	0	1	0	0	0	0	0	15
17:30	16	15	52	0	83	0	0	1	0	1	0	0	0	0	0	39
17:45	19	34	44	0	97	0	0	0	0	0	0	0	0	0	0	34
SUBTOTAL	139	252	307	0	698	2	7	4	0	13	0	0	0	0	0	204
GRAND TOTAL	192	302	372	1	867	6	14	8	0	28	0	0	0	0	0	253

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Municipality: Niagara Falls
Count Date: Jul 18, 2024

West Approach - Murray St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	2	4	8	0	14	0	0	1	0	1	0	0	0	0	0	3
07:15	8	8	5	0	21	0	0	0	0	0	0	1	0	0	1	1
07:30	3	13	4	0	20	0	0	2	0	2	0	0	0	0	0	4
07:45	10	15	7	0	32	0	1	0	0	1	0	0	0	0	0	5
08:00	3	14	4	0	21	0	1	2	0	3	0	0	0	0	0	12
08:15	9	20	4	0	33	0	2	0	0	2	0	0	0	0	0	2
08:30	6	16	6	0	28	0	1	2	0	3	1	0	0	0	1	13
08:45	2	14	12	0	28	0	0	2	0	2	0	0	0	0	0	9
SUBTOTAL	43	104	50	0	197	0	5	9	0	14	1	1	0	0	2	49

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Municipality: Niagara Falls
Count Date: Jul 18, 2024

West Approach - Murray St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	11	18	3	0	32	0	1	2	0	3	0	0	0	0	0	10
16:15	6	17	3	0	26	0	1	0	0	1	0	0	0	0	0	20
16:30	3	15	8	0	26	0	2	2	0	4	0	0	0	0	0	13
16:45	7	22	6	0	35	1	2	0	0	3	0	0	0	0	0	44
17:00	9	21	6	0	36	0	1	3	0	4	0	0	0	0	0	16
17:15	6	21	9	0	36	0	1	0	0	1	0	0	0	0	0	18
17:30	7	27	4	0	38	0	1	3	0	4	0	0	0	0	0	17
17:45	9	14	3	0	26	0	1	0	0	1	0	0	0	0	0	24
SUBTOTAL	58	155	42	0	255	1	10	10	0	21	0	0	0	0	0	162
GRAND TOTAL	**101**	**259**	**92**	**0**	**452**	**1**	**15**	**19**	**0**	**35**	**1**	**1**	**0**	**0**	**2**	**211**

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Count Date: Jul 18, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	370	299	669
Trucks	18	12	30
Bicycles	0	1	1
	388	**312**	**700**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	15	3	0
Cars	30	257	82	1
Totals	**30**	**272**	**85**	**1**

Peds: 48

East Approach

	Out	In	Total
Cars	91	199	290
Trucks	11	12	23
Bicycles	0	0	0
	102	**211**	**313**

Murray St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
1	0	20	**21**	
0	4	64	**68**	
0	6	26	**32**	

Peds: 36



Peds: 36

Murray St

	Totals	Cars	Trucks	Bicycles
	1	1	0	0
	39	36	3	0
	34	27	7	0
	28	27	1	0

Peds: 38

West Approach

	Out	In	Total
Cars	110	117	227
Trucks	10	11	21
Bicycles	1	0	1
	121	**128**	**249**

Stanley Ave

Totals	**64**	**251**	**57**	**0**
Cars	60	242	52	0
Trucks	4	9	5	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	354	310	664
Trucks	18	22	40
Bicycles	0	0	0
	372	**332**	**704**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Stanley Ave & Murray St
Site Code:	2431400001
Count Date:	Jul 18, 2024
Period:	07:00 - 09:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Murray St						West Approach Murray St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	14	58	7	0	19	79	12	48	13	0	16	73	10	7	9	1	4	27	3	15	6	0	12	24	203
08:15	23	56	10	0	5	89	18	63	11	0	5	92	4	11	10	0	10	25	9	22	4	0	2	35	241
08:30	22	72	3	1	12	98	16	61	19	0	7	96	7	10	14	0	6	31	7	17	8	0	13	32	257
08:45	26	86	10	0	12	122	18	79	14	0	10	111	7	6	6	0	16	19	2	14	14	0	9	30	282
Grand Total	**85**	**272**	**30**	**1**	**48**	**388**	**64**	**251**	**57**	**0**	**38**	**372**	**28**	**34**	**39**	**1**	**36**	**102**	**21**	**68**	**32**	**0**	**36**	**121**	**983**
Approach %	21.9	70.1	7.7	0.3		-	17.2	67.5	15.3	0		-	27.5	33.3	38.2	1		-	17.4	56.2	26.4	0		-	
Totals %	8.6	27.7	3.1	0.1		39.5	6.5	25.5	5.8	0		37.8	2.8	3.5	4	0.1		10.4	2.1	6.9	3.3	0		12.3	
PHF	**0.82**	**0.79**	**0.75**	**0.25**		**0.8**	**0.89**	**0.79**	**0.75**	**0**		**0.84**	**0.7**	**0.77**	**0.7**	**0.25**		**0.82**	**0.58**	**0.77**	**0.57**	**0**		**0.86**	**0.87**
Cars	82	257	30	1		370	60	242	52	0		354	27	27	36	1		91	20	64	26	0		110	925
% Cars	96.5	94.5	100	100		95.4	93.8	96.4	91.2	0		95.2	96.4	79.4	92.3	100		89.2	95.2	94.1	81.3	0		90.9	94.1
Trucks	3	15	0	0		18	4	9	5	0		18	1	7	3	0		11	0	4	6	0		10	57
% Trucks	3.5	5.5	0	0		4.6	6.3	3.6	8.8	0		4.8	3.6	20.6	7.7	0		10.8	0	5.9	18.8	0		8.3	5.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	1
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	4.8	0	0	0		0.8	0.1
Peds					48	-					38	-					36	-					36	-	158
% Peds					30.4	-					24.1	-					22.8	-					22.8	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:30:00
To:	18:00:00	To:	17:30:00

Intersection: Stanley Ave & Murray St
Site Code: 2431400001
Count Date: Jul 18, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	859	586	1445
Trucks	9	11	20
Bicycles	0	1	1
	868	**598**	**1466**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	7	2	0
Cars	44	551	264	0
Totals	**44**	**558**	**266**	**0**

Peds: 131

East Approach

	Out	In	Total
Cars	350	425	775
Trucks	9	9	18
Bicycles	0	0	0
	359	**434**	**793**

Murray St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	25	**26**	
0	6	79	**85**	
0	5	29	**34**	

Peds: 91



Peds: 98

Murray St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	145	142	3	0
	138	133	5	0
	76	75	1	0

Peds: 147

West Approach

	Out	In	Total
Cars	133	237	370
Trucks	12	9	21
Bicycles	0	1	1
	145	**247**	**392**

Totals	**65**	**427**	**83**	**0**
Cars	60	419	82	0
Trucks	4	7	1	0
Bicycles	1	1	0	0

Stanley Ave

South Approach

	Out	In	Total
Cars	561	655	1216
Trucks	12	13	25
Bicycles	2	0	2
	575	**668**	**1243**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Stanley Ave & Murray St
Site Code:	2431400001
Count Date:	Jul 18, 2024
Period:	16:00 - 18:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Murray St						West Approach Murray St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	63	139	9	0	31	211	21	108	23	0	18	152	16	31	34	0	25	81	3	17	10	0	13	30	474
16:45	63	140	14	0	24	217	21	96	22	0	52	139	18	42	34	0	17	94	8	24	6	0	44	38	488
17:00	73	140	10	0	52	223	15	129	16	0	44	160	20	27	42	0	41	89	9	22	9	0	16	40	512
17:15	67	139	11	0	24	217	8	94	22	0	33	124	22	38	35	0	15	95	6	22	9	0	18	37	473
Grand Total	**266**	**558**	**44**	**0**	**131**	**868**	**65**	**427**	**83**	**0**	**147**	**575**	**76**	**138**	**145**	**0**	**98**	**359**	**26**	**85**	**34**	**0**	**91**	**145**	**1947**
Approach %	30.6	64.3	5.1	0		-	11.3	74.3	14.4	0		-	21.2	38.4	40.4	0		-	17.9	58.6	23.4	0		-	
Totals %	13.7	28.7	2.3	0		44.6	3.3	21.9	4.3	0		29.5	3.9	7.1	7.4	0		18.4	1.3	4.4	1.7	0		7.4	
PHF	**0.91**	**1**	**0.79**	**0**		**0.97**	**0.77**	**0.83**	**0.9**	**0**		**0.9**	**0.86**	**0.82**	**0.86**	**0**		**0.94**	**0.72**	**0.89**	**0.85**	**0**		**0.91**	**0.95**
Cars	264	551	44	0		859	60	419	82	0		561	75	133	142	0		350	25	79	29	0		133	1903
% Cars	99.2	98.7	100	0		99	92.3	98.1	98.8	0		97.6	98.7	96.4	97.9	0		97.5	96.2	92.9	85.3	0		91.7	97.7
Trucks	2	7	0	0		9	4	7	1	0		12	1	5	3	0		9	1	6	5	0		12	42
% Trucks	0.8	1.3	0	0		1	6.2	1.6	1.2	0		2.1	1.3	3.6	2.1	0		2.5	3.8	7.1	14.7	0		8.3	2.2
Bicycles	0	0	0	0		0	1	1	0	0		2	0	0	0	0		0	0	0	0	0		0	2
% Bicycles	0	0	0	0		0	1.5	0.2	0	0		0.3	0	0	0	0		0	0	0	0	0		0	0.1
Peds					131	-					147	-					98	-					91	-	467
% Peds					28.1	-					31.5	-					21	-					19.5	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-314 - Arcadis Professional Services (Canada) Inc.

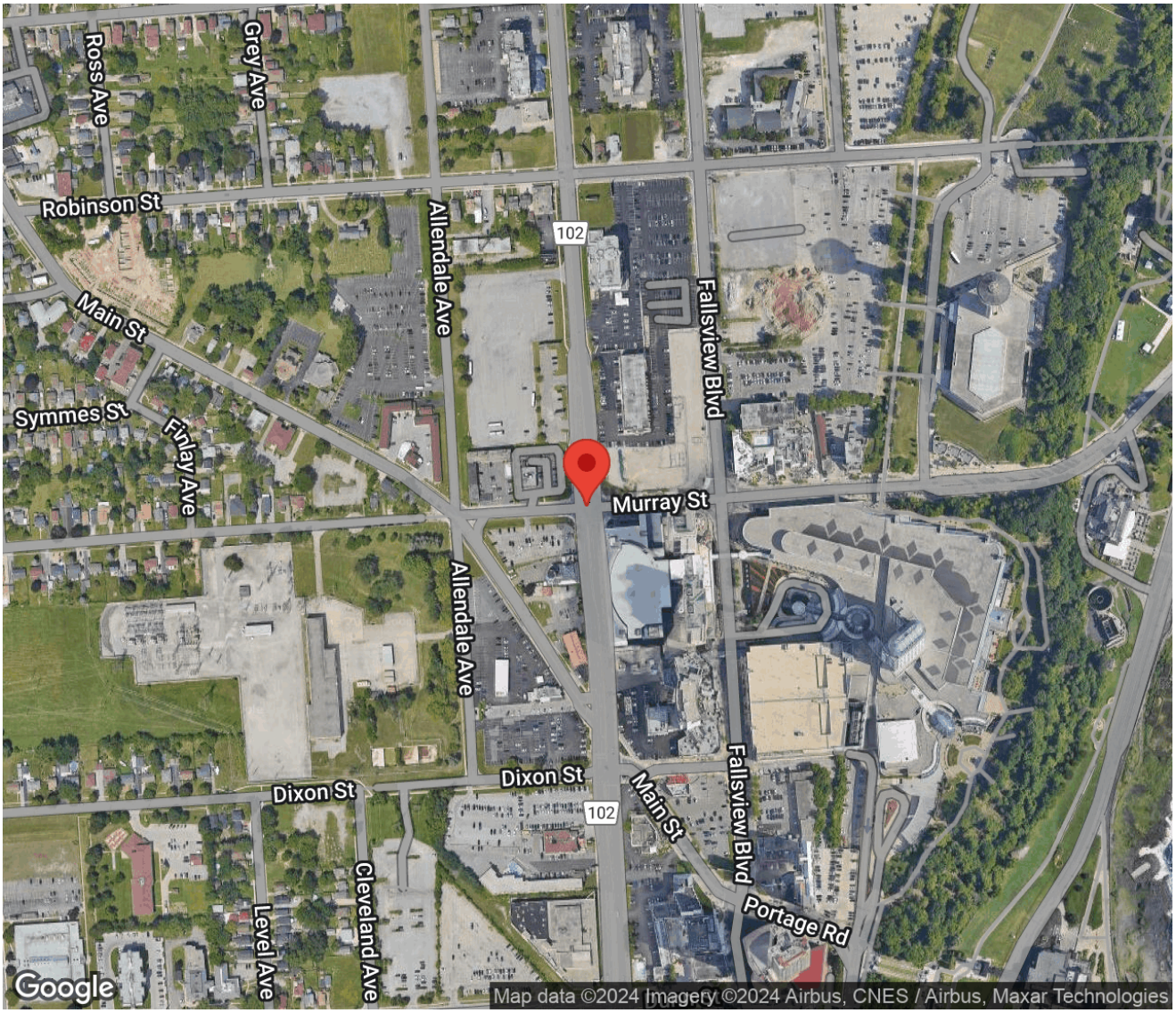
Intersection Count Report

Intersection:	Stanley Ave & Murray St
Municipality:	Niagara Falls
Count Date:	Saturday, Jul 20, 2024
Site Code:	2431400014
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-20:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Stanley Ave & Murray St
Site Code:	2431400014
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Murray St
Site Code:	2431400014
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024

Stanley Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	258	308	32	0	598	177	66	407	74	0	547	58	1145
12:00 - 13:00	281	339	21	0	641	100	48	339	95	0	482	51	1123
13:00 - 14:00	298	351	51	0	700	86	45	333	99	0	477	64	1177
BREAK													
17:00 - 18:00	306	400	56	0	762	255	76	449	122	0	647	68	1409
18:00 - 19:00	291	371	55	0	717	234	88	402	141	1	632	160	1349
19:00 - 20:00	292	361	50	0	703	244	62	371	96	2	531	136	1234
GRAND TOTAL	**1726**	**2130**	**265**	**0**	**4121**	**1096**	**385**	**2301**	**627**	**3**	**3316**	**537**	**7437**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Murray St
Site Code:	2431400014
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024

Murray St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	52	85	125	0	262	84	66	86	22	0	174	68	436
12:00 - 13:00	55	58	111	0	224	88	23	61	24	0	108	59	332
13:00 - 14:00	49	76	126	0	251	92	25	77	26	0	128	65	379
BREAK													
17:00 - 18:00	79	108	149	0	336	154	34	111	33	0	178	174	514
18:00 - 19:00	70	110	149	0	329	333	41	124	38	0	203	199	532
19:00 - 20:00	56	84	187	0	327	183	39	102	27	0	168	144	495
GRAND TOTAL	**361**	**521**	**847**	**0**	**1729**	**934**	**228**	**561**	**170**	**0**	**959**	**709**	**2688**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Municipality: Niagara Falls
Count Date: Jul 20, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	74	75	8	0	157	3	5	0	0	8	0	0	0	0	0	25
11:15	61	70	10	0	141	1	3	0	0	4	0	0	0	0	0	60
11:30	66	86	10	0	162	1	3	0	0	4	0	0	0	0	0	38
11:45	50	65	4	0	119	2	1	0	0	3	0	0	0	0	0	54
12:00	70	81	5	0	156	0	0	0	0	0	0	0	0	0	0	27
12:15	66	79	5	0	150	1	0	0	0	1	0	0	0	0	0	30
12:30	72	91	4	0	167	2	0	0	0	2	0	0	0	0	0	32
12:45	67	85	7	0	159	3	3	0	0	6	0	0	0	0	0	11
13:00	71	83	9	0	163	1	1	0	0	2	0	0	0	0	0	15
13:15	66	88	9	0	163	1	4	0	0	5	0	0	0	0	0	18
13:30	79	101	19	0	199	1	3	0	0	4	0	0	0	0	0	26
13:45	78	71	14	0	163	1	0	0	0	1	0	0	0	0	0	27
SUBTOTAL	820	975	104	0	1899	17	23	0	0	40	0	0	0	0	0	363

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Municipality: Niagara Falls
Count Date: Jul 20, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	83	106	21	0	210	2	1	0	0	3	0	0	0	0	0	66
17:15	66	93	6	0	165	0	1	0	0	1	0	0	0	0	0	51
17:30	76	96	12	0	184	3	0	0	0	3	0	0	0	0	0	64
17:45	76	101	17	0	194	0	2	0	0	2	0	0	0	0	0	74
18:00	71	90	17	0	178	2	0	0	0	2	0	0	0	0	0	50
18:15	71	94	14	0	179	2	0	0	0	2	0	0	0	0	0	65
18:30	72	93	12	0	177	2	1	0	0	3	0	0	0	0	0	52
18:45	71	93	12	0	176	0	0	0	0	0	0	0	0	0	0	67
19:00	70	93	10	0	173	2	1	0	0	3	0	0	0	0	0	91
19:15	74	96	16	0	186	1	2	0	0	3	0	0	0	0	0	72
19:30	68	74	11	0	153	4	2	0	0	6	0	0	0	0	0	32
19:45	73	91	13	0	177	0	2	0	0	2	0	0	0	0	0	49
SUBTOTAL	871	1120	161	0	2152	18	12	0	0	30	0	0	0	0	0	733
GRAND TOTAL	1691	2095	265	0	4051	35	35	0	0	70	0	0	0	0	0	1096

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Municipality: Niagara Falls
Count Date: Jul 20, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	18	96	17	0	131	0	1	0	0	1	0	0	0	0	0	14
11:15	19	106	25	0	150	1	1	0	0	2	0	0	0	0	0	16
11:30	11	97	13	0	121	0	1	0	0	1	0	0	0	0	0	12
11:45	16	102	19	0	137	1	3	0	0	4	0	0	0	0	0	16
12:00	11	86	17	0	114	1	1	1	0	3	0	0	0	0	0	17
12:15	8	90	27	0	125	1	0	0	0	1	0	0	0	0	0	11
12:30	14	86	28	0	128	1	0	1	0	2	0	0	0	0	0	13
12:45	11	76	21	0	108	1	0	0	0	1	0	0	0	0	0	10
13:00	14	85	21	0	120	1	2	0	0	3	0	1	0	0	1	15
13:15	9	85	21	0	115	1	2	0	0	3	0	0	0	0	0	14
13:30	10	71	33	0	114	0	0	0	0	0	0	0	0	0	0	16
13:45	9	86	24	0	119	1	1	0	0	2	0	0	0	0	0	19
SUBTOTAL	150	1066	266	0	1482	9	12	2	0	23	0	1	0	0	1	173

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Municipality: Niagara Falls
Count Date: Jul 20, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	22	107	30	0	159	1	1	0	0	2	0	0	0	0	0	15
17:15	20	98	23	0	141	2	1	0	0	3	0	0	0	0	0	18
17:30	13	119	30	0	162	0	3	0	0	3	0	0	0	0	0	10
17:45	16	120	39	0	175	2	0	0	0	2	0	0	0	0	0	25
18:00	17	93	31	0	141	0	1	0	0	1	0	0	0	0	0	33
18:15	20	75	43	0	138	1	0	0	0	1	0	0	0	0	0	38
18:30	26	108	38	0	172	0	3	0	0	3	0	0	0	0	0	43
18:45	23	121	29	1	174	1	1	0	0	2	0	0	0	0	0	46
19:00	18	102	36	1	157	0	0	0	0	0	0	0	0	0	0	37
19:15	15	94	25	1	135	1	0	0	0	1	0	0	0	0	0	49
19:30	11	89	18	0	118	0	0	0	0	0	0	0	0	0	0	27
19:45	16	86	17	0	119	1	0	0	0	1	0	0	0	0	0	23
SUBTOTAL	217	1212	359	3	1791	9	10	0	0	19	0	0	0	0	0	364
GRAND TOTAL	367	2278	625	3	3273	18	22	2	0	42	0	1	0	0	1	537

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Municipality: Niagara Falls
Count Date: Jul 20, 2024

East Approach - Murray St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	15	19	26	0	60	0	3	0	0	3	0	0	0	0	0	16
11:15	16	21	26	0	63	0	2	3	0	5	0	0	0	0	0	21
11:30	10	20	24	0	54	0	3	1	0	4	0	0	0	0	0	28
11:45	11	16	45	0	72	0	1	0	0	1	0	0	0	0	0	19
12:00	14	20	24	0	58	0	2	2	0	4	0	0	0	0	0	19
12:15	14	10	28	0	52	1	2	0	0	3	0	0	0	0	0	21
12:30	14	11	26	0	51	1	1	0	0	2	0	0	0	0	0	23
12:45	10	10	31	0	51	1	2	0	0	3	0	0	0	0	0	25
13:00	15	14	30	0	59	0	1	1	0	2	0	0	0	0	0	20
13:15	7	18	32	0	57	0	1	1	0	2	0	0	0	0	0	29
13:30	14	21	32	0	67	0	1	0	0	1	0	0	0	0	0	22
13:45	13	19	25	0	57	0	1	5	0	6	0	0	0	0	0	21
SUBTOTAL	153	199	349	0	701	3	20	13	0	36	0	0	0	0	0	264

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Municipality: Niagara Falls
Count Date: Jul 20, 2024

East Approach - Murray St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	24	24	36	0	84	0	0	3	0	3	0	0	0	0	0	31
17:15	21	25	27	0	73	0	1	3	0	4	0	0	0	0	0	29
17:30	14	29	31	0	74	0	1	1	0	2	0	0	0	0	0	45
17:45	20	27	48	0	95	0	1	0	0	1	0	0	0	0	0	49
18:00	12	29	36	0	77	0	1	0	0	1	0	0	0	0	0	64
18:15	23	31	33	0	87	0	1	1	0	2	0	0	0	0	0	78
18:30	16	31	42	0	89	0	0	0	0	0	0	0	0	0	0	96
18:45	19	16	33	0	68	0	1	4	0	5	0	0	0	0	0	95
19:00	16	22	43	0	81	0	2	1	0	3	0	0	0	0	0	55
19:15	8	22	42	0	72	0	1	1	0	2	0	0	0	0	0	53
19:30	13	19	43	0	75	0	1	3	0	4	0	0	0	0	0	28
19:45	18	16	52	0	86	1	1	2	0	4	0	0	0	0	0	47
SUBTOTAL	204	291	466	0	961	1	11	19	0	31	0	0	0	0	0	670
GRAND TOTAL	**357**	**490**	**815**	**0**	**1662**	**4**	**31**	**32**	**0**	**67**	**0**	**0**	**0**	**0**	**0**	**934**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Municipality: Niagara Falls
Count Date: Jul 20, 2024

West Approach - Murray St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	15	25	6	0	46	0	0	0	0	0	0	0	0	0	0	40
11:15	17	15	3	0	35	0	2	0	0	2	0	0	0	0	0	7
11:30	19	20	6	0	45	0	1	1	0	2	0	0	0	0	0	12
11:45	15	22	6	0	43	0	1	0	0	1	0	0	0	0	0	9
12:00	6	12	9	0	27	0	1	1	0	2	0	0	0	0	0	14
12:15	8	22	4	0	34	0	0	0	0	0	0	0	0	0	0	5
12:30	6	14	7	0	27	1	0	1	0	2	0	0	0	0	0	29
12:45	2	12	2	0	16	0	0	0	0	0	0	0	0	0	0	11
13:00	7	20	2	0	29	0	1	1	0	2	0	0	0	0	0	26
13:15	6	18	6	0	30	0	0	0	0	0	0	0	0	0	0	12
13:30	6	14	7	0	27	0	1	1	0	2	0	0	0	0	0	6
13:45	6	22	9	0	37	0	1	0	0	1	0	0	0	0	0	21
SUBTOTAL	113	216	67	0	396	1	8	5	0	14	0	0	0	0	0	192

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Municipality: Niagara Falls
Count Date: Jul 20, 2024

West Approach - Murray St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	15	26	11	0	52	0	1	2	0	3	0	0	0	0	0	24
17:15	4	25	4	0	33	0	1	0	0	1	0	0	0	0	0	49
17:30	8	29	6	0	43	0	0	3	0	3	0	0	0	0	0	52
17:45	7	28	5	0	40	0	1	2	0	3	0	0	0	0	0	49
18:00	8	29	6	0	43	0	0	3	0	3	0	0	0	0	0	52
18:15	12	36	12	0	60	0	1	0	0	1	0	0	0	0	0	45
18:30	11	35	5	0	51	0	1	1	0	2	0	0	0	0	0	75
18:45	10	21	11	0	42	0	1	0	0	1	0	0	0	0	0	27
19:00	8	26	7	0	41	0	1	1	0	2	0	0	0	0	0	46
19:15	12	28	3	0	43	0	1	0	0	1	0	0	0	0	0	44
19:30	8	21	12	0	41	0	1	1	0	2	0	0	0	0	0	29
19:45	11	22	3	0	36	0	2	0	0	2	0	0	0	0	0	25
SUBTOTAL	114	326	85	0	525	0	11	13	0	24	0	0	0	0	0	517
GRAND TOTAL	227	542	152	0	921	1	19	18	0	38	0	0	0	0	0	709

Peak Hour Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 11:00:00
To: 12:00:00

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Count Date: Jul 20, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	579	588	1167
Trucks	19	10	29
Bicycles	0	0	0
	598	**598**	**1196**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	12	7	0
Cars	32	296	251	0
Totals	**32**	**308**	**258**	**0**

East Approach

	Out	In	Total
Cars	249	407	656
Trucks	13	11	24
Bicycles	0	0	0
	262	**418**	**680**

Murray St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	66	**66**	
0	4	82	**86**	
0	1	21	**22**	

Peds: 177

Peds: 68



Peds: 84

Murray St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	125	121	4	0
	85	76	9	0
	52	52	0	0

Peds: 58

West Approach

	Out	In	Total
Cars	169	172	341
Trucks	5	11	16
Bicycles	0	0	0
	174	**183**	**357**

Totals	**66**	**407**	**74**	**0**
Cars	64	401	74	0
Trucks	2	6	0	0
Bicycles	0	0	0	0

Stanley Ave

South Approach

	Out	In	Total
Cars	539	369	908
Trucks	8	13	21
Bicycles	0	0	0
	547	**382**	**929**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Count Date: Jul 20, 2024
Period: 11:00 - 14:00

Peak Hour Data (11:00 - 12:00)

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Murray St						West Approach Murray St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
11:00	77	80	8	0	25	165	18	97	17	0	14	132	15	22	26	0	16	63	15	25	6	0	40	46	406
11:15	62	73	10	0	60	145	20	107	25	0	16	152	16	23	29	0	21	68	17	17	3	0	7	37	402
11:30	67	89	10	0	38	166	11	98	13	0	12	122	10	23	25	0	28	58	19	21	7	0	12	47	393
11:45	52	66	4	0	54	122	17	105	19	0	16	141	11	17	45	0	19	73	15	23	6	0	9	44	380
Grand Total	**258**	**308**	**32**	**0**	**177**	**598**	**66**	**407**	**74**	**0**	**58**	**547**	**52**	**85**	**125**	**0**	**84**	**262**	**66**	**86**	**22**	**0**	**68**	**174**	**1581**
Approach %	43.1	51.5	5.4	0		-	12.1	74.4	13.5	0		-	19.8	32.4	47.7	0		-	37.9	49.4	12.6	0		-	
Totals %	16.3	19.5	2	0		37.8	4.2	25.7	4.7	0		34.6	3.3	5.4	7.9	0		16.6	4.2	5.4	1.4	0		11	
PHF	**0.84**	**0.87**	**0.8**	**0**		**0.9**	**0.83**	**0.95**	**0.74**	**0**		**0.9**	**0.81**	**0.92**	**0.69**	**0**		**0.9**	**0.87**	**0.86**	**0.79**	**0**		**0.93**	**0.97**
Cars	251	296	32	0		579	64	401	74	0		539	52	76	121	0		249	66	82	21	0		169	1536
% Cars	97.3	96.1	100	0		96.8	97	98.5	100	0		98.5	100	89.4	96.8	0		95	100	95.3	95.5	0		97.1	97.2
Trucks	7	12	0	0		19	2	6	0	0		8	0	9	4	0		13	0	4	1	0		5	45
% Trucks	2.7	3.9	0	0		3.2	3	1.5	0	0		1.5	0	10.6	3.2	0		5	0	4.7	4.5	0		2.9	2.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					177	-					58	-					84	-					68	-	387
% Peds					45.7	-					15	-					21.7	-					17.6	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	17:00:00	From:	17:45:00
To:	20:00:00	To:	18:45:00

Intersection: Stanley Ave & Murray St
Site Code: 2431400014
Count Date: Jul 20, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	728	593	1321
Trucks	9	5	14
Bicycles	0	0	0
	737	**598**	**1335**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	3	6	0
Cars	60	378	290	0
Totals	**60**	**381**	**296**	**0**

East Approach

	Out	In	Total
Cars	348	569	917
Trucks	4	9	13
Bicycles	0	0	0
	352	**578**	**930**

Peds: 241

Murray St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	38	**38**	
0	3	128	**131**	
0	6	28	**34**	

Peds: 221



Peds: 287

Murray St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	160	159	1	0
	121	118	3	0
	71	71	0	0

Peds: 139

West Approach

	Out	In	Total
Cars	194	257	451
Trucks	9	6	15
Bicycles	0	0	0
	203	**263**	**466**

Totals	**82**	**400**	**151**	**0**
Cars	79	396	151	0
Trucks	3	4	0	0
Bicycles	0	0	0	0

Stanley Ave

South Approach

	Out	In	Total
Cars	626	477	1103
Trucks	7	9	16
Bicycles	0	0	0
	633	**486**	**1119**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Stanley Ave & Murray St
Site Code:	2431400014
Count Date:	Jul 20, 2024
Period:	17:00 - 20:00

Peak Hour Data (17:45 - 18:45)

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Murray St						West Approach Murray St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:45	76	103	17	0	74	196	18	120	39	0	25	177	20	28	48	0	49	96	7	29	7	0	49	43	512
18:00	73	90	17	0	50	180	17	94	31	0	33	142	12	30	36	0	64	78	8	29	9	0	52	46	446
18:15	73	94	14	0	65	181	21	75	43	0	38	139	23	32	34	0	78	89	12	37	12	0	45	61	470
18:30	74	94	12	0	52	180	26	111	38	0	43	175	16	31	42	0	96	89	11	36	6	0	75	53	497
Grand Total	**296**	**381**	**60**	**0**	**241**	**737**	**82**	**400**	**151**	**0**	**139**	**633**	**71**	**121**	**160**	**0**	**287**	**352**	**38**	**131**	**34**	**0**	**221**	**203**	**1925**
Approach %	40.2	51.7	8.1	0		-	13	63.2	23.9	0		-	20.2	34.4	45.5	0		-	18.7	64.5	16.7	0		-	
Totals %	15.4	19.8	3.1	0		38.3	4.3	20.8	7.8	0		32.9	3.7	6.3	8.3	0		18.3	2	6.8	1.8	0		10.5	
PHF	**0.97**	**0.92**	**0.88**	**0**		**0.94**	**0.79**	**0.83**	**0.88**	**0**		**0.89**	**0.77**	**0.95**	**0.83**	**0**		**0.92**	**0.79**	**0.89**	**0.71**	**0**		**0.83**	**0.94**
Cars	290	378	60	0		728	79	396	151	0		626	71	118	159	0		348	38	128	28	0		194	1896
% Cars	98	99.2	100	0		98.8	96.3	99	100	0		98.9	100	97.5	99.4	0		98.9	100	97.7	82.4	0		95.6	98.5
Trucks	6	3	0	0		9	3	4	0	0		7	0	3	1	0		4	0	3	6	0		9	29
% Trucks	2	0.8	0	0		1.2	3.7	1	0	0		1.1	0	2.5	0.6	0		1.1	0	2.3	17.6	0		4.4	1.5
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					241	-					139	-					287	-					221	-	888
% Peds					27.1	-					15.7	-					32.3	-					24.9	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-314 - Arcadis Professional Services (Canada) Inc.

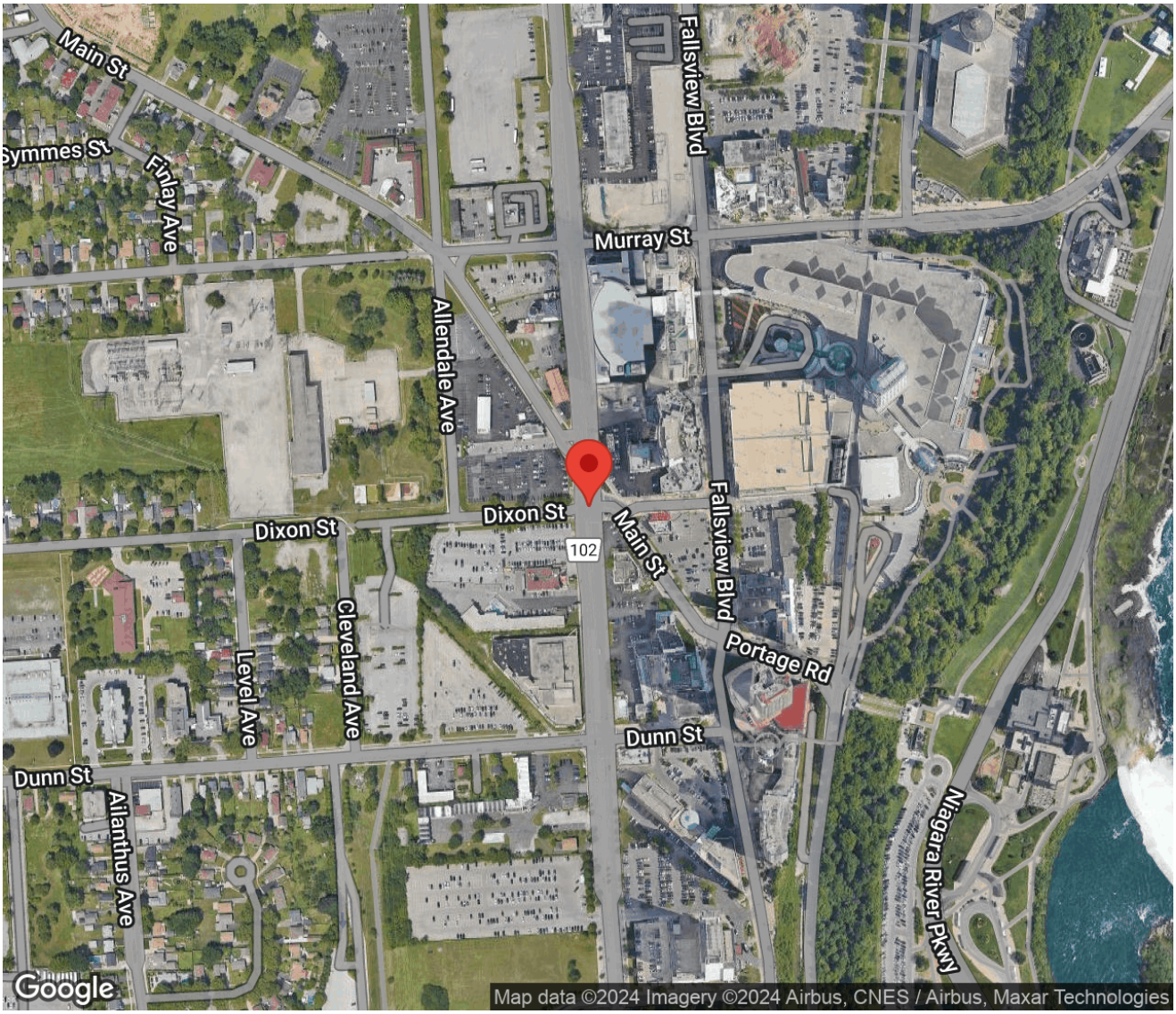
Intersection Count Report

Intersection:	Stanley Ave & Dixon St - Main St
Municipality:	Niagara Falls
Count Date:	Thursday, Jul 18, 2024
Site Code:	2431400002
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Stanley Ave & Dixon St - Main St
Site Code:	2431400002
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Dixon St - Main St
Site Code:	2431400002
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024

Stanley Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	37	185	5	0	227	58	8	207	6	0	221	12	448
08:00 - 09:00	63	245	0	0	308	195	14	264	7	0	285	29	593
BREAK													
16:00 - 17:00	127	425	20	1	573	129	9	428	18	1	456	49	1029
17:00 - 18:00	143	407	21	0	571	119	13	402	16	0	431	84	1002
GRAND TOTAL	**370**	**1262**	**46**	**1**	**1679**	**501**	**44**	**1301**	**47**	**1**	**1393**	**174**	**3072**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Dixon St - Main St
Site Code:	2431400002
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024

Main St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	17	4	65	1	87	15	7	2	8	0	17	36	104
08:00 - 09:00	31	2	89	0	122	36	7	6	3	0	16	59	138
BREAK													
16:00 - 17:00	43	35	152	0	230	42	11	8	15	0	34	109	264
17:00 - 18:00	49	15	135	0	199	78	16	7	36	0	59	111	258
GRAND TOTAL	**140**	**56**	**441**	**1**	**638**	**171**	**41**	**23**	**62**	**0**	**126**	**315**	**764**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Municipality: Niagara Falls
Count Date: Jul 18, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	7	36	0	0	43	1	3	0	0	4	0	0	0	0	0	11
07:15	8	34	2	0	44	0	1	0	0	1	0	0	0	0	0	7
07:30	9	41	2	0	52	3	8	0	0	11	0	0	0	0	0	19
07:45	8	58	1	0	67	1	4	0	0	5	0	0	0	0	0	21
08:00	14	48	0	0	62	0	6	0	0	6	0	0	0	0	0	51
08:15	8	47	0	0	55	4	1	0	0	5	0	0	0	0	0	25
08:30	18	58	0	0	76	2	7	0	0	9	0	0	0	0	0	56
08:45	17	77	0	0	94	0	1	0	0	1	0	0	0	0	0	63
SUBTOTAL	89	399	5	0	493	11	31	0	0	42	0	0	0	0	0	253

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Municipality: Niagara Falls
Count Date: Jul 18, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
16:00	30	100	3	0	133	0	6	1	0	7	0	0	0	0	0	26
16:15	29	95	2	0	126	1	0	2	0	3	0	0	0	0	0	30
16:30	28	118	1	1	148	1	2	4	0	7	0	0	0	0	0	39
16:45	38	102	7	0	147	0	2	0	0	2	0	0	0	0	0	34
17:00	47	104	3	0	154	1	2	0	0	3	0	0	0	0	0	30
17:15	40	116	5	0	161	1	1	0	0	2	0	0	0	0	0	23
17:30	28	87	5	0	120	0	3	0	0	3	0	0	0	0	0	36
17:45	26	93	8	0	127	0	1	0	0	1	0	0	0	0	0	30
SUBTOTAL	266	815	34	1	1116	4	17	7	0	28	0	0	0	0	0	248
GRAND TOTAL	**355**	**1214**	**39**	**1**	**1609**	**15**	**48**	**7**	**0**	**70**	**0**	**0**	**0**	**0**	**0**	**501**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Municipality: Niagara Falls
Count Date: Jul 18, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	2	32	2	0	36	0	2	0	0	2	0	0	0	0	0	0
07:15	1	36	0	0	37	0	8	0	0	8	0	0	0	0	0	1
07:30	0	47	3	0	50	0	0	0	0	0	0	0	0	0	0	7
07:45	5	77	1	0	83	0	5	0	0	5	0	0	0	0	0	4
08:00	4	52	1	0	57	0	3	0	0	3	0	0	0	0	0	4
08:15	2	67	2	0	71	0	3	0	0	3	0	0	0	0	0	4
08:30	4	64	2	0	70	0	3	0	0	3	0	0	0	0	0	10
08:45	4	69	2	0	75	0	3	0	0	3	0	0	0	0	0	11
SUBTOTAL	22	444	13	0	479	0	27	0	0	27	0	0	0	0	0	41

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Municipality: Niagara Falls
Count Date: Jul 18, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
16:00	1	113	4	0	118	0	2	0	0	2	0	3	0	0	3	14
16:15	1	98	3	1	103	0	4	0	0	4	0	0	0	0	0	10
16:30	3	110	4	0	117	0	1	0	0	1	0	0	0	0	0	16
16:45	4	96	6	0	106	0	1	0	0	1	0	0	1	0	1	9
17:00	3	120	4	0	127	0	2	0	0	2	0	0	0	0	0	22
17:15	2	83	3	0	88	0	4	0	0	4	0	0	0	0	0	22
17:30	2	94	5	0	101	0	1	0	0	1	0	0	0	0	0	18
17:45	6	96	4	0	106	0	2	0	0	2	0	0	0	0	0	22
SUBTOTAL	22	810	33	1	866	0	17	0	0	17	0	3	1	0	4	133
GRAND TOTAL	44	1254	46	1	1345	0	44	0	0	44	0	3	1	0	4	174

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Municipality: Niagara Falls
Count Date: Jul 18, 2024

East Approach - Main St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	4	0	13	0	17	1	0	1	0	2	0	0	0	0	0	1
07:15	1	3	12	0	16	1	0	0	0	1	0	0	0	0	0	4
07:30	4	0	27	1	32	2	1	1	0	4	0	0	0	0	0	4
07:45	3	0	9	0	12	1	0	2	0	3	0	0	0	0	0	6
08:00	4	2	11	0	17	2	0	1	0	3	0	0	0	0	0	4
08:15	4	0	17	0	21	5	0	1	0	6	0	0	0	0	0	13
08:30	3	0	25	0	28	5	0	1	0	6	0	0	0	0	0	3
08:45	5	0	31	0	36	3	0	2	0	5	0	0	0	0	0	16
SUBTOTAL	28	5	145	1	179	20	1	9	0	30	0	0	0	0	0	51

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Municipality: Niagara Falls
Count Date: Jul 18, 2024

East Approach - Main St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	10	8	29	0	47	3	0	4	0	7	0	0	0	0	0	15
16:15	6	9	43	0	58	2	0	2	0	4	0	0	0	0	0	6
16:30	7	11	33	0	51	2	0	0	0	2	0	0	1	0	1	8
16:45	11	7	39	0	57	2	0	1	0	3	0	0	0	0	0	13
17:00	9	5	44	0	58	2	0	1	0	3	0	0	0	0	0	15
17:15	12	3	29	0	44	3	0	1	0	4	0	0	0	0	0	16
17:30	10	3	26	0	39	2	0	3	0	5	0	0	0	0	0	30
17:45	8	4	30	0	42	3	0	1	0	4	0	0	0	0	0	17
SUBTOTAL	73	50	273	0	396	19	0	13	0	32	0	0	1	0	1	120
GRAND TOTAL	**101**	**55**	**418**	**1**	**575**	**39**	**1**	**22**	**0**	**62**	**0**	**0**	**1**	**0**	**1**	**171**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Municipality: Niagara Falls
Count Date: Jul 18, 2024

West Approach - Dixon St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	2	1	1	0	4	0	0	0	0	0	0	0	0	0	0	7
07:15	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	7
07:30	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	7
07:45	2	1	2	0	5	0	0	0	0	0	0	0	0	0	0	15
08:00	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	18
08:15	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	7
08:30	1	1	2	0	4	0	0	0	0	0	0	0	0	0	0	18
08:45	2	3	1	0	6	0	0	0	0	0	0	0	0	0	0	16
SUBTOTAL	13	8	10	0	31	1	0	1	0	2	0	0	0	0	0	95

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Municipality: Niagara Falls
Count Date: Jul 18, 2024

West Approach - Dixon St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	3	3	5	0	11	0	0	0	0	0	0	0	0	0	0	23
16:15	2	2	1	0	5	0	0	0	0	0	0	0	0	0	0	23
16:30	4	1	3	0	8	0	0	0	0	0	0	0	0	0	0	31
16:45	2	2	6	0	10	0	0	0	0	0	0	0	0	0	0	32
17:00	4	2	10	0	16	0	0	0	0	0	0	0	0	0	0	44
17:15	4	4	8	0	16	0	0	0	0	0	0	0	0	0	0	22
17:30	2	0	12	0	14	0	0	0	0	0	0	0	0	0	0	23
17:45	6	1	6	0	13	0	0	0	0	0	0	0	0	0	0	22
SUBTOTAL	27	15	51	0	93	0	0	0	0	0	0	0	0	0	0	220
GRAND TOTAL	**40**	**23**	**61**	**0**	**124**	**1**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**315**

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Count Date: Jul 18, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	287	342	629
Trucks	21	18	39
Bicycles	0	0	0
	308	**360**	**668**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	15	6	0
Cars	0	230	57	0
Totals	**0**	**245**	**63**	**0**

Peds: 195

East Approach

	Out	In	Total
Cars	102	70	172
Trucks	20	6	26
Bicycles	0	0	0
	122	**76**	**198**

Dixon St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	6	**7**	
0	0	6	**6**	
0	0	3	**3**	

Peds: 59



Peds: 36

Main St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	89	84	5	0
	2	2	0	0
	31	16	15	0

Peds: 29

West Approach

	Out	In	Total
Cars	15	16	31
Trucks	1	0	1
Bicycles	0	0	0
	16	**16**	**32**

Totals	**14**	**264**	**7**	**0**
Cars	14	252	7	0
Trucks	0	12	0	0
Bicycles	0	0	0	0

Stanley Ave

South Approach

	Out	In	Total
Cars	273	249	522
Trucks	12	30	42
Bicycles	0	0	0
	285	**279**	**564**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Count Date: Jul 18, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Main St						West Approach Dixon St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	14	54	0	0	51	68	4	55	1	0	4	60	6	2	12	0	4	20	1	2	0	0	18	3	151
08:15	12	48	0	0	25	60	2	70	2	0	4	74	9	0	18	0	13	27	3	0	0	0	7	3	164
08:30	20	65	0	0	56	85	4	67	2	0	10	73	8	0	26	0	3	34	1	1	2	0	18	4	196
08:45	17	78	0	0	63	95	4	72	2	0	11	78	8	0	33	0	16	41	2	3	1	0	16	6	220
Grand Total	**63**	**245**	**0**	**0**	**195**	**308**	**14**	**264**	**7**	**0**	**29**	**285**	**31**	**2**	**89**	**0**	**36**	**122**	**7**	**6**	**3**	**0**	**59**	**16**	**731**
Approach %	20.5	79.5	0	0		-	4.9	92.6	2.5	0		-	25.4	1.6	73	0		-	43.8	37.5	18.8	0		-	
Totals %	8.6	33.5	0	0		42.1	1.9	36.1	1	0		39	4.2	0.3	12.2	0		16.7	1	0.8	0.4	0		2.2	
PHF	**0.79**	**0.79**	**0**	**0**		**0.81**	**0.88**	**0.92**	**0.88**	**0**		**0.91**	**0.86**	**0.25**	**0.67**	**0**		**0.74**	**0.58**	**0.5**	**0.38**	**0**		**0.67**	**0.83**
Cars	57	230	0	0		287	14	252	7	0		273	16	2	84	0		102	6	6	3	0		15	677
% Cars	90.5	93.9	0	0		93.2	100	95.5	100	0		95.8	51.6	100	94.4	0		83.6	85.7	100	100	0		93.8	92.6
Trucks	6	15	0	0		21	0	12	0	0		12	15	0	5	0		20	1	0	0	0		1	54
% Trucks	9.5	6.1	0	0		6.8	0	4.5	0	0		4.2	48.4	0	5.6	0		16.4	14.3	0	0	0		6.3	7.4
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					195	-					29	-					36	-					59	-	319
% Peds					61.1	-					9.1	-					11.3	-					18.5	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:30:00
To:	18:00:00	To:	17:30:00

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Count Date: Jul 18, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	610	569	1179
Trucks	14	11	25
Bicycles	0	1	1
	624	**581**	**1205**

Stanley Ave

Bicycles	0	0	0	0
Trucks	4	7	3	0
Cars	16	440	153	1
Totals	**20**	**447**	**156**	**1**

Peds: 126

East Approach

	Out	In	Total
Cars	210	179	389
Trucks	12	3	15
Bicycles	1	1	2
	223	**183**	**406**

Dixon St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	14	**14**	
0	0	9	**9**	
0	0	27	**27**	

Peds: 129



Peds: 52

Main St

Totals	Cars	Trucks	Bicycles
0	0	0	0
149	145	3	1
26	26	0	0
48	39	9	0

Peds: 69

West Approach

	Out	In	Total
Cars	50	54	104
Trucks	0	4	4
Bicycles	0	0	0
	50	**58**	**108**

Stanley Ave

Totals	**12**	**417**	**18**	**0**
Cars	12	409	17	0
Trucks	0	8	0	0
Bicycles	0	0	1	0

South Approach

	Out	In	Total
Cars	438	506	944
Trucks	8	16	24
Bicycles	1	0	1
	447	**522**	**969**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Stanley Ave & Dixon St - Main St
Site Code: 2431400002
Count Date: Jul 18, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Main St						West Approach Dixon St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	29	120	5	1	39	155	3	111	4	0	16	118	9	11	34	0	8	54	4	1	3	0	31	8	335
16:45	38	104	7	0	34	149	4	97	7	0	9	108	13	7	40	0	13	60	2	2	6	0	32	10	327
17:00	48	106	3	0	30	157	3	122	4	0	22	129	11	5	45	0	15	61	4	2	10	0	44	16	363
17:15	41	117	5	0	23	163	2	87	3	0	22	92	15	3	30	0	16	48	4	4	8	0	22	16	319
Grand Total	**156**	**447**	**20**	**1**	**126**	**624**	**12**	**417**	**18**	**0**	**69**	**447**	**48**	**26**	**149**	**0**	**52**	**223**	**14**	**9**	**27**	**0**	**129**	**50**	**1344**
Approach %	25	71.6	3.2	0.2		-	2.7	93.3	4	0		-	21.5	11.7	66.8	0		-	28	18	54	0		-	
Totals %	11.6	33.3	1.5	0.1		46.4	0.9	31	1.3	0		33.3	3.6	1.9	11.1	0		16.6	1	0.7	2	0		3.7	
PHF	**0.81**	**0.93**	**0.71**	**0.25**		**0.96**	**0.75**	**0.85**	**0.64**	**0**		**0.87**	**0.8**	**0.59**	**0.83**	**0**		**0.91**	**0.88**	**0.56**	**0.68**	**0**		**0.78**	**0.93**
Cars	153	440	16	1		610	12	409	17	0		438	39	26	145	0		210	14	9	27	0		50	1308
% Cars	98.1	98.4	80	100		97.8	100	98.1	94.4	0		98	81.3	100	97.3	0		94.2	100	100	100	0		100	97.3
Trucks	3	7	4	0		14	0	8	0	0		8	9	0	3	0		12	0	0	0	0		0	34
% Trucks	1.9	1.6	20	0		2.2	0	1.9	0	0		1.8	18.8	0	2	0		5.4	0	0	0	0		0	2.5
Bicycles	0	0	0	0		0	0	0	1	0		1	0	0	1	0		1	0	0	0	0		0	2
% Bicycles	0	0	0	0		0	0	0	5.6	0		0.2	0	0	0.7	0		0.4	0	0	0	0		0	0.1
Peds					126	-					69	-					52	-					129	-	376
% Peds					33.5	-					18.4	-					13.8	-					34.3	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-314 - Arcadis Professional Services (Canada) Inc.

Intersection Count Report

Intersection:	Stanley Ave & Dixon St
Municipality:	Niagara Falls
Count Date:	Saturday, Jul 20, 2024
Site Code:	2431400015
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-20:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Stanley Ave & Dixon St
Site Code:	2431400015
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Dixon St
Site Code:	2431400015
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024

Stanley Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	88	280	1	0	369	156	10	384	15	0	409	32	778
12:00 - 13:00	88	326	3	3	420	177	10	332	9	0	351	29	771
13:00 - 14:00	101	298	7	1	407	89	9	365	12	0	386	22	793
BREAK													
17:00 - 18:00	135	335	11	1	482	233	20	471	25	0	516	90	998
18:00 - 19:00	137	280	13	3	433	157	24	423	43	0	490	92	923
19:00 - 20:00	103	325	9	2	439	171	25	373	30	0	428	68	867
GRAND TOTAL	**652**	**1844**	**44**	**10**	**2550**	**983**	**98**	**2348**	**134**	**0**	**2580**	**333**	**5130**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Dixon St
Site Code:	2431400015
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024

Dixon St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	31	13	146	0	190	55	21	9	15	0	45	103	235
12:00 - 13:00	29	10	118	0	157	51	14	7	14	0	35	79	192
13:00 - 14:00	24	13	101	1	139	39	7	7	13	0	27	51	166
BREAK													
17:00 - 18:00	45	36	134	1	216	102	22	10	30	0	62	139	278
18:00 - 19:00	41	23	182	2	248	125	12	11	14	0	37	125	285
19:00 - 20:00	30	20	134	1	185	99	12	11	14	0	37	125	222
GRAND TOTAL	**200**	**115**	**815**	**5**	**1135**	**471**	**88**	**55**	**100**	**0**	**243**	**622**	**1378**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Municipality: Niagara Falls
Count Date: Jul 20, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	29	72	0	0	101	4	4	0	0	8	0	0	0	0	0	58
11:15	18	63	0	0	81	1	1	0	0	2	0	0	0	0	0	32
11:30	19	75	1	0	95	0	3	0	0	3	0	0	0	0	0	22
11:45	16	62	0	0	78	1	0	0	0	1	0	0	0	0	0	44
12:00	24	84	0	1	109	1	1	0	0	2	0	0	0	0	0	32
12:15	16	80	0	2	98	0	1	0	0	1	0	0	0	0	0	46
12:30	22	85	2	0	109	0	2	0	0	2	0	0	0	0	0	52
12:45	24	70	1	0	95	1	3	0	0	4	0	0	0	0	0	47
13:00	25	68	1	1	95	1	1	0	0	2	0	0	0	0	0	28
13:15	22	71	1	0	94	3	1	0	0	4	0	0	0	0	0	28
13:30	28	84	3	0	115	2	1	0	0	3	0	0	0	0	0	18
13:45	20	72	2	0	94	0	0	0	0	0	0	0	0	0	0	15
SUBTOTAL	263	886	11	4	1164	14	18	0	0	32	0	0	0	0	0	422

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Municipality: Niagara Falls
Count Date: Jul 20, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	41	103	2	0	146	2	2	0	0	4	0	0	0	0	0	52
17:15	25	83	3	0	111	0	0	0	0	0	0	0	0	0	0	60
17:30	30	74	2	0	106	1	2	0	0	3	0	0	0	0	0	76
17:45	34	71	4	1	110	2	0	0	0	2	0	0	0	0	0	45
18:00	36	59	4	0	99	0	0	0	0	0	0	0	0	0	0	33
18:15	31	81	4	1	117	0	0	0	0	0	0	0	0	0	0	35
18:30	35	59	1	1	96	1	1	0	0	2	0	0	0	0	0	57
18:45	33	79	4	1	117	1	1	0	0	2	0	0	0	0	0	32
19:00	32	82	1	1	116	0	1	0	0	1	0	0	0	0	0	25
19:15	24	87	2	1	114	0	1	0	0	1	0	0	0	0	0	45
19:30	25	70	1	0	96	0	1	0	0	1	0	0	0	0	0	39
19:45	22	82	5	0	109	0	1	0	0	1	0	0	0	0	0	62
SUBTOTAL	368	930	33	6	1337	7	10	0	0	17	0	0	0	0	0	561
GRAND TOTAL	631	1816	44	10	2501	21	28	0	0	49	0	0	0	0	0	983

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Municipality: Niagara Falls
Count Date: Jul 20, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	2	102	7	0	111	0	3	0	0	3	0	0	0	0	0	8
11:15	1	101	3	0	105	0	2	0	0	2	0	0	0	0	0	18
11:30	3	82	3	0	88	0	0	0	0	0	0	0	0	0	0	2
11:45	4	93	2	0	99	0	1	0	0	1	0	0	0	0	0	4
12:00	4	68	0	0	72	0	3	0	0	3	0	0	0	0	0	8
12:15	1	86	5	0	92	0	1	0	0	1	0	0	0	0	0	7
12:30	2	97	2	0	101	0	2	0	0	2	0	0	0	0	0	9
12:45	3	74	2	0	79	0	1	0	0	1	0	0	0	0	0	5
13:00	2	80	3	0	85	0	1	0	0	1	0	0	0	0	0	8
13:15	3	82	3	0	88	0	2	0	0	2	0	0	0	0	0	0
13:30	2	99	2	0	103	0	1	0	0	1	0	0	0	0	0	3
13:45	2	99	4	0	105	0	1	0	0	1	0	0	0	0	0	11
SUBTOTAL	29	1063	36	0	1128	0	18	0	0	18	0	0	0	0	0	83

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Municipality: Niagara Falls
Count Date: Jul 20, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	6	116	8	0	130	0	0	0	0	0	0	0	0	0	0	12
17:15	2	96	6	0	104	0	2	0	0	2	0	0	0	0	0	38
17:30	7	129	2	0	138	0	1	0	0	1	0	0	0	0	0	16
17:45	5	125	9	0	139	0	2	0	0	2	0	0	0	0	0	24
18:00	5	97	10	0	112	0	1	0	0	1	0	0	0	0	0	18
18:15	7	100	7	0	114	0	1	0	0	1	0	0	0	0	0	16
18:30	6	115	12	0	133	0	0	0	0	0	0	0	0	0	0	25
18:45	6	108	14	0	128	0	1	0	0	1	0	0	0	0	0	33
19:00	7	120	8	0	135	0	1	0	0	1	0	0	0	0	0	9
19:15	4	84	6	0	94	0	1	0	0	1	0	0	0	0	0	23
19:30	6	83	8	0	97	0	1	1	0	2	0	0	0	0	0	29
19:45	8	82	7	0	97	0	1	0	0	1	0	0	0	0	0	7
SUBTOTAL	69	1255	97	0	1421	0	12	1	0	13	0	0	0	0	0	250
GRAND TOTAL	98	2318	133	0	2549	0	30	1	0	31	0	0	0	0	0	333

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Municipality: Niagara Falls
Count Date: Jul 20, 2024

East Approach - Dixon St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	8	3	33	0	44	4	0	0	0	4	0	0	0	0	0	16
11:15	2	4	38	0	44	3	0	1	0	4	0	0	0	0	0	13
11:30	6	3	34	0	43	3	0	2	0	5	0	0	0	0	0	16
11:45	3	3	35	0	41	2	0	3	0	5	0	0	0	0	0	10
12:00	5	3	40	0	48	3	0	1	0	4	0	0	0	0	0	8
12:15	6	1	27	0	34	3	1	0	0	4	0	0	0	0	0	27
12:30	2	3	21	0	26	2	0	0	0	2	0	0	0	0	0	7
12:45	5	2	28	0	35	3	0	1	0	4	0	0	0	0	0	9
13:00	1	4	34	0	39	2	0	0	0	2	0	0	0	0	0	13
13:15	7	5	26	1	39	2	0	2	0	4	0	0	0	0	0	6
13:30	7	1	15	0	23	2	0	0	0	2	0	0	0	0	0	13
13:45	1	3	22	0	26	2	0	2	0	4	0	0	0	0	0	7
SUBTOTAL	53	35	353	1	442	31	1	12	0	44	0	0	0	0	0	145

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Municipality: Niagara Falls
Count Date: Jul 20, 2024

East Approach - Dixon St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	9	9	33	0	51	4	0	0	0	4	0	1	0	0	1	15
17:15	5	5	34	1	45	3	0	1	0	4	0	0	0	0	0	18
17:30	9	15	25	0	49	2	0	3	0	5	0	0	0	0	0	33
17:45	10	6	38	0	54	3	0	0	0	3	0	0	0	0	0	36
18:00	4	4	35	0	43	2	0	0	0	2	0	0	0	0	0	19
18:15	4	8	32	0	44	5	0	1	0	6	0	0	0	0	0	29
18:30	10	3	52	2	67	3	0	2	0	5	0	0	0	0	0	49
18:45	11	8	59	0	78	2	0	1	0	3	0	0	0	0	0	28
19:00	4	5	30	0	39	3	0	0	0	3	0	1	0	0	1	35
19:15	3	2	41	1	47	3	0	0	0	3	0	0	0	0	0	22
19:30	7	7	31	0	45	3	0	0	0	3	0	0	0	0	0	13
19:45	3	5	32	0	40	4	0	0	0	4	0	0	0	0	0	29
SUBTOTAL	79	77	442	4	602	37	0	8	0	45	0	2	0	0	2	326
GRAND TOTAL	**132**	**112**	**795**	**5**	**1044**	**68**	**1**	**20**	**0**	**89**	**0**	**2**	**0**	**0**	**2**	**471**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Municipality: Niagara Falls
Count Date: Jul 20, 2024

West Approach - Dixon St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	1	2	5	0	8	0	0	0	0	0	0	0	0	0	0	29
11:15	9	0	3	0	12	0	0	0	0	0	0	0	0	0	0	25
11:30	6	4	3	0	13	0	0	0	0	0	0	0	0	0	0	14
11:45	5	3	4	0	12	0	0	0	0	0	0	0	0	0	0	35
12:00	1	1	3	0	5	0	0	0	0	0	0	0	0	0	0	30
12:15	3	2	4	0	9	0	0	0	0	0	0	0	0	0	0	20
12:30	5	2	4	0	11	0	0	0	0	0	0	0	0	0	0	13
12:45	4	2	3	0	9	1	0	0	0	1	0	0	0	0	0	16
13:00	2	1	2	0	5	0	0	0	0	0	0	0	0	0	0	7
13:15	4	2	2	0	8	0	0	0	0	0	0	0	0	0	0	11
13:30	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	16
13:45	1	3	6	0	10	0	0	0	0	0	0	0	0	0	0	17
SUBTOTAL	41	23	42	0	106	1	0	0	0	1	0	0	0	0	0	233

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Municipality: Niagara Falls
Count Date: Jul 20, 2024

West Approach - Dixon St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	5	3	7	0	15	0	0	0	0	0	0	0	0	0	0	36
17:15	6	1	9	0	16	0	0	0	0	0	0	0	0	0	0	41
17:30	6	5	9	0	20	0	0	0	0	0	0	0	0	0	0	38
17:45	5	1	5	0	11	0	0	0	0	0	0	0	0	0	0	24
18:00	3	2	4	0	9	0	0	0	0	0	0	0	0	0	0	32
18:15	4	2	3	0	9	0	0	0	0	0	0	0	0	0	0	33
18:30	1	2	4	0	7	0	0	0	0	0	0	0	0	0	0	34
18:45	4	5	3	0	12	0	0	0	0	0	0	0	0	0	0	26
19:00	3	3	3	0	9	0	0	0	0	0	0	0	0	0	0	21
19:15	7	3	5	0	15	0	0	0	0	0	0	0	0	0	0	25
19:30	1	3	3	0	7	0	0	0	0	0	0	0	0	0	0	33
19:45	1	2	3	0	6	0	0	0	0	0	0	0	0	0	0	46
SUBTOTAL	46	32	58	0	136	0	0	0	0	0	0	0	0	0	0	389
GRAND TOTAL	**87**	**55**	**100**	**0**	**242**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**622**

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	11:00:00	From:	11:00:00
To:	14:00:00	To:	12:00:00

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Count Date: Jul 20, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	355	539	894
Trucks	14	12	26
Bicycles	0	0	0
	369	**551**	**920**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	8	6	0
Cars	1	272	82	0
Totals	**1**	**280**	**88**	**0**

East Approach

	Out	In	Total
Cars	172	106	278
Trucks	18	6	24
Bicycles	0	0	0
	190	**112**	**302**

Peds: 156

Dixon St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	21	**21**
0	0	9	**9**
0	0	15	**15**

Peds: 103



Peds: 55

Dixon St

Totals	Cars	Trucks	Bicycles
0	0	0	0
146	140	6	0
13	13	0	0
31	19	12	0

Peds: 32

West Approach

	Out	In	Total
Cars	45	24	69
Trucks	0	0	0
Bicycles	0	0	0
	45	**24**	**69**

Stanley Ave

Totals	**10**	**384**	**15**	**0**
Cars	10	378	15	0
Trucks	0	6	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	403	306	709
Trucks	6	20	26
Bicycles	0	0	0
	409	**326**	**735**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Count Date: Jul 20, 2024
Period: 11:00 - 14:00

Peak Hour Data (11:00 - 12:00)

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Dixon St						West Approach Dixon St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
11:00	33	76	0	0	58	109	2	105	7	0	8	114	12	3	33	0	16	48	1	2	5	0	29	8	279
11:15	19	64	0	0	32	83	1	103	3	0	18	107	5	4	39	0	13	48	9	0	3	0	25	12	250
11:30	19	78	1	0	22	98	3	82	3	0	2	88	9	3	36	0	16	48	6	4	3	0	14	13	247
11:45	17	62	0	0	44	79	4	94	2	0	4	100	5	3	38	0	10	46	5	3	4	0	35	12	237
Grand Total	**88**	**280**	**1**	**0**	**156**	**369**	**10**	**384**	**15**	**0**	**32**	**409**	**31**	**13**	**146**	**0**	**55**	**190**	**21**	**9**	**15**	**0**	**103**	**45**	**1013**
Approach %	23.8	75.9	0.3	0		-	2.4	93.9	3.7	0		-	16.3	6.8	76.8	0		-	46.7	20	33.3	0		-	
Totals %	8.7	27.6	0.1	0		36.4	1	37.9	1.5	0		40.4	3.1	1.3	14.4	0		18.8	2.1	0.9	1.5	0		4.4	
PHF	**0.67**	**0.9**	**0.25**	**0**		**0.85**	**0.63**	**0.91**	**0.54**	**0**		**0.9**	**0.65**	**0.81**	**0.94**	**0**		**0.99**	**0.58**	**0.56**	**0.75**	**0**		**0.87**	**0.91**
Cars	82	272	1	0		355	10	378	15	0		403	19	13	140	0		172	21	9	15	0		45	975
% Cars	93.2	97.1	100	0		96.2	100	98.4	100	0		98.5	61.3	100	95.9	0		90.5	100	100	100	0		100	96.2
Trucks	6	8	0	0		14	0	6	0	0		6	12	0	6	0		18	0	0	0	0		0	38
% Trucks	6.8	2.9	0	0		3.8	0	1.6	0	0		1.5	38.7	0	4.1	0		9.5	0	0	0	0		0	3.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					156	-					32	-					55	-					103	-	346
% Peds					45.1	-					9.2	-					15.9	-					29.8	-	

Peak Hour Diagram

Specified Period
From: 17:00:00
To: 20:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

Intersection: Stanley Ave & Dixon St
Site Code: 2431400015
Count Date: Jul 20, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	473	619	1092
Trucks	9	9	18
Bicycles	0	0	0
	482	**628**	**1110**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	4	5	0
Cars	11	331	130	1
Totals	**11**	**335**	**135**	**1**

East Approach

	Out	In	Total
Cars	199	166	365
Trucks	16	5	21
Bicycles	1	0	1
	216	**171**	**387**

Dixon St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	22	**22**	
0	0	10	**10**	
0	0	30	**30**	

Peds: 233

Peds: 139

N

W E

S

Peds: 102

Peds: 90

Dixon St

	Totals	Cars	Trucks	Bicycles
	1	1	0	0
	134	130	4	0
	36	35	0	1
	45	33	12	0

West Approach

	Out	In	Total
Cars	62	66	128
Trucks	0	0	0
Bicycles	0	1	1
	62	**67**	**129**

Totals	**20**	**471**	**25**	**0**
Cars	20	466	25	0
Trucks	0	5	0	0
Bicycles	0	0	0	0

Stanley Ave

South Approach

	Out	In	Total
Cars	511	394	905
Trucks	5	16	21
Bicycles	0	0	0
	516	**410**	**926**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Stanley Ave & Dixon St
Site Code:	2431400015
Count Date:	Jul 20, 2024
Period:	17:00 - 20:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Dixon St						West Approach Dixon St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:00	43	105	2	0	52	150	6	116	8	0	12	130	13	10	33	0	15	56	5	3	7	0	36	15	351
17:15	25	83	3	0	60	111	2	98	6	0	38	106	8	5	35	1	18	49	6	1	9	0	41	16	282
17:30	31	76	2	0	76	109	7	130	2	0	16	139	11	15	28	0	33	54	6	5	9	0	38	20	322
17:45	36	71	4	1	45	112	5	127	9	0	24	141	13	6	38	0	36	57	5	1	5	0	24	11	321
Grand Total	**135**	**335**	**11**	**1**	**233**	**482**	**20**	**471**	**25**	**0**	**90**	**516**	**45**	**36**	**134**	**1**	**102**	**216**	**22**	**10**	**30**	**0**	**139**	**62**	**1276**
Approach %	28	69.5	2.3	0.2		-	3.9	91.3	4.8	0		-	20.8	16.7	62	0.5		-	35.5	16.1	48.4	0		-	
Totals %	10.6	26.3	0.9	0.1		37.8	1.6	36.9	2	0		40.4	3.5	2.8	10.5	0.1		16.9	1.7	0.8	2.4	0		4.9	
PHF	**0.78**	**0.8**	**0.69**	**0.25**		**0.8**	**0.71**	**0.91**	**0.69**	**0**		**0.91**	**0.87**	**0.6**	**0.88**	**0.25**		**0.95**	**0.92**	**0.5**	**0.83**	**0**		**0.78**	**0.91**
Cars	130	331	11	1		473	20	466	25	0		511	33	35	130	1		199	22	10	30	0		62	1245
% Cars	96.3	98.8	100	100		98.1	100	98.9	100	0		99	73.3	97.2	97	100		92.1	100	100	100	0		100	97.6
Trucks	5	4	0	0		9	0	5	0	0		5	12	0	4	0		16	0	0	0	0		0	30
% Trucks	3.7	1.2	0	0		1.9	0	1.1	0	0		1	26.7	0	3	0		7.4	0	0	0	0		0	2.4
Bicycles	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	1
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	2.8	0	0		0.5	0	0	0	0		0	0.1
Peds					233	-					90	-					102	-					139	-	564
% Peds					41.3	-					16	-					18.1	-					24.6	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-314 - Arcadis Professional Services (Canada) Inc.

Intersection Count Report

Intersection:	Fallsview Blvd & Main St - Portage Rd
Municipality:	Niagara Falls
Count Date:	Thursday, Jul 18, 2024
Site Code:	2431400008
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Fallsview Blvd & Main St - Portage Rd
Site Code:	2431400008
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Fallsview Blvd & Main St - Portage Rd
Site Code:	2431400008
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024

Fallsview Blvd - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	12	27	1	0	40	10	13	65	10	0	88	14	128
08:00 - 09:00	26	56	3	0	85	41	22	79	22	0	123	33	208
BREAK													
16:00 - 17:00	57	140	11	0	208	91	28	158	34	0	220	93	428
17:00 - 18:00	53	134	17	0	204	177	24	174	24	0	222	101	426
GRAND TOTAL	**148**	**357**	**32**	**0**	**537**	**319**	**87**	**476**	**90**	**0**	**653**	**241**	**1190**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Fallsview Blvd & Main St - Portage Rd
Site Code:	2431400008
Municipality:	Niagara Falls
Count Date:	Jul 18, 2024

Portage Rd - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	23	48	63	0	134	71	13	26	12	0	51	0	185
08:00 - 09:00	26	55	90	0	171	117	17	49	18	0	84	50	255
BREAK													
16:00 - 17:00	66	126	146	0	338	412	62	75	41	0	178	73	516
17:00 - 18:00	79	101	137	0	317	520	68	51	43	0	162	166	479
GRAND TOTAL	**194**	**330**	**436**	**0**	**960**	**1120**	**160**	**201**	**114**	**0**	**475**	**289**	**1435**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Municipality: Niagara Falls
Count Date: Jul 18, 2024

North Approach - Fallsview Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
07:00	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0
07:15	3	7	0	0	10	1	0	0	0	1	0	0	0	0	0	5
07:30	3	10	0	0	13	0	0	0	0	0	0	1	0	0	1	1
07:45	3	6	1	0	10	1	0	0	0	1	0	0	0	0	0	4
08:00	6	21	0	0	27	0	0	0	0	0	0	0	0	0	0	5
08:15	5	7	0	0	12	1	0	0	0	1	1	0	0	0	1	19
08:30	6	11	2	0	19	0	1	0	0	1	0	1	0	0	1	8
08:45	7	14	1	0	22	0	0	0	0	0	0	1	0	0	1	9
SUBTOTAL	34	79	4	0	117	3	1	0	0	4	1	3	0	0	4	51

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Municipality: Niagara Falls
Count Date: Jul 18, 2024

North Approach - Fallsview Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	14	29	2	0	45	1	0	0	0	1	0	0	0	0	0	22
16:15	17	36	2	0	55	1	3	0	0	4	0	0	0	0	0	23
16:30	7	33	2	0	42	0	1	0	0	1	0	0	0	0	0	17
16:45	15	37	5	0	57	2	1	0	0	3	0	0	0	0	0	29
17:00	14	21	4	0	39	1	2	0	0	3	0	0	0	0	0	46
17:15	10	36	6	0	52	1	2	0	0	3	0	0	0	0	0	64
17:30	15	38	4	0	57	0	2	0	0	2	0	0	0	0	0	43
17:45	10	32	3	0	45	2	1	0	0	3	0	0	0	0	0	24
SUBTOTAL	102	262	28	0	392	8	12	0	0	20	0	0	0	0	0	268
GRAND TOTAL	**136**	**341**	**32**	**0**	**509**	**11**	**13**	**0**	**0**	**24**	**1**	**3**	**0**	**0**	**4**	**319**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Municipality: Niagara Falls
Count Date: Jul 18, 2024

South Approach - Fallsview Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	1	12	4	0	17	0	0	0	0	0	0	0	0	0	0	1
07:15	1	7	0	0	8	1	1	0	0	2	0	0	0	0	0	0
07:30	3	16	3	0	22	2	1	0	0	3	0	0	0	0	0	7
07:45	3	25	3	0	31	2	3	0	0	5	0	0	0	0	0	6
08:00	1	18	4	0	23	2	0	0	0	2	0	0	0	0	0	11
08:15	2	14	7	0	23	5	1	0	0	6	0	0	0	0	0	2
08:30	4	18	4	0	26	4	0	0	0	4	0	0	0	0	0	11
08:45	3	26	7	0	36	1	2	0	0	3	0	0	0	0	0	9
SUBTOTAL	18	136	32	0	186	17	8	0	0	25	0	0	0	0	0	47

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Municipality: Niagara Falls
Count Date: Jul 18, 2024

South Approach - Fallsview Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	4	44	9	0	57	2	0	0	0	2	0	0	0	0	0	30
16:15	3	32	12	0	47	2	1	0	0	3	0	2	0	0	2	29
16:30	5	29	6	0	40	2	4	0	0	6	0	0	0	0	0	17
16:45	7	46	7	0	60	3	0	0	0	3	0	0	0	0	0	17
17:00	5	38	2	0	45	1	2	0	0	3	0	0	0	0	0	21
17:15	5	44	7	0	56	3	1	0	0	4	0	1	0	0	1	18
17:30	1	40	7	0	48	2	1	0	0	3	0	1	0	0	1	39
17:45	4	45	8	0	57	3	1	0	0	4	0	0	0	0	0	23
SUBTOTAL	34	318	58	0	410	18	10	0	0	28	0	4	0	0	4	194
GRAND TOTAL	**52**	**454**	**90**	**0**	**596**	**35**	**18**	**0**	**0**	**53**	**0**	**4**	**0**	**0**	**4**	**241**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Municipality: Niagara Falls
Count Date: Jul 18, 2024

East Approach - Portage Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	4	8	10	0	22	1	1	0	0	2	0	0	0	0	0	13
07:15	3	8	18	0	29	0	0	0	0	0	0	0	0	0	0	12
07:30	10	21	17	0	48	0	0	2	0	2	0	0	0	0	0	23
07:45	5	10	16	0	31	0	0	0	0	0	0	0	0	0	0	23
08:00	2	9	14	0	25	0	0	1	0	1	0	0	0	0	0	21
08:15	10	7	28	0	45	0	1	1	0	2	0	0	0	0	0	16
08:30	4	17	17	0	38	0	0	0	0	0	0	0	0	0	0	37
08:45	10	20	27	0	57	0	1	2	0	3	0	0	0	0	0	43
SUBTOTAL	48	100	147	0	295	1	3	6	0	10	0	0	0	0	0	188

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Municipality: Niagara Falls
Count Date: Jul 18, 2024

East Approach - Portage Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	17	27	37	0	81	1	4	0	0	5	0	0	0	0	0	87
16:15	15	36	25	0	76	1	0	0	0	1	0	0	0	0	0	108
16:30	11	25	42	0	78	0	1	0	0	1	0	0	0	0	0	105
16:45	21	33	41	0	95	0	0	1	0	1	0	0	0	0	0	112
17:00	26	32	34	0	92	0	0	1	0	1	0	0	0	0	0	122
17:15	8	21	36	0	65	0	1	0	0	1	0	0	0	0	0	152
17:30	22	23	33	0	78	0	3	1	0	4	0	0	0	0	0	97
17:45	23	20	32	0	75	0	1	0	0	1	0	0	0	0	0	149
SUBTOTAL	143	217	280	0	640	2	10	3	0	15	0	0	0	0	0	932
GRAND TOTAL	**191**	**317**	**427**	**0**	**935**	**3**	**13**	**9**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**1120**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Municipality: Niagara Falls
Count Date: Jul 18, 2024

West Approach - Main St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	2	3	3	0	8	1	1	0	0	2	0	0	0	0	0	0
07:15	2	6	2	0	10	0	0	0	0	0	0	0	0	0	0	0
07:30	2	7	4	0	13	1	2	0	0	3	0	0	1	0	1	0
07:45	5	6	2	0	13	0	1	0	0	1	0	0	0	0	0	0
08:00	2	13	7	0	22	0	0	0	0	0	0	0	0	0	0	1
08:15	3	7	3	0	13	0	4	0	0	4	0	0	0	0	0	25
08:30	7	9	4	0	20	0	1	0	0	1	0	0	0	0	0	2
08:45	5	15	4	0	24	0	0	0	0	0	0	0	0	0	0	22
SUBTOTAL	28	66	29	0	123	2	9	0	0	11	0	0	1	0	1	50

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Municipality: Niagara Falls
Count Date: Jul 18, 2024

West Approach - Main St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	13	19	7	0	39	0	2	0	0	2	0	0	0	0	0	6
16:15	19	18	7	0	44	0	1	0	0	1	0	0	0	0	0	30
16:30	13	15	12	0	40	0	1	0	0	1	0	0	0	0	0	4
16:45	17	19	15	0	51	0	0	0	0	0	0	0	0	0	0	33
17:00	18	15	12	0	45	0	0	0	0	0	0	0	0	0	0	37
17:15	22	17	10	0	49	1	1	0	0	2	0	0	0	0	0	52
17:30	15	11	11	0	37	0	0	0	0	0	0	0	0	0	0	46
17:45	12	7	10	0	29	0	0	0	0	0	0	0	0	0	0	31
SUBTOTAL	129	121	84	0	334	1	5	0	0	6	0	0	0	0	0	239
GRAND TOTAL	**157**	**187**	**113**	**0**	**457**	**3**	**14**	**0**	**0**	**17**	**0**	**0**	**1**	**0**	**1**	**289**

Peak Hour Diagram

Specified Period
From: 07:00:00
To: 09:00:00

One Hour Peak
From: 08:00:00
To: 09:00:00

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Count Date: Jul 18, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Portage Rd runs E/W

North Approach

	Out	In	Total
Cars	80	179	259
Trucks	2	7	9
Bicycles	3	0	3
	85	**186**	**271**

Fallsview Blvd

Bicycles	0	2	1	0
Trucks	0	1	1	0
Cars	3	53	24	0
Totals	**3**	**56**	**26**	**0**

East Approach

	Out	In	Total
Cars	165	90	255
Trucks	6	6	12
Bicycles	0	1	1
	171	**97**	**268**

Main St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	17	**17**
0	5	44	**49**
0	0	18	**18**

Peds: 41

Peds: 50

Peds: 117

Peds: 33

Portage Rd

Totals	Cars	Trucks	Bicycles
0	0	0	0
90	86	4	0
55	53	2	0
26	26	0	0

West Approach

	Out	In	Total
Cars	79	66	145
Trucks	5	14	19
Bicycles	0	0	0
	84	**80**	**164**

Fallsview Blvd

Totals	**22**	**79**	**22**	**0**
Cars	10	76	22	0
Trucks	12	3	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	108	97	205
Trucks	15	1	16
Bicycles	0	2	2
	123	**100**	**223**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Count Date: Jul 18, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Fallsview Blvd						South Approach Fallsview Blvd						East Approach Portage Rd						West Approach Main St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	6	21	0	0	5	27	3	18	4	0	11	25	2	9	15	0	21	26	2	13	7	0	1	22	100
08:15	7	7	0	0	19	14	7	15	7	0	2	29	10	8	29	0	16	47	3	11	3	0	25	17	107
08:30	6	13	2	0	8	21	8	18	4	0	11	30	4	17	17	0	37	38	7	10	4	0	2	21	110
08:45	7	15	1	0	9	23	4	28	7	0	9	39	10	21	29	0	43	60	5	15	4	0	22	24	146
Grand Total	**26**	**56**	**3**	**0**	**41**	**85**	**22**	**79**	**22**	**0**	**33**	**123**	**26**	**55**	**90**	**0**	**117**	**171**	**17**	**49**	**18**	**0**	**50**	**84**	**463**
Approach %	30.6	65.9	3.5	0		-	17.9	64.2	17.9	0		-	15.2	32.2	52.6	0		-	20.2	58.3	21.4	0		-	
Totals %	5.6	12.1	0.6	0		18.4	4.8	17.1	4.8	0		26.6	5.6	11.9	19.4	0		36.9	3.7	10.6	3.9	0		18.1	
PHF	**0.93**	**0.67**	**0.38**	**0**		**0.79**	**0.69**	**0.71**	**0.79**	**0**		**0.79**	**0.65**	**0.65**	**0.78**	**0**		**0.71**	**0.61**	**0.82**	**0.64**	**0**		**0.88**	**0.79**
Cars	24	53	3	0		80	10	76	22	0		108	26	53	86	0		165	17	44	18	0		79	432
% Cars	92.3	94.6	100	0		94.1	45.5	96.2	100	0		87.8	100	96.4	95.6	0		96.5	100	89.8	100	0		94	93.3
Trucks	1	1	0	0		2	12	3	0	0		15	0	2	4	0		6	0	5	0	0		5	28
% Trucks	3.8	1.8	0	0		2.4	54.5	3.8	0	0		12.2	0	3.6	4.4	0		3.5	0	10.2	0	0		6	6
Bicycles	1	2	0	0		3	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	3
% Bicycles	3.8	3.6	0	0		3.5	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0.6
Peds					41	-					33	-					117	-					50	-	241
% Peds					17	-					13.7	-					48.5	-					20.7	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:45:00
To:	18:00:00	To:	17:45:00

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Count Date: Jul 18, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Portage Rd runs E/W

North Approach

	Out	In	Total
Cars	205	384	589
Trucks	11	8	19
Bicycles	0	2	2
	216	**394**	**610**

Fallsview Blvd

Bicycles	0	0	0	0
Trucks	0	7	4	0
Cars	19	132	54	0
Totals	**19**	**139**	**58**	**0**

Peds: 182

East Approach

	Out	In	Total
Cars	330	139	469
Trucks	7	5	12
Bicycles	0	0	0
	337	**144**	**481**

Main St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	72	**73**	
0	1	62	**63**	
0	0	48	**48**	

Peds: 168



Peds: 483

Portage Rd

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	147	144	3	0
	113	109	4	0
	77	77	0	0

Peds: 95

West Approach

	Out	In	Total
Cars	182	146	328
Trucks	2	13	15
Bicycles	0	0	0
	184	**159**	**343**

Fallsview Blvd

Totals	**27**	**174**	**23**	**0**
Cars	18	168	23	0
Trucks	9	4	0	0
Bicycles	0	2	0	0

South Approach

	Out	In	Total
Cars	209	257	466
Trucks	13	7	20
Bicycles	2	0	2
	224	**264**	**488**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Fallsview Blvd & Main St - Portage Rd
Site Code: 2431400008
Count Date: Jul 18, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Fallsview Blvd						South Approach Fallsview Blvd						East Approach Portage Rd						West Approach Main St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:45	17	38	5	0	29	60	10	46	7	0	17	63	21	33	42	0	112	96	17	19	15	0	33	51	270
17:00	15	23	4	0	46	42	6	40	2	0	21	48	26	32	35	0	122	93	18	15	12	0	37	45	228
17:15	11	38	6	0	64	55	8	46	7	0	18	61	8	22	36	0	152	66	23	18	10	0	52	51	233
17:30	15	40	4	0	43	59	3	42	7	0	39	52	22	26	34	0	97	82	15	11	11	0	46	37	230
Grand Total	**58**	**139**	**19**	**0**	**182**	**216**	**27**	**174**	**23**	**0**	**95**	**224**	**77**	**113**	**147**	**0**	**483**	**337**	**73**	**63**	**48**	**0**	**168**	**184**	**961**
Approach %	26.9	64.4	8.8	0		-	12.1	77.7	10.3	0		-	22.8	33.5	43.6	0		-	39.7	34.2	26.1	0		-	
Totals %	6	14.5	2	0		22.5	2.8	18.1	2.4	0		23.3	8	11.8	15.3	0		35.1	7.6	6.6	5	0		19.1	
PHF	**0.85**	**0.87**	**0.79**	**0**		**0.9**	**0.68**	**0.95**	**0.82**	**0**		**0.89**	**0.74**	**0.86**	**0.88**	**0**		**0.88**	**0.79**	**0.83**	**0.8**	**0**		**0.9**	**0.89**
Cars	54	132	19	0		205	18	168	23	0		209	77	109	144	0		330	72	62	48	0		182	926
% Cars	93.1	95	100	0		94.9	66.7	96.6	100	0		93.3	100	96.5	98	0		97.9	98.6	98.4	100	0		98.9	96.4
Trucks	4	7	0	0		11	9	4	0	0		13	0	4	3	0		7	1	1	0	0		2	33
% Trucks	6.9	5	0	0		5.1	33.3	2.3	0	0		5.8	0	3.5	2	0		2.1	1.4	1.6	0	0		1.1	3.4
Bicycles	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	0	0	0		0	2
% Bicycles	0	0	0	0		0	0	1.1	0	0		0.9	0	0	0	0		0	0	0	0	0		0	0.2
Peds					182	-					95	-					483	-					168	-	928
% Peds					19.6	-					10.2	-					52	-					18.1	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-314 - Arcadis Professional Services (Canada) Inc.

Intersection Count Report

Intersection:	Fallsview Blvd & Main St
Municipality:	Niagara Falls
Count Date:	Saturday, Jul 20, 2024
Site Code:	2431400021
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-20:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Fallsview Blvd & Main St
Site Code:	2431400021
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024



Ontario Traffic Inc.
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Traffic Count Summary

Intersection:	Fallsview Blvd & Main St
Site Code:	2431400021
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024

Fallsview Blvd - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	44	90	14	0	148	68	36	136	27	0	199	52	347
12:00 - 13:00	45	99	17	0	161	117	20	140	29	0	189	64	350
13:00 - 14:00	41	132	7	0	180	99	16	110	27	0	153	92	333
BREAK													
17:00 - 18:00	58	177	22	0	257	233	38	86	38	0	162	144	419
18:00 - 19:00	44	181	42	0	267	308	30	135	41	0	206	280	473
19:00 - 20:00	48	179	23	0	250	239	23	129	36	0	188	190	438
GRAND TOTAL	**280**	**858**	**125**	**0**	**1263**	**1064**	**163**	**736**	**198**	**0**	**1097**	**822**	**2360**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Fallsview Blvd & Main St
Site Code:	2431400021
Municipality:	Niagara Falls
Count Date:	Jul 20, 2024

Portage Rd - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	47	91	117	0	255	349	40	63	18	0	121	47	376
12:00 - 13:00	35	78	130	0	243	278	37	57	27	0	121	62	364
13:00 - 14:00	32	74	119	0	225	342	44	69	21	0	134	47	359
BREAK													
17:00 - 18:00	75	98	201	0	374	544	72	67	56	1	196	199	570
18:00 - 19:00	69	111	146	0	326	759	89	67	61	0	217	189	543
19:00 - 20:00	79	105	170	0	354	653	73	41	47	0	161	225	515
GRAND TOTAL	**337**	**557**	**883**	**0**	**1777**	**2925**	**355**	**364**	**230**	**1**	**950**	**769**	**2727**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Municipality: Niagara Falls
Count Date: Jul 20, 2024

North Approach - Fallsview Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	14	34	3	0	51	0	1	0	0	1	0	0	0	0	0	16
11:15	4	17	6	0	27	2	0	0	0	2	0	0	0	0	0	15
11:30	12	17	1	0	30	0	1	0	0	1	0	0	0	0	0	17
11:45	12	19	4	0	35	0	1	0	0	1	0	0	0	0	0	20
12:00	11	29	6	0	46	0	0	0	0	0	0	0	0	0	0	21
12:15	10	36	2	0	48	1	2	0	0	3	0	0	0	0	0	35
12:30	12	16	3	0	31	1	2	0	0	3	0	0	0	0	0	25
12:45	10	13	6	0	29	0	1	0	0	1	0	0	0	0	0	36
13:00	14	44	3	0	61	0	0	0	0	0	0	0	0	0	0	39
13:15	12	28	0	0	40	0	2	0	0	2	0	0	0	0	0	15
13:30	11	27	1	0	39	0	1	0	0	1	0	0	0	0	0	22
13:45	4	28	3	0	35	0	2	0	0	2	0	0	0	0	0	23
SUBTOTAL	126	308	38	0	472	4	13	0	0	17	0	0	0	0	0	284

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Municipality: Niagara Falls
Count Date: Jul 20, 2024

North Approach - Fallsview Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	19	31	2	0	52	0	0	0	0	0	0	0	0	0	0	39
17:15	22	51	6	0	79	0	2	0	0	2	0	0	0	0	0	88
17:30	5	54	8	0	67	1	0	0	0	1	0	0	0	0	0	68
17:45	10	38	6	0	54	1	1	0	0	2	0	0	0	0	0	38
18:00	12	40	6	0	58	1	1	0	0	2	0	0	0	0	0	67
18:15	9	52	10	0	71	0	1	0	0	1	0	0	0	0	0	81
18:30	12	50	12	0	74	1	0	0	0	1	0	0	0	0	0	85
18:45	8	37	14	0	59	1	0	0	0	1	0	0	0	0	0	75
19:00	11	52	1	0	64	0	1	0	0	1	0	0	0	0	0	63
19:15	9	39	9	0	57	2	2	0	0	4	0	0	0	0	0	58
19:30	16	37	6	0	59	0	0	0	0	0	0	0	0	0	0	55
19:45	10	46	6	0	62	0	2	1	0	3	0	0	0	0	0	63
SUBTOTAL	143	527	86	0	756	7	10	1	0	18	0	0	0	0	0	780
GRAND TOTAL	**269**	**835**	**124**	**0**	**1228**	**11**	**23**	**1**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**1064**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Municipality: Niagara Falls
Count Date: Jul 20, 2024

South Approach - Fallsview Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	11	36	9	0	56	3	1	1	0	5	0	0	0	0	0	12
11:15	8	27	7	0	42	3	2	0	0	5	0	0	0	0	0	15
11:30	2	32	6	0	40	4	1	0	0	5	0	0	0	0	0	18
11:45	3	35	3	0	41	2	1	0	0	3	0	1	1	0	2	7
12:00	3	34	6	0	43	4	0	0	0	4	0	0	0	0	0	19
12:15	5	35	8	0	48	2	2	0	0	4	0	1	0	0	1	15
12:30	1	32	4	0	37	2	1	0	0	3	0	0	0	0	0	11
12:45	0	33	10	0	43	3	2	0	0	5	0	0	1	0	1	19
13:00	2	36	7	0	45	3	0	0	0	3	0	0	0	0	0	23
13:15	2	23	8	0	33	2	1	0	0	3	0	0	1	0	1	26
13:30	1	30	3	0	34	1	2	0	0	3	0	0	0	0	0	16
13:45	3	15	8	0	26	2	1	0	0	3	0	2	0	0	2	27
SUBTOTAL	41	368	79	0	488	31	14	1	0	46	0	4	3	0	7	208

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Municipality: Niagara Falls
Count Date: Jul 20, 2024

South Approach - Fallsview Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	7	14	14	0	35	3	2	0	0	5	0	0	0	0	0	22
17:15	6	28	7	0	41	1	2	0	0	3	0	0	0	0	0	33
17:30	11	17	7	0	35	2	4	0	0	6	0	0	0	0	0	53
17:45	7	17	10	0	34	1	2	0	0	3	0	0	0	0	0	36
18:00	4	36	10	0	50	3	2	1	0	6	0	0	0	0	0	56
18:15	6	22	9	0	37	2	2	0	0	4	0	0	0	0	0	62
18:30	4	30	9	0	43	2	2	0	0	4	0	0	0	0	0	95
18:45	7	39	11	0	57	2	2	0	0	4	0	0	1	0	1	67
19:00	4	22	8	0	34	1	4	0	0	5	0	0	0	0	0	35
19:15	3	20	12	0	35	3	3	0	0	6	0	0	0	0	0	50
19:30	1	44	11	0	56	2	3	0	0	5	0	0	0	0	0	78
19:45	8	29	5	0	42	1	3	0	0	4	0	1	0	0	1	27
SUBTOTAL	68	318	113	0	499	23	31	1	0	55	0	1	1	0	2	614
GRAND TOTAL	**109**	**686**	**192**	**0**	**987**	**54**	**45**	**2**	**0**	**101**	**0**	**5**	**4**	**0**	**9**	**822**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Municipality: Niagara Falls
Count Date: Jul 20, 2024

East Approach - Portage Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	9	17	39	0	65	1	0	2	0	3	0	0	0	0	0	73
11:15	15	22	19	0	56	0	0	0	0	0	0	0	0	0	0	84
11:30	14	25	27	0	66	0	1	1	0	2	0	0	0	0	0	89
11:45	8	23	29	0	60	0	3	0	0	3	0	0	0	0	0	103
12:00	6	24	30	0	60	0	0	0	0	0	0	0	0	0	0	85
12:15	14	15	29	0	58	0	0	0	0	0	0	0	0	0	0	98
12:30	3	15	37	0	55	0	0	2	0	2	0	0	0	0	0	51
12:45	12	23	32	0	67	0	1	0	0	1	0	0	0	0	0	44
13:00	3	16	34	0	53	0	1	0	0	1	0	0	0	0	0	98
13:15	9	21	26	0	56	1	1	0	0	2	0	0	0	0	0	68
13:30	8	17	22	0	47	0	0	0	0	0	0	0	0	0	0	65
13:45	11	16	36	0	63	0	2	1	0	3	0	0	0	0	0	111
SUBTOTAL	112	234	360	0	706	2	9	6	0	17	0	0	0	0	0	969

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Municipality: Niagara Falls
Count Date: Jul 20, 2024

East Approach - Portage Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	27	24	44	0	95	0	0	1	0	1	0	0	0	0	0	110
17:15	12	22	44	0	78	0	1	0	0	1	0	0	0	0	0	131
17:30	17	26	56	0	99	0	3	0	0	3	0	0	0	0	0	145
17:45	19	22	56	0	97	0	0	0	0	0	0	0	0	0	0	158
18:00	17	20	32	0	69	0	0	0	0	0	0	0	0	0	0	172
18:15	13	20	34	0	67	0	1	0	0	1	0	0	0	0	0	162
18:30	21	28	41	0	90	0	4	0	0	4	0	0	0	0	0	205
18:45	18	38	39	0	95	0	0	0	0	0	0	0	0	0	0	220
19:00	16	23	46	0	85	0	0	0	0	0	0	0	0	0	0	195
19:15	25	27	47	0	99	1	0	0	0	1	0	0	0	0	0	178
19:30	25	30	39	0	94	0	0	0	0	0	0	1	0	0	1	160
19:45	12	24	38	0	74	0	0	0	0	0	0	0	0	0	0	120
SUBTOTAL	222	304	516	0	1042	1	9	1	0	11	0	1	0	0	1	1956
GRAND TOTAL	**334**	**538**	**876**	**0**	**1748**	**3**	**18**	**7**	**0**	**28**	**0**	**1**	**0**	**0**	**1**	**2925**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Municipality: Niagara Falls
Count Date: Jul 20, 2024

West Approach - Main St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	11	18	6	0	35	0	4	0	0	4	0	0	0	0	0	8
11:15	8	13	4	0	25	0	1	0	0	1	0	0	0	0	0	24
11:30	12	16	4	0	32	0	0	0	0	0	0	0	0	0	0	8
11:45	9	11	3	0	23	0	0	1	0	1	0	0	0	0	0	7
12:00	5	13	10	0	28	0	0	0	0	0	0	0	0	0	0	7
12:15	10	13	4	0	27	0	0	0	0	0	0	0	0	0	0	9
12:30	12	16	5	0	33	0	0	0	0	0	0	0	0	0	0	27
12:45	10	14	8	0	32	0	1	0	0	1	0	0	0	0	0	19
13:00	15	15	5	0	35	0	1	0	0	1	0	0	0	0	0	6
13:15	7	18	5	0	30	0	3	0	0	3	0	0	0	0	0	14
13:30	12	17	8	0	37	1	1	0	0	2	0	0	0	0	0	13
13:45	9	14	3	0	26	0	0	0	0	0	0	0	0	0	0	14
SUBTOTAL	120	178	65	0	363	1	11	1	0	13	0	0	0	0	0	156

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Municipality: Niagara Falls
Count Date: Jul 20, 2024

West Approach - Main St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	23	14	22	0	59	0	1	0	0	1	0	0	0	0	0	41
17:15	6	19	10	0	35	0	1	0	0	1	0	0	0	0	0	39
17:30	21	14	7	0	42	1	1	0	0	2	0	0	0	0	0	61
17:45	21	15	17	1	54	0	2	0	0	2	0	0	0	0	0	58
18:00	23	15	10	0	48	1	0	0	0	1	0	0	0	0	0	3
18:15	20	10	19	0	49	0	0	0	0	0	0	0	0	0	0	48
18:30	20	20	17	0	57	0	0	0	0	0	0	1	0	0	1	76
18:45	25	19	15	0	59	0	2	0	0	2	0	0	0	0	0	62
19:00	21	14	14	0	49	0	0	0	0	0	0	0	0	0	0	76
19:15	15	12	14	0	41	0	0	0	0	0	0	0	0	0	0	45
19:30	17	6	11	0	34	0	0	0	0	0	0	0	0	0	0	37
19:45	20	9	8	0	37	0	0	0	0	0	0	0	0	0	0	67
SUBTOTAL	232	167	164	1	564	2	7	0	0	9	0	1	0	0	1	613
GRAND TOTAL	352	345	229	1	927	3	18	1	0	22	0	1	0	0	1	769

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	11:00:00	From:	12:15:00
To:	14:00:00	To:	13:15:00

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Count Date: Jul 20, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Portage Rd runs E/W

North Approach

	Out	In	Total
Cars	169	315	484
Trucks	7	7	14
Bicycles	0	1	1
	176	**323**	**499**

Fallsview Blvd

Bicycles	0	0	0	0
Trucks	0	5	2	0
Cars	14	109	46	0
Totals	**14**	**114**	**48**	**0**

Peds: 135

East Approach

	Out	In	Total
Cars	233	133	366
Trucks	4	4	8
Bicycles	0	1	1
	237	**138**	**375**

Main St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	47	**47**
0	2	58	**60**
0	0	22	**22**

Peds: 61



Peds: 291

Portage Rd

Totals	Cars	Trucks	Bicycles
0	0	0	0
134	132	2	0
71	69	2	0
32	32	0	0

Peds: 68

West Approach

	Out	In	Total
Cars	127	91	218
Trucks	2	12	14
Bicycles	0	0	0
	129	**103**	**232**

Fallsview Blvd

Totals	**18**	**142**	**30**	**0**
Cars	8	136	29	0
Trucks	10	5	0	0
Bicycles	0	1	1	0

South Approach

	Out	In	Total
Cars	173	163	336
Trucks	15	5	20
Bicycles	2	0	2
	190	**168**	**358**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Count Date: Jul 20, 2024
Period: 11:00 - 14:00

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

Start Time	North Approach Fallsview Blvd						South Approach Fallsview Blvd						East Approach Portage Rd						West Approach Main St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
12:15	11	38	2	0	35	51	7	38	8	0	15	53	14	15	29	0	98	58	10	13	4	0	9	27	189
12:30	13	18	3	0	25	34	3	33	4	0	11	40	3	15	39	0	51	57	12	16	5	0	27	33	164
12:45	10	14	6	0	36	30	3	35	11	0	19	49	12	24	32	0	44	68	10	15	8	0	19	33	180
13:00	14	44	3	0	39	61	5	36	7	0	23	48	3	17	34	0	98	54	15	16	5	0	6	36	199
Grand Total	**48**	**114**	**14**	**0**	**135**	**176**	**18**	**142**	**30**	**0**	**68**	**190**	**32**	**71**	**134**	**0**	**291**	**237**	**47**	**60**	**22**	**0**	**61**	**129**	**732**
Approach %	27.3	64.8	8	0		-	9.5	74.7	15.8	0		-	13.5	30	56.5	0		-	36.4	46.5	17.1	0		-	
Totals %	6.6	15.6	1.9	0		24	2.5	19.4	4.1	0		26	4.4	9.7	18.3	0		32.4	6.4	8.2	3	0		17.6	
PHF	**0.86**	**0.65**	**0.58**	**0**		**0.72**	**0.64**	**0.93**	**0.68**	**0**		**0.9**	**0.57**	**0.74**	**0.86**	**0**		**0.87**	**0.78**	**0.94**	**0.69**	**0**		**0.9**	**0.92**
Cars	46	109	14	0		169	8	136	29	0		173	32	69	132	0		233	47	58	22	0		127	702
% Cars	95.8	95.6	100	0		96	44.4	95.8	96.7	0		91.1	100	97.2	98.5	0		98.3	100	96.7	100	0		98.4	95.9
Trucks	2	5	0	0		7	10	5	0	0		15	0	2	2	0		4	0	2	0	0		2	28
% Trucks	4.2	4.4	0	0		4	55.6	3.5	0	0		7.9	0	2.8	1.5	0		1.7	0	3.3	0	0		1.6	3.8
Bicycles	0	0	0	0		0	0	1	1	0		2	0	0	0	0		0	0	0	0	0		0	2
% Bicycles	0	0	0	0		0	0	0.7	3.3	0		1.1	0	0	0	0		0	0	0	0	0		0	0.3
Peds					135	-					68	-					291	-					61	-	555
% Peds					24.3	-					12.3	-					52.4	-					11	-	

Peak Hour Diagram

Specified Period
From: 17:00:00
To: 20:00:00

One Hour Peak
From: 18:30:00
To: 19:30:00

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Count Date: Jul 20, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Portage Rd runs E/W

North Approach

	Out	In	Total
Cars	254	365	619
Trucks	7	11	18
Bicycles	0	0	0
	261	**376**	**637**

Fallsview Blvd

Bicycles	0	0	0	0
Trucks	0	3	4	0
Cars	36	178	40	0
Totals	**36**	**181**	**44**	**0**

Peds: 281

East Approach

	Out	In	Total
Cars	369	145	514
Trucks	5	6	11
Bicycles	0	2	2
	374	**153**	**527**

Main St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	81	**81**	
1	2	65	**68**	
0	0	60	**60**	

Peds: 259



Peds: 798

Portage Rd

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	173	173	0	0
	120	116	4	0
	81	80	1	0

Peds: 247

West Approach

	Out	In	Total
Cars	206	170	376
Trucks	2	12	14
Bicycles	1	0	1
	209	**182**	**391**

Fallsview Blvd

Totals	**26**	**122**	**41**	**0**
Cars	18	111	40	0
Trucks	8	11	0	0
Bicycles	0	0	1	0

South Approach

	Out	In	Total
Cars	169	318	487
Trucks	19	4	23
Bicycles	1	0	1
	189	**322**	**511**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Fallsview Blvd & Main St
Site Code: 2431400021
Count Date: Jul 20, 2024
Period: 17:00 - 20:00

Peak Hour Data (18:30 - 19:30)

Start Time	North Approach Fallsview Blvd						South Approach Fallsview Blvd						East Approach Portage Rd						West Approach Main St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
18:30	13	50	12	0	85	75	6	32	9	0	95	47	21	32	41	0	205	94	20	21	17	0	76	58	274
18:45	9	37	14	0	75	60	9	41	12	0	67	62	18	38	39	0	220	95	25	21	15	0	62	61	278
19:00	11	53	1	0	63	65	5	26	8	0	35	39	16	23	46	0	195	85	21	14	14	0	76	49	238
19:15	11	41	9	0	58	61	6	23	12	0	50	41	26	27	47	0	178	100	15	12	14	0	45	41	243
Grand Total	**44**	**181**	**36**	**0**	**281**	**261**	**26**	**122**	**41**	**0**	**247**	**189**	**81**	**120**	**173**	**0**	**798**	**374**	**81**	**68**	**60**	**0**	**259**	**209**	**1033**
Approach %	16.9	69.3	13.8	0		-	13.8	64.6	21.7	0		-	21.7	32.1	46.3	0		-	38.8	32.5	28.7	0		-	
Totals %	4.3	17.5	3.5	0		25.3	2.5	11.8	4	0		18.3	7.8	11.6	16.7	0		36.2	7.8	6.6	5.8	0		20.2	
PHF	**0.85**	**0.85**	**0.64**	**0**		**0.87**	**0.72**	**0.74**	**0.85**	**0**		**0.76**	**0.78**	**0.79**	**0.92**	**0**		**0.94**	**0.81**	**0.81**	**0.88**	**0**		**0.86**	**0.93**
Cars	40	178	36	0		254	18	111	40	0		169	80	116	173	0		369	81	65	60	0		206	998
% Cars	90.9	98.3	100	0		97.3	69.2	91	97.6	0		89.4	98.8	96.7	100	0		98.7	100	95.6	100	0		98.6	96.6
Trucks	4	3	0	0		7	8	11	0	0		19	1	4	0	0		5	0	2	0	0		2	33
% Trucks	9.1	1.7	0	0		2.7	30.8	9	0	0		10.1	1.2	3.3	0	0		1.3	0	2.9	0	0		1	3.2
Bicycles	0	0	0	0		0	0	0	1	0		1	0	0	0	0		0	0	1	0	0		1	2
% Bicycles	0	0	0	0		0	0	0	2.4	0		0.5	0	0	0	0		0	0	1.5	0	0		0.5	0.2
Peds					281	-					247	-					798	-					259	-	1585
% Peds					17.7	-					15.6	-					50.3	-					16.3	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

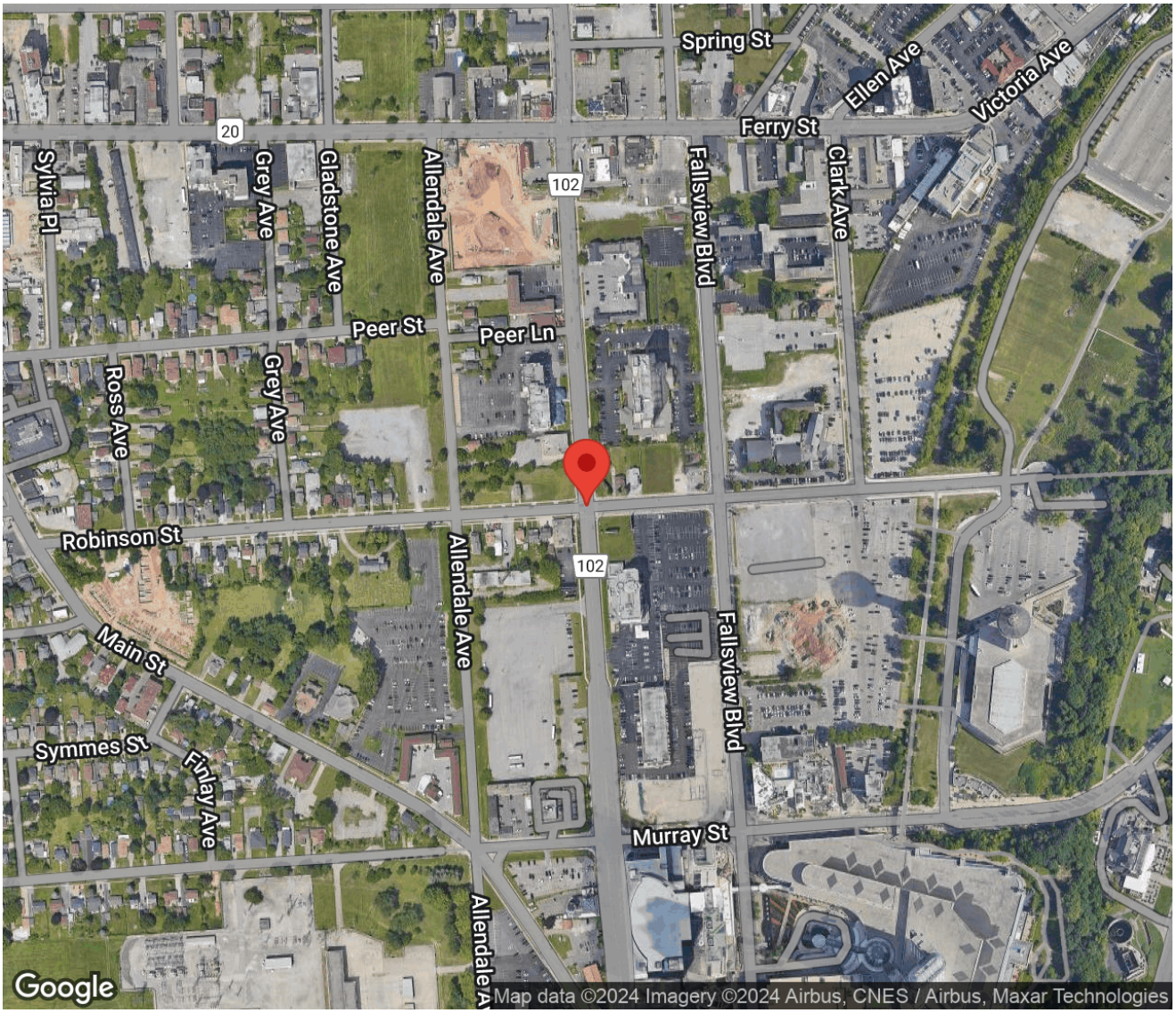
Intersection Count Report

Intersection:	Stanley Ave & Robinson St
Municipality:	Niagara Falls
Count Date:	Tuesday, Aug 13, 2024
Site Code:	2432200013
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Stanley Ave & Robinson St
Site Code:	2432200013
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Robinson St
Site Code:	2432200013
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Stanley Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	19	308	4	0	331	12	11	261	15	0	287	7	618
08:00 - 09:00	41	339	8	0	388	15	9	314	29	0	352	17	740
BREAK													
16:00 - 17:00	54	552	23	0	629	69	18	471	35	0	524	56	1153
17:00 - 18:00	53	561	17	0	631	47	14	550	31	0	595	74	1226
GRAND TOTAL	**167**	**1760**	**52**	**0**	**1979**	**143**	**52**	**1596**	**110**	**0**	**1758**	**154**	**3737**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Robinson St
Site Code:	2432200013
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Robinson St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	4	10	10	0	24	13	3	28	11	0	42	9	66
08:00 - 09:00	18	10	25	0	53	44	9	32	16	0	57	7	110
BREAK													
16:00 - 17:00	36	59	106	0	201	54	7	46	23	0	76	38	277
17:00 - 18:00	29	47	136	0	212	76	10	52	24	0	86	42	298
GRAND TOTAL	**87**	**126**	**277**	**0**	**490**	**187**	**29**	**158**	**74**	**0**	**261**	**96**	**751**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	3	62	1	0	66	1	6	0	0	7	0	0	0	0	0	0
07:15	9	64	2	0	75	0	3	0	0	3	0	0	0	0	0	2
07:30	1	61	1	0	63	0	1	0	0	1	0	0	0	0	0	7
07:45	5	104	0	0	109	0	7	0	0	7	0	0	0	0	0	3
08:00	4	65	3	0	72	1	3	0	0	4	0	0	0	0	0	1
08:15	11	77	3	0	91	1	1	0	0	2	0	0	0	0	0	0
08:30	11	86	1	0	98	0	4	0	0	4	0	0	0	0	0	6
08:45	13	99	0	0	112	0	4	1	0	5	0	0	0	0	0	8
SUBTOTAL	57	618	11	0	686	3	29	1	0	33	0	0	0	0	0	27

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	9	137	8	0	154	1	5	0	0	6	0	0	0	0	0	12
16:15	9	122	6	0	137	0	3	0	0	3	0	0	0	0	0	14
16:30	18	143	5	0	166	1	5	0	0	6	0	0	0	0	0	18
16:45	14	135	4	0	153	2	2	0	0	4	0	0	0	0	0	25
17:00	9	143	1	0	153	1	2	0	0	3	0	0	0	0	0	2
17:15	16	132	4	0	152	0	2	0	0	2	0	0	0	0	0	24
17:30	11	149	9	0	169	2	0	0	0	2	0	0	0	0	0	9
17:45	14	131	3	0	148	0	2	0	0	2	0	0	0	0	0	12
SUBTOTAL	100	1092	40	0	1232	7	21	0	0	28	0	0	0	0	0	116
GRAND TOTAL	**157**	**1710**	**51**	**0**	**1918**	**10**	**50**	**1**	**0**	**61**	**0**	**0**	**0**	**0**	**0**	**143**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	2	40	1	0	43	0	2	0	0	2	0	0	0	0	0	1
07:15	2	58	5	0	65	0	0	0	0	0	0	0	0	0	0	1
07:30	2	69	5	0	76	0	5	0	0	5	0	0	0	0	0	5
07:45	5	83	4	0	92	0	4	0	0	4	0	0	0	0	0	0
08:00	3	52	3	0	58	0	3	0	0	3	0	0	0	0	0	4
08:15	0	68	12	0	80	1	1	0	0	2	0	0	0	0	0	5
08:30	2	89	7	0	98	0	4	0	0	4	0	0	0	0	0	6
08:45	3	95	7	0	105	0	1	0	0	1	0	1	0	0	1	2
SUBTOTAL	19	554	44	0	617	1	20	0	0	21	0	1	0	0	1	24

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	1	34	6	0	41	0	8	0	0	8	0	0	0	0	0	10
16:15	7	131	9	0	147	0	4	0	0	4	0	0	0	0	0	12
16:30	6	140	13	0	159	0	5	2	0	7	0	0	0	0	0	20
16:45	4	148	5	0	157	0	1	0	0	1	0	0	0	0	0	14
17:00	1	139	5	0	145	0	4	0	0	4	0	0	0	0	0	19
17:15	2	142	6	0	150	0	3	0	0	3	0	0	0	0	0	20
17:30	4	146	9	0	159	0	3	0	0	3	0	0	0	0	0	22
17:45	6	110	11	0	127	1	3	0	0	4	0	0	0	0	0	13
SUBTOTAL	31	990	64	0	1085	1	31	2	0	34	0	0	0	0	0	130
GRAND TOTAL	**50**	**1544**	**108**	**0**	**1702**	**2**	**51**	**2**	**0**	**55**	**0**	**1**	**0**	**0**	**1**	**154**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	3
07:15	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	1
07:30	1	2	2	0	5	0	0	0	0	0	0	0	0	0	0	4
07:45	1	4	6	0	11	0	0	0	0	0	0	0	0	0	0	5
08:00	6	2	5	0	13	1	0	1	0	2	0	0	0	0	0	6
08:15	0	3	6	0	9	2	0	1	0	3	0	0	0	0	0	7
08:30	3	3	7	0	13	0	0	1	0	1	0	0	0	0	0	11
08:45	4	2	4	0	10	2	0	0	0	2	0	0	0	0	0	20
SUBTOTAL	17	20	32	0	69	5	0	3	0	8	0	0	0	0	0	57

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	9	16	26	0	51	0	0	0	0	0	0	0	0	0	0	7
16:15	11	14	23	0	48	0	1	1	0	2	0	0	0	0	0	8
16:30	7	15	31	0	53	1	0	1	0	2	0	0	0	0	0	19
16:45	7	12	23	0	42	1	1	1	0	3	0	0	0	0	0	20
17:00	5	16	30	0	51	0	1	0	0	1	0	0	0	0	0	6
17:15	5	9	47	0	61	0	0	1	0	1	0	0	0	0	0	18
17:30	10	11	28	0	49	1	0	0	0	1	0	1	0	0	1	28
17:45	8	6	29	0	43	0	1	1	0	2	0	2	0	0	2	24
SUBTOTAL	62	99	237	0	398	3	4	5	0	12	0	3	0	0	3	130
GRAND TOTAL	**79**	**119**	**269**	**0**	**467**	**8**	**4**	**8**	**0**	**20**	**0**	**3**	**0**	**0**	**3**	**187**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	4	2	0	6	0	0	0	0	0	0	0	0	0	0	0
07:15	2	7	2	0	11	0	0	0	0	0	0	1	0	0	1	3
07:30	1	6	1	0	8	0	0	0	0	0	0	0	0	0	0	2
07:45	0	10	6	0	16	0	0	0	0	0	0	0	0	0	0	4
08:00	1	6	9	0	16	0	0	0	0	0	0	0	0	0	0	3
08:15	1	10	0	0	11	0	0	0	0	0	0	0	0	0	0	2
08:30	6	7	1	0	14	0	1	0	0	1	0	0	0	0	0	0
08:45	1	7	5	0	13	0	1	1	0	2	0	0	0	0	0	2
SUBTOTAL	12	57	26	0	95	0	2	1	0	3	0	1	0	0	1	16

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	4	4	4	0	12	0	0	0	0	0	0	0	0	0	0	7
16:15	1	10	8	0	19	0	0	0	0	0	0	4	0	0	4	13
16:30	2	15	4	0	21	0	0	0	0	0	0	0	0	0	0	8
16:45	0	13	7	0	20	0	0	0	0	0	0	0	0	0	0	10
17:00	2	6	3	0	11	0	1	0	0	1	0	0	0	0	0	9
17:15	1	19	7	0	27	1	0	0	0	1	0	0	0	0	0	19
17:30	4	14	5	0	23	0	0	0	0	0	0	0	0	0	0	6
17:45	2	12	9	0	23	0	0	0	0	0	0	0	0	0	0	8
SUBTOTAL	16	93	47	0	156	1	1	0	0	2	0	4	0	0	4	80
GRAND TOTAL	**28**	**150**	**73**	**0**	**251**	**1**	**3**	**1**	**0**	**5**	**0**	**5**	**0**	**0**	**5**	**96**

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	373	335	708
Trucks	15	12	27
Bicycles	0	1	1
	388	**348**	**736**

Stanley Ave

Bicycles	0	0	0	0
Trucks	1	12	2	0
Cars	7	327	39	0
Totals	**8**	**339**	**41**	**0**

Peds: 15

East Approach

	Out	In	Total
Cars	45	98	143
Trucks	8	4	12
Bicycles	0	0	0
	53	**102**	**155**

Robinson St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	9	**9**	
0	2	30	**32**	
0	1	15	**16**	

Peds: 7

N
W E
S

Peds: 44

Robinson St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	25	22	3	0
	10	10	0	0
	18	13	5	0

Peds: 17

West Approach

	Out	In	Total
Cars	54	25	79
Trucks	3	2	5
Bicycles	0	0	0
	57	**27**	**84**

Stanley Ave

Totals	**9**	**314**	**29**	**0**
Cars	8	304	29	0
Trucks	1	9	0	0
Bicycles	0	1	0	0

South Approach

	Out	In	Total
Cars	341	355	696
Trucks	10	18	28
Bicycles	1	0	1
	352	**373**	**725**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Count Date: Aug 13, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Robinson St						West Approach Robinson St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	5	68	3	0	1	76	3	55	3	0	4	61	7	2	6	0	6	15	1	6	9	0	3	16	168
08:15	12	78	3	0	0	93	1	69	12	0	5	82	2	3	7	0	7	12	1	10	0	0	2	11	198
08:30	11	90	1	0	6	102	2	93	7	0	6	102	3	3	8	0	11	14	6	8	1	0	0	15	233
08:45	13	103	1	0	8	117	3	97	7	0	2	107	6	2	4	0	20	12	1	8	6	0	2	15	251
Grand Total	**41**	**339**	**8**	**0**	**15**	**388**	**9**	**314**	**29**	**0**	**17**	**352**	**18**	**10**	**25**	**0**	**44**	**53**	**9**	**32**	**16**	**0**	**7**	**57**	**850**
Approach %	10.6	87.4	2.1	0		-	2.6	89.2	8.2	0		-	34	18.9	47.2	0		-	15.8	56.1	28.1	0		-	
Totals %	4.8	39.9	0.9	0		45.6	1.1	36.9	3.4	0		41.4	2.1	1.2	2.9	0		6.2	1.1	3.8	1.9	0		6.7	
PHF	**0.79**	**0.82**	**0.67**	**0**		**0.83**	**0.75**	**0.81**	**0.6**	**0**		**0.82**	**0.64**	**0.83**	**0.78**	**0**		**0.88**	**0.38**	**0.8**	**0.44**	**0**		**0.89**	**0.85**
Cars	39	327	7	0		373	8	304	29	0		341	13	10	22	0		45	9	30	15	0		54	813
% Cars	95.1	96.5	87.5	0		96.1	88.9	96.8	100	0		96.9	72.2	100	88	0		84.9	100	93.8	93.8	0		94.7	95.6
Trucks	2	12	1	0		15	1	9	0	0		10	5	0	3	0		8	0	2	1	0		3	36
% Trucks	4.9	3.5	12.5	0		3.9	11.1	2.9	0	0		2.8	27.8	0	12	0		15.1	0	6.3	6.3	0		5.3	4.2
Bicycles	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	1
% Bicycles	0	0	0	0		0	0	0.3	0	0		0.3	0	0	0	0		0	0	0	0	0		0	0.1
Peds					15	-					17	-					44	-					7	-	83
% Peds					18.1	-					20.5	-					53	-					8.4	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:30:00
To:	18:00:00	To:	17:30:00

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	624	705	1329
Trucks	15	17	32
Bicycles	0	0	0
	639	**722**	**1361**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	11	4	0
Cars	14	553	57	0
Totals	**14**	**564**	**61**	**0**

Peds: 69

East Approach

	Out	In	Total
Cars	207	139	346
Trucks	7	7	14
Bicycles	0	0	0
	214	**146**	**360**

Robinson St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	5	**6**	
0	1	53	**54**	
0	0	21	**21**	

Peds: 46



Peds: 63

Robinson St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	134	131	3	0
	54	52	2	0
	26	24	2	0

Peds: 73

West Approach

	Out	In	Total
Cars	79	79	158
Trucks	2	2	4
Bicycles	0	0	0
	81	**81**	**162**

Stanley Ave

Totals	**13**	**582**	**31**	**0**
Cars	13	569	29	0
Trucks	0	13	2	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	611	598	1209
Trucks	15	13	28
Bicycles	0	0	0
	626	**611**	**1237**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Stanley Ave & Robinson St
Site Code: 2432200013
Count Date: Aug 13, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Robinson St						West Approach Robinson St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	19	148	5	0	18	172	6	145	15	0	20	166	8	15	32	0	19	55	2	15	4	0	8	21	414
16:45	16	137	4	0	25	157	4	149	5	0	14	158	8	13	24	0	20	45	0	13	7	0	10	20	380
17:00	10	145	1	0	2	156	1	143	5	0	19	149	5	17	30	0	6	52	2	7	3	0	9	12	369
17:15	16	134	4	0	24	154	2	145	6	0	20	153	5	9	48	0	18	62	2	19	7	0	19	28	397
Grand Total	**61**	**564**	**14**	**0**	**69**	**639**	**13**	**582**	**31**	**0**	**73**	**626**	**26**	**54**	**134**	**0**	**63**	**214**	**6**	**54**	**21**	**0**	**46**	**81**	**1560**
Approach %	9.5	88.3	2.2	0		-	2.1	93	5	0		-	12.1	25.2	62.6	0		-	7.4	66.7	25.9	0		-	
Totals %	3.9	36.2	0.9	0		41	0.8	37.3	2	0		40.1	1.7	3.5	8.6	0		13.7	0.4	3.5	1.3	0		5.2	
PHF	**0.8**	**0.95**	**0.7**	**0**		**0.93**	**0.54**	**0.98**	**0.52**	**0**		**0.94**	**0.81**	**0.79**	**0.7**	**0**		**0.86**	**0.75**	**0.71**	**0.75**	**0**		**0.72**	**0.94**
Cars	57	553	14	0		624	13	569	29	0		611	24	52	131	0		207	5	53	21	0		79	1521
% Cars	93.4	98	100	0		97.7	100	97.8	93.5	0		97.6	92.3	96.3	97.8	0		96.7	83.3	98.1	100	0		97.5	97.5
Trucks	4	11	0	0		15	0	13	2	0		15	2	2	3	0		7	1	1	0	0		2	39
% Trucks	6.6	2	0	0		2.3	0	2.2	6.5	0		2.4	7.7	3.7	2.2	0		3.3	16.7	1.9	0	0		2.5	2.5
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					69	-					73	-					63	-					46	-	251
% Peds					27.5	-					29.1	-					25.1	-					18.3	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

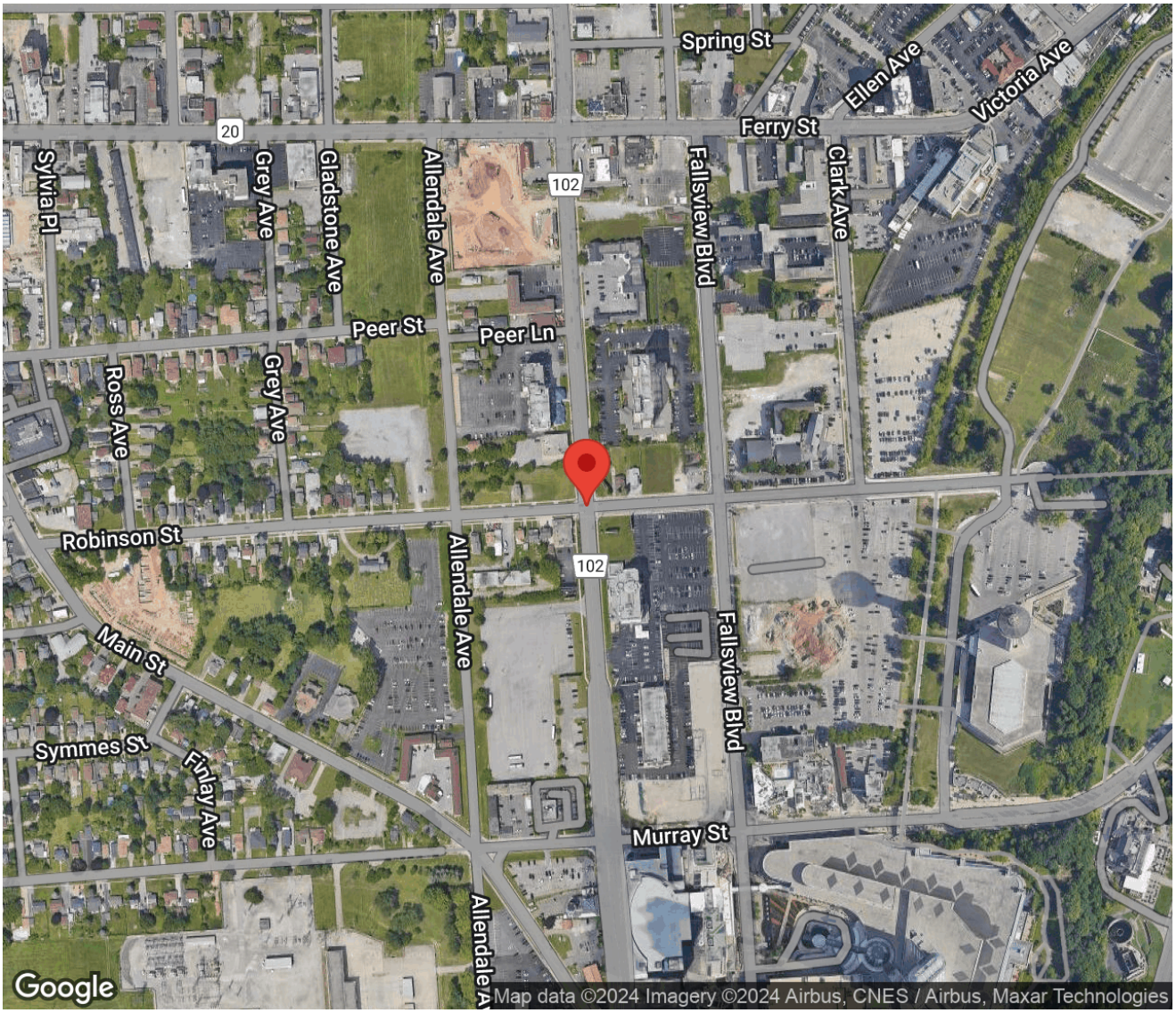
Intersection Count Report

Intersection:	Stanley Ave & Robinson St
Municipality:	Niagara Falls
Count Date:	Saturday, Aug 10, 2024
Site Code:	2432200014
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-22:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Stanley Ave & Robinson St
Site Code:	2432200014
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Robinson St
Site Code:	2432200014
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Stanley Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	127	645	31	0	803	56	12	576	45	0	633	67	1436
12:00 - 13:00	128	650	28	0	806	42	14	580	48	0	642	60	1448
13:00 - 14:00	129	657	21	0	807	30	16	488	61	0	565	79	1372
BREAK													
17:00 - 18:00	114	692	28	0	834	73	33	530	91	0	654	130	1488
18:00 - 19:00	105	707	26	0	838	71	27	540	75	0	642	105	1480
19:00 - 20:00	105	670	30	0	805	124	36	574	68	0	678	132	1483
20:00 - 21:00	98	618	25	0	741	106	20	484	61	0	565	182	1306
21:00 - 22:00	95	501	20	0	616	116	33	510	64	0	607	144	1223
GRAND TOTAL	**901**	**5140**	**209**	**0**	**6250**	**618**	**191**	**4282**	**513**	**0**	**4986**	**899**	**11236**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Stanley Ave & Robinson St
Site Code:	2432200014
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Robinson St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	24	24	61	0	109	76	19	72	37	0	128	67	237
12:00 - 13:00	22	36	96	0	154	78	19	58	29	0	106	46	260
13:00 - 14:00	20	36	95	0	151	94	19	54	35	0	108	62	259
BREAK													
17:00 - 18:00	66	102	146	0	314	152	19	135	46	0	200	91	514
18:00 - 19:00	45	94	150	0	289	129	18	88	38	0	144	114	433
19:00 - 20:00	57	91	187	0	335	168	13	93	47	0	153	160	488
20:00 - 21:00	55	103	166	0	324	159	7	63	37	0	107	233	431
21:00 - 22:00	45	85	172	0	302	115	17	75	46	0	138	156	440
GRAND TOTAL	**334**	**571**	**1073**	**0**	**1978**	**971**	**131**	**638**	**315**	**0**	**1084**	**929**	**3062**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	17	163	10	0	190	1	3	0	0	4	0	0	0	0	0	19
11:15	33	151	9	0	193	1	8	0	0	9	0	0	0	0	0	7
11:30	33	163	7	0	203	1	1	0	0	2	0	0	0	0	0	20
11:45	40	152	5	0	197	1	4	0	0	5	0	0	0	0	0	10
12:00	28	126	3	0	157	1	2	0	0	3	0	0	0	0	0	12
12:15	32	174	9	0	215	1	4	0	0	5	0	0	0	0	0	10
12:30	37	170	7	0	214	1	4	0	0	5	0	0	0	0	0	11
12:45	27	168	9	0	204	1	2	0	0	3	0	0	0	0	0	9
13:00	20	157	6	0	183	2	4	0	0	6	0	0	0	0	0	11
13:15	34	168	2	0	204	1	4	0	0	5	0	0	0	0	0	8
13:30	33	167	8	0	208	1	2	0	0	3	0	0	0	0	0	6
13:45	37	150	5	0	192	1	5	0	0	6	0	0	0	0	0	5
SUBTOTAL	371	1909	80	0	2360	13	43	0	0	56	0	0	0	0	0	128

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	30	167	8	0	205	1	2	0	0	3	0	0	0	0	0	30
17:15	32	181	8	0	221	1	2	0	0	3	0	0	0	0	0	22
17:30	21	162	6	0	189	1	2	0	0	3	0	0	0	0	0	11
17:45	27	172	6	0	205	1	4	0	0	5	0	0	0	0	0	10
18:00	26	165	5	0	196	1	4	1	0	6	0	0	0	0	0	10
18:15	25	190	5	0	220	1	1	0	0	2	0	0	0	0	0	11
18:30	25	166	9	0	200	1	2	0	0	3	0	0	0	0	0	23
18:45	26	176	6	0	208	0	3	0	0	3	0	0	0	0	0	27
19:00	36	177	3	0	216	1	3	0	0	4	0	0	0	0	0	34
19:15	23	176	3	0	202	1	3	1	0	5	0	0	0	0	0	8
19:30	18	176	10	0	204	1	3	0	0	4	0	0	0	0	0	34
19:45	24	129	13	0	166	1	3	0	0	4	0	0	0	0	0	48
20:00	29	174	9	0	212	0	2	0	0	2	0	0	0	0	0	30
20:15	25	189	2	0	216	1	2	1	0	4	0	0	0	0	0	28
20:30	25	146	4	0	175	1	3	0	0	4	0	0	0	0	0	17
20:45	17	100	9	0	126	0	2	0	0	2	0	0	0	0	0	31
21:00	23	117	7	0	147	2	2	0	0	4	0	0	0	0	0	35
21:15	21	118	1	0	140	1	4	0	0	5	0	0	0	0	0	21
21:30	22	145	5	0	172	1	1	0	0	2	0	0	0	0	0	27
21:45	24	112	7	0	143	1	2	0	0	3	0	0	0	0	0	33
SUBTOTAL	499	3138	126	0	3763	18	50	3	0	71	0	0	0	0	0	490

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	870	5047	206	0	6123	31	93	3	0	127	0	0	0	0	0	618

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	2	141	16	0	159	0	2	0	0	2	0	0	0	0	0	7
11:15	6	135	10	0	151	0	2	0	0	2	0	0	0	0	0	27
11:30	2	150	10	0	162	0	5	0	0	5	0	0	0	0	0	14
11:45	2	134	9	0	145	0	7	0	0	7	0	0	0	0	0	19
12:00	5	142	13	0	160	0	1	1	0	2	0	0	0	0	0	16
12:15	4	145	9	0	158	0	1	0	0	1	0	0	0	0	0	12
12:30	2	150	12	0	164	0	0	0	0	0	0	0	0	0	0	16
12:45	3	136	13	0	152	0	5	0	0	5	0	0	0	0	0	16
13:00	8	111	16	0	135	0	3	0	0	3	0	0	0	0	0	27
13:15	3	116	22	0	141	0	1	0	0	1	0	0	0	0	0	10
13:30	5	124	12	0	141	0	1	0	0	1	0	0	0	0	0	22
13:45	0	131	11	0	142	0	1	0	0	1	0	0	0	0	0	20
SUBTOTAL	42	1615	153	0	1810	0	29	1	0	30	0	0	0	0	0	206

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

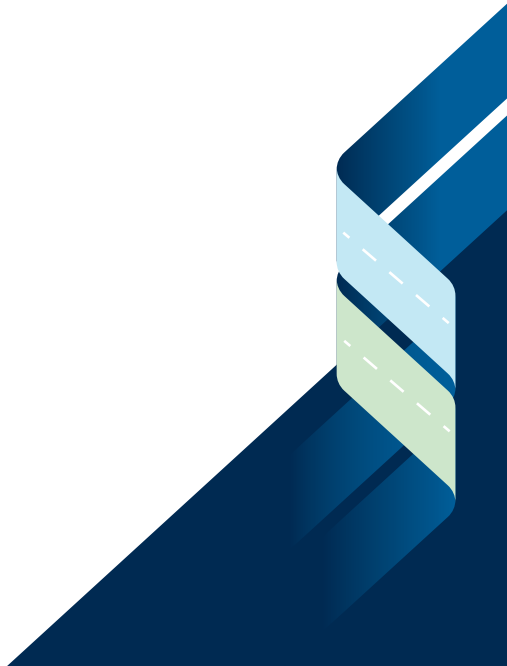
Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	12	114	22	0	148	0	3	0	0	3	0	0	0	0	0	31
17:15	6	112	21	0	139	0	4	0	0	4	0	0	0	0	0	34
17:30	5	159	26	0	190	1	8	0	0	9	0	0	0	0	0	36
17:45	9	128	22	0	159	0	2	0	0	2	0	0	0	0	0	29
18:00	4	165	22	0	191	0	5	0	0	5	0	0	0	0	0	24
18:15	13	108	23	0	144	0	1	0	0	1	0	0	0	0	0	21
18:30	5	125	15	0	145	0	5	0	0	5	0	0	0	0	0	42
18:45	5	129	15	0	149	0	2	0	0	2	0	0	0	0	0	18
19:00	2	132	16	0	150	0	5	0	0	5	0	0	0	0	0	28
19:15	7	146	14	0	167	0	0	0	0	0	0	0	0	0	0	50
19:30	14	145	22	0	181	1	1	0	0	2	0	1	0	0	1	29
19:45	12	141	16	0	169	0	3	0	0	3	0	0	0	0	0	25
20:00	3	88	16	0	107	0	1	1	0	2	0	0	0	0	0	52
20:15	9	118	13	0	140	0	3	0	0	3	0	0	0	0	0	44
20:30	2	132	20	0	154	0	3	0	0	3	0	0	0	0	0	55
20:45	5	136	11	0	152	1	3	0	0	4	0	0	0	0	0	31
21:00	11	107	18	0	136	0	3	0	0	3	0	0	0	0	0	42
21:15	7	149	13	0	169	0	1	0	0	1	0	0	0	0	0	25
21:30	6	127	15	0	148	0	2	0	0	2	0	0	0	0	0	35
21:45	9	121	18	0	148	0	0	0	0	0	0	0	0	0	0	42
SUBTOTAL	146	2582	358	0	3086	3	55	1	0	59	0	1	0	0	1	693

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	188	4197	511	0	4896	3	84	2	0	89	0	1	0	0	1	899



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	9	5	18	0	32	0	0	0	0	0	0	0	0	0	0	31
11:15	6	3	9	0	18	0	0	1	0	1	0	0	0	0	0	13
11:30	2	10	17	0	29	0	0	1	0	1	0	0	0	0	0	10
11:45	7	6	14	0	27	0	0	1	0	1	0	0	0	0	0	22
12:00	4	13	28	0	45	0	0	2	0	2	0	0	0	0	0	28
12:15	6	6	18	0	30	0	0	1	0	1	0	0	0	0	0	7
12:30	4	5	23	0	32	1	1	1	0	3	0	2	0	0	2	24
12:45	7	9	21	0	37	0	0	2	0	2	0	0	0	0	0	19
13:00	2	5	30	0	37	0	0	0	0	0	0	0	0	0	0	27
13:15	2	16	18	0	36	0	0	1	0	1	0	0	0	0	0	26
13:30	7	10	18	0	35	0	0	0	0	0	0	0	0	0	0	20
13:45	9	5	26	0	40	0	0	2	0	2	0	0	0	0	0	21
SUBTOTAL	65	93	240	0	398	1	1	12	0	14	0	2	0	0	2	248

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
17:00	15	25	22	0	62	0	0	0	0	0	0	0	0	0	0	41
17:15	19	28	38	0	85	0	0	1	0	1	0	2	0	0	2	42
17:30	17	24	50	0	91	1	0	0	0	1	0	0	0	0	0	27
17:45	14	22	34	0	70	0	1	1	0	2	0	0	0	0	0	42
18:00	16	15	25	0	56	0	1	0	0	1	0	0	0	0	0	41
18:15	12	24	32	0	68	0	0	1	0	1	0	1	0	0	1	44
18:30	10	28	49	0	87	0	1	2	0	3	0	0	0	0	0	25
18:45	7	21	41	0	69	0	0	0	0	0	0	3	0	0	3	19
19:00	12	18	34	0	64	1	1	2	0	4	0	0	0	0	0	29
19:15	17	26	41	0	84	0	0	0	0	0	0	1	0	0	1	34
19:30	17	20	61	0	98	0	0	1	0	1	0	2	0	0	2	41
19:45	10	21	47	0	78	0	2	1	0	3	0	0	0	0	0	64
20:00	14	42	34	0	90	0	0	1	0	1	0	0	0	0	0	40
20:15	15	18	36	0	69	0	1	0	0	1	0	0	0	0	0	34
20:30	15	20	43	0	78	0	0	1	0	1	0	0	0	0	0	51
20:45	11	21	50	0	82	0	1	1	0	2	0	0	0	0	0	34
21:00	4	11	32	0	47	1	1	1	0	3	0	0	0	0	0	31
21:15	9	13	46	0	68	0	1	0	0	1	0	0	0	0	0	35
21:30	13	27	45	0	85	1	1	1	0	3	0	0	0	0	0	22
21:45	17	29	46	0	92	0	2	1	0	3	0	0	0	0	0	27
SUBTOTAL	264	453	806	0	1523	4	13	15	0	32	0	9	0	0	9	723

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	329	546	1046	0	1921	5	14	27	0	46	0	11	0	0	11	971

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
11:00	6	23	9	0	38	0	0	1	0	1	0	0	0	0	0	16
11:15	3	13	6	0	22	0	0	1	0	1	0	1	0	0	1	20
11:30	3	18	10	0	31	0	0	1	0	1	0	0	0	0	0	12
11:45	7	16	9	0	32	0	1	0	0	1	0	0	0	0	0	19
12:00	1	12	6	0	19	0	1	0	0	1	0	0	0	0	0	12
12:15	9	14	10	0	33	0	0	1	0	1	0	0	0	0	0	17
12:30	6	13	6	0	25	0	1	0	0	1	0	1	0	0	1	14
12:45	3	15	5	0	23	0	1	1	0	2	0	0	0	0	0	3
13:00	8	10	9	0	27	0	0	0	0	0	0	0	0	0	0	17
13:15	4	8	11	0	23	0	0	0	0	0	0	0	0	0	0	22
13:30	2	16	9	0	27	0	1	0	0	1	0	0	0	0	0	13
13:45	5	19	6	0	30	0	0	0	0	0	0	0	0	0	0	10
SUBTOTAL	57	177	96	0	330	0	5	5	0	10	0	2	0	0	2	175

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	6	35	8	0	49	0	0	0	0	0	0	2	0	0	2	28
17:15	8	25	10	0	43	0	0	0	0	0	0	0	0	0	0	17
17:30	4	32	14	0	50	0	1	0	0	1	0	0	0	0	0	28
17:45	1	39	14	0	54	0	1	0	0	1	0	0	0	0	0	18
18:00	6	30	6	0	42	0	0	0	0	0	0	0	0	0	0	27
18:15	7	19	7	0	33	0	1	0	0	1	0	0	0	0	0	34
18:30	2	23	10	0	35	0	0	0	0	0	0	0	0	0	0	22
18:45	3	14	15	0	32	0	1	0	0	1	0	0	0	0	0	31
19:00	2	27	13	0	42	0	0	1	0	1	0	0	0	0	0	41
19:15	5	18	6	0	29	0	0	0	0	0	0	0	0	0	0	47
19:30	3	31	9	0	43	0	1	1	0	2	0	0	0	0	0	29
19:45	3	15	17	0	35	0	1	0	0	1	0	0	0	0	0	43
20:00	4	13	6	0	23	0	0	0	0	0	0	0	0	0	0	81
20:15	0	18	13	0	31	0	0	0	0	0	0	0	0	0	0	60
20:30	3	16	10	0	29	0	0	0	0	0	0	0	0	0	0	40
20:45	0	15	8	0	23	0	1	0	0	1	0	0	0	0	0	52
21:00	3	15	12	0	30	0	0	0	0	0	0	0	0	0	0	56
21:15	5	21	11	0	37	0	0	0	0	0	0	0	0	0	0	23
21:30	8	20	11	0	39	0	0	0	0	0	0	0	0	0	0	36
21:45	1	19	12	0	32	0	0	0	0	0	0	0	0	0	0	41
SUBTOTAL	74	445	212	0	731	0	7	2	0	9	0	2	0	0	2	754

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	131	622	308	0	1061	0	12	7	0	19	0	4	0	0	4	929

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	11:00:00	From:	12:15:00
To:	14:00:00	To:	13:15:00

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	816	660	1476
Trucks	19	13	32
Bicycles	0	0	0
	835	**673**	**1508**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	14	5	0
Cars	31	669	116	0
Totals	**31**	**683**	**121**	**0**

Peds: 41

East Approach

	Out	In	Total
Cars	136	218	354
Trucks	6	7	13
Bicycles	2	1	3
	144	**226**	**370**

Robinson St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	26	**26**
1	2	52	**55**
0	2	30	**32**

Peds: 51



Peds: 77

Robinson St

Totals	Cars	Trucks	Bicycles
0	0	0	0
96	92	4	0
28	25	1	2
20	19	1	0

Peds: 71

West Approach

	Out	In	Total
Cars	108	73	181
Trucks	4	1	5
Bicycles	1	2	3
	113	**76**	**189**

Stanley Ave

Totals	**17**	**551**	**50**	**0**
Cars	17	542	50	0
Trucks	0	9	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	609	718	1327
Trucks	9	17	26
Bicycles	0	0	0
	618	**735**	**1353**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Count Date: Aug 10, 2024
Period: 11:00 - 14:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Robinson St						West Approach Robinson St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
12:15	33	178	9	0	10	220	4	146	9	0	12	159	6	6	19	0	7	31	9	14	11	0	17	34	444
12:30	38	174	7	0	11	219	2	150	12	0	16	164	5	8	24	0	24	37	6	15	6	0	14	27	447
12:45	28	170	9	0	9	207	3	141	13	0	16	157	7	9	23	0	19	39	3	16	6	0	3	25	428
13:00	22	161	6	0	11	189	8	114	16	0	27	138	2	5	30	0	27	37	8	10	9	0	17	27	391
Grand Total	**121**	**683**	**31**	**0**	**41**	**835**	**17**	**551**	**50**	**0**	**71**	**618**	**20**	**28**	**96**	**0**	**77**	**144**	**26**	**55**	**32**	**0**	**51**	**113**	**1710**
Approach %	14.5	81.8	3.7	0		-	2.8	89.2	8.1	0		-	13.9	19.4	66.7	0		-	23	48.7	28.3	0		-	
Totals %	7.1	39.9	1.8	0		48.8	1	32.2	2.9	0		36.1	1.2	1.6	5.6	0		8.4	1.5	3.2	1.9	0		6.6	
PHF	**0.8**	**0.96**	**0.86**	**0**		**0.95**	**0.53**	**0.92**	**0.78**	**0**		**0.94**	**0.71**	**0.78**	**0.8**	**0**		**0.92**	**0.72**	**0.86**	**0.73**	**0**		**0.83**	**0.96**
Cars	116	669	31	0		816	17	542	50	0		609	19	25	92	0		136	26	52	30	0		108	1669
% Cars	95.9	98	100	0		97.7	100	98.4	100	0		98.5	95	89.3	95.8	0		94.4	100	94.5	93.8	0		95.6	97.6
Trucks	5	14	0	0		19	0	9	0	0		9	1	1	4	0		6	0	2	2	0		4	38
% Trucks	4.1	2	0	0		2.3	0	1.6	0	0		1.5	5	3.6	4.2	0		4.2	0	3.6	6.3	0		3.5	2.2
Bicycles	0	0	0	0		0	0	0	0	0		0	0	2	0	0		2	0	1	0	0		1	3
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	7.1	0	0		1.4	0	1.8	0	0		0.9	0.2
Peds					41	-					71	-					77	-					51	-	240
% Peds					17.1	-					29.6	-					32.1	-					21.3	-	

Peak Hour Diagram

Specified Period
From: 17:00:00
To: 22:00:00

One Hour Peak
From: 17:15:00
To: 18:15:00

Intersection: Stanley Ave & Robinson St
Site Code: 2432200014
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	811	730	1541
Trucks	17	21	38
Bicycles	0	0	0
	828	**751**	**1579**

Stanley Ave

Bicycles	0	0	0	0
Trucks	1	12	4	0
Cars	25	680	106	0
Totals	**26**	**692**	**110**	**0**

East Approach

	Out	In	Total
Cars	302	323	625
Trucks	5	6	11
Bicycles	2	0	2
	309	**329**	**638**

Robinson St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	19	**19**	
0	2	126	**128**	
0	0	44	**44**	

Peds: 53

Peds: 90



Peds: 152

Peds: 123

Robinson St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	149	147	2	0
	93	89	2	2
	67	66	1	0

West Approach

	Out	In	Total
Cars	189	138	327
Trucks	2	4	6
Bicycles	0	2	2
	191	**144**	**335**

Stanley Ave

Totals	**25**	**583**	**91**	**0**
Cars	24	564	91	0
Trucks	1	19	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	679	790	1469
Trucks	20	13	33
Bicycles	0	0	0
	699	**803**	**1502**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
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Peak Hour Summary

Intersection:	Stanley Ave & Robinson St
Site Code:	2432200014
Count Date:	Aug 10, 2024
Period:	17:00 - 22:00

Peak Hour Data (17:15 - 18:15)

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Robinson St						West Approach Robinson St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:15	33	183	8	0	22	224	6	116	21	0	34	143	19	30	39	0	42	88	8	25	10	0	17	43	498
17:30	22	164	6	0	11	192	6	167	26	0	36	199	18	24	50	0	27	92	4	33	14	0	28	51	534
17:45	28	176	6	0	10	210	9	130	22	0	29	161	14	23	35	0	42	72	1	40	14	0	18	55	498
18:00	27	169	6	0	10	202	4	170	22	0	24	196	16	16	25	0	41	57	6	30	6	0	27	42	497
Grand Total	**110**	**692**	**26**	**0**	**53**	**828**	**25**	**583**	**91**	**0**	**123**	**699**	**67**	**93**	**149**	**0**	**152**	**309**	**19**	**128**	**44**	**0**	**90**	**191**	**2027**
Approach %	13.3	83.6	3.1	0		-	3.6	83.4	13	0		-	21.7	30.1	48.2	0		-	9.9	67	23	0		-	
Totals %	5.4	34.1	1.3	0		40.8	1.2	28.8	4.5	0		34.5	3.3	4.6	7.4	0		15.2	0.9	6.3	2.2	0		9.4	
PHF	**0.83**	**0.95**	**0.81**	**0**		**0.92**	**0.69**	**0.86**	**0.88**	**0**		**0.88**	**0.88**	**0.78**	**0.75**	**0**		**0.84**	**0.59**	**0.8**	**0.79**	**0**		**0.87**	**0.95**
Cars	106	680	25	0		811	24	564	91	0		679	66	89	147	0		302	19	126	44	0		189	1981
% Cars	96.4	98.3	96.2	0		97.9	96	96.7	100	0		97.1	98.5	95.7	98.7	0		97.7	100	98.4	100	0		99	97.7
Trucks	4	12	1	0		17	1	19	0	0		20	1	2	2	0		5	0	2	0	0		2	44
% Trucks	3.6	1.7	3.8	0		2.1	4	3.3	0	0		2.9	1.5	2.2	1.3	0		1.6	0	1.6	0	0		1	2.2
Bicycles	0	0	0	0		0	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	2
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	2.2	0	0		0.6	0	0	0	0		0	0.1
Peds					53	-					123	-					152	-					90	-	418
% Peds					12.7	-					29.4	-					36.4	-					21.5	-	

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Project #24-322 - Arcadis Professional Services (Canada) Inc.

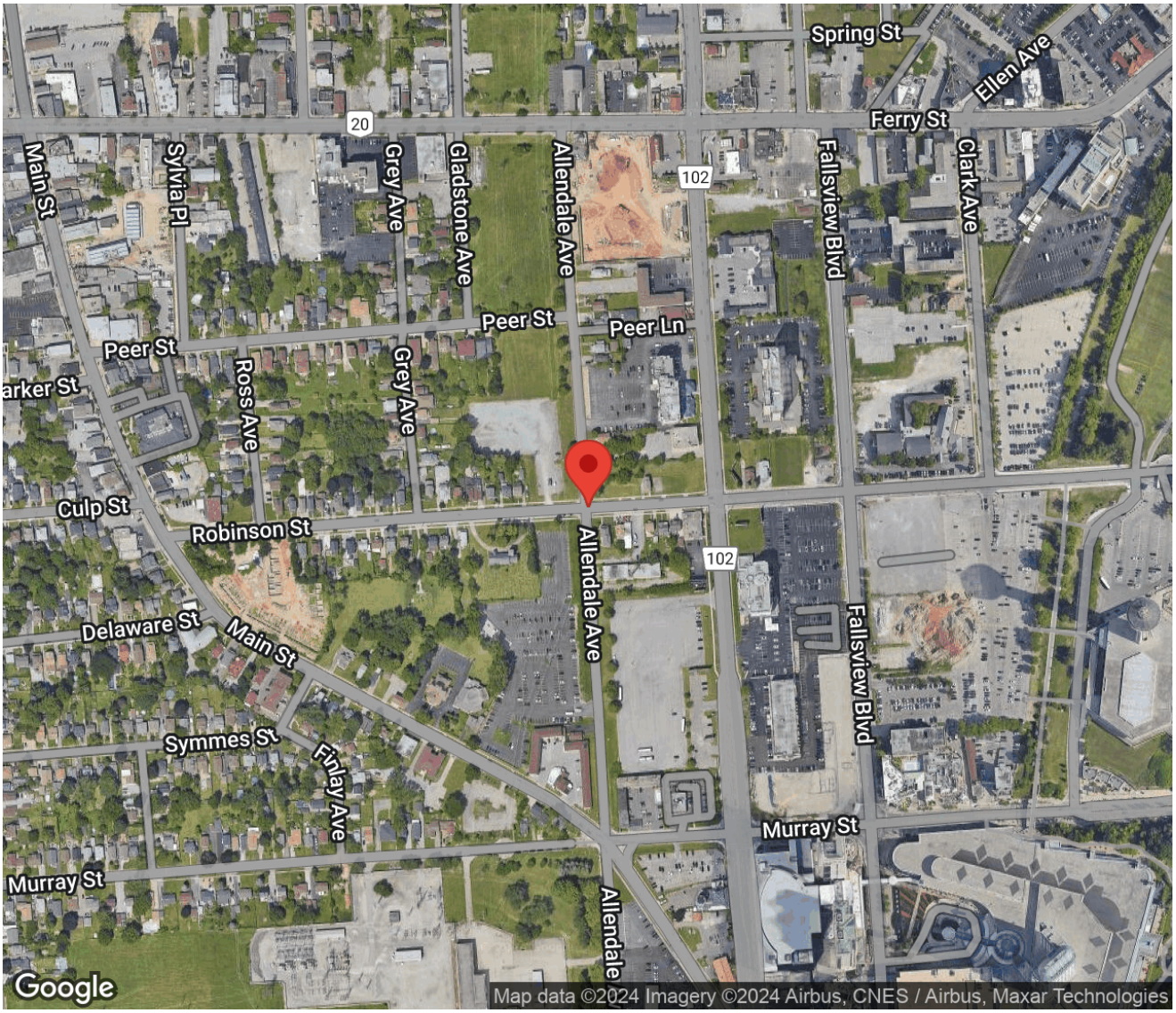
Intersection Count Report

Intersection:	Allendale Ave & Robinson St
Municipality:	Niagara Falls
Count Date:	Tuesday, Aug 13, 2024
Site Code:	2432200011
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Allendale Ave & Robinson St
Site Code:	2432200011
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024



Ontario Traffic Inc.
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Traffic Count Summary

Intersection:	Allendale Ave & Robinson St
Site Code:	2432200011
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Allendale Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	5	0	1	0	6	2	0	8	3	0	11	5	17
08:00 - 09:00	4	5	0	0	9	5	5	7	7	0	19	6	28
BREAK													
16:00 - 17:00	7	5	5	0	17	16	5	0	8	0	13	10	30
17:00 - 18:00	5	9	0	0	14	11	5	12	11	0	28	18	42
GRAND TOTAL	**21**	**19**	**6**	**0**	**46**	**34**	**15**	**27**	**29**	**0**	**71**	**39**	**117**

Ontario Traffic Inc.
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Traffic Count Summary

Intersection:	Allendale Ave & Robinson St
Site Code:	2432200011
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Robinson St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	22	3	1	26	3	1	36	0	0	37	0	63
08:00 - 09:00	1	26	1	0	28	8	1	49	3	0	53	0	81
BREAK													
16:00 - 17:00	3	96	4	0	103	9	5	65	3	0	73	0	176
17:00 - 18:00	4	70	3	0	77	26	1	75	1	0	77	0	154
GRAND TOTAL	**8**	**214**	**11**	**1**	**234**	**46**	**8**	**225**	**7**	**0**	**240**	**0**	**474**

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
07:15	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:30	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	1
08:45	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	8	4	1	0	13	0	0	0	0	0	1	1	0	0	2	7

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	8
16:15	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	1
16:30	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	6
16:45	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	1
17:00	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
17:15	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	1
17:30	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0
17:45	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	8
SUBTOTAL	12	14	5	0	31	0	0	0	0	0	0	0	0	0	0	27
GRAND TOTAL	**20**	**18**	**6**	**0**	**44**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**34**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1
07:30	0	3	3	0	6	0	0	0	0	0	0	0	0	0	0	2
07:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1
08:00	2	1	1	0	4	0	0	0	0	0	0	0	0	0	0	1
08:15	3	3	0	0	6	0	0	0	0	0	0	0	1	0	1	2
08:30	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	2
08:45	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	5	15	9	0	29	0	0	0	0	0	0	0	1	0	1	11

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	2	0	2	0	4	1	0	0	0	1	0	0	0	0	0	3
16:15	1	0	2	0	3	0	0	0	0	0	0	0	1	0	1	2
16:30	1	0	1	0	2	0	0	0	0	0	0	0	1	0	1	2
16:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
17:00	1	1	2	0	4	0	0	0	0	0	1	0	0	0	1	5
17:15	0	6	2	0	8	0	1	0	0	1	0	0	1	0	1	3
17:30	1	3	2	0	6	0	0	0	0	0	0	0	0	0	0	7
17:45	2	1	4	0	7	0	0	0	0	0	0	0	0	0	0	3
SUBTOTAL	8	11	16	0	35	1	1	0	0	2	1	0	3	0	4	28
GRAND TOTAL	**13**	**26**	**25**	**0**	**64**	**1**	**1**	**0**	**0**	**2**	**1**	**0**	**4**	**0**	**5**	**39**

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	1
07:15	0	4	0	1	5	0	0	0	0	0	0	1	0	0	1	1
07:30	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	1
07:45	0	7	0	0	7	0	1	0	0	1	0	0	1	0	1	0
08:00	0	8	1	0	9	0	0	0	0	0	0	0	0	0	0	1
08:15	0	6	0	0	6	0	1	0	0	1	0	0	0	0	0	6
08:30	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0	1
08:45	0	5	0	0	5	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	1	44	3	1	49	0	3	0	0	3	0	1	1	0	2	11

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
16:00	1	24	1	0	26	0	0	0	0	0	0	1	0	0	1	1
16:15	0	26	1	0	27	0	1	0	0	1	0	1	0	0	1	2
16:30	1	24	1	0	26	0	0	0	0	0	0	0	0	0	0	2
16:45	1	19	1	0	21	0	0	0	0	0	0	0	0	0	0	4
17:00	0	17	0	0	17	0	1	0	0	1	0	0	0	0	0	3
17:15	0	16	0	0	16	0	0	0	0	0	1	0	0	0	1	17
17:30	1	20	2	0	23	0	0	0	0	0	0	1	0	0	1	2
17:45	1	12	1	0	14	0	2	0	0	2	1	1	0	0	2	4
SUBTOTAL	5	158	7	0	170	0	4	0	0	4	2	4	0	0	6	35
GRAND TOTAL	6	202	10	1	219	0	7	0	0	7	2	5	1	0	8	46

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0
07:15	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0
07:30	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
07:45	1	16	0	0	17	0	1	0	0	1	0	0	0	0	0	0
08:00	0	14	1	0	15	0	0	0	0	0	0	0	0	0	0	0
08:15	0	9	0	0	9	0	0	1	0	1	0	0	0	0	0	0
08:30	1	10	1	0	12	0	0	0	0	0	0	0	0	0	0	0
08:45	0	12	0	0	12	0	4	0	0	4	0	0	0	0	0	0
SUBTOTAL	2	80	2	0	84	0	5	1	0	6	0	0	0	0	0	0

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	2	10	0	0	12	0	0	0	0	0	0	0	0	0	0	0
16:15	2	18	1	0	21	0	0	0	0	0	0	3	0	0	3	0
16:30	1	19	1	0	21	0	0	0	0	0	0	0	0	0	0	0
16:45	0	15	1	0	16	0	0	0	0	0	0	0	0	0	0	0
17:00	0	10	0	0	10	0	1	0	0	1	0	0	0	0	0	0
17:15	0	25	0	0	25	0	1	0	0	1	0	0	0	0	0	0
17:30	1	22	0	0	23	0	0	0	0	0	0	0	0	0	0	0
17:45	0	16	0	0	16	0	0	1	0	1	0	0	0	0	0	0
SUBTOTAL	6	135	3	0	144	0	2	1	0	3	0	3	0	0	3	0
GRAND TOTAL	8	215	5	0	228	0	7	2	0	9	0	3	0	0	3	0

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	07:00:00	From:	07:45:00
To:	09:00:00	To:	08:45:00

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Robinson St runs E/W

North Approach

	Out	In	Total
Cars	7	10	17
Trucks	0	0	0
Bicycles	1	1	2
	8	**11**	**19**

Allendale Ave

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

East Approach

	Out	In	Total
Cars	28	58	86
Trucks	2	1	3
Bicycles	1	1	2
	31	**60**	**91**

Peds: 5

Robinson St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	2	**2**
0	1	49	**50**
0	1	2	**3**

Peds: 0



Peds: 8

Robinson St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	2	1	0	1
	28	26	2	0
	1	1	0	0

Peds: 6

West Approach

	Out	In	Total
Cars	53	31	84
Trucks	2	2	4
Bicycles	0	0	0
	55	**33**	**88**

Totals	**5**	**7**	**6**	**0**
Cars	5	7	5	0
Trucks	0	0	0	0
Bicycles	0	0	1	0

Allendale Ave

South Approach

	Out	In	Total
Cars	17	6	23
Trucks	0	1	1
Bicycles	1	1	2
	18	**8**	**26**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Count Date: Aug 13, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Allendale Ave						South Approach Allendale Ave						East Approach Robinson St						West Approach Robinson St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:45	1	0	0	0	1	1	0	3	0	0	1	3	0	8	1	0	0	9	1	17	0	0	0	18	31
08:00	1	0	0	0	1	1	2	1	1	0	1	4	0	8	1	0	1	9	0	14	1	0	0	15	29
08:15	1	1	0	0	2	2	3	3	1	0	2	7	0	7	0	0	6	7	0	9	1	0	0	10	26
08:30	1	3	0	0	1	4	0	0	4	0	2	4	1	5	0	0	1	6	1	10	1	0	0	12	26
Grand Total	**4**	**4**	**0**	**0**	**5**	**8**	**5**	**7**	**6**	**0**	**6**	**18**	**1**	**28**	**2**	**0**	**8**	**31**	**2**	**50**	**3**	**0**	**0**	**55**	**112**
Approach %	50	50	0	0		-	27.8	38.9	33.3	0		-	3.2	90.3	6.5	0		-	3.6	90.9	5.5	0		-	
Totals %	3.6	3.6	0	0		7.1	4.5	6.3	5.4	0		16.1	0.9	25	1.8	0		27.7	1.8	44.6	2.7	0		49.1	
PHF	**1**	**0.33**	**0**	**0**		**0.5**	**0.42**	**0.58**	**0.38**	**0**		**0.64**	**0.25**	**0.88**	**0.5**	**0**		**0.86**	**0.5**	**0.74**	**0.75**	**0**		**0.76**	**0.9**
Cars	4	3	0	0		7	5	7	5	0		17	1	26	1	0		28	2	49	2	0		53	105
% Cars	100	75	0	0		87.5	100	100	83.3	0		94.4	100	92.9	50	0		90.3	100	98	66.7	0		96.4	93.8
Trucks	0	0	0	0		0	0	0	0	0		0	0	2	0	0		2	0	1	1	0		2	4
% Trucks	0	0	0	0		0	0	0	0	0		0	0	7.1	0	0		6.5	0	2	33.3	0		3.6	3.6
Bicycles	0	1	0	0		1	0	0	1	0		1	0	0	1	0		1	0	0	0	0		0	3
% Bicycles	0	25	0	0		12.5	0	0	16.7	0		5.6	0	0	50	0		3.2	0	0	0	0		0	2.7
Peds					5	-					6	-					8	-					0	-	19
% Peds					26.3	-					31.6	-					42.1	-					0	-	

Peak Hour Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 16:00:00
To: 17:00:00

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Robinson St runs E/W

North Approach

	Out	In	Total
Cars	17	9	26
Trucks	0	0	0
Bicycles	0	0	0
	17	**9**	**26**

Allendale Ave

Bicycles	0	0	0	0
Trucks	0	0	0	0
Cars	5	5	7	0
Totals	**5**	**5**	**7**	**0**

Peds: 16

East Approach

	Out	In	Total
Cars	100	75	175
Trucks	1	0	1
Bicycles	2	5	7
	103	**80**	**183**

Robinson St

			Totals
0	0	0	**0**
0	0	5	**5**
3	0	62	**65**
0	0	3	**3**

Peds: 0



Peds: 9

Robinson St

Totals			
0	0	0	0
4	4	0	0
96	93	1	2
3	3	0	0

Peds: 10

West Approach

	Out	In	Total
Cars	70	102	172
Trucks	0	2	2
Bicycles	3	2	5
	73	**106**	**179**

Allendale Ave

Totals	**5**	**0**	**8**	**0**
Cars	4	0	6	0
Trucks	1	0	0	0
Bicycles	0	0	2	0

South Approach

	Out	In	Total
Cars	10	11	21
Trucks	1	0	1
Bicycles	2	0	2
	13	**11**	**24**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Allendale Ave & Robinson St
Site Code: 2432200011
Count Date: Aug 13, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Allendale Ave						South Approach Allendale Ave						East Approach Robinson St						West Approach Robinson St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:00	0	2	2	0	8	4	3	0	2	0	3	5	1	25	1	0	1	27	2	10	0	0	0	12	48
16:15	0	1	2	0	1	3	1	0	3	0	2	4	0	28	1	0	2	29	2	21	1	0	0	24	60
16:30	3	2	0	0	6	5	1	0	2	0	2	3	1	24	1	0	2	26	1	19	1	0	0	21	55
16:45	4	0	1	0	1	5	0	0	1	0	3	1	1	19	1	0	4	21	0	15	1	0	0	16	43
Grand Total	**7**	**5**	**5**	**0**	**16**	**17**	**5**	**0**	**8**	**0**	**10**	**13**	**3**	**96**	**4**	**0**	**9**	**103**	**5**	**65**	**3**	**0**	**0**	**73**	**206**
Approach %	41.2	29.4	29.4	0		-	38.5	0	61.5	0		-	2.9	93.2	3.9	0		-	6.8	89	4.1	0		-	
Totals %	3.4	2.4	2.4	0		8.3	2.4	0	3.9	0		6.3	1.5	46.6	1.9	0		50	2.4	31.6	1.5	0		35.4	
PHF	**0.44**	**0.63**	**0.63**	**0**		**0.85**	**0.42**	**0**	**0.67**	**0**		**0.65**	**0.75**	**0.86**	**1**	**0**		**0.89**	**0.63**	**0.77**	**0.75**	**0**		**0.76**	**0.86**
Cars	7	5	5	0		17	4	0	6	0		10	3	93	4	0		100	5	62	3	0		70	197
% Cars	100	100	100	0		100	80	0	75	0		76.9	100	96.9	100	0		97.1	100	95.4	100	0		95.9	95.6
Trucks	0	0	0	0		0	1	0	0	0		1	0	1	0	0		1	0	0	0	0		0	2
% Trucks	0	0	0	0		0	20	0	0	0		7.7	0	1	0	0		1	0	0	0	0		0	1
Bicycles	0	0	0	0		0	0	0	2	0		2	0	2	0	0		2	0	3	0	0		3	7
% Bicycles	0	0	0	0		0	0	0	25	0		15.4	0	2.1	0	0		1.9	0	4.6	0	0		4.1	3.4
Peds					16	-					10	-					9	-					0	-	35
% Peds					45.7	-					28.6	-					25.7	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

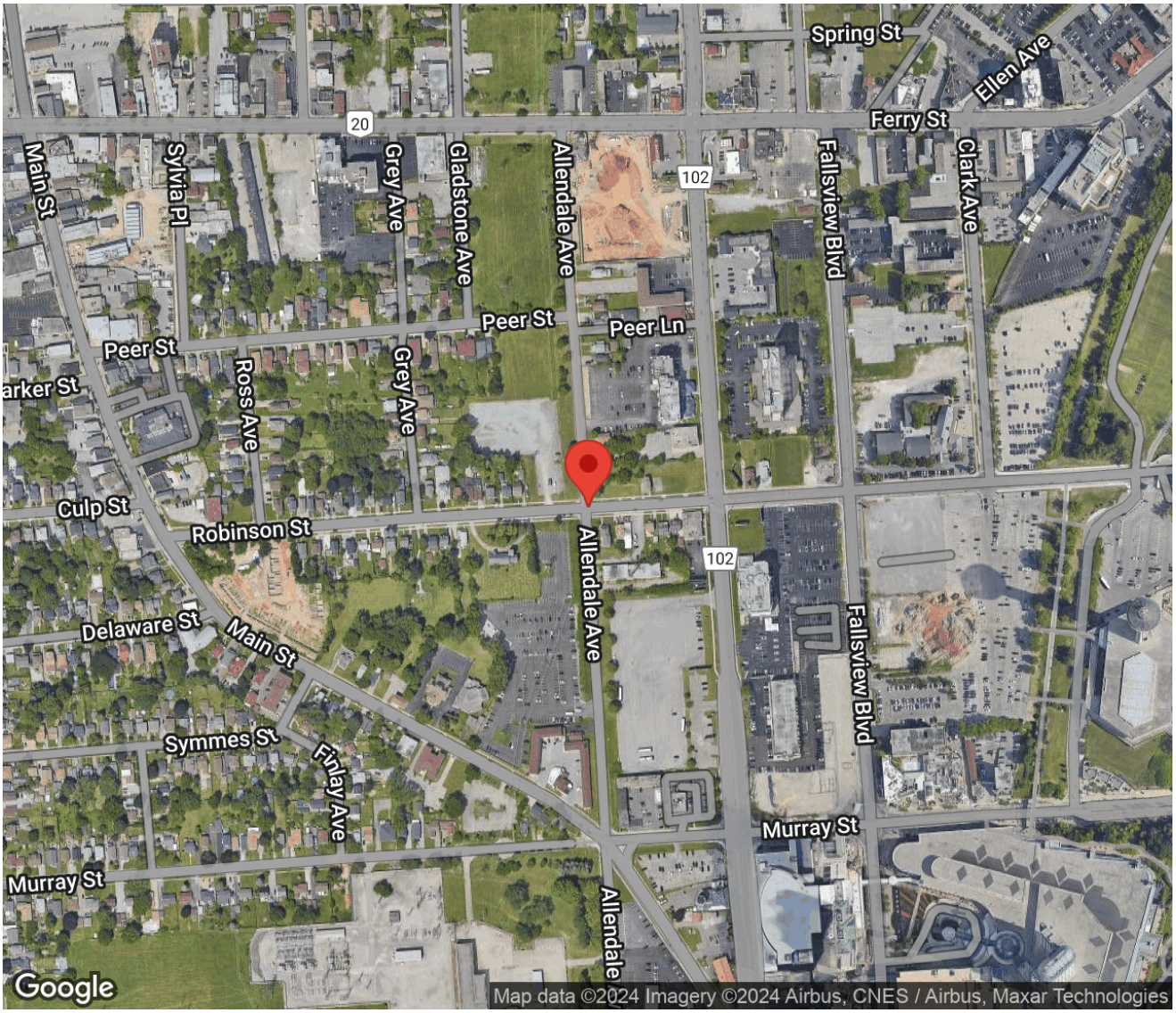
Intersection Count Report

Intersection:	Allendale Ave & Robinson St
Municipality:	Niagara Falls
Count Date:	Saturday, Aug 10, 2024
Site Code:	2432200012
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-22:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Allendale Ave & Robinson St
Site Code:	2432200012
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Allendale Ave & Robinson St
Site Code:	2432200012
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Allendale Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	10	12	8	0	30	16	10	16	19	0	45	34	75
12:00 - 13:00	8	7	2	0	17	15	9	18	8	0	35	32	52
13:00 - 14:00	11	9	4	0	24	7	7	8	10	1	26	30	50
BREAK													
17:00 - 18:00	24	22	7	0	53	33	6	16	15	0	37	73	90
18:00 - 19:00	20	16	5	0	41	31	8	11	14	0	33	44	74
19:00 - 20:00	12	12	6	0	30	38	27	16	19	0	62	49	92
20:00 - 21:00	13	6	3	0	22	10	16	9	7	0	32	75	54
21:00 - 22:00	16	8	8	0	32	31	26	14	8	0	48	65	80
GRAND TOTAL	**114**	**92**	**43**	**0**	**249**	**181**	**109**	**108**	**100**	**1**	**318**	**402**	**567**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Allendale Ave & Robinson St
Site Code:	2432200012
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Robinson St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	2	53	9	0	64	9	3	96	4	0	103	3	167
12:00 - 13:00	3	66	7	0	76	6	6	87	1	0	94	6	170
13:00 - 14:00	2	61	9	1	73	5	9	90	4	0	103	2	176
BREAK													
17:00 - 18:00	8	134	20	0	162	11	7	159	9	1	176	0	338
18:00 - 19:00	8	119	14	1	142	15	1	109	4	0	114	1	256
19:00 - 20:00	12	131	14	0	157	28	5	125	10	0	140	0	297
20:00 - 21:00	4	133	14	0	151	22	8	91	8	0	107	2	258
21:00 - 22:00	7	123	14	0	144	10	4	108	7	2	121	0	265
GRAND TOTAL	**46**	**820**	**101**	**2**	**969**	**106**	**43**	**865**	**47**	**3**	**958**	**14**	**1927**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	4	3	2	0	9	0	0	0	0	0	0	0	0	0	0	4
11:15	1	3	1	0	5	0	0	0	0	0	0	0	0	0	0	5
11:30	4	2	4	0	10	0	0	0	0	0	0	0	0	0	0	6
11:45	1	3	1	0	5	0	1	0	0	1	0	0	0	0	0	1
12:00	4	2	1	0	7	0	0	0	0	0	0	0	0	0	0	1
12:15	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	7
12:30	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4
12:45	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	3
13:00	4	2	0	0	6	0	1	0	0	1	0	0	0	0	0	2
13:15	3	2	2	0	7	0	0	0	0	0	0	0	0	0	0	0
13:30	2	4	1	0	7	0	0	1	0	1	0	0	0	0	0	5
13:45	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	29	26	13	0	68	0	2	1	0	3	0	0	0	0	0	38

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

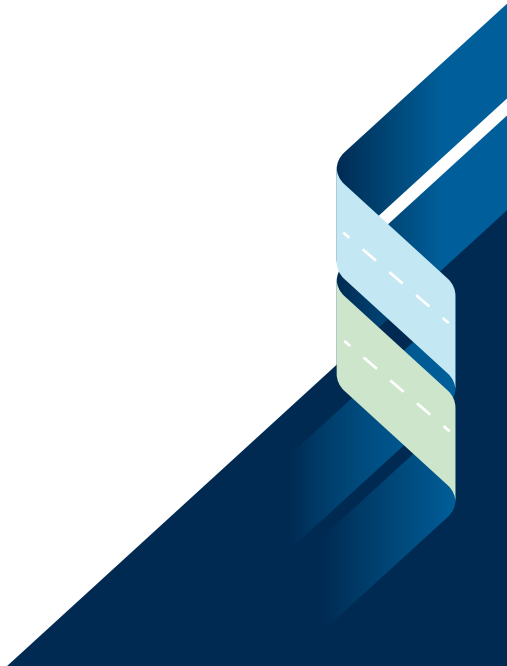
Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	5	7	3	0	15	0	0	0	0	0	0	0	0	0	0	5
17:15	6	4	1	0	11	1	0	0	0	1	0	0	0	0	0	6
17:30	9	5	2	0	16	0	0	0	0	0	0	0	0	0	0	6
17:45	3	6	1	0	10	0	0	0	0	0	0	0	0	0	0	16
18:00	7	4	2	0	13	0	0	0	0	0	0	0	0	0	0	5
18:15	2	3	2	0	7	0	0	0	0	0	0	0	0	0	0	2
18:30	4	3	0	0	7	0	0	0	0	0	0	0	0	0	0	14
18:45	7	6	1	0	14	0	0	0	0	0	0	0	0	0	0	10
19:00	2	4	3	0	9	0	0	0	0	0	0	0	0	0	0	2
19:15	2	5	1	0	8	0	0	0	0	0	0	0	0	0	0	12
19:30	4	0	2	0	6	0	0	0	0	0	0	0	0	0	0	21
19:45	4	3	0	0	7	0	0	0	0	0	0	0	0	0	0	3
20:00	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	5
20:15	3	1	1	0	5	0	0	0	0	0	0	0	0	0	0	1
20:30	4	1	0	0	5	0	0	0	0	0	0	0	0	0	0	1
20:45	3	2	2	0	7	0	0	0	0	0	0	0	0	0	0	3
21:00	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0	6
21:15	4	3	3	0	10	0	0	0	0	0	0	0	0	0	0	4
21:30	3	1	3	0	7	0	0	0	0	0	0	0	0	0	0	15
21:45	6	1	2	0	9	0	0	0	0	0	0	0	0	0	0	6
SUBTOTAL	84	64	29	0	177	1	0	0	0	1	0	0	0	0	0	143

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	113	90	42	0	245	1	2	1	0	4	0	0	0	0	0	181



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	1	3	9	0	13	0	0	1	0	1	0	1	0	0	1	5
11:15	3	4	2	0	9	2	0	0	0	2	0	0	1	0	1	9
11:30	0	5	2	0	7	1	0	0	0	1	0	0	0	0	0	10
11:45	2	3	3	0	8	1	0	1	0	2	0	0	0	0	0	10
12:00	1	5	1	0	7	0	0	0	0	0	0	0	0	0	0	8
12:15	1	2	3	0	6	0	0	1	0	1	0	0	0	0	0	11
12:30	2	7	1	0	10	1	0	1	0	2	1	0	0	0	1	9
12:45	2	4	1	0	7	0	0	0	0	0	1	0	0	0	1	4
13:00	3	2	2	1	8	1	0	0	0	1	0	0	0	0	0	6
13:15	0	2	3	0	5	0	0	0	0	0	0	0	0	0	0	2
13:30	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0	13
13:45	2	2	5	0	9	0	0	0	0	0	0	0	0	0	0	9
SUBTOTAL	17	41	32	1	91	7	0	4	0	11	2	1	1	0	4	96

Ontario Traffic Inc.
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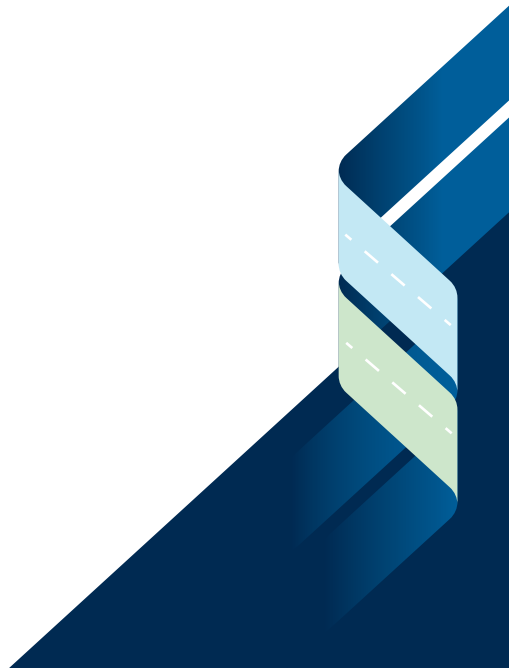
Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
17:00	1	4	6	0	11	0	0	0	0	0	0	0	0	0	0	24
17:15	1	4	4	0	9	1	0	0	0	1	0	0	0	0	0	28
17:30	1	5	2	0	8	0	0	1	0	1	0	0	0	0	0	14
17:45	1	3	2	0	6	0	0	0	0	0	1	0	0	0	1	7
18:00	1	2	2	0	5	0	0	0	0	0	0	0	0	0	0	14
18:15	2	4	5	0	11	1	0	0	0	1	0	0	0	0	0	6
18:30	1	1	4	0	6	0	0	0	0	0	3	0	0	0	3	17
18:45	0	3	2	0	5	0	0	1	0	1	0	1	0	0	1	7
19:00	3	3	3	0	9	2	0	0	0	2	0	0	0	0	0	12
19:15	12	3	3	0	18	0	0	0	0	0	0	0	0	0	0	18
19:30	4	7	6	0	17	0	0	0	0	0	0	1	1	0	2	9
19:45	6	0	6	0	12	0	0	0	0	0	0	2	0	0	2	10
20:00	7	0	1	0	8	1	0	0	0	1	0	0	0	0	0	37
20:15	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	13
20:30	2	3	2	0	7	1	0	0	0	1	0	0	0	0	0	10
20:45	5	2	3	0	10	0	0	0	0	0	0	0	0	0	0	15
21:00	4	2	3	0	9	0	0	0	0	0	0	0	0	0	0	22
21:15	9	1	2	0	12	0	0	0	0	0	0	0	0	0	0	23
21:30	7	5	1	0	13	0	0	0	0	0	0	0	0	0	0	16
21:45	5	6	2	0	13	1	0	0	0	1	0	0	0	0	0	4
SUBTOTAL	72	62	60	0	194	7	0	2	0	9	4	4	1	0	9	306

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	89	103	92	1	285	14	0	6	0	20	6	5	2	0	13	402



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	1	15	1	0	17	0	0	0	0	0	0	0	0	0	0	1
11:15	0	15	2	0	17	0	0	0	0	0	0	0	0	0	0	0
11:30	0	13	5	0	18	0	0	0	0	0	0	0	0	0	0	3
11:45	1	10	1	0	12	0	0	0	0	0	0	0	0	0	0	5
12:00	0	18	3	0	21	0	0	0	0	0	0	0	0	0	0	0
12:15	0	18	0	0	18	0	0	0	0	0	0	0	0	0	0	3
12:30	2	10	1	0	13	0	0	0	0	0	0	2	0	0	2	0
12:45	1	17	3	0	21	0	1	0	0	1	0	0	0	0	0	3
13:00	1	16	3	0	20	0	0	0	0	0	0	0	0	0	0	1
13:15	1	14	4	1	20	0	0	0	0	0	0	0	0	0	0	0
13:30	0	20	1	0	21	0	0	0	0	0	0	0	0	0	0	2
13:45	0	11	1	0	12	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	7	177	25	1	210	0	1	0	0	1	0	2	0	0	2	20

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

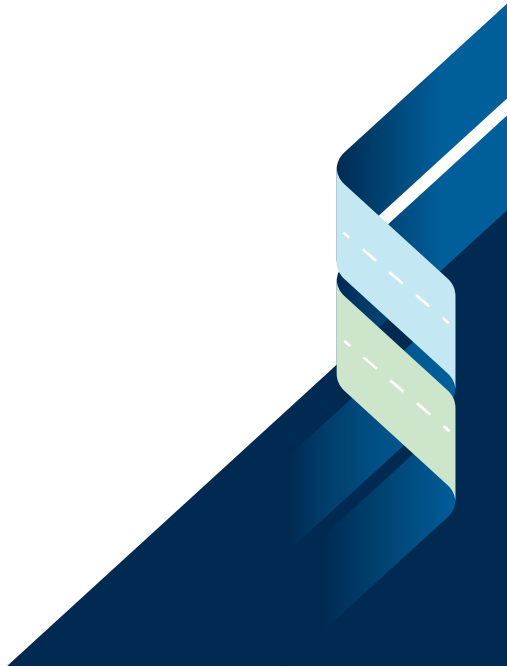
Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	2	37	6	0	45	0	0	0	0	0	0	0	0	0	0	1
17:15	0	40	2	0	42	0	0	0	0	0	0	0	2	0	2	1
17:30	3	27	4	0	34	1	0	0	0	1	0	0	0	0	0	4
17:45	1	29	5	0	35	1	1	0	0	2	0	0	1	0	1	5
18:00	2	17	4	0	23	1	1	0	0	2	0	0	0	0	0	5
18:15	1	38	1	0	40	0	0	0	0	0	0	1	0	0	1	4
18:30	0	36	4	0	40	1	0	0	0	1	0	0	0	0	0	3
18:45	3	26	2	1	32	0	0	0	0	0	0	0	3	0	3	3
19:00	3	22	1	0	26	1	0	0	0	1	0	0	0	0	0	3
19:15	3	30	2	0	35	0	1	0	0	1	0	1	0	0	1	2
19:30	3	38	3	0	44	0	1	0	0	1	0	0	2	0	2	13
19:45	2	37	6	0	45	0	1	0	0	1	0	0	0	0	0	10
20:00	1	50	4	0	55	0	1	0	0	1	0	0	0	0	0	4
20:15	0	25	4	0	29	0	2	0	0	2	0	0	0	0	0	3
20:30	1	22	2	0	25	0	0	0	0	0	0	0	0	0	0	4
20:45	2	31	4	0	37	0	2	0	0	2	0	0	0	0	0	11
21:00	1	27	3	0	31	0	1	0	0	1	0	0	0	0	0	0
21:15	1	19	3	0	23	0	1	0	0	1	0	0	0	0	0	0
21:30	4	31	3	0	38	0	0	1	0	1	0	0	0	0	0	7
21:45	1	42	4	0	47	0	2	0	0	2	0	0	0	0	0	3
SUBTOTAL	34	624	67	1	726	5	14	1	0	20	0	2	8	0	10	86

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	41	801	92	2	936	5	15	1	0	21	0	4	8	0	12	106



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	0	25	0	0	25	0	0	0	0	0	0	0	0	0	0	0
11:15	1	19	0	0	20	0	1	1	0	2	0	0	0	0	0	2
11:30	2	22	0	0	24	0	1	0	0	1	0	0	0	0	0	1
11:45	0	28	2	0	30	0	0	1	0	1	0	0	0	0	0	0
12:00	1	14	0	0	15	0	1	0	0	1	0	0	0	0	0	1
12:15	1	27	1	0	29	0	0	0	0	0	0	0	0	0	0	3
12:30	3	20	0	0	23	0	0	0	0	0	0	1	0	0	1	2
12:45	1	22	0	0	23	0	2	0	0	2	0	0	0	0	0	0
13:00	2	21	1	0	24	0	0	1	0	1	0	1	0	0	1	0
13:15	2	17	0	0	19	0	0	0	0	0	0	0	0	0	0	0
13:30	3	25	2	0	30	0	1	0	0	1	0	1	0	0	1	0
13:45	2	24	0	0	26	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	18	264	6	0	288	0	6	3	0	9	0	3	0	0	3	11

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Robinson St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	0	39	3	0	42	0	0	0	0	0	0	2	0	0	2	0
17:15	4	32	2	1	39	0	0	0	0	0	0	0	0	0	0	0
17:30	2	37	2	0	41	0	0	1	0	1	0	0	0	0	0	0
17:45	1	48	1	0	50	0	1	0	0	1	0	0	0	0	0	0
18:00	0	34	1	0	35	0	0	0	0	0	0	0	0	0	0	0
18:15	0	26	3	0	29	0	1	0	0	1	0	0	0	0	0	0
18:30	1	26	0	0	27	0	0	0	0	0	0	0	0	0	0	0
18:45	0	22	0	0	22	0	0	0	0	0	0	0	0	0	0	1
19:00	0	36	2	0	38	0	1	0	0	1	0	0	0	0	0	0
19:15	2	25	2	0	29	0	0	0	0	0	0	0	0	0	0	0
19:30	2	35	2	0	39	0	2	0	0	2	0	0	0	0	0	0
19:45	1	24	4	0	29	0	1	0	0	1	0	1	0	0	1	0
20:00	3	19	2	0	24	0	0	2	0	2	0	0	0	0	0	2
20:15	1	26	1	0	28	0	0	1	0	1	0	0	0	0	0	0
20:30	1	25	0	0	26	0	0	1	0	1	0	0	0	0	0	0
20:45	3	20	0	0	23	0	1	1	0	2	0	0	0	0	0	0
21:00	0	21	1	1	23	0	0	1	0	1	0	0	0	0	0	0
21:15	1	30	2	0	33	0	0	0	0	0	0	0	0	0	0	0
21:30	0	33	0	1	34	0	0	1	0	1	0	0	0	0	0	0
21:45	3	24	1	0	28	0	0	1	0	1	0	0	0	0	0	0
SUBTOTAL	25	582	29	3	639	0	7	9	0	16	0	3	0	0	3	3

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	43	846	35	3	927	0	13	12	0	25	0	6	0	0	6	14

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	11:00:00	From:	11:00:00
To:	14:00:00	To:	12:00:00

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Robinson St runs E/W

North Approach

	Out	In	Total
Cars	29	27	56
Trucks	1	0	1
Bicycles	0	1	1
	30	**28**	**58**

Allendale Ave

Bicycles	0	0	0	0
Trucks	0	1	0	0
Cars	8	11	10	0
Totals	**8**	**12**	**10**	**0**

East Approach

	Out	In	Total
Cars	64	120	184
Trucks	0	4	4
Bicycles	0	1	1
	64	**125**	**189**

Robinson St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	3	**3**
0	2	94	**96**
0	2	2	**4**

Peds: 16

Peds: 3



Peds: 9

Peds: 34

Robinson St

Totals	Cars	Trucks	Bicycles
0	0	0	0
9	9	0	0
53	53	0	0
2	2	0	0

West Approach

	Out	In	Total
Cars	99	67	166
Trucks	4	4	8
Bicycles	0	0	0
	103	**71**	**174**

Totals	**10**	**16**	**19**	**0**
Cars	6	15	16	0
Trucks	4	0	2	0
Bicycles	0	1	1	0

Allendale Ave

South Approach

	Out	In	Total
Cars	37	15	52
Trucks	6	3	9
Bicycles	2	0	2
	45	**18**	**63**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Count Date: Aug 10, 2024
Period: 11:00 - 14:00

Peak Hour Data (11:00 - 12:00)

Start Time	North Approach Allendale Ave						South Approach Allendale Ave						East Approach Robinson St						West Approach Robinson St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
11:00	4	3	2	0	4	9	1	4	10	0	5	15	1	15	1	0	1	17	0	25	0	0	0	25	66
11:15	1	3	1	0	5	5	5	4	3	0	9	12	0	15	2	0	0	17	1	20	1	0	2	22	56
11:30	4	2	4	0	6	10	1	5	2	0	10	8	0	13	5	0	3	18	2	23	0	0	1	25	61
11:45	1	4	1	0	1	6	3	3	4	0	10	10	1	10	1	0	5	12	0	28	3	0	0	31	59
Grand Total	**10**	**12**	**8**	**0**	**16**	**30**	**10**	**16**	**19**	**0**	**34**	**45**	**2**	**53**	**9**	**0**	**9**	**64**	**3**	**96**	**4**	**0**	**3**	**103**	**242**
Approach %	33.3	40	26.7	0		-	22.2	35.6	42.2	0		-	3.1	82.8	14.1	0		-	2.9	93.2	3.9	0		-	
Totals %	4.1	5	3.3	0		12.4	4.1	6.6	7.9	0		18.6	0.8	21.9	3.7	0		26.4	1.2	39.7	1.7	0		42.6	
PHF	**0.63**	**0.75**	**0.5**	**0**		**0.75**	**0.5**	**0.8**	**0.48**	**0**		**0.75**	**0.5**	**0.88**	**0.45**	**0**		**0.89**	**0.38**	**0.86**	**0.33**	**0**		**0.83**	**0.92**
Cars	10	11	8	0		29	6	15	16	0		37	2	53	9	0		64	3	94	2	0		99	229
% Cars	100	91.7	100	0		96.7	60	93.8	84.2	0		82.2	100	100	100	0		100	100	97.9	50	0		96.1	94.6
Trucks	0	1	0	0		1	4	0	2	0		6	0	0	0	0		0	0	2	2	0		4	11
% Trucks	0	8.3	0	0		3.3	40	0	10.5	0		13.3	0	0	0	0		0	0	2.1	50	0		3.9	4.5
Bicycles	0	0	0	0		0	0	1	1	0		2	0	0	0	0		0	0	0	0	0		0	2
% Bicycles	0	0	0	0		0	0	6.3	5.3	0		4.4	0	0	0	0		0	0	0	0	0		0	0.8
Peds					16	-					34	-					9	-					3	-	62
% Peds					25.8	-					54.8	-					14.5	-					4.8	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	17:00:00	From:	17:00:00
To:	22:00:00	To:	18:00:00

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Robinson St runs E/W

North Approach

	Out	In	Total
Cars	52	40	92
Trucks	1	0	1
Bicycles	0	3	3
	53	**43**	**96**

Allendale Ave

Bicycles	0	0	0	0
Trucks	0	0	1	0
Cars	7	22	23	0
Totals	**7**	**22**	**24**	**0**

East Approach

	Out	In	Total
Cars	156	193	349
Trucks	3	3	6
Bicycles	3	2	5
	162	**198**	**360**

Peds: 33

Robinson St

Bicycles	Trucks	Cars	Totals
0	0	1	**1**
0	0	7	**7**
2	1	156	**159**
0	1	8	**9**

Peds: 0

N
W E
S

Peds: 11

Robinson St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	20	17	0	3
	134	133	1	0
	8	6	2	0

Peds: 73

West Approach

	Out	In	Total
Cars	172	145	317
Trucks	2	2	4
Bicycles	2	1	3
	176	**148**	**324**

Allendale Ave

Totals	**6**	**16**	**15**	**0**
Cars	4	16	14	0
Trucks	1	0	1	0
Bicycles	1	0	0	0

South Approach

	Out	In	Total
Cars	34	36	70
Trucks	2	3	5
Bicycles	1	0	1
	37	**39**	**76**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Allendale Ave & Robinson St
Site Code: 2432200012
Count Date: Aug 10, 2024
Period: 17:00 - 22:00

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

Start Time	North Approach Allendale Ave						South Approach Allendale Ave						East Approach Robinson St						West Approach Robinson St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:00	5	7	3	0	5	15	1	4	6	0	24	11	2	37	6	0	1	45	0	41	3	0	0	44	115
17:15	7	4	1	0	6	12	2	4	4	0	28	10	0	40	4	0	1	44	4	32	2	1	0	39	105
17:30	9	5	2	0	6	16	1	5	3	0	14	9	4	27	4	0	4	35	2	37	3	0	0	42	102
17:45	3	6	1	0	16	10	2	3	2	0	7	7	2	30	6	0	5	38	1	49	1	0	0	51	106
Grand Total	**24**	**22**	**7**	**0**	**33**	**53**	**6**	**16**	**15**	**0**	**73**	**37**	**8**	**134**	**20**	**0**	**11**	**162**	**7**	**159**	**9**	**1**	**0**	**176**	**428**
Approach %	45.3	41.5	13.2	0		-	16.2	43.2	40.5	0		-	4.9	82.7	12.3	0		-	4	90.3	5.1	0.6		-	
Totals %	5.6	5.1	1.6	0		12.4	1.4	3.7	3.5	0		8.6	1.9	31.3	4.7	0		37.9	1.6	37.1	2.1	0.2		41.1	
PHF	**0.67**	**0.79**	**0.58**	**0**		**0.83**	**0.75**	**0.8**	**0.63**	**0**		**0.84**	**0.5**	**0.84**	**0.83**	**0**		**0.9**	**0.44**	**0.81**	**0.75**	**0.25**		**0.86**	**0.93**
Cars	23	22	7	0		52	4	16	14	0		34	6	133	17	0		156	7	156	8	1		172	414
% Cars	95.8	100	100	0		98.1	66.7	100	93.3	0		91.9	75	99.3	85	0		96.3	100	98.1	88.9	100		97.7	96.7
Trucks	1	0	0	0		1	1	0	1	0		2	2	1	0	0		3	0	1	1	0		2	8
% Trucks	4.2	0	0	0		1.9	16.7	0	6.7	0		5.4	25	0.7	0	0		1.9	0	0.6	11.1	0		1.1	1.9
Bicycles	0	0	0	0		0	1	0	0	0		1	0	0	3	0		3	0	2	0	0		2	6
% Bicycles	0	0	0	0		0	16.7	0	0	0		2.7	0	0	15	0		1.9	0	1.3	0	0		1.1	1.4
Peds					33	-					73	-					11	-					0	-	117
% Peds					28.2	-					62.4	-					9.4	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

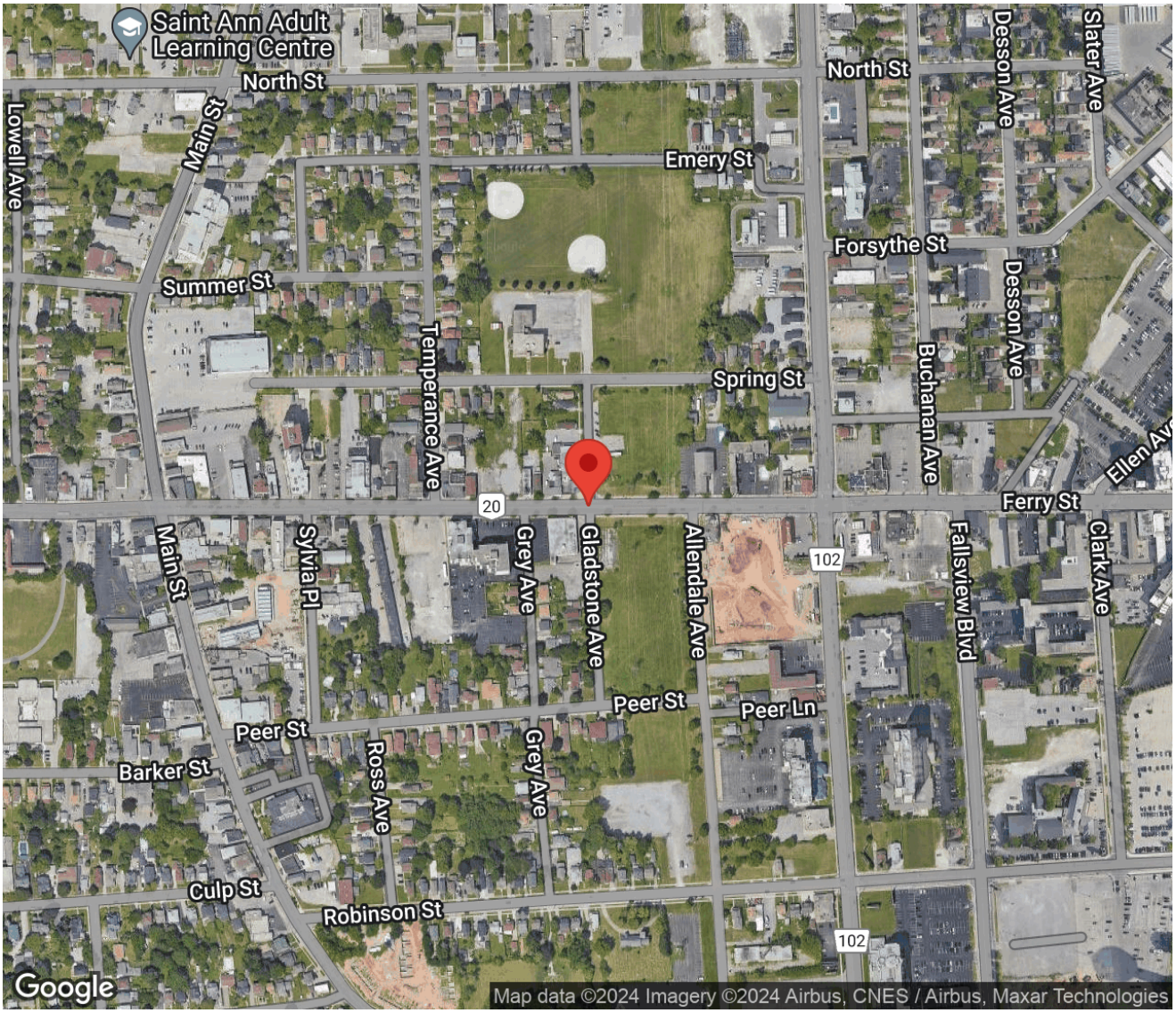
Intersection Count Report

Intersection:	Ferry St & Gladstone Ave
Municipality:	Niagara Falls
Count Date:	Tuesday, Aug 13, 2024
Site Code:	2432200001
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Ferry St & Gladstone Ave
Site Code:	2432200001
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Gladstone Ave
Site Code:	2432200001
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Gladstone Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	0	1	0	1	11	0	1	5	0	6	8	7
08:00 - 09:00	1	0	5	0	6	12	0	3	6	0	9	15	15
BREAK													
16:00 - 17:00	6	1	5	0	12	34	6	0	14	0	20	58	32
17:00 - 18:00	4	0	11	0	15	47	4	0	8	0	12	67	27
GRAND TOTAL	**11**	**1**	**22**	**0**	**34**	**104**	**10**	**4**	**33**	**0**	**47**	**148**	**81**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Gladstone Ave
Site Code:	2432200001
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Ferry St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	2	170	2	0	174	2	1	180	1	0	182	0	356
08:00 - 09:00	4	200	3	1	208	3	6	213	4	0	223	0	431
BREAK													
16:00 - 17:00	13	429	10	0	452	3	3	338	11	0	352	3	804
17:00 - 18:00	5	434	9	0	448	0	3	355	8	0	366	10	814
GRAND TOTAL	**24**	**1233**	**24**	**1**	**1282**	**8**	**13**	**1086**	**24**	**0**	**1123**	**13**	**2405**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
07:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
08:30	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	5
08:45	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	1	0	5	0	6	0	0	1	0	1	0	0	0	0	0	23

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
16:00	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	4
16:15	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	8
16:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	18
16:45	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	4
17:00	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	16
17:15	2	0	4	0	6	0	0	0	0	0	0	0	0	0	0	9
17:30	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	8
17:45	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	14
SUBTOTAL	10	0	16	0	26	0	0	0	0	0	0	1	0	0	1	81
GRAND TOTAL	**11**	**0**	**21**	**0**	**32**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**104**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
07:45	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	2
08:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	10
08:30	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
08:45	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	4
SUBTOTAL	0	4	11	0	15	0	0	0	0	0	0	0	0	0	0	23

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
16:00	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	14
16:15	2	0	4	0	6	0	0	0	0	0	0	0	0	0	0	16
16:30	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	14
16:45	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	14
17:00	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	18
17:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15
17:30	1	0	2	0	3	1	0	0	0	1	0	0	0	0	0	21
17:45	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	13
SUBTOTAL	9	0	21	0	30	1	0	1	0	2	0	0	0	0	0	125
GRAND TOTAL	9	4	32	0	45	1	0	1	0	2	0	0	0	0	0	148

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	1	35	1	0	37	0	1	0	0	1	0	0	0	0	0	0
07:15	0	32	0	0	32	0	0	0	0	0	0	0	0	0	0	0
07:30	1	41	1	0	43	0	7	0	0	7	0	0	0	0	0	1
07:45	0	51	0	0	51	0	3	0	0	3	0	0	0	0	0	1
08:00	0	45	1	0	46	0	4	0	0	4	0	0	0	0	0	0
08:15	2	37	1	0	40	0	4	0	0	4	0	0	0	0	0	3
08:30	2	45	0	0	47	0	8	0	0	8	0	0	0	0	0	0
08:45	0	55	1	1	57	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	6	341	5	1	353	0	29	0	0	29	0	0	0	0	0	5

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	4	113	2	0	119	0	2	0	0	2	0	0	0	0	0	1
16:15	3	101	5	0	109	0	4	0	0	4	0	1	0	0	1	2
16:30	1	93	1	0	95	0	0	0	0	0	0	0	0	0	0	0
16:45	5	111	2	0	118	0	4	0	0	4	0	0	0	0	0	0
17:00	1	115	0	0	116	0	1	0	0	1	0	1	0	0	1	0
17:15	1	122	3	0	126	0	2	0	0	2	0	0	0	0	0	0
17:30	1	92	5	0	98	0	1	0	0	1	0	1	0	0	1	0
17:45	2	97	1	0	100	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	18	844	19	0	881	0	16	0	0	16	0	3	0	0	3	3
GRAND TOTAL	24	1185	24	1	1234	0	45	0	0	45	0	3	0	0	3	8

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	33	1	0	34	0	3	0	0	3	0	0	0	0	0	0
07:15	0	33	0	0	33	0	3	0	0	3	0	0	0	0	0	0
07:30	1	44	0	0	45	0	2	0	0	2	0	0	0	0	0	0
07:45	0	59	0	0	59	0	2	0	0	2	0	1	0	0	1	0
08:00	0	46	0	0	46	0	5	0	0	5	0	0	0	0	0	0
08:15	2	38	2	0	42	0	2	0	0	2	0	0	0	0	0	0
08:30	2	63	0	0	65	1	1	0	0	2	0	0	0	0	0	0
08:45	1	54	2	0	57	0	4	0	0	4	0	0	0	0	0	0
SUBTOTAL	6	370	5	0	381	1	22	0	0	23	0	1	0	0	1	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	0	85	3	0	88	0	3	0	0	3	0	0	0	0	0	0
16:15	1	78	2	0	81	0	1	0	0	1	1	1	0	0	2	2
16:30	1	91	3	0	95	0	3	0	0	3	0	0	0	0	0	1
16:45	0	74	3	0	77	0	1	0	0	1	0	1	0	0	1	0
17:00	1	94	3	0	98	0	2	0	0	2	0	1	0	0	1	0
17:15	1	82	1	0	84	0	1	0	0	1	0	2	0	0	2	4
17:30	1	75	1	0	77	0	3	0	0	3	0	0	0	0	0	1
17:45	0	93	3	0	96	0	2	0	0	2	0	0	0	0	0	5
SUBTOTAL	5	672	19	0	696	0	16	0	0	16	1	5	0	0	6	13
GRAND TOTAL	**11**	**1042**	**24**	**0**	**1077**	**1**	**38**	**0**	**0**	**39**	**1**	**6**	**0**	**0**	**7**	**13**

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Ferry St runs E/W

North Approach

	Out	In	Total
Cars	5	11	16
Trucks	1	1	2
Bicycles	0	0	0
	6	**12**	**18**

Gladstone Ave

Bicycles	0	0	0	0
Trucks	1	0	0	0
Cars	4	0	1	0
Totals	**5**	**0**	**1**	**0**

East Approach

	Out	In	Total
Cars	190	209	399
Trucks	18	12	30
Bicycles	0	0	0
	208	**221**	**429**

Peds: 12

Ferry St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	1	5	**6**
0	12	201	**213**
0	0	4	**4**

Peds: 0



Peds: 3

Ferry St

Totals	Cars	Trucks	Bicycles
1	1	0	0
3	3	0	0
200	182	18	0
4	4	0	0

Peds: 15

West Approach

	Out	In	Total
Cars	210	186	396
Trucks	13	19	32
Bicycles	0	0	0
	223	**205**	**428**

Gladstone Ave

Totals	**0**	**3**	**6**	**0**
Cars	0	3	6	0
Trucks	0	0	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	9	8	17
Trucks	0	0	0
Bicycles	0	0	0
	9	**8**	**17**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Count Date: Aug 13, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Gladstone Ave						South Approach Gladstone Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	0	0	1	0	0	1	0	0	1	0	1	1	0	49	1	0	0	50	0	51	0	0	0	51	103
08:15	1	0	0	0	5	1	0	1	2	0	10	3	2	41	1	0	3	44	2	40	2	0	0	44	92
08:30	0	0	2	0	5	2	0	1	1	0	0	2	2	53	0	0	0	55	3	64	0	0	0	67	126
08:45	0	0	2	0	2	2	0	1	2	0	4	3	0	57	1	1	0	59	1	58	2	0	0	61	125
Grand Total	**1**	**0**	**5**	**0**	**12**	**6**	**0**	**3**	**6**	**0**	**15**	**9**	**4**	**200**	**3**	**1**	**3**	**208**	**6**	**213**	**4**	**0**	**0**	**223**	**446**
Approach %	16.7	0	83.3	0		-	0	33.3	66.7	0		-	1.9	96.2	1.4	0.5		-	2.7	95.5	1.8	0		-	
Totals %	0.2	0	1.1	0		1.3	0	0.7	1.3	0		2	0.9	44.8	0.7	0.2		46.6	1.3	47.8	0.9	0		50	
PHF	**0.25**	**0**	**0.63**	**0**		**0.75**	**0**	**0.75**	**0.75**	**0**		**0.75**	**0.5**	**0.88**	**0.75**	**0.25**		**0.88**	**0.5**	**0.83**	**0.5**	**0**		**0.83**	**0.88**
Cars	1	0	4	0		5	0	3	6	0		9	4	182	3	1		190	5	201	4	0		210	414
% Cars	100	0	80	0		83.3	0	100	100	0		100	100	91	100	100		91.3	83.3	94.4	100	0		94.2	92.8
Trucks	0	0	1	0		1	0	0	0	0		0	0	18	0	0		18	1	12	0	0		13	32
% Trucks	0	0	20	0		16.7	0	0	0	0		0	0	9	0	0		8.7	16.7	5.6	0	0		5.8	7.2
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					12	-					15	-					3	-					0	-	30
% Peds					40	-					50	-					10	-					0	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:30:00
To:	18:00:00	To:	17:30:00

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Ferry St runs E/W

North Approach

	Out	In	Total
Cars	11	9	20
Trucks	0	0	0
Bicycles	1	0	1
	12	**9**	**21**

Gladstone Ave

Bicycles	0	1	0	0
Trucks	0	0	0	0
Cars	6	0	5	0
Totals	**6**	**1**	**5**	**0**

Peds: 47

East Approach

	Out	In	Total
Cars	455	356	811
Trucks	7	7	14
Bicycles	1	4	5
	463	**367**	**830**

Ferry St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	3	**3**	
4	7	341	**352**	
0	0	10	**10**	

Peds: 5

N
W E
S

Peds: 0

Ferry St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	6	6	0	0
	449	441	7	1
	8	8	0	0

Peds: 61

West Approach

	Out	In	Total
Cars	354	452	806
Trucks	7	7	14
Bicycles	4	1	5
	365	**460**	**825**

Gladstone Ave

Totals	**5**	**0**	**10**	**0**
Cars	5	0	10	0
Trucks	0	0	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	15	18	33
Trucks	0	0	0
Bicycles	0	1	1
	15	**19**	**34**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200001
Count Date: Aug 13, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Gladstone Ave						South Approach Gladstone Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	1	0	0	0	18	1	3	0	2	0	14	5	1	93	1	0	0	95	1	94	3	0	1	98	199
16:45	1	1	0	0	4	2	0	0	4	0	14	4	5	115	2	0	0	122	0	76	3	0	0	79	207
17:00	1	0	2	0	16	3	1	0	4	0	18	5	1	117	0	0	0	118	1	97	3	0	0	101	227
17:15	2	0	4	0	9	6	1	0	0	0	15	1	1	124	3	0	0	128	1	85	1	0	4	87	222
Grand Total	**5**	**1**	**6**	**0**	**47**	**12**	**5**	**0**	**10**	**0**	**61**	**15**	**8**	**449**	**6**	**0**	**0**	**463**	**3**	**352**	**10**	**0**	**5**	**365**	**855**
Approach %	41.7	8.3	50	0		-	33.3	0	66.7	0		-	1.7	97	1.3	0		-	0.8	96.4	2.7	0		-	
Totals %	0.6	0.1	0.7	0		1.4	0.6	0	1.2	0		1.8	0.9	52.5	0.7	0		54.2	0.4	41.2	1.2	0		42.7	
PHF	**0.63**	**0.25**	**0.38**	**0**		**0.5**	**0.42**	**0**	**0.63**	**0**		**0.75**	**0.4**	**0.91**	**0.5**	**0**		**0.9**	**0.75**	**0.91**	**0.83**	**0**		**0.9**	**0.94**
Cars	5	0	6	0		11	5	0	10	0		15	8	441	6	0		455	3	341	10	0		354	835
% Cars	100	0	100	0		91.7	100	0	100	0		100	100	98.2	100	0		98.3	100	96.9	100	0		97	97.7
Trucks	0	0	0	0		0	0	0	0	0		0	0	7	0	0		7	0	7	0	0		7	14
% Trucks	0	0	0	0		0	0	0	0	0		0	0	1.6	0	0		1.5	0	2	0	0		1.9	1.6
Bicycles	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	4	0	0		4	6
% Bicycles	0	100	0	0		8.3	0	0	0	0		0	0	0.2	0	0		0.2	0	1.1	0	0		1.1	0.7
Peds					47	-					61	-					0	-					5	-	113
% Peds					41.6	-					54	-					0	-					4.4	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

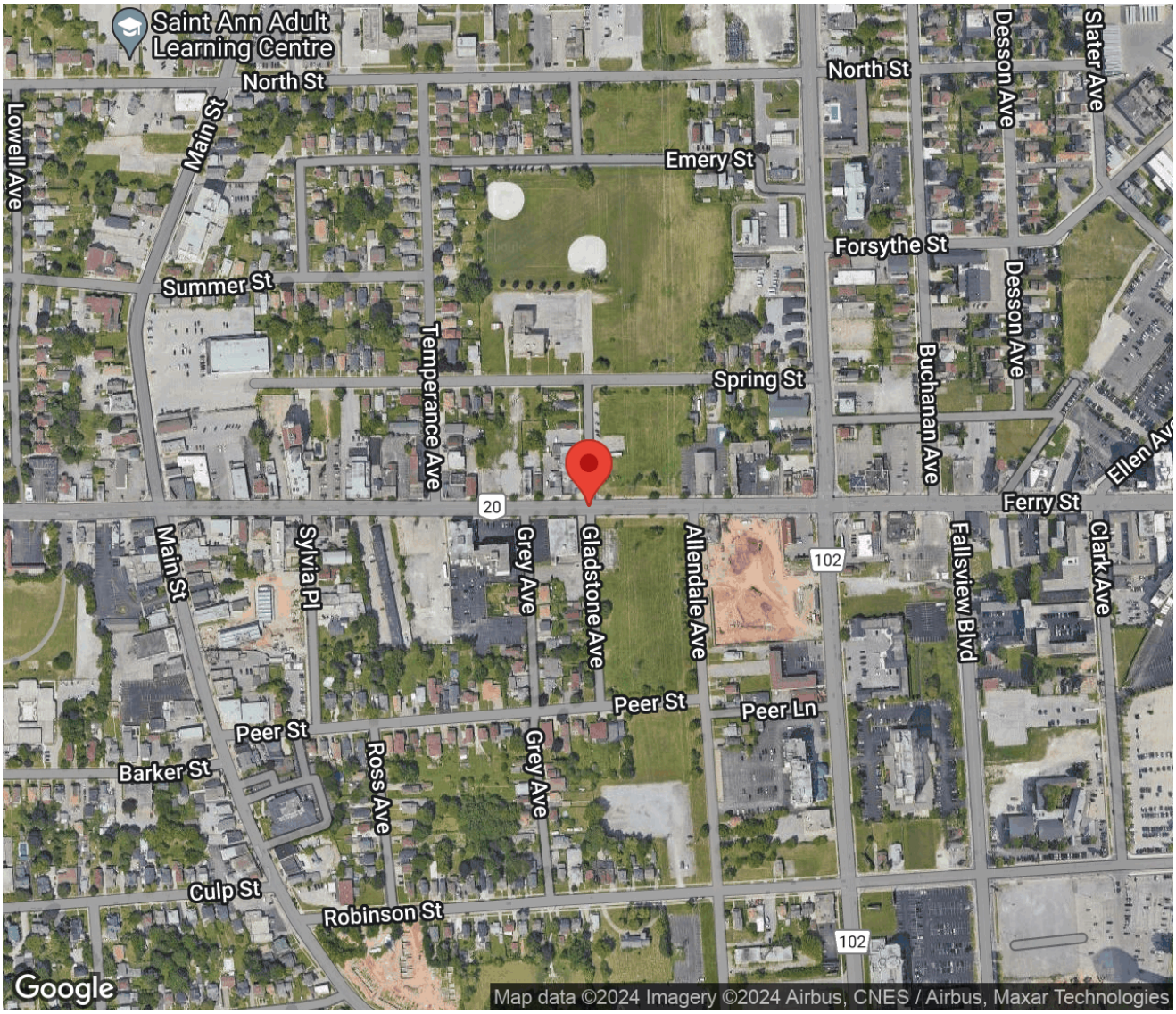
Intersection Count Report

Intersection:	Ferry St & Gladstone Ave
Municipality:	Niagara Falls
Count Date:	Saturday, Aug 10, 2024
Site Code:	2432200002
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-22:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Ferry St & Gladstone Ave
Site Code:	2432200002
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Gladstone Ave
Site Code:	2432200002
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Gladstone Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	14	5	30	1	50	38	6	1	14	0	21	64	71
12:00 - 13:00	5	5	24	0	34	28	6	1	6	0	13	43	47
13:00 - 14:00	14	3	17	0	34	20	2	2	7	0	11	50	45
BREAK													
17:00 - 18:00	11	7	7	0	25	55	6	2	6	0	14	86	39
18:00 - 19:00	7	3	18	0	28	53	4	2	5	0	11	106	39
19:00 - 20:00	3	7	17	0	27	46	5	2	6	0	13	82	40
20:00 - 21:00	7	4	6	0	17	59	3	2	9	0	14	94	31
21:00 - 22:00	4	0	7	0	11	148	1	6	9	0	16	114	27
GRAND TOTAL	**65**	**34**	**126**	**1**	**226**	**447**	**33**	**18**	**62**	**0**	**113**	**639**	**339**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Gladstone Ave
Site Code:	2432200002
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Ferry St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	9	358	19	1	387	2	28	401	15	0	444	15	831
12:00 - 13:00	8	360	17	1	386	1	15	386	9	0	410	8	796
13:00 - 14:00	6	371	18	0	395	3	14	433	11	1	459	11	854
BREAK													
17:00 - 18:00	5	407	16	2	430	7	8	497	11	0	516	7	946
18:00 - 19:00	3	455	15	0	473	2	12	495	10	0	517	16	990
19:00 - 20:00	3	429	15	1	448	11	5	442	6	0	453	8	901
20:00 - 21:00	12	435	18	0	465	13	37	453	11	0	501	8	966
21:00 - 22:00	5	465	10	0	480	4	38	397	10	1	446	6	926
GRAND TOTAL	**51**	**3280**	**128**	**5**	**3464**	**43**	**157**	**3504**	**83**	**2**	**3746**	**79**	**7210**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	1	5	4	0	10	0	0	0	0	0	0	0	0	0	0	12
11:15	4	0	6	1	11	0	0	0	0	0	0	0	0	0	0	4
11:30	4	0	11	0	15	0	0	0	0	0	0	0	0	0	0	14
11:45	5	0	9	0	14	0	0	0	0	0	0	0	0	0	0	8
12:00	1	1	5	0	7	0	0	0	0	0	0	0	0	0	0	8
12:15	4	2	6	0	12	0	0	0	0	0	0	0	0	0	0	10
12:30	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	5
12:45	0	2	4	0	6	0	0	1	0	1	0	0	0	0	0	5
13:00	3	1	2	0	6	0	0	0	0	0	0	0	0	0	0	2
13:15	7	0	6	0	13	0	0	0	0	0	0	0	0	0	0	5
13:30	0	0	4	0	4	1	0	0	0	1	0	0	0	0	0	5
13:45	3	2	5	0	10	0	0	0	0	0	0	0	0	0	0	8
SUBTOTAL	32	13	70	1	116	1	0	1	0	2	0	0	0	0	0	86

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	3	2	2	0	7	0	0	0	0	0	0	0	0	0	0	14
17:15	4	0	2	0	6	0	0	0	0	0	0	0	0	0	0	10
17:30	1	3	2	0	6	0	0	0	0	0	0	0	0	0	0	12
17:45	3	2	1	0	6	0	0	0	0	0	0	0	0	0	0	19
18:00	1	1	4	0	6	0	0	0	0	0	0	0	0	0	0	11
18:15	2	2	4	0	8	0	0	0	0	0	0	0	0	0	0	13
18:30	1	0	5	0	6	0	0	0	0	0	0	0	0	0	0	13
18:45	3	0	5	0	8	0	0	0	0	0	0	0	0	0	0	16
19:00	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	5
19:15	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	13
19:30	2	1	4	0	7	0	0	0	0	0	0	0	0	0	0	14
19:45	1	5	3	0	9	0	0	0	0	0	0	0	0	0	0	14
20:00	5	1	2	0	8	0	0	0	0	0	0	0	0	0	0	17
20:15	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	30
20:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
20:45	1	0	1	0	2	0	0	0	0	0	0	3	0	0	3	8
21:00	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	28
21:15	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	45
21:30	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	33
21:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	42
SUBTOTAL	32	18	55	0	105	0	0	0	0	0	0	3	0	0	3	361

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	64	31	125	1	221	1	0	1	0	2	0	3	0	0	3	447

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	2	1	1	0	4	0	0	1	0	1	0	0	0	0	0	18
11:15	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	11
11:30	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	20
11:45	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	15
12:00	1	1	2	0	4	1	0	0	0	1	0	0	0	0	0	8
12:15	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	8
12:30	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	13
12:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	14
13:00	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	6
13:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	21
13:30	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	17
13:45	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	6
SUBTOTAL	13	4	26	0	43	1	0	1	0	2	0	0	0	0	0	157

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
17:00	2	1	2	0	5	0	0	0	0	0	0	0	0	0	0	18
17:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	22
17:30	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	19
17:45	1	0	2	0	3	0	1	0	0	1	0	0	0	0	0	27
18:00	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	39
18:15	1	1	2	0	4	0	0	0	0	0	0	0	0	0	0	25
18:30	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	29
18:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	13
19:00	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	23
19:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	21
19:30	2	0	2	0	4	0	0	0	0	0	0	2	0	0	2	7
19:45	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	31
20:00	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	27
20:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	23
20:30	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	24
20:45	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	20
21:00	0	0	3	0	3	0	0	0	0	0	0	2	0	0	2	25
21:15	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	22
21:30	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	28
21:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	39
SUBTOTAL	19	9	35	0	63	0	1	0	0	1	0	4	0	0	4	482

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	32	13	61	0	106	1	1	1	0	3	0	4	0	0	4	639

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	1	93	7	0	101	0	1	0	0	1	0	0	0	0	0	1
11:15	4	73	4	1	82	0	4	0	0	4	0	0	0	0	0	0
11:30	4	89	2	0	95	0	3	0	0	3	0	1	0	0	1	0
11:45	0	91	6	0	97	0	3	0	0	3	0	0	0	0	0	1
12:00	1	80	5	0	86	0	3	0	0	3	0	0	0	0	0	1
12:15	2	93	2	1	98	0	2	0	0	2	0	0	0	0	0	0
12:30	1	73	8	0	82	0	1	0	0	1	0	0	0	0	0	0
12:45	4	102	2	0	108	0	5	0	0	5	0	1	0	0	1	0
13:00	1	99	3	0	103	0	2	0	0	2	0	1	0	0	1	1
13:15	2	72	6	0	80	0	3	0	0	3	0	2	0	0	2	0
13:30	1	90	4	0	95	0	2	0	0	2	0	3	0	0	3	1
13:45	2	95	5	0	102	0	2	0	0	2	0	0	0	0	0	1
SUBTOTAL	23	1050	54	2	1129	0	31	0	0	31	0	8	0	0	8	6

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
17:00	2	106	8	0	116	0	4	0	0	4	0	1	0	0	1	0
17:15	0	106	6	2	114	0	2	0	0	2	0	2	0	0	2	1
17:30	2	82	2	0	86	0	1	0	0	1	0	0	0	0	0	3
17:45	1	102	0	0	103	0	1	0	0	1	0	0	0	0	0	3
18:00	1	103	1	0	105	0	2	0	0	2	0	0	0	0	0	0
18:15	2	128	4	0	134	0	3	0	0	3	0	1	0	0	1	1
18:30	0	123	7	0	130	0	2	0	0	2	0	0	0	0	0	0
18:45	0	89	3	0	92	0	2	0	0	2	0	2	0	0	2	1
19:00	1	87	1	0	89	0	2	0	0	2	0	0	0	0	0	7
19:15	0	98	5	1	104	0	2	0	0	2	0	1	0	0	1	2
19:30	1	106	5	0	112	0	0	0	0	0	0	0	0	0	0	1
19:45	1	130	4	0	135	0	3	0	0	3	0	0	0	0	0	1
20:00	1	108	6	0	115	0	2	0	0	2	0	0	0	0	0	4
20:15	4	108	3	0	115	0	2	0	0	2	0	0	0	0	0	3
20:30	6	114	5	0	125	0	2	0	0	2	0	1	0	0	1	0
20:45	1	96	4	0	101	0	2	0	0	2	0	0	0	0	0	6
21:00	2	134	1	0	137	0	2	0	0	2	0	0	0	0	0	0
21:15	2	125	5	0	132	0	1	0	0	1	0	0	0	0	0	0
21:30	0	102	2	0	104	0	1	0	0	1	0	0	0	0	0	0
21:45	1	99	2	0	102	0	1	0	0	1	0	0	0	0	0	4
SUBTOTAL	28	2146	74	3	2251	0	37	0	0	37	0	8	0	0	8	37

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	51	3196	128	5	3380	0	68	0	0	68	0	16	0	0	16	43

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	7	100	4	0	111	0	4	0	0	4	0	0	0	0	0	8
11:15	6	77	5	0	88	1	1	0	0	2	0	0	0	0	0	3
11:30	10	103	3	0	116	0	4	0	0	4	0	0	0	0	0	2
11:45	4	109	3	0	116	0	2	0	0	2	0	1	0	0	1	2
12:00	3	99	7	0	109	0	2	0	0	2	0	2	0	0	2	3
12:15	6	89	0	0	95	0	2	0	0	2	0	0	0	0	0	0
12:30	2	87	0	0	89	0	3	0	0	3	0	0	0	0	0	3
12:45	4	100	2	0	106	0	1	0	0	1	0	1	0	0	1	2
13:00	6	109	3	0	118	0	4	0	0	4	0	1	0	0	1	1
13:15	5	93	4	0	102	0	1	0	0	1	0	0	0	0	0	5
13:30	1	115	2	1	119	0	2	0	0	2	0	0	0	0	0	1
13:45	2	105	2	0	109	0	3	0	0	3	0	0	0	0	0	4
SUBTOTAL	56	1186	35	1	1278	1	29	0	0	30	0	5	0	0	5	34

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	2	122	3	0	127	0	3	0	0	3	0	2	0	0	2	4
17:15	2	119	1	0	122	0	2	0	0	2	0	1	0	0	1	1
17:30	2	116	4	0	122	0	3	0	0	3	0	2	0	0	2	0
17:45	2	125	3	0	130	0	1	0	0	1	0	1	0	0	1	2
18:00	2	123	3	0	128	0	2	0	0	2	0	1	0	0	1	10
18:15	1	118	3	0	122	0	1	0	0	1	0	0	0	0	0	0
18:30	4	116	3	0	123	0	3	0	0	3	0	0	0	0	0	3
18:45	5	130	1	0	136	0	0	0	0	0	0	1	0	0	1	3
19:00	1	105	1	0	107	0	2	0	0	2	0	3	0	0	3	1
19:15	2	118	2	0	122	0	3	0	0	3	0	1	0	0	1	1
19:30	2	92	1	0	95	0	1	0	0	1	0	0	0	0	0	5
19:45	0	113	2	0	115	0	4	0	0	4	0	0	0	0	0	1
20:00	4	115	3	0	122	0	3	0	0	3	0	1	0	0	1	2
20:15	14	103	1	0	118	0	1	0	0	1	1	0	0	0	1	2
20:30	6	119	3	0	128	0	2	0	0	2	0	0	0	0	0	1
20:45	12	107	4	0	123	0	2	0	0	2	0	0	0	0	0	3
21:00	16	110	4	0	130	0	1	0	0	1	0	0	0	0	0	2
21:15	7	110	4	1	122	0	2	0	0	2	0	0	0	0	0	4
21:30	3	83	0	0	86	0	1	0	0	1	0	0	0	0	0	0
21:45	12	88	2	0	102	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	99	2232	48	1	2380	0	39	0	0	39	1	13	0	0	14	45

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	155	3418	83	2	3658	1	68	0	0	69	1	18	0	0	19	79

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	11:00:00	From:	11:00:00
To:	14:00:00	To:	12:00:00

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Ferry St runs E/W

North Approach

	Out	In	Total
Cars	50	48	98
Trucks	0	1	1
Bicycles	0	0	0
	50	**49**	**99**

Gladstone Ave

Bicycles	0	0	0	0
Trucks	0	0	0	0
Cars	30	5	14	1
Totals	**30**	**5**	**14**	**1**

Peds: 38

East Approach

	Out	In	Total
Cars	375	417	792
Trucks	11	12	23
Bicycles	1	1	2
	387	**430**	**817**

Ferry St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	1	27	**28**
1	11	389	**401**
0	0	15	**15**

Peds: 15

N
W E
S

Peds: 2

Ferry St

Totals	Cars	Trucks	Bicycles
1	1	0	0
19	19	0	0
358	346	11	1
9	9	0	0

Peds: 64

West Approach

	Out	In	Total
Cars	431	382	813
Trucks	12	11	23
Bicycles	1	1	2
	444	**394**	**838**

Gladstone Ave

Totals	**6**	**1**	**14**	**0**
Cars	6	1	13	0
Trucks	0	0	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	20	29	49
Trucks	1	0	1
Bicycles	0	0	0
	21	**29**	**50**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Count Date: Aug 10, 2024
Period: 11:00 - 14:00

Peak Hour Data (11:00 - 12:00)

Start Time	North Approach Gladstone Ave						South Approach Gladstone Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	
11:00	1	5	4	0	12	10	2	1	2	0	18	5	1	94	7	0	1	102	7	104	4	0	8	115	232
11:15	4	0	6	1	4	11	0	0	6	0	11	6	4	77	4	1	0	86	7	78	5	0	3	90	193
11:30	4	0	11	0	14	15	3	0	3	0	20	6	4	93	2	0	0	99	10	107	3	0	2	120	240
11:45	5	0	9	0	8	14	1	0	3	0	15	4	0	94	6	0	1	100	4	112	3	0	2	119	237
Grand Total	**14**	**5**	**30**	**1**	**38**	**50**	**6**	**1**	**14**	**0**	**64**	**21**	**9**	**358**	**19**	**1**	**2**	**387**	**28**	**401**	**15**	**0**	**15**	**444**	**902**
Approach %	28	10	60	2		-	28.6	4.8	66.7	0		-	2.3	92.5	4.9	0.3		-	6.3	90.3	3.4	0		-	
Totals %	1.6	0.6	3.3	0.1		5.5	0.7	0.1	1.6	0		2.3	1	39.7	2.1	0.1		42.9	3.1	44.5	1.7	0		49.2	
PHF	**0.7**	**0.25**	**0.68**	**0.25**		**0.83**	**0.5**	**0.25**	**0.58**	**0**		**0.88**	**0.56**	**0.95**	**0.68**	**0.25**		**0.95**	**0.7**	**0.9**	**0.75**	**0**		**0.93**	**0.94**
Cars	14	5	30	1		50	6	1	13	0		20	9	346	19	1		375	27	389	15	0		431	876
% Cars	100	100	100	100		100	100	100	92.9	0		95.2	100	96.6	100	100		96.9	96.4	97	100	0		97.1	97.1
Trucks	0	0	0	0		0	0	0	1	0		1	0	11	0	0		11	1	11	0	0		12	24
% Trucks	0	0	0	0		0	0	0	7.1	0		4.8	0	3.1	0	0		2.8	3.6	2.7	0	0		2.7	2.7
Bicycles	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	1	0	0		1	2
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0.3	0	0		0.3	0	0.2	0	0		0.2	0.2
Peds					38	-					64	-					2	-					15	-	119
% Peds					31.9	-					53.8	-					1.7	-					12.6	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	17:00:00	From:	20:30:00
To:	22:00:00	To:	21:30:00

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Ferry St runs E/W

North Approach

	Out	In	Total
Cars	10	58	68
Trucks	0	0	0
Bicycles	3	2	5
	13	**60**	**73**

Gladstone Ave

Bicycles	0	3	0	0
Trucks	0	0	0	0
Cars	7	0	3	0
Totals	**7**	**3**	**3**	**0**

East Approach

	Out	In	Total
Cars	495	459	954
Trucks	7	7	14
Bicycles	1	0	1
	503	**466**	**969**

Peds: 85

Ferry St

Bicycles	Trucks	Cars	Totals
0	0	1	**1**
0	0	41	**41**
0	7	446	**453**
0	0	15	**15**

Peds: 10



Peds: 6

Ferry St

Totals	Cars	Trucks	Bicycles
0	0	0	0
15	15	0	0
477	469	7	1
11	11	0	0

Peds: 91

West Approach

	Out	In	Total
Cars	503	478	981
Trucks	7	7	14
Bicycles	0	1	1
	510	**486**	**996**

Gladstone Ave

Totals	**1**	**4**	**10**	**0**
Cars	1	2	10	0
Trucks	0	0	0	0
Bicycles	0	2	0	0

South Approach

	Out	In	Total
Cars	13	26	39
Trucks	0	0	0
Bicycles	2	3	5
	15	**29**	**44**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Gladstone Ave
Site Code: 2432200002
Count Date: Aug 10, 2024
Period: 17:00 - 22:00

Peak Hour Data (20:30 - 21:30)

Start Time	North Approach Gladstone Ave						South Approach Gladstone Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
20:30	0	0	1	0	4	1	0	1	2	0	24	3	6	117	5	0	0	128	6	121	3	0	1	130	262
20:45	1	3	1	0	8	5	1	0	3	0	20	4	1	98	4	0	6	103	12	109	4	0	3	125	237
21:00	1	0	3	0	28	4	0	2	3	0	25	5	2	136	1	0	0	139	16	111	4	0	2	131	279
21:15	1	0	2	0	45	3	0	1	2	0	22	3	2	126	5	0	0	133	7	112	4	1	4	124	263
Grand Total	**3**	**3**	**7**	**0**	**85**	**13**	**1**	**4**	**10**	**0**	**91**	**15**	**11**	**477**	**15**	**0**	**6**	**503**	**41**	**453**	**15**	**1**	**10**	**510**	**1041**
Approach %	23.1	23.1	53.8	0		-	6.7	26.7	66.7	0		-	2.2	94.8	3	0		-	8	88.8	2.9	0.2		-	
Totals %	0.3	0.3	0.7	0		1.2	0.1	0.4	1	0		1.4	1.1	45.8	1.4	0		48.3	3.9	43.5	1.4	0.1		49	
PHF	**0.75**	**0.25**	**0.58**	**0**		**0.65**	**0.25**	**0.5**	**0.83**	**0**		**0.75**	**0.46**	**0.88**	**0.75**	**0**		**0.9**	**0.64**	**0.94**	**0.94**	**0.25**		**0.97**	**0.93**
Cars	3	0	7	0		10	1	2	10	0		13	11	469	15	0		495	41	446	15	1		503	1021
% Cars	100	0	100	0		76.9	100	50	100	0		86.7	100	98.3	100	0		98.4	100	98.5	100	100		98.6	98.1
Trucks	0	0	0	0		0	0	0	0	0		0	0	7	0	0		7	0	7	0	0		7	14
% Trucks	0	0	0	0		0	0	0	0	0		0	0	1.5	0	0		1.4	0	1.5	0	0		1.4	1.3
Bicycles	0	3	0	0		3	0	2	0	0		2	0	1	0	0		1	0	0	0	0		0	6
% Bicycles	0	100	0	0		23.1	0	50	0	0		13.3	0	0.2	0	0		0.2	0	0	0	0		0	0.6
Peds					85	-					91	-					6	-					10	-	192
% Peds					44.3	-					47.4	-					3.1	-					5.2	-	

Ontario Traffic Inc.
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Project #24-322 - Arcadis Professional Services (Canada) Inc.

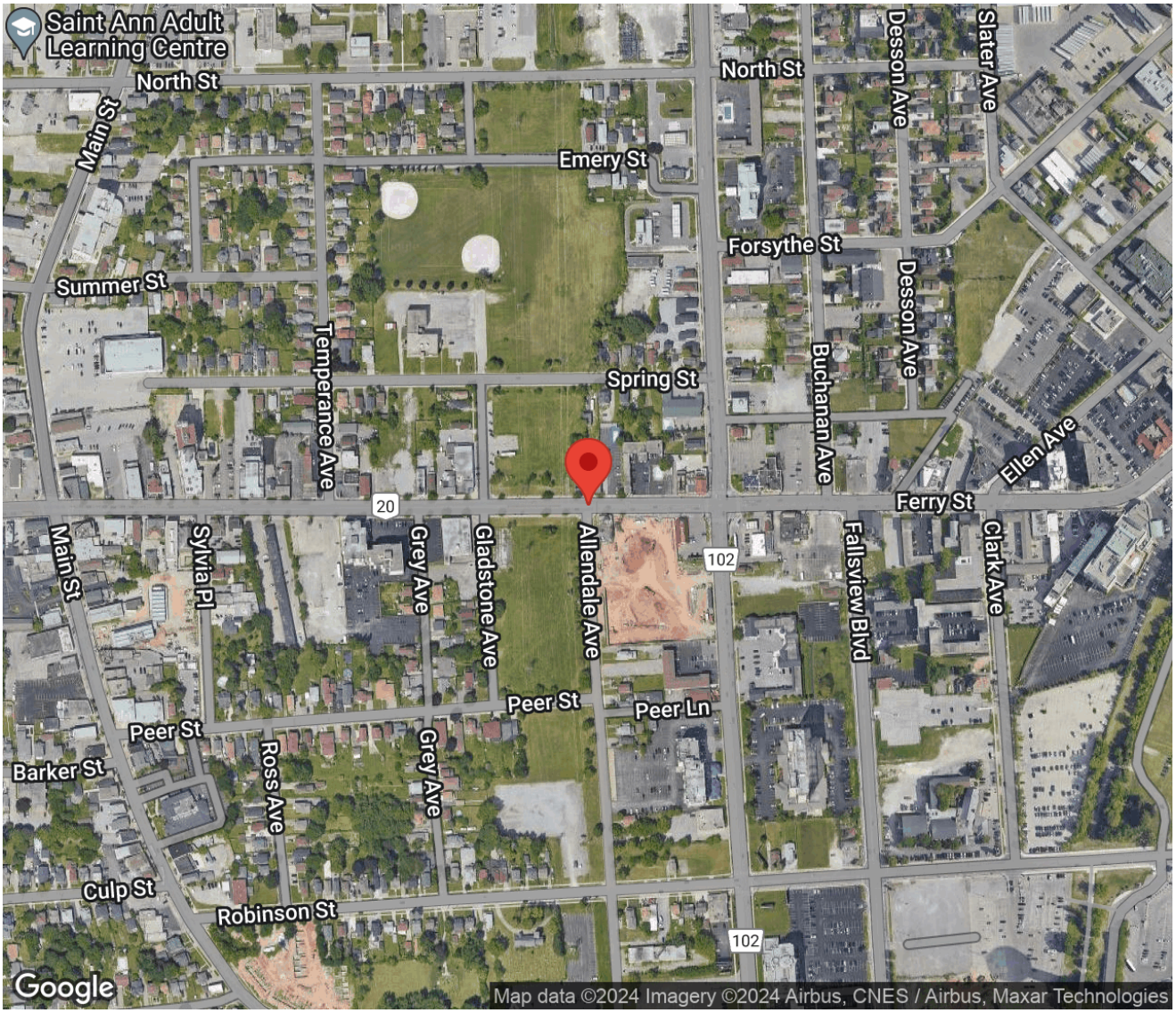
Intersection Count Report

Intersection:	Ferry St & Allendale Ave
Municipality:	Niagara Falls
Count Date:	Tuesday, Aug 13, 2024
Site Code:	2432200003
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Ferry St & Allendale Ave
Site Code:	2432200003
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Allendale Ave
Site Code:	2432200003
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Commerical Entrance - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	0	0	0	0	15	7	0	8	0	15	11	15
08:00 - 09:00	1	0	1	0	2	12	2	0	9	0	11	15	13
BREAK													
16:00 - 17:00	0	0	1	0	1	31	2	0	13	0	15	56	16
17:00 - 18:00	1	1	0	0	2	55	8	0	18	0	26	74	28
GRAND TOTAL	**2**	**1**	**2**	**0**	**5**	**113**	**19**	**0**	**48**	**0**	**67**	**156**	**72**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Allendale Ave
Site Code:	2432200003
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Ferry St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	2	166	0	0	168	0	0	184	1	0	185	0	353
08:00 - 09:00	1	206	0	0	207	6	0	220	1	0	221	1	428
BREAK													
16:00 - 17:00	4	449	0	0	453	2	3	352	4	0	359	0	812
17:00 - 18:00	9	440	3	0	452	2	0	364	2	0	366	1	818
GRAND TOTAL	**16**	**1261**	**3**	**0**	**1280**	**10**	**3**	**1120**	**8**	**0**	**1131**	**2**	**2411**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Commerical Entrance

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	6
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	27

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Commerical Entrance

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
16:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
17:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	19
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
17:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	13
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
SUBTOTAL	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	86
GRAND TOTAL	2	1	2	0	5	0	0	0	0	0	0	0	0	0	0	113

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	5
07:15	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	2
07:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	4
07:45	3	0	4	0	7	0	0	0	0	0	0	0	1	0	1	0
08:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	6
08:30	0	0	2	0	2	0	0	1	0	1	0	0	0	0	0	4
08:45	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	4
SUBTOTAL	9	0	14	0	23	0	0	2	0	2	0	0	1	0	1	26

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	16
16:15	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	15
16:30	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	12
16:45	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	13
17:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	23
17:15	2	0	6	0	8	0	0	0	0	0	0	0	0	0	0	20
17:30	4	0	10	0	14	0	0	0	0	0	0	0	0	0	0	19
17:45	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	12
SUBTOTAL	10	0	31	0	41	0	0	0	0	0	0	0	0	0	0	130
GRAND TOTAL	**19**	**0**	**45**	**0**	**64**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**1**	**0**	**1**	**156**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	2	36	0	0	38	0	1	0	0	1	0	0	0	0	0	0
07:15	0	30	0	0	30	0	0	0	0	0	0	0	0	0	0	0
07:30	0	42	0	0	42	0	7	0	0	7	0	0	0	0	0	0
07:45	0	47	0	0	47	0	3	0	0	3	0	0	0	0	0	0
08:00	0	46	0	0	46	0	4	0	0	4	0	0	0	0	0	2
08:15	0	40	0	0	40	0	4	0	0	4	0	0	0	0	0	0
08:30	0	46	0	0	46	0	8	0	0	8	0	0	0	0	0	1
08:45	1	56	0	0	57	0	2	0	0	2	0	0	0	0	0	3
SUBTOTAL	3	343	0	0	346	0	29	0	0	29	0	0	0	0	0	6

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
16:00	2	118	0	0	120	0	2	0	0	2	0	0	0	0	0	2
16:15	1	107	0	0	108	0	4	0	0	4	0	1	0	0	1	0
16:30	0	96	0	0	96	0	0	0	0	0	0	0	0	0	0	0
16:45	1	117	0	0	118	0	4	0	0	4	0	0	0	0	0	0
17:00	1	116	0	0	117	0	1	0	0	1	0	1	0	0	1	0
17:15	2	124	1	0	127	0	2	0	0	2	0	0	0	0	0	1
17:30	5	96	0	0	101	0	1	0	0	1	0	1	0	0	1	1
17:45	1	96	2	0	99	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	13	870	3	0	886	0	16	0	0	16	0	3	0	0	3	4
GRAND TOTAL	16	1213	3	0	1232	0	45	0	0	45	0	3	0	0	3	10

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	35	0	0	35	0	3	0	0	3	0	0	0	0	0	0
07:15	0	33	0	0	33	0	3	0	0	3	0	0	0	0	0	0
07:30	0	45	0	0	45	0	2	0	0	2	0	0	0	0	0	0
07:45	0	60	1	0	61	0	2	0	0	2	0	1	0	0	1	0
08:00	0	46	0	0	46	0	4	0	0	4	0	0	0	0	0	0
08:15	0	42	0	0	42	0	3	0	0	3	0	0	0	0	0	1
08:30	0	64	0	0	64	0	1	0	0	1	0	0	0	0	0	0
08:45	0	56	1	0	57	0	4	0	0	4	0	0	0	0	0	0
SUBTOTAL	0	381	2	0	383	0	22	0	0	22	0	1	0	0	1	1

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	0	87	3	0	90	0	3	0	0	3	0	0	0	0	0	0
16:15	0	85	0	0	85	0	1	0	0	1	0	1	0	0	1	0
16:30	1	93	0	0	94	0	3	0	0	3	0	0	0	0	0	0
16:45	1	77	1	0	79	0	1	0	0	1	1	1	0	0	2	0
17:00	0	99	0	0	99	0	2	0	0	2	0	0	0	0	0	1
17:15	0	84	0	0	84	0	1	0	0	1	0	2	0	0	2	0
17:30	0	76	0	0	76	0	3	0	0	3	0	0	0	0	0	0
17:45	0	94	2	0	96	0	3	0	0	3	0	0	0	0	0	0
SUBTOTAL	2	695	6	0	703	0	17	0	0	17	1	4	0	0	5	1
GRAND TOTAL	2	1076	8	0	1086	0	39	0	0	39	1	5	0	0	6	2

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Ferry St runs E/W

North Approach

	Out	In	Total
Cars	2	0	2
Trucks	0	0	0
Bicycles	0	0	0
	2	**0**	**2**

Commerical Entrance

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

East Approach

	Out	In	Total
Cars	189	217	406
Trucks	18	13	31
Bicycles	0	0	0
	207	**230**	**437**

Ferry St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	0	**0**
0	12	208	**220**
0	0	1	**1**

Peds: 12
Peds: 1
Peds: 6
Peds: 15

Ferry St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	0	0	0	0
	206	188	18	0
	1	1	0	0

West Approach

	Out	In	Total
Cars	209	191	400
Trucks	12	18	30
Bicycles	0	0	0
	221	**209**	**430**

Totals	**2**	**0**	**9**	**0**
Cars	2	0	8	0
Trucks	0	0	1	0
Bicycles	0	0	0	0

Allendale Ave

South Approach

	Out	In	Total
Cars	10	2	12
Trucks	1	0	1
Bicycles	0	0	0
	11	**2**	**13**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Count Date: Aug 13, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Commerical Entrance						South Approach Allendale Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	0	0	0	0	0	0	1	0	0	0	1	1	0	50	0	0	2	50	0	50	0	0	0	50	101
08:15	0	0	0	0	4	0	0	0	2	0	6	2	0	44	0	0	0	44	0	45	0	0	1	45	91
08:30	1	0	1	0	6	2	0	0	3	0	4	3	0	54	0	0	1	54	0	65	0	0	0	65	124
08:45	0	0	0	0	2	0	1	0	4	0	4	5	1	58	0	0	3	59	0	60	1	0	0	61	125
Grand Total	**1**	**0**	**1**	**0**	**12**	**2**	**2**	**0**	**9**	**0**	**15**	**11**	**1**	**206**	**0**	**0**	**6**	**207**	**0**	**220**	**1**	**0**	**1**	**221**	**441**
Approach %	50	0	50	0		-	18.2	0	81.8	0		-	0.5	99.5	0	0		-	0	99.5	0.5	0		-	
Totals %	0.2	0	0.2	0		0.5	0.5	0	2	0		2.5	0.2	46.7	0	0		46.9	0	49.9	0.2	0		50.1	
PHF	**0.25**	**0**	**0.25**	**0**		**0.25**	**0.5**	**0**	**0.56**	**0**		**0.55**	**0.25**	**0.89**	**0**	**0**		**0.88**	**0**	**0.85**	**0.25**	**0**		**0.85**	**0.88**
Cars	1	0	1	0		2	2	0	8	0		10	1	188	0	0		189	0	208	1	0		209	410
% Cars	100	0	100	0		100	100	0	88.9	0		90.9	100	91.3	0	0		91.3	0	94.5	100	0		94.6	93
Trucks	0	0	0	0		0	0	0	1	0		1	0	18	0	0		18	0	12	0	0		12	31
% Trucks	0	0	0	0		0	0	0	11.1	0		9.1	0	8.7	0	0		8.7	0	5.5	0	0		5.4	7
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					12	-					15	-					6	-					1	-	34
% Peds					35.3	-					44.1	-					17.6	-					2.9	-	

Ontario Traffic Inc.
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Peak Hour Diagram

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:45:00
To:	18:00:00	To:	17:45:00

Intersection: Ferry St & Allendale Ave
Site Code: 2432200003
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Ferry St runs E/W

North Approach

	Out	In	Total
Cars	3	2	5
Trucks	0	0	0
Bicycles	0	1	1
	3	**3**	**6**

Commerical Entrance

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

East Approach

	Out	In	Total
Cars	463	359	822
Trucks	8	7	15
Bicycles	2	3	5
	473	**369**	**842**

Peds: 47

Ferry St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
1	0	1	**2**	
3	7	336	**346**	
0	0	1	**1**	

Peds: 1



Peds: 2

Ferry St

Totals	Cars	Trucks	Bicycles
0	0	0	0
1	1	0	0
463	453	8	2
9	9	0	0

Peds: 75

West Approach

	Out	In	Total
Cars	338	460	798
Trucks	7	8	15
Bicycles	4	2	6
	349	**470**	**819**

Totals	**6**	**0**	**22**	**0**
Cars	6	0	22	0
Trucks	0	0	0	0
Bicycles	0	0	0	0

Allendale Ave

South Approach

	Out	In	Total
Cars	28	11	39
Trucks	0	0	0
Bicycles	0	0	0
	28	**11**	**39**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
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Peak Hour Summary

Intersection:	Ferry St & Allendale Ave
Site Code:	2432200003
Count Date:	Aug 13, 2024
Period:	16:00 - 18:00

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

Start Time	North Approach Commerical Entrance						South Approach Allendale Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:45	0	0	1	0	2	1	0	0	5	0	13	5	1	121	0	0	0	122	2	79	1	0	0	82	210
17:00	1	0	0	0	19	1	0	0	1	0	23	1	1	118	0	0	0	119	0	101	0	0	1	101	222
17:15	0	0	0	0	13	0	2	0	6	0	20	8	2	126	1	0	1	129	0	87	0	0	0	87	224
17:30	0	1	0	0	13	1	4	0	10	0	19	14	5	98	0	0	1	103	0	79	0	0	0	79	197
Grand Total	**1**	**1**	**1**	**0**	**47**	**3**	**6**	**0**	**22**	**0**	**75**	**28**	**9**	**463**	**1**	**0**	**2**	**473**	**2**	**346**	**1**	**0**	**1**	**349**	**853**
Approach %	33.3	33.3	33.3	0		-	21.4	0	78.6	0		-	1.9	97.9	0.2	0		-	0.6	99.1	0.3	0		-	
Totals %	0.1	0.1	0.1	0		0.4	0.7	0	2.6	0		3.3	1.1	54.3	0.1	0		55.5	0.2	40.6	0.1	0		40.9	
PHF	**0.25**	**0.25**	**0.25**	**0**		**0.75**	**0.38**	**0**	**0.55**	**0**		**0.5**	**0.45**	**0.92**	**0.25**	**0**		**0.92**	**0.25**	**0.86**	**0.25**	**0**		**0.86**	**0.95**
Cars	1	1	1	0		3	6	0	22	0		28	9	453	1	0		463	1	336	1	0		338	832
% Cars	100	100	100	0		100	100	0	100	0		100	100	97.8	100	0		97.9	50	97.1	100	0		96.8	97.5
Trucks	0	0	0	0		0	0	0	0	0		0	0	8	0	0		8	0	7	0	0		7	15
% Trucks	0	0	0	0		0	0	0	0	0		0	0	1.7	0	0		1.7	0	2	0	0		2	1.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	2	0	0		2	1	3	0	0		4	6
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0.4	0	0		0.4	50	0.9	0	0		1.1	0.7
Peds					47	-					75	-					2	-					1	-	125
% Peds					37.6	-					60	-					1.6	-					0.8	-	

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Project #24-322 - Arcadis Professional Services (Canada) Inc.

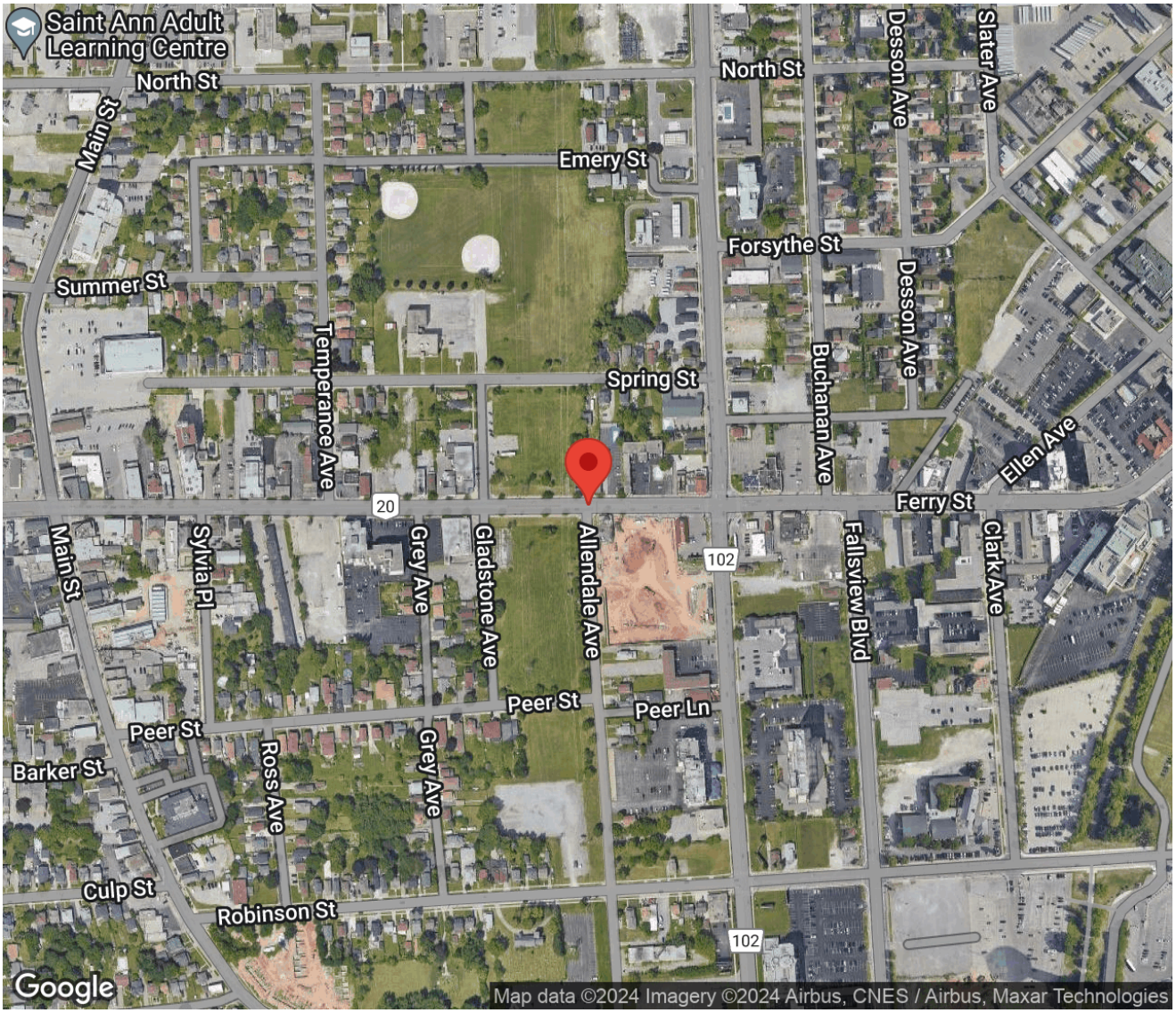
Intersection Count Report

Intersection:	Ferry St & Allendale Ave
Municipality:	Niagara Falls
Count Date:	Saturday, Aug 10, 2024
Site Code:	2432200004
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-22:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
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Traffic Count Map

Intersection:	Ferry St & Allendale Ave
Site Code:	2432200004
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024



Ontario Traffic Inc.
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Traffic Count Summary

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

Commerical Entrance - Traffic Summary

Hour	North Approach Totals (Includes Cars, Trucks, Bicycles)						South Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
11:00 - 12:00	0	1	0	0	1	34	9	0	37	0	46	58	47
12:00 - 13:00	1	1	1	0	3	33	6	0	31	0	37	36	40
13:00 - 14:00	0	0	1	0	1	19	9	1	28	0	38	28	39
BREAK													
17:00 - 18:00	0	0	1	0	1	70	12	0	38	0	50	58	51
18:00 - 19:00	1	0	0	0	1	58	8	0	18	0	26	79	27
19:00 - 20:00	7	0	1	0	8	73	24	0	20	0	44	77	52
20:00 - 21:00	2	0	0	0	2	96	6	0	33	0	39	90	41
21:00 - 22:00	1	0	1	0	2	103	9	0	27	0	36	88	38
GRAND TOTAL	**12**	**2**	**5**	**0**	**19**	**486**	**83**	**1**	**232**	**0**	**316**	**514**	**335**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Allendale Ave
Site Code:	2432200004
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Ferry St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	12	377	1	0	390	0	0	421	9	0	430	0	820
12:00 - 13:00	7	380	1	0	388	2	0	394	4	0	398	0	786
13:00 - 14:00	7	385	0	3	395	1	0	444	10	0	454	1	849
BREAK													
17:00 - 18:00	17	416	2	1	436	14	1	498	17	0	516	3	952
18:00 - 19:00	5	466	1	1	473	5	0	485	22	0	507	2	980
19:00 - 20:00	11	423	8	0	442	16	0	445	7	0	452	0	894
20:00 - 21:00	7	459	1	0	467	19	0	458	11	0	469	2	936
21:00 - 22:00	15	470	4	2	491	2	4	391	15	0	410	3	901
GRAND TOTAL	**81**	**3376**	**18**	**7**	**3482**	**59**	**5**	**3536**	**95**	**0**	**3636**	**11**	**7118**

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Commerical Entrance

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	9
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
12:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	10
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
12:30	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	6
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
13:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SUBTOTAL	1	1	2	0	4	0	1	0	0	1	0	0	0	0	0	86

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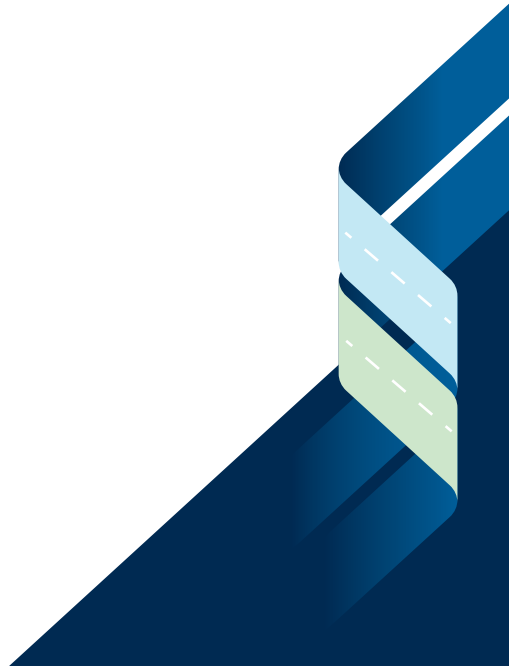
Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Commerical Entrance

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
17:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	16
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
18:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	16
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
19:00	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	19
19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
19:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	22
19:45	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	15
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
20:15	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	34
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
21:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	31
21:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	23
SUBTOTAL	11	0	3	0	14	0	0	0	0	0	0	0	0	0	0	400

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	12	1	5	0	18	0	1	0	0	1	0	0	0	0	0	486



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	3	0	8	0	11	0	0	0	0	0	0	0	0	0	0	16
11:15	1	0	10	0	11	0	0	0	0	0	0	0	0	0	0	8
11:30	3	0	9	0	12	0	0	0	0	0	0	0	0	0	0	20
11:45	2	0	10	0	12	0	0	0	0	0	0	0	0	0	0	14
12:00	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	10
12:15	2	0	7	0	9	0	0	0	0	0	0	0	0	0	0	7
12:30	1	0	14	0	15	0	0	0	0	0	0	0	0	0	0	10
12:45	3	0	7	0	10	0	0	0	0	0	0	0	0	0	0	9
13:00	1	1	10	0	12	0	0	0	0	0	0	0	0	0	0	4
13:15	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	12
13:30	2	0	6	0	8	0	0	0	0	0	0	0	0	0	0	5
13:45	3	0	9	0	12	0	0	0	0	0	0	0	0	0	0	7
SUBTOTAL	24	1	96	0	121	0	0	0	0	0	0	0	0	0	0	122

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Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
17:00	3	0	6	0	9	0	0	0	0	0	0	0	0	0	0	13
17:15	2	0	15	0	17	0	0	0	0	0	0	0	0	0	0	18
17:30	3	0	8	0	11	0	0	0	0	0	0	0	0	0	0	10
17:45	4	0	9	0	13	0	0	0	0	0	0	0	0	0	0	17
18:00	2	0	6	0	8	0	0	0	0	0	0	0	0	0	0	35
18:15	5	0	4	0	9	0	0	0	0	0	0	0	0	0	0	17
18:30	1	0	5	0	6	0	0	0	0	0	0	0	0	0	0	19
18:45	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	8
19:00	5	0	4	0	9	0	0	1	0	1	0	0	0	0	0	7
19:15	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	26
19:30	9	0	5	0	14	0	0	0	0	0	0	0	0	0	0	10
19:45	7	0	7	0	14	0	0	0	0	0	0	0	0	0	0	34
20:00	1	0	6	0	7	0	0	0	0	0	0	0	0	0	0	36
20:15	1	0	9	0	10	0	0	0	0	0	0	0	0	0	0	16
20:30	2	0	8	0	10	0	0	0	0	0	0	0	0	0	0	22
20:45	2	0	10	0	12	0	0	0	0	0	0	0	0	0	0	16
21:00	4	0	5	0	9	0	0	0	0	0	0	0	0	0	0	18
21:15	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	20
21:30	1	0	7	0	8	0	0	0	0	0	0	0	0	0	0	25
21:45	2	0	12	0	14	0	0	1	0	1	0	0	0	0	0	25
SUBTOTAL	59	0	134	0	193	0	0	2	0	2	0	0	0	0	0	392

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	83	1	230	0	314	0	0	2	0	2	0	0	0	0	0	514

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	4	98	0	0	102	0	1	0	0	1	0	0	0	0	0	0
11:15	1	81	0	0	82	0	4	0	0	4	0	0	0	0	0	0
11:30	3	92	0	0	95	0	3	0	0	3	0	0	0	0	0	0
11:45	2	95	1	0	98	0	3	0	0	3	2	0	0	0	2	0
12:00	3	85	0	0	88	0	3	0	0	3	0	1	0	0	1	2
12:15	2	96	0	0	98	0	2	0	0	2	0	0	0	0	0	0
12:30	1	81	1	0	83	0	1	0	0	1	0	0	0	0	0	0
12:45	1	105	0	0	106	0	5	0	0	5	0	1	0	0	1	0
13:00	2	104	0	1	107	0	2	0	0	2	0	1	0	0	1	0
13:15	1	74	0	0	75	0	3	0	0	3	0	2	0	0	2	0
13:30	1	93	0	0	94	1	2	0	0	3	0	3	0	0	3	0
13:45	2	99	0	2	103	0	2	0	0	2	0	0	0	0	0	1
SUBTOTAL	23	1103	2	3	1131	1	31	0	0	32	2	8	0	0	10	3

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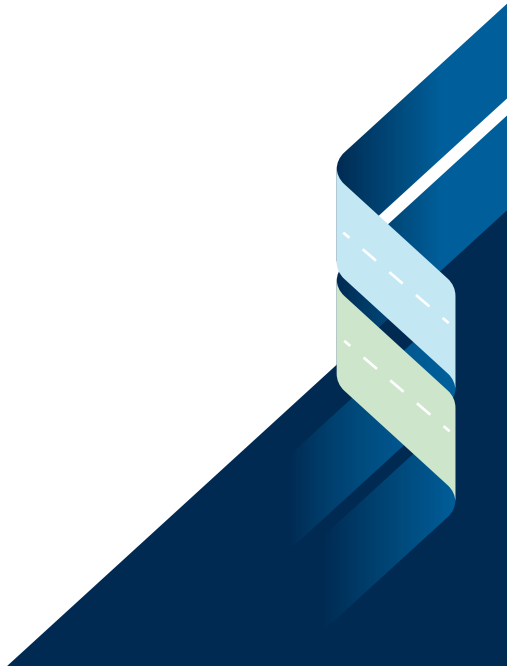
Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	6	112	0	0	118	0	4	0	0	4	0	1	0	0	1	0
17:15	4	112	0	0	116	0	2	0	0	2	0	2	0	0	2	12
17:30	1	83	0	1	85	0	1	0	0	1	0	0	0	0	0	0
17:45	6	98	2	0	106	0	1	0	0	1	0	0	0	0	0	2
18:00	1	104	0	0	105	0	2	0	0	2	0	0	0	0	0	3
18:15	1	128	1	0	130	0	3	0	0	3	0	1	0	0	1	0
18:30	0	130	0	0	130	0	2	0	0	2	0	0	0	0	0	2
18:45	3	92	0	1	96	0	2	0	0	2	0	2	0	0	2	0
19:00	2	84	6	0	92	0	2	0	0	2	0	0	0	0	0	8
19:15	4	101	0	0	105	0	2	0	0	2	0	1	0	0	1	0
19:30	2	104	0	0	106	0	0	0	0	0	0	0	0	0	0	7
19:45	3	126	2	0	131	0	3	0	0	3	0	0	0	0	0	1
20:00	3	114	1	0	118	0	2	0	0	2	0	0	0	0	0	0
20:15	3	114	0	0	117	0	2	0	0	2	0	0	0	0	0	0
20:30	1	123	0	0	124	0	2	0	0	2	0	1	0	0	1	3
20:45	0	99	0	0	99	0	2	0	0	2	0	0	0	0	0	16
21:00	2	133	1	0	136	0	2	0	0	2	0	0	0	0	0	0
21:15	3	130	1	0	134	0	1	0	0	1	0	0	0	0	0	0
21:30	5	103	0	2	110	0	1	0	0	1	0	0	0	0	0	2
21:45	5	99	2	0	106	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	55	2189	16	4	2264	0	37	0	0	37	0	8	0	0	8	56

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	78	3292	18	7	3395	1	68	0	0	69	2	16	0	0	18	59



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	0	100	2	0	102	0	5	0	0	5	0	0	0	0	0	0
11:15	0	85	3	0	88	0	1	0	0	1	0	0	0	0	0	0
11:30	0	109	1	0	110	0	4	0	0	4	0	0	0	0	0	0
11:45	0	115	2	0	117	0	1	1	0	2	0	1	0	0	1	0
12:00	0	101	1	0	102	0	2	0	0	2	0	2	0	0	2	0
12:15	0	93	1	0	94	0	2	0	0	2	0	0	0	0	0	0
12:30	0	88	1	0	89	0	3	0	0	3	0	0	0	0	0	0
12:45	0	101	1	0	102	0	1	0	0	1	0	1	0	0	1	0
13:00	0	115	1	0	116	0	3	1	0	4	0	1	0	0	1	0
13:15	0	98	2	0	100	0	1	0	0	1	0	0	0	0	0	0
13:30	0	111	5	0	116	0	3	0	0	3	0	0	0	0	0	0
13:45	0	109	1	0	110	0	3	0	0	3	0	0	0	0	0	1
SUBTOTAL	0	1225	21	0	1246	0	29	2	0	31	0	5	0	0	5	1

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

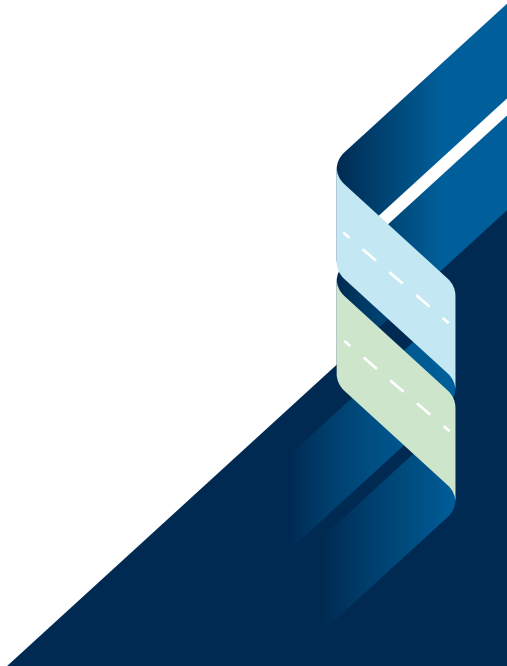
Traffic Count Data

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
17:00	0	123	4	0	127	0	3	0	0	3	0	2	0	0	2	0
17:15	0	122	5	0	127	0	1	1	0	2	0	1	0	0	1	0
17:30	0	114	3	0	117	0	2	0	0	2	0	2	0	0	2	0
17:45	1	125	4	0	130	0	2	0	0	2	0	1	0	0	1	3
18:00	0	115	9	0	124	0	2	0	0	2	0	1	0	0	1	2
18:15	0	120	2	0	122	0	1	0	0	1	0	0	0	0	0	0
18:30	0	115	5	0	120	0	3	0	0	3	0	0	0	0	0	0
18:45	0	127	6	0	133	0	0	0	0	0	0	1	0	0	1	0
19:00	0	102	4	0	106	0	2	0	0	2	0	3	0	0	3	0
19:15	0	118	1	0	119	0	3	0	0	3	0	1	0	0	1	0
19:30	0	96	0	0	96	0	1	0	0	1	0	0	0	0	0	0
19:45	0	115	2	0	117	0	4	0	0	4	0	0	0	0	0	0
20:00	0	121	2	0	123	0	3	0	0	3	0	1	0	0	1	2
20:15	0	105	0	0	105	0	1	0	0	1	0	0	0	0	0	0
20:30	0	119	2	0	121	0	2	0	0	2	0	0	0	0	0	0
20:45	0	104	7	0	111	0	2	0	0	2	0	0	0	0	0	0
21:00	0	110	4	0	114	0	1	0	0	1	0	0	0	0	0	3
21:15	2	105	6	0	113	0	2	0	0	2	0	0	0	0	0	0
21:30	2	84	3	0	89	0	1	0	0	1	0	0	0	0	0	0
21:45	0	86	2	0	88	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	5	2226	71	0	2302	0	38	1	0	39	0	13	0	0	13	10

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	5	3451	92	0	3548	0	67	3	0	70	0	18	0	0	18	11



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	11:00:00	From:	13:00:00
To:	14:00:00	To:	14:00:00

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Ferry St runs E/W

North Approach

	Out	In	Total
Cars	1	1	2
Trucks	0	0	0
Bicycles	0	0	0
	1	**1**	**2**

Commerical Entrance

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

East Approach

	Out	In	Total
Cars	379	464	843
Trucks	10	10	20
Bicycles	6	1	7
	395	**475**	**870**

Peds: 19

Ferry St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	U-turn
0	0	0	**0**	Left
1	10	433	**444**	Through
0	1	9	**10**	Right

Peds: 1



Peds: 1

Ferry St

	Totals	Cars	Trucks	Bicycles
U-turn	**3**	3	0	0
Left	**0**	0	0	0
Through	**385**	370	9	6
Right	**7**	6	1	0

Peds: 28

West Approach

	Out	In	Total
Cars	442	380	822
Trucks	11	9	20
Bicycles	1	6	7
	454	**395**	**849**

Totals	**9**	**1**	**28**	**0**
Cars	9	1	28	0
Trucks	0	0	0	0
Bicycles	0	0	0	0

Allendale Ave

South Approach

	Out	In	Total
Cars	38	15	53
Trucks	0	2	2
Bicycles	0	0	0
	38	**17**	**55**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Count Date: Aug 10, 2024
Period: 11:00 - 14:00

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

Start Time	North Approach Commerical Entrance						South Approach Allendale Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
13:00	0	0	0	0	4	0	1	1	10	0	4	12	2	107	0	1	0	110	0	119	2	0	0	121	243
13:15	0	0	1	0	5	1	3	0	3	0	12	6	1	79	0	0	0	80	0	99	2	0	0	101	188
13:30	0	0	0	0	4	0	2	0	6	0	5	8	2	98	0	0	0	100	0	114	5	0	0	119	227
13:45	0	0	0	0	6	0	3	0	9	0	7	12	2	101	0	2	1	105	0	112	1	0	1	113	230
Grand Total	**0**	**0**	**1**	**0**	**19**	**1**	**9**	**1**	**28**	**0**	**28**	**38**	**7**	**385**	**0**	**3**	**1**	**395**	**0**	**444**	**10**	**0**	**1**	**454**	**888**
Approach %	0	0	100	0		-	23.7	2.6	73.7	0		-	1.8	97.5	0	0.8		-	0	97.8	2.2	0		-	
Totals %	0	0	0.1	0		0.1	1	0.1	3.2	0		4.3	0.8	43.4	0	0.3		44.5	0	50	1.1	0		51.1	
PHF	**0**	**0**	**0.25**	**0**		**0.25**	**0.75**	**0.25**	**0.7**	**0**		**0.79**	**0.88**	**0.9**	**0**	**0.38**		**0.9**	**0**	**0.93**	**0.5**	**0**		**0.94**	**0.91**
Cars	0	0	1	0		1	9	1	28	0		38	6	370	0	3		379	0	433	9	0		442	860
% Cars	0	0	100	0		100	100	100	100	0		100	85.7	96.1	0	100		95.9	0	97.5	90	0		97.4	96.8
Trucks	0	0	0	0		0	0	0	0	0		0	1	9	0	0		10	0	10	1	0		11	21
% Trucks	0	0	0	0		0	0	0	0	0		0	14.3	2.3	0	0		2.5	0	2.3	10	0		2.4	2.4
Bicycles	0	0	0	0		0	0	0	0	0		0	0	6	0	0		6	0	1	0	0		1	7
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	1.6	0	0		1.5	0	0.2	0	0		0.2	0.8
Peds					19	-					28	-					1	-					1	-	49
% Peds					38.8	-					57.1	-					2	-					2	-	

Peak Hour Diagram

Specified Period
From: 17:00:00
To: 22:00:00

One Hour Peak
From: 17:45:00
To: 18:45:00

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Ferry St runs E/W

North Approach

	Out	In	Total
Cars	1	4	5
Trucks	0	0	0
Bicycles	0	0	0
	1	**4**	**5**

Commerical Entrance

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

East Approach

	Out	In	Total
Cars	471	500	971
Trucks	8	8	16
Bicycles	1	2	3
	480	**510**	**990**

Peds: 47

Ferry St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	1	**1**	
2	8	475	**485**	
0	0	20	**20**	

Peds: 5

N
W E
S

Peds: 7

Ferry St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	3	3	0	0
	469	460	8	1
	8	8	0	0

Peds: 88

West Approach

	Out	In	Total
Cars	496	472	968
Trucks	8	8	16
Bicycles	2	1	3
	506	**481**	**987**

Allendale Ave

Totals	**12**	**0**	**24**	**0**
Cars	12	0	24	0
Trucks	0	0	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	36	28	64
Trucks	0	0	0
Bicycles	0	0	0
	36	**28**	**64**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Allendale Ave
Site Code: 2432200004
Count Date: Aug 10, 2024
Period: 17:00 - 22:00

Peak Hour Data (17:45 - 18:45)

Start Time	North Approach Commerical Entrance						South Approach Allendale Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:45	0	0	0	0	14	0	4	0	9	0	17	13	6	99	2	0	2	107	1	128	4	0	3	133	253
18:00	1	0	0	0	16	1	2	0	6	0	35	8	1	106	0	0	3	107	0	118	9	0	2	127	243
18:15	0	0	0	0	8	0	5	0	4	0	17	9	1	132	1	0	0	134	0	121	2	0	0	123	266
18:30	0	0	0	0	9	0	1	0	5	0	19	6	0	132	0	0	2	132	0	118	5	0	0	123	261
Grand Total	**1**	**0**	**0**	**0**	**47**	**1**	**12**	**0**	**24**	**0**	**88**	**36**	**8**	**469**	**3**	**0**	**7**	**480**	**1**	**485**	**20**	**0**	**5**	**506**	**1023**
Approach %	100	0	0	0		-	33.3	0	66.7	0		-	1.7	97.7	0.6	0		-	0.2	95.8	4	0		-	
Totals %	0.1	0	0	0		0.1	1.2	0	2.3	0		3.5	0.8	45.8	0.3	0		46.9	0.1	47.4	2	0		49.5	
PHF	**0.25**	**0**	**0**	**0**		**0.25**	**0.6**	**0**	**0.67**	**0**		**0.69**	**0.33**	**0.89**	**0.38**	**0**		**0.9**	**0.25**	**0.95**	**0.56**	**0**		**0.95**	**0.96**
Cars	1	0	0	0		1	12	0	24	0		36	8	460	3	0		471	1	475	20	0		496	1004
% Cars	100	0	0	0		100	100	0	100	0		100	100	98.1	100	0		98.1	100	97.9	100	0		98	98.1
Trucks	0	0	0	0		0	0	0	0	0		0	0	8	0	0		8	0	8	0	0		8	16
% Trucks	0	0	0	0		0	0	0	0	0		0	0	1.7	0	0		1.7	0	1.6	0	0		1.6	1.6
Bicycles	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	2	0	0		2	3
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0.2	0	0		0.2	0	0.4	0	0		0.4	0.3
Peds					47	-					88	-					7	-					5	-	147
% Peds					32	-					59.9	-					4.8	-					3.4	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

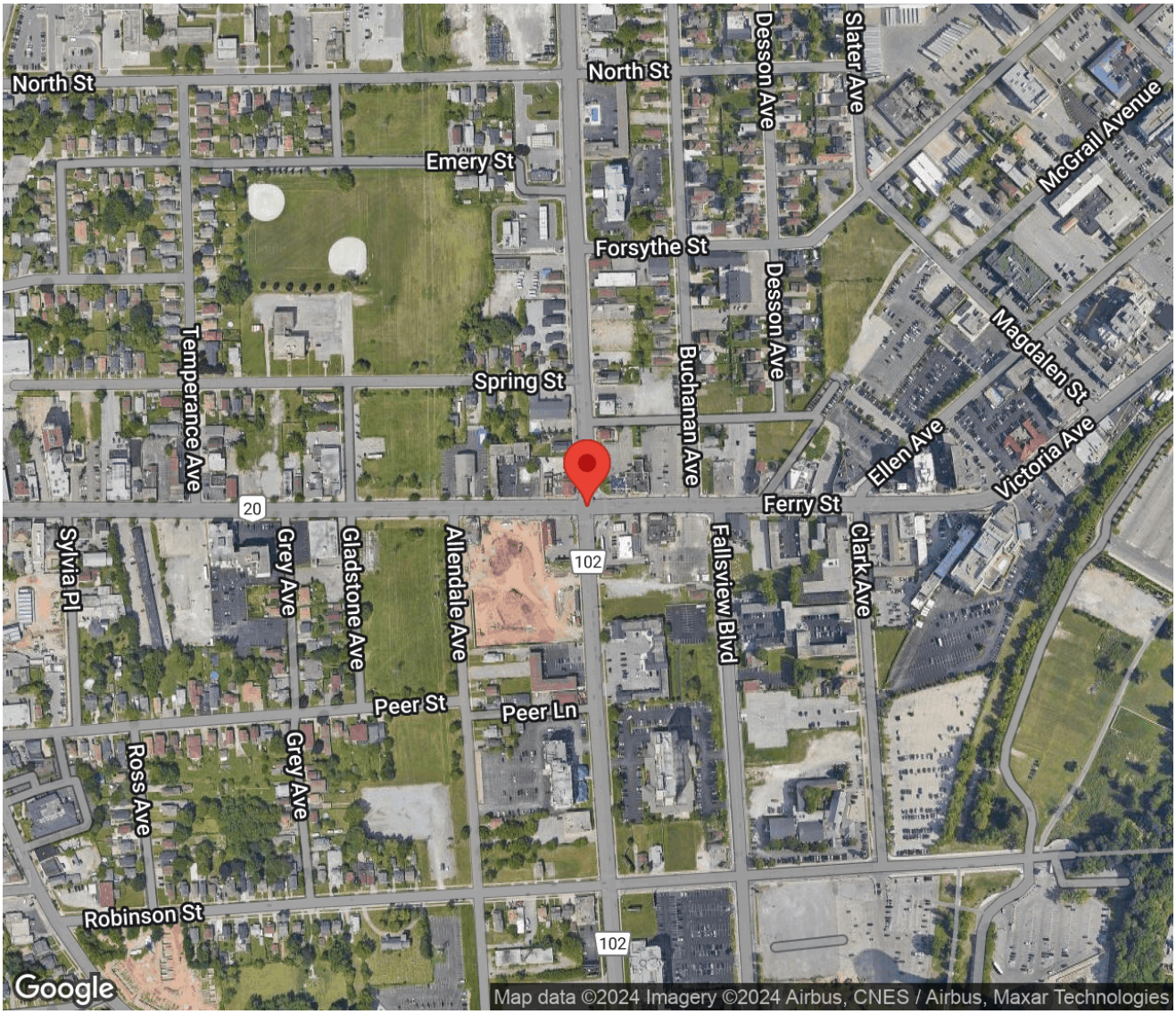
Intersection Count Report

Intersection:	Ferry St & Stanley Ave
Municipality:	Niagara Falls
Count Date:	Tuesday, Aug 13, 2024
Site Code:	2432200005
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Ferry St & Stanley Ave
Site Code:	2432200005
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Stanley Ave
Site Code:	2432200005
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Stanley Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	60	257	41	0	358	17	37	209	44	0	290	23	648
08:00 - 09:00	81	305	51	0	437	31	32	296	27	0	355	40	792
BREAK													
16:00 - 17:00	187	525	91	0	803	88	85	543	79	0	707	109	1510
17:00 - 18:00	170	521	104	0	795	107	71	538	74	0	683	137	1478
GRAND TOTAL	**498**	**1608**	**287**	**0**	**2393**	**243**	**225**	**1586**	**224**	**0**	**2035**	**309**	**4428**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Stanley Ave
Site Code:	2432200005
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Ferry St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	32	85	42	0	159	22	52	107	33	0	192	19	351
08:00 - 09:00	45	119	57	0	221	40	56	133	38	0	227	21	448
BREAK													
16:00 - 17:00	109	264	151	0	524	62	87	231	46	0	364	47	888
17:00 - 18:00	96	273	172	0	541	104	80	233	58	0	371	72	912
GRAND TOTAL	**282**	**741**	**422**	**0**	**1445**	**228**	**275**	**704**	**175**	**0**	**1154**	**159**	**2599**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	8	48	6	0	62	1	5	1	0	7	0	0	0	0	0	2
07:15	20	60	12	0	92	1	1	0	0	2	0	0	0	0	0	5
07:30	12	52	10	0	74	1	1	2	0	4	0	0	0	0	0	6
07:45	17	84	9	0	110	0	6	1	0	7	0	0	0	0	0	4
08:00	19	53	15	0	87	1	4	0	0	5	0	0	0	0	0	3
08:15	19	62	8	0	89	1	4	1	0	6	0	0	0	0	0	14
08:30	22	79	13	0	114	0	2	1	0	3	0	0	0	0	0	4
08:45	19	98	12	0	129	0	3	1	0	4	0	0	0	0	0	10
SUBTOTAL	136	536	85	0	757	5	26	7	0	38	0	0	0	0	0	48

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	55	121	20	0	196	1	3	1	0	5	0	0	0	0	0	12
16:15	35	121	22	0	178	1	3	0	0	4	0	0	0	0	0	28
16:30	42	141	14	0	197	0	3	0	0	3	0	0	0	0	0	21
16:45	52	132	34	0	218	1	1	0	0	2	0	0	0	0	0	27
17:00	36	131	30	0	197	1	1	0	0	2	0	0	0	0	0	30
17:15	38	124	33	0	195	0	2	0	0	2	0	0	0	0	0	17
17:30	52	127	22	0	201	0	0	0	0	0	0	0	0	0	0	25
17:45	43	135	19	0	197	0	1	0	0	1	0	0	0	0	0	35
SUBTOTAL	353	1032	194	0	1579	4	14	1	0	19	0	0	0	0	0	195
GRAND TOTAL	**489**	**1568**	**279**	**0**	**2336**	**9**	**40**	**8**	**0**	**57**	**0**	**0**	**0**	**0**	**0**	**243**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	8	37	8	0	53	0	1	1	0	2	0	0	0	0	0	4
07:15	5	44	9	0	58	0	0	1	0	1	0	0	0	0	0	1
07:30	11	45	13	0	69	2	5	0	0	7	0	0	0	0	0	4
07:45	11	75	11	0	97	0	2	1	0	3	0	0	0	0	0	14
08:00	6	59	4	0	69	1	4	0	0	5	0	0	0	0	0	2
08:15	9	62	5	0	76	0	1	1	0	2	0	0	0	0	0	11
08:30	6	89	6	0	101	0	5	2	0	7	0	0	0	0	0	7
08:45	10	75	9	0	94	0	1	0	0	1	0	0	0	0	0	20
SUBTOTAL	66	486	65	0	617	3	19	6	0	28	0	0	0	0	0	63

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	20	113	18	0	151	0	7	1	0	8	0	0	0	0	0	28
16:15	22	145	21	0	188	3	2	0	0	5	0	0	0	0	0	19
16:30	15	126	23	0	164	0	3	2	0	5	0	0	0	0	0	35
16:45	24	146	14	0	184	1	1	0	0	2	0	0	0	0	0	27
17:00	24	131	18	0	173	0	3	0	0	3	0	0	0	0	0	29
17:15	14	124	16	0	154	1	1	1	0	3	0	0	0	0	0	47
17:30	16	138	27	0	181	0	4	0	0	4	0	0	0	0	0	52
17:45	15	137	12	0	164	1	0	0	0	1	0	0	0	0	0	9
SUBTOTAL	150	1060	149	0	1359	6	21	4	0	31	0	0	0	0	0	246
GRAND TOTAL	**216**	**1546**	**214**	**0**	**1976**	**9**	**40**	**10**	**0**	**59**	**0**	**0**	**0**	**0**	**0**	**309**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	8	21	10	0	39	0	1	1	0	2	0	0	0	0	0	3
07:15	6	13	10	0	29	0	0	0	0	0	0	0	0	0	0	3
07:30	4	19	7	0	30	1	3	0	0	4	0	0	0	0	0	4
07:45	12	26	13	0	51	1	2	1	0	4	0	0	0	0	0	12
08:00	8	26	10	0	44	1	4	1	0	6	0	0	0	0	0	7
08:15	10	22	17	0	49	1	3	2	0	6	0	0	0	0	0	9
08:30	8	25	10	0	43	3	5	1	0	9	0	0	0	0	0	13
08:45	13	33	16	0	62	1	1	0	0	2	0	0	0	0	0	11
SUBTOTAL	69	185	93	0	347	8	19	6	0	33	0	0	0	0	0	62

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	33	76	38	0	147	1	1	2	0	4	0	0	0	0	0	12
16:15	25	60	42	0	127	0	1	0	0	1	0	1	0	0	1	9
16:30	29	63	32	0	124	1	0	0	0	1	0	0	0	0	0	18
16:45	19	60	37	0	116	1	2	0	0	3	0	0	0	0	0	23
17:00	24	61	47	0	132	1	1	0	0	2	0	0	0	0	0	24
17:15	21	77	49	0	147	0	1	1	0	2	0	0	0	0	0	29
17:30	27	64	37	0	128	2	1	0	0	3	0	1	0	0	1	34
17:45	21	66	37	0	124	0	1	1	0	2	0	0	0	0	0	17
SUBTOTAL	199	527	319	0	1045	6	8	4	0	18	0	2	0	0	2	166
GRAND TOTAL	**268**	**712**	**412**	**0**	**1392**	**14**	**27**	**10**	**0**	**51**	**0**	**2**	**0**	**0**	**2**	**228**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	10	18	9	0	37	0	5	0	0	5	0	0	0	0	0	4
07:15	9	18	6	0	33	0	2	1	0	3	0	1	0	0	1	0
07:30	16	24	8	0	48	1	2	0	0	3	0	0	0	0	0	11
07:45	16	36	8	0	60	0	1	1	0	2	0	0	0	0	0	4
08:00	10	27	10	0	47	2	3	0	0	5	1	0	0	0	1	4
08:15	15	20	9	0	44	0	1	1	0	2	0	0	0	0	0	6
08:30	14	39	10	0	63	1	2	0	0	3	0	0	0	0	0	1
08:45	13	38	7	0	58	0	3	1	0	4	0	0	0	0	0	10
SUBTOTAL	103	220	67	0	390	4	19	4	0	27	1	1	0	0	2	40

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	22	57	13	0	92	1	1	1	0	3	0	0	0	0	0	17
16:15	25	54	6	0	85	0	0	1	0	1	0	0	0	0	0	15
16:30	17	65	13	0	95	0	1	2	0	3	0	0	0	0	0	3
16:45	22	52	9	0	83	0	0	1	0	1	0	1	0	0	1	12
17:00	25	58	14	0	97	0	1	1	0	2	0	0	0	0	0	17
17:15	18	56	13	0	87	1	0	0	0	1	0	2	0	0	2	22
17:30	19	53	14	0	86	0	1	2	0	3	0	0	0	0	0	19
17:45	17	62	13	0	92	0	0	1	0	1	0	0	0	0	0	14
SUBTOTAL	165	457	95	0	717	2	4	9	0	15	0	3	0	0	3	119
GRAND TOTAL	268	677	162	0	1107	6	23	13	0	42	1	4	0	0	5	159

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	419	390	809
Trucks	18	18	36
Bicycles	0	1	1
	437	**409**	**846**

Stanley Ave

Bicycles	0	0	0	0
Trucks	3	13	2	0
Cars	48	292	79	0
Totals	**51**	**305**	**81**	**0**

East Approach

	Out	In	Total
Cars	198	227	425
Trucks	23	14	37
Bicycles	0	0	0
	221	**241**	**462**

Ferry St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
1	3	52	**56**	
0	9	124	**133**	
0	2	36	**38**	

Peds: 31

Peds: 21

N
W E
S

Peds: 40

Peds: 40

Ferry St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	57	53	4	0
	119	106	13	0
	45	39	6	0

West Approach

	Out	In	Total
Cars	212	185	397
Trucks	14	17	31
Bicycles	1	0	1
	227	**202**	**429**

Totals	**32**	**296**	**27**	**0**
Cars	31	285	24	0
Trucks	1	11	3	0
Bicycles	0	0	0	0

Stanley Ave

South Approach

	Out	In	Total
Cars	340	367	707
Trucks	15	21	36
Bicycles	0	0	0
	355	**388**	**743**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Count Date: Aug 13, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	20	57	15	0	3	92	7	63	4	0	2	74	9	30	11	0	7	50	13	30	10	0	4	53	269
08:15	20	66	9	0	14	95	9	63	6	0	11	78	11	25	19	0	9	55	15	21	10	0	6	46	274
08:30	22	81	14	0	4	117	6	94	8	0	7	108	11	30	11	0	13	52	15	41	10	0	1	66	343
08:45	19	101	13	0	10	133	10	76	9	0	20	95	14	34	16	0	11	64	13	41	8	0	10	62	354
Grand Total	**81**	**305**	**51**	**0**	**31**	**437**	**32**	**296**	**27**	**0**	**40**	**355**	**45**	**119**	**57**	**0**	**40**	**221**	**56**	**133**	**38**	**0**	**21**	**227**	**1240**
Approach %	18.5	69.8	11.7	0		-	9	83.4	7.6	0		-	20.4	53.8	25.8	0		-	24.7	58.6	16.7	0		-	
Totals %	6.5	24.6	4.1	0		35.2	2.6	23.9	2.2	0		28.6	3.6	9.6	4.6	0		17.8	4.5	10.7	3.1	0		18.3	
PHF	**0.92**	**0.75**	**0.85**	**0**		**0.82**	**0.8**	**0.79**	**0.75**	**0**		**0.82**	**0.8**	**0.88**	**0.75**	**0**		**0.86**	**0.93**	**0.81**	**0.95**	**0**		**0.86**	**0.88**
Cars	79	292	48	0		419	31	285	24	0		340	39	106	53	0		198	52	124	36	0		212	1169
% Cars	97.5	95.7	94.1	0		95.9	96.9	96.3	88.9	0		95.8	86.7	89.1	93	0		89.6	92.9	93.2	94.7	0		93.4	94.3
Trucks	2	13	3	0		18	1	11	3	0		15	6	13	4	0		23	3	9	2	0		14	70
% Trucks	2.5	4.3	5.9	0		4.1	3.1	3.7	11.1	0		4.2	13.3	10.9	7	0		10.4	5.4	6.8	5.3	0		6.2	5.6
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	1
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	1.8	0	0	0		0.4	0.1
Peds					31	-					40	-					40	-					21	-	132
% Peds					23.5	-					30.3	-					30.3	-					15.9	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:45:00
To:	18:00:00	To:	17:45:00

Intersection: Ferry St & Stanley Ave
Site Code: 2432200005
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	811	793	1604
Trucks	6	11	17
Bicycles	0	0	0
	817	**804**	**1621**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	4	2	0
Cars	119	514	178	0
Totals	**119**	**518**	**180**	**0**

East Approach

	Out	In	Total
Cars	523	472	995
Trucks	10	5	15
Bicycles	1	3	4
	534	**480**	**1014**

Peds: 99

Ferry St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	1	84	**85**
3	2	219	**224**
0	4	50	**54**

Peds: 70



Peds: 110

Ferry St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	171	170	1	0
	268	262	5	1
	95	91	4	0

Peds: 155

West Approach

	Out	In	Total
Cars	353	459	812
Trucks	7	7	14
Bicycles	3	1	4
	363	**467**	**830**

Stanley Ave

Totals	**80**	**548**	**76**	**0**
Cars	78	539	75	0
Trucks	2	9	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	692	655	1347
Trucks	12	12	24
Bicycles	0	0	0
	704	**667**	**1371**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Ferry St & Stanley Ave
Site Code:	2432200005
Count Date:	Aug 13, 2024
Period:	16:00 - 18:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:45	53	133	34	0	27	220	25	147	14	0	27	186	20	62	37	0	23	119	22	53	10	0	12	85	610
17:00	37	132	30	0	30	199	24	134	18	0	29	176	25	62	47	0	24	134	25	59	15	0	17	99	608
17:15	38	126	33	0	17	197	15	125	17	0	47	157	21	78	50	0	29	149	19	58	13	0	22	90	593
17:30	52	127	22	0	25	201	16	142	27	0	52	185	29	66	37	0	34	132	19	54	16	0	19	89	607
Grand Total	**180**	**518**	**119**	**0**	**99**	**817**	**80**	**548**	**76**	**0**	**155**	**704**	**95**	**268**	**171**	**0**	**110**	**534**	**85**	**224**	**54**	**0**	**70**	**363**	**2418**
Approach %	22	63.4	14.6	0		-	11.4	77.8	10.8	0		-	17.8	50.2	32	0		-	23.4	61.7	14.9	0		-	
Totals %	7.4	21.4	4.9	0		33.8	3.3	22.7	3.1	0		29.1	3.9	11.1	7.1	0		22.1	3.5	9.3	2.2	0		15	
PHF	**0.85**	**0.97**	**0.88**	**0**		**0.93**	**0.8**	**0.93**	**0.7**	**0**		**0.95**	**0.82**	**0.86**	**0.86**	**0**		**0.9**	**0.85**	**0.95**	**0.84**	**0**		**0.92**	**0.99**
Cars	178	514	119	0		811	78	539	75	0		692	91	262	170	0		523	84	219	50	0		353	2379
% Cars	98.9	99.2	100	0		99.3	97.5	98.4	98.7	0		98.3	95.8	97.8	99.4	0		97.9	98.8	97.8	92.6	0		97.2	98.4
Trucks	2	4	0	0		6	2	9	1	0		12	4	5	1	0		10	1	2	4	0		7	35
% Trucks	1.1	0.8	0	0		0.7	2.5	1.6	1.3	0		1.7	4.2	1.9	0.6	0		1.9	1.2	0.9	7.4	0		1.9	1.4
Bicycles	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	3	0	0		3	4
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0.4	0	0		0.2	0	1.3	0	0		0.8	0.2
Peds					99	-					155	-					110	-					70	-	434
% Peds					22.8	-					35.7	-					25.3	-					16.1	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

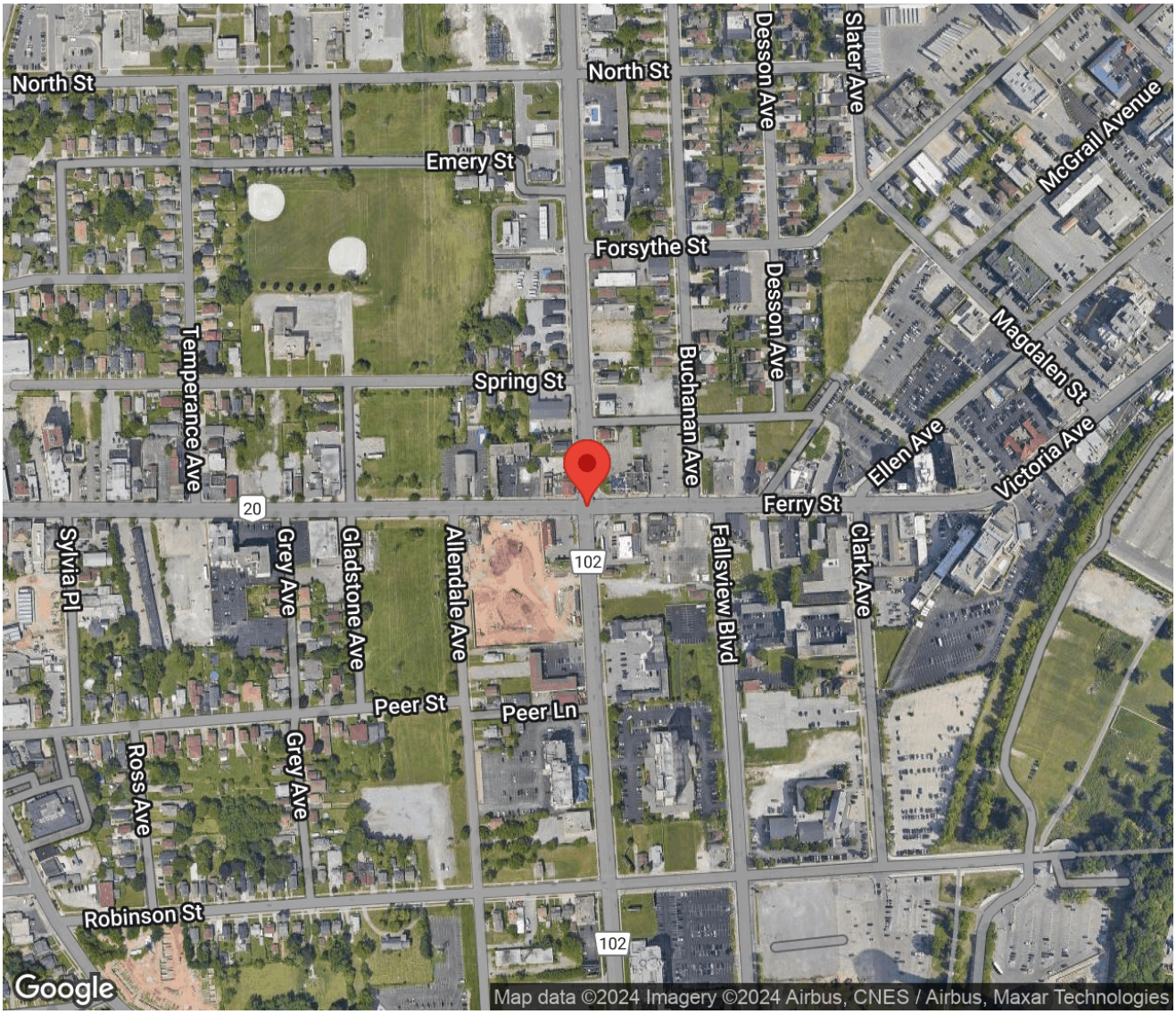
Intersection Count Report

Intersection:	Ferry St & Stanley Ave
Municipality:	Niagara Falls
Count Date:	Saturday, Aug 10, 2024
Site Code:	2432200006
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-22:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Ferry St & Stanley Ave
Site Code:	2432200006
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Stanley Ave
Site Code:	2432200006
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Stanley Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	211	641	95	0	947	99	83	513	125	0	721	111	1668
12:00 - 13:00	208	704	93	0	1005	73	66	557	106	0	729	62	1734
13:00 - 14:00	222	688	99	0	1009	70	57	475	95	0	627	92	1636
BREAK													
17:00 - 18:00	180	686	85	0	951	248	84	566	103	0	753	218	1704
18:00 - 19:00	171	679	85	0	935	209	99	484	89	0	672	227	1607
19:00 - 20:00	161	628	74	0	863	235	93	537	87	0	717	232	1580
20:00 - 21:00	176	557	72	0	805	242	105	509	84	0	698	270	1503
21:00 - 22:00	155	414	67	1	637	242	107	480	95	0	682	243	1319
GRAND TOTAL	**1484**	**4997**	**670**	**1**	**7152**	**1418**	**694**	**4121**	**784**	**0**	**5599**	**1455**	**12751**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Ferry St & Stanley Ave
Site Code:	2432200006
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Ferry St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	93	220	160	0	473	109	113	293	54	0	460	52	933
12:00 - 13:00	84	234	147	0	465	125	90	289	53	0	432	30	897
13:00 - 14:00	89	241	147	0	477	104	105	305	68	0	478	52	955
BREAK													
17:00 - 18:00	104	276	253	0	633	182	114	309	107	0	530	83	1163
18:00 - 19:00	130	289	291	0	710	201	103	326	80	0	509	79	1219
19:00 - 20:00	141	280	277	0	698	235	93	308	70	0	471	153	1169
20:00 - 21:00	102	295	276	0	673	216	109	286	107	0	502	133	1175
21:00 - 22:00	129	324	252	0	705	246	83	256	86	0	425	119	1130
GRAND TOTAL	**872**	**2159**	**1803**	**0**	**4834**	**1418**	**810**	**2372**	**625**	**0**	**3807**	**701**	**8641**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	52	145	25	0	222	0	1	0	0	1	0	0	0	0	0	34
11:15	58	155	30	0	243	2	8	0	0	10	0	0	0	0	0	20
11:30	55	159	13	0	227	0	0	0	0	0	0	0	0	0	0	18
11:45	43	172	27	0	242	1	1	0	0	2	0	0	0	0	0	27
12:00	50	147	33	0	230	2	2	0	0	4	0	0	0	0	0	25
12:15	47	155	20	0	222	0	3	0	0	3	0	0	0	0	0	13
12:30	53	202	19	0	274	1	1	0	0	2	0	0	0	0	0	16
12:45	53	190	21	0	264	2	4	0	0	6	0	0	0	0	0	19
13:00	49	145	23	0	217	1	4	1	0	6	0	0	0	0	0	31
13:15	56	186	23	0	265	0	2	0	0	2	0	0	0	0	0	15
13:30	68	186	24	0	278	1	1	0	0	2	0	0	0	0	0	14
13:45	47	162	28	0	237	0	2	0	0	2	0	0	0	0	0	10
SUBTOTAL	631	2004	286	0	2921	10	29	1	0	40	0	0	0	0	0	242

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
17:00	44	147	25	0	216	0	2	0	0	2	0	0	0	0	0	71
17:15	49	185	22	0	256	0	1	0	0	1	0	0	0	0	0	68
17:30	48	182	14	0	244	0	0	0	0	0	0	0	0	0	0	62
17:45	39	166	24	0	229	0	3	0	0	3	0	0	0	0	0	47
18:00	42	162	19	0	223	0	4	0	0	4	0	0	0	0	0	46
18:15	46	166	19	0	231	0	0	0	0	0	0	0	0	0	0	67
18:30	54	184	30	0	268	0	0	0	0	0	0	0	0	0	0	39
18:45	28	160	17	0	205	1	3	0	0	4	0	0	0	0	0	57
19:00	38	182	17	0	237	0	3	0	0	3	0	0	0	0	0	82
19:15	44	157	20	0	221	0	1	0	0	1	0	0	0	0	0	60
19:30	44	167	23	0	234	1	0	0	0	1	0	0	0	0	0	63
19:45	34	118	14	0	166	0	0	0	0	0	0	0	0	0	0	30
20:00	43	161	20	0	224	1	1	0	0	2	0	0	0	0	0	73
20:15	48	170	22	0	240	1	1	0	0	2	0	0	0	0	0	75
20:30	49	146	22	0	217	1	2	0	0	3	0	0	0	0	0	34
20:45	33	75	8	0	116	0	1	0	0	1	0	0	0	0	0	60
21:00	42	105	13	0	160	1	1	0	0	2	0	0	0	0	0	52
21:15	38	95	24	1	158	0	2	0	0	2	0	0	0	0	0	48
21:30	40	113	16	0	169	0	0	0	0	0	0	0	0	0	0	90
21:45	34	98	14	0	146	0	0	0	0	0	0	0	0	0	0	52
SUBTOTAL	837	2939	383	1	4160	6	25	0	0	31	0	0	0	0	0	1176

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	1468	4943	669	1	7081	16	54	1	0	71	0	0	0	0	0	1418

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	24	136	25	0	185	0	1	0	0	1	0	2	0	0	2	34
11:15	15	123	32	0	170	2	0	1	0	3	0	0	0	0	0	16
11:30	19	119	42	0	180	1	5	0	0	6	0	0	0	0	0	42
11:45	21	117	25	0	163	1	10	0	0	11	0	0	0	0	0	19
12:00	13	144	25	0	182	0	2	0	0	2	0	0	0	0	0	15
12:15	13	128	31	0	172	2	1	0	0	3	0	0	0	0	0	7
12:30	17	141	27	0	185	0	1	1	0	2	0	0	0	0	0	18
12:45	19	136	22	0	177	2	4	0	0	6	0	0	0	0	0	22
13:00	17	123	20	0	160	1	4	0	0	5	0	0	0	0	0	18
13:15	8	118	25	0	151	2	0	0	0	2	0	0	0	0	0	39
13:30	12	97	25	0	134	0	1	0	0	1	0	0	0	0	0	21
13:45	16	131	25	0	172	1	1	0	0	2	0	0	0	0	0	14
SUBTOTAL	194	1513	324	0	2031	12	30	2	0	44	0	2	0	0	2	265

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Stanley Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	19	124	35	0	178	0	5	0	0	5	0	0	0	0	0	59
17:15	20	113	24	0	157	0	2	2	0	4	0	0	0	0	0	65
17:30	14	144	22	0	180	1	8	0	0	9	0	0	0	0	0	41
17:45	29	168	20	0	217	1	2	0	0	3	0	0	0	0	0	53
18:00	22	111	20	0	153	1	3	0	0	4	0	0	0	0	0	71
18:15	36	125	20	0	181	1	2	0	0	3	0	0	0	0	0	62
18:30	16	129	25	0	170	2	5	0	0	7	0	0	0	0	0	35
18:45	21	107	24	0	152	0	2	0	0	2	0	0	0	0	0	59
19:00	22	142	22	0	186	1	5	0	0	6	0	0	0	0	0	28
19:15	17	117	17	0	151	0	1	0	0	1	0	0	0	0	0	75
19:30	21	157	31	0	209	0	2	0	0	2	0	0	0	0	0	48
19:45	30	112	17	0	159	2	1	0	0	3	0	0	0	0	0	81
20:00	31	128	20	0	179	0	2	1	0	3	0	0	0	0	0	80
20:15	17	119	16	0	152	2	1	0	0	3	0	0	0	0	0	62
20:30	25	119	27	0	171	0	4	0	0	4	0	0	0	0	0	63
20:45	28	136	20	0	184	2	0	0	0	2	0	0	0	0	0	65
21:00	34	104	21	0	159	0	2	0	0	2	0	0	0	0	0	80
21:15	27	106	20	0	153	1	1	0	0	2	0	0	0	0	0	41
21:30	18	125	27	0	170	0	2	0	0	2	0	0	0	0	0	74
21:45	26	140	27	0	193	1	0	0	0	1	0	0	0	0	0	48
SUBTOTAL	473	2526	455	0	3454	15	50	3	0	68	0	0	0	0	0	1190

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	667	4039	779	0	5485	27	80	5	0	112	0	2	0	0	2	1455

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	16	57	50	0	123	1	1	1	0	3	0	0	0	0	0	49
11:15	28	41	31	0	100	0	3	2	0	5	0	0	0	0	0	33
11:30	26	59	39	0	124	0	2	0	0	2	0	2	0	0	2	11
11:45	19	53	37	0	109	3	2	0	0	5	0	0	0	0	0	16
12:00	18	41	44	0	103	1	3	1	0	5	0	0	0	0	0	25
12:15	29	70	35	0	134	1	1	0	0	2	0	0	0	0	0	38
12:30	19	48	29	0	96	2	0	0	0	2	0	0	0	0	0	33
12:45	13	68	36	0	117	0	2	2	0	4	1	1	0	0	2	29
13:00	20	65	36	0	121	1	0	1	0	2	0	2	0	0	2	15
13:15	20	46	40	0	106	3	1	3	0	7	0	5	0	0	5	24
13:30	23	56	32	0	111	1	3	0	0	4	0	1	0	0	1	25
13:45	20	61	35	0	116	1	1	0	0	2	0	0	0	0	0	40
SUBTOTAL	251	665	444	0	1360	14	19	10	0	43	1	11	0	0	12	338

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	30	76	67	0	173	1	4	1	0	6	0	1	0	0	1	25
17:15	38	78	71	0	187	1	2	1	0	4	0	2	0	0	2	64
17:30	16	59	52	0	127	2	0	0	0	2	0	0	0	0	0	50
17:45	14	53	59	0	126	2	1	2	0	5	0	0	0	0	0	43
18:00	32	67	84	0	183	0	0	0	0	0	0	0	0	0	0	59
18:15	30	77	65	0	172	1	2	0	0	3	0	0	0	0	0	37
18:30	33	81	59	0	173	1	1	0	0	2	0	0	0	0	0	40
18:45	33	60	82	0	175	0	1	1	0	2	0	0	0	0	0	65
19:00	29	52	68	0	149	1	1	0	0	2	0	0	0	0	0	64
19:15	39	71	55	0	165	1	2	0	0	3	2	1	0	0	3	42
19:30	30	64	85	0	179	2	0	0	0	2	0	1	0	0	1	58
19:45	36	87	69	0	192	1	1	0	0	2	0	0	0	0	0	71
20:00	28	67	63	0	158	0	2	0	0	2	0	0	2	0	2	64
20:15	26	79	71	0	176	1	0	1	0	2	0	0	0	0	0	54
20:30	21	80	63	0	164	1	2	0	0	3	0	1	0	0	1	50
20:45	25	63	76	0	164	0	0	0	0	0	0	1	0	0	1	48
21:00	23	90	55	0	168	3	2	0	0	5	0	1	0	0	1	60
21:15	33	85	54	0	172	1	0	0	0	1	0	0	0	0	0	48
21:30	36	74	71	0	181	2	1	0	0	3	0	0	0	0	0	75
21:45	31	70	72	0	173	0	1	0	0	1	0	0	0	0	0	63
SUBTOTAL	583	1433	1341	0	3357	21	23	6	0	50	2	8	2	0	12	1080

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
GRAND TOTAL	834	2098	1785	0	4717	35	42	16	0	93	3	19	2	0	24	1418

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	19	76	10	0	105	1	3	1	0	5	0	0	0	0	0	14
11:15	24	62	13	0	99	0	0	1	0	1	0	0	0	0	0	7
11:30	39	72	11	0	122	0	1	3	0	4	0	0	0	0	0	20
11:45	30	79	14	0	123	0	0	1	0	1	0	0	0	0	0	11
12:00	24	78	5	0	107	0	1	1	0	2	0	2	0	0	2	10
12:15	20	69	14	0	103	0	1	1	0	2	0	0	0	0	0	6
12:30	22	66	13	0	101	0	2	1	0	3	0	1	0	0	1	10
12:45	24	68	17	0	109	0	0	1	0	1	0	1	0	0	1	4
13:00	36	76	18	0	130	0	2	1	0	3	0	1	0	0	1	14
13:15	16	69	15	0	100	0	0	1	0	1	0	0	0	0	0	17
13:30	27	76	16	0	119	0	2	1	0	3	0	0	0	0	0	12
13:45	25	78	13	0	116	0	0	3	0	3	1	1	0	0	2	9
SUBTOTAL	306	869	159	0	1334	1	12	16	0	29	1	6	0	0	7	134

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Ferry St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	28	78	25	0	131	0	1	2	0	3	0	2	0	0	2	32
17:15	33	76	23	0	132	0	0	1	0	1	0	1	0	0	1	20
17:30	25	71	28	0	124	0	1	1	0	2	0	1	0	0	1	23
17:45	28	76	25	0	129	0	0	2	0	2	0	2	0	0	2	8
18:00	30	78	18	0	126	0	1	1	0	2	0	1	0	0	1	33
18:15	26	75	23	0	124	0	0	0	0	0	0	0	0	0	0	0
18:30	21	81	15	0	117	0	1	2	0	3	0	0	0	0	0	25
18:45	26	88	21	0	135	0	0	0	0	0	0	1	0	0	1	21
19:00	21	72	16	0	109	1	1	0	0	2	0	3	0	0	3	23
19:15	24	78	18	0	120	0	1	3	0	4	0	0	0	0	0	34
19:30	22	70	14	0	106	0	1	0	0	1	0	0	0	0	0	52
19:45	24	82	16	0	122	1	0	3	0	4	0	0	0	0	0	44
20:00	28	70	29	0	127	1	1	1	0	3	0	0	0	0	0	49
20:15	28	63	30	0	121	0	0	1	0	1	0	0	0	0	0	47
20:30	27	77	22	0	126	0	1	1	0	2	0	0	0	0	0	17
20:45	25	71	22	0	118	0	1	1	0	2	0	2	0	0	2	20
21:00	20	74	20	0	114	0	1	0	0	1	0	1	0	0	1	30
21:15	23	64	21	0	108	0	0	1	0	1	0	0	0	0	0	36
21:30	18	55	22	0	95	0	1	1	0	2	0	1	0	0	1	34
21:45	22	59	18	0	99	0	0	3	0	3	0	0	0	0	0	19
SUBTOTAL	499	1458	426	0	2383	3	12	24	0	39	0	15	0	0	15	567

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	805	2327	585	0	3717	4	24	40	0	68	1	21	0	0	22	701

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	11:00:00	From:	12:15:00
To:	14:00:00	To:	13:15:00

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	977	766	1743
Trucks	17	13	30
Bicycles	0	0	0
	994	**779**	**1773**

Stanley Ave

Bicycles	0	0	0	0
Trucks	1	12	4	0
Cars	83	692	202	0
Totals	**84**	**704**	**206**	**0**

East Approach

	Out	In	Total
Cars	468	581	1049
Trucks	10	10	20
Bicycles	4	3	7
	482	**594**	**1076**

Peds: 79

Ferry St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	102	**102**
3	5	279	**287**
0	4	62	**66**

Peds: 34



Peds: 115

Ferry St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	139	136	3	0
	257	251	3	3
	86	81	4	1

Peds: 65

West Approach

	Out	In	Total
Cars	443	400	843
Trucks	9	9	18
Bicycles	3	3	6
	455	**412**	**867**

Totals	**71**	**538**	**101**	**0**
Cars	66	528	100	0
Trucks	5	10	1	0
Bicycles	0	0	0	0

Stanley Ave

South Approach

	Out	In	Total
Cars	694	835	1529
Trucks	16	20	36
Bicycles	0	1	1
	710	**856**	**1566**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Ferry St & Stanley Ave
Site Code:	2432200006
Count Date:	Aug 10, 2024
Period:	11:00 - 14:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
12:15	47	158	20	0	13	225	15	129	31	0	7	175	30	71	35	0	38	136	20	70	15	0	6	105	641
12:30	54	203	19	0	16	276	17	142	28	0	18	187	21	48	29	0	33	98	22	69	14	0	10	105	666
12:45	55	194	21	0	19	270	21	140	22	0	22	183	14	71	38	0	29	123	24	69	18	0	4	111	687
13:00	50	149	24	0	31	223	18	127	20	0	18	165	21	67	37	0	15	125	36	79	19	0	14	134	647
Grand Total	**206**	**704**	**84**	**0**	**79**	**994**	**71**	**538**	**101**	**0**	**65**	**710**	**86**	**257**	**139**	**0**	**115**	**482**	**102**	**287**	**66**	**0**	**34**	**455**	**2641**
Approach %	20.7	70.8	8.5	0		-	10	75.8	14.2	0		-	17.8	53.3	28.8	0		-	22.4	63.1	14.5	0		-	
Totals %	7.8	26.7	3.2	0		37.6	2.7	20.4	3.8	0		26.9	3.3	9.7	5.3	0		18.3	3.9	10.9	2.5	0		17.2	
PHF	**0.94**	**0.87**	**0.88**	**0**		**0.9**	**0.85**	**0.95**	**0.81**	**0**		**0.95**	**0.72**	**0.9**	**0.91**	**0**		**0.89**	**0.71**	**0.91**	**0.87**	**0**		**0.85**	**0.96**
Cars	202	692	83	0		977	66	528	100	0		694	81	251	136	0		468	102	279	62	0		443	2582
% Cars	98.1	98.3	98.8	0		98.3	93	98.1	99	0		97.7	94.2	97.7	97.8	0		97.1	100	97.2	93.9	0		97.4	97.8
Trucks	4	12	1	0		17	5	10	1	0		16	4	3	3	0		10	0	5	4	0		9	52
% Trucks	1.9	1.7	1.2	0		1.7	7	1.9	1	0		2.3	4.7	1.2	2.2	0		2.1	0	1.7	6.1	0		2	2
Bicycles	0	0	0	0		0	0	0	0	0		0	1	3	0	0		4	0	3	0	0		3	7
% Bicycles	0	0	0	0		0	0	0	0	0		0	1.2	1.2	0	0		0.8	0	1	0	0		0.7	0.3
Peds					79	-					65	-					115	-					34	-	293
% Peds					27	-					22.2	-					39.2	-					11.6	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	17:00:00	From:	17:00:00
To:	22:00:00	To:	18:00:00

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Stanley Ave runs N/S

North Approach

	Out	In	Total
Cars	945	912	1857
Trucks	6	21	27
Bicycles	0	0	0
	951	**933**	**1884**

Stanley Ave

Bicycles	0	0	0	0
Trucks	0	6	0	0
Cars	85	680	180	0
Totals	**85**	**686**	**180**	**0**

East Approach

	Out	In	Total
Cars	613	582	1195
Trucks	17	4	21
Bicycles	3	6	9
	633	**592**	**1225**

Peds: 248

Ferry St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	114	**114**
6	2	301	**309**
0	6	101	**107**

Peds: 83



Peds: 182

Ferry St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	253	249	4	0
	276	266	7	3
	104	98	6	0

Peds: 218

West Approach

	Out	In	Total
Cars	516	433	949
Trucks	8	9	17
Bicycles	6	3	9
	530	**445**	**975**

Stanley Ave

Totals	**84**	**566**	**103**	**0**
Cars	82	549	101	0
Trucks	2	17	2	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	732	879	1611
Trucks	21	18	39
Bicycles	0	0	0
	753	**897**	**1650**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Ferry St & Stanley Ave
Site Code: 2432200006
Count Date: Aug 10, 2024
Period: 17:00 - 22:00

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

Start Time	North Approach Stanley Ave						South Approach Stanley Ave						East Approach Ferry St						West Approach Ferry St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:00	44	149	25	0	71	218	19	129	35	0	59	183	31	81	68	0	25	180	28	81	27	0	32	136	717
17:15	49	186	22	0	68	257	20	115	26	0	65	161	39	82	72	0	64	193	33	77	24	0	20	134	745
17:30	48	182	14	0	62	244	15	152	22	0	41	189	18	59	52	0	50	129	25	73	29	0	23	127	689
17:45	39	169	24	0	47	232	30	170	20	0	53	220	16	54	61	0	43	131	28	78	27	0	8	133	716
Grand Total	**180**	**686**	**85**	**0**	**248**	**951**	**84**	**566**	**103**	**0**	**218**	**753**	**104**	**276**	**253**	**0**	**182**	**633**	**114**	**309**	**107**	**0**	**83**	**530**	**2867**
Approach %	18.9	72.1	8.9	0		-	11.2	75.2	13.7	0		-	16.4	43.6	40	0		-	21.5	58.3	20.2	0		-	
Totals %	6.3	23.9	3	0		33.2	2.9	19.7	3.6	0		26.3	3.6	9.6	8.8	0		22.1	4	10.8	3.7	0		18.5	
PHF	**0.92**	**0.92**	**0.85**	**0**		**0.93**	**0.7**	**0.83**	**0.74**	**0**		**0.86**	**0.67**	**0.84**	**0.88**	**0**		**0.82**	**0.86**	**0.95**	**0.92**	**0**		**0.97**	**0.96**
Cars	180	680	85	0		945	82	549	101	0		732	98	266	249	0		613	114	301	101	0		516	2806
% Cars	100	99.1	100	0		99.4	97.6	97	98.1	0		97.2	94.2	96.4	98.4	0		96.8	100	97.4	94.4	0		97.4	97.9
Trucks	0	6	0	0		6	2	17	2	0		21	6	7	4	0		17	0	2	6	0		8	52
% Trucks	0	0.9	0	0		0.6	2.4	3	1.9	0		2.8	5.8	2.5	1.6	0		2.7	0	0.6	5.6	0		1.5	1.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	3	0	0		3	0	6	0	0		6	9
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	1.1	0	0		0.5	0	1.9	0	0		1.1	0.3
Peds					248	-					218	-					182	-					83	-	731
% Peds					33.9	-					29.8	-					24.9	-					11.4	-	

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Project #24-322 - Arcadis Professional Services (Canada) Inc.

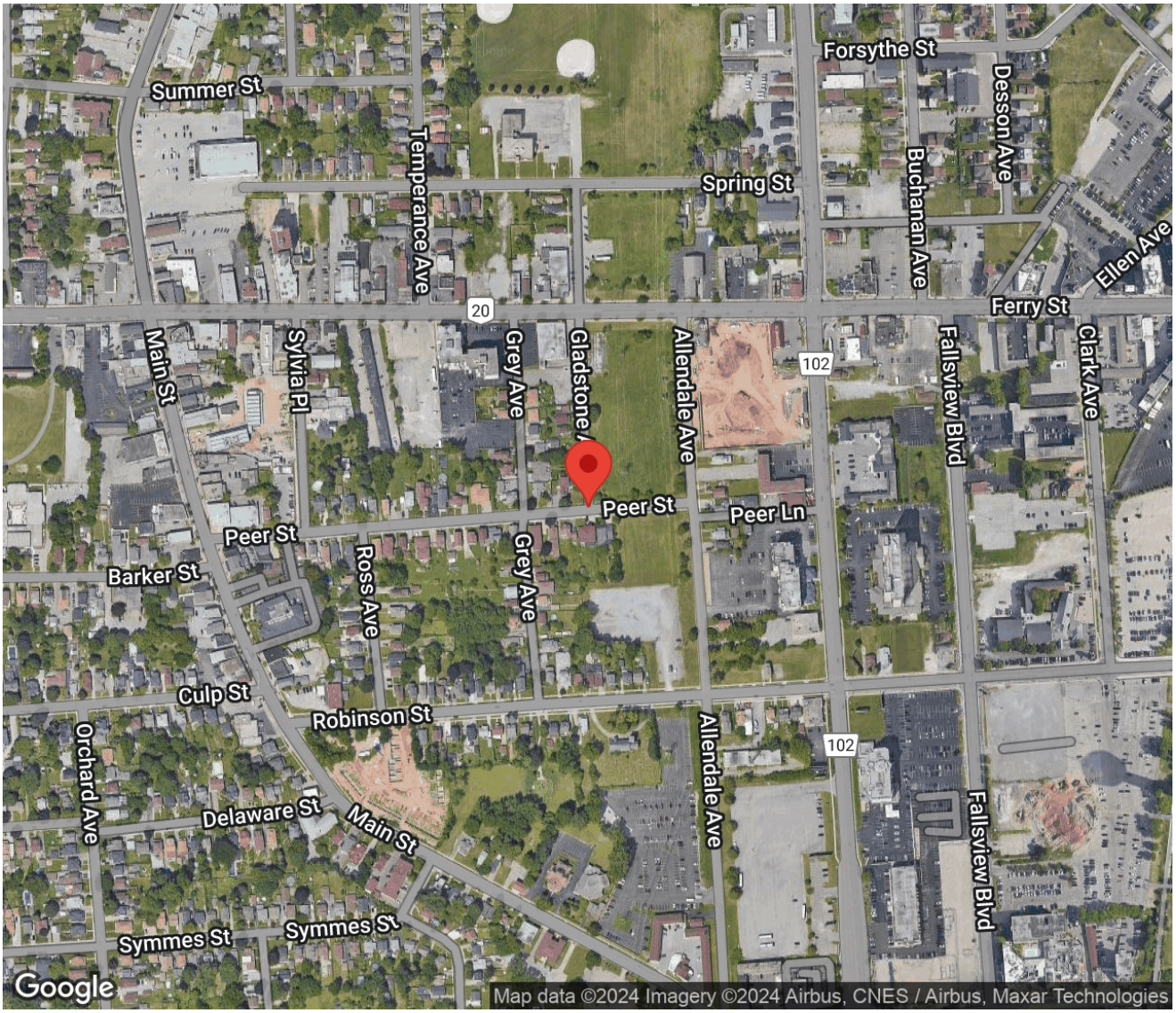
Intersection Count Report

Intersection:	Peer St & Gladstone Ave
Municipality:	Niagara Falls
Count Date:	Tuesday, Aug 13, 2024
Site Code:	2432200007
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Peer St & Gladstone Ave
Site Code:	2432200007
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024



Ontario Traffic Inc.
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Traffic Count Summary

Intersection:	Peer St & Gladstone Ave
Site Code:	2432200007
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Gladstone Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	1	0	1	0	2	0	0	0	0	0	0	0	2
08:00 - 09:00	6	0	5	0	11	3	0	0	0	0	0	0	11
BREAK													
16:00 - 17:00	5	0	9	0	14	2	0	0	0	0	0	0	14
17:00 - 18:00	1	0	8	1	10	3	0	0	0	0	0	0	10
GRAND TOTAL	**13**	**0**	**23**	**1**	**37**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**37**

Ontario Traffic Inc.
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Traffic Count Summary

Intersection:	Peer St & Gladstone Ave
Site Code:	2432200007
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024

Peer St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	3	1	0	4	2	6	5	0	0	11	0	15
08:00 - 09:00	0	1	0	0	1	6	9	4	0	0	13	0	14
BREAK													
16:00 - 17:00	0	4	1	0	5	8	8	13	0	0	21	0	26
17:00 - 18:00	0	4	0	0	4	2	5	12	0	1	18	1	22
GRAND TOTAL	**0**	**12**	**2**	**0**	**14**	**18**	**28**	**34**	**0**	**1**	**63**	**1**	**77**

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
08:30	2	0	1	0	3	1	0	0	0	1	1	0	0	0	1	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
SUBTOTAL	5	0	5	0	10	1	0	0	0	1	1	0	1	0	2	3

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	1
16:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
16:45	3	0	3	0	6	0	0	0	0	0	0	0	1	0	1	1
17:00	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
17:15	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1
17:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
17:45	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	6	0	16	1	23	0	0	0	0	0	0	0	1	0	1	5
GRAND TOTAL	11	0	21	1	33	1	0	0	0	1	1	0	2	0	3	8

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
08:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	8

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Municipality: Niagara Falls
Count Date: Aug 13, 2024

East Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
16:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
16:45	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
17:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
17:30	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
17:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	8	1	0	9	0	0	0	0	0	0	0	0	0	0	10
GRAND TOTAL	0	12	2	0	14	0	0	0	0	0	0	0	0	0	0	18

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
07:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
07:30	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
07:45	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1	0
08:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:15	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
08:30	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0
08:45	1	3	0	0	4	1	0	0	0	1	1	0	0	0	1	0
SUBTOTAL	13	8	0	0	21	1	0	0	0	1	1	1	0	0	2	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
16:00	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
16:15	3	2	0	0	5	0	0	0	0	0	1	0	0	0	1	0
16:30	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0
16:45	2	6	0	0	8	0	0	0	0	0	0	0	0	0	0	0
17:00	1	2	0	1	4	0	0	0	0	0	0	0	0	0	0	0
17:15	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
17:30	1	4	0	0	5	1	0	0	0	1	0	0	0	0	0	1
17:45	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	11	25	0	1	37	1	0	0	0	1	1	0	0	0	1	1
GRAND TOTAL	24	33	0	1	58	2	0	0	0	2	2	1	0	0	3	1

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Peer St runs E/W

North Approach

	Out	In	Total
Cars	8	7	15
Trucks	1	1	2
Bicycles	2	1	3
	11	**9**	**20**

Gladstone Ave

Bicycles	1	1	0
Trucks	0	1	0
Cars	4	4	0
Totals	**5**	**6**	**0**

East Approach

	Out	In	Total
Cars	1	8	9
Trucks	0	1	1
Bicycles	0	1	1
	1	**10**	**11**

Peds: 3

Peer St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
1	1	7	**9**	
0	0	4	**4**	

Peds: 0



Peds: 6

Peer St

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

Peds: 0

West Approach

	Out	In	Total
Cars	11	5	16
Trucks	1	0	1
Bicycles	1	1	2
	13	**6**	**19**

- Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Count Date: Aug 13, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Gladstone Ave						South Approach						East Approach Peer St						West Approach Peer St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	1		0	0	1	1					0			1	0	0	1	1	1	0		0	0	1	3
08:15	1		3	0	0	4					0			0	0	0	3	0	3	0		0	0	3	7
08:30	4		1	0	1	5					0			0	0	0	1	0	2	1		0	0	3	8
08:45	0		1	0	1	1					0			0	0	0	1	0	3	3		0	0	6	7
Grand Total	**6**		**5**	**0**	**3**	**11**					**0**	**0**		**1**	**0**	**0**	**6**	**1**	**9**	**4**		**0**	**0**	**13**	**25**
Approach %	54.5		45.5	0		-						-		100	0	0		-	69.2	30.8		0		-	
Totals %	24		20	0		44						0		4	0	0		4	36	16		0		52	
PHF	**0.38**		**0.42**	**0**		**0.55**						**0**		**0.25**	**0**	**0**		**0.25**	**0.75**	**0.33**		**0**		**0.54**	**0.78**
Cars	4		4	0		8						0		1	0	0		1	7	4		0		11	20
% Cars	66.7		80	0		72.7						0		100	0	0		100	77.8	100		0		84.6	80
Trucks	1		0	0		1						0		0	0	0		0	1	0		0		1	2
% Trucks	16.7		0	0		9.1						0		0	0	0		0	11.1	0		0		7.7	8
Bicycles	1		1	0		2						0		0	0	0		0	1	0		0		1	3
% Bicycles	16.7		20	0		18.2						0		0	0	0		0	11.1	0		0		7.7	12
Peds					3	-					0	-					6	-					0	-	9
% Peds					33.3	-					0	-					66.7	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:15:00
To:	18:00:00	To:	17:15:00

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Peer St runs E/W

North Approach

	Out	In	Total
Cars	13	7	20
Trucks	0	0	0
Bicycles	1	1	2
	14	**8**	**22**

Gladstone Ave

Bicycles	1	0	0
Trucks	0	0	0
Cars	8	5	0
Totals	**9**	**5**	**0**

East Approach

	Out	In	Total
Cars	5	19	24
Trucks	0	0	0
Bicycles	0	0	0
	5	**19**	**24**

Peds: 2

Peer St

Bicycles	Trucks	Cars	Totals	
0	0	1	**1**	
1	0	7	**8**	
0	0	14	**14**	

Peds: 0



Peds: 7

Peer St

Totals	Cars	Trucks	Bicycles
0	0	0	0
0	0	0	0
5	5	0	0

Peds: 0

West Approach

	Out	In	Total
Cars	22	14	36
Trucks	0	0	0
Bicycles	1	1	2
	23	**15**	**38**

- Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Peer St & Gladstone Ave
Site Code: 2432200007
Count Date: Aug 13, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Gladstone Ave						South Approach						East Approach Peer St						West Approach Peer St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:15	1		2	0	1	3					0			1	0	0	0	1	4	2		0	0	6	10
16:30	1		0	0	0	1					0			1	0	0	3	1	1	4		0	0	5	7
16:45	3		4	0	1	7					0			2	0	0	4	2	2	6		0	0	8	17
17:00	0		3	0	0	3					0			1	0	0	0	1	1	2		1	0	4	8
Grand Total	**5**		**9**	**0**	**2**	**14**					**0**	**0**		**5**	**0**	**0**	**7**	**5**	**8**	**14**		**1**	**0**	**23**	**42**
Approach %	35.7		64.3	0		-						-		100	0	0		-	34.8	60.9		4.3		-	
Totals %	11.9		21.4	0		33.3						0		11.9	0	0		11.9	19	33.3		2.4		54.8	
PHF	**0.42**		**0.56**	**0**		**0.5**						**0**		**0.63**	**0**	**0**		**0.63**	**0.5**	**0.58**		**0.25**		**0.72**	**0.62**
Cars	5		8	0		13						0		5	0	0		5	7	14		1		22	40
% Cars	100		88.9	0		92.9						0		100	0	0		100	87.5	100		100		95.7	95.2
Trucks	0		0	0		0						0		0	0	0		0	0	0		0		0	0
% Trucks	0		0	0		0						0		0	0	0		0	0	0		0		0	0
Bicycles	0		1	0		1						0		0	0	0		0	1	0		0		1	2
% Bicycles	0		11.1	0		7.1						0		0	0	0		0	12.5	0		0		4.3	4.8
Peds					2	-					0	-					7	-					0	-	9
% Peds					22.2	-					0	-					77.8	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

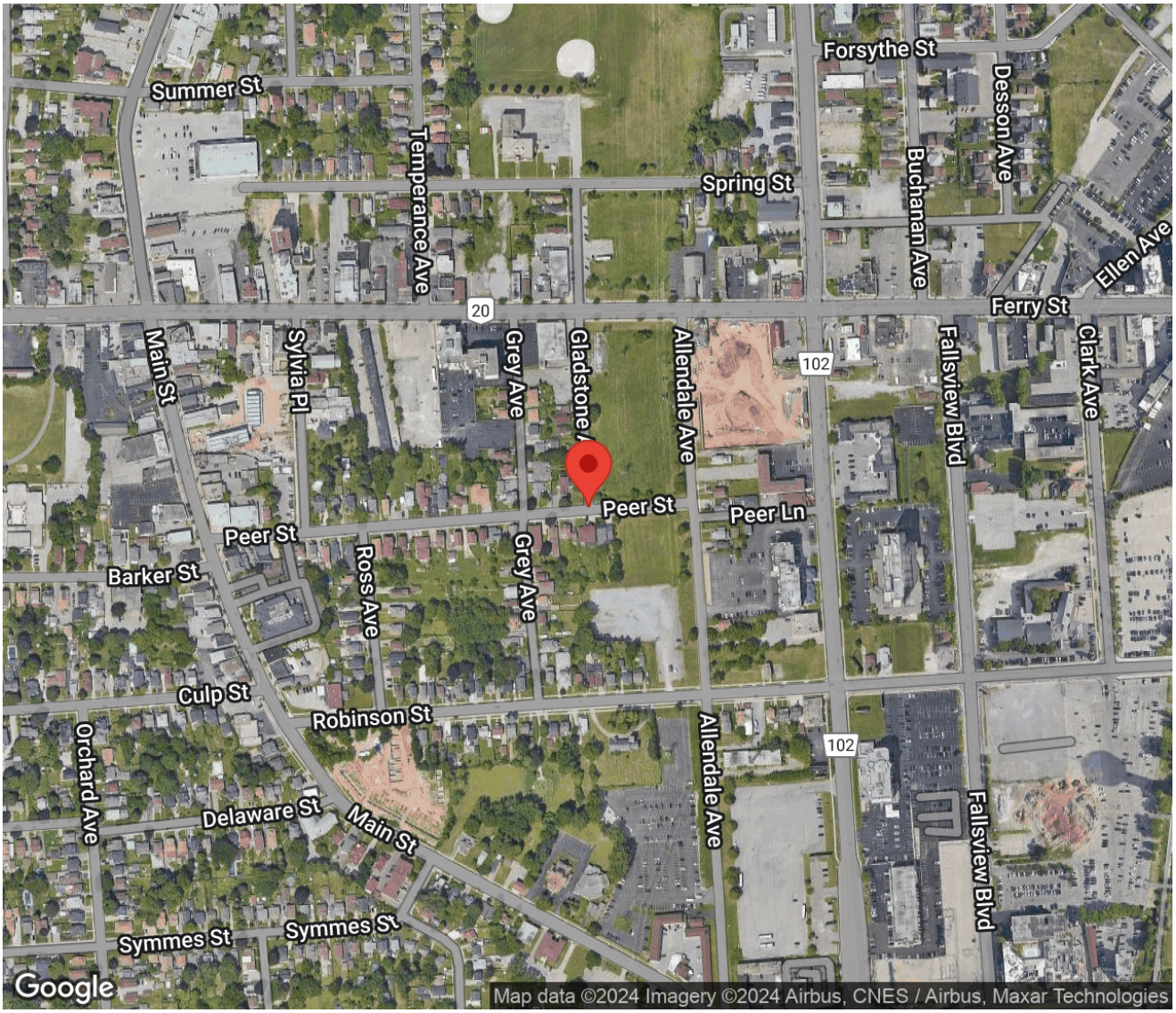
Intersection Count Report

Intersection:	Peer St & Gladstone Ave
Municipality:	Niagara Falls
Count Date:	Saturday, Aug 10, 2024
Site Code:	2432200008
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-22:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
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Traffic Count Map

Intersection:	Peer St & Gladstone Ave
Site Code:	2432200008
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024



Ontario Traffic Inc.
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Traffic Count Summary

Intersection:	Peer St & Gladstone Ave
Site Code:	2432200008
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Gladstone Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	9	0	14	0	23	1	0	10	0	0	10	0	33
12:00 - 13:00	11	0	12	0	23	2	0	0	0	0	0	0	23
13:00 - 14:00	10	0	7	0	17	0	0	2	0	0	2	0	19
BREAK													
17:00 - 18:00	14	0	6	0	20	18	0	9	0	0	9	0	29
18:00 - 19:00	11	0	4	0	15	10	0	0	0	0	0	0	15
19:00 - 20:00	6	0	8	0	14	3	0	0	0	0	0	0	14
20:00 - 21:00	10	0	15	0	25	1	0	6	0	0	6	0	31
21:00 - 22:00	3	0	8	0	11	7	0	0	0	0	0	0	11
GRAND TOTAL	**74**	**0**	**74**	**0**	**148**	**42**	**0**	**27**	**0**	**0**	**27**	**0**	**175**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Peer St & Gladstone Ave
Site Code:	2432200008
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Peer St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	0	9	1	0	10	5	4	19	0	0	23	0	33
12:00 - 13:00	0	9	3	0	12	3	9	11	0	0	20	0	32
13:00 - 14:00	0	9	0	0	9	8	4	12	0	0	16	0	25
BREAK													
17:00 - 18:00	0	21	1	0	22	4	2	17	0	0	19	0	41
18:00 - 19:00	0	3	4	1	8	6	4	9	0	0	13	0	21
19:00 - 20:00	0	12	6	2	20	5	6	13	0	0	19	0	39
20:00 - 21:00	0	7	2	1	10	9	3	12	0	1	16	0	26
21:00 - 22:00	0	13	6	0	19	2	7	8	0	0	15	0	34
GRAND TOTAL	**0**	**83**	**23**	**4**	**110**	**42**	**39**	**101**	**0**	**1**	**141**	**0**	**251**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200008
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	3	0	6	0	9	0	0	0	0	0	0	0	0	0	0	0
11:15	3	0	5	0	8	0	0	0	0	0	0	0	0	0	0	0
11:30	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
12:00	3	0	5	0	8	0	0	0	0	0	0	0	0	0	0	0
12:15	2	0	1	0	3	0	0	0	0	0	1	0	0	0	1	0
12:30	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
12:45	5	0	3	0	8	0	0	0	0	0	0	0	0	0	0	2
13:00	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0
13:15	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0
13:30	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
13:45	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	29	0	33	0	62	0	0	0	0	0	1	0	0	0	1	3

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200008
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Gladstone Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
17:00	5	0	1	0	6	0	0	0	0	0	0	0	0	0	0	6
17:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
17:30	5	0	3	0	8	0	0	0	0	0	0	0	0	0	0	10
17:45	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	1
18:00	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0
18:15	6	0	1	0	7	0	0	0	0	0	0	0	0	0	0	1
18:30	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8
18:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
19:00	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1
19:15	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1
19:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
19:45	3	0	6	0	9	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	3	0	3	0	0	0	0	0	1	0	0	0	1	0
20:15	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0
20:30	2	0	7	0	9	0	0	0	0	0	0	0	0	0	0	1
20:45	1	0	3	0	4	0	0	0	0	0	4	0	0	0	4	0
21:00	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	4	0	4	0	0	0	0	0	1	0	0	0	1	0
21:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
21:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
SUBTOTAL	38	0	41	0	79	0	0	0	0	0	6	0	0	0	6	39

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	67	0	74	0	141	0	0	0	0	0	7	0	0	0	7	42

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200008
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
11:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	1
11:30	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0
11:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
12:00	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0
12:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
12:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0
12:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1
13:00	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	6
13:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
13:30	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1
13:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	0	23	4	0	27	0	0	0	0	0	0	4	0	0	4	16

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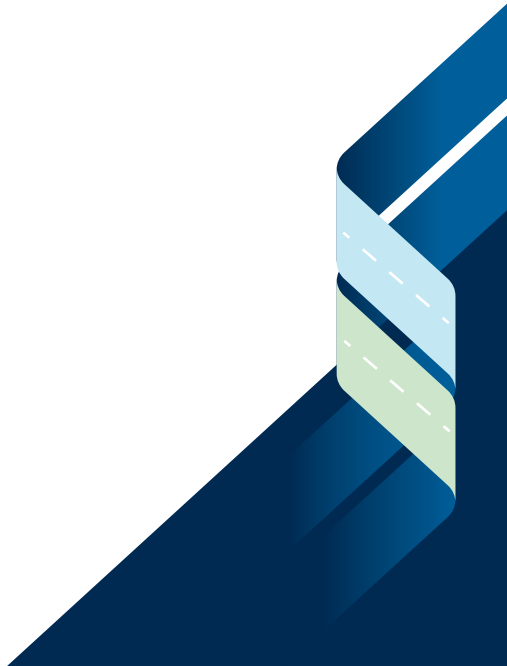
Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200008
Municipality: Niagara Falls
Count Date: Aug 10, 2024

East Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	2
17:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
17:30	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	2
17:45	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	0
18:00	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	3
18:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
18:45	0	2	1	0	3	0	0	0	0	0	0	0	1	0	1	0
19:00	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	1
19:15	0	0	1	1	2	0	0	0	0	0	0	1	0	0	1	4
19:30	0	4	1	1	6	0	0	0	0	0	0	0	3	0	3	0
19:45	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0
20:00	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	2
20:15	0	1	2	1	4	0	0	0	0	0	0	0	0	0	0	5
20:30	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0
21:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
21:30	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	2
21:45	0	6	3	0	9	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	50	15	4	69	0	0	0	0	0	0	6	4	0	10	26

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	0	73	19	4	96	0	0	0	0	0	0	10	4	0	14	42



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200008
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
11:00	1	8	0	0	9	0	0	0	0	0	0	0	0	0	0	0
11:15	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
11:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0
11:45	2	5	0	0	7	0	0	0	0	0	0	0	0	0	0	0
12:00	2	1	0	0	3	1	0	0	0	1	0	0	0	0	0	0
12:15	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0
12:30	2	5	0	0	7	0	0	0	0	0	0	1	0	0	1	0
12:45	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0
13:00	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0
13:15	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
13:30	2	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0
13:45	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	16	41	0	0	57	1	0	0	0	1	0	1	0	0	1	0

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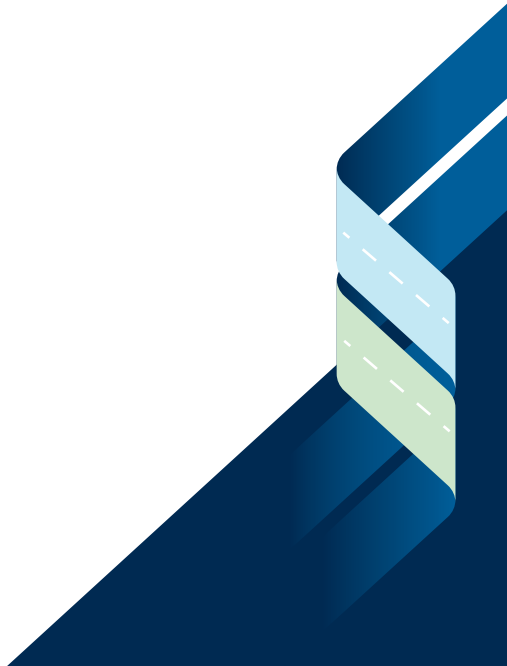
Traffic Count Data

Intersection: Peer St & Gladstone Ave
Site Code: 2432200008
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0
17:15	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0
17:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0
17:45	0	6	0	0	6	1	0	0	0	1	0	1	0	0	1	0
18:00	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
18:15	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
18:30	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
18:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
19:00	1	4	0	0	5	0	1	0	0	1	1	0	0	0	1	0
19:15	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0
19:30	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0
19:45	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0
20:00	1	3	0	1	5	0	0	0	0	0	0	0	0	0	0	0
20:15	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
20:30	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0
20:45	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
21:00	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0
21:15	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0
21:30	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0
21:45	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	20	55	0	1	76	1	1	0	0	2	1	3	0	0	4	0

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	36	96	0	1	133	2	1	0	0	3	1	4	0	0	5	0



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Peak Hour Diagram

Specified Period		One Hour Peak	
From:	11:00:00	From:	11:00:00
To:	14:00:00	To:	12:00:00

Intersection: Peer St & Gladstone Ave
Site Code: 2432200008
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Peer St runs E/W

North Approach

	Out	In	Total
Cars	23	15	38
Trucks	0	0	0
Bicycles	0	0	0
	23	**15**	**38**

Gladstone Ave

Bicycles	0	0	0
Trucks	0	0	0
Cars	14	9	0
Totals	**14**	**9**	**0**

East Approach

	Out	In	Total
Cars	6	28	34
Trucks	0	0	0
Bicycles	4	0	4
	10	**28**	**38**

Peer St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	4	**4**	
0	0	19	**19**	

Peds: 1

Peds: 0



Peds: 5

Peds: 0

Peer St

Totals	Cars	Trucks	Bicycles
0	0	0	0
1	1	0	0
9	5	0	4

West Approach

	Out	In	Total
Cars	23	19	42
Trucks	0	0	0
Bicycles	0	4	4
	23	**23**	**46**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Peer St & Gladstone Ave
Site Code:	2432200008
Count Date:	Aug 10, 2024
Period:	11:00 - 14:00

Peak Hour Data (11:00 - 12:00)

Start Time	North Approach Gladstone Ave						South Approach						East Approach Peer St						West Approach Peer St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
11:00	3		6	0	0	9					0			1	0	0	1	1	1	8		0	0	9	19
11:15	3		5	0	0	8					0			4	0	0	1	4	1	2		0	0	3	15
11:30	3		2	0	0	5					0			2	1	0	0	3	0	4		0	0	4	12
11:45	0		1	0	1	1					0			2	0	0	3	2	2	5		0	0	7	10
Grand Total	**9**		**14**	**0**	**1**	**23**					**0**	**0**		**9**	**1**	**0**	**5**	**10**	**4**	**19**		**0**	**0**	**23**	**56**
Approach %	39.1		60.9	0		-						-		90	10	0		-	17.4	82.6		0		-	
Totals %	16.1		25	0		41.1						0		16.1	1.8	0		17.9	7.1	33.9		0		41.1	
PHF	**0.75**		**0.58**	**0**		**0.64**						**0**		**0.56**	**0.25**	**0**		**0.63**	**0.5**	**0.59**		**0**		**0.64**	**0.74**
Cars	9		14	0		23						0		5	1	0		6	4	19		0		23	52
% Cars	100		100	0		100						0		55.6	100	0		60	100	100		0		100	92.9
Trucks	0		0	0		0						0		0	0	0		0	0	0		0		0	0
% Trucks	0		0	0		0						0		0	0	0		0	0	0		0		0	0
Bicycles	0		0	0		0						0		4	0	0		4	0	0		0		0	4
% Bicycles	0		0	0		0						0		44.4	0	0		40	0	0		0		0	7.1
Peds					1	-					0	-					5	-					0	-	6
% Peds					16.7	-					0	-					83.3	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	17:00:00	From:	17:00:00
To:	22:00:00	To:	18:00:00

Intersection: Peer St & Gladstone Ave
Site Code: 2432200008
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Peer St runs E/W

North Approach

	Out	In	Total
Cars	20	11	31
Trucks	0	1	1
Bicycles	0	0	0
	20	**12**	**32**

Gladstone Ave

Bicycles	0	0	0
Trucks	0	0	0
Cars	6	14	0
Totals	**6**	**14**	**0**

East Approach

	Out	In	Total
Cars	18	29	47
Trucks	0	0	0
Bicycles	4	2	6
	22	**31**	**53**

Peds: 18

Peer St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	1	**2**	
2	0	15	**17**	

Peds: 0



Peds: 4

Peer St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	1	1	0	0
	21	17	0	4

Peds: 0

West Approach

	Out	In	Total
Cars	16	23	39
Trucks	1	0	1
Bicycles	2	4	6
	19	**27**	**46**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection:	Peer St & Gladstone Ave
Site Code:	2432200008
Count Date:	Aug 10, 2024
Period:	17:00 - 22:00

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

Start Time	North Approach Gladstone Ave						South Approach						East Approach Peer St						West Approach Peer St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:00	5		1	0	6	6					0			5	0	0	2	5	1	3		0	0	4	15
17:15	0		1	0	1	1					0			1	1	0	0	2	0	3		0	0	3	6
17:30	5		3	0	10	8					0			6	0	0	2	6	0	4		0	0	4	18
17:45	4		1	0	1	5					0			9	0	0	0	9	1	7		0	0	8	22
Grand Total	**14**		**6**	**0**	**18**	**20**					**0**	**0**		**21**	**1**	**0**	**4**	**22**	**2**	**17**		**0**	**0**	**19**	**61**
Approach %	70		30	0		-						-		95.5	4.5	0		-	10.5	89.5		0		-	
Totals %	23		9.8	0		32.8						0		34.4	1.6	0		36.1	3.3	27.9		0		31.1	
PHF	**0.7**		**0.5**	**0**		**0.63**						**0**		**0.58**	**0.25**	**0**		**0.61**	**0.5**	**0.61**		**0**		**0.59**	**0.69**
Cars	14		6	0		20						0		17	1	0		18	1	15		0		16	54
% Cars	100		100	0		100						0		81	100	0		81.8	50	88.2		0		84.2	88.5
Trucks	0		0	0		0						0		0	0	0		0	1	0		0		1	1
% Trucks	0		0	0		0						0		0	0	0		0	50	0		0		5.3	1.6
Bicycles	0		0	0		0						0		4	0	0		4	0	2		0		2	6
% Bicycles	0		0	0		0						0		19	0	0		18.2	0	11.8		0		10.5	9.8
Peds					18	-					0	-					4	-					0	-	22
% Peds					81.8	-					0	-					18.2	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

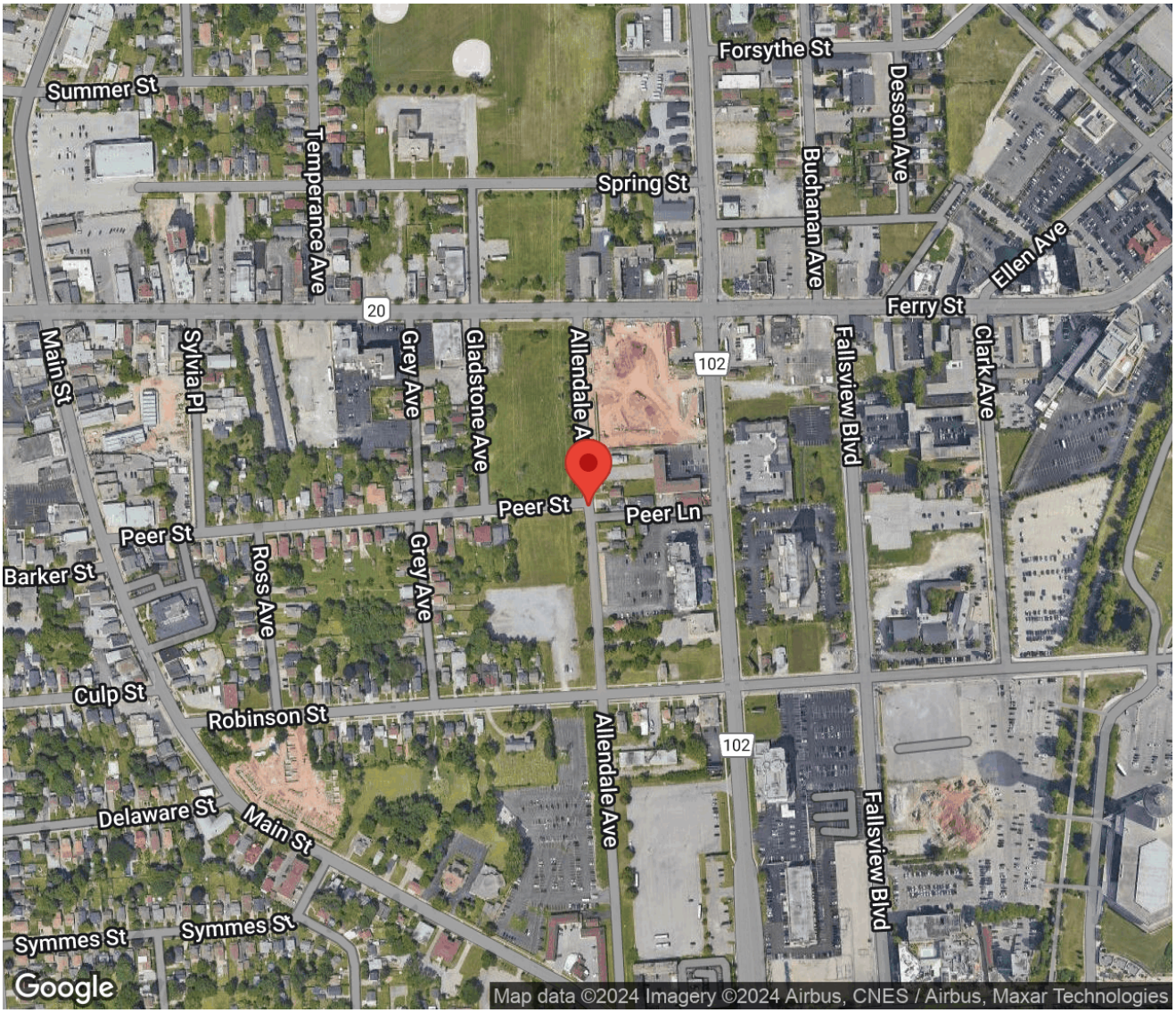
Intersection Count Report

Intersection:	Allendale Ave & Peer St - Peer Ln
Municipality:	Niagara Falls
Count Date:	Tuesday, Aug 13, 2024
Site Code:	2432200009
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
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Traffic Count Map

Intersection:	Allendale Ave & Peer St - Peer Ln
Site Code:	2432200009
Municipality:	Niagara Falls
Count Date:	Aug 13, 2024



Ontario Traffic Inc.
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Traffic Count Summary

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Municipality: Niagara Falls
Count Date: Aug 13, 2024

Allendale Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	1	1	0	2	0	3	10	0	0	13	1	15
08:00 - 09:00	0	2	0	0	2	0	1	10	0	0	11	8	13
BREAK													
16:00 - 17:00	0	8	1	0	9	1	3	5	0	0	8	8	17
17:00 - 18:00	0	7	3	0	10	0	2	17	0	0	19	3	29
GRAND TOTAL	**0**	**18**	**5**	**0**	**23**	**1**	**9**	**42**	**0**	**0**	**51**	**20**	**74**

Ontario Traffic Inc.
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Traffic Count Summary

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Municipality: Niagara Falls
Count Date: Aug 13, 2024

Peer St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	0	0	0	0	0	4	0	2	0	6	1	6
08:00 - 09:00	0	0	0	0	0	0	2	0	8	0	10	2	10
BREAK													
16:00 - 17:00	0	0	0	0	0	0	8	0	10	0	18	13	18
17:00 - 18:00	0	0	0	0	0	0	7	0	6	0	13	4	13
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**26**	**0**	**47**	**20**	**47**

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Municipality: Niagara Falls
Count Date: Aug 13, 2024

North Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
16:00	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	0
16:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
17:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
17:30	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0
17:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	15	4	0	19	0	0	0	0	0	0	0	0	0	0	1
GRAND TOTAL	0	18	5	0	23	0	0	0	0	0	0	0	0	0	0	1

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0
07:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
07:45	2	6	0	0	8	0	0	0	0	0	0	0	0	0	0	0
08:00	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
08:30	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:45	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	4	19	0	0	23	0	1	0	0	1	0	0	0	0	0	9

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Municipality: Niagara Falls
Count Date: Aug 13, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
16:00	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
16:15	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	2
16:30	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1
16:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
17:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
17:15	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	2
17:30	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0	1
17:45	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	5	21	0	0	26	0	0	0	0	0	0	1	0	0	1	11
GRAND TOTAL	9	40	0	0	49	0	1	0	0	1	0	1	0	0	1	20

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:30	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
08:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
08:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	3	0	3	1	0	0	0	1	0	0	1	0	1	0
08:45	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	4	0	9	0	13	1	0	0	0	1	1	0	1	0	2	3

Ontario Traffic Inc.
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Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Municipality: Niagara Falls
Count Date: Aug 13, 2024

West Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
16:15	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	5
16:30	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	1
16:45	4	0	4	0	8	0	0	0	0	0	0	0	0	0	0	3
17:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
17:15	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	2
17:30	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	1
17:45	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	15	0	16	0	31	0	0	0	0	0	0	0	0	0	0	17
GRAND TOTAL	**19**	**0**	**25**	**0**	**44**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**2**	**20**

Peak Hour Diagram

Specified Period
From: 07:00:00
To: 09:00:00

One Hour Peak
From: 08:00:00
To: 09:00:00

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Allendale Ave runs N/S

North Approach

	Out	In	Total
Cars	2	11	13
Trucks	0	1	1
Bicycles	0	0	0
	2	**12**	**14**

Allendale Ave

Bicycles	0	0	0
Trucks	0	0	0
Cars	0	2	0
Totals	**0**	**2**	**0**

Peer St

			Totals
0	0	0	**0**
0	1	1	**2**
1	0	7	**8**

Peds: 0

Peds: 2

N
W
E
S

Peds: 0

Peds: 8

West Approach

	Out	In	Total
Cars	8	1	9
Trucks	1	0	1
Bicycles	1	0	1
	10	**1**	**11**

Totals	**1**	**10**	**0**
Cars	1	10	0
Trucks	0	0	0
Bicycles	0	0	0

Allendale Ave

South Approach

	Out	In	Total
Cars	11	9	20
Trucks	0	0	0
Bicycles	0	1	1
	11	**10**	**21**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Count Date: Aug 13, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Allendale Ave						South Approach Allendale Ave						East Approach						West Approach Peer St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00		0	0	0	0	0	1	1		0	2	2					0		0		1	0	2	1	3
08:15		0	0	0	0	0	0	2		0	3	2					0		0		1	0	0	1	3
08:30		0	0	0	0	0	0	2		0	2	2					0		1		4	0	0	5	7
08:45		2	0	0	0	2	0	5		0	1	5					0		1		2	0	0	3	10
Grand Total		**2**	**0**	**0**	**0**	**2**	**1**	**10**		**0**	**8**	**11**					**0**	**0**	**2**		**8**	**0**	**2**	**10**	**23**
Approach %		100	0	0		-	9.1	90.9		0		-						-	20		80	0		-	
Totals %		8.7	0	0		8.7	4.3	43.5		0		47.8						0	8.7		34.8	0		43.5	
PHF		**0.25**	**0**	**0**		**0.25**	**0.25**	**0.5**		**0**		**0.55**						**0**	**0.5**		**0.5**	**0**		**0.5**	**0.58**
Cars		2	0	0		2	1	10		0		11						0	1		7	0		8	21
% Cars		100	0	0		100	100	100		0		100						0	50		87.5	0		80	91.3
Trucks		0	0	0		0	0	0		0		0						0	1		0	0		1	1
% Trucks		0	0	0		0	0	0		0		0						0	50		0	0		10	4.3
Bicycles		0	0	0		0	0	0		0		0						0	0		1	0		1	1
% Bicycles		0	0	0		0	0	0		0		0						0	0		12.5	0		10	4.3
Peds					0	-					8	-					0	-					2	-	10
% Peds					0	-					80	-					0	-					20	-	

Peak Hour Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Count Date: Aug 13, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Allendale Ave runs N/S

North Approach

	Out	In	Total
Cars	8	24	32
Trucks	0	0	0
Bicycles	0	0	0
	8	**24**	**32**

Allendale Ave

Bicycles	0	0	0
Trucks	0	0	0
Cars	3	5	0
Totals	**3**	**5**	**0**

Peer St

			Totals
0	0	0	**0**
0	0	9	**9**
0	0	8	**8**

Peds: 0

Peds: 6



Peds: 0

Peds: 6

West Approach

	Out	In	Total
Cars	17	5	22
Trucks	0	0	0
Bicycles	0	0	0
	17	**5**	**22**

Allendale Ave

Totals	**2**	**15**	**0**
Cars	2	15	0
Trucks	0	0	0
Bicycles	0	0	0

South Approach

	Out	In	Total
Cars	17	13	30
Trucks	0	0	0
Bicycles	0	0	0
	17	**13**	**30**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200009
Count Date: Aug 13, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Allendale Ave						South Approach Allendale Ave						East Approach						West Approach Peer St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:45		1	0	0	0	1	1	0		0	3	1					0		4		4	0	3	8	10
17:00		0	1	0	0	1	0	1		0	0	1					0		0		2	0	0	2	4
17:15		1	1	0	0	2	0	8		0	2	8					0		1		2	0	2	3	13
17:30		3	1	0	0	4	1	6		0	1	7					0		4		0	0	1	4	15
Grand Total		**5**	**3**	**0**	**0**	**8**	**2**	**15**		**0**	**6**	**17**					**0**	**0**	**9**		**8**	**0**	**6**	**17**	**42**
Approach %		62.5	37.5	0		-	11.8	88.2		0		-						-	52.9		47.1	0		-	
Totals %		11.9	7.1	0		19	4.8	35.7		0		40.5						0	21.4		19	0		40.5	
PHF		**0.42**	**0.75**	**0**		**0.5**	**0.5**	**0.47**		**0**		**0.53**						**0**	**0.56**		**0.5**	**0**		**0.53**	**0.7**
Cars		5	3	0		8	2	15		0		17						0	9		8	0		17	42
% Cars		100	100	0		100	100	100		0		100						0	100		100	0		100	100
Trucks		0	0	0		0	0	0		0		0						0	0		0	0		0	0
% Trucks		0	0	0		0	0	0		0		0						0	0		0	0		0	0
Bicycles		0	0	0		0	0	0		0		0						0	0		0	0		0	0
% Bicycles		0	0	0		0	0	0		0		0						0	0		0	0		0	0
Peds					0	-					6	-					0	-					6	-	12
% Peds					0	-					50	-					0	-					50	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-322 - Arcadis Professional Services (Canada) Inc.

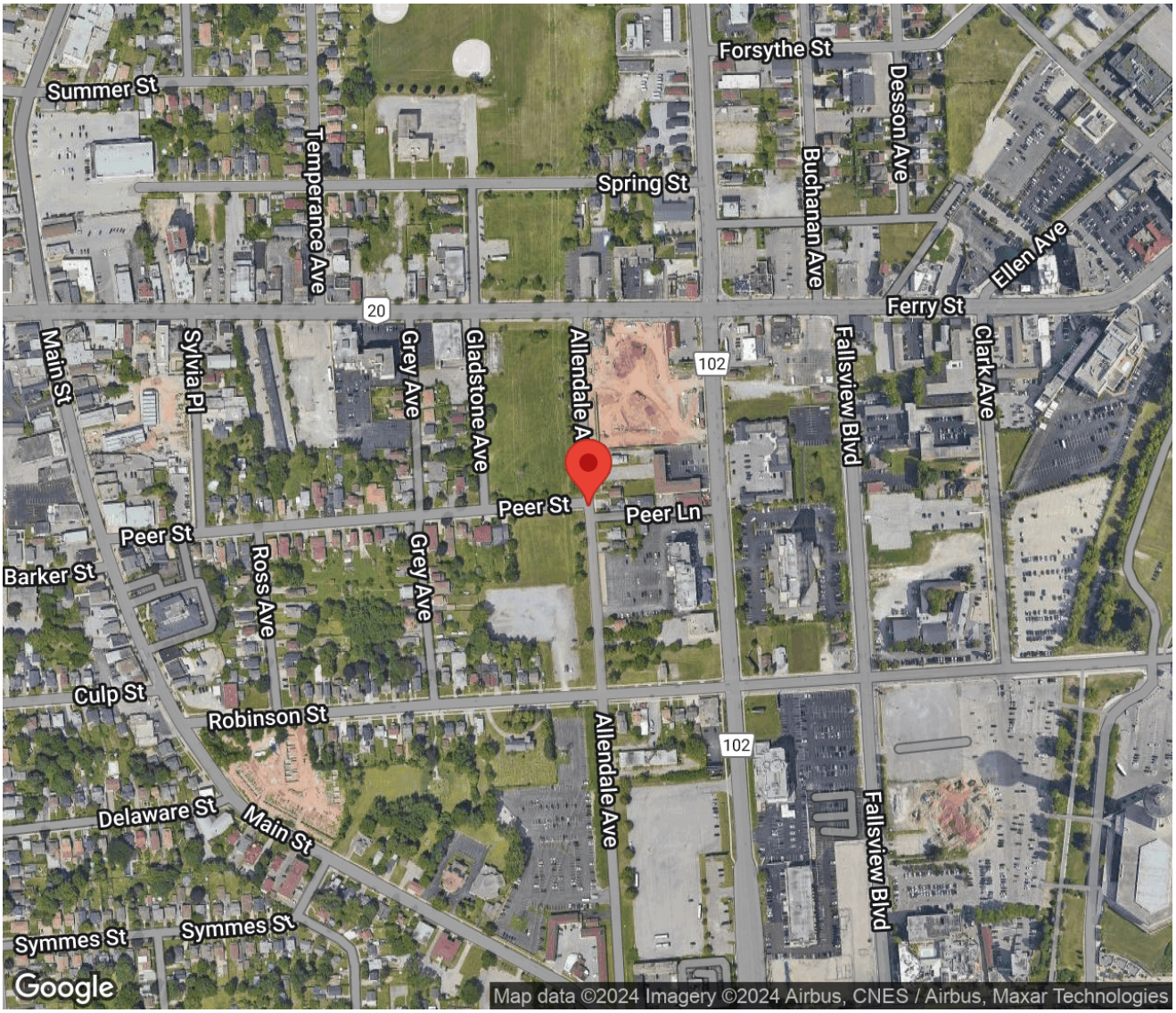
Intersection Count Report

Intersection:	Allendale Ave & Peer St - Peer Ln
Municipality:	Niagara Falls
Count Date:	Saturday, Aug 10, 2024
Site Code:	2432200010
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	11:00-14:00, 17:00-22:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Allendale Ave & Peer St - Peer Ln
Site Code:	2432200010
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024



Ontario Traffic Inc.
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Traffic Count Summary

Intersection:	Allendale Ave & Peer St - Peer Ln
Site Code:	2432200010
Municipality:	Niagara Falls
Count Date:	Aug 10, 2024

Allendale Ave - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
11:00 - 12:00	0	13	4	0	17	0	4	33	0	0	37	8	54
12:00 - 13:00	0	8	4	0	12	2	8	29	0	0	37	1	49
13:00 - 14:00	0	9	3	0	12	0	6	22	0	1	29	4	41
BREAK													
17:00 - 18:00	0	29	6	0	35	0	16	41	0	0	57	14	92
18:00 - 19:00	0	28	0	0	28	0	8	21	0	0	29	13	57
19:00 - 20:00	0	15	2	0	17	1	19	30	0	0	49	11	66
20:00 - 21:00	0	13	3	0	16	4	7	29	0	0	36	27	52
21:00 - 22:00	0	27	3	0	30	1	16	28	0	0	44	15	74
GRAND TOTAL	**0**	**142**	**25**	**0**	**167**	**8**	**84**	**233**	**0**	**1**	**318**	**93**	**485**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Municipality: Niagara Falls
Count Date: Aug 10, 2024

Peer St - Traffic Summary

Hour	East Approach Totals (Includes Cars, Trucks, Bicycles)						West Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
11:00 - 12:00	0	0	0	0	0	0	8	0	20	0	28	1	28
12:00 - 13:00	0	0	0	0	0	0	12	0	10	0	22	1	22
13:00 - 14:00	0	0	0	0	0	0	10	0	12	0	22	0	22
BREAK													
17:00 - 18:00	0	0	0	0	0	0	8	1	22	0	31	9	31
18:00 - 19:00	0	0	0	0	0	0	9	0	13	0	22	6	22
19:00 - 20:00	0	0	0	0	0	0	8	0	12	0	20	6	20
20:00 - 21:00	0	0	0	0	0	0	7	0	16	0	23	12	23
21:00 - 22:00	0	0	0	0	0	0	5	0	6	0	11	5	11
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**67**	**1**	**111**	**0**	**179**	**40**	**179**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0
11:15	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0
11:30	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
11:45	0	3	0	0	3	0	1	0	0	1	0	0	2	0	2	0
12:00	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0
12:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
12:30	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
13:00	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0
13:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
13:30	0	3	2	0	5	0	1	0	0	1	0	0	0	0	0	0
13:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	26	9	0	35	0	3	0	0	3	0	1	2	0	3	2

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Municipality: Niagara Falls
Count Date: Aug 10, 2024

North Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	↰	↑	↱	↩	Total	
17:00	0	9	2	0	11	0	0	0	0	0	0	0	0	0	0	0
17:15	0	9	0	0	9	0	1	0	0	1	0	0	0	0	0	0
17:30	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0
17:45	0	8	2	0	10	0	0	0	0	0	0	0	0	0	0	0
18:00	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0
18:15	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0
18:30	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
18:45	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0
19:00	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	0
19:15	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45	0	6	1	0	7	0	0	0	0	0	0	0	0	0	0	0
20:00	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0
20:15	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0
20:30	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
20:45	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0
21:00	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
21:15	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	1
21:30	0	8	1	0	9	0	0	0	0	0	0	0	0	0	0	0
21:45	0	5	2	0	7	0	0	0	0	0	0	1	0	0	1	0
SUBTOTAL	0	109	14	0	123	0	1	0	0	1	0	2	0	0	2	6

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	0	135	23	0	158	0	4	0	0	4	0	3	2	0	5	8

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
11:00	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	3
11:15	3	6	0	0	9	0	0	0	0	0	0	0	0	0	0	0
11:30	1	10	0	0	11	0	0	0	0	0	0	0	0	0	0	0
11:45	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	5
12:00	2	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0
12:15	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0
12:30	3	12	0	0	15	0	0	0	0	0	0	0	0	0	0	0
12:45	2	9	0	0	11	0	0	0	0	0	0	0	0	0	0	1
13:00	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	3
13:15	1	5	0	1	7	0	0	0	0	0	0	0	0	0	0	0
13:30	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	1
13:45	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	18	83	0	1	102	0	0	0	0	0	0	1	0	0	1	13

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Municipality: Niagara Falls
Count Date: Aug 10, 2024

South Approach - Allendale Ave

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	4	6	0	0	10	0	0	0	0	0	0	0	0	0	0	1
17:15	1	15	0	0	16	0	0	0	0	0	0	0	0	0	0	0
17:30	2	12	0	0	14	0	0	0	0	0	2	0	0	0	2	12
17:45	5	8	0	0	13	0	0	0	0	0	2	0	0	0	2	1
18:00	2	6	0	0	8	0	0	0	0	0	0	0	0	0	0	4
18:15	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	2
18:30	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	2
18:45	3	1	0	0	4	0	0	0	0	0	1	0	0	0	1	5
19:00	3	5	0	0	8	0	0	0	0	0	0	0	0	0	0	4
19:15	3	4	0	0	7	0	0	0	0	0	1	0	0	0	1	2
19:30	5	13	0	0	18	0	0	0	0	0	3	0	0	0	3	2
19:45	3	8	0	0	11	0	0	0	0	0	1	0	0	0	1	3
20:00	3	5	0	0	8	0	0	0	0	0	0	0	0	0	0	6
20:15	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	10
20:30	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	5
20:45	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	6
21:00	2	6	0	0	8	0	0	0	0	0	1	0	0	0	1	3
21:15	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0
21:30	4	8	0	0	12	0	1	0	0	1	0	0	0	0	0	8
21:45	7	11	0	0	18	0	0	0	0	0	0	0	0	0	0	4
SUBTOTAL	55	148	0	0	203	0	1	0	0	1	11	0	0	0	11	80

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	73	231	0	1	305	0	1	0	0	1	11	1	0	0	12	93

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
11:00	3	0	7	0	10	0	0	0	0	0	0	0	0	0	0	0
11:15	2	0	4	0	6	0	0	0	0	0	0	0	0	0	0	1
11:30	2	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0
11:45	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0
12:00	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0
12:15	4	0	1	0	5	0	0	0	0	0	0	0	2	0	2	0
12:30	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
12:45	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	1
13:00	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0
13:15	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0
13:30	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0
13:45	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	30	0	40	0	70	0	0	0	0	0	0	0	2	0	2	2

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

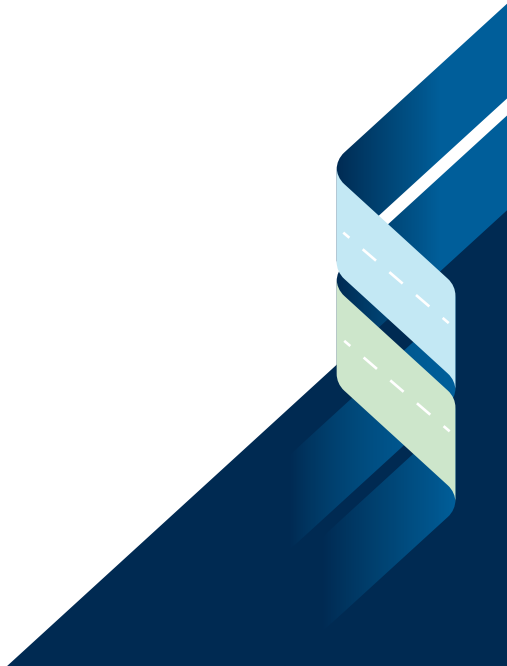
Traffic Count Data

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Municipality: Niagara Falls
Count Date: Aug 10, 2024

West Approach - Peer St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
17:00	3	0	5	0	8	0	0	0	0	0	0	0	0	0	0	6
17:15	1	0	1	0	2	0	0	0	0	0	1	0	0	0	1	1
17:30	1	0	9	0	10	0	0	0	0	0	0	0	0	0	0	0
17:45	2	0	7	0	9	0	0	0	0	0	0	1	0	0	1	2
18:00	2	0	6	0	8	0	0	0	0	0	0	0	0	0	0	0
18:15	4	0	3	0	7	0	0	0	0	0	0	0	0	0	0	5
18:30	0	0	3	0	3	0	0	0	0	0	1	0	0	0	1	0
18:45	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	1
19:00	3	0	2	0	5	1	0	0	0	1	0	0	0	0	0	0
19:15	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	6
19:30	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
19:45	3	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0
20:00	1	0	2	0	3	0	0	0	0	0	0	0	1	0	1	2
20:15	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	10
20:30	4	0	4	0	8	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	2	0	2	0	0	0	0	0	0	0	4	0	4	0
21:00	1	0	1	0	2	0	0	0	0	0	0	0	1	0	1	0
21:15	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
21:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2
21:45	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	3
SUBTOTAL	34	0	63	0	97	1	0	0	0	1	2	1	6	0	9	38

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
GRAND TOTAL	64	0	103	0	167	1	0	0	0	1	2	1	8	0	11	40



Peak Hour Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 11:00:00
To: 12:00:00

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Allendale Ave runs N/S

North Approach

	Out	In	Total
Cars	14	40	54
Trucks	1	0	1
Bicycles	2	1	3
	17	**41**	**58**

Allendale Ave

Bicycles	2	0	0
Trucks	0	1	0
Cars	2	12	0
Totals	**4**	**13**	**0**

Peer St

			Totals
0	0	0	**0**
0	0	8	**8**
0	0	20	**20**

Peds: 0

Peds: 1



Peds: 0

Peds: 8

West Approach

	Out	In	Total
Cars	28	6	34
Trucks	0	0	0
Bicycles	0	2	2
	28	**8**	**36**

Totals	**4**	**33**	**0**
Cars	4	32	0
Trucks	0	0	0
Bicycles	0	1	0

Allendale Ave

South Approach

	Out	In	Total
Cars	36	32	68
Trucks	0	1	1
Bicycles	1	0	1
	37	**33**	**70**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Count Date: Aug 10, 2024
Period: 11:00 - 14:00

Peak Hour Data (11:00 - 12:00)

Start Time	North Approach Allendale Ave						South Approach Allendale Ave						East Approach						West Approach Peer St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
11:00		4	1	0	0	5	0	7		0	3	7					0		3		7	0	0	10	22
11:15		2	1	0	0	3	3	6		0	0	9					0		2		4	0	1	6	18
11:30		3	0	0	0	3	1	10		0	0	11					0		2		5	0	0	7	21
11:45		4	2	0	0	6	0	10		0	5	10					0		1		4	0	0	5	21
Grand Total		**13**	**4**	**0**	**0**	**17**	**4**	**33**		**0**	**8**	**37**					**0**	**0**	**8**		**20**	**0**	**1**	**28**	**82**
Approach %		76.5	23.5	0		-	10.8	89.2		0		-						-	28.6		71.4	0		-	
Totals %		15.9	4.9	0		20.7	4.9	40.2		0		45.1						0	9.8		24.4	0		34.1	
PHF		**0.81**	**0.5**	**0**		**0.71**	**0.33**	**0.83**		**0**		**0.84**						**0**	**0.67**		**0.71**	**0**		**0.7**	**0.93**
Cars		12	2	0		14	4	32		0		36						0	8		20	0		28	78
% Cars		92.3	50	0		82.4	100	97		0		97.3						0	100		100	0		100	95.1
Trucks		1	0	0		1	0	0		0		0						0	0		0	0		0	1
% Trucks		7.7	0	0		5.9	0	0		0		0						0	0		0	0		0	1.2
Bicycles		0	2	0		2	0	1		0		1						0	0		0	0		0	3
% Bicycles		0	50	0		11.8	0	3		0		2.7						0	0		0	0		0	3.7
Peds					0	-					8	-					0	-					1	-	9
% Peds					0	-					88.9	-					0	-					11.1	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	17:00:00	From:	17:00:00
To:	22:00:00	To:	18:00:00

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Count Date: Aug 10, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Allendale Ave runs N/S

North Approach

	Out	In	Total
Cars	34	48	82
Trucks	1	0	1
Bicycles	0	1	1
	35	**49**	**84**

Allendale Ave

Bicycles	0	0	0
Trucks	0	1	0
Cars	6	28	0
Totals	**6**	**29**	**0**

Peds: 0

Peer St

			Totals
0	0	0	**0**
1	0	7	**8**
0	0	22	**22**

Peds: 9



Peds: 0

Peds: 14

West Approach

	Out	In	Total
Cars	29	18	47
Trucks	0	0	0
Bicycles	2	4	6
	31	**22**	**53**

Allendale Ave

Totals	**16**	**41**	**0**
Cars	12	41	0
Trucks	0	0	0
Bicycles	4	0	0

South Approach

	Out	In	Total
Cars	53	50	103
Trucks	0	1	1
Bicycles	4	0	4
	57	**51**	**108**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Allendale Ave & Peer St - Peer Ln
Site Code: 2432200010
Count Date: Aug 10, 2024
Period: 17:00 - 22:00

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

Start Time	North Approach Allendale Ave						South Approach Allendale Ave						East Approach						West Approach Peer St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:00		9	2	0	0	11	4	6		0	1	10					0		3		5	0	6	8	29
17:15		10	0	0	0	10	1	15		0	0	16					0		2		1	0	1	3	29
17:30		2	2	0	0	4	4	12		0	12	16					0		1		9	0	0	10	30
17:45		8	2	0	0	10	7	8		0	1	15					0		2		7	0	2	9	34
Grand Total		**29**	**6**	**0**	**0**	**35**	**16**	**41**		**0**	**14**	**57**					**0**	**0**	**8**		**22**	**0**	**9**	**30**	**122**
Approach %		82.9	17.1	0		-	28.1	71.9		0		-						-	26.7		73.3	0		-	
Totals %		23.8	4.9	0		28.7	13.1	33.6		0		46.7						0	6.6		18	0		24.6	
PHF		**0.73**	**0.75**	**0**		**0.8**	**0.57**	**0.68**		**0**		**0.89**						**0**	**0.67**		**0.61**	**0**		**0.75**	**0.9**
Cars		28	6	0		34	12	41		0		53						0	7		22	0		29	116
% Cars		96.6	100	0		97.1	75	100		0		93						0	87.5		100	0		96.7	95.1
Trucks		1	0	0		1	0	0		0		0						0	0		0	0		0	1
% Trucks		3.4	0	0		2.9	0	0		0		0						0	0		0	0		0	0.8
Bicycles		0	0	0		0	4	0		0		4						0	1		0	0		1	5
% Bicycles		0	0	0		0	25	0		0		7						0	12.5		0	0		3.3	4.1
Peds					0	-					14	-					0	-					9	-	23
% Peds					0	-					60.9	-					0	-					39.1	-	

Appendix C

Signal Timing Plans

Signal Code: 102MRR

Intersection: RR102(Stanley Ave.) & Murray St.

Municipality: niagarafalls

Owner: region

Last Modified: 2025-12-10 11:07:58 AM

Timing Parameters	SBD ADVANCE STANLEY AVE.	NBD & SBD THRU STANLEY AVE.	EBD & WBD THRU MURRAY ST.	n/a	n/a	n/a
Min Green	6	8	8	0	0	0
Walk	0	10	10	0	0	0
Ped Clearance	0	16	18	0	0	0
Vehicle Ext.	2.3	2.5	2.3	0	0	0
Max Green	15	35	28	0	0	0
Yellow	3	4	4	0	0	0
All Red	0	3	3	0	0	0

		Offset
Minimum Cycle	30	0
Pedestrian Cycle	68	
Maximum Cycle	95	96
Operation	FA	

Installed On:	2014-07-29
Count Date:	2011-07-19

FA = Fully Actuated SA = Semi Actuated FT = Fixed Time

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Signal Code: 102DXN

Intersection: RR102(STANLEY AVE.) & DIXON ST.

Municipality: niagarafalls

Owner: region

Last Modified: 2025-12-10 11:13:58 AM

Timing Parameters	NBD & SBD LEFT STANLEY	NBD & SBD STANLEY	EBD & WBD DIXON	n/a	n/a	n/a
Min Green	6	8	8	0	0	0
Walk	0	11	10	0	0	0
Ped Clearance	0	19	17	0	0	0
Vehicle Ext.	2.3	2.5	2.3	0	0	0
Max Green	15	35	30	0	0	0
Yellow	3	4	4	0	0	0
All Red	0	3	3	0	0	0

		Offset
Minimum Cycle	30	0
Pedestrian Cycle	71	
Maximum Cycle	97	85
Operation	FA	

Installed On:	2014-07-29
Count Date:	2009-08-26

FA = Fully Actuated SA = Semi Actuated FT = Fixed Time

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Signal Code: FLLMAN

Intersection: FALLSVIEW & MAIN ST.

Municipality: niagarafalls

Owner: City

Last Modified: 2025-12-10 11:29:55 AM

Timing Parameters	SBD ADVANCE FALLSVIEW	NBD & SBD THRU FALLSVIEW	WBD ADVANCE MAIN ST.	EBD & WBD THRU MAIN ST.	n/a	n/a
Min Green	6	10	6	8	0	0
Walk	0	10	0	10	0	0
Ped Clearance	0	17	0	17	0	0
Vehicle Ext.	4	4	4	4	0	0
Max Green	10	30	10	25	0	0
Yellow	3	4.1	3	4.1	0	0
All Red	0	2.4	0	2.4	0	0

		Offset
Minimum Cycle	31	0
Pedestrian Cycle	67	
Maximum Cycle	94	0
Operation	FA	

Installed On:	1990-07-12
Count Date:	2006-02-24

FA = Fully Actuated SA = Semi Actuated FT = Fixed Time

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Signal Code: 020102

Intersection: RR20(Ferry St.) & RR102 (Stanley Ave.)

Municipality: niagarafalls

Owner: Region

Last Modified: 2025-12-04 2:26:57 PM

Timing Parameters	EBD & WBD ADVANCE FERRY ST.	EBD & WBD THRU FERRY	NBD & SBD ADVANCE STANLEY AVE.	NBD & SBD THRU STANLEY	n/a	n/a
Min Green	6	8	6	8	0	0
Walk	0	10	0	10	0	0
Ped Clearance	0	17	0	17	0	0
Vehicle Ext.	2.5	2.2	2.5	2.2	0	0
Max Green	12	40	10	29	0	0
Yellow	3	4.1	3	4.1	0	0
All Red	0	2.4	0	2.4	0	0

		Offset
Minimum Cycle	29	0
Pedestrian Cycle	67	
Maximum Cycle	110	6
Operation	FA	

Installed On:	2015-12-10
Count Date:	2015-08-10

FA = Fully Actuated SA = Semi Actuated FT = Fixed Time

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Signal Code: 102RBN

Intersection: RR102 (STANLEY AVE.) & ROBINSON ST.

Municipality: niagarafalls

Owner: region

Last Modified: 2025-12-18 11:33:24 AM

Timing Parameters	NBD & SBD THRU STANLEY AVE.	EBD & WBD THRU ROBINSON ST.	n/a	n/a	n/a	n/a
Min Green	8	8	0	0	0	0
Walk	8	8	0	0	0	0
Ped Clearance	13	13	0	0	0	0
Vehicle Ext.	2.2	2.1	0	0	0	0
Max Green	35	20	0	0	0	0
Yellow	4	4	0	0	0	0
All Red	3	3	0	0	0	0

		Offset
Minimum Cycle	30	0
Pedestrian Cycle	56	
Maximum Cycle	69	29
Operation	FA	

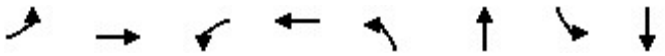
Installed On:	2017-02-23
Count Date:	2018-06-14

FA = Fully Actuated SA = Semi Actuated FT = Fixed Time

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Appendix D

2026 Existing Conditions Synchro Report



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	140	84	317	65	563	304	640
v/c Ratio	0.24	0.44	0.37	0.92	0.32	0.49	0.71	0.38
Control Delay	30.7	28.9	32.4	58.3	27.3	22.9	20.3	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	28.9	32.4	58.3	27.3	22.9	20.3	11.9
Queue Length 50th (m)	4.6	17.9	12.1	43.5	8.5	40.2	26.6	32.1
Queue Length 95th (m)	12.6	35.0	25.4	#91.6	20.4	56.3	#44.5	44.0
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	149	344	243	367	205	1142	439	1668
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.41	0.35	0.86	0.32	0.49	0.69	0.38

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	100	32	79	127	171	61	445	85	286	558	43
Future Volume (vph)	31	100	32	79	127	171	61	445	85	286	558	43
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.96		1.00	0.91		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.92	1.00		0.87	1.00		0.93	1.00		0.98	1.00	
Frt	1.00	0.96		1.00	0.91		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)	1215	1128		1174	1076		1175	2783		1318	2868	
Flt Permitted	0.40	1.00		0.67	1.00		0.41	1.00		0.36	1.00	
Satd. Flow (perm)	508	1128		825	1076		505	2783		506	2868	
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)	33	106	34	84	135	182	65	473	90	304	594	46
RTOR Reduction (vph)	0	12	0	0	52	0	0	15	0	0	6	0
Lane Group Flow (vph)	33	128	0	84	265	0	65	548	0	304	634	0
Confl. Peds. (#/hr)	149		157	157		149	95		112	112		95
Heavy Vehicles (%)	3%	5%	19%	1%	2%	2%	8%	2%	1%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.9	25.9		25.9	25.9		38.5	38.5		55.1	55.1	
Effective Green, g (s)	25.9	25.9		25.9	25.9		38.5	38.5		55.1	55.1	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.41	0.41		0.58	0.58	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	138	307		224	293		204	1127		409	1663	
v/s Ratio Prot		0.11			c0.25			0.20		c0.11	0.22	
v/s Ratio Perm	0.06			0.10			0.13			c0.32		
v/c Ratio	0.24	0.42		0.38	0.90		0.32	0.49		0.74	0.38	
Uniform Delay, d1	26.9	28.3		28.0	33.3		19.3	20.9		11.4	10.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.5		0.6	28.7		4.1	1.5		6.6	0.7	
Delay (s)	27.4	28.9		28.6	62.1		23.4	22.4		18.0	11.4	
Level of Service	C	C		C	E		C	C		B	B	
Approach Delay (s)		28.6			55.1			22.5			13.5	
Approach LOS		C			E			C			B	

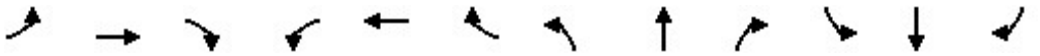
Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	81	169	12	502	181	512
v/c Ratio	0.21	0.47	0.49	0.03	0.37	0.40	0.30
Control Delay	14.6	39.2	9.8	7.9	18.8	10.4	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	39.2	9.8	7.9	18.8	10.4	11.6
Queue Length 50th (m)	3.0	12.4	0.0	0.8	32.4	13.7	23.9
Queue Length 95th (m)	12.6	26.0	15.6	2.8	48.5	23.2	41.3
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	374	223	395	512	1375	495	1713
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	0.17	0.36	0.43	0.02	0.37	0.37	0.30

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	8	37	53	19	150	11	427	20	161	434	21
Future Volume (vph)	12	8	37	53	19	150	11	427	20	161	434	21
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.94			1.00	0.86	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		0.98			0.95	1.00	0.96	1.00		0.98	1.00	
Frt		0.91			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1177			940	902	1309	2875		1323	2862	
Flt Permitted		0.94			0.74	1.00	0.46	1.00		0.42	1.00	
Satd. Flow (perm)		1116			725	902	638	2875		589	2862	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	13	9	42	60	21	169	12	480	22	181	488	24
RTOR Reduction (vph)	0	32	0	0	0	129	0	3	0	0	3	0
Lane Group Flow (vph)	0	32	0	0	81	40	12	499	0	181	509	0
Confl. Peds. (#/hr)	123		71	71		123	121		74	74		121
Heavy Vehicles (%)	0%	0%	0%	18%	0%	4%	0%	2%	0%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		23.2			23.2	23.2	47.5	46.3		59.8	55.6	
Effective Green, g (s)		23.2			23.2	23.2	47.5	46.3		59.8	55.6	
Actuated g/C Ratio		0.24			0.24	0.24	0.49	0.48		0.62	0.57	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		266			173	215	320	1372		442	1640	
v/s Ratio Prot							0.00	0.17		c0.04	0.18	
v/s Ratio Perm		0.03			c0.11	0.04	0.02			c0.21		
v/c Ratio		0.12			0.47	0.19	0.04	0.36		0.41	0.31	
Uniform Delay, d1		28.9			31.6	29.4	12.7	16.0		8.4	10.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			1.2	0.2	0.0	0.7		0.4	0.5	
Delay (s)		29.0			32.8	29.6	12.8	16.8		8.8	11.2	
Level of Service		C			C	C	B	B		A	B	
Approach Delay (s)		29.0			30.7			16.7			10.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

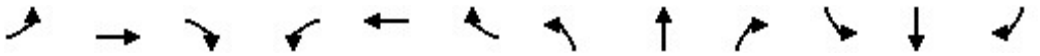
c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	130	90	133	172	31	230	67	185
v/c Ratio	0.54	0.46	0.28	0.28	0.50	0.16	0.52	0.20	0.34
Control Delay	42.2	24.2	18.0	20.6	8.5	27.8	31.5	15.4	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	24.2	18.0	20.6	8.5	27.8	31.5	15.4	18.3
Queue Length 50th (m)	12.6	12.6	9.1	15.0	0.0	4.2	35.3	6.5	21.0
Queue Length 95th (m)	27.3	28.6	18.0	27.1	13.8	11.8	#65.8	13.9	37.5
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	182	320	325	574	373	192	442	342	547
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	0.47	0.41	0.28	0.23	0.46	0.16	0.52	0.20	0.34

Intersection Summary

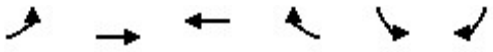
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	66	50	80	118	153	28	181	24	60	145	20
Future Volume (vph)	76	66	50	80	118	153	28	181	24	60	145	20
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.92		1.00	1.00	0.67	1.00	0.96		1.00	0.96	
Flpb, ped/bikes	0.74	1.00		0.92	1.00	1.00	0.77	1.00		0.88	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	897	1015		1137	1351	646	715	1103		1016	1079	
Flt Permitted	0.67	1.00		0.60	1.00	1.00	0.64	1.00		0.54	1.00	
Satd. Flow (perm)	634	1015		715	1351	646	483	1103		575	1079	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	85	74	56	90	133	172	31	203	27	67	163	22
RTOR Reduction (vph)	0	31	0	0	0	109	0	4	0	0	5	0
Lane Group Flow (vph)	85	99	0	90	133	63	31	226	0	67	180	0
Confl. Peds. (#/hr)	182		95	95		182	168		483	483		168
Heavy Vehicles (%)	1%	2%	0%	0%	4%	2%	33%	2%	0%	7%	5%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	23.5	23.5		34.3	34.3	34.3	36.2	36.2		46.7	46.7	
Effective Green, g (s)	23.5	23.5		34.3	34.3	34.3	36.2	36.2		46.7	46.7	
Actuated g/C Ratio	0.25	0.25		0.36	0.36	0.36	0.39	0.39		0.50	0.50	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	158	253		295	492	235	186	424		320	536	
v/s Ratio Prot		0.10		c0.03	0.10			c0.20		0.02	c0.17	
v/s Ratio Perm	c0.13			0.09		0.10	0.06			0.09		
v/c Ratio	0.54	0.39		0.31	0.27	0.27	0.17	0.53		0.21	0.34	
Uniform Delay, d1	30.5	29.3		20.6	21.0	21.0	19.0	22.4		12.9	14.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	1.4		0.8	0.4	0.8	1.9	4.7		0.4	1.7	
Delay (s)	35.0	30.7		21.4	21.4	21.8	20.9	27.1		13.3	16.0	
Level of Service	C	C		C	C	C	C	C		B	B	
Approach Delay (s)		32.4			21.6			26.3			15.3	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

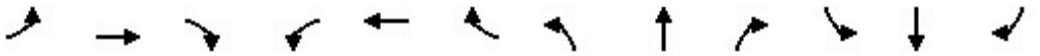
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	150	351	0	0	0
Future Volume (Veh/h)	0	150	351	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	163	382	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	382				464	382
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	382				464	382
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1188				532	622

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	54	109	382	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1188	1700	1700	1700
Volume to Capacity	0.00	0.06	0.22	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

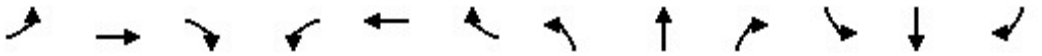
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	350	8	8	468	10	4	0	10	4	1	9
Future Volume (Veh/h)	3	350	8	8	468	10	4	0	10	4	1	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	3	376	9	9	503	11	4	0	11	4	1	10
Pedestrians		5						68			37	
Lane Width (m)		3.5						3.5			3.5	
Walking Speed (m/s)		1.1						1.1			1.1	
Percent Blockage		0						6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.86						0.86	0.86		0.86	0.86	0.86
vC, conflicting volume	551			453			996	1024	448	961	1022	550
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	396			453			914	946	448	873	944	395
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	100	98	98	100	98
cM capacity (veh/h)	976			1051			184	204	578	205	204	545

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	388	523	15	15
Volume Left	3	9	4	4
Volume Right	9	11	11	10
cSH	976	1051	368	351
Volume to Capacity	0.00	0.01	0.04	0.04
Queue Length 95th (m)	0.1	0.2	1.0	1.0
Control Delay (s)	0.1	0.2	15.2	15.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.2	15.2	15.7
Approach LOS			C	C

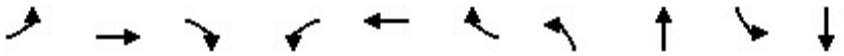
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	360	1	9	482	1	6	0	23	1	1	1
Future Volume (Veh/h)	2	360	1	9	482	1	6	0	23	1	1	1
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)	2	379	1	9	507	1	6	0	24	1	1	1
Pedestrians		1			2			75			47	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			7			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	555			455			986	1032	456	982	1032	556
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	380			455			891	945	456	886	945	380
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	100	96	99	99	100
cM capacity (veh/h)	962			1042			189	197	567	188	197	542

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	382	517	30	3
Volume Left	2	9	6	1
Volume Right	1	1	24	1
cSH	962	1042	405	245
Volume to Capacity	0.00	0.01	0.07	0.01
Queue Length 95th (m)	0.0	0.2	1.8	0.3
Control Delay (s)	0.1	0.3	14.6	19.8
Lane LOS	A	A	B	C
Approach Delay (s)	0.1	0.3	14.6	19.8
Approach LOS			B	C

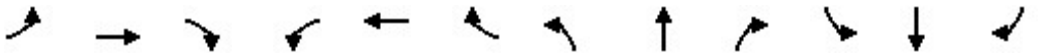
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	52.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	89	235	57	100	282	180	84	656	189	917
v/c Ratio	0.51	0.68	0.20	0.38	0.73	0.49	0.37	0.57	0.62	0.73
Control Delay	41.1	48.4	1.6	36.5	49.1	9.2	18.6	28.9	26.2	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	48.4	1.6	36.5	49.1	9.2	18.6	28.9	26.2	32.3
Queue Length 50th (m)	14.8	45.0	0.0	16.8	56.2	0.0	8.3	56.5	20.5	87.2
Queue Length 95th (m)	27.2	68.9	0.0	28.3	78.8	16.7	19.2	85.8	#46.7	#147.7
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	196	562	380	291	556	456	252	1147	304	1258
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	0.45	0.42	0.15	0.34	0.51	0.39	0.33	0.57	0.62	0.73

Intersection Summary

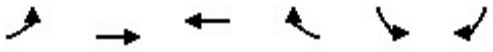
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	233	56	99	279	178	83	570	79	187	784	124
Future Volume (vph)	88	233	56	99	279	178	83	570	79	187	784	124
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.87	1.00	0.97		1.00	0.98	
Flpb, ped/bikes	0.99	1.00	1.00	0.92	1.00	1.00	0.99	1.00		0.98	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1334	1546	820	1207	1531	941	1319	2775		1327	2818	
Flt Permitted	0.25	1.00	1.00	0.61	1.00	1.00	0.22	1.00		0.30	1.00	
Satd. Flow (perm)	349	1546	820	778	1531	941	302	2775		420	2818	
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)	89	235	57	100	282	180	84	576	80	189	792	125
RTOR Reduction (vph)	0	0	44	0	0	135	0	8	0	0	9	0
Lane Group Flow (vph)	89	235	13	100	282	45	84	648	0	189	908	0
Confl. Peds. (#/hr)	99		155	155		99	70		110	110		70
Heavy Vehicles (%)	1%	1%	7%	4%	2%	1%	3%	2%	1%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	24.8	24.8	24.8	31.3	27.8	27.8	51.5	44.5		57.5	47.5	
Effective Green, g (s)	24.8	24.8	24.8	31.3	27.8	27.8	51.5	44.5		57.5	47.5	
Actuated g/C Ratio	0.23	0.23	0.23	0.28	0.25	0.25	0.47	0.40		0.52	0.43	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	156	348	184	267	386	237	206	1122		302	1216	
v/s Ratio Prot	0.04	c0.15		0.04	c0.18		0.03	0.23		c0.06	c0.32	
v/s Ratio Perm	0.08		0.02	0.07		0.05	0.16			0.27		
v/c Ratio	0.57	0.68	0.07	0.37	0.73	0.19	0.41	0.58		0.63	0.75	
Uniform Delay, d1	36.0	38.9	33.5	32.3	37.7	32.3	17.6	25.4		15.6	26.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.1	4.3	0.1	0.6	6.2	0.2	1.0	2.2		3.5	4.2	
Delay (s)	40.1	43.2	33.6	32.9	43.9	32.5	18.6	27.6		19.1	30.4	
Level of Service	D	D	C	C	D	C	B	C		B	C	
Approach Delay (s)		41.0			38.3			26.6			28.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	15	5	0	4	9
Future Volume (Veh/h)	6	15	5	0	4	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Hourly flow rate (vph)	11	26	9	0	7	16
Pedestrians		1	6		4	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	13				67	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	13				67	14
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1508				928	1067

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	37	9	23
Volume Left	11	0	7
Volume Right	0	0	16
cSH	1508	1700	1021
Volume to Capacity	0.01	0.01	0.02
Queue Length 95th (m)	0.2	0.0	0.5
Control Delay (s)	2.2	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	8.6
Approach LOS			A

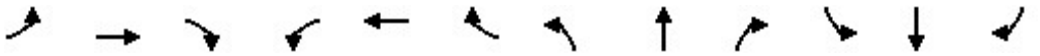
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	8	2	16	5	3
Future Volume (Veh/h)	9	8	2	16	5	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	13	11	3	23	7	4
Pedestrians	6			6		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	1			1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	44	21	17			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44	21	17			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	965	1051	1605			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	24	26	11
Volume Left	13	3	0
Volume Right	11	0	4
cSH	1002	1605	1700
Volume to Capacity	0.02	0.00	0.01
Queue Length 95th (m)	0.6	0.0	0.0
Control Delay (s)	8.7	0.8	0.0
Lane LOS	A	A	
Approach Delay (s)	8.7	0.8	0.0
Approach LOS	A		

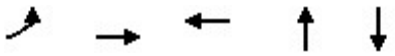
Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	77	1	3	77	3	3	11	8	7	6	1
Future Volume (Veh/h)	1	77	1	3	77	3	3	11	8	7	6	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	1	92	1	4	92	4	4	13	10	8	7	1
Pedestrians					26			18			4	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					2			2			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	100			111			219	220	136	243	219	98
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	100			111			219	220	136	243	219	98
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	98	99	99	99	100
cM capacity (veh/h)	1500			1468			711	651	882	666	667	960

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	94	100	27	16
Volume Left	1	4	4	8
Volume Right	1	4	10	1
cSH	1500	1468	731	680
Volume to Capacity	0.00	0.00	0.04	0.02
Queue Length 95th (m)	0.0	0.1	0.9	0.5
Control Delay (s)	0.1	0.3	10.1	10.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.3	10.1	10.4
Approach LOS			B	B

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	25.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	8	82	230	681	957
v/c Ratio	0.05	0.28	0.66	0.49	0.74
Control Delay	17.9	16.9	20.1	11.8	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	16.9	20.1	11.8	18.0
Queue Length 50th (m)	0.7	5.4	10.7	30.0	53.2
Queue Length 95th (m)	3.6	14.8	30.5	44.9	#91.8
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	213	386	425	1387	1287
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.21	0.54	0.49	0.74

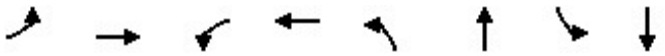
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	55	23	30	53	135	11	610	26	57	833	19
Future Volume (vph)	8	55	23	30	53	135	11	610	26	57	833	19
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.98			0.96			0.99			1.00	
Flpb, ped/bikes	0.96	1.00			0.99			1.00			1.00	
Frt	1.00	0.96			0.92			0.99			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1163	1217			1185			2610			2624	
Flt Permitted	0.57	1.00			0.94			0.93			0.86	
Satd. Flow (perm)	703	1217			1123			2437			2263	
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)	8	58	24	32	56	142	12	642	27	60	877	20
RTOR Reduction (vph)	0	19	0	0	93	0	0	3	0	0	2	0
Lane Group Flow (vph)	8	63	0	0	137	0	0	678	0	0	955	0
Confl. Peds. (#/hr)	60		75	75		60	44		72	72		44
Heavy Vehicles (%)	13%	2%	0%	7%	4%	2%	0%	2%	0%	9%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	15.8	15.8			15.8			39.2			39.2	
Effective Green, g (s)	15.8	15.8			15.8			39.2			39.2	
Actuated g/C Ratio	0.23	0.23			0.23			0.57			0.57	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	160	278			257			1384			1285	
v/s Ratio Prot		0.05										
v/s Ratio Perm	0.01				c0.12			0.28			c0.42	
v/c Ratio	0.05	0.23			0.53			0.49			0.74	
Uniform Delay, d1	20.7	21.6			23.4			8.9			11.1	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.2			1.2			1.2			3.9	
Delay (s)	20.8	21.8			24.5			10.2			15.1	
Level of Service	C	C			C			B			B	
Approach Delay (s)		21.7			24.5			10.2			15.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	164	78	301	81	750	340	588
v/c Ratio	0.22	0.50	0.33	0.93	0.43	0.69	0.92	0.36
Control Delay	29.9	31.5	30.8	61.2	31.5	27.7	46.2	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	31.5	30.8	61.2	31.5	27.7	46.2	11.5
Queue Length 50th (m)	4.3	22.3	11.0	41.4	11.1	58.8	30.9	28.5
Queue Length 95th (m)	11.8	41.6	23.4	#89.5	25.9	80.2	#83.7	39.7
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	154	355	257	345	190	1090	368	1620
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.46	0.30	0.87	0.43	0.69	0.92	0.36

Intersection Summary

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

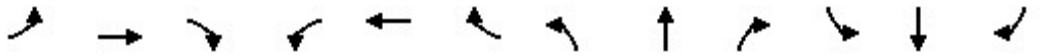
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	118	30	70	119	152	73	547	128	306	475	54
Future Volume (vph)	28	118	30	70	119	152	73	547	128	306	475	54
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.86		1.00	0.96		1.00	0.96	
Flpb, ped/bikes	0.86	1.00		0.93	1.00		0.84	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.92		1.00	0.97		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)	1174	1173		1271	1007		1078	2744		1323	2783	
Flt Permitted	0.42	1.00		0.65	1.00		0.43	1.00		0.25	1.00	
Satd. Flow (perm)	525	1173		874	1007		488	2744		354	2783	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	31	131	33	78	132	169	81	608	142	340	528	60
RTOR Reduction (vph)	0	10	0	0	50	0	0	21	0	0	9	0
Lane Group Flow (vph)	31	154	0	78	251	0	81	729	0	340	579	0
Confl. Peds. (#/hr)	239		86	86		239	202		187	187		202
Heavy Vehicles (%)	0%	2%	28%	0%	4%	3%	6%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.0	26.0		26.0	26.0		37.0	37.0		55.0	55.0	
Effective Green, g (s)	26.0	26.0		26.0	26.0		37.0	37.0		55.0	55.0	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.39	0.39		0.58	0.58	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	143	321		239	275		190	1068		357	1611	
v/s Ratio Prot		0.13			c0.25			0.27		c0.15	0.21	
v/s Ratio Perm	0.06			0.09			0.17			c0.40		
v/c Ratio	0.22	0.48		0.33	0.91		0.43	0.68		0.95	0.36	
Uniform Delay, d1	26.6	28.8		27.5	33.4		21.2	24.1		13.7	10.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.7		0.5	31.9		6.9	3.5		35.0	0.6	
Delay (s)	27.1	29.5		28.0	65.3		28.1	27.7		48.8	11.3	
Level of Service	C	C		C	E		C	C		D	B	
Approach Delay (s)		29.1			57.7			27.7			25.0	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	77	153	22	645	145	426
v/c Ratio	0.24	0.41	0.50	0.05	0.45	0.38	0.25
Control Delay	18.8	36.2	10.7	7.9	19.2	10.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	36.2	10.7	7.9	19.2	10.5	12.4
Queue Length 50th (m)	4.6	11.6	0.0	1.5	43.1	10.6	19.2
Queue Length 95th (m)	14.9	24.9	16.0	4.3	63.0	19.1	34.7
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	337	241	355	532	1419	437	1679
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.32	0.43	0.04	0.45	0.33	0.25

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	9	28	40	31	141	20	566	28	133	378	14
Future Volume (vph)	21	9	28	40	31	141	20	566	28	133	378	14
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.95			1.00	0.76	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		0.92			0.95	1.00	0.94	1.00		0.98	1.00	
Frt		0.94			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1139			937	809	1287	2893		1314	2899	
Flt Permitted		0.88			0.81	1.00	0.50	1.00		0.35	1.00	
Satd. Flow (perm)		1023			780	809	682	2893		479	2899	
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)	23	10	30	43	34	153	22	615	30	145	411	15
RTOR Reduction (vph)	0	23	0	0	0	116	0	3	0	0	2	0
Lane Group Flow (vph)	0	40	0	0	77	37	22	642	0	145	424	0
Confl. Peds. (#/hr)	214		96	96		214	135		106	106		135
Heavy Vehicles (%)	0%	0%	0%	26%	0%	3%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		23.2			23.2	23.2	50.0	47.5		59.8	54.3	
Effective Green, g (s)		23.2			23.2	23.2	50.0	47.5		59.8	54.3	
Actuated g/C Ratio		0.24			0.24	0.24	0.52	0.49		0.62	0.56	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		244			186	193	367	1416		375	1622	
v/s Ratio Prot							0.00	c0.22		c0.04	0.15	
v/s Ratio Perm		0.04			c0.10	0.05	0.03			0.20		
v/c Ratio		0.16			0.41	0.19	0.06	0.45		0.39	0.26	
Uniform Delay, d1		29.2			31.2	29.4	11.6	16.2		8.4	11.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.9	0.3	0.0	1.0		0.4	0.4	
Delay (s)		29.4			32.0	29.7	11.6	17.3		8.8	11.4	
Level of Service		C			C	C	B	B		A	B	
Approach Delay (s)		29.4			30.5			17.1			10.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	79	121	71	102	204	38	155	56	231
v/c Ratio	0.61	0.47	0.25	0.21	0.64	0.18	0.38	0.16	0.41
Control Delay	50.2	25.8	17.2	19.4	13.1	27.8	26.2	14.9	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	25.8	17.2	19.4	13.1	27.8	26.2	14.9	19.5
Queue Length 50th (m)	12.0	12.2	7.1	11.3	0.0	5.1	19.9	5.4	27.5
Queue Length 95th (m)	#27.8	28.5	15.0	21.7	21.3	13.9	40.2	12.2	48.7
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	151	295	297	574	341	213	403	359	568
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	0.52	0.41	0.24	0.18	0.60	0.18	0.38	0.16	0.41

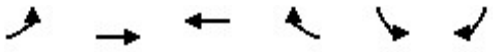
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	70	46	68	98	196	36	112	36	54	195	27
Future Volume (vph)	76	70	46	68	98	196	36	112	36	54	195	27
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.87		1.00	1.00	0.53	1.00	0.91		1.00	0.96	
Flpb, ped/bikes	0.61	1.00		0.86	1.00	1.00	0.80	1.00		0.84	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	723	942		1053	1351	526	816	970		969	1108	
Flt Permitted	0.69	1.00		0.60	1.00	1.00	0.61	1.00		0.61	1.00	
Satd. Flow (perm)	526	942		667	1351	526	528	970		621	1108	
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)	79	73	48	71	102	204	38	117	38	56	203	28
RTOR Reduction (vph)	0	26	0	0	0	131	0	11	0	0	4	0
Lane Group Flow (vph)	79	95	0	71	102	73	38	144	0	56	227	0
Confl. Peds. (#/hr)	261		178	178		261	161		606	606		161
Heavy Vehicles (%)	3%	6%	0%	0%	4%	0%	20%	9%	3%	6%	2%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	23.2	23.2		33.8	33.8	33.8	36.9	36.9		47.2	47.2	
Effective Green, g (s)	23.2	23.2		33.8	33.8	33.8	36.9	36.9		47.2	47.2	
Actuated g/C Ratio	0.25	0.25		0.36	0.36	0.36	0.39	0.39		0.50	0.50	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	129	232		271	485	189	207	380		338	556	
v/s Ratio Prot		0.10		0.02	0.08			0.15		0.01	c0.20	
v/s Ratio Perm	c0.15			0.07		c0.14	0.07			0.07		
v/c Ratio	0.61	0.41		0.26	0.21	0.39	0.18	0.38		0.17	0.41	
Uniform Delay, d1	31.4	29.6		20.7	20.9	22.4	18.7	20.4		12.4	14.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.5	1.6		0.7	0.3	1.8	1.9	2.9		0.3	2.2	
Delay (s)	40.9	31.2		21.4	21.2	24.2	20.6	23.2		12.7	16.9	
Level of Service	D	C		C	C	C	C	C		B	B	
Approach Delay (s)		35.1			22.9			22.7			16.0	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

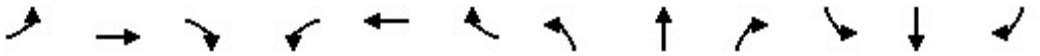
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	160	362	0	0	0
Future Volume (Veh/h)	0	160	362	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	174	393	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	393				480	393
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	393				480	393
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1177				520	612

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	58	116	393	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1177	1700	1700	1700
Volume to Capacity	0.00	0.07	0.23	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS				A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

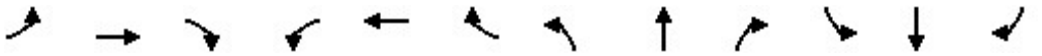
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	516	11	4	417	9	6	1	4	9	6	9
Future Volume (Veh/h)	8	516	11	4	417	9	6	1	4	9	6	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	8	532	11	4	430	9	6	1	4	9	6	9
Pedestrians		13			7			107			52	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			9			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.87						0.87	0.87		0.87	0.87	0.87
vC, conflicting volume	491			650			1128	1160	652	1060	1160	500
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	337			650			1071	1108	652	992	1109	347
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	99	99	94	96	98
cM capacity (veh/h)	1021			856			132	155	425	163	157	573

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	551	443	11	24
Volume Left	8	4	6	9
Volume Right	11	9	4	9
cSH	1021	856	179	220
Volume to Capacity	0.01	0.00	0.06	0.11
Queue Length 95th (m)	0.2	0.1	1.5	2.8
Control Delay (s)	0.2	0.1	26.4	23.4
Lane LOS	A	A	D	C
Approach Delay (s)	0.2	0.1	26.4	23.4
Approach LOS			D	C

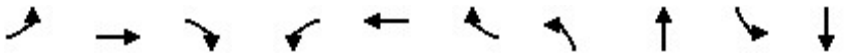
Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	57.2%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	508	23	12	421	2	11	0	40	1	0	0
Future Volume (Veh/h)	1	508	23	12	421	2	11	0	40	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	552	25	13	458	2	12	0	43	1	0	0
Pedestrians		5			17			80			70	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			2			7			6	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	530			657			1136	1202	662	1182	1214	534
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	334			657			1063	1142	662	1117	1156	339
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			91	100	90	99	100	100
cM capacity (veh/h)	965			874			139	144	426	115	141	550

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	578	473	55	1
Volume Left	1	13	12	1
Volume Right	25	2	43	0
cSH	965	874	294	115
Volume to Capacity	0.00	0.01	0.19	0.01
Queue Length 95th (m)	0.0	0.3	5.1	0.2
Control Delay (s)	0.0	0.4	20.1	36.7
Lane LOS	A	A	C	E
Approach Delay (s)	0.0	0.4	20.1	36.7
Approach LOS			C	E

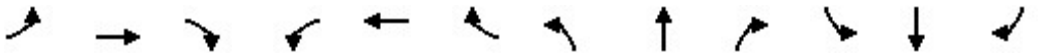
Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	57.0%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	126	333	107	114	284	292	96	693	193	846
v/c Ratio	0.67	0.82	0.37	0.50	0.76	0.71	0.41	0.66	0.69	0.73
Control Delay	46.0	54.0	6.7	42.9	51.5	14.2	19.8	31.8	30.8	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	54.0	6.7	42.9	51.5	14.2	19.8	31.8	30.8	33.5
Queue Length 50th (m)	21.2	68.0	0.0	19.4	56.6	0.0	10.0	63.0	21.6	80.6
Queue Length 95th (m)	32.7	90.2	8.3	31.8	79.5	28.2	21.5	93.5	#52.4	#129.7
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	199	562	351	265	562	469	253	1054	281	1165
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	0.63	0.59	0.30	0.43	0.51	0.62	0.38	0.66	0.69	0.73

Intersection Summary

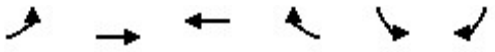
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	320	103	109	273	280	92	573	92	185	731	82
Future Volume (vph)	121	320	103	109	273	280	92	573	92	185	731	82
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.71	1.00	1.00	0.72	1.00	0.94		1.00	0.98	
Flpb, ped/bikes	0.97	1.00	1.00	0.90	1.00	1.00	0.99	1.00		0.97	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1331	1546	742	1177	1546	781	1316	2648		1322	2841	
Flt Permitted	0.22	1.00	1.00	0.56	1.00	1.00	0.23	1.00		0.29	1.00	
Satd. Flow (perm)	311	1546	742	694	1546	781	320	2648		397	2841	
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)	126	333	107	114	284	292	96	597	96	193	761	85
RTOR Reduction (vph)	0	0	79	0	0	221	0	10	0	0	6	0
Lane Group Flow (vph)	126	333	28	114	284	71	96	683	0	193	840	0
Confl. Peds. (#/hr)	223		230	230		223	84		216	216		84
Heavy Vehicles (%)	0%	1%	5%	5%	1%	1%	3%	3%	2%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	28.9	28.9	28.9	30.2	26.7	26.7	51.9	43.4		54.9	44.9	
Effective Green, g (s)	28.9	28.9	28.9	30.2	26.7	26.7	51.9	43.4		54.9	44.9	
Actuated g/C Ratio	0.26	0.26	0.26	0.27	0.24	0.24	0.47	0.39		0.50	0.41	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	182	406	194	228	375	189	227	1044		282	1159	
v/s Ratio Prot	0.07	c0.22		0.04	c0.18		0.03	0.26		c0.06	c0.30	
v/s Ratio Perm	0.11		0.04	0.10		0.09	0.17			0.28		
v/c Ratio	0.69	0.82	0.14	0.50	0.76	0.38	0.42	0.65		0.68	0.72	
Uniform Delay, d1	33.8	38.1	31.1	34.6	38.6	34.7	17.6	27.2		17.2	27.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.0	12.0	0.2	1.3	7.8	0.6	0.9	3.2		6.2	4.0	
Delay (s)	43.8	50.1	31.3	35.9	46.4	35.3	18.5	30.4		23.3	31.3	
Level of Service	D	D	C	D	D	D	B	C		C	C	
Approach Delay (s)		45.2			40.0			28.9			29.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	20	17	2	11	8
Future Volume (Veh/h)	1	20	17	2	11	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	2	30	26	3	17	12
Pedestrians			5		12	
Lane Width (m)			3.5		3.5	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	41				78	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	41				78	40
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1461				914	1027

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	32	29	29
Volume Left	2	0	17
Volume Right	0	3	12
cSH	1461	1700	957
Volume to Capacity	0.00	0.02	0.03
Queue Length 95th (m)	0.0	0.0	0.7
Control Delay (s)	0.5	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	0.5	0.0	8.9
Approach LOS			A

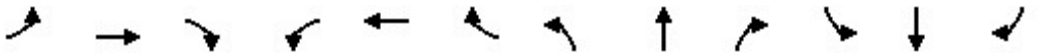
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	24	15	43	30	4
Future Volume (Veh/h)	7	24	15	43	30	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	8	28	18	51	35	5
Pedestrians	3			17		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	0			2		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	128	58	43			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	128	58	43			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	97	99			
cM capacity (veh/h)	860	996	1575			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	36	69	40
Volume Left	8	18	0
Volume Right	28	0	5
cSH	962	1575	1700
Volume to Capacity	0.04	0.01	0.02
Queue Length 95th (m)	0.9	0.3	0.0
Control Delay (s)	8.9	2.0	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	2.0	0.0
Approach LOS	A		

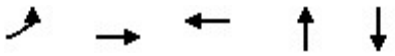
Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	26.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	158	7	9	120	19	6	15	11	27	20	6
Future Volume (Veh/h)	7	158	7	9	120	19	6	15	11	27	20	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	172	8	10	130	21	7	16	12	29	22	7
Pedestrians					15			63			33	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					1			6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	184			243			434	459	254	420	452	174
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	184			243			434	459	254	420	452	174
tC, single (s)	4.1			4.4			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	99			99			98	96	98	94	95	99
cM capacity (veh/h)	1362			1097			424	453	716	458	457	850

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	188	161	35	58
Volume Left	8	10	7	29
Volume Right	8	21	12	7
cSH	1362	1097	510	485
Volume to Capacity	0.01	0.01	0.07	0.12
Queue Length 95th (m)	0.1	0.2	1.7	3.1
Control Delay (s)	0.4	0.6	12.6	13.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.4	0.6	12.6	13.4
Approach LOS			B	B

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	30.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	21	188	339	766	906
v/c Ratio	0.11	0.51	0.94	0.67	0.99
Control Delay	19.0	22.7	56.3	16.0	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	22.7	56.3	16.0	48.8
Queue Length 50th (m)	1.9	16.6	33.6	35.6	~62.4
Queue Length 95th (m)	6.7	34.4	#80.1	54.7	#101.5
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	207	386	377	1149	911
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.49	0.90	0.67	0.99

Intersection Summary

~ 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.

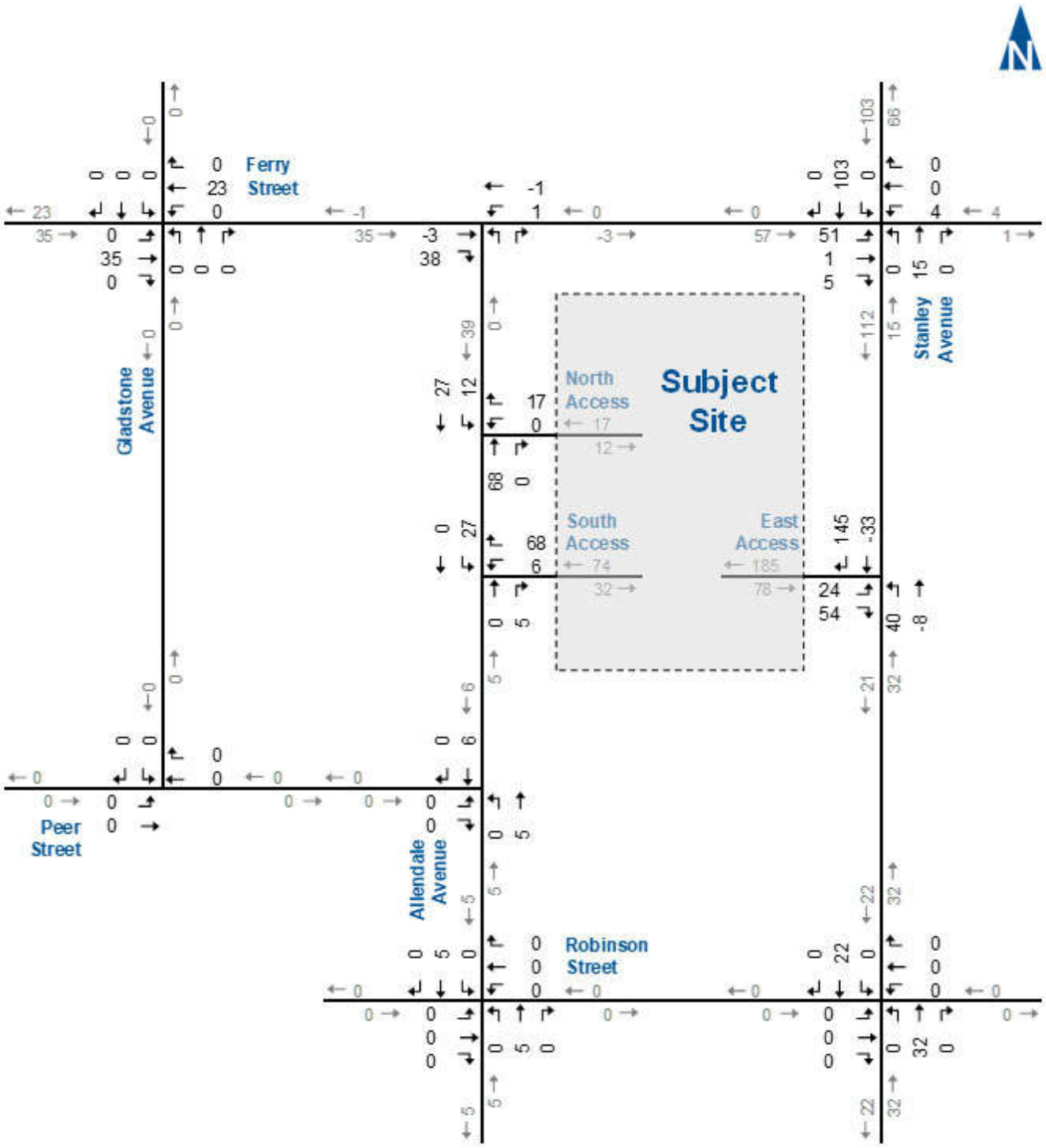
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	133	46	70	97	155	26	607	95	114	720	27
Future Volume (vph)	20	133	46	70	97	155	26	607	95	114	720	27
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.97			0.97			0.97			0.99	
Flpb, ped/bikes	0.97	1.00			0.98			1.00			0.99	
Frt	1.00	0.96			0.94			0.98			1.00	
Flt Protected	0.95	1.00			0.99			1.00			0.99	
Satd. Flow (prot)	1329	1212			1229			2475			2561	
Flt Permitted	0.49	1.00			0.87			0.90			0.69	
Satd. Flow (perm)	681	1212			1082			2226			1787	
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)	21	140	48	74	102	163	27	639	100	120	758	28
RTOR Reduction (vph)	0	19	0	0	49	0	0	17	0	0	3	0
Lane Group Flow (vph)	21	169	0	0	290	0	0	749	0	0	903	0
Confl. Peds. (#/hr)	53		123	123		53	90		152	152		90
Heavy Vehicles (%)	0%	2%	0%	1%	2%	1%	4%	3%	0%	4%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.9	19.9			19.9			35.1			35.1	
Effective Green, g (s)	19.9	19.9			19.9			35.1			35.1	
Actuated g/C Ratio	0.29	0.29			0.29			0.51			0.51	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	196	349			312			1132			909	
v/s Ratio Prot		0.14										
v/s Ratio Perm	0.03				c0.27			0.34			c0.51	
v/c Ratio	0.11	0.49			0.93			0.66			0.99	
Uniform Delay, d1	18.0	20.3			23.9			12.6			16.8	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.5			32.3			3.1			28.3	
Delay (s)	18.1	20.8			56.2			15.6			45.2	
Level of Service	B	C			E			B			D	
Approach Delay (s)		20.5			56.2			15.6			45.2	
Approach LOS		C			E			B			D	

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	127.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Appendix E

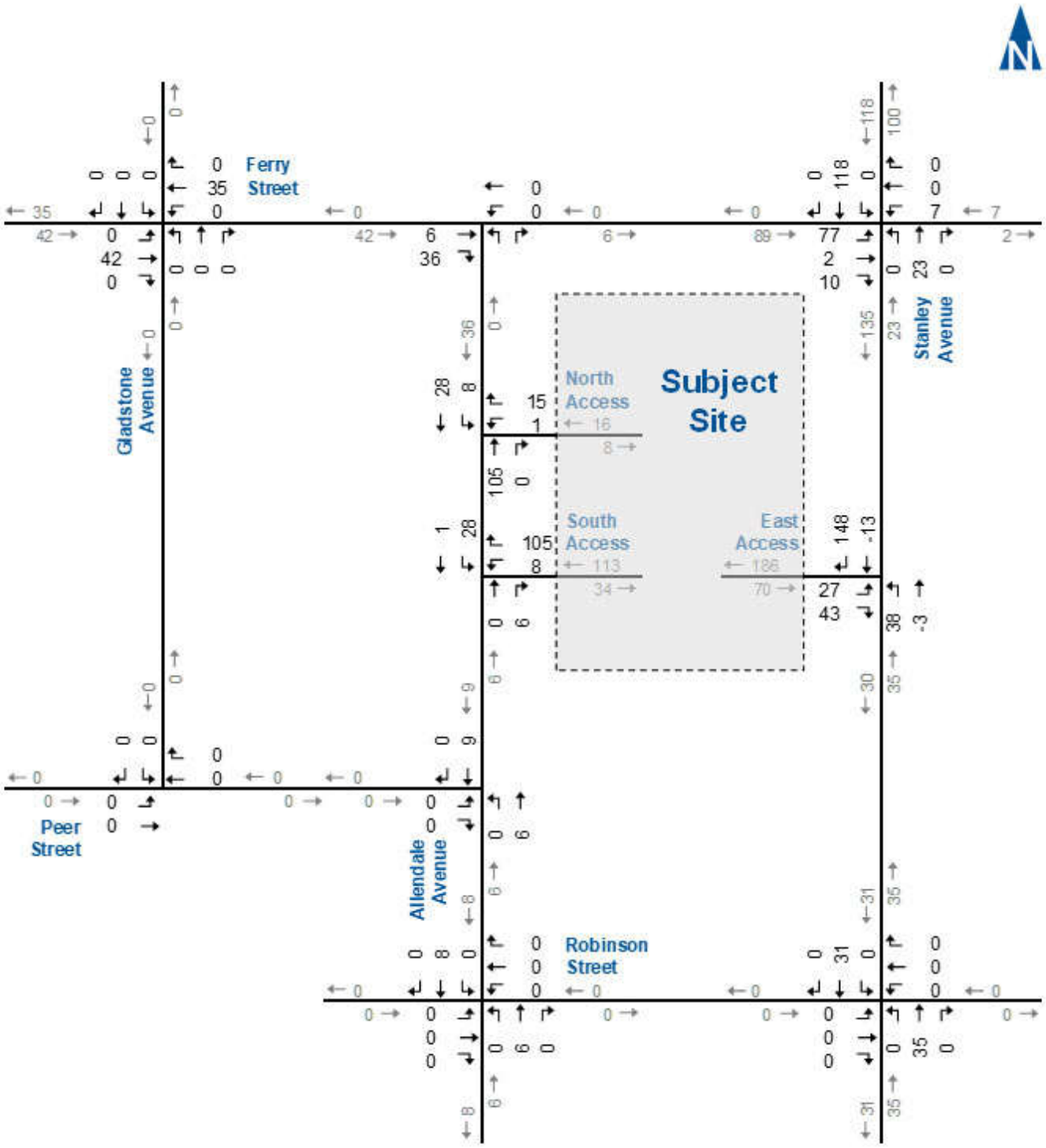
Future Background Development Excerpts



Site Generated Traffic Volumes
Weekday PM Peak Hour

5528 Ferry Street
220132

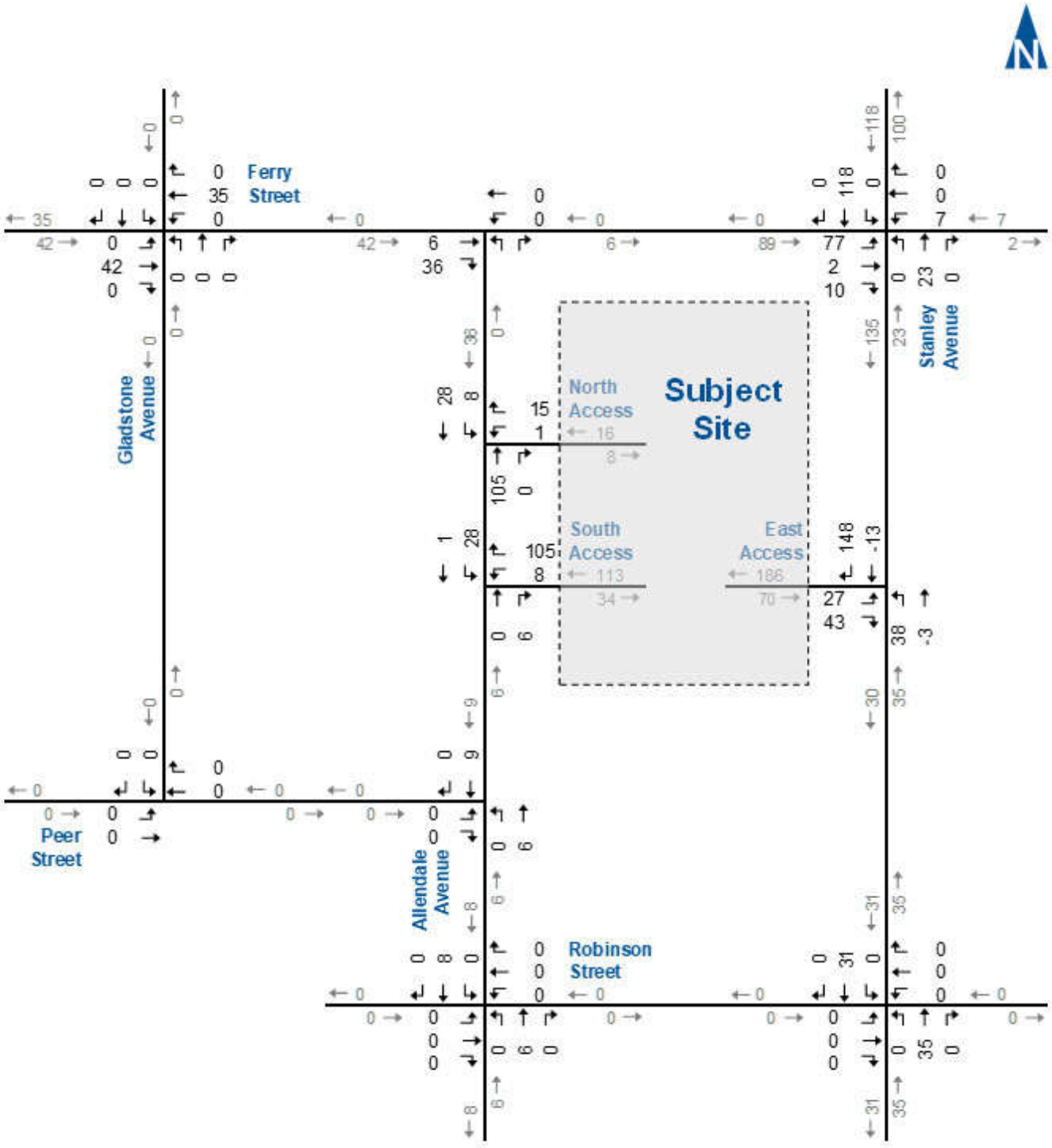
Figure 3.2B



Site Generated Traffic Volumes
Weekend MD Peak Hour

5528 Ferry Street
220132

Figure 3.2C



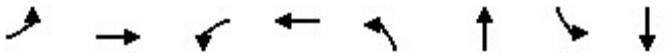
Site Generated Traffic Volumes
Weekend PM Peak Hour

5528 Ferry Street
220132

Figure 3.2D

Appendix F

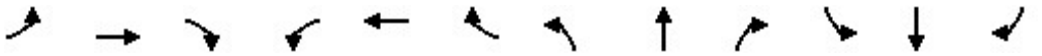
2028 Future Background Conditions Synchro Report



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	84	179	87	339	68	787	330	888
v/c Ratio	0.63	0.54	0.40	0.95	0.44	0.73	0.93	0.54
Control Delay	52.3	32.9	33.2	65.0	34.2	29.3	48.7	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	32.9	33.2	65.0	34.2	29.3	48.7	14.2
Queue Length 50th (m)	13.1	24.9	12.6	48.2	9.3	62.9	31.1	50.6
Queue Length 95th (m)	#34.1	45.7	26.5	#101.0	23.7	85.4	#83.3	67.4
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	140	348	231	369	154	1076	355	1654
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	0.60	0.51	0.38	0.92	0.44	0.73	0.93	0.54

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	134	34	82	132	187	64	600	140	310	791	44
Future Volume (vph)	79	134	34	82	132	187	64	600	140	310	791	44
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
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	0.91		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	0.92	1.00		0.88	1.00		0.95	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1220	1150		1186	1071		1201	2760		1331	2886	
Flt Permitted	0.37	1.00		0.63	1.00		0.32	1.00		0.23	1.00	
Satd. Flow (perm)	478	1150		788	1071		405	2760		325	2886	
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)	84	143	36	87	140	199	68	638	149	330	841	47
RTOR Reduction (vph)	0	10	0	0	55	0	0	21	0	0	4	0
Lane Group Flow (vph)	84	169	0	87	284	0	68	766	0	330	884	0
Confl. Peds. (#/hr)	149		157	157		149	95		112	112		95
Heavy Vehicles (%)	3%	5%	19%	1%	2%	2%	8%	2%	1%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.7	26.7		26.7	26.7		36.3	36.3		54.3	54.3	
Effective Green, g (s)	26.7	26.7		26.7	26.7		36.3	36.3		54.3	54.3	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.38	0.38		0.57	0.57	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	134	323		221	301		154	1054		344	1649	
v/s Ratio Prot		0.15			c0.27			0.28		c0.15	0.31	
v/s Ratio Perm	0.18			0.11			0.17			c0.40		
v/c Ratio	0.63	0.52		0.39	0.94		0.44	0.73		0.96	0.54	
Uniform Delay, d1	29.8	28.8		27.6	33.4		21.8	25.1		14.8	12.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.2	1.0		0.7	37.0		8.9	4.4		37.2	1.3	
Delay (s)	37.0	29.8		28.3	70.4		30.7	29.5		52.1	13.8	
Level of Service	D	C		C	E		C	C		D	B	
Approach Delay (s)		32.1			61.8			29.6			24.2	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	347	378	230	19	559	254	703
v/c Ratio	1.78	1.59	0.53	0.06	0.51	0.64	0.50
Control Delay	395.4	311.1	8.4	9.6	25.2	18.0	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	395.4	311.1	8.4	9.6	25.2	18.0	17.5
Queue Length 50th (m)	~97.6	~101.7	0.0	1.4	42.0	22.5	38.4
Queue Length 95th (m)	#149.0	#153.6	18.1	4.2	58.0	36.3	64.0
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	195	238	437	426	1101	418	1416
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	1.78	1.59	0.53	0.04	0.51	0.61	0.50

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	138	51	120	216	205	17	476	21	226	534	92
Future Volume (vph)	120	138	51	120	216	205	17	476	21	226	534	92
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			1.00	0.86	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.98			0.99	1.00	0.97	1.00		0.98	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1307			1061	902	1331	2875		1331	2764	
Flt Permitted		0.46			0.71	1.00	0.38	1.00		0.36	1.00	
Satd. Flow (perm)		608			770	902	538	2875		500	2764	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	135	155	57	135	243	230	19	535	24	254	600	103
RTOR Reduction (vph)	0	8	0	0	0	159	0	3	0	0	11	0
Lane Group Flow (vph)	0	339	0	0	378	71	19	556	0	254	692	0
Confl. Peds. (#/hr)	123		71	71		123	121		74	74		121
Heavy Vehicles (%)	0%	0%	0%	18%	0%	4%	0%	2%	0%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		30.0			30.0	30.0	39.5	37.0		53.0	47.5	
Effective Green, g (s)		30.0			30.0	30.0	39.5	37.0		53.0	47.5	
Actuated g/C Ratio		0.31			0.31	0.31	0.41	0.38		0.55	0.49	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		188			238	278	239	1096		384	1353	
v/s Ratio Prot							0.00	0.19		c0.09	0.25	
v/s Ratio Perm		c0.56			0.49	0.08	0.03			c0.27		
v/c Ratio		1.81			1.59	0.26	0.08	0.51		0.66	0.51	
Uniform Delay, d1		33.5			33.5	25.1	17.3	23.0		12.9	16.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		382.7			283.8	0.3	0.1	1.7		3.6	1.4	
Delay (s)		416.2			317.3	25.4	17.4	24.7		16.5	18.2	
Level of Service		F			F	C	B	C		B	B	
Approach Delay (s)		416.2			206.9			24.4			17.8	
Approach LOS		F			F			C			B	

Intersection Summary			
HCM 2000 Control Delay	121.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	89	345	100	372	225	33	249	129	197
v/c Ratio	0.50	0.97	0.36	0.65	0.56	0.23	0.75	0.46	0.41
Control Delay	40.1	74.6	18.8	27.9	8.5	30.1	44.2	20.5	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	74.6	18.8	27.9	8.5	30.1	44.2	20.5	20.7
Queue Length 50th (m)	13.6	~67.8	10.2	52.0	0.0	4.5	39.1	13.4	22.7
Queue Length 95th (m)	#31.1	#118.4	19.8	82.0	17.6	12.4	#74.8	24.7	40.5
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	177	357	281	574	404	144	334	285	475
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	0.97	0.36	0.65	0.56	0.23	0.75	0.45	0.41

Intersection Summary

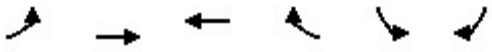
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	255	52	89	331	200	29	189	33	115	154	21
Future Volume (vph)	79	255	52	89	331	200	29	189	33	115	154	21
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.67	1.00	0.95		1.00	0.96	
Flpb, ped/bikes	0.81	1.00		0.97	1.00	1.00	0.78	1.00		0.91	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	987	1107		1198	1351	646	719	1086		1044	1078	
Flt Permitted	0.54	1.00		0.35	1.00	1.00	0.63	1.00		0.46	1.00	
Satd. Flow (perm)	561	1107		447	1351	646	480	1086		511	1078	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	89	287	58	100	372	225	33	212	37	129	173	24
RTOR Reduction (vph)	0	8	0	0	0	128	0	7	0	0	5	0
Lane Group Flow (vph)	89	337	0	100	372	97	33	242	0	129	192	0
Confl. Peds. (#/hr)	182		95	95		182	168		483	483		168
Heavy Vehicles (%)	1%	2%	0%	0%	4%	2%	33%	2%	0%	7%	5%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	29.7	29.7		40.6	40.6	40.6	27.8	27.8		40.4	40.4	
Effective Green, g (s)	29.7	29.7		40.6	40.6	40.6	27.8	27.8		40.4	40.4	
Actuated g/C Ratio	0.32	0.32		0.43	0.43	0.43	0.30	0.30		0.43	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	177	349		256	583	279	141	321		274	463	
v/s Ratio Prot		c0.30		0.03	c0.28			c0.22		c0.05	0.18	
v/s Ratio Perm	0.16			0.14		0.15	0.07			0.15		
v/c Ratio	0.50	0.97		0.39	0.64	0.35	0.23	0.75		0.47	0.41	
Uniform Delay, d1	26.1	31.7		17.4	20.9	17.9	25.0	30.0		17.8	18.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	39.2		1.3	2.6	1.0	3.9	15.1		1.7	2.7	
Delay (s)	29.2	70.9		18.8	23.5	18.9	28.9	45.1		19.5	21.3	
Level of Service	C	E		B	C	B	C	D		B	C	
Approach Delay (s)		62.3			21.3			43.2			20.6	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

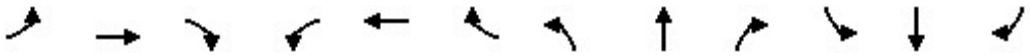
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	211	192	408	18	13	212
Future Volume (Veh/h)	211	192	408	18	13	212
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	229	209	443	20	14	230
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	463				1016	453
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	463				1016	453
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	79				93	59
cM capacity (veh/h)	1109				189	559

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	299	139	463	244
Volume Left	229	0	0	14
Volume Right	0	0	20	230
cSH	1109	1700	1700	503
Volume to Capacity	0.21	0.08	0.27	0.49
Queue Length 95th (m)	5.9	0.0	0.0	19.9
Control Delay (s)	7.4	0.0	0.0	18.7
Lane LOS	A			C
Approach Delay (s)	5.1		0.0	18.7
Approach LOS				C

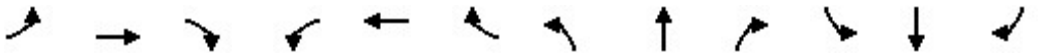
Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	399	9	9	510	11	4	0	11	4	1	10
Future Volume (Veh/h)	3	399	9	9	510	11	4	0	11	4	1	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	3	429	10	10	548	12	4	0	12	4	1	11
Pedestrians		5						68			37	
Lane Width (m)		3.5						3.5			3.5	
Walking Speed (m/s)		1.1						1.1			1.1	
Percent Blockage		0						6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.85						0.85	0.85		0.85	0.85	0.85
vC, conflicting volume	597			507			1098	1125	502	1063	1124	596
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	437			507			1027	1059	502	986	1057	436
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	100	98	98	99	98
cM capacity (veh/h)	931			1004			152	173	539	169	173	511

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	442	570	16	16
Volume Left	3	10	4	4
Volume Right	10	12	12	11
cSH	931	1004	329	314
Volume to Capacity	0.00	0.01	0.05	0.05
Queue Length 95th (m)	0.1	0.2	1.2	1.2
Control Delay (s)	0.1	0.3	16.5	17.1
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	16.5	17.1
Approach LOS			C	C

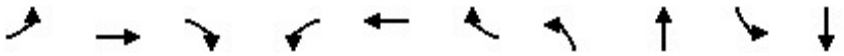
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	56.0%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	372	39	11	500	1	31	0	84	1	1	1
Future Volume (Veh/h)	2	372	39	11	500	1	31	0	84	1	1	1
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)	2	392	41	12	526	1	33	0	88	1	1	1
Pedestrians		1			2			75			47	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			7			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	574			508			1044	1090	490	1104	1110	574
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	383			508			951	1005	490	1022	1029	384
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			80	100	84	99	99	100
cM capacity (veh/h)	943			997			169	178	543	131	172	531

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	435	539	121	3
Volume Left	2	12	33	1
Volume Right	41	1	88	1
cSH	943	997	339	196
Volume to Capacity	0.00	0.01	0.36	0.02
Queue Length 95th (m)	0.0	0.3	12.0	0.4
Control Delay (s)	0.1	0.3	21.4	23.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	21.4	23.7
Approach LOS			C	C

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	63.4%	ICU Level of Service	B	
Analysis Period (min)	15			

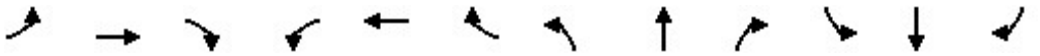


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	144	245	64	108	293	187	88	860	197	1261
v/c Ratio	0.72	0.70	0.22	0.40	0.78	0.50	0.56	0.79	0.84	1.05
Control Delay	53.3	49.1	1.8	37.1	52.7	9.3	31.9	37.3	48.6	74.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	49.1	1.8	37.1	52.7	9.3	31.9	37.3	48.6	74.7
Queue Length 50th (m)	25.0	47.4	0.0	18.3	58.9	0.0	9.1	84.4	22.2	~163.6
Queue Length 95th (m)	#42.6	70.9	0.0	29.8	81.3	16.9	23.8	#137.7	#65.0	#235.2
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	205	562	380	272	556	461	175	1091	235	1197
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	0.70	0.44	0.17	0.40	0.53	0.41	0.50	0.79	0.84	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

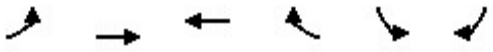
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	243	63	107	290	185	87	769	82	195	1120	129
Future Volume (vph)	143	243	63	107	290	185	87	769	82	195	1120	129
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.87	1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.98	1.00	1.00	0.92	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1331	1546	820	1210	1531	941	1326	2803		1344	2847	
Flt Permitted	0.29	1.00	1.00	0.61	1.00	1.00	0.09	1.00		0.19	1.00	
Satd. Flow (perm)	409	1546	820	773	1531	941	131	2803		271	2847	
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)	144	245	64	108	293	187	88	777	83	197	1131	130
RTOR Reduction (vph)	0	0	49	0	0	141	0	6	0	0	6	0
Lane Group Flow (vph)	144	245	15	108	293	46	88	854	0	197	1255	0
Confl. Peds. (#/hr)	99		155	155		99	70		110	110		70
Heavy Vehicles (%)	1%	1%	7%	4%	2%	1%	3%	2%	1%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.1	25.1	25.1	30.5	27.0	27.0	49.8	42.6		55.4	45.4	
Effective Green, g (s)	25.1	25.1	25.1	30.5	27.0	27.0	49.8	42.6		55.4	45.4	
Actuated g/C Ratio	0.23	0.23	0.23	0.28	0.25	0.25	0.45	0.39		0.50	0.41	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	188	352	187	267	375	230	137	1085		234	1175	
v/s Ratio Prot	c0.08	0.16		0.05	c0.19		0.04	0.30		c0.08	c0.44	
v/s Ratio Perm	0.09		0.02	0.06		0.05	0.25			0.35		
v/c Ratio	0.77	0.70	0.08	0.40	0.78	0.20	0.64	0.79		0.84	1.07	
Uniform Delay, d1	37.2	38.9	33.4	33.4	38.7	32.9	22.4	29.7		18.7	32.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.2	5.0	0.1	0.7	9.6	0.2	8.8	5.8		22.7	46.3	
Delay (s)	53.4	44.0	33.4	34.1	48.3	33.1	31.1	35.5		41.4	78.6	
Level of Service	D	D	C	C	D	C	C	D		D	E	
Approach Delay (s)		45.5			40.9			35.1			73.6	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	53.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	15	5	0	4	10
Future Volume (Veh/h)	6	15	5	0	4	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Hourly flow rate (vph)	11	26	9	0	7	18
Pedestrians		1	6		4	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	13				67	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	13				67	14
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	99				99	98
cM capacity (veh/h)	1508				928	1067

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	37	9	25
Volume Left	11	0	7
Volume Right	0	0	18
cSH	1508	1700	1024
Volume to Capacity	0.01	0.01	0.02
Queue Length 95th (m)	0.2	0.0	0.6
Control Delay (s)	2.2	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	8.6
Approach LOS			A

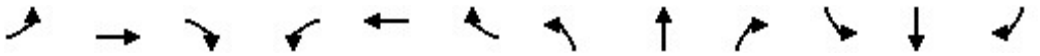
Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	9	2	21	11	3
Future Volume (Veh/h)	10	9	2	21	11	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	14	13	3	30	16	4
Pedestrians	6			6		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	1			1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	60	30	26			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60	30	26			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	945	1039	1593			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	27	33	20
Volume Left	14	3	0
Volume Right	13	0	4
cSH	988	1593	1700
Volume to Capacity	0.03	0.00	0.01
Queue Length 95th (m)	0.6	0.0	0.0
Control Delay (s)	8.7	0.7	0.0
Lane LOS	A	A	
Approach Delay (s)	8.7	0.7	0.0
Approach LOS	A		

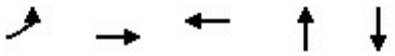
Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	80	1	3	80	3	3	17	9	8	11	1
Future Volume (Veh/h)	1	80	1	3	80	3	3	17	9	8	11	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	1	95	1	4	95	4	4	20	11	10	13	1
Pedestrians					26			18			4	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					2			2			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	103			114			228	226	140	254	225	101
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	103			114			228	226	140	254	225	101
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	97	99	98	98	100
cM capacity (veh/h)	1496			1464			696	646	879	649	662	956

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	97	103	35	24
Volume Left	1	4	4	10
Volume Right	1	4	11	1
cSH	1496	1464	711	665
Volume to Capacity	0.00	0.00	0.05	0.04
Queue Length 95th (m)	0.0	0.1	1.2	0.9
Control Delay (s)	0.1	0.3	10.3	10.6
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.3	10.3	10.6
Approach LOS			B	B

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	25.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	9	85	239	912	1230
v/c Ratio	0.06	0.28	0.75	0.67	0.99
Control Delay	18.0	16.7	31.1	15.2	42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	16.7	31.1	15.2	42.8
Queue Length 50th (m)	0.8	5.6	17.9	46.7	~99.0
Queue Length 95th (m)	3.9	15.3	40.5	69.2	#136.5
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	210	387	390	1363	1246
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.22	0.61	0.67	0.99

Intersection Summary

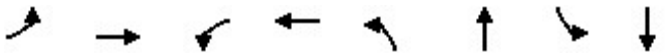
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	57	24	31	55	141	12	827	27	60	1090	19
Future Volume (vph)	9	57	24	31	55	141	12	827	27	60	1090	19
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.98			0.96			1.00			1.00	
Flpb, ped/bikes	0.96	1.00			0.99			1.00			1.00	
Frt	1.00	0.96			0.92			1.00			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1163	1216			1185			2617			2634	
Flt Permitted	0.56	1.00			0.94			0.93			0.84	
Satd. Flow (perm)	691	1216			1123			2431			2221	
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)	9	60	25	33	58	148	13	871	28	63	1147	20
RTOR Reduction (vph)	0	19	0	0	53	0	0	3	0	0	1	0
Lane Group Flow (vph)	9	66	0	0	186	0	0	909	0	0	1229	0
Confl. Peds. (#/hr)	60		75	75		60	44		72	72		44
Heavy Vehicles (%)	13%	2%	0%	7%	4%	2%	0%	2%	0%	9%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.3	16.3			16.3			38.7			38.7	
Effective Green, g (s)	16.3	16.3			16.3			38.7			38.7	
Actuated g/C Ratio	0.24	0.24			0.24			0.56			0.56	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	163	287			265			1363			1245	
v/s Ratio Prot		0.05										
v/s Ratio Perm	0.01				c0.17			0.37			c0.55	
v/c Ratio	0.06	0.23			0.70			0.67			0.99	
Uniform Delay, d1	20.4	21.3			24.1			10.6			14.9	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.2			6.8			2.6			22.6	
Delay (s)	20.5	21.5			30.9			13.2			37.5	
Level of Service	C	C			C			B			D	
Approach Delay (s)		21.4			30.9			13.2			37.5	
Approach LOS		C			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	119.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	84	203	81	323	84	992	367	856
v/c Ratio	0.60	0.59	0.36	0.96	0.55	0.94	1.23	0.53
Control Delay	48.8	35.2	32.0	68.7	40.9	44.6	152.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	35.2	32.0	68.7	40.9	44.6	152.7	14.1
Queue Length 50th (m)	13.0	29.6	11.6	46.3	12.1	89.5	~67.5	48.2
Queue Length 95th (m)	#33.0	52.3	24.8	#98.9	#32.9	#132.8	#121.7	64.6
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	146	359	234	346	152	1060	298	1617
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	0.58	0.57	0.35	0.93	0.55	0.94	1.23	0.53

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	152	31	73	123	167	76	709	184	330	715	56
Future Volume (vph)	76	152	31	73	123	167	76	709	184	330	715	56
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.86		1.00	0.96		1.00	0.97	
Flpb, ped/bikes	0.87	1.00		0.94	1.00		0.89	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1184	1193		1278	1000		1144	2728		1335	2827	
Flt Permitted	0.40	1.00		0.59	1.00		0.33	1.00		0.14	1.00	
Satd. Flow (perm)	497	1193		796	1000		398	2728		198	2827	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	84	169	34	81	137	186	84	788	204	367	794	62
RTOR Reduction (vph)	0	8	0	0	52	0	0	24	0	0	6	0
Lane Group Flow (vph)	84	195	0	81	271	0	84	968	0	367	850	0
Confl. Peds. (#/hr)	239		86	86		239	202		187	187		202
Heavy Vehicles (%)	0%	2%	28%	0%	4%	3%	6%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.9	26.9		26.9	26.9		36.1	36.1		54.1	54.1	
Effective Green, g (s)	26.9	26.9		26.9	26.9		36.1	36.1		54.1	54.1	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.38	0.38		0.57	0.57	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	140	337		225	283		151	1036		292	1609	
v/s Ratio Prot		0.16			c0.27			0.36		c0.20	0.30	
v/s Ratio Perm	0.17			0.10			0.21			c0.52		
v/c Ratio	0.60	0.58		0.36	0.96		0.56	0.93		1.26	0.53	
Uniform Delay, d1	29.4	29.2		27.2	33.5		23.2	28.3		23.9	12.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.2	1.8		0.6	41.2		14.0	16.1		140.4	1.2	
Delay (s)	34.6	31.0		27.8	74.7		37.1	44.4		164.3	13.8	
Level of Service	C	C		C	E		D	D		F	B	
Approach Delay (s)		32.1			65.3			43.8			59.0	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	51.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

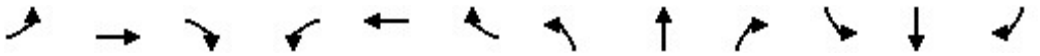


Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	336	364	213	28	710	214	618
v/c Ratio	1.72	1.49	0.54	0.09	0.63	0.64	0.45
Control Delay	371.5	267.6	9.3	9.7	27.2	19.1	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	371.5	267.6	9.3	9.7	27.2	19.1	17.7
Queue Length 50th (m)	~93.7	~94.8	0.0	2.1	55.4	18.3	39.7
Queue Length 95th (m)	#146.6	#148.3	19.1	5.6	78.1	30.8	55.8
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	195	245	397	443	1135	365	1369
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	1.72	1.49	0.54	0.06	0.63	0.59	0.45

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	139	41	106	229	196	26	624	29	197	485	84
Future Volume (vph)	129	139	41	106	229	196	26	624	29	197	485	84
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.76	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.95			0.98	1.00	0.96	1.00		0.99	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1279			1042	809	1317	2894		1323	2778	
Flt Permitted		0.47			0.75	1.00	0.42	1.00		0.28	1.00	
Satd. Flow (perm)		614			793	809	579	2894		383	2778	
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)	140	151	45	115	249	213	28	678	32	214	527	91
RTOR Reduction (vph)	0	6	0	0	0	147	0	3	0	0	12	0
Lane Group Flow (vph)	0	330	0	0	364	66	28	707	0	214	606	0
Confl. Peds. (#/hr)	214		96	96		214	135		106	106		135
Heavy Vehicles (%)	0%	0%	0%	26%	0%	3%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		30.0			30.0	30.0	41.8	38.0		53.0	46.2	
Effective Green, g (s)		30.0			30.0	30.0	41.8	38.0		53.0	46.2	
Actuated g/C Ratio		0.31			0.31	0.31	0.43	0.39		0.55	0.48	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		189			245	250	278	1133		325	1323	
v/s Ratio Prot							0.00	0.24		c0.08	0.22	
v/s Ratio Perm		c0.54			0.46	0.08	0.04			c0.28		
v/c Ratio		1.75			1.49	0.26	0.10	0.62		0.66	0.46	
Uniform Delay, d1		33.5			33.5	25.2	16.0	23.7		13.0	17.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		357.8			239.1	0.3	0.1	2.6		4.0	1.1	
Delay (s)		391.3			272.6	25.5	16.1	26.3		17.1	18.2	
Level of Service		F			F	C	B	C		B	B	
Approach Delay (s)		391.3			181.4			26.0			17.9	
Approach LOS		F			F			C			B	

Intersection Summary			
HCM 2000 Control Delay	108.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	321	79	324	254	40	171	113	244
v/c Ratio	0.52	0.96	0.29	0.57	0.69	0.25	0.56	0.36	0.49
Control Delay	42.7	73.2	17.7	25.5	13.9	30.2	32.4	18.1	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.7	73.2	17.7	25.5	13.9	30.2	32.4	18.1	22.5
Queue Length 50th (m)	12.6	~61.7	7.9	43.2	0.0	5.5	22.9	11.5	29.7
Queue Length 95th (m)	#32.2	#113.2	16.3	69.8	#34.1	14.5	44.7	22.1	52.1
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	157	336	277	574	369	161	307	314	493
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	0.52	0.96	0.29	0.56	0.69	0.25	0.56	0.36	0.49

Intersection Summary

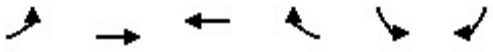
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Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	260	48	76	311	244	38	118	46	108	206	28
Future Volume (vph)	79	260	48	76	311	244	38	118	46	108	206	28
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95		1.00	1.00	0.53	1.00	0.90		1.00	0.96	
Flpb, ped/bikes	0.71	1.00		0.94	1.00	1.00	0.80	1.00		0.85	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	848	1051		1160	1351	526	820	952		985	1109	
Flt Permitted	0.56	1.00		0.38	1.00	1.00	0.61	1.00		0.58	1.00	
Satd. Flow (perm)	504	1051		468	1351	526	524	952		600	1109	
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)	82	271	50	79	324	254	40	123	48	112	215	29
RTOR Reduction (vph)	0	7	0	0	0	145	0	15	0	0	5	0
Lane Group Flow (vph)	82	314	0	79	324	109	40	156	0	113	239	0
Confl. Peds. (#/hr)	261		178	178		261	161		606	606		161
Heavy Vehicles (%)	3%	6%	0%	0%	4%	0%	20%	9%	3%	6%	2%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	29.5	29.5		40.2	40.2	40.2	28.3	28.3		40.8	40.8	
Effective Green, g (s)	29.5	29.5		40.2	40.2	40.2	28.3	28.3		40.8	40.8	
Actuated g/C Ratio	0.31	0.31		0.43	0.43	0.43	0.30	0.30		0.43	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	158	329		256	577	224	157	286		299	481	
v/s Ratio Prot		c0.30		0.03	c0.24			c0.16		0.04	c0.22	
v/s Ratio Perm	0.16			0.11		0.21	0.08			0.13		
v/c Ratio	0.52	0.95		0.31	0.56	0.48	0.25	0.55		0.38	0.50	
Uniform Delay, d1	26.4	31.6		17.2	20.3	19.4	24.9	27.5		17.1	19.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.8	37.7		0.9	1.5	2.2	3.9	7.3		1.1	3.6	
Delay (s)	30.2	69.3		18.1	21.8	21.7	28.7	34.8		18.2	22.8	
Level of Service	C	E		B	C	C	C	C		B	C	
Approach Delay (s)		61.3			21.3			33.7			21.4	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

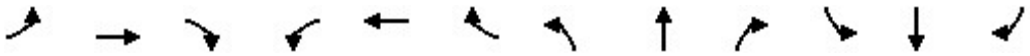
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	211	203	419	18	13	212
Future Volume (Veh/h)	211	203	419	18	13	212
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	229	221	455	20	14	230
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	475				1034	465
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	475				1034	465
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	79				92	58
cM capacity (veh/h)	1098				183	550

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	303	147	475	244
Volume Left	229	0	0	14
Volume Right	0	0	20	230
cSH	1098	1700	1700	493
Volume to Capacity	0.21	0.09	0.28	0.49
Queue Length 95th (m)	6.0	0.0	0.0	20.6
Control Delay (s)	7.4	0.0	0.0	19.2
Lane LOS	A			C
Approach Delay (s)	5.0		0.0	19.2
Approach LOS				C

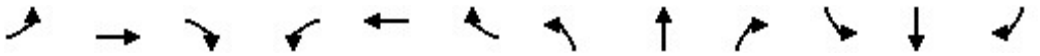
Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	579	12	4	469	10	6	1	4	10	6	10
Future Volume (Veh/h)	9	579	12	4	469	10	6	1	4	10	6	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	9	597	12	4	484	10	6	1	4	10	6	10
Pedestrians		13			7			107			52	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			9			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.86						0.86	0.86		0.86	0.86	0.86
vC, conflicting volume	546			716			1251	1282	717	1182	1283	554
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	391			716			1211	1247	717	1130	1248	400
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	99	99	92	95	98
cM capacity (veh/h)	967			809			104	127	390	130	128	531

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	618	498	11	26
Volume Left	9	4	6	10
Volume Right	12	10	4	10
cSH	967	809	145	182
Volume to Capacity	0.01	0.00	0.08	0.14
Queue Length 95th (m)	0.2	0.1	1.8	3.7
Control Delay (s)	0.3	0.1	31.9	28.0
Lane LOS	A	A	D	D
Approach Delay (s)	0.3	0.1	31.9	28.0
Approach LOS			D	D

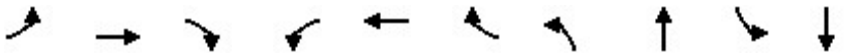
Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	62.7%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	534	60	13	438	2	47	0	126	1	0	0
Future Volume (Veh/h)	1	534	60	13	438	2	47	0	126	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	580	65	14	476	2	51	0	137	1	0	0
Pedestrians		5			17			80			70	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			2			7			6	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.82						0.82	0.82		0.82	0.82	0.82
vC, conflicting volume	548			725			1204	1270	710	1344	1302	552
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	340			725			1140	1220	710	1309	1259	345
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			58	100	66	98	100	100
cM capacity (veh/h)	947			824			121	128	400	61	121	538

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	646	492	188	1
Volume Left	1	14	51	1
Volume Right	65	2	137	0
cSH	947	824	247	61
Volume to Capacity	0.00	0.02	0.76	0.02
Queue Length 95th (m)	0.0	0.4	41.8	0.4
Control Delay (s)	0.0	0.5	54.8	65.0
Lane LOS	A	A	F	F
Approach Delay (s)	0.0	0.5	54.8	65.0
Approach LOS			F	F

Intersection Summary				
Average Delay	8.0			
Intersection Capacity Utilization	64.4%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	211	349	122	126	296	303	99	912	201	1215
v/c Ratio	1.04	0.83	0.41	0.53	0.76	0.77	0.63	0.89	0.93	1.09
Control Delay	109.0	54.2	8.6	43.0	50.5	20.8	36.7	45.5	66.6	86.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.0	54.2	8.6	43.0	50.5	20.8	36.7	45.5	66.6	86.9
Queue Length 50th (m)	~39.8	70.9	0.0	21.7	59.5	7.1	10.3	93.5	22.7	~153.9
Queue Length 95th (m)	#73.0	93.7	11.8	33.0	78.5	40.6	#31.6	#162.6	#75.8	#232.8
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	202	562	351	263	562	450	175	1021	217	1119
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	1.04	0.62	0.35	0.48	0.53	0.67	0.57	0.89	0.93	1.09

Intersection Summary

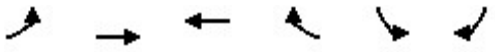
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	335	117	121	284	291	95	780	95	193	1080	86
Future Volume (vph)	203	335	117	121	284	291	95	780	95	193	1080	86
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.71	1.00	1.00	0.72	1.00	0.95		1.00	0.99	
Flpb, ped/bikes	0.97	1.00	1.00	0.91	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1331	1546	742	1182	1546	781	1326	2698		1353	2866	
Flt Permitted	0.22	1.00	1.00	0.55	1.00	1.00	0.10	1.00		0.17	1.00	
Satd. Flow (perm)	313	1546	742	686	1546	781	135	2698		238	2866	
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)	211	349	122	126	296	303	99	812	99	201	1125	90
RTOR Reduction (vph)	0	0	89	0	0	196	0	7	0	0	4	0
Lane Group Flow (vph)	211	349	33	126	296	107	99	905	0	201	1211	0
Confl. Peds. (#/hr)	223		230	230		223	84		216	216		84
Heavy Vehicles (%)	0%	1%	5%	5%	1%	1%	3%	3%	2%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	29.9	29.9	29.9	31.2	27.7	27.7	49.9	41.3		52.7	42.7	
Effective Green, g (s)	29.9	29.9	29.9	31.2	27.7	27.7	49.9	41.3		52.7	42.7	
Actuated g/C Ratio	0.27	0.27	0.27	0.28	0.25	0.25	0.45	0.38		0.48	0.39	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	196	420	201	238	389	196	154	1012		215	1112	
v/s Ratio Prot	c0.12	0.23		0.05	c0.19		0.05	0.34		c0.08	c0.42	
v/s Ratio Perm	c0.17		0.04	0.10		0.14	0.24			0.36		
v/c Ratio	1.08	0.83	0.16	0.53	0.76	0.55	0.64	0.89		0.93	1.09	
Uniform Delay, d1	36.6	37.7	30.5	34.6	38.1	35.7	22.7	32.3		20.8	33.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	86.1	12.7	0.2	1.6	7.9	2.0	7.9	12.0		43.2	54.5	
Delay (s)	122.7	50.3	30.7	36.2	46.0	37.7	30.5	44.3		64.0	88.2	
Level of Service	F	D	C	D	D	D	C	D		E	F	
Approach Delay (s)		69.2			40.8			42.9			84.7	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	62.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	21	17	2	12	9
Future Volume (Veh/h)	1	21	17	2	12	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	2	32	26	3	18	14
Pedestrians			5		12	
Lane Width (m)			3.5		3.5	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	41				80	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	41				80	40
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1461				912	1027

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	34	29	32
Volume Left	2	0	18
Volume Right	0	3	14
cSH	1461	1700	959
Volume to Capacity	0.00	0.02	0.03
Queue Length 95th (m)	0.0	0.0	0.8
Control Delay (s)	0.4	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	0.4	0.0	8.9
Approach LOS			A

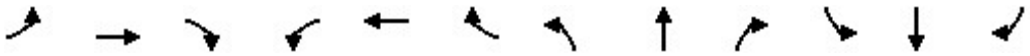
Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	25	15	50	40	4
Future Volume (Veh/h)	8	25	15	50	40	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	9	29	18	59	47	5
Pedestrians	3			17		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	0			2		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	148	70	55			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	148	70	55			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	97	99			
cM capacity (veh/h)	837	981	1559			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	38	77	52
Volume Left	9	18	0
Volume Right	29	0	5
cSH	943	1559	1700
Volume to Capacity	0.04	0.01	0.03
Queue Length 95th (m)	1.0	0.3	0.0
Control Delay (s)	9.0	1.8	0.0
Lane LOS	A	A	
Approach Delay (s)	9.0	1.8	0.0
Approach LOS	A		

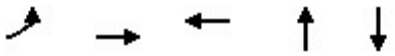
Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	165	8	10	124	19	6	21	12	28	29	6
Future Volume (Veh/h)	8	165	8	10	124	19	6	21	12	28	29	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	179	9	11	135	21	7	23	13	30	32	7
Pedestrians					15			63			33	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					1			6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	189			251			455	476	262	442	470	178
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	189			251			455	476	262	442	470	178
tC, single (s)	4.1			4.4			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	99			99			98	95	98	93	93	99
cM capacity (veh/h)	1356			1089			402	443	709	437	446	844

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	197	167	43	69
Volume Left	9	11	7	30
Volume Right	9	21	13	7
cSH	1356	1089	490	464
Volume to Capacity	0.01	0.01	0.09	0.15
Queue Length 95th (m)	0.2	0.2	2.2	3.9
Control Delay (s)	0.4	0.6	13.0	14.1
Lane LOS	A	A	B	B
Approach Delay (s)	0.4	0.6	13.0	14.1
Approach LOS			B	B

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	32.7%	ICU Level of Service	A	
Analysis Period (min)	15			

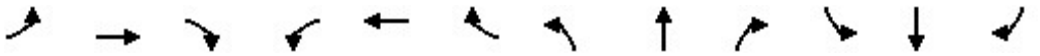


Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	22	197	352	1003	1187
v/c Ratio	0.11	0.51	0.98	0.91	1.47
Control Delay	19.0	22.6	67.8	29.4	241.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	22.6	67.8	29.4	241.4
Queue Length 50th (m)	2.0	17.7	39.7	57.1	~114.8
Queue Length 95th (m)	6.9	36.3	#89.9	#98.8	#151.9
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	206	386	359	1108	805
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.51	0.98	0.91	1.47

Intersection Summary

~ 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.



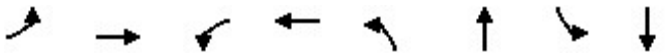
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	139	48	73	101	161	27	827	99	119	981	28
Future Volume (vph)	21	139	48	73	101	161	27	827	99	119	981	28
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.97			0.97			0.97			1.00	
Flpb, ped/bikes	0.97	1.00			0.98			1.00			0.99	
Frt	1.00	0.96			0.94			0.98			1.00	
Flt Protected	0.95	1.00			0.99			1.00			0.99	
Satd. Flow (prot)	1330	1211			1229			2505			2585	
Flt Permitted	0.48	1.00			0.87			0.89			0.63	
Satd. Flow (perm)	679	1211			1079			2225			1629	
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)	22	146	51	77	106	169	28	871	104	125	1033	29
RTOR Reduction (vph)	0	18	0	0	31	0	0	13	0	0	3	0
Lane Group Flow (vph)	22	179	0	0	321	0	0	990	0	0	1184	0
Confl. Peds. (#/hr)	53		123	123		53	90		152	152		90
Heavy Vehicles (%)	0%	2%	0%	1%	2%	1%	4%	3%	0%	4%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.0	21.0			21.0			34.0			34.0	
Effective Green, g (s)	21.0	21.0			21.0			34.0			34.0	
Actuated g/C Ratio	0.30	0.30			0.30			0.49			0.49	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	206	368			328			1096			802	
v/s Ratio Prot		0.15										
v/s Ratio Perm	0.03				c0.30			0.45			c0.73	
v/c Ratio	0.11	0.49			0.98			0.90			1.48	
Uniform Delay, d1	17.3	19.6			23.8			16.0			17.5	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.4			43.6			12.0			221.3	
Delay (s)	17.4	20.0			67.3			28.0			238.8	
Level of Service	B	C			E			C			F	
Approach Delay (s)		19.8			67.3			28.0			238.8	
Approach LOS		B			E			C			F	

Intersection Summary			
HCM 2000 Control Delay	123.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	146.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Appendix G

2033 Future Background Conditions Synchro Report

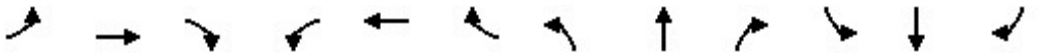


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	227	97	371	76	798	359	899
v/c Ratio	0.34	0.65	0.47	1.01	0.52	0.77	1.04	0.56
Control Delay	35.2	37.7	36.3	77.1	38.5	31.1	79.0	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	37.7	36.3	77.1	38.5	31.1	79.0	15.0
Queue Length 50th (m)	6.3	34.4	14.5	~57.4	10.7	63.7	~45.4	51.5
Queue Length 95th (m)	16.7	60.2	30.4	#115.2	#26.8	86.6	#99.2	68.6
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	129	351	208	369	147	1035	344	1612
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.65	0.47	1.01	0.52	0.77	1.04	0.56

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	177	37	91	146	203	71	589	161	337	796	49
Future Volume (vph)	41	177	37	91	146	203	71	589	161	337	796	49
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
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	0.91		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	0.93	1.00		0.89	1.00		0.95	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1228	1165		1202	1073		1202	2741		1332	2882	
Flt Permitted	0.34	1.00		0.56	1.00		0.32	1.00		0.22	1.00	
Satd. Flow (perm)	440	1165		706	1073		401	2741		307	2882	
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)	44	188	39	97	155	216	76	627	171	359	847	52
RTOR Reduction (vph)	0	8	0	0	53	0	0	26	0	0	5	0
Lane Group Flow (vph)	44	219	0	97	318	0	76	772	0	359	894	0
Confl. Peds. (#/hr)	149		157	157		149	95		112	112		95
Heavy Vehicles (%)	3%	5%	19%	1%	2%	2%	8%	2%	1%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.37	0.37		0.56	0.56	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	129	343		208	316		147	1009		333	1607	
v/s Ratio Prot		0.19			c0.30			0.28		c0.17	0.31	
v/s Ratio Perm	0.10			0.14			0.19			c0.43		
v/c Ratio	0.34	0.64		0.47	1.01		0.52	0.77		1.08	0.56	
Uniform Delay, d1	26.3	29.1		27.4	33.5		23.4	26.4		17.4	13.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	3.2		1.0	52.3		12.4	5.5		71.7	1.4	
Delay (s)	27.2	32.3		28.4	85.8		35.8	31.9		89.1	14.9	
Level of Service	C	C		C	F		D	C		F	B	
Approach Delay (s)		31.5			73.9			32.3			36.0	
Approach LOS		C			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	111.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

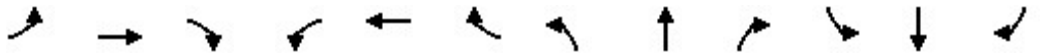


Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	304	296	239	20	613	256	713
v/c Ratio	1.14	1.32	0.54	0.07	0.56	0.67	0.50
Control Delay	128.5	203.1	8.5	9.7	26.2	19.7	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.5	203.1	8.5	9.7	26.2	19.7	17.7
Queue Length 50th (m)	~63.3	~72.2	0.0	1.5	47.3	22.7	39.4
Queue Length 95th (m)	#112.2	#119.7	18.7	4.3	64.4	36.6	65.5
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	267	224	444	424	1100	399	1431
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	1.14	1.32	0.54	0.05	0.56	0.64	0.50

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	98	91	110	153	213	18	522	23	228	565	69
Future Volume (vph)	82	98	91	110	153	213	18	522	23	228	565	69
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.97			1.00	0.86	1.00	0.99		1.00	0.98	
Flpb, ped/bikes		0.98			0.98	1.00	0.97	1.00		0.99	1.00	
Frt		0.95			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1263			1043	902	1331	2876		1336	2801	
Flt Permitted		0.63			0.68	1.00	0.38	1.00		0.32	1.00	
Satd. Flow (perm)		805			726	902	533	2876		456	2801	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	92	110	102	124	172	239	20	587	26	256	635	78
RTOR Reduction (vph)	0	19	0	0	0	165	0	3	0	0	8	0
Lane Group Flow (vph)	0	285	0	0	296	74	20	610	0	256	705	0
Confl. Peds. (#/hr)	123		71	71		123	121		74	74		121
Heavy Vehicles (%)	0%	0%	0%	18%	0%	4%	0%	2%	0%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		30.0			30.0	30.0	39.5	37.0		53.0	47.5	
Effective Green, g (s)		30.0			30.0	30.0	39.5	37.0		53.0	47.5	
Actuated g/C Ratio		0.31			0.31	0.31	0.41	0.38		0.55	0.49	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		248			224	278	237	1097		367	1371	
v/s Ratio Prot							0.00	0.21		c0.09	0.25	
v/s Ratio Perm		0.35			c0.41	0.08	0.03			c0.29		
v/c Ratio		1.15			1.32	0.27	0.08	0.56		0.70	0.51	
Uniform Delay, d1		33.5			33.5	25.2	17.3	23.6		13.1	16.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		103.9			172.4	0.3	0.1	2.0		5.0	1.4	
Delay (s)		137.4			205.9	25.5	17.4	25.6		18.1	18.3	
Level of Service		F			F	C	B	C		B	B	
Approach Delay (s)		137.4			125.3			25.3			18.2	
Approach LOS		F			F			C			B	

Intersection Summary			
HCM 2000 Control Delay	58.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		

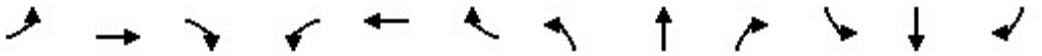
c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	295	109	321	235	36	271	116	217
v/c Ratio	0.60	0.94	0.40	0.61	0.60	0.23	0.72	0.39	0.42
Control Delay	47.0	69.9	20.2	27.7	9.5	29.8	41.7	18.3	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	69.9	20.2	27.7	9.5	29.8	41.7	18.3	20.4
Queue Length 50th (m)	15.2	49.2	11.2	42.7	0.0	4.9	44.1	11.8	25.7
Queue Length 95th (m)	#35.7	#96.1	21.2	67.9	18.4	13.3	#85.0	22.4	45.2
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	166	324	276	574	409	160	376	302	513
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	0.59	0.91	0.39	0.56	0.57	0.23	0.72	0.38	0.42

Intersection Summary

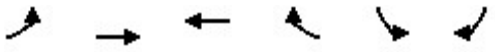
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	206	57	97	286	209	32	209	32	103	170	23
Future Volume (vph)	87	206	57	97	286	209	32	209	32	103	170	23
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.96		1.00	1.00	0.67	1.00	0.95		1.00	0.96	
Flpb, ped/bikes	0.80	1.00		0.97	1.00	1.00	0.78	1.00		0.91	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	970	1090		1190	1351	646	724	1094		1049	1079	
Flt Permitted	0.57	1.00		0.39	1.00	1.00	0.62	1.00		0.46	1.00	
Satd. Flow (perm)	578	1090		484	1351	646	475	1094		509	1079	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	98	231	64	109	321	235	36	235	36	116	191	26
RTOR Reduction (vph)	0	11	0	0	0	142	0	5	0	0	5	0
Lane Group Flow (vph)	98	284	0	109	321	93	36	266	0	116	212	0
Confl. Peds. (#/hr)	182		95	95		182	168		483	483		168
Heavy Vehicles (%)	1%	2%	0%	0%	4%	2%	33%	2%	0%	7%	5%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	26.3	26.3		37.2	37.2	37.2	31.3	31.3		43.8	43.8	
Effective Green, g (s)	26.3	26.3		37.2	37.2	37.2	31.3	31.3		43.8	43.8	
Actuated g/C Ratio	0.28	0.28		0.40	0.40	0.40	0.33	0.33		0.47	0.47	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	161	304		250	534	255	158	364		291	502	
v/s Ratio Prot		c0.26		0.04	c0.24			c0.24		0.04	c0.20	
v/s Ratio Perm	0.17			0.14		0.14	0.08			0.15		
v/c Ratio	0.61	0.93		0.44	0.60	0.36	0.23	0.73		0.40	0.42	
Uniform Delay, d1	29.4	33.0		19.5	22.5	20.1	22.6	27.6		15.4	16.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	35.0		1.7	2.2	1.2	3.3	12.1		1.2	2.6	
Delay (s)	36.7	68.0		21.1	24.7	21.3	26.0	39.8		16.7	19.3	
Level of Service	D	E		C	C	C	C	D		B	B	
Approach Delay (s)		60.2			22.9			38.2			18.4	
Approach LOS		E			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

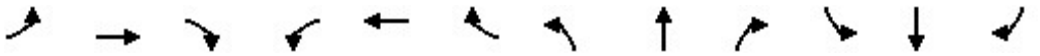
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	161	180	432	11	11	160
Future Volume (Veh/h)	161	180	432	11	11	160
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	175	196	470	12	12	174
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	482				924	476
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	482				924	476
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				95	68
cM capacity (veh/h)	1091				229	541

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	240	131	482	186
Volume Left	175	0	0	12
Volume Right	0	0	12	174
cSH	1091	1700	1700	497
Volume to Capacity	0.16	0.08	0.28	0.37
Queue Length 95th (m)	4.3	0.0	0.0	13.1
Control Delay (s)	6.9	0.0	0.0	16.5
Lane LOS	A			C
Approach Delay (s)	4.5		0.0	16.5
Approach LOS				C

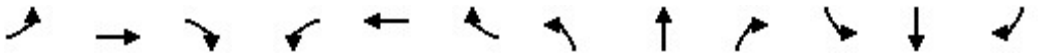
Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	437	10	10	561	12	5	0	12	5	1	11
Future Volume (Veh/h)	4	437	10	10	561	12	5	0	12	5	1	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	470	11	11	603	13	5	0	13	5	1	12
Pedestrians		5						68			37	
Lane Width (m)		3.5						3.5			3.5	
Walking Speed (m/s)		1.1						1.1			1.1	
Percent Blockage		0						6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	653			549			1200	1226	544	1165	1226	652
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	478			549			1139	1170	544	1096	1169	476
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	97	96	99	97
cM capacity (veh/h)	878			969			123	144	511	138	144	473

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	485	627	18	18
Volume Left	4	11	5	5
Volume Right	11	13	13	12
cSH	878	969	273	263
Volume to Capacity	0.00	0.01	0.07	0.07
Queue Length 95th (m)	0.1	0.3	1.6	1.7
Control Delay (s)	0.1	0.3	19.1	19.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	19.1	19.7
Approach LOS			C	C

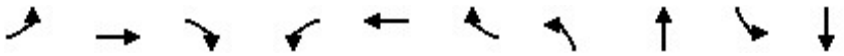
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	411	39	12	552	1	32	0	86	1	1	1
Future Volume (Veh/h)	2	411	39	12	552	1	32	0	86	1	1	1
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)	2	433	41	13	581	1	34	0	91	1	1	1
Pedestrians		1			2			75			47	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			7			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	629			549			1142	1188	530	1205	1208	630
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	413			549			1054	1110	530	1132	1135	414
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			75	100	82	99	99	100
cM capacity (veh/h)	888			962			139	149	515	104	144	493

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	476	595	125	3
Volume Left	2	13	34	1
Volume Right	41	1	91	1
cSH	888	962	296	162
Volume to Capacity	0.00	0.01	0.42	0.02
Queue Length 95th (m)	0.1	0.3	15.2	0.4
Control Delay (s)	0.1	0.4	25.7	27.7
Lane LOS	A	A	D	D
Approach Delay (s)	0.1	0.4	25.7	27.7
Approach LOS			D	D

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	155	272	71	119	323	206	97	827	217	1300
v/c Ratio	0.77	0.75	0.24	0.42	0.82	0.52	0.61	0.79	0.91	1.18
Control Delay	57.4	51.5	2.3	36.7	54.1	9.0	35.7	38.6	61.5	122.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	51.5	2.3	36.7	54.1	9.0	35.7	38.6	61.5	122.4
Queue Length 50th (m)	27.2	53.7	0.0	20.2	66.1	0.2	10.2	80.3	25.1	~176.4
Queue Length 95th (m)	#46.5	76.6	0.9	31.5	87.9	17.5	#29.6	#136.9	#76.0	#251.9
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	206	562	380	283	556	472	175	1046	239	1103
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	0.75	0.48	0.19	0.42	0.58	0.44	0.55	0.79	0.91	1.18

Intersection Summary

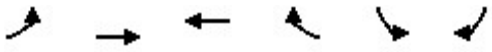
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	269	70	118	320	204	96	728	91	215	1145	142
Future Volume (vph)	153	269	70	118	320	204	96	728	91	215	1145	142
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.87	1.00	0.97		1.00	0.98	
Flpb, ped/bikes	0.99	1.00	1.00	0.93	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1334	1546	820	1216	1531	941	1326	2787		1342	2841	
Flt Permitted	0.28	1.00	1.00	0.59	1.00	1.00	0.10	1.00		0.20	1.00	
Satd. Flow (perm)	390	1546	820	758	1531	941	136	2787		289	2841	
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)	155	272	71	119	323	206	97	735	92	217	1157	143
RTOR Reduction (vph)	0	0	54	0	0	152	0	8	0	0	7	0
Lane Group Flow (vph)	155	272	17	119	323	54	97	819	0	217	1293	0
Confl. Peds. (#/hr)	99		155	155		99	70		110	110		70
Heavy Vehicles (%)	1%	1%	7%	4%	2%	1%	3%	2%	1%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.9	25.9	25.9	32.0	28.5	28.5	49.6	41.0		52.4	42.4	
Effective Green, g (s)	25.9	25.9	25.9	32.0	28.5	28.5	49.6	41.0		52.4	42.4	
Actuated g/C Ratio	0.24	0.24	0.24	0.29	0.26	0.26	0.45	0.37		0.48	0.39	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	190	364	193	279	396	243	154	1038		233	1095	
v/s Ratio Prot	c0.09	0.18		0.05	c0.21		0.05	0.29		c0.08	c0.45	
v/s Ratio Perm	0.11		0.02	0.07		0.06	0.23			0.36		
v/c Ratio	0.82	0.75	0.09	0.43	0.82	0.22	0.63	0.79		0.93	1.18	
Uniform Delay, d1	36.9	39.0	32.8	32.8	38.3	32.0	23.8	30.7		22.1	33.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	22.4	7.4	0.1	0.8	11.7	0.2	6.8	6.1		40.4	90.8	
Delay (s)	59.3	46.4	32.9	33.6	50.0	32.3	30.6	36.8		62.4	124.6	
Level of Service	E	D	C	C	D	C	C	D		E	F	
Approach Delay (s)		48.5			41.4			36.1			115.7	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	72.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	17	6	0	5	11
Future Volume (Veh/h)	7	17	6	0	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Hourly flow rate (vph)	12	30	11	0	9	19
Pedestrians		1	6		4	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	15				75	16
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	15				75	16
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	99				99	98
cM capacity (veh/h)	1505				918	1064

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	42	11	28
Volume Left	12	0	9
Volume Right	0	0	19
cSH	1505	1700	1012
Volume to Capacity	0.01	0.01	0.03
Queue Length 95th (m)	0.2	0.0	0.6
Control Delay (s)	2.2	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	8.7
Approach LOS			A

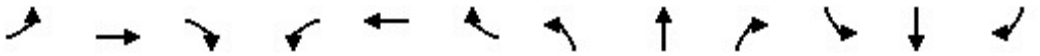
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	10	2	23	12	4
Future Volume (Veh/h)	11	10	2	23	12	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	16	14	3	33	17	6
Pedestrians	6			6		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	1			1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	65	32	29			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65	32	29			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	100			
cM capacity (veh/h)	939	1037	1589			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	30	36	23
Volume Left	16	3	0
Volume Right	14	0	6
cSH	982	1589	1700
Volume to Capacity	0.03	0.00	0.01
Queue Length 95th (m)	0.7	0.0	0.0
Control Delay (s)	8.8	0.6	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	0.6	0.0
Approach LOS	A		

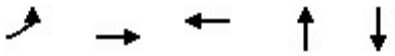
Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	88	1	4	88	4	4	18	10	8	12	1
Future Volume (Veh/h)	1	88	1	4	88	4	4	18	10	8	12	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	1	105	1	5	105	5	5	21	12	10	14	1
Pedestrians					26			18			4	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					2			2			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	114			124			251	250	150	278	248	112
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	114			124			251	250	150	278	248	112
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	97	99	98	98	100
cM capacity (veh/h)	1483			1452			671	626	868	624	643	944

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	107	115	38	25
Volume Left	1	5	5	10
Volume Right	1	5	12	1
cSH	1483	1452	693	643
Volume to Capacity	0.00	0.00	0.05	0.04
Queue Length 95th (m)	0.0	0.1	1.3	0.9
Control Delay (s)	0.1	0.4	10.5	10.8
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.4	10.5	10.8
Approach LOS			B	B

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	26.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	11	93	264	878	1271
v/c Ratio	0.07	0.30	0.81	0.65	1.03
Control Delay	18.5	16.9	36.0	14.8	54.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	16.9	36.0	14.8	54.9
Queue Length 50th (m)	1.0	6.2	20.3	44.0	~105.6
Queue Length 95th (m)	4.3	16.4	#50.9	65.3	#143.6
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	196	389	394	1349	1231
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.24	0.67	0.65	1.03

Intersection Summary

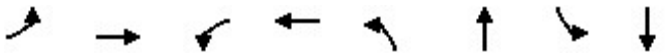
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	63	26	35	61	155	13	790	30	66	1120	22
Future Volume (vph)	10	63	26	35	61	155	13	790	30	66	1120	22
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.98			0.96			1.00			1.00	
Flpb, ped/bikes	0.96	1.00			0.99			1.00			1.00	
Frt	1.00	0.96			0.92			0.99			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1166	1217			1185			2612			2632	
Flt Permitted	0.53	1.00			0.94			0.92			0.84	
Satd. Flow (perm)	648	1217			1119			2413			2205	
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)	11	66	27	37	64	163	14	832	32	69	1179	23
RTOR Reduction (vph)	0	21	0	0	59	0	0	4	0	0	2	0
Lane Group Flow (vph)	11	72	0	0	205	0	0	874	0	0	1269	0
Confl. Peds. (#/hr)	60		75	75		60	44		72	72		44
Heavy Vehicles (%)	13%	2%	0%	7%	4%	2%	0%	2%	0%	9%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.5	16.5			16.5			38.5			38.5	
Effective Green, g (s)	16.5	16.5			16.5			38.5			38.5	
Actuated g/C Ratio	0.24	0.24			0.24			0.56			0.56	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	154	291			267			1346			1230	
v/s Ratio Prot		0.06										
v/s Ratio Perm	0.02				c0.18			0.36			c0.58	
v/c Ratio	0.07	0.25			0.77			0.65			1.03	
Uniform Delay, d1	20.3	21.2			24.5			10.6			15.2	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.2			11.3			2.4			34.2	
Delay (s)	20.4	21.4			35.8			13.0			49.5	
Level of Service	C	C			D			B			D	
Approach Delay (s)		21.3			35.8			13.0			49.5	
Approach LOS		C			D			B			D	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	121.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

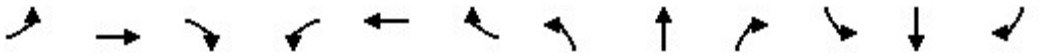


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	222	89	354	93	1074	403	920
v/c Ratio	0.65	0.62	0.40	1.03	0.67	1.04	1.47	0.58
Control Delay	54.5	36.3	33.2	84.0	52.4	69.9	252.9	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	36.3	33.2	84.0	52.4	69.9	252.9	15.4
Queue Length 50th (m)	14.0	33.2	13.0	~59.5	14.1	~110.8	~90.4	53.5
Queue Length 95th (m)	#37.4	58.1	27.5	#113.3	#39.4	#150.3	#146.1	71.5
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	135	358	225	345	138	1029	275	1581
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.62	0.40	1.03	0.67	1.04	1.47	0.58

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	165	35	80	136	183	84	769	198	363	766	62
Future Volume (vph)	79	165	35	80	136	183	84	769	198	363	766	62
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.86		1.00	0.96		1.00	0.97	
Flpb, ped/bikes	0.88	1.00		0.94	1.00		0.90	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1197	1188		1282	1001		1156	2729		1337	2823	
Flt Permitted	0.36	1.00		0.57	1.00		0.31	1.00		0.11	1.00	
Satd. Flow (perm)	460	1188		764	1001		378	2729		148	2823	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	88	183	39	89	151	203	93	854	220	403	851	69
RTOR Reduction (vph)	0	8	0	0	51	0	0	24	0	0	6	0
Lane Group Flow (vph)	88	214	0	89	303	0	93	1050	0	403	914	0
Confl. Peds. (#/hr)	239		86	86		239	202		187	187		202
Heavy Vehicles (%)	0%	2%	28%	0%	4%	3%	6%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.37	0.37		0.56	0.56	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	135	350		225	295		139	1005		270	1574	
v/s Ratio Prot		0.18			c0.30			0.38		c0.24	0.32	
v/s Ratio Perm	0.19			0.12			0.25			c0.60		
v/c Ratio	0.65	0.61		0.40	1.03		0.67	1.04		1.49	0.58	
Uniform Delay, d1	29.2	28.8		26.7	33.5		25.1	30.0		27.5	13.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.1	2.5		0.7	59.8		22.7	40.8		240.3	1.6	
Delay (s)	38.4	31.3		27.4	93.3		47.9	70.8		267.8	15.3	
Level of Service	D	C		C	F		D	E		F	B	
Approach Delay (s)		33.3			80.0			69.0			92.2	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	76.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

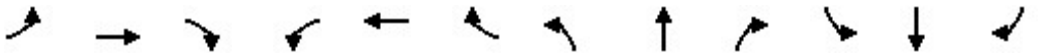


Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	342	373	230	30	780	229	665
v/c Ratio	1.80	1.53	0.56	0.10	0.70	0.72	0.49
Control Delay	404.8	288.3	9.6	9.9	29.5	24.2	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	404.8	288.3	9.6	9.9	29.5	24.2	18.4
Queue Length 50th (m)	~97.0	~98.8	0.0	2.2	63.8	19.9	43.9
Queue Length 95th (m)	#150.0	#152.6	20.5	5.9	88.1	36.2	61.3
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	190	243	409	433	1119	344	1370
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	1.80	1.53	0.56	0.07	0.70	0.67	0.49

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	140	44	110	233	212	28	685	32	211	526	86
Future Volume (vph)	131	140	44	110	233	212	28	685	32	211	526	86
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.76	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.95			0.98	1.00	0.97	1.00		0.99	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1279			1041	809	1322	2894		1327	2786	
Flt Permitted		0.46			0.74	1.00	0.40	1.00		0.24	1.00	
Satd. Flow (perm)		595			785	809	555	2894		330	2786	
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)	142	152	48	120	253	230	30	745	35	229	572	93
RTOR Reduction (vph)	0	6	0	0	0	159	0	3	0	0	11	0
Lane Group Flow (vph)	0	336	0	0	373	71	30	777	0	229	654	0
Confl. Peds. (#/hr)	214		96	96		214	135		106	106		135
Heavy Vehicles (%)	0%	0%	0%	26%	0%	3%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		30.0			30.0	30.0	41.2	37.4		53.0	46.2	
Effective Green, g (s)		30.0			30.0	30.0	41.2	37.4		53.0	46.2	
Actuated g/C Ratio		0.31			0.31	0.31	0.42	0.39		0.55	0.48	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		184			242	250	265	1115		309	1326	
v/s Ratio Prot							0.00	0.27		c0.10	0.23	
v/s Ratio Perm		c0.56			0.48	0.09	0.04			c0.31		
v/c Ratio		1.82			1.54	0.28	0.11	0.70		0.74	0.49	
Uniform Delay, d1		33.5			33.5	25.4	16.4	25.0		13.8	17.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		391.7			263.2	0.4	0.1	3.6		8.5	1.3	
Delay (s)		425.2			296.7	25.7	16.5	28.7		22.3	18.7	
Level of Service		F			F	C	B	C		C	B	
Approach Delay (s)		425.2			193.3			28.2			19.6	
Approach LOS		F			F			C			B	

Intersection Summary			
HCM 2000 Control Delay	114.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	114.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	333	88	334	277	44	187	119	268
v/c Ratio	0.57	0.98	0.33	0.58	0.74	0.28	0.62	0.39	0.55
Control Delay	46.1	79.6	18.2	25.7	17.6	31.4	35.4	18.8	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	79.6	18.2	25.7	17.6	31.4	35.4	18.8	24.2
Queue Length 50th (m)	14.3	~66.6	8.9	45.0	1.8	6.1	25.9	12.2	33.8
Queue Length 95th (m)	#36.9	#118.7	17.9	72.7	#52.1	15.9	49.4	23.1	58.7
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	159	339	275	574	373	156	302	306	488
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	0.57	0.98	0.32	0.58	0.74	0.28	0.62	0.39	0.55

Intersection Summary

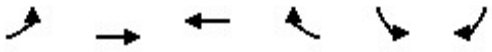
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	267	53	84	321	266	42	130	50	114	227	31
Future Volume (vph)	87	267	53	84	321	266	42	130	50	114	227	31
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95		1.00	1.00	0.53	1.00	0.90		1.00	0.96	
Flpb, ped/bikes	0.71	1.00		0.95	1.00	1.00	0.81	1.00		0.86	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	853	1047		1165	1351	526	827	953		1000	1109	
Flt Permitted	0.56	1.00		0.37	1.00	1.00	0.59	1.00		0.55	1.00	
Satd. Flow (perm)	502	1047		455	1351	526	517	953		582	1109	
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)	91	278	55	88	334	277	44	135	52	119	236	32
RTOR Reduction (vph)	0	8	0	0	0	148	0	15	0	0	5	0
Lane Group Flow (vph)	91	325	0	88	334	129	44	172	0	119	263	0
Confl. Peds. (#/hr)	261		178	178		261	161		606	606		161
Heavy Vehicles (%)	3%	6%	0%	0%	4%	0%	20%	9%	3%	6%	2%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	29.8	29.8		40.6	40.6	40.6	27.8	27.8		40.4	40.4	
Effective Green, g (s)	29.8	29.8		40.6	40.6	40.6	27.8	27.8		40.4	40.4	
Actuated g/C Ratio	0.32	0.32		0.43	0.43	0.43	0.30	0.30		0.43	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	159	331		255	583	227	152	281		292	476	
v/s Ratio Prot		c0.31		0.03	c0.25			c0.18		0.04	c0.24	
v/s Ratio Perm	0.18			0.12		0.25	0.09			0.13		
v/c Ratio	0.57	0.98		0.35	0.57	0.57	0.29	0.61		0.41	0.55	
Uniform Delay, d1	26.8	31.9		17.2	20.2	20.1	25.5	28.5		17.5	20.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.9	44.8		1.1	1.6	3.9	4.8	9.6		1.3	4.6	
Delay (s)	32.6	76.6		18.3	21.8	24.1	30.2	38.1		18.7	24.6	
Level of Service	C	E		B	C	C	C	D		B	C	
Approach Delay (s)		67.2			22.2			36.6			22.8	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

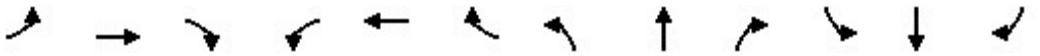
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	211	220	459	18	13	212
Future Volume (Veh/h)	211	220	459	18	13	212
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	229	239	499	20	14	230
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	519				1086	509
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	519				1086	509
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	78				92	55
cM capacity (veh/h)	1057				168	515

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	309	159	519	244
Volume Left	229	0	0	14
Volume Right	0	0	20	230
cSH	1057	1700	1700	460
Volume to Capacity	0.22	0.09	0.31	0.53
Queue Length 95th (m)	6.3	0.0	0.0	23.1
Control Delay (s)	7.5	0.0	0.0	21.3
Lane LOS	A			C
Approach Delay (s)	4.9		0.0	21.3
Approach LOS				C

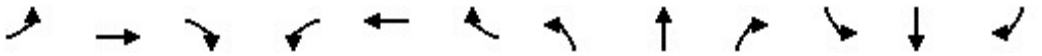
Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	635	13	5	514	11	7	1	5	11	7	11
Future Volume (Veh/h)	10	635	13	5	514	11	7	1	5	11	7	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	655	13	5	530	11	7	1	5	11	7	11
Pedestrians		13			7			107			52	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			9			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	593			775			1362	1392	776	1292	1392	600
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	420			775			1335	1371	776	1252	1372	429
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			91	99	99	89	93	98
cM capacity (veh/h)	921			769			82	104	361	104	105	499

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	678	546	13	29
Volume Left	10	5	7	11
Volume Right	13	11	5	11
cSH	921	769	119	149
Volume to Capacity	0.01	0.01	0.11	0.19
Queue Length 95th (m)	0.3	0.1	2.7	5.3
Control Delay (s)	0.3	0.2	39.0	34.9
Lane LOS	A	A	E	D
Approach Delay (s)	0.3	0.2	39.0	34.9
Approach LOS			E	D

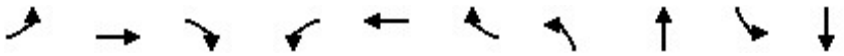
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	589	62	14	484	2	48	0	130	1	0	0
Future Volume (Veh/h)	1	589	62	14	484	2	48	0	130	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	640	67	15	526	2	52	0	141	1	0	0
Pedestrians		5			17			80			70	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			2			7			6	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	598			787			1318	1384	770	1460	1416	602
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	363			787			1270	1353	770	1450	1394	368
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			45	100	62	98	100	100
cM capacity (veh/h)	898			782			95	102	369	44	97	505

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	708	543	193	1
Volume Left	1	15	52	1
Volume Right	67	2	141	0
cSH	898	782	208	44
Volume to Capacity	0.00	0.02	0.93	0.02
Queue Length 95th (m)	0.0	0.4	57.8	0.5
Control Delay (s)	0.0	0.5	92.4	88.3
Lane LOS	A	A	F	F
Approach Delay (s)	0.0	0.5	92.4	88.3
Approach LOS			F	F

Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	225	385	133	138	326	334	109	986	222	1305
v/c Ratio	1.11	0.87	0.44	0.58	0.80	0.85	0.67	1.00	1.14	1.22
Control Delay	128.9	56.1	9.7	44.2	51.8	30.2	41.2	64.9	135.1	137.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.9	56.1	9.7	44.2	51.8	30.2	41.2	64.9	135.1	137.5
Queue Length 50th (m)	~42.3	77.5	0.6	23.8	66.7	17.0	11.5	106.6	~39.4	~179.4
Queue Length 95th (m)	#81.8	103.8	14.7	34.6	84.7	#66.5	#37.6	#188.1	#96.1	#261.9
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	202	562	351	270	562	445	175	985	194	1074
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	1.11	0.69	0.38	0.51	0.58	0.75	0.62	1.00	1.14	1.22

Intersection Summary

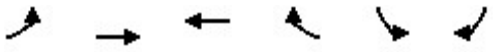
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	370	128	132	313	321	105	842	105	213	1159	94
Future Volume (vph)	216	370	128	132	313	321	105	842	105	213	1159	94
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.71	1.00	1.00	0.72	1.00	0.95		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.92	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1338	1546	742	1192	1546	781	1326	2694		1359	2865	
Flt Permitted	0.20	1.00	1.00	0.53	1.00	1.00	0.10	1.00		0.13	1.00	
Satd. Flow (perm)	286	1546	742	670	1546	781	140	2694		183	2865	
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)	225	385	133	138	326	334	109	877	109	222	1207	98
RTOR Reduction (vph)	0	0	92	0	0	187	0	8	0	0	4	0
Lane Group Flow (vph)	225	385	41	138	326	147	109	978	0	222	1301	0
Confl. Peds. (#/hr)	223		230	230		223	84		216	216		84
Heavy Vehicles (%)	0%	1%	5%	5%	1%	1%	3%	3%	2%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	31.7	31.7	31.7	32.6	29.1	29.1	48.8	39.9		51.0	41.0	
Effective Green, g (s)	31.7	31.7	31.7	32.6	29.1	29.1	48.8	39.9		51.0	41.0	
Actuated g/C Ratio	0.29	0.29	0.29	0.30	0.26	0.26	0.44	0.36		0.46	0.37	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	197	445	213	243	408	206	158	977		191	1067	
v/s Ratio Prot	c0.12	0.25		0.05	c0.21		0.06	0.36		c0.11	c0.45	
v/s Ratio Perm	c0.20		0.06	0.12		0.19	0.25			0.43		
v/c Ratio	1.14	0.87	0.19	0.57	0.80	0.71	0.69	1.00		1.16	1.22	
Uniform Delay, d1	35.3	37.1	29.5	34.3	37.7	36.7	24.7	35.0		24.0	34.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	107.6	15.6	0.2	2.5	9.9	9.8	10.9	29.1		115.7	107.2	
Delay (s)	142.9	52.7	29.7	36.8	47.7	46.5	35.6	64.2		139.6	141.7	
Level of Service	F	D	C	D	D	D	D	E		F	F	
Approach Delay (s)		75.9			45.3			61.3			141.4	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	90.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	23	19	2	13	10
Future Volume (Veh/h)	1	23	19	2	13	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	2	35	29	3	20	15
Pedestrians			5		12	
Lane Width (m)			3.5		3.5	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	44				86	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44				86	42
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1458				905	1023

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	37	32	35
Volume Left	2	0	20
Volume Right	0	3	15
cSH	1458	1700	952
Volume to Capacity	0.00	0.02	0.04
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.4	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	0.4	0.0	8.9
Approach LOS			A

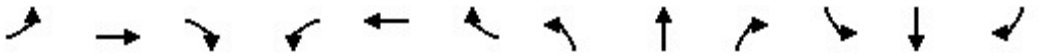
Intersection Summary			
Average Delay		3.2	
Intersection Capacity Utilization		16.6%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	27	17	55	44	5
Future Volume (Veh/h)	8	27	17	55	44	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	9	32	20	65	52	6
Pedestrians	3			17		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	0			2		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	163	75	61			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	163	75	61			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	97	99			
cM capacity (veh/h)	820	975	1551			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	41	85	58
Volume Left	9	20	0
Volume Right	32	0	6
cSH	936	1551	1700
Volume to Capacity	0.04	0.01	0.03
Queue Length 95th (m)	1.0	0.3	0.0
Control Delay (s)	9.0	1.8	0.0
Lane LOS	A	A	
Approach Delay (s)	9.0	1.8	0.0
Approach LOS	A		

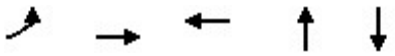
Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	182	8	11	137	22	7	23	13	31	31	7
Future Volume (Veh/h)	8	182	8	11	137	22	7	23	13	31	31	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	198	9	12	149	24	8	25	14	34	34	8
Pedestrians					15			63			33	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					1			6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	206			270			494	514	280	480	506	194
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	206			270			494	514	280	480	506	194
tC, single (s)	4.1			4.4			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	99			99			98	94	98	92	92	99
cM capacity (veh/h)	1337			1071			375	421	691	408	425	828

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	216	185	47	76
Volume Left	9	12	8	34
Volume Right	9	24	14	8
cSH	1337	1071	465	439
Volume to Capacity	0.01	0.01	0.10	0.17
Queue Length 95th (m)	0.2	0.3	2.5	4.7
Control Delay (s)	0.4	0.6	13.6	14.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.4	0.6	13.6	14.9
Approach LOS			B	B

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	24	217	388	1087	1286
v/c Ratio	0.12	0.56	1.11	1.04	1.67
Control Delay	19.5	24.3	104.9	57.8	329.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	24.3	104.9	57.8	329.9
Queue Length 50th (m)	2.2	20.3	~54.9	~80.4	~132.4
Queue Length 95th (m)	7.4	40.5	#103.6	#116.8	#170.4
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	192	386	351	1048	768
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.56	1.11	1.04	1.67

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	153	53	80	111	178	30	893	109	131	1059	31
Future Volume (vph)	23	153	53	80	111	178	30	893	109	131	1059	31
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.97			0.97			0.97			1.00	
Flpb, ped/bikes	0.98	1.00			0.98			1.00			1.00	
Frt	1.00	0.96			0.93			0.98			1.00	
Flt Protected	0.95	1.00			0.99			1.00			0.99	
Satd. Flow (prot)	1333	1211			1230			2503			2586	
Flt Permitted	0.45	1.00			0.86			0.84			0.60	
Satd. Flow (perm)	635	1211			1074			2102			1553	
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)	24	161	56	84	117	187	32	940	115	138	1115	33
RTOR Reduction (vph)	0	18	0	0	25	0	0	13	0	0	3	0
Lane Group Flow (vph)	24	199	0	0	363	0	0	1074	0	0	1283	0
Confl. Peds. (#/hr)	53		123	123		53	90		152	152		90
Heavy Vehicles (%)	0%	2%	0%	1%	2%	1%	4%	3%	0%	4%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.0	21.0			21.0			34.0			34.0	
Effective Green, g (s)	21.0	21.0			21.0			34.0			34.0	
Actuated g/C Ratio	0.30	0.30			0.30			0.49			0.49	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	193	368			326			1035			765	
v/s Ratio Prot		0.16										
v/s Ratio Perm	0.04				c0.34			0.51			c0.83	
v/c Ratio	0.12	0.54			1.11			1.04			1.68	
Uniform Delay, d1	17.4	20.0			24.0			17.5			17.5	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	1.0			84.0			38.2			310.7	
Delay (s)	17.5	20.9			108.0			55.7			328.2	
Level of Service	B	C			F			E			F	
Approach Delay (s)		20.6			108.0			55.7			328.2	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	176.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	155.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Appendix H

Trip Generation from *Transportation Impact Study of 6546 Fallsview Boulevard*

Exhibit 4-1: Proposed Development Trip Generation

6546 Fallsview Boulevard, Niagara Falls				
LUC 310: Hotel – General Urban/Suburban – Proposed 1,140 Rooms				
Term	**Unit**	**Saturday Peak Hour**		
		Inbound	**Outbound**	**Total**
Trip Generation Fitted Curve Equation	vehicle trips / room	T = 0.69(X) + 5.95		
Directional Distribution	-	56%	44%	100%
Gross Vehicular Trips	vehicle trips / hour	**444**	**349**	**793**
LUC 222: Multifamily Housing (High-Rise) – General Urban/Suburban – Not Close to Rail Transit – Proposed 126 Dwelling Units				
Term	**Unit**	**Saturday Peak Hour**		
		Inbound	**Outbound**	**Total**
Trip Generation Fitted Curve Equation	vehicle trips / room	T = 0.30(X) +30.34		
Directional Distribution	-	57%	43%	100%
Gross Vehicular Trips	vehicle trips / hour	**39**	**29**	**68**
LUC 310: Hotel – General Urban/Suburban – Existing 275 Rooms				
Term	**Unit**	**Saturday Peak Hour**		
		Inbound	**Outbound**	**Total**
Trip Generation Fitted Curve Equation	vehicle trips / room	T = 0.69(X) + 5.95		
Directional Distribution	-	56%	44%	100%
Existing Vehicular Trips To Be Removed	vehicle trips / hour	**-110**	**-86**	**-196**
LUC 473: Casino - General Urban/Suburban - 28,506.02 sq. ft.[4]				
Term	**Unit**	**Saturday Peak Hour**		
		Inbound	**Outbound**	**Total**
Average Rate	vehicle trips / 1000 sq. ft. GFA	30.98		
Directional Distribution	-	54%	46%	100%
Internal Trip Capture Reduction	vehicle trips / hour	85%		
		-406	-345	-751
Gross Vehicular Trips	vehicle trips / hour	**71**	**61**	**132**
Total				
Term	**Unit**	**Saturday Peak Hour**		
		Inbound	**Outbound**	**Total**
Net New Vehicular Trips	vehicle trips / hour	**444**	**353**	**797**

[4] Site Plan Update provides a total of 28,380.94 sq. ft. of Casino space. Trips are overestimated as analysis is completed for 28,506.02 sq. ft. of Casino space.

4.2.2 Trip Distribution and Assignment

The trip distribution for site trips was generally determined based on existing travel patterns and the available road network. The 2016 Transportation Tomorrow Survey (TTS) was also used to inform general anticipated travel patterns and trip distribution, though tourist-oriented trips are not necessarily well-represented in the TTS.

Given that offsite parking is proposed, trip distribution was further refined to consider various parking options available to future hotel guests. Based on a discussion with the proponent, it is expected that:

- 5% of guests will seek to park at the hotel site;
- 25% of guests will drop-off or pick-up individuals at the hotel site but park their vehicle at the off-site parking facility;
- 65% of guests will seek to directly park at the parking facility; and
- 5% of guests will seek to park at other parking facilities (i.e. Fallsview Casino Resort, due to a pre-existing discount entitlement).

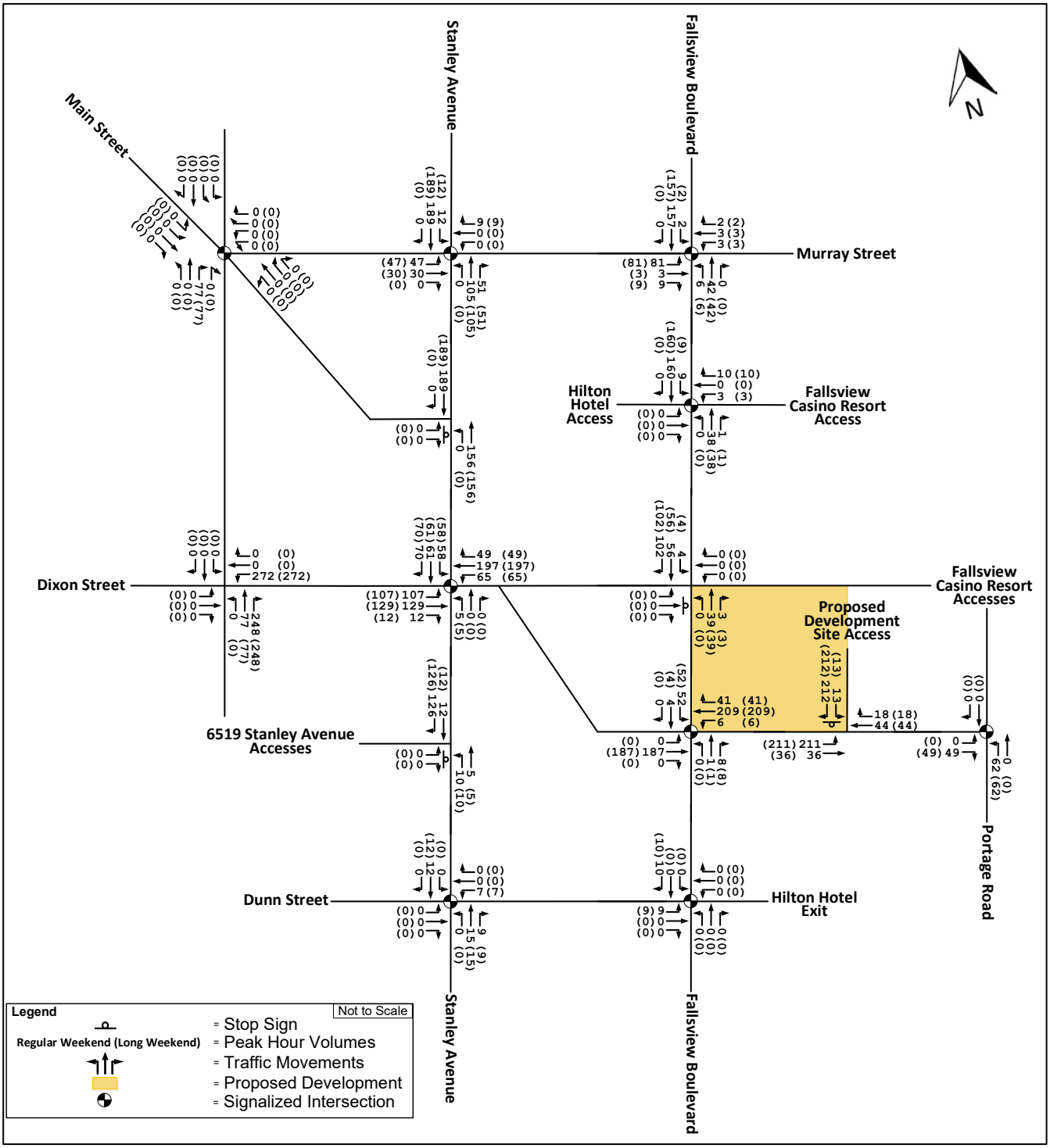
For hotel guests who ultimately park their vehicle at the parking facility, a frequent shuttle service (assumed to operate every 10 minutes) is proposed.

The general trip distribution patterns are presented in **Exhibit 4-2** and the associated site-generated volume patterns are illustrated in **Exhibit 4-3.**

Exhibit 4-2: Site Trip Distribution

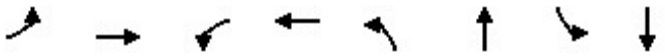
To / From	Inbound Trips		Outbound Trips	
	Typical Summer Weekend Peak Hour	Summer Long Weekend Peak Hour	Typical Summer Weekend Peak Hour	Summer Long Weekend Peak Hour
Fallsview Boulevard (north)	35%	35%	35%	35%
Portage Road (south)	15%	15%	15%	15%
Stanley Avenue (north)	45%	45%	45%	45%
Stanley Avenue (south)	5%	5%	5%	5%
Total	**100%**	**100%**	**100%**	**100%**

Exhibit 4-3: Net New Site-Generated Traffic Volumes



Appendix I

2028 Future Total Conditions Synchro Report



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	84	179	87	339	68	929	330	1001
v/c Ratio	0.63	0.54	0.40	0.95	0.49	0.86	1.04	0.60
Control Delay	52.3	32.9	33.2	65.0	38.0	36.6	83.8	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	32.9	33.2	65.0	38.0	36.6	83.8	15.5
Queue Length 50th (m)	13.1	24.9	12.6	48.2	9.5	81.1	~46.1	60.7
Queue Length 95th (m)	#34.1	45.7	26.5	#101.0	#25.9	#118.5	#98.3	80.3
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	140	348	231	369	139	1079	316	1656
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	0.60	0.51	0.38	0.92	0.49	0.86	1.04	0.60

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	134	34	82	132	187	64	733	140	310	897	44
Future Volume (vph)	79	134	34	82	132	187	64	733	140	310	897	44
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
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	0.91		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.92	1.00		0.88	1.00		0.96	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		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)	1220	1150		1186	1071		1210	2783		1335	2892	
Flt Permitted	0.37	1.00		0.63	1.00		0.29	1.00		0.17	1.00	
Satd. Flow (perm)	478	1150		788	1071		365	2783		236	2892	
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)	84	143	36	87	140	199	68	780	149	330	954	47
RTOR Reduction (vph)	0	10	0	0	55	0	0	16	0	0	3	0
Lane Group Flow (vph)	84	169	0	87	284	0	68	913	0	330	998	0
Confl. Peds. (#/hr)	149		157	157		149	95		112	112		95
Heavy Vehicles (%)	3%	5%	19%	1%	2%	2%	8%	2%	1%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.7	26.7		26.7	26.7		36.3	36.3		54.3	54.3	
Effective Green, g (s)	26.7	26.7		26.7	26.7		36.3	36.3		54.3	54.3	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.38	0.38		0.57	0.57	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	134	323		221	301		139	1063		308	1653	
v/s Ratio Prot		0.15			c0.27			0.33		c0.17	0.34	
v/s Ratio Perm	0.18			0.11			0.19			c0.44		
v/c Ratio	0.63	0.52		0.39	0.94		0.49	0.86		1.07	0.60	
Uniform Delay, d1	29.8	28.8		27.6	33.4		22.3	27.0		21.4	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.2	1.0		0.7	37.0		11.8	9.0		71.5	1.6	
Delay (s)	37.0	29.8		28.3	70.4		34.1	36.0		92.9	15.0	
Level of Service	D	C		C	E		C	D		F	B	
Approach Delay (s)		32.1			61.8			35.9			34.3	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	111.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	248	253	380	19	559	373	703
v/c Ratio	0.99	1.11	0.71	0.06	0.54	0.91	0.50
Control Delay	87.7	128.0	11.2	9.6	26.7	41.3	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.7	128.0	11.2	9.6	26.7	41.3	17.5
Queue Length 50th (m)	43.6	~54.7	0.4	1.4	42.7	37.1	38.4
Queue Length 95th (m)	#91.1	#99.5	29.3	4.2	58.0	#83.7	64.0
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	251	227	539	419	1041	412	1416
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	0.99	1.11	0.71	0.05	0.54	0.91	0.50

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	50	51	120	105	338	17	476	21	332	534	92
Future Volume (vph)	120	50	51	120	105	338	17	476	21	332	534	92
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.86	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.95			0.97	1.00	0.97	1.00		0.99	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1248			1009	902	1331	2875		1332	2764	
Flt Permitted		0.61			0.71	1.00	0.38	1.00		0.35	1.00	
Satd. Flow (perm)		777			734	902	538	2875		488	2764	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	135	56	57	135	118	380	19	535	24	373	600	103
RTOR Reduction (vph)	0	11	0	0	0	260	0	3	0	0	11	0
Lane Group Flow (vph)	0	237	0	0	253	120	19	556	0	373	692	0
Confl. Peds. (#/hr)	123		71	71		123	121		74	74		121
Heavy Vehicles (%)	0%	0%	0%	18%	0%	4%	0%	2%	0%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		30.0			30.0	30.0	37.5	35.0		53.0	47.5	
Effective Green, g (s)		30.0			30.0	30.0	37.5	35.0		53.0	47.5	
Actuated g/C Ratio		0.31			0.31	0.31	0.39	0.36		0.55	0.49	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		240			227	278	228	1037		397	1353	
v/s Ratio Prot							0.00	0.19		c0.15	0.25	
v/s Ratio Perm		0.30			c0.34	0.13	0.03			c0.37		
v/c Ratio		0.99			1.11	0.43	0.08	0.54		0.94	0.51	
Uniform Delay, d1		33.3			33.5	26.7	18.5	24.6		16.0	16.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		54.0			93.9	0.6	0.1	2.0		29.7	1.4	
Delay (s)		87.3			127.4	27.3	18.6	26.6		45.7	18.2	
Level of Service		F			F	C	B	C		D	B	
Approach Delay (s)		87.3			67.3			26.3			27.8	
Approach LOS		F			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	89	365	100	397	225	33	249	129	197
v/c Ratio	0.51	1.02	0.38	0.69	0.56	0.23	0.75	0.46	0.41
Control Delay	40.8	88.2	19.2	29.6	8.5	30.1	44.2	20.5	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	88.2	19.2	29.6	8.5	30.1	44.2	20.5	20.7
Queue Length 50th (m)	13.7	~75.7	10.2	57.0	0.0	4.5	39.1	13.4	22.7
Queue Length 95th (m)	#32.6	#127.4	19.8	89.5	17.6	12.4	#74.8	24.7	40.5
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	174	357	271	574	404	144	334	285	475
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	0.51	1.02	0.37	0.69	0.56	0.23	0.75	0.45	0.41

Intersection Summary

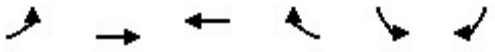
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	273	52	89	353	200	29	189	33	115	154	21
Future Volume (vph)	79	273	52	89	353	200	29	189	33	115	154	21
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.67	1.00	0.95		1.00	0.96	
Flpb, ped/bikes	0.82	1.00		0.98	1.00	1.00	0.78	1.00		0.91	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	995	1110		1202	1351	646	719	1086		1044	1078	
Flt Permitted	0.53	1.00		0.33	1.00	1.00	0.63	1.00		0.46	1.00	
Satd. Flow (perm)	553	1110		417	1351	646	480	1086		511	1078	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	89	307	58	100	397	225	33	212	37	129	173	24
RTOR Reduction (vph)	0	7	0	0	0	128	0	7	0	0	5	0
Lane Group Flow (vph)	89	358	0	100	397	97	33	242	0	129	192	0
Confl. Peds. (#/hr)	182		95	95		182	168		483	483		168
Heavy Vehicles (%)	1%	2%	0%	0%	4%	2%	33%	2%	0%	7%	5%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	29.7	29.7		40.6	40.6	40.6	27.8	27.8		40.4	40.4	
Effective Green, g (s)	29.7	29.7		40.6	40.6	40.6	27.8	27.8		40.4	40.4	
Actuated g/C Ratio	0.32	0.32		0.43	0.43	0.43	0.30	0.30		0.43	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	174	350		246	583	279	141	321		274	463	
v/s Ratio Prot		c0.32		0.03	c0.29			c0.22		c0.05	0.18	
v/s Ratio Perm	0.16			0.14		0.15	0.07			0.15		
v/c Ratio	0.51	1.02		0.41	0.68	0.35	0.23	0.75		0.47	0.41	
Uniform Delay, d1	26.2	32.1		17.6	21.5	17.9	25.0	30.0		17.8	18.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	54.2		1.5	3.5	1.0	3.9	15.1		1.7	2.7	
Delay (s)	29.6	86.3		19.1	25.0	18.9	28.9	45.1		19.5	21.3	
Level of Service	C	F		B	C	B	C	D		B	C	
Approach Delay (s)		75.2			22.3			43.2			20.6	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

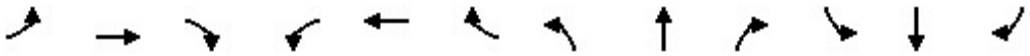
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	192	408	18	13	234
Future Volume (Veh/h)	229	192	408	18	13	234
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	209	443	20	14	254
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	463				1056	453
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	463				1056	453
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	78				92	55
cM capacity (veh/h)	1109				174	559

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	319	139	463	268
Volume Left	249	0	0	14
Volume Right	0	0	20	254
cSH	1109	1700	1700	501
Volume to Capacity	0.22	0.08	0.27	0.53
Queue Length 95th (m)	6.6	0.0	0.0	23.7
Control Delay (s)	7.6	0.0	0.0	20.1
Lane LOS	A			C
Approach Delay (s)	5.3		0.0	20.1
Approach LOS				C

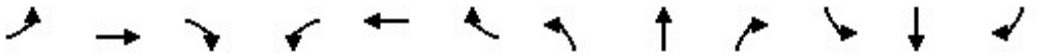
Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	399	9	9	510	11	4	0	11	4	1	10
Future Volume (Veh/h)	3	399	9	9	510	11	4	0	11	4	1	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	3	429	10	10	548	12	4	0	12	4	1	11
Pedestrians		5						68			37	
Lane Width (m)		3.5						3.5			3.5	
Walking Speed (m/s)		1.1						1.1			1.1	
Percent Blockage		0						6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.85						0.85	0.85		0.85	0.85	0.85
vC, conflicting volume	597			507			1098	1125	502	1063	1124	596
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	437			507			1027	1059	502	986	1057	436
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	100	98	98	99	98
cM capacity (veh/h)	931			1004			152	173	539	169	173	511

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	442	570	16	16
Volume Left	3	10	4	4
Volume Right	10	12	12	11
cSH	931	1004	329	314
Volume to Capacity	0.00	0.01	0.05	0.05
Queue Length 95th (m)	0.1	0.2	1.2	1.2
Control Delay (s)	0.1	0.3	16.5	17.1
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	16.5	17.1
Approach LOS			C	C

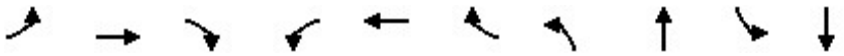
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	56.0%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	372	39	11	500	1	31	0	84	1	1	1
Future Volume (Veh/h)	2	372	39	11	500	1	31	0	84	1	1	1
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)	2	392	41	12	526	1	33	0	88	1	1	1
Pedestrians		1			2			75			47	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			7			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	574			508			1044	1090	490	1104	1110	574
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	383			508			951	1005	490	1022	1029	384
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			80	100	84	99	99	100
cM capacity (veh/h)	943			997			169	178	543	131	172	531

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	435	539	121	3
Volume Left	2	12	33	1
Volume Right	41	1	88	1
cSH	943	997	339	196
Volume to Capacity	0.00	0.01	0.36	0.02
Queue Length 95th (m)	0.0	0.3	12.0	0.4
Control Delay (s)	0.1	0.3	21.4	23.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	21.4	23.7
Approach LOS			C	C

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	63.4%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	144	245	64	108	293	187	88	860	197	1261
v/c Ratio	0.72	0.70	0.22	0.40	0.78	0.50	0.56	0.79	0.84	1.05
Control Delay	53.3	49.1	1.8	37.1	52.7	9.3	31.9	37.3	48.6	74.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	49.1	1.8	37.1	52.7	9.3	31.9	37.3	48.6	74.7
Queue Length 50th (m)	25.0	47.4	0.0	18.3	58.9	0.0	9.1	84.4	22.2	~163.6
Queue Length 95th (m)	#42.6	70.9	0.0	29.8	81.3	16.9	23.8	#137.7	#65.0	#235.2
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	205	562	380	272	556	461	175	1091	235	1197
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	0.70	0.44	0.17	0.40	0.53	0.41	0.50	0.79	0.84	1.05

Intersection Summary

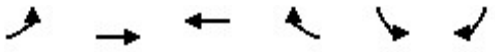
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	243	63	107	290	185	87	769	82	195	1120	129
Future Volume (vph)	143	243	63	107	290	185	87	769	82	195	1120	129
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.87	1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.98	1.00	1.00	0.92	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1331	1546	820	1210	1531	941	1326	2803		1344	2847	
Flt Permitted	0.29	1.00	1.00	0.61	1.00	1.00	0.09	1.00		0.19	1.00	
Satd. Flow (perm)	409	1546	820	773	1531	941	131	2803		271	2847	
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)	144	245	64	108	293	187	88	777	83	197	1131	130
RTOR Reduction (vph)	0	0	49	0	0	141	0	6	0	0	6	0
Lane Group Flow (vph)	144	245	15	108	293	46	88	854	0	197	1255	0
Confl. Peds. (#/hr)	99		155	155		99	70		110	110		70
Heavy Vehicles (%)	1%	1%	7%	4%	2%	1%	3%	2%	1%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.1	25.1	25.1	30.5	27.0	27.0	49.8	42.6		55.4	45.4	
Effective Green, g (s)	25.1	25.1	25.1	30.5	27.0	27.0	49.8	42.6		55.4	45.4	
Actuated g/C Ratio	0.23	0.23	0.23	0.28	0.25	0.25	0.45	0.39		0.50	0.41	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	188	352	187	267	375	230	137	1085		234	1175	
v/s Ratio Prot	c0.08	0.16		0.05	c0.19		0.04	0.30		c0.08	c0.44	
v/s Ratio Perm	0.09		0.02	0.06		0.05	0.25			0.35		
v/c Ratio	0.77	0.70	0.08	0.40	0.78	0.20	0.64	0.79		0.84	1.07	
Uniform Delay, d1	37.2	38.9	33.4	33.4	38.7	32.9	22.4	29.7		18.7	32.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.2	5.0	0.1	0.7	9.6	0.2	8.8	5.8		22.7	46.3	
Delay (s)	53.4	44.0	33.4	34.1	48.3	33.1	31.1	35.5		41.4	78.6	
Level of Service	D	D	C	C	D	C	C	D		D	E	
Approach Delay (s)		45.5			40.9			35.1			73.6	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	53.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	15	5	0	4	10
Future Volume (Veh/h)	6	15	5	0	4	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Hourly flow rate (vph)	11	26	9	0	7	18
Pedestrians		1	6		4	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	13				67	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	13				67	14
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	99				99	98
cM capacity (veh/h)	1508				928	1067

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	37	9	25
Volume Left	11	0	7
Volume Right	0	0	18
cSH	1508	1700	1024
Volume to Capacity	0.01	0.01	0.02
Queue Length 95th (m)	0.2	0.0	0.6
Control Delay (s)	2.2	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	8.6
Approach LOS			A

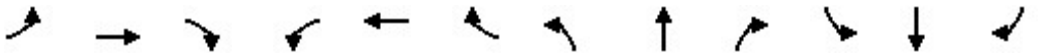
Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	9	2	154	117	3
Future Volume (Veh/h)	10	9	2	154	117	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	14	13	3	220	167	4
Pedestrians	6			6		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	1			1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	401	181	177			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	401	181	177			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	100			
cM capacity (veh/h)	604	858	1404			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	27	223	171
Volume Left	14	3	0
Volume Right	13	0	4
cSH	705	1404	1700
Volume to Capacity	0.04	0.00	0.10
Queue Length 95th (m)	0.9	0.0	0.0
Control Delay (s)	10.3	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	10.3	0.1	0.0
Approach LOS	B		

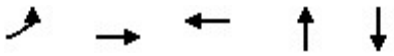
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	80	1	3	80	136	3	17	9	114	11	1
Future Volume (Veh/h)	1	80	1	3	80	136	3	17	9	114	11	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	1	95	1	4	95	162	4	20	11	136	13	1
Pedestrians					26			18			4	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					2			2			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	261			114			307	384	140	332	304	180
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	261			114			307	384	140	332	304	180
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	96	99	76	98	100
cM capacity (veh/h)	1310			1464			617	526	879	573	599	865

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	97	261	35	150
Volume Left	1	4	4	136
Volume Right	1	162	11	1
cSH	1310	1464	614	577
Volume to Capacity	0.00	0.00	0.06	0.26
Queue Length 95th (m)	0.0	0.1	1.4	7.9
Control Delay (s)	0.1	0.1	11.2	13.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.1	11.2	13.4
Approach LOS			B	B

Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	42.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	9	197	239	1052	1230
v/c Ratio	0.05	0.67	0.76	1.30	1.01
Control Delay	18.0	29.9	31.8	163.7	50.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	29.9	31.8	163.7	50.1
Queue Length 50th (m)	0.8	16.7	18.1	~101.5	~101.0
Queue Length 95th (m)	3.9	36.0	40.9	#137.4	#138.5
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	211	363	383	811	1212
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.54	0.62	1.30	1.01

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	57	130	31	55	141	145	827	27	60	1090	19
Future Volume (vph)	9	57	130	31	55	141	145	827	27	60	1090	19
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.94			0.96			1.00			1.00	
Flpb, ped/bikes	0.96	1.00			0.99			1.00			1.00	
Frt	1.00	0.90			0.92			1.00			1.00	
Flt Protected	0.95	1.00			0.99			0.99			1.00	
Satd. Flow (prot)	1163	1109			1187			2606			2635	
Flt Permitted	0.57	1.00			0.92			0.55			0.82	
Satd. Flow (perm)	694	1109			1101			1450			2169	
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)	9	60	137	33	58	148	153	871	28	63	1147	20
RTOR Reduction (vph)	0	28	0	0	53	0	0	2	0	0	1	0
Lane Group Flow (vph)	9	169	0	0	186	0	0	1050	0	0	1229	0
Confl. Peds. (#/hr)	60		75	75		60	44		72	72		44
Heavy Vehicles (%)	13%	2%	0%	7%	4%	2%	0%	2%	0%	9%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.5	16.5			16.5			38.5			38.5	
Effective Green, g (s)	16.5	16.5			16.5			38.5			38.5	
Actuated g/C Ratio	0.24	0.24			0.24			0.56			0.56	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	165	265			263			809			1210	
v/s Ratio Prot		0.15										
v/s Ratio Perm	0.01				c0.17			c0.72			0.57	
v/c Ratio	0.05	0.64			0.71			1.30			1.02	
Uniform Delay, d1	20.2	23.6			24.0			15.2			15.2	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	3.8			7.1			143.0			29.8	
Delay (s)	20.3	27.4			31.1			158.3			45.0	
Level of Service	C	C			C			F			D	
Approach Delay (s)		27.1			31.1			158.3			45.0	
Approach LOS		C			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	86.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	143.2%	ICU Level of Service	H
Analysis Period (min)	15		

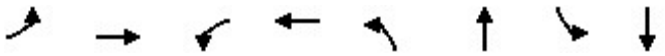
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	106	133	94	39	0
Future Volume (Veh/h)	0	106	133	94	39	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	115	145	102	42	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	434	42	42			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	434	42	42			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	89	91			
cM capacity (veh/h)	525	1029	1567			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	115	247	42
Volume Left	0	145	0
Volume Right	115	0	0
cSH	1029	1567	1700
Volume to Capacity	0.11	0.09	0.02
Queue Length 95th (m)	2.9	2.3	0.0
Control Delay (s)	8.9	4.7	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	84	203	81	323	84	1140	367	974
v/c Ratio	0.60	0.59	0.36	0.96	0.61	1.07	1.33	0.60
Control Delay	48.8	35.2	32.0	68.7	47.3	77.6	199.2	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	35.2	32.0	68.7	47.3	77.6	199.2	15.4
Queue Length 50th (m)	13.0	29.6	11.6	46.3	12.5	~124.4	~76.8	58.4
Queue Length 95th (m)	#33.0	52.3	24.8	#98.9	#35.6	#164.5	#131.0	77.6
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	146	359	234	346	137	1067	275	1623
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	0.58	0.57	0.35	0.93	0.61	1.07	1.33	0.60

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	152	31	73	123	167	76	842	184	330	821	56
Future Volume (vph)	76	152	31	73	123	167	76	842	184	330	821	56
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.86		1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.87	1.00		0.94	1.00		0.90	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1184	1193		1278	1000		1166	2755		1338	2840	
Flt Permitted	0.40	1.00		0.59	1.00		0.29	1.00		0.10	1.00	
Satd. Flow (perm)	497	1193		796	1000		361	2755		144	2840	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	84	169	34	81	137	186	84	936	204	367	912	62
RTOR Reduction (vph)	0	8	0	0	52	0	0	19	0	0	5	0
Lane Group Flow (vph)	84	195	0	81	271	0	84	1121	0	367	969	0
Confl. Peds. (#/hr)	239		86	86		239	202		187	187		202
Heavy Vehicles (%)	0%	2%	28%	0%	4%	3%	6%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.9	26.9		26.9	26.9		36.1	36.1		54.1	54.1	
Effective Green, g (s)	26.9	26.9		26.9	26.9		36.1	36.1		54.1	54.1	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.38	0.38		0.57	0.57	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	140	337		225	283		137	1046		270	1617	
v/s Ratio Prot		0.16			c0.27			0.41		c0.21	0.34	
v/s Ratio Perm	0.17			0.10			0.23			c0.56		
v/c Ratio	0.60	0.58		0.36	0.96		0.61	1.07		1.36	0.60	
Uniform Delay, d1	29.4	29.2		27.2	33.5		23.8	29.4		27.9	13.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.2	1.8		0.6	41.2		18.8	49.1		183.8	1.6	
Delay (s)	34.6	31.0		27.8	74.7		42.6	78.5		211.7	15.0	
Level of Service	C	C		C	E		D	E		F	B	
Approach Delay (s)		32.1			65.3			76.1			68.8	
Approach LOS		C			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	67.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	116.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

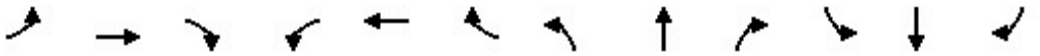


Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	240	243	358	28	710	329	618
v/c Ratio	1.00	1.06	0.73	0.09	0.68	0.92	0.45
Control Delay	92.6	110.1	13.9	9.9	30.0	47.5	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.6	110.1	13.9	9.9	30.0	47.5	17.7
Queue Length 50th (m)	43.0	~50.2	1.6	2.1	58.1	31.4	39.7
Queue Length 95th (m)	#92.0	#95.7	#39.4	5.6	78.1	#81.0	55.8
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	240	230	489	433	1047	356	1369
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	1.00	1.06	0.73	0.06	0.68	0.92	0.45

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	51	41	106	118	329	26	624	29	303	485	84
Future Volume (vph)	129	51	41	106	118	329	26	624	29	303	485	84
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.76	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.91			0.97	1.00	0.96	1.00		0.99	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1195			982	809	1317	2894		1324	2778	
Flt Permitted		0.61			0.74	1.00	0.42	1.00		0.26	1.00	
Satd. Flow (perm)		750			746	809	579	2894		361	2778	
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)	140	55	45	115	128	358	28	678	32	329	527	91
RTOR Reduction (vph)	0	8	0	0	0	239	0	3	0	0	12	0
Lane Group Flow (vph)	0	232	0	0	243	119	28	707	0	329	606	0
Confl. Peds. (#/hr)	214		96	96		214	135		106	106		135
Heavy Vehicles (%)	0%	0%	0%	26%	0%	3%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		30.0			30.0	30.0	38.8	35.0		53.0	46.2	
Effective Green, g (s)		30.0			30.0	30.0	38.8	35.0		53.0	46.2	
Actuated g/C Ratio		0.31			0.31	0.31	0.40	0.36		0.55	0.48	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		231			230	250	260	1044		346	1323	
v/s Ratio Prot							0.00	0.24		c0.15	0.22	
v/s Ratio Perm		0.31			c0.33	0.15	0.04			c0.37		
v/c Ratio		1.00			1.06	0.48	0.11	0.68		0.95	0.46	
Uniform Delay, d1		33.5			33.5	27.1	17.8	26.2		15.3	17.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		60.0			75.0	0.8	0.1	3.5		35.4	1.1	
Delay (s)		93.5			108.5	28.0	17.9	29.7		50.7	18.2	
Level of Service		F			F	C	B	C		D	B	
Approach Delay (s)		93.5			60.5			29.3			29.5	
Approach LOS		F			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

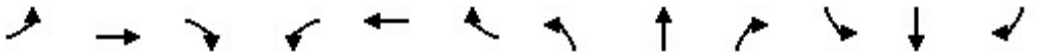


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	340	79	347	254	40	171	113	244
v/c Ratio	0.52	1.00	0.30	0.60	0.69	0.25	0.56	0.37	0.50
Control Delay	42.5	82.9	17.8	26.4	13.8	30.3	32.8	18.2	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	82.9	17.8	26.4	13.8	30.3	32.8	18.2	22.8
Queue Length 50th (m)	12.6	~69.2	7.9	47.4	0.0	5.5	22.9	11.5	29.7
Queue Length 95th (m)	#32.4	#121.9	16.3	76.2	#34.1	14.5	44.7	22.1	52.1
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	159	341	272	574	369	158	303	312	488
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	0.52	1.00	0.29	0.60	0.69	0.25	0.56	0.36	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

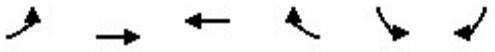
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	278	48	76	333	244	38	118	46	108	206	28
Future Volume (vph)	79	278	48	76	333	244	38	118	46	108	206	28
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95		1.00	1.00	0.53	1.00	0.90		1.00	0.96	
Flpb, ped/bikes	0.72	1.00		0.95	1.00	1.00	0.80	1.00		0.85	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	859	1055		1168	1351	526	820	952		986	1109	
Flt Permitted	0.55	1.00		0.36	1.00	1.00	0.61	1.00		0.58	1.00	
Satd. Flow (perm)	500	1055		446	1351	526	524	952		599	1109	
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)	82	290	50	79	347	254	40	123	48	112	215	29
RTOR Reduction (vph)	0	6	0	0	0	144	0	15	0	0	5	0
Lane Group Flow (vph)	82	334	0	79	347	110	40	156	0	113	239	0
Confl. Peds. (#/hr)	261		178	178		261	161		606	606		161
Heavy Vehicles (%)	3%	6%	0%	0%	4%	0%	20%	9%	3%	6%	2%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	29.9	29.9		40.6	40.6	40.6	27.9	27.9		40.4	40.4	
Effective Green, g (s)	29.9	29.9		40.6	40.6	40.6	27.9	27.9		40.4	40.4	
Actuated g/C Ratio	0.32	0.32		0.43	0.43	0.43	0.30	0.30		0.43	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	159	335		251	583	227	155	282		296	476	
v/s Ratio Prot		c0.32		0.03	c0.26			c0.16		0.04	c0.22	
v/s Ratio Perm	0.16			0.11		0.21	0.08			0.13		
v/c Ratio	0.52	1.00		0.31	0.60	0.48	0.26	0.55		0.38	0.50	
Uniform Delay, d1	26.1	32.0		17.1	20.4	19.2	25.2	27.8		17.3	19.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	48.0		1.0	1.9	2.2	4.0	7.6		1.1	3.7	
Delay (s)	29.9	80.0		18.0	22.3	21.4	29.2	35.5		18.5	23.2	
Level of Service	C	E		B	C	C	C	D		B	C	
Approach Delay (s)		70.2			21.5			34.3			21.7	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

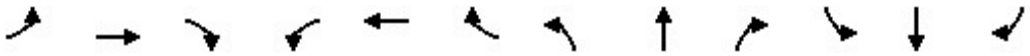
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	203	419	18	13	234
Future Volume (Veh/h)	229	203	419	18	13	234
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	221	455	20	14	254
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	475				1074	465
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	475				1074	465
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	77				92	54
cM capacity (veh/h)	1098				169	550

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	323	147	475	268
Volume Left	249	0	0	14
Volume Right	0	0	20	254
cSH	1098	1700	1700	492
Volume to Capacity	0.23	0.09	0.28	0.55
Queue Length 95th (m)	6.6	0.0	0.0	24.5
Control Delay (s)	7.6	0.0	0.0	20.8
Lane LOS	A			C
Approach Delay (s)	5.2		0.0	20.8
Approach LOS				C

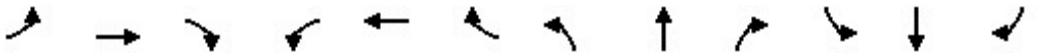
Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	579	12	4	469	10	6	1	4	10	6	10
Future Volume (Veh/h)	9	579	12	4	469	10	6	1	4	10	6	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	9	597	12	4	484	10	6	1	4	10	6	10
Pedestrians		13			7			107			52	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			9			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.86						0.86	0.86		0.86	0.86	0.86
vC, conflicting volume	546			716			1251	1282	717	1182	1283	554
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	391			716			1211	1247	717	1130	1248	400
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	99	99	92	95	98
cM capacity (veh/h)	967			809			104	127	390	130	128	531

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	618	498	11	26
Volume Left	9	4	6	10
Volume Right	12	10	4	10
cSH	967	809	145	182
Volume to Capacity	0.01	0.00	0.08	0.14
Queue Length 95th (m)	0.2	0.1	1.8	3.7
Control Delay (s)	0.3	0.1	31.9	28.0
Lane LOS	A	A	D	D
Approach Delay (s)	0.3	0.1	31.9	28.0
Approach LOS			D	D

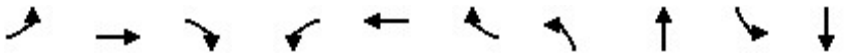
Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	62.7%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	534	60	13	438	2	47	0	126	1	0	0
Future Volume (Veh/h)	1	534	60	13	438	2	47	0	126	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	580	65	14	476	2	51	0	137	1	0	0
Pedestrians		5			17			80			70	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			2			7			6	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.82						0.82	0.82		0.82	0.82	0.82
vC, conflicting volume	548			725			1204	1270	710	1344	1302	552
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	340			725			1140	1220	710	1309	1259	345
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			58	100	66	98	100	100
cM capacity (veh/h)	947			824			121	128	400	61	121	538

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	646	492	188	1
Volume Left	1	14	51	1
Volume Right	65	2	137	0
cSH	947	824	247	61
Volume to Capacity	0.00	0.02	0.76	0.02
Queue Length 95th (m)	0.0	0.4	41.8	0.4
Control Delay (s)	0.0	0.5	54.8	65.0
Lane LOS	A	A	F	F
Approach Delay (s)	0.0	0.5	54.8	65.0
Approach LOS			F	F

Intersection Summary				
Average Delay	8.0			
Intersection Capacity Utilization	64.4%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	211	349	122	126	296	303	99	912	201	1215
v/c Ratio	1.04	0.83	0.41	0.53	0.76	0.77	0.63	0.89	0.93	1.09
Control Delay	109.0	54.2	8.6	43.0	50.5	20.8	36.7	45.5	66.6	86.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.0	54.2	8.6	43.0	50.5	20.8	36.7	45.5	66.6	86.9
Queue Length 50th (m)	~39.8	70.9	0.0	21.7	59.5	7.1	10.3	93.5	22.7	~153.9
Queue Length 95th (m)	#73.0	93.7	11.8	33.0	78.5	40.6	#31.6	#162.6	#75.8	#232.8
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	202	562	351	263	562	450	175	1021	217	1119
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	1.04	0.62	0.35	0.48	0.53	0.67	0.57	0.89	0.93	1.09

Intersection Summary

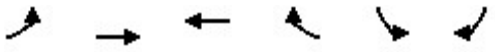
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	335	117	121	284	291	95	780	95	193	1080	86
Future Volume (vph)	203	335	117	121	284	291	95	780	95	193	1080	86
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.71	1.00	1.00	0.72	1.00	0.95		1.00	0.99	
Flpb, ped/bikes	0.97	1.00	1.00	0.91	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1331	1546	742	1182	1546	781	1326	2698		1353	2866	
Flt Permitted	0.22	1.00	1.00	0.55	1.00	1.00	0.10	1.00		0.17	1.00	
Satd. Flow (perm)	313	1546	742	686	1546	781	135	2698		238	2866	
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)	211	349	122	126	296	303	99	812	99	201	1125	90
RTOR Reduction (vph)	0	0	89	0	0	196	0	7	0	0	4	0
Lane Group Flow (vph)	211	349	33	126	296	107	99	905	0	201	1211	0
Confl. Peds. (#/hr)	223		230	230		223	84		216	216		84
Heavy Vehicles (%)	0%	1%	5%	5%	1%	1%	3%	3%	2%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	29.9	29.9	29.9	31.2	27.7	27.7	49.9	41.3		52.7	42.7	
Effective Green, g (s)	29.9	29.9	29.9	31.2	27.7	27.7	49.9	41.3		52.7	42.7	
Actuated g/C Ratio	0.27	0.27	0.27	0.28	0.25	0.25	0.45	0.38		0.48	0.39	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	196	420	201	238	389	196	154	1012		215	1112	
v/s Ratio Prot	c0.12	0.23		0.05	c0.19		0.05	0.34		c0.08	c0.42	
v/s Ratio Perm	c0.17		0.04	0.10		0.14	0.24			0.36		
v/c Ratio	1.08	0.83	0.16	0.53	0.76	0.55	0.64	0.89		0.93	1.09	
Uniform Delay, d1	36.6	37.7	30.5	34.6	38.1	35.7	22.7	32.3		20.8	33.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	86.1	12.7	0.2	1.6	7.9	2.0	7.9	12.0		43.2	54.5	
Delay (s)	122.7	50.3	30.7	36.2	46.0	37.7	30.5	44.3		64.0	88.2	
Level of Service	F	D	C	D	D	D	C	D		E	F	
Approach Delay (s)		69.2			40.8			42.9			84.7	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	62.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	21	17	2	12	9
Future Volume (Veh/h)	1	21	17	2	12	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	2	32	26	3	18	14
Pedestrians			5		12	
Lane Width (m)			3.5		3.5	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	41				80	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	41				80	40
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1461				912	1027

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	34	29	32
Volume Left	2	0	18
Volume Right	0	3	14
cSH	1461	1700	959
Volume to Capacity	0.00	0.02	0.03
Queue Length 95th (m)	0.0	0.0	0.8
Control Delay (s)	0.4	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	0.4	0.0	8.9
Approach LOS			A

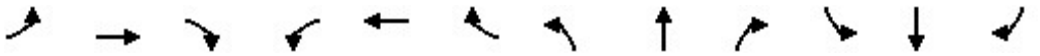
Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	25	15	183	146	4
Future Volume (Veh/h)	8	25	15	183	146	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	9	29	18	215	172	5
Pedestrians	3			17		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	0			2		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	428	194	180			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	428	194	180			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	97	99			
cM capacity (veh/h)	578	837	1404			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	38	233	177
Volume Left	9	18	0
Volume Right	29	0	5
cSH	757	1404	1700
Volume to Capacity	0.05	0.01	0.10
Queue Length 95th (m)	1.2	0.3	0.0
Control Delay (s)	10.0	0.7	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	0.7	0.0
Approach LOS	B		

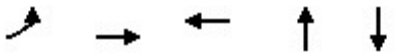
Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	165	8	10	124	152	6	21	12	134	29	6
Future Volume (Veh/h)	8	165	8	10	124	152	6	21	12	134	29	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	179	9	11	135	165	7	23	13	146	32	7
Pedestrians					15			63			33	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					1			6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	333			251			527	620	262	514	542	250
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	333			251			527	620	262	514	542	250
tC, single (s)	4.1			4.4			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	99			99			98	94	98	62	92	99
cM capacity (veh/h)	1202			1089			357	366	709	388	406	770

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	197	311	43	185
Volume Left	9	11	7	146
Volume Right	9	165	13	7
cSH	1202	1089	427	398
Volume to Capacity	0.01	0.01	0.10	0.46
Queue Length 95th (m)	0.2	0.2	2.5	18.2
Control Delay (s)	0.4	0.4	14.4	21.6
Lane LOS	A	A	B	C
Approach Delay (s)	0.4	0.4	14.4	21.6
Approach LOS			B	C

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

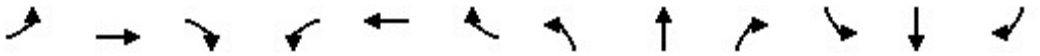


Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	22	308	352	1143	1187
v/c Ratio	0.11	0.83	1.16	1.67	1.59
Control Delay	19.0	41.8	127.5	326.7	291.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	41.8	127.5	326.7	291.3
Queue Length 50th (m)	2.0	32.1	~50.9	~116.8	~119.2
Queue Length 95th (m)	6.9	#73.7	#97.9	#153.7	#156.3
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	206	369	303	686	748
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.83	1.16	1.67	1.59

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	139	154	73	101	161	160	827	99	119	981	28
Future Volume (vph)	21	139	154	73	101	161	160	827	99	119	981	28
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.93			0.97			0.98			1.00	
Flpb, ped/bikes	0.97	1.00			0.98			1.00			1.00	
Frt	1.00	0.92			0.94			0.99			1.00	
Flt Protected	0.95	1.00			0.99			0.99			0.99	
Satd. Flow (prot)	1330	1124			1235			2493			2589	
Flt Permitted	0.48	1.00			0.72			0.55			0.58	
Satd. Flow (perm)	679	1124			899			1371			1515	
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)	22	146	162	77	106	169	168	871	104	125	1033	29
RTOR Reduction (vph)	0	28	0	0	31	0	0	11	0	0	3	0
Lane Group Flow (vph)	22	280	0	0	321	0	0	1132	0	0	1184	0
Confl. Peds. (#/hr)	53		123	123		53	90		152	152		90
Heavy Vehicles (%)	0%	2%	0%	1%	2%	1%	4%	3%	0%	4%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.0	21.0			21.0			34.0			34.0	
Effective Green, g (s)	21.0	21.0			21.0			34.0			34.0	
Actuated g/C Ratio	0.30	0.30			0.30			0.49			0.49	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	206	342			273			675			746	
v/s Ratio Prot		0.25										
v/s Ratio Perm	0.03				c0.36			c0.83			0.78	
v/c Ratio	0.11	0.82			1.18			1.68			1.59	
Uniform Delay, d1	17.3	22.2			24.0			17.5			17.5	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	13.5			111.2			311.4			270.9	
Delay (s)	17.4	35.8			135.2			328.9			288.4	
Level of Service	B	D			F			F			F	
Approach Delay (s)		34.5			135.2			328.9			288.4	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	258.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	161.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



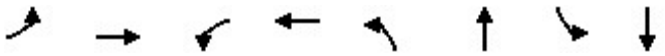
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	106	133	157	66	0
Future Volume (Veh/h)	0	106	133	157	66	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	115	145	171	72	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	533	72	72			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	533	72	72			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	88	91			
cM capacity (veh/h)	459	990	1528			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	115	316	72
Volume Left	0	145	0
Volume Right	115	0	0
cSH	990	1528	1700
Volume to Capacity	0.12	0.09	0.04
Queue Length 95th (m)	3.0	2.4	0.0
Control Delay (s)	9.1	3.9	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	3.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix J

2033 Future Total Conditions Synchro Report



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	193	97	373	76	990	363	1071
v/c Ratio	0.69	0.55	0.43	1.01	0.60	0.95	1.24	0.66
Control Delay	59.4	33.3	34.3	78.4	48.0	47.8	157.1	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	33.3	34.3	78.4	48.0	47.8	157.1	17.1
Queue Length 50th (m)	14.2	27.5	14.3	~58.4	11.1	89.5	~67.4	67.4
Queue Length 95th (m)	#38.7	49.8	29.7	#116.2	#32.7	#131.8	#121.2	89.0
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	128	348	226	369	126	1041	293	1616
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	0.69	0.55	0.43	1.01	0.60	0.95	1.24	0.66

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	145	37	91	146	205	71	781	149	341	958	49
Future Volume (vph)	83	145	37	91	146	205	71	781	149	341	958	49
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
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	0.91		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.93	1.00		0.88	1.00		0.96	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		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)	1229	1149		1190	1072		1215	2783		1337	2890	
Flt Permitted	0.34	1.00		0.61	1.00		0.27	1.00		0.13	1.00	
Satd. Flow (perm)	436	1149		767	1072		342	2783		188	2890	
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)	88	154	39	97	155	218	76	831	159	363	1019	52
RTOR Reduction (vph)	0	10	0	0	54	0	0	16	0	0	4	0
Lane Group Flow (vph)	88	183	0	97	319	0	76	974	0	363	1067	0
Confl. Peds. (#/hr)	149		157	157		149	95		112	112		95
Heavy Vehicles (%)	3%	5%	19%	1%	2%	2%	8%	2%	1%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.37	0.37		0.56	0.56	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	128	338		226	315		126	1025		286	1612	
v/s Ratio Prot		0.16			c0.30			0.35		c0.20	0.37	
v/s Ratio Perm	0.20			0.13			0.22			c0.51		
v/c Ratio	0.69	0.54		0.43	1.01		0.60	0.95		1.27	0.66	
Uniform Delay, d1	29.6	28.1		27.0	33.5		24.4	29.1		24.7	14.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.5	1.2		0.8	54.3		19.6	18.3		145.8	2.2	
Delay (s)	42.1	29.3		27.8	87.8		43.9	47.5		170.5	16.9	
Level of Service	D	C		C	F		D	D		F	B	
Approach Delay (s)		33.3			75.4			47.2			55.8	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	53.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	255	263	398	20	613	392	759
v/c Ratio	1.03	1.17	0.75	0.07	0.59	1.00	0.53
Control Delay	99.3	148.2	14.6	9.7	27.8	61.8	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.3	148.2	14.6	9.7	27.8	61.8	18.2
Queue Length 50th (m)	~49.3	~59.2	4.3	1.5	48.0	39.7	42.7
Queue Length 95th (m)	#95.1	#104.8	#41.1	4.3	64.4	#98.9	70.7
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	247	224	531	409	1041	393	1419
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	1.03	1.17	0.75	0.05	0.59	1.00	0.53

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	51	55	126	108	354	18	522	23	349	581	94
Future Volume (vph)	121	51	55	126	108	354	18	522	23	349	581	94
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.86	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.95			0.98	1.00	0.98	1.00		0.99	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1248			1008	902	1335	2876		1336	2771	
Flt Permitted		0.59			0.70	1.00	0.36	1.00		0.31	1.00	
Satd. Flow (perm)		761			726	902	511	2876		442	2771	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	136	57	62	142	121	398	20	587	26	392	653	106
RTOR Reduction (vph)	0	12	0	0	0	253	0	3	0	0	11	0
Lane Group Flow (vph)	0	243	0	0	263	145	20	610	0	392	748	0
Confl. Peds. (#/hr)	123		71	71		123	121		74	74		121
Heavy Vehicles (%)	0%	0%	0%	18%	0%	4%	0%	2%	0%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		30.0			30.0	30.0	37.5	35.0		53.0	47.5	
Effective Green, g (s)		30.0			30.0	30.0	37.5	35.0		53.0	47.5	
Actuated g/C Ratio		0.31			0.31	0.31	0.39	0.36		0.55	0.49	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		235			224	278	218	1037		379	1356	
v/s Ratio Prot							0.00	0.21		c0.16	0.27	
v/s Ratio Perm		0.32			c0.36	0.16	0.03			c0.40		
v/c Ratio		1.04			1.17	0.52	0.09	0.59		1.03	0.55	
Uniform Delay, d1		33.5			33.5	27.6	18.5	25.2		17.2	17.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		68.2			115.2	1.1	0.1	2.4		55.4	1.6	
Delay (s)		101.7			148.7	28.7	18.6	27.6		72.6	18.9	
Level of Service		F			F	C	B	C		E	B	
Approach Delay (s)		101.7			76.5			27.3			37.2	
Approach LOS		F			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	50.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	379	110	411	244	36	274	136	217
v/c Ratio	0.57	1.06	0.42	0.72	0.59	0.25	0.82	0.50	0.46
Control Delay	44.4	99.8	20.3	30.8	9.0	30.8	51.1	21.8	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.4	99.8	20.3	30.8	9.0	30.8	51.1	21.8	21.7
Queue Length 50th (m)	15.4	~81.1	11.3	59.9	0.0	4.9	44.7	14.2	25.7
Queue Length 95th (m)	#37.4	#133.5	21.5	93.7	19.4	13.3	#86.2	26.0	45.2
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	172	356	264	574	415	143	335	275	475
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	0.57	1.06	0.42	0.72	0.59	0.25	0.82	0.49	0.46

Intersection Summary

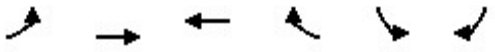
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	280	57	98	366	217	32	209	35	121	170	23
Future Volume (vph)	87	280	57	98	366	217	32	209	35	121	170	23
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.67	1.00	0.95		1.00	0.96	
Flpb, ped/bikes	0.82	1.00		0.98	1.00	1.00	0.78	1.00		0.92	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	999	1107		1205	1351	646	724	1089		1059	1079	
Flt Permitted	0.52	1.00		0.31	1.00	1.00	0.62	1.00		0.43	1.00	
Satd. Flow (perm)	548	1107		395	1351	646	475	1089		478	1079	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	98	315	64	110	411	244	36	235	39	136	191	26
RTOR Reduction (vph)	0	8	0	0	0	139	0	6	0	0	5	0
Lane Group Flow (vph)	98	371	0	110	411	105	36	268	0	136	212	0
Confl. Peds. (#/hr)	182		95	95		182	168		483	483		168
Heavy Vehicles (%)	1%	2%	0%	0%	4%	2%	33%	2%	0%	7%	5%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	29.6	29.6		40.6	40.6	40.6	27.7	27.7		40.4	40.4	
Effective Green, g (s)	29.6	29.6		40.6	40.6	40.6	27.7	27.7		40.4	40.4	
Actuated g/C Ratio	0.31	0.31		0.43	0.43	0.43	0.29	0.29		0.43	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	172	348		239	583	279	139	320		265	463	
v/s Ratio Prot		c0.34		0.04	c0.30			c0.25		c0.05	0.20	
v/s Ratio Perm	0.18			0.16		0.16	0.08			0.17		
v/c Ratio	0.57	1.07		0.46	0.70	0.38	0.26	0.84		0.51	0.46	
Uniform Delay, d1	26.9	32.2		17.9	21.8	18.1	25.3	31.0		18.0	19.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.2	67.3		1.9	4.1	1.2	4.5	22.1		2.2	3.2	
Delay (s)	32.1	99.5		19.8	26.0	19.3	29.8	53.1		20.2	22.3	
Level of Service	C	F		B	C	B	C	D		C	C	
Approach Delay (s)		85.6			22.9			50.4			21.5	
Approach LOS		F			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

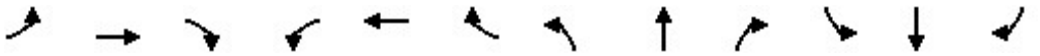
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	207	447	18	13	234
Future Volume (Veh/h)	229	207	447	18	13	234
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	225	486	20	14	254
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	506				1106	496
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	506				1106	496
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	77				91	52
cM capacity (veh/h)	1069				159	525

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	324	150	506	268
Volume Left	249	0	0	14
Volume Right	0	0	20	254
cSH	1069	1700	1700	469
Volume to Capacity	0.23	0.09	0.30	0.57
Queue Length 95th (m)	6.9	0.0	0.0	26.7
Control Delay (s)	7.7	0.0	0.0	22.5
Lane LOS	A			C
Approach Delay (s)	5.3		0.0	22.5
Approach LOS				C

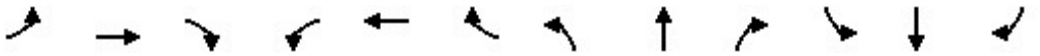
Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	437	10	10	561	12	5	0	12	5	1	11
Future Volume (Veh/h)	4	437	10	10	561	12	5	0	12	5	1	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	470	11	11	603	13	5	0	13	5	1	12
Pedestrians		5						68			37	
Lane Width (m)		3.5						3.5			3.5	
Walking Speed (m/s)		1.1						1.1			1.1	
Percent Blockage		0						6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	653			549			1200	1226	544	1165	1226	652
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	478			549			1139	1170	544	1096	1169	476
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	97	96	99	97
cM capacity (veh/h)	878			969			123	144	511	138	144	473

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	485	627	18	18
Volume Left	4	11	5	5
Volume Right	11	13	13	12
cSH	878	969	273	263
Volume to Capacity	0.00	0.01	0.07	0.07
Queue Length 95th (m)	0.1	0.3	1.6	1.7
Control Delay (s)	0.1	0.3	19.1	19.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	19.1	19.7
Approach LOS			C	C

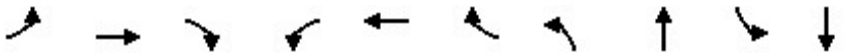
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	411	39	12	552	1	32	0	86	1	1	1
Future Volume (Veh/h)	2	411	39	12	552	1	32	0	86	1	1	1
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)	2	433	41	13	581	1	34	0	91	1	1	1
Pedestrians		1			2			75			47	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			7			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	629			549			1142	1188	530	1205	1208	630
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	413			549			1054	1110	530	1132	1135	414
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			75	100	82	99	99	100
cM capacity (veh/h)	888			962			139	149	515	104	144	493

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	476	595	125	3
Volume Left	2	13	34	1
Volume Right	41	1	91	1
cSH	888	962	296	162
Volume to Capacity	0.00	0.01	0.42	0.02
Queue Length 95th (m)	0.1	0.3	15.2	0.4
Control Delay (s)	0.1	0.4	25.7	27.7
Lane LOS	A	A	D	D
Approach Delay (s)	0.1	0.4	25.7	27.7
Approach LOS			D	D

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			

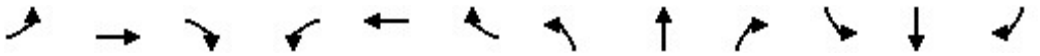


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	155	272	71	119	323	206	97	931	217	1360
v/c Ratio	0.77	0.75	0.24	0.42	0.82	0.52	0.61	0.89	1.02	1.23
Control Delay	57.4	51.5	2.3	36.7	54.1	9.0	35.7	45.1	91.1	143.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	51.5	2.3	36.7	54.1	9.0	35.7	45.1	91.1	143.8
Queue Length 50th (m)	27.2	53.7	0.0	20.2	66.1	0.2	10.2	95.7	~27.5	~190.7
Queue Length 95th (m)	#46.5	76.6	0.9	31.5	87.9	17.5	#29.6	#162.7	#85.3	#266.6
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	206	562	380	283	556	472	175	1050	212	1104
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	0.75	0.48	0.19	0.42	0.58	0.44	0.55	0.89	1.02	1.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

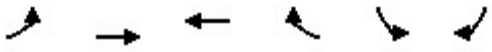
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	269	70	118	320	204	96	831	91	215	1205	142
Future Volume (vph)	153	269	70	118	320	204	96	831	91	215	1205	142
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.87	1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00	1.00	0.93	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	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1334	1546	820	1216	1531	941	1326	2800		1347	2845	
Flt Permitted	0.28	1.00	1.00	0.59	1.00	1.00	0.10	1.00		0.16	1.00	
Satd. Flow (perm)	390	1546	820	758	1531	941	136	2800		223	2845	
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)	155	272	71	119	323	206	97	839	92	217	1217	143
RTOR Reduction (vph)	0	0	54	0	0	152	0	6	0	0	7	0
Lane Group Flow (vph)	155	272	17	119	323	54	97	925	0	217	1353	0
Confl. Peds. (#/hr)	99		155	155		99	70		110	110		70
Heavy Vehicles (%)	1%	1%	7%	4%	2%	1%	3%	2%	1%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.9	25.9	25.9	32.0	28.5	28.5	49.6	41.0		52.4	42.4	
Effective Green, g (s)	25.9	25.9	25.9	32.0	28.5	28.5	49.6	41.0		52.4	42.4	
Actuated g/C Ratio	0.24	0.24	0.24	0.29	0.26	0.26	0.45	0.37		0.48	0.39	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	190	364	193	279	396	243	154	1043		208	1096	
v/s Ratio Prot	c0.09	0.18		0.05	c0.21		0.05	0.33		c0.09	c0.48	
v/s Ratio Perm	0.11		0.02	0.07		0.06	0.23			0.40		
v/c Ratio	0.82	0.75	0.09	0.43	0.82	0.22	0.63	0.89		1.04	1.23	
Uniform Delay, d1	36.9	39.0	32.8	32.8	38.3	32.0	24.5	32.3		22.6	33.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	22.4	7.4	0.1	0.8	11.7	0.2	6.8	11.1		74.2	113.6	
Delay (s)	59.3	46.4	32.9	33.6	50.0	32.3	31.3	43.4		96.8	147.4	
Level of Service	E	D	C	C	D	C	C	D		F	F	
Approach Delay (s)		48.5			41.4			42.3			140.5	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	84.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	17	6	0	5	11
Future Volume (Veh/h)	7	17	6	0	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Hourly flow rate (vph)	12	30	11	0	9	19
Pedestrians		1	6		4	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	15				75	16
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	15				75	16
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	99				99	98
cM capacity (veh/h)	1505				918	1064

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	42	11	28
Volume Left	12	0	9
Volume Right	0	0	19
cSH	1505	1700	1012
Volume to Capacity	0.01	0.01	0.03
Queue Length 95th (m)	0.2	0.0	0.6
Control Delay (s)	2.2	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	8.7
Approach LOS			A

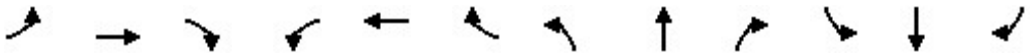
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	10	2	156	118	4
Future Volume (Veh/h)	11	10	2	156	118	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	16	14	3	223	169	6
Pedestrians	6			6		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	1			1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	407	184	181			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	407	184	181			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	100			
cM capacity (veh/h)	600	854	1399			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	30	226	175
Volume Left	16	3	0
Volume Right	14	0	6
cSH	697	1399	1700
Volume to Capacity	0.04	0.00	0.10
Queue Length 95th (m)	1.0	0.0	0.0
Control Delay (s)	10.4	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	0.1	0.0
Approach LOS	B		

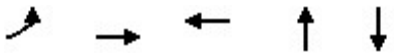
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	88	1	4	88	137	4	18	10	114	12	1
Future Volume (Veh/h)	1	88	1	4	88	137	4	18	10	114	12	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	1	105	1	5	105	163	5	21	12	136	14	1
Pedestrians					26			18			4	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					2			2			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	272			124			330	408	150	356	326	190
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	272			124			330	408	150	356	326	190
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	96	99	75	98	100
cM capacity (veh/h)	1298			1452			594	510	868	550	581	853

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	107	273	38	151
Volume Left	1	5	5	136
Volume Right	1	163	12	1
cSH	1298	1452	599	554
Volume to Capacity	0.00	0.00	0.06	0.27
Queue Length 95th (m)	0.0	0.1	1.5	8.4
Control Delay (s)	0.1	0.2	11.4	13.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.2	11.4	13.9
Approach LOS			B	B

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

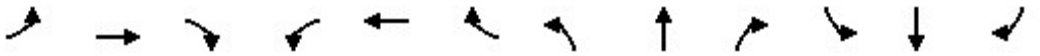


Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	11	205	264	1126	1334
v/c Ratio	0.07	0.70	0.85	1.45	1.17
Control Delay	18.4	32.4	43.3	232.2	106.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	32.4	43.3	232.2	106.5
Queue Length 50th (m)	1.0	18.8	23.2	~114.4	~120.4
Queue Length 95th (m)	4.3	39.0	#56.1	#151.2	#158.7
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	198	358	373	774	1141
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.57	0.71	1.45	1.17

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	63	132	35	61	155	146	893	30	66	1180	22
Future Volume (vph)	10	63	132	35	61	155	146	893	30	66	1180	22
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.94			0.96			1.00			1.00	
Flpb, ped/bikes	0.96	1.00			0.99			1.00			1.00	
Frt	1.00	0.90			0.92			1.00			1.00	
Flt Protected	0.95	1.00			0.99			0.99			1.00	
Satd. Flow (prot)	1166	1113			1187			2606			2635	
Flt Permitted	0.53	1.00			0.92			0.53			0.78	
Satd. Flow (perm)	654	1113			1097			1400			2066	
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)	11	66	139	37	64	163	154	940	32	69	1242	23
RTOR Reduction (vph)	0	21	0	0	43	0	0	3	0	0	1	0
Lane Group Flow (vph)	11	184	0	0	221	0	0	1123	0	0	1333	0
Confl. Peds. (#/hr)	60		75	75		60	44		72	72		44
Heavy Vehicles (%)	13%	2%	0%	7%	4%	2%	0%	2%	0%	9%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.9	16.9			16.9			38.1			38.1	
Effective Green, g (s)	16.9	16.9			16.9			38.1			38.1	
Actuated g/C Ratio	0.24	0.24			0.24			0.55			0.55	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	160	272			268			773			1140	
v/s Ratio Prot		0.17										
v/s Ratio Perm	0.02				c0.20			c0.80			0.65	
v/c Ratio	0.07	0.68			0.82			1.45			1.17	
Uniform Delay, d1	20.0	23.6			24.6			15.4			15.4	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	5.3			17.6			211.1			85.7	
Delay (s)	20.1	28.9			42.2			226.6			101.2	
Level of Service	C	C			D			F			F	
Approach Delay (s)		28.4			42.2			226.6			101.2	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	138.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	151.8%	ICU Level of Service	H
Analysis Period (min)	15		

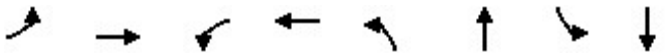
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	106	133	97	40	0
Future Volume (Veh/h)	0	106	133	97	40	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	115	145	105	43	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	438	43	43			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	438	43	43			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	89	91			
cM capacity (veh/h)	523	1027	1566			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	115	250	43
Volume Left	0	145	0
Volume Right	115	0	0
cSH	1027	1566	1700
Volume to Capacity	0.11	0.09	0.03
Queue Length 95th (m)	2.9	2.3	0.0
Control Delay (s)	8.9	4.7	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	42.0%	ICU Level of Service	A
Analysis Period (min)	15		

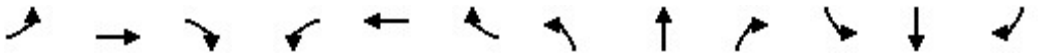


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	222	89	354	93	1222	403	1038
v/c Ratio	0.65	0.62	0.40	1.03	0.74	1.18	1.46	0.65
Control Delay	54.5	36.3	33.2	84.0	62.3	121.2	250.5	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	36.3	33.2	84.0	62.3	121.2	250.5	16.9
Queue Length 50th (m)	14.0	33.2	13.0	~59.5	14.6	~141.4	~89.6	64.6
Queue Length 95th (m)	#37.4	58.1	27.5	#113.3	#41.9	#181.9	#145.4	85.7
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	135	358	225	345	126	1033	276	1587
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.62	0.40	1.03	0.74	1.18	1.46	0.65

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	165	35	80	136	183	84	902	198	363	872	62
Future Volume (vph)	79	165	35	80	136	183	84	902	198	363	872	62
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.86		1.00	0.96		1.00	0.97	
Flpb, ped/bikes	0.88	1.00		0.94	1.00		0.91	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1197	1188		1282	1001		1176	2753		1339	2836	
Flt Permitted	0.36	1.00		0.57	1.00		0.28	1.00		0.11	1.00	
Satd. Flow (perm)	460	1188		764	1001		342	2753		148	2836	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	88	183	39	89	151	203	93	1002	220	403	969	69
RTOR Reduction (vph)	0	8	0	0	51	0	0	20	0	0	5	0
Lane Group Flow (vph)	88	214	0	89	303	0	93	1202	0	403	1033	0
Confl. Peds. (#/hr)	239		86	86		239	202		187	187		202
Heavy Vehicles (%)	0%	2%	28%	0%	4%	3%	6%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.37	0.37		0.56	0.56	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	135	350		225	295		126	1014		270	1582	
v/s Ratio Prot		0.18			c0.30			0.44		c0.24	0.36	
v/s Ratio Perm	0.19			0.12			0.27			c0.59		
v/c Ratio	0.65	0.61		0.40	1.03		0.74	1.19		1.49	0.65	
Uniform Delay, d1	29.2	28.8		26.7	33.5		26.0	30.0		28.1	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.1	2.5		0.7	59.8		31.7	93.7		240.3	2.1	
Delay (s)	38.4	31.3		27.4	93.3		57.7	123.7		268.4	16.7	
Level of Service	D	C		C	F		E	F		F	B	
Approach Delay (s)		33.3			80.0			119.1			87.1	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	93.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

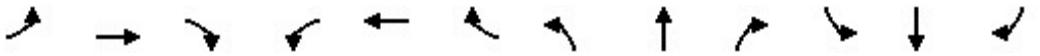


Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	247	253	375	30	780	345	665
v/c Ratio	1.05	1.10	0.77	0.10	0.74	1.03	0.49
Control Delay	105.0	124.6	17.3	10.0	32.2	75.1	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.0	124.6	17.3	10.0	32.2	75.1	18.4
Queue Length 50th (m)	~48.9	~54.4	4.7	2.2	66.0	~43.2	43.9
Queue Length 95th (m)	#95.8	#100.8	#58.0	5.9	88.1	#96.6	61.3
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	236	229	485	424	1047	336	1370
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	1.05	1.10	0.77	0.07	0.74	1.03	0.49

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	52	44	110	122	345	28	685	32	317	526	86
Future Volume (vph)	131	52	44	110	122	345	28	685	32	317	526	86
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.76	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.91			0.97	1.00	0.97	1.00		0.99	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1198			982	809	1322	2894		1328	2786	
Flt Permitted		0.60			0.74	1.00	0.40	1.00		0.22	1.00	
Satd. Flow (perm)		735			741	809	555	2894		311	2786	
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)	142	57	48	120	133	375	30	745	35	345	572	93
RTOR Reduction (vph)	0	9	0	0	0	235	0	3	0	0	11	0
Lane Group Flow (vph)	0	238	0	0	253	140	30	777	0	345	654	0
Confl. Peds. (#/hr)	214		96	96		214	135		106	106		135
Heavy Vehicles (%)	0%	0%	0%	26%	0%	3%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		30.0			30.0	30.0	38.8	35.0		53.0	46.2	
Effective Green, g (s)		30.0			30.0	30.0	38.8	35.0		53.0	46.2	
Actuated g/C Ratio		0.31			0.31	0.31	0.40	0.36		0.55	0.48	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		227			229	250	252	1044		327	1326	
v/s Ratio Prot							0.00	0.27		c0.16	0.23	
v/s Ratio Perm		0.32			c0.34	0.17	0.04			c0.41		
v/c Ratio		1.05			1.10	0.56	0.12	0.74		1.06	0.49	
Uniform Delay, d1		33.5			33.5	28.0	17.9	27.1		17.4	17.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		73.1			90.4	2.1	0.1	4.8		65.0	1.3	
Delay (s)		106.6			123.9	30.1	18.0	31.9		82.4	18.7	
Level of Service		F			F	C	B	C		F	B	
Approach Delay (s)		106.6			67.9			31.4			40.5	
Approach LOS		F			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	50.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	352	88	357	277	44	187	119	268
v/c Ratio	0.58	1.04	0.34	0.62	0.74	0.28	0.62	0.39	0.55
Control Delay	46.5	92.9	18.5	26.9	17.6	31.4	35.4	18.8	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	92.9	18.5	26.9	17.6	31.4	35.4	18.8	24.2
Queue Length 50th (m)	14.4	~74.0	8.9	49.2	1.8	6.1	25.9	12.2	33.8
Queue Length 95th (m)	#37.1	#127.3	17.9	79.0	#52.1	15.9	49.4	23.1	58.7
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	158	340	267	574	373	156	302	306	488
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	0.58	1.04	0.33	0.62	0.74	0.28	0.62	0.39	0.55

Intersection Summary

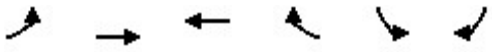
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	285	53	84	343	266	42	130	50	114	227	31
Future Volume (vph)	87	285	53	84	343	266	42	130	50	114	227	31
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95		1.00	1.00	0.53	1.00	0.90		1.00	0.96	
Flpb, ped/bikes	0.72	1.00		0.95	1.00	1.00	0.81	1.00		0.86	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	863	1051		1173	1351	526	827	953		1000	1109	
Flt Permitted	0.55	1.00		0.35	1.00	1.00	0.59	1.00		0.55	1.00	
Satd. Flow (perm)	498	1051		428	1351	526	517	953		582	1109	
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)	91	297	55	88	357	277	44	135	52	119	236	32
RTOR Reduction (vph)	0	7	0	0	0	148	0	15	0	0	5	0
Lane Group Flow (vph)	91	345	0	88	357	129	44	172	0	119	263	0
Confl. Peds. (#/hr)	261		178	178		261	161		606	606		161
Heavy Vehicles (%)	3%	6%	0%	0%	4%	0%	20%	9%	3%	6%	2%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	29.8	29.8		40.6	40.6	40.6	27.8	27.8		40.4	40.4	
Effective Green, g (s)	29.8	29.8		40.6	40.6	40.6	27.8	27.8		40.4	40.4	
Actuated g/C Ratio	0.32	0.32		0.43	0.43	0.43	0.30	0.30		0.43	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	157	333		246	583	227	152	281		292	476	
v/s Ratio Prot		c0.33		0.03	c0.26			c0.18		0.04	c0.24	
v/s Ratio Perm	0.18			0.12		0.25	0.09			0.13		
v/c Ratio	0.58	1.04		0.36	0.61	0.57	0.29	0.61		0.41	0.55	
Uniform Delay, d1	26.9	32.1		17.3	20.6	20.1	25.5	28.5		17.5	20.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.1	59.1		1.2	2.2	3.9	4.8	9.6		1.3	4.6	
Delay (s)	33.0	91.2		18.5	22.8	24.1	30.2	38.1		18.7	24.6	
Level of Service	C	F		B	C	C	C	D		B	C	
Approach Delay (s)		79.2			22.8			36.6			22.8	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

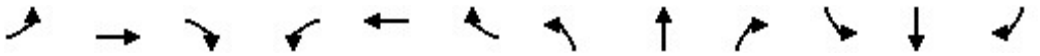
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	220	459	18	13	234
Future Volume (Veh/h)	229	220	459	18	13	234
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	239	499	20	14	254
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	519				1126	509
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	519				1126	509
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	76				91	51
cM capacity (veh/h)	1057				154	515

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	329	159	519	268
Volume Left	249	0	0	14
Volume Right	0	0	20	254
cSH	1057	1700	1700	459
Volume to Capacity	0.24	0.09	0.31	0.58
Queue Length 95th (m)	7.0	0.0	0.0	27.8
Control Delay (s)	7.7	0.0	0.0	23.3
Lane LOS	A			C
Approach Delay (s)	5.2		0.0	23.3
Approach LOS				C

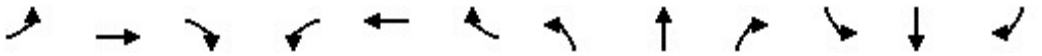
Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	635	13	5	514	11	7	1	5	11	7	11
Future Volume (Veh/h)	10	635	13	5	514	11	7	1	5	11	7	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	655	13	5	530	11	7	1	5	11	7	11
Pedestrians		13			7			107			52	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			9			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	593			775			1362	1392	776	1292	1392	600
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	420			775			1335	1371	776	1252	1372	429
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			91	99	99	89	93	98
cM capacity (veh/h)	921			769			82	104	361	104	105	499

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	678	546	13	29
Volume Left	10	5	7	11
Volume Right	13	11	5	11
cSH	921	769	119	149
Volume to Capacity	0.01	0.01	0.11	0.19
Queue Length 95th (m)	0.3	0.1	2.7	5.3
Control Delay (s)	0.3	0.2	39.0	34.9
Lane LOS	A	A	E	D
Approach Delay (s)	0.3	0.2	39.0	34.9
Approach LOS			E	D

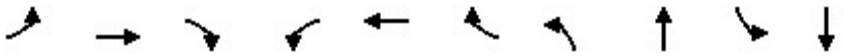
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	589	62	14	484	2	48	0	130	1	0	0
Future Volume (Veh/h)	1	589	62	14	484	2	48	0	130	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	640	67	15	526	2	52	0	141	1	0	0
Pedestrians		5			17			80			70	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			2			7			6	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	598			787			1318	1384	770	1460	1416	602
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	363			787			1270	1353	770	1450	1394	368
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			45	100	62	98	100	100
cM capacity (veh/h)	898			782			95	102	369	44	97	505

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	708	543	193	1
Volume Left	1	15	52	1
Volume Right	67	2	141	0
cSH	898	782	208	44
Volume to Capacity	0.00	0.02	0.93	0.02
Queue Length 95th (m)	0.0	0.4	57.8	0.5
Control Delay (s)	0.0	0.5	92.4	88.3
Lane LOS	A	A	F	F
Approach Delay (s)	0.0	0.5	92.4	88.3
Approach LOS			F	F

Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	225	385	133	138	326	334	109	986	222	1305
v/c Ratio	1.11	0.87	0.44	0.58	0.80	0.85	0.67	1.00	1.14	1.22
Control Delay	128.9	56.1	9.7	44.2	51.8	30.2	41.2	64.9	135.1	137.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.9	56.1	9.7	44.2	51.8	30.2	41.2	64.9	135.1	137.5
Queue Length 50th (m)	~42.3	77.5	0.6	23.8	66.7	17.0	11.5	106.6	~39.4	~179.4
Queue Length 95th (m)	#81.8	103.8	14.7	34.6	84.7	#66.5	#37.6	#188.1	#96.1	#261.9
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	202	562	351	270	562	445	175	985	194	1074
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	1.11	0.69	0.38	0.51	0.58	0.75	0.62	1.00	1.14	1.22

Intersection Summary

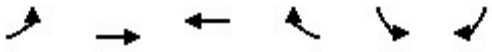
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	370	128	132	313	321	105	842	105	213	1159	94
Future Volume (vph)	216	370	128	132	313	321	105	842	105	213	1159	94
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.71	1.00	1.00	0.72	1.00	0.95		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.92	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1338	1546	742	1192	1546	781	1326	2694		1359	2865	
Flt Permitted	0.20	1.00	1.00	0.53	1.00	1.00	0.10	1.00		0.13	1.00	
Satd. Flow (perm)	286	1546	742	670	1546	781	140	2694		183	2865	
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)	225	385	133	138	326	334	109	877	109	222	1207	98
RTOR Reduction (vph)	0	0	92	0	0	187	0	8	0	0	4	0
Lane Group Flow (vph)	225	385	41	138	326	147	109	978	0	222	1301	0
Confl. Peds. (#/hr)	223		230	230		223	84		216	216		84
Heavy Vehicles (%)	0%	1%	5%	5%	1%	1%	3%	3%	2%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	31.7	31.7	31.7	32.6	29.1	29.1	48.8	39.9		51.0	41.0	
Effective Green, g (s)	31.7	31.7	31.7	32.6	29.1	29.1	48.8	39.9		51.0	41.0	
Actuated g/C Ratio	0.29	0.29	0.29	0.30	0.26	0.26	0.44	0.36		0.46	0.37	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	197	445	213	243	408	206	158	977		191	1067	
v/s Ratio Prot	c0.12	0.25		0.05	c0.21		0.06	0.36		c0.11	c0.45	
v/s Ratio Perm	c0.20		0.06	0.12		0.19	0.25			0.43		
v/c Ratio	1.14	0.87	0.19	0.57	0.80	0.71	0.69	1.00		1.16	1.22	
Uniform Delay, d1	35.3	37.1	29.5	34.3	37.7	36.7	24.7	35.0		24.0	34.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	107.6	15.6	0.2	2.5	9.9	9.8	10.9	29.1		115.7	107.2	
Delay (s)	142.9	52.7	29.7	36.8	47.7	46.5	35.6	64.2		139.6	141.7	
Level of Service	F	D	C	D	D	D	D	E		F	F	
Approach Delay (s)		75.9			45.3			61.3			141.4	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	90.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	23	19	2	13	10
Future Volume (Veh/h)	1	23	19	2	13	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	2	35	29	3	20	15
Pedestrians			5		12	
Lane Width (m)			3.5		3.5	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	44				86	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44				86	42
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1458				905	1023

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	37	32	35
Volume Left	2	0	20
Volume Right	0	3	15
cSH	1458	1700	952
Volume to Capacity	0.00	0.02	0.04
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.4	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	0.4	0.0	8.9
Approach LOS			A

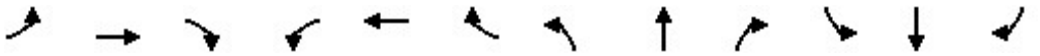
Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	27	17	188	150	5
Future Volume (Veh/h)	8	27	17	188	150	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	9	32	20	221	176	6
Pedestrians	3			17		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	0			2		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	443	199	185			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	443	199	185			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	96	99			
cM capacity (veh/h)	566	832	1398			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	41	241	182
Volume Left	9	20	0
Volume Right	32	0	6
cSH	754	1398	1700
Volume to Capacity	0.05	0.01	0.11
Queue Length 95th (m)	1.3	0.3	0.0
Control Delay (s)	10.0	0.7	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	0.7	0.0
Approach LOS	B		

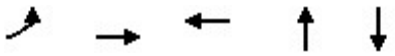
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	182	8	11	137	155	7	23	13	137	31	7
Future Volume (Veh/h)	8	182	8	11	137	155	7	23	13	137	31	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	198	9	12	149	168	8	25	14	149	34	8
Pedestrians					15			63			33	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					1			6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	350			270			566	658	280	552	578	266
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	350			270			566	658	280	552	578	266
tC, single (s)	4.1			4.4			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	99			99			98	93	98	59	91	99
cM capacity (veh/h)	1184			1071			333	348	691	362	386	755

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	216	329	47	191
Volume Left	9	12	8	149
Volume Right	9	168	14	8
cSH	1184	1071	405	374
Volume to Capacity	0.01	0.01	0.12	0.51
Queue Length 95th (m)	0.2	0.3	3.0	21.2
Control Delay (s)	0.4	0.4	15.1	24.2
Lane LOS	A	A	C	C
Approach Delay (s)	0.4	0.4	15.1	24.2
Approach LOS			C	C

Intersection Summary				
Average Delay	7.1			
Intersection Capacity Utilization	55.6%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	24	328	388	1227	1286
v/c Ratio	0.12	0.90	1.36	1.85	1.80
Control Delay	19.5	51.6	207.6	408.5	384.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	51.6	207.6	408.5	384.0
Queue Length 50th (m)	2.2	36.6	~64.6	~131.0	~136.4
Queue Length 95th (m)	7.4	#82.0	#113.3	#168.5	#174.4
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	192	365	285	663	716
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.90	1.36	1.85	1.80

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	153	159	80	111	178	163	893	109	131	1059	31
Future Volume (vph)	23	153	159	80	111	178	163	893	109	131	1059	31
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.93			0.97			0.98			1.00	
Flpb, ped/bikes	0.98	1.00			0.98			1.00			1.00	
Frt	1.00	0.92			0.93			0.99			1.00	
Flt Protected	0.95	1.00			0.99			0.99			0.99	
Satd. Flow (prot)	1333	1130			1235			2493			2589	
Flt Permitted	0.45	1.00			0.69			0.53			0.56	
Satd. Flow (perm)	635	1130			856			1322			1450	
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)	24	161	167	84	117	187	172	940	115	138	1115	33
RTOR Reduction (vph)	0	22	0	0	25	0	0	11	0	0	3	0
Lane Group Flow (vph)	24	306	0	0	363	0	0	1216	0	0	1283	0
Confl. Peds. (#/hr)	53		123	123		53	90		152	152		90
Heavy Vehicles (%)	0%	2%	0%	1%	2%	1%	4%	3%	0%	4%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.0	21.0			21.0			34.0			34.0	
Effective Green, g (s)	21.0	21.0			21.0			34.0			34.0	
Actuated g/C Ratio	0.30	0.30			0.30			0.49			0.49	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	193	343			260			651			714	
v/s Ratio Prot		0.27										
v/s Ratio Perm	0.04				c0.42			c0.92			0.89	
v/c Ratio	0.12	0.89			1.40			1.87			1.80	
Uniform Delay, d1	17.4	22.9			24.0			17.5			17.5	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	23.7			199.9			396.3			364.5	
Delay (s)	17.5	46.6			223.9			413.8			382.0	
Level of Service	B	D			F			F			F	
Approach Delay (s)		44.7			223.9			413.8			382.0	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	338.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	171.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



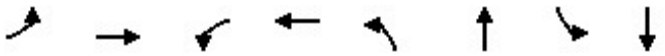
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	106	133	162	69	0
Future Volume (Veh/h)	0	106	133	162	69	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	115	145	176	75	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	541	75	75			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	541	75	75			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	88	90			
cM capacity (veh/h)	454	986	1524			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	115	321	75
Volume Left	0	145	0
Volume Right	115	0	0
cSH	986	1524	1700
Volume to Capacity	0.12	0.10	0.04
Queue Length 95th (m)	3.0	2.4	0.0
Control Delay (s)	9.1	3.9	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	3.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix K

2033 Future Total Mitigated Conditions Synchro Report



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	193	97	373	76	990	363	1071
v/c Ratio	0.69	0.55	0.43	1.01	0.64	1.01	1.17	0.66
Control Delay	59.4	33.3	34.3	78.4	54.4	61.8	133.1	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	33.3	34.3	78.4	54.4	61.8	133.1	17.1
Queue Length 50th (m)	14.2	27.5	14.3	~58.4	11.6	~94.0	~66.7	67.4
Queue Length 95th (m)	#38.7	49.8	29.7	#116.2	#34.1	#137.8	#120.5	89.0
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	128	348	226	369	118	983	309	1616
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	0.69	0.55	0.43	1.01	0.64	1.01	1.17	0.66

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	145	37	91	146	205	71	781	149	341	958	49
Future Volume (vph)	83	145	37	91	146	205	71	781	149	341	958	49
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
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	0.91		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.93	1.00		0.88	1.00		0.96	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		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)	1229	1149		1190	1072		1215	2783		1337	2890	
Flt Permitted	0.34	1.00		0.61	1.00		0.27	1.00		0.12	1.00	
Satd. Flow (perm)	436	1149		767	1072		342	2783		167	2890	
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)	88	154	39	97	155	218	76	831	159	363	1019	52
RTOR Reduction (vph)	0	10	0	0	54	0	0	17	0	0	4	0
Lane Group Flow (vph)	88	183	0	97	319	0	76	973	0	363	1067	0
Confl. Peds. (#/hr)	149		157	157		149	95		112	112		95
Heavy Vehicles (%)	3%	5%	19%	1%	2%	2%	8%	2%	1%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		33.0	33.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		33.0	33.0		53.0	53.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.35	0.35		0.56	0.56	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	128	338		226	315		118	966		302	1612	
v/s Ratio Prot		0.16			c0.30			0.35		c0.21	0.37	
v/s Ratio Perm	0.20			0.13			0.22			c0.46		
v/c Ratio	0.69	0.54		0.43	1.01		0.64	1.01		1.20	0.66	
Uniform Delay, d1	29.6	28.1		27.0	33.5		26.1	31.0		26.9	14.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.5	1.2		0.8	54.3		24.0	30.7		118.2	2.2	
Delay (s)	42.1	29.3		27.8	87.8		50.1	61.7		145.0	16.9	
Level of Service	D	C		C	F		D	E		F	B	
Approach Delay (s)		33.3			75.4			60.9			49.3	
Approach LOS		C			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	55.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

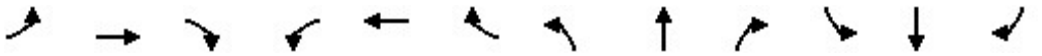


Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	255	263	398	20	613	392	759
v/c Ratio	0.99	1.13	0.71	0.08	0.69	0.95	0.55
Control Delay	86.3	133.1	11.2	10.9	33.9	50.2	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.3	133.1	11.2	10.9	33.9	50.2	19.0
Queue Length 50th (m)	44.6	~57.7	0.4	1.5	52.3	41.2	43.9
Queue Length 95th (m)	#92.7	#103.3	30.3	4.5	70.2	#95.6	72.4
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	258	232	557	383	893	413	1390
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	0.99	1.13	0.71	0.05	0.69	0.95	0.55

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	51	55	126	108	354	18	522	23	349	581	94
Future Volume (vph)	121	51	55	126	108	354	18	522	23	349	581	94
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.86	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.95			0.97	1.00	0.98	1.00		0.99	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1248			1008	902	1335	2876		1338	2771	
Flt Permitted		0.60			0.70	1.00	0.36	1.00		0.28	1.00	
Satd. Flow (perm)		770			726	902	511	2876		401	2771	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	136	57	62	142	121	398	20	587	26	392	653	106
RTOR Reduction (vph)	0	12	0	0	0	269	0	3	0	0	11	0
Lane Group Flow (vph)	0	243	0	0	263	129	20	610	0	392	748	0
Confl. Peds. (#/hr)	123		71	71		123	121		74	74		121
Heavy Vehicles (%)	0%	0%	0%	18%	0%	4%	0%	2%	0%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		31.0			31.0	31.0	32.5	30.0		52.0	46.5	
Effective Green, g (s)		31.0			31.0	31.0	32.5	30.0		52.0	46.5	
Actuated g/C Ratio		0.32			0.32	0.32	0.34	0.31		0.54	0.48	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		246			232	288	192	889		398	1328	
v/s Ratio Prot							0.00	0.21		c0.19	0.27	
v/s Ratio Perm		0.32			c0.36	0.14	0.03			c0.33		
v/c Ratio		0.99			1.13	0.45	0.10	0.69		0.98	0.56	
Uniform Delay, d1		32.8			33.0	26.2	21.8	29.4		16.5	18.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		53.1			99.8	0.6	0.1	4.3		40.8	1.7	
Delay (s)		85.9			132.8	26.9	21.9	33.7		57.2	19.7	
Level of Service		F			F	C	C	C		E	B	
Approach Delay (s)		85.9			69.0			33.3			32.5	
Approach LOS		F			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

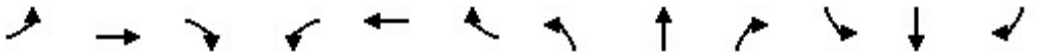


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	379	110	411	244	36	274	136	217
v/c Ratio	0.53	0.98	0.43	0.71	0.59	0.26	0.83	0.51	0.46
Control Delay	38.8	75.7	20.4	29.9	8.9	31.5	53.4	22.4	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	75.7	20.4	29.9	8.9	31.5	53.4	22.4	22.2
Queue Length 50th (m)	14.6	~74.2	11.2	59.2	0.0	5.0	45.1	14.4	26.0
Queue Length 95th (m)	#32.9	#126.6	21.3	92.8	19.1	13.4	#87.3	26.4	45.6
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	186	385	255	582	417	140	329	271	470
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	0.53	0.98	0.43	0.71	0.59	0.26	0.83	0.50	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

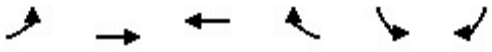
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	280	57	98	366	217	32	209	35	121	170	23
Future Volume (vph)	87	280	57	98	366	217	32	209	35	121	170	23
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.67	1.00	0.95		1.00	0.96	
Flpb, ped/bikes	0.82	1.00		0.98	1.00	1.00	0.78	1.00		0.92	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1000	1107		1202	1351	646	724	1089		1060	1079	
Flt Permitted	0.52	1.00		0.34	1.00	1.00	0.62	1.00		0.42	1.00	
Satd. Flow (perm)	546	1107		427	1351	646	475	1089		474	1079	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	98	315	64	110	411	244	36	235	39	136	191	26
RTOR Reduction (vph)	0	7	0	0	0	137	0	6	0	0	5	0
Lane Group Flow (vph)	98	372	0	110	411	107	36	268	0	136	212	0
Confl. Peds. (#/hr)	182		95	95		182	168		483	483		168
Heavy Vehicles (%)	1%	2%	0%	0%	4%	2%	33%	2%	0%	7%	5%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	32.1	32.1		41.1	41.1	41.1	27.2	27.2		39.9	39.9	
Effective Green, g (s)	32.1	32.1		41.1	41.1	41.1	27.2	27.2		39.9	39.9	
Actuated g/C Ratio	0.34	0.34		0.44	0.44	0.44	0.29	0.29		0.42	0.42	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	186	378		236	590	282	137	315		261	458	
v/s Ratio Prot		c0.34		0.03	c0.30			c0.25		c0.05	0.20	
v/s Ratio Perm	0.18			0.17		0.17	0.08			0.17		
v/c Ratio	0.53	0.98		0.47	0.70	0.38	0.26	0.85		0.52	0.46	
Uniform Delay, d1	24.9	30.7		17.5	21.4	17.8	25.7	31.5		18.3	19.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	41.7		2.0	3.9	1.2	4.6	23.9		2.4	3.3	
Delay (s)	28.3	72.4		19.4	25.3	19.0	30.3	55.3		20.8	22.7	
Level of Service	C	E		B	C	B	C	E		C	C	
Approach Delay (s)		63.3			22.4			52.4			22.0	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

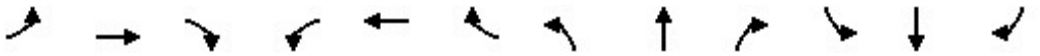
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	207	447	18	13	234
Future Volume (Veh/h)	229	207	447	18	13	234
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	225	486	20	14	254
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	506				1106	496
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	506				1106	496
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	77				91	52
cM capacity (veh/h)	1069				159	525

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	324	150	506	268
Volume Left	249	0	0	14
Volume Right	0	0	20	254
cSH	1069	1700	1700	469
Volume to Capacity	0.23	0.09	0.30	0.57
Queue Length 95th (m)	6.9	0.0	0.0	26.7
Control Delay (s)	7.7	0.0	0.0	22.5
Lane LOS	A			C
Approach Delay (s)	5.3		0.0	22.5
Approach LOS				C

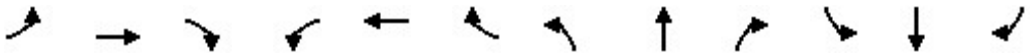
Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	437	10	10	561	12	5	0	12	5	1	11
Future Volume (Veh/h)	4	437	10	10	561	12	5	0	12	5	1	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	470	11	11	603	13	5	0	13	5	1	12
Pedestrians		5						68			37	
Lane Width (m)		3.5						3.5			3.5	
Walking Speed (m/s)		1.1						1.1			1.1	
Percent Blockage		0						6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	653			549			1200	1226	544	1165	1226	652
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	478			549			1139	1170	544	1096	1169	476
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	97	96	99	97
cM capacity (veh/h)	878			969			123	144	511	138	144	473

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	485	627	18	18
Volume Left	4	11	5	5
Volume Right	11	13	13	12
cSH	878	969	273	263
Volume to Capacity	0.00	0.01	0.07	0.07
Queue Length 95th (m)	0.1	0.3	1.6	1.7
Control Delay (s)	0.1	0.3	19.1	19.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	19.1	19.7
Approach LOS			C	C

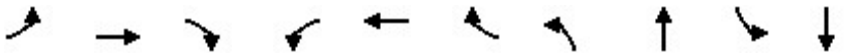
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	411	39	12	552	1	32	0	86	1	1	1
Future Volume (Veh/h)	2	411	39	12	552	1	32	0	86	1	1	1
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)	2	433	41	13	581	1	34	0	91	1	1	1
Pedestrians		1			2			75			47	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			7			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	629			549			1142	1188	530	1205	1208	630
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	412			549			1054	1110	530	1132	1135	413
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			75	100	82	99	99	100
cM capacity (veh/h)	888			962			139	149	515	104	144	493

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	476	595	125	3
Volume Left	2	13	34	1
Volume Right	41	1	91	1
cSH	888	962	296	162
Volume to Capacity	0.00	0.01	0.42	0.02
Queue Length 95th (m)	0.1	0.3	15.2	0.4
Control Delay (s)	0.1	0.4	25.7	27.7
Lane LOS	A	A	D	D
Approach Delay (s)	0.1	0.4	25.7	27.7
Approach LOS			D	D

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			

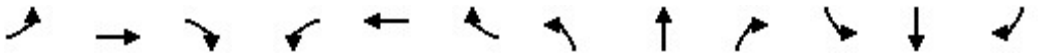


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	155	272	71	119	323	206	97	931	217	1360
v/c Ratio	0.83	0.75	0.24	0.43	0.82	0.52	0.62	0.90	0.94	1.20
Control Delay	68.1	51.7	2.3	37.0	54.1	9.0	35.9	47.5	67.9	128.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	51.7	2.3	37.0	54.1	9.0	35.9	47.5	67.9	128.8
Queue Length 50th (m)	27.2	53.7	0.0	20.2	66.1	0.2	9.8	96.6	26.2	~185.4
Queue Length 95th (m)	#44.4	76.8	0.9	31.5	87.9	17.5	#29.5	#164.3	#80.6	#261.8
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	187	541	370	283	556	472	176	1029	232	1136
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	0.83	0.50	0.19	0.42	0.58	0.44	0.55	0.90	0.94	1.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

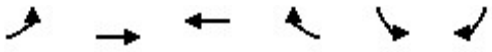
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	269	70	118	320	204	96	831	91	215	1205	142
Future Volume (vph)	153	269	70	118	320	204	96	831	91	215	1205	142
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.87	1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00	1.00	0.93	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	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1336	1546	820	1216	1531	941	1326	2800		1348	2845	
Flt Permitted	0.26	1.00	1.00	0.59	1.00	1.00	0.10	1.00		0.15	1.00	
Satd. Flow (perm)	361	1546	820	758	1531	941	139	2800		208	2845	
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)	155	272	71	119	323	206	97	839	92	217	1217	143
RTOR Reduction (vph)	0	0	54	0	0	152	0	6	0	0	7	0
Lane Group Flow (vph)	155	272	17	119	323	54	97	925	0	217	1353	0
Confl. Peds. (#/hr)	99		155	155		99	70		110	110		70
Heavy Vehicles (%)	1%	1%	7%	4%	2%	1%	3%	2%	1%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.9	25.9	25.9	32.0	28.5	28.5	48.7	40.2		55.2	43.7	
Effective Green, g (s)	25.9	25.9	25.9	32.0	28.5	28.5	48.7	40.2		55.2	43.7	
Actuated g/C Ratio	0.24	0.24	0.24	0.29	0.26	0.26	0.44	0.37		0.50	0.40	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	176	364	193	274	396	243	153	1023		228	1130	
v/s Ratio Prot	c0.08	0.18		0.05	c0.21		0.05	0.33		c0.10	c0.48	
v/s Ratio Perm	0.12		0.02	0.08		0.06	0.23			0.37		
v/c Ratio	0.88	0.75	0.09	0.43	0.82	0.22	0.63	0.90		0.95	1.20	
Uniform Delay, d1	37.7	39.0	32.8	32.8	38.3	32.0	24.3	33.1		22.0	33.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.2	7.4	0.1	0.8	11.7	0.2	7.3	12.8		46.0	97.7	
Delay (s)	74.0	46.4	32.9	33.6	50.0	32.3	31.6	45.8		68.0	130.9	
Level of Service	E	D	C	C	D	C	C	D		E	F	
Approach Delay (s)		53.1			41.4			44.5			122.2	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	77.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	17	6	0	5	11
Future Volume (Veh/h)	7	17	6	0	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Hourly flow rate (vph)	12	30	11	0	9	19
Pedestrians		1	6		4	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	15				75	16
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	15				75	16
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	99				99	98
cM capacity (veh/h)	1505				918	1064

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	42	11	28
Volume Left	12	0	9
Volume Right	0	0	19
cSH	1505	1700	1012
Volume to Capacity	0.01	0.01	0.03
Queue Length 95th (m)	0.2	0.0	0.6
Control Delay (s)	2.2	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	8.7
Approach LOS			A

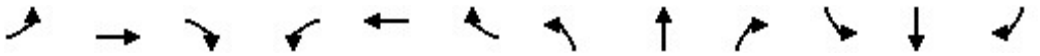
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	10	2	156	118	4
Future Volume (Veh/h)	11	10	2	156	118	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	16	14	3	223	169	6
Pedestrians	6			6		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	1			1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	407	184	181			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	407	184	181			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	100			
cM capacity (veh/h)	600	854	1399			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	30	226	175
Volume Left	16	3	0
Volume Right	14	0	6
cSH	697	1399	1700
Volume to Capacity	0.04	0.00	0.10
Queue Length 95th (m)	1.0	0.0	0.0
Control Delay (s)	10.4	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	0.1	0.0
Approach LOS	B		

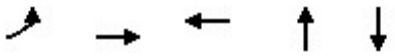
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	88	1	4	88	137	4	18	10	114	12	1
Future Volume (Veh/h)	1	88	1	4	88	137	4	18	10	114	12	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	1	105	1	5	105	163	5	21	12	136	14	1
Pedestrians					26			18			4	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					2			2			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	272			124			330	408	150	356	326	190
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	272			124			330	408	150	356	326	190
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	96	99	75	98	100
cM capacity (veh/h)	1298			1452			594	510	868	550	581	853

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	107	273	38	151
Volume Left	1	5	5	136
Volume Right	1	163	12	1
cSH	1298	1452	599	554
Volume to Capacity	0.00	0.00	0.06	0.27
Queue Length 95th (m)	0.0	0.1	1.5	8.4
Control Delay (s)	0.1	0.2	11.4	13.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.2	11.4	13.9
Approach LOS			B	B

Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	43.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	11	205	264	1126	1334
v/c Ratio	0.08	0.73	0.88	1.32	1.07
Control Delay	23.2	41.3	53.5	175.4	68.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	41.3	53.5	175.4	68.7
Queue Length 50th (m)	1.5	28.6	35.5	~134.9	~136.2
Queue Length 95th (m)	4.9	44.8	56.2	#190.9	#201.4
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	204	406	421	851	1244
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.50	0.63	1.32	1.07

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	63	132	35	61	155	146	893	30	66	1180	22
Future Volume (vph)	10	63	132	35	61	155	146	893	30	66	1180	22
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.93			0.95			1.00			1.00	
Flpb, ped/bikes	0.96	1.00			0.99			1.00			1.00	
Frt	1.00	0.90			0.92			1.00			1.00	
Flt Protected	0.95	1.00			0.99			0.99			1.00	
Satd. Flow (prot)	1157	1096			1171			2603			2633	
Flt Permitted	0.47	1.00			0.92			0.53			0.78	
Satd. Flow (perm)	578	1096			1085			1398			2050	
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)	11	66	139	37	64	163	154	940	32	69	1242	23
RTOR Reduction (vph)	0	21	0	0	43	0	0	2	0	0	1	0
Lane Group Flow (vph)	11	184	0	0	221	0	0	1124	0	0	1333	0
Confl. Peds. (#/hr)	60		75	75		60	44		72	72		44
Heavy Vehicles (%)	13%	2%	0%	7%	4%	2%	0%	2%	0%	9%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.4	21.4			21.4			54.6			54.6	
Effective Green, g (s)	21.4	21.4			21.4			54.6			54.6	
Actuated g/C Ratio	0.24	0.24			0.24			0.61			0.61	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	137	260			257			848			1243	
v/s Ratio Prot		0.17										
v/s Ratio Perm	0.02				c0.20			c0.80			0.65	
v/c Ratio	0.08	0.71			0.86			1.33			1.07	
Uniform Delay, d1	26.7	31.4			32.9			17.7			17.7	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	7.2			23.7			154.9			47.3	
Delay (s)	26.8	38.7			56.6			172.6			65.0	
Level of Service	C	D			E			F			E	
Approach Delay (s)		38.1			56.6			172.6			65.0	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	103.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	151.8%	ICU Level of Service	H
Analysis Period (min)	15		

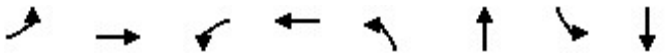
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	106	133	97	40	0
Future Volume (Veh/h)	0	106	133	97	40	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	115	145	105	43	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	438	43	43			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	438	43	43			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	89	91			
cM capacity (veh/h)	523	1027	1566			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	115	250	43
Volume Left	0	145	0
Volume Right	115	0	0
cSH	1027	1566	1700
Volume to Capacity	0.11	0.09	0.03
Queue Length 95th (m)	2.9	2.3	0.0
Control Delay (s)	8.9	4.7	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	42.0%	ICU Level of Service	A
Analysis Period (min)	15		

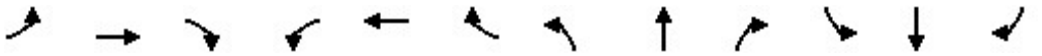


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	222	89	354	93	1222	403	1038
v/c Ratio	0.65	0.62	0.40	1.03	0.74	1.18	1.46	0.65
Control Delay	54.5	36.3	33.2	84.0	62.3	121.2	250.5	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	36.3	33.2	84.0	62.3	121.2	250.5	16.9
Queue Length 50th (m)	14.0	33.2	13.0	~59.5	14.6	~141.4	~89.6	64.6
Queue Length 95th (m)	#37.4	58.1	27.5	#113.3	#41.9	#181.9	#145.4	85.7
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	135	358	225	345	126	1033	276	1587
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.62	0.40	1.03	0.74	1.18	1.46	0.65

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	165	35	80	136	183	84	902	198	363	872	62
Future Volume (vph)	79	165	35	80	136	183	84	902	198	363	872	62
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.86		1.00	0.96		1.00	0.97	
Flpb, ped/bikes	0.88	1.00		0.94	1.00		0.91	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1197	1188		1282	1001		1176	2753		1339	2836	
Flt Permitted	0.36	1.00		0.57	1.00		0.28	1.00		0.11	1.00	
Satd. Flow (perm)	460	1188		764	1001		342	2753		148	2836	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	88	183	39	89	151	203	93	1002	220	403	969	69
RTOR Reduction (vph)	0	8	0	0	51	0	0	20	0	0	5	0
Lane Group Flow (vph)	88	214	0	89	303	0	93	1202	0	403	1033	0
Confl. Peds. (#/hr)	239		86	86		239	202		187	187		202
Heavy Vehicles (%)	0%	2%	28%	0%	4%	3%	6%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.37	0.37		0.56	0.56	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	135	350		225	295		126	1014		270	1582	
v/s Ratio Prot		0.18			c0.30			0.44		c0.24	0.36	
v/s Ratio Perm	0.19			0.12			0.27			c0.59		
v/c Ratio	0.65	0.61		0.40	1.03		0.74	1.19		1.49	0.65	
Uniform Delay, d1	29.2	28.8		26.7	33.5		26.0	30.0		28.1	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.1	2.5		0.7	59.8		31.7	93.7		240.3	2.1	
Delay (s)	38.4	31.3		27.4	93.3		57.7	123.7		268.4	16.7	
Level of Service	D	C		C	F		E	F		F	B	
Approach Delay (s)		33.3			80.0			119.1			87.1	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	93.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	247	253	375	30	780	345	665
v/c Ratio	1.00	1.07	0.75	0.11	0.84	0.98	0.50
Control Delay	92.3	113.4	14.4	11.0	40.3	65.6	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.3	113.4	14.4	11.0	40.3	65.6	19.2
Queue Length 50th (m)	~44.4	~52.9	2.1	2.3	70.6	43.3	44.8
Queue Length 95th (m)	#93.8	#99.2	#45.7	6.0	#101.0	#98.9	62.8
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	246	236	502	401	928	351	1342
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	1.00	1.07	0.75	0.07	0.84	0.98	0.50

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	52	44	110	122	345	28	685	32	317	526	86
Future Volume (vph)	131	52	44	110	122	345	28	685	32	317	526	86
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.76	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.91			0.97	1.00	0.97	1.00		0.99	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1198			982	809	1322	2894		1330	2786	
Flt Permitted		0.60			0.74	1.00	0.40	1.00		0.19	1.00	
Satd. Flow (perm)		743			741	809	555	2894		272	2786	
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)	142	57	48	120	133	375	30	745	35	345	572	93
RTOR Reduction (vph)	0	9	0	0	0	244	0	3	0	0	11	0
Lane Group Flow (vph)	0	238	0	0	253	131	30	777	0	345	654	0
Confl. Peds. (#/hr)	214		96	96		214	135		106	106		135
Heavy Vehicles (%)	0%	0%	0%	26%	0%	3%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		31.0			31.0	31.0	34.9	31.0		52.0	45.1	
Effective Green, g (s)		31.0			31.0	31.0	34.9	31.0		52.0	45.1	
Actuated g/C Ratio		0.32			0.32	0.32	0.36	0.32		0.54	0.46	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		237			236	258	230	924		342	1295	
v/s Ratio Prot							0.01	0.27		c0.19	0.23	
v/s Ratio Perm		0.32			c0.34	0.16	0.04			c0.35		
v/c Ratio		1.00			1.07	0.51	0.13	0.84		1.01	0.50	
Uniform Delay, d1		33.0			33.0	26.8	20.3	30.7		21.9	18.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		59.7			79.0	0.9	0.2	9.1		50.9	1.4	
Delay (s)		92.7			112.0	27.7	20.5	39.8		72.8	19.6	
Level of Service		F			F	C	C	D		E	B	
Approach Delay (s)		92.7			61.7			39.1			37.7	
Approach LOS		F			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

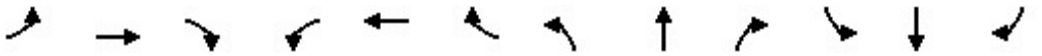


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	352	88	357	277	44	187	119	268
v/c Ratio	0.54	0.97	0.33	0.60	0.75	0.29	0.63	0.41	0.56
Control Delay	41.0	72.8	17.5	25.4	19.3	31.9	36.2	20.2	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	72.8	17.5	25.4	19.3	31.9	36.2	20.2	25.6
Queue Length 50th (m)	13.7	~67.5	8.6	47.7	3.5	6.2	26.1	12.6	34.8
Queue Length 95th (m)	#34.1	#120.7	17.3	76.5	#55.6	16.0	49.9	23.9	60.6
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	169	364	267	596	368	154	298	292	475
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	0.54	0.97	0.33	0.60	0.75	0.29	0.63	0.41	0.56

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

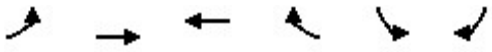
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	285	53	84	343	266	42	130	50	114	227	31
Future Volume (vph)	87	285	53	84	343	266	42	130	50	114	227	31
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95		1.00	1.00	0.53	1.00	0.90		1.00	0.96	
Flpb, ped/bikes	0.72	1.00		0.95	1.00	1.00	0.81	1.00		0.86	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	863	1051		1168	1351	526	827	953		1000	1109	
Flt Permitted	0.55	1.00		0.37	1.00	1.00	0.59	1.00		0.55	1.00	
Satd. Flow (perm)	498	1051		453	1351	526	517	953		580	1109	
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)	91	297	55	88	357	277	44	135	52	119	236	32
RTOR Reduction (vph)	0	7	0	0	0	135	0	15	0	0	5	0
Lane Group Flow (vph)	91	345	0	88	357	142	44	172	0	119	263	0
Confl. Peds. (#/hr)	261		178	178		261	161		606	606		161
Heavy Vehicles (%)	3%	6%	0%	0%	4%	0%	20%	9%	3%	6%	2%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	32.0	32.0		41.8	41.8	41.8	27.4	27.4		39.2	39.2	
Effective Green, g (s)	32.0	32.0		41.8	41.8	41.8	27.4	27.4		39.2	39.2	
Actuated g/C Ratio	0.34	0.34		0.44	0.44	0.44	0.29	0.29		0.42	0.42	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	169	357		253	600	233	150	277		281	462	
v/s Ratio Prot		c0.33		0.03	0.26			0.18		0.04	c0.24	
v/s Ratio Perm	0.18			0.13		c0.27	0.09			0.14		
v/c Ratio	0.54	0.97		0.35	0.59	0.61	0.29	0.62		0.42	0.57	
Uniform Delay, d1	25.0	30.5		16.5	19.7	19.9	25.8	28.8		18.2	20.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	38.8		1.1	1.9	5.1	4.9	10.1		1.4	5.0	
Delay (s)	29.2	69.3		17.6	21.6	25.0	30.7	38.9		19.6	25.9	
Level of Service	C	E		B	C	C	C	D		B	C	
Approach Delay (s)		61.1			22.4			37.3			24.0	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

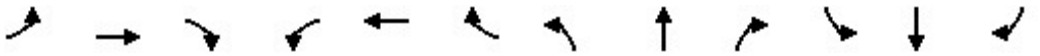
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	220	459	18	13	234
Future Volume (Veh/h)	229	220	459	18	13	234
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	239	499	20	14	254
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	519				1126	509
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	519				1126	509
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	76				91	51
cM capacity (veh/h)	1057				154	515

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	329	159	519	268
Volume Left	249	0	0	14
Volume Right	0	0	20	254
cSH	1057	1700	1700	459
Volume to Capacity	0.24	0.09	0.31	0.58
Queue Length 95th (m)	7.0	0.0	0.0	27.8
Control Delay (s)	7.7	0.0	0.0	23.3
Lane LOS	A			C
Approach Delay (s)	5.2		0.0	23.3
Approach LOS				C

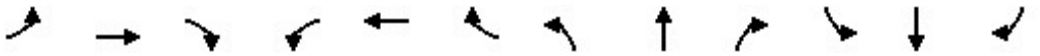
Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	635	13	5	514	11	7	1	5	11	7	11
Future Volume (Veh/h)	10	635	13	5	514	11	7	1	5	11	7	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	655	13	5	530	11	7	1	5	11	7	11
Pedestrians		13			7			107			52	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			9			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	593			775			1362	1392	776	1292	1392	600
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	420			775			1335	1371	776	1252	1372	429
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			91	99	99	89	93	98
cM capacity (veh/h)	921			769			82	104	361	104	105	499

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	678	546	13	29
Volume Left	10	5	7	11
Volume Right	13	11	5	11
cSH	921	769	119	149
Volume to Capacity	0.01	0.01	0.11	0.19
Queue Length 95th (m)	0.3	0.1	2.7	5.3
Control Delay (s)	0.3	0.2	39.0	34.9
Lane LOS	A	A	E	D
Approach Delay (s)	0.3	0.2	39.0	34.9
Approach LOS			E	D

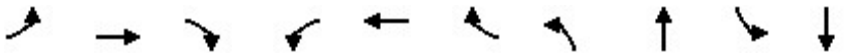
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	589	62	14	484	2	48	0	130	1	0	0
Future Volume (Veh/h)	1	589	62	14	484	2	48	0	130	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	640	67	15	526	2	52	0	141	1	0	0
Pedestrians		5			17			80			70	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			2			7			6	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	598			787			1318	1384	770	1460	1416	602
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	363			787			1270	1353	770	1450	1394	368
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			45	100	62	98	100	100
cM capacity (veh/h)	898			782			95	102	369	44	97	505

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	708	543	193	1
Volume Left	1	15	52	1
Volume Right	67	2	141	0
cSH	898	782	208	44
Volume to Capacity	0.00	0.02	0.93	0.02
Queue Length 95th (m)	0.0	0.4	57.8	0.5
Control Delay (s)	0.0	0.5	92.4	88.3
Lane LOS	A	A	F	F
Approach Delay (s)	0.0	0.5	92.4	88.3
Approach LOS			F	F

Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
Analysis Period (min)	15			

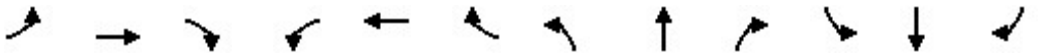


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	225	385	133	138	326	334	109	986	222	1305
v/c Ratio	1.11	0.87	0.44	0.58	0.80	0.85	0.67	1.00	1.14	1.22
Control Delay	128.9	56.1	9.7	44.2	51.8	30.2	41.2	64.9	135.1	137.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.9	56.1	9.7	44.2	51.8	30.2	41.2	64.9	135.1	137.5
Queue Length 50th (m)	~42.3	77.5	0.6	23.8	66.7	17.0	11.5	106.6	~39.4	~179.4
Queue Length 95th (m)	#81.8	103.8	14.7	34.6	84.7	#66.5	#37.6	#188.1	#96.1	#261.9
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	202	562	351	270	562	445	175	985	194	1074
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	1.11	0.69	0.38	0.51	0.58	0.75	0.62	1.00	1.14	1.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

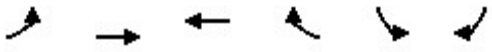
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	370	128	132	313	321	105	842	105	213	1159	94
Future Volume (vph)	216	370	128	132	313	321	105	842	105	213	1159	94
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.71	1.00	1.00	0.72	1.00	0.95		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.92	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1338	1546	742	1192	1546	781	1326	2694		1359	2865	
Flt Permitted	0.20	1.00	1.00	0.53	1.00	1.00	0.10	1.00		0.13	1.00	
Satd. Flow (perm)	286	1546	742	670	1546	781	140	2694		183	2865	
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)	225	385	133	138	326	334	109	877	109	222	1207	98
RTOR Reduction (vph)	0	0	92	0	0	187	0	8	0	0	4	0
Lane Group Flow (vph)	225	385	41	138	326	147	109	978	0	222	1301	0
Confl. Peds. (#/hr)	223		230	230		223	84		216	216		84
Heavy Vehicles (%)	0%	1%	5%	5%	1%	1%	3%	3%	2%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	31.7	31.7	31.7	32.6	29.1	29.1	48.8	39.9		51.0	41.0	
Effective Green, g (s)	31.7	31.7	31.7	32.6	29.1	29.1	48.8	39.9		51.0	41.0	
Actuated g/C Ratio	0.29	0.29	0.29	0.30	0.26	0.26	0.44	0.36		0.46	0.37	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	197	445	213	243	408	206	158	977		191	1067	
v/s Ratio Prot	c0.12	0.25		0.05	c0.21		0.06	0.36		c0.11	c0.45	
v/s Ratio Perm	c0.20		0.06	0.12		0.19	0.25			0.43		
v/c Ratio	1.14	0.87	0.19	0.57	0.80	0.71	0.69	1.00		1.16	1.22	
Uniform Delay, d1	35.3	37.1	29.5	34.3	37.7	36.7	24.7	35.0		24.0	34.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	107.6	15.6	0.2	2.5	9.9	9.8	10.9	29.1		115.7	107.2	
Delay (s)	142.9	52.7	29.7	36.8	47.7	46.5	35.6	64.2		139.6	141.7	
Level of Service	F	D	C	D	D	D	D	E		F	F	
Approach Delay (s)		75.9			45.3			61.3			141.4	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	90.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	23	19	2	13	10
Future Volume (Veh/h)	1	23	19	2	13	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	2	35	29	3	20	15
Pedestrians			5		12	
Lane Width (m)			3.5		3.5	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	44				86	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44				86	42
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1458				905	1023

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	37	32	35
Volume Left	2	0	20
Volume Right	0	3	15
cSH	1458	1700	952
Volume to Capacity	0.00	0.02	0.04
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.4	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	0.4	0.0	8.9
Approach LOS			A

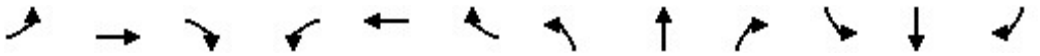
Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	27	17	188	150	5
Future Volume (Veh/h)	8	27	17	188	150	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	9	32	20	221	176	6
Pedestrians	3			17		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	0			2		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	443	199	185			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	443	199	185			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	96	99			
cM capacity (veh/h)	566	832	1398			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	41	241	182
Volume Left	9	20	0
Volume Right	32	0	6
cSH	754	1398	1700
Volume to Capacity	0.05	0.01	0.11
Queue Length 95th (m)	1.3	0.3	0.0
Control Delay (s)	10.0	0.7	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	0.7	0.0
Approach LOS	B		

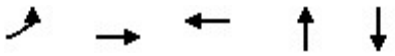
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	182	8	11	137	155	7	23	13	137	31	7
Future Volume (Veh/h)	8	182	8	11	137	155	7	23	13	137	31	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	198	9	12	149	168	8	25	14	149	34	8
Pedestrians					15			63			33	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					1			6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	350			270			566	658	280	552	578	266
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	350			270			566	658	280	552	578	266
tC, single (s)	4.1			4.4			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	99			99			98	93	98	59	91	99
cM capacity (veh/h)	1184			1071			333	348	691	362	386	755

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	216	329	47	191
Volume Left	9	12	8	149
Volume Right	9	168	14	8
cSH	1184	1071	405	374
Volume to Capacity	0.01	0.01	0.12	0.51
Queue Length 95th (m)	0.2	0.3	3.0	21.2
Control Delay (s)	0.4	0.4	15.1	24.2
Lane LOS	A	A	C	C
Approach Delay (s)	0.4	0.4	15.1	24.2
Approach LOS			C	C

Intersection Summary				
Average Delay	7.1			
Intersection Capacity Utilization	55.6%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	24	328	388	1227	1286
v/c Ratio	0.12	0.90	1.36	1.85	1.80
Control Delay	19.5	51.6	207.6	408.5	384.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	51.6	207.6	408.5	384.0
Queue Length 50th (m)	2.2	36.6	~64.6	~131.0	~136.4
Queue Length 95th (m)	7.4	#82.0	#113.3	#168.5	#174.4
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	192	365	285	663	716
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.90	1.36	1.85	1.80

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	153	159	80	111	178	163	893	109	131	1059	31
Future Volume (vph)	23	153	159	80	111	178	163	893	109	131	1059	31
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.93			0.97			0.98			1.00	
Flpb, ped/bikes	0.98	1.00			0.98			1.00			1.00	
Frt	1.00	0.92			0.93			0.99			1.00	
Flt Protected	0.95	1.00			0.99			0.99			0.99	
Satd. Flow (prot)	1333	1130			1235			2493			2589	
Flt Permitted	0.45	1.00			0.69			0.53			0.56	
Satd. Flow (perm)	635	1130			856			1322			1450	
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)	24	161	167	84	117	187	172	940	115	138	1115	33
RTOR Reduction (vph)	0	22	0	0	25	0	0	11	0	0	3	0
Lane Group Flow (vph)	24	306	0	0	363	0	0	1216	0	0	1283	0
Confl. Peds. (#/hr)	53		123	123		53	90		152	152		90
Heavy Vehicles (%)	0%	2%	0%	1%	2%	1%	4%	3%	0%	4%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.0	21.0			21.0			34.0			34.0	
Effective Green, g (s)	21.0	21.0			21.0			34.0			34.0	
Actuated g/C Ratio	0.30	0.30			0.30			0.49			0.49	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	193	343			260			651			714	
v/s Ratio Prot		0.27										
v/s Ratio Perm	0.04				c0.42			c0.92			0.89	
v/c Ratio	0.12	0.89			1.40			1.87			1.80	
Uniform Delay, d1	17.4	22.9			24.0			17.5			17.5	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	23.7			199.9			396.3			364.5	
Delay (s)	17.5	46.6			223.9			413.8			382.0	
Level of Service	B	D			F			F			F	
Approach Delay (s)		44.7			223.9			413.8			382.0	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	338.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	171.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



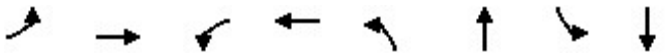
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	106	133	162	69	0
Future Volume (Veh/h)	0	106	133	162	69	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	115	145	176	75	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	541	75	75			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	541	75	75			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	88	90			
cM capacity (veh/h)	454	986	1524			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	115	321	75
Volume Left	0	145	0
Volume Right	115	0	0
cSH	986	1524	1700
Volume to Capacity	0.12	0.10	0.04
Queue Length 95th (m)	3.0	2.4	0.0
Control Delay (s)	9.1	3.9	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	3.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix L

2033 Future Background Mitigated Conditions Synchro Report

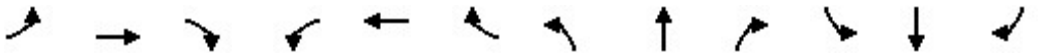


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	193	97	373	76	848	363	958
v/c Ratio	0.69	0.55	0.43	1.01	0.58	0.87	1.06	0.59
Control Delay	59.4	33.3	34.3	78.4	45.8	38.7	85.7	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	33.3	34.3	78.4	45.8	38.7	85.7	15.6
Queue Length 50th (m)	14.2	27.5	14.3	~58.4	11.3	73.0	~52.5	56.7
Queue Length 95th (m)	#38.7	49.8	29.7	#116.2	#31.5	#107.0	#106.3	75.1
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	128	348	226	369	132	980	344	1613
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	0.69	0.55	0.43	1.01	0.58	0.87	1.06	0.59

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	145	37	91	146	205	71	648	149	341	852	49
Future Volume (vph)	83	145	37	91	146	205	71	648	149	341	852	49
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
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	0.91		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.93	1.00		0.88	1.00		0.95	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1229	1149		1190	1072		1207	2762		1334	2885	
Flt Permitted	0.34	1.00		0.61	1.00		0.30	1.00		0.18	1.00	
Satd. Flow (perm)	436	1149		767	1072		380	2762		254	2885	
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)	88	154	39	97	155	218	76	689	159	363	906	52
RTOR Reduction (vph)	0	10	0	0	54	0	0	21	0	0	4	0
Lane Group Flow (vph)	88	183	0	97	319	0	76	827	0	363	954	0
Confl. Peds. (#/hr)	149		157	157		149	95		112	112		95
Heavy Vehicles (%)	3%	5%	19%	1%	2%	2%	8%	2%	1%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		33.0	33.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		33.0	33.0		53.0	53.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.35	0.35		0.56	0.56	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	128	338		226	315		132	959		334	1609	
v/s Ratio Prot		0.16			c0.30			0.30		c0.19	0.33	
v/s Ratio Perm	0.20			0.13			0.20			c0.41		
v/c Ratio	0.69	0.54		0.43	1.01		0.58	0.86		1.09	0.59	
Uniform Delay, d1	29.6	28.1		27.0	33.5		25.3	28.9		21.6	13.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.5	1.2		0.8	54.3		17.0	10.1		74.5	1.6	
Delay (s)	42.1	29.3		27.8	87.8		42.3	39.0		96.0	15.5	
Level of Service	D	C		C	F		D	D		F	B	
Approach Delay (s)		33.3			75.4			39.3			37.6	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	43.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

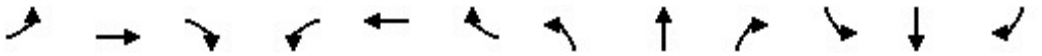


Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	354	388	248	20	613	273	759
v/c Ratio	1.76	1.60	0.54	0.07	0.60	0.71	0.55
Control Delay	386.8	314.1	8.3	10.6	29.5	21.7	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	386.8	314.1	8.3	10.6	29.5	21.7	19.0
Queue Length 50th (m)	~99.0	~104.7	0.0	1.5	49.0	25.3	43.9
Queue Length 95th (m)	#150.8	#156.9	18.7	4.5	70.2	40.7	72.4
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	201	243	457	402	1016	426	1390
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	1.76	1.60	0.54	0.05	0.60	0.64	0.55

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	139	55	126	219	221	18	522	23	243	581	94
Future Volume (vph)	121	139	55	126	219	221	18	522	23	243	581	94
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.86	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.98			0.99	1.00	0.98	1.00		0.99	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1305			1059	902	1335	2876		1337	2771	
Flt Permitted		0.46			0.71	1.00	0.36	1.00		0.31	1.00	
Satd. Flow (perm)		606			761	902	511	2876		436	2771	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	136	156	62	142	246	248	20	587	26	273	653	106
RTOR Reduction (vph)	0	8	0	0	0	169	0	3	0	0	11	0
Lane Group Flow (vph)	0	346	0	0	388	79	20	610	0	273	748	0
Confl. Peds. (#/hr)	123		71	71		123	121		74	74		121
Heavy Vehicles (%)	0%	0%	0%	18%	0%	4%	0%	2%	0%	1%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		31.0			31.0	31.0	36.7	34.2		52.0	46.5	
Effective Green, g (s)		31.0			31.0	31.0	36.7	34.2		52.0	46.5	
Actuated g/C Ratio		0.32			0.32	0.32	0.38	0.35		0.54	0.48	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		193			243	288	214	1014		371	1328	
v/s Ratio Prot							0.00	0.21		c0.11	0.27	
v/s Ratio Perm		c0.57			0.51	0.09	0.03			c0.28		
v/c Ratio		1.79			1.60	0.28	0.09	0.60		0.74	0.56	
Uniform Delay, d1		33.0			33.0	24.6	19.0	25.8		14.0	18.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		376.3			287.1	0.3	0.1	2.6		6.8	1.7	
Delay (s)		409.3			320.1	24.9	19.1	28.4		20.8	19.7	
Level of Service		F			F	C	B	C		C	B	
Approach Delay (s)		409.3			205.0			28.1			20.0	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	118.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		

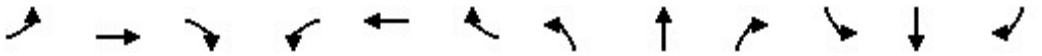
c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	98	358	110	387	244	36	274	136	217
v/c Ratio	0.54	0.96	0.43	0.68	0.59	0.25	0.80	0.49	0.45
Control Delay	39.3	71.7	20.6	29.4	9.1	31.1	49.1	21.6	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	71.7	20.6	29.4	9.1	31.1	49.1	21.6	21.6
Queue Length 50th (m)	14.6	62.5	11.2	54.4	0.0	5.0	45.1	14.4	26.0
Queue Length 95th (m)	31.8	#117.3	21.3	85.4	19.1	13.4	#87.3	26.4	45.6
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	183	371	255	582	417	146	343	280	483
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	0.54	0.96	0.43	0.66	0.59	0.25	0.80	0.49	0.45

Intersection Summary

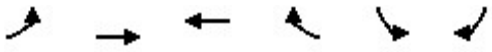
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	262	57	98	344	217	32	209	35	121	170	23
Future Volume (vph)	87	262	57	98	344	217	32	209	35	121	170	23
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.67	1.00	0.95		1.00	0.96	
Flpb, ped/bikes	0.81	1.00		0.98	1.00	1.00	0.78	1.00		0.92	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	992	1103		1199	1351	646	724	1089		1057	1079	
Flt Permitted	0.53	1.00		0.35	1.00	1.00	0.62	1.00		0.44	1.00	
Satd. Flow (perm)	556	1103		443	1351	646	475	1089		485	1079	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	98	294	64	110	387	244	36	235	39	136	191	26
RTOR Reduction (vph)	0	8	0	0	0	140	0	6	0	0	5	0
Lane Group Flow (vph)	98	350	0	110	387	104	36	268	0	136	212	0
Confl. Peds. (#/hr)	182		95	95		182	168		483	483		168
Heavy Vehicles (%)	1%	2%	0%	0%	4%	2%	33%	2%	0%	7%	5%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	30.9	30.9		39.9	39.9	39.9	28.5	28.5		41.1	41.1	
Effective Green, g (s)	30.9	30.9		39.9	39.9	39.9	28.5	28.5		41.1	41.1	
Actuated g/C Ratio	0.33	0.33		0.42	0.42	0.42	0.30	0.30		0.44	0.44	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	182	362		236	573	274	144	330		270	471	
v/s Ratio Prot		c0.32		0.03	c0.29			c0.25		c0.05	0.20	
v/s Ratio Perm	0.18			0.17		0.16	0.08			0.17		
v/c Ratio	0.54	0.97		0.47	0.68	0.38	0.25	0.81		0.50	0.45	
Uniform Delay, d1	25.7	31.0		18.1	21.8	18.5	24.7	30.3		17.5	18.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.9	38.3		2.0	3.4	1.2	4.1	19.1		2.0	3.1	
Delay (s)	29.6	69.4		20.1	25.3	19.7	28.8	49.4		19.6	21.6	
Level of Service	C	E		C	C	B	C	D		B	C	
Approach Delay (s)		60.8			22.7			47.0			20.8	
Approach LOS		E			C			D			C	

Intersection Summary					
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.83				
Actuated Cycle Length (s)	94.0	Sum of lost time (s)		19.0	
Intersection Capacity Utilization	86.6%	ICU Level of Service		E	
Analysis Period (min)	15				

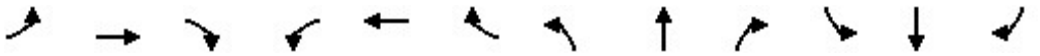
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	211	207	447	18	13	212
Future Volume (Veh/h)	211	207	447	18	13	212
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	229	225	486	20	14	230
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	506				1066	496
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	506				1066	496
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	79				92	56
cM capacity (veh/h)	1069				173	525

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	304	150	506	244
Volume Left	229	0	0	14
Volume Right	0	0	20	230
cSH	1069	1700	1700	470
Volume to Capacity	0.21	0.09	0.30	0.52
Queue Length 95th (m)	6.2	0.0	0.0	22.3
Control Delay (s)	7.5	0.0	0.0	20.6
Lane LOS	A			C
Approach Delay (s)	5.0		0.0	20.6
Approach LOS				C

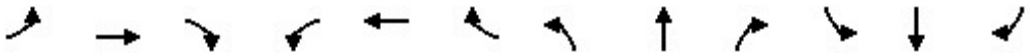
Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	437	10	10	561	12	5	0	12	5	1	11
Future Volume (Veh/h)	4	437	10	10	561	12	5	0	12	5	1	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	470	11	11	603	13	5	0	13	5	1	12
Pedestrians		5						68			37	
Lane Width (m)		3.5						3.5			3.5	
Walking Speed (m/s)		1.1						1.1			1.1	
Percent Blockage		0						6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	653			549			1200	1226	544	1165	1226	652
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	478			549			1139	1170	544	1096	1169	476
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	97	96	99	97
cM capacity (veh/h)	878			969			123	144	511	138	144	473

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	485	627	18	18
Volume Left	4	11	5	5
Volume Right	11	13	13	12
cSH	878	969	273	263
Volume to Capacity	0.00	0.01	0.07	0.07
Queue Length 95th (m)	0.1	0.3	1.6	1.7
Control Delay (s)	0.1	0.3	19.1	19.7
Lane LOS	A	A	C	C
Approach Delay (s)	0.1	0.3	19.1	19.7
Approach LOS			C	C

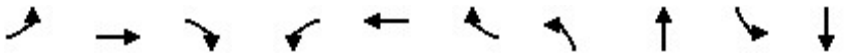
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	411	39	12	552	1	32	0	86	1	1	1
Future Volume (Veh/h)	2	411	39	12	552	1	32	0	86	1	1	1
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)	2	433	41	13	581	1	34	0	91	1	1	1
Pedestrians		1			2			75			47	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			7			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	629			549			1142	1188	530	1205	1208	630
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	412			549			1054	1110	530	1132	1135	413
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			75	100	82	99	99	100
cM capacity (veh/h)	888			962			139	149	515	104	144	493

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	476	595	125	3
Volume Left	2	13	34	1
Volume Right	41	1	91	1
cSH	888	962	296	162
Volume to Capacity	0.00	0.01	0.42	0.02
Queue Length 95th (m)	0.1	0.3	15.2	0.4
Control Delay (s)	0.1	0.4	25.7	27.7
Lane LOS	A	A	D	D
Approach Delay (s)	0.1	0.4	25.7	27.7
Approach LOS			D	D

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			

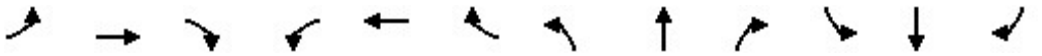


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	155	272	71	119	323	206	97	931	217	1360
v/c Ratio	0.83	0.75	0.24	0.43	0.82	0.52	0.62	0.90	0.94	1.20
Control Delay	68.1	51.7	2.3	37.0	54.1	9.0	35.9	47.5	67.9	128.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.1	51.7	2.3	37.0	54.1	9.0	35.9	47.5	67.9	128.8
Queue Length 50th (m)	27.2	53.7	0.0	20.2	66.1	0.2	9.8	96.6	26.2	~185.4
Queue Length 95th (m)	#44.4	76.8	0.9	31.5	87.9	17.5	#29.5	#164.3	#80.6	#261.8
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	187	541	370	283	556	472	176	1029	232	1136
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	0.83	0.50	0.19	0.42	0.58	0.44	0.55	0.90	0.94	1.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

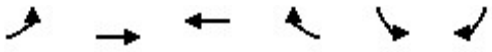
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	269	70	118	320	204	96	831	91	215	1205	142
Future Volume (vph)	153	269	70	118	320	204	96	831	91	215	1205	142
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.87	1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00	1.00	0.93	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	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1336	1546	820	1216	1531	941	1326	2800		1348	2845	
Flt Permitted	0.26	1.00	1.00	0.59	1.00	1.00	0.10	1.00		0.15	1.00	
Satd. Flow (perm)	361	1546	820	758	1531	941	139	2800		208	2845	
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)	155	272	71	119	323	206	97	839	92	217	1217	143
RTOR Reduction (vph)	0	0	54	0	0	152	0	6	0	0	7	0
Lane Group Flow (vph)	155	272	17	119	323	54	97	925	0	217	1353	0
Confl. Peds. (#/hr)	99		155	155		99	70		110	110		70
Heavy Vehicles (%)	1%	1%	7%	4%	2%	1%	3%	2%	1%	1%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.9	25.9	25.9	32.0	28.5	28.5	48.7	40.2		55.2	43.7	
Effective Green, g (s)	25.9	25.9	25.9	32.0	28.5	28.5	48.7	40.2		55.2	43.7	
Actuated g/C Ratio	0.24	0.24	0.24	0.29	0.26	0.26	0.44	0.37		0.50	0.40	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	176	364	193	274	396	243	153	1023		228	1130	
v/s Ratio Prot	c0.08	0.18		0.05	c0.21		0.05	0.33		c0.10	c0.48	
v/s Ratio Perm	0.12		0.02	0.08		0.06	0.23			0.37		
v/c Ratio	0.88	0.75	0.09	0.43	0.82	0.22	0.63	0.90		0.95	1.20	
Uniform Delay, d1	37.7	39.0	32.8	32.8	38.3	32.0	24.3	33.1		22.0	33.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.2	7.4	0.1	0.8	11.7	0.2	7.3	12.8		46.0	97.7	
Delay (s)	74.0	46.4	32.9	33.6	50.0	32.3	31.6	45.8		68.0	130.9	
Level of Service	E	D	C	C	D	C	C	D		E	F	
Approach Delay (s)		53.1			41.4			44.5			122.2	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	77.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	17	6	0	5	11
Future Volume (Veh/h)	7	17	6	0	5	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Hourly flow rate (vph)	12	30	11	0	9	19
Pedestrians		1	6		4	
Lane Width (m)		3.5	3.5		3.5	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	15				75	16
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	15				75	16
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	99				99	98
cM capacity (veh/h)	1505				918	1064

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	42	11	28
Volume Left	12	0	9
Volume Right	0	0	19
cSH	1505	1700	1012
Volume to Capacity	0.01	0.01	0.03
Queue Length 95th (m)	0.2	0.0	0.6
Control Delay (s)	2.2	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	8.7
Approach LOS			A

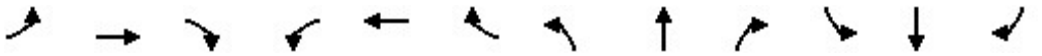
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	10	2	23	12	4
Future Volume (Veh/h)	11	10	2	23	12	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	16	14	3	33	17	6
Pedestrians	6			6		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	1			1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	65	32	29			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65	32	29			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	100			
cM capacity (veh/h)	939	1037	1589			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	30	36	23
Volume Left	16	3	0
Volume Right	14	0	6
cSH	982	1589	1700
Volume to Capacity	0.03	0.00	0.01
Queue Length 95th (m)	0.7	0.0	0.0
Control Delay (s)	8.8	0.6	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	0.6	0.0
Approach LOS	A		

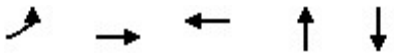
Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	88	1	4	88	4	4	18	10	8	12	1
Future Volume (Veh/h)	1	88	1	4	88	4	4	18	10	8	12	1
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	1	105	1	5	105	5	5	21	12	10	14	1
Pedestrians					26			18			4	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					2			2			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	114			124			251	250	150	278	248	112
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	114			124			251	250	150	278	248	112
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	97	99	98	98	100
cM capacity (veh/h)	1483			1452			671	626	868	624	643	944

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	107	115	38	25
Volume Left	1	5	5	10
Volume Right	1	5	12	1
cSH	1483	1452	693	643
Volume to Capacity	0.00	0.00	0.05	0.04
Queue Length 95th (m)	0.0	0.1	1.3	0.9
Control Delay (s)	0.1	0.4	10.5	10.8
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.4	10.5	10.8
Approach LOS			B	B

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	26.0%	ICU Level of Service	A	
Analysis Period (min)	15			

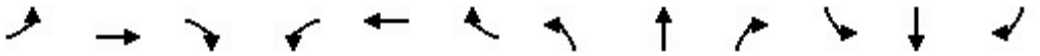


Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	11	93	264	986	1334
v/c Ratio	0.08	0.31	0.87	0.67	1.02
Control Delay	23.4	21.1	52.1	16.6	50.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	21.1	52.1	16.6	50.5
Queue Length 50th (m)	1.5	9.6	35.5	53.4	~118.0
Queue Length 95th (m)	4.9	18.8	55.5	102.3	#196.4
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	203	445	429	1473	1311
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.21	0.62	0.67	1.02

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	63	26	35	61	155	13	893	30	66	1180	22
Future Volume (vph)	10	63	26	35	61	155	13	893	30	66	1180	22
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.97			0.95			0.99			1.00	
Flpb, ped/bikes	0.96	1.00			0.99			1.00			1.00	
Frt	1.00	0.96			0.92			1.00			1.00	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1158	1209			1168			2612			2632	
Flt Permitted	0.47	1.00			0.94			0.92			0.82	
Satd. Flow (perm)	575	1209			1106			2415			2152	
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)	11	66	27	37	64	163	14	940	32	69	1242	23
RTOR Reduction (vph)	0	19	0	0	43	0	0	2	0	0	1	0
Lane Group Flow (vph)	11	74	0	0	221	0	0	984	0	0	1333	0
Confl. Peds. (#/hr)	60		75	75		60	44		72	72		44
Heavy Vehicles (%)	13%	2%	0%	7%	4%	2%	0%	2%	0%	9%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.2	21.2			21.2			54.8			54.8	
Effective Green, g (s)	21.2	21.2			21.2			54.8			54.8	
Actuated g/C Ratio	0.24	0.24			0.24			0.61			0.61	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	135	284			260			1470			1310	
v/s Ratio Prot		0.06										
v/s Ratio Perm	0.02				c0.20			0.41			c0.62	
v/c Ratio	0.08	0.26			0.85			0.67			1.02	
Uniform Delay, d1	26.8	28.0			32.9			11.6			17.6	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.2			21.9			2.4			29.3	
Delay (s)	26.9	28.2			54.7			14.1			46.9	
Level of Service	C	C			D			B			D	
Approach Delay (s)		28.1			54.7			14.1			46.9	
Approach LOS		C			D			B			D	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	127.8%	ICU Level of Service	H
Analysis Period (min)	15		

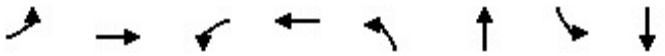
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	97	40	0
Future Volume (Veh/h)	0	0	0	97	40	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	105	43	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	148	43	43			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	148	43	43			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	844	1027	1566			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	105	43
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1566	1700
Volume to Capacity	0.00	0.00	0.03
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	11.6%	ICU Level of Service	A
Analysis Period (min)	15		

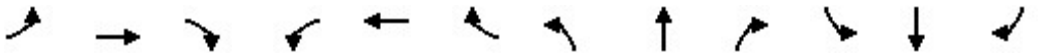


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	222	89	354	93	1074	403	920
v/c Ratio	0.65	0.62	0.40	1.03	0.67	1.04	1.47	0.58
Control Delay	54.5	36.3	33.2	84.0	52.4	69.9	252.9	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	36.3	33.2	84.0	52.4	69.9	252.9	15.4
Queue Length 50th (m)	14.0	33.2	13.0	~59.5	14.1	~110.8	~90.4	53.5
Queue Length 95th (m)	#37.4	58.1	27.5	#113.3	#39.4	#150.3	#146.1	71.5
Internal Link Dist (m)		102.7		40.9		222.6		298.0
Turn Bay Length (m)	30.0		35.0		75.0		75.0	
Base Capacity (vph)	135	358	225	345	138	1029	275	1581
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.62	0.40	1.03	0.67	1.04	1.47	0.58

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	165	35	80	136	183	84	769	198	363	766	62
Future Volume (vph)	79	165	35	80	136	183	84	769	198	363	766	62
Ideal Flow (vphpl)	1454	1338	1301	1454	1338	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.86		1.00	0.96		1.00	0.97	
Flpb, ped/bikes	0.88	1.00		0.94	1.00		0.90	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.91		1.00	0.97		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)	1197	1188		1282	1001		1156	2729		1337	2823	
Flt Permitted	0.36	1.00		0.57	1.00		0.31	1.00		0.11	1.00	
Satd. Flow (perm)	460	1188		764	1001		378	2729		148	2823	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	88	183	39	89	151	203	93	854	220	403	851	69
RTOR Reduction (vph)	0	8	0	0	51	0	0	24	0	0	6	0
Lane Group Flow (vph)	88	214	0	89	303	0	93	1050	0	403	914	0
Confl. Peds. (#/hr)	239		86	86		239	202		187	187		202
Heavy Vehicles (%)	0%	2%	28%	0%	4%	3%	6%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0		28.0	28.0		35.0	35.0		53.0	53.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.37	0.37		0.56	0.56	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.5	2.5		2.3	2.5	
Lane Grp Cap (vph)	135	350		225	295		139	1005		270	1574	
v/s Ratio Prot		0.18			c0.30			0.38		c0.24	0.32	
v/s Ratio Perm	0.19			0.12			0.25			c0.60		
v/c Ratio	0.65	0.61		0.40	1.03		0.67	1.04		1.49	0.58	
Uniform Delay, d1	29.2	28.8		26.7	33.5		25.1	30.0		27.5	13.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.1	2.5		0.7	59.8		22.7	40.8		240.3	1.6	
Delay (s)	38.4	31.3		27.4	93.3		47.9	70.8		267.8	15.3	
Level of Service	D	C		C	F		D	E		F	B	
Approach Delay (s)		33.3			80.0			69.0			92.2	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	76.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

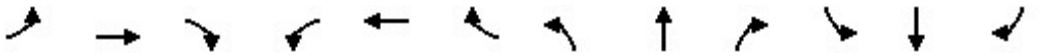


Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	342	373	230	30	780	229	665
v/c Ratio	1.70	1.49	0.55	0.10	0.74	0.72	0.50
Control Delay	361.5	267.1	9.2	10.6	32.7	24.8	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	361.5	267.1	9.2	10.6	32.7	24.8	19.2
Queue Length 50th (m)	~94.7	~97.1	0.0	2.3	65.4	20.4	44.8
Queue Length 95th (m)	#147.6	#151.0	20.1	6.0	#101.0	38.5	62.8
Internal Link Dist (m)	91.7	8.8			71.5		222.6
Turn Bay Length (m)				65.0		140.0	
Base Capacity (vph)	201	251	415	420	1057	366	1342
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	1.70	1.49	0.55	0.07	0.74	0.63	0.50

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	140	44	110	233	212	28	685	32	211	526	86
Future Volume (vph)	131	140	44	110	233	212	28	685	32	211	526	86
Ideal Flow (vphpl)	1454	1433	1301	1579	1178	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.98			1.00	0.76	1.00	0.99		1.00	0.97	
Flpb, ped/bikes		0.95			0.98	1.00	0.97	1.00		0.99	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1278			1040	809	1322	2894		1328	2786	
Flt Permitted		0.47			0.74	1.00	0.40	1.00		0.22	1.00	
Satd. Flow (perm)		612			787	809	555	2894		313	2786	
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)	142	152	48	120	253	230	30	745	35	229	572	93
RTOR Reduction (vph)	0	6	0	0	0	156	0	3	0	0	11	0
Lane Group Flow (vph)	0	336	0	0	373	74	30	777	0	229	654	0
Confl. Peds. (#/hr)	214		96	96		214	135		106	106		135
Heavy Vehicles (%)	0%	0%	0%	26%	0%	3%	0%	1%	0%	2%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		31.0			31.0	31.0	39.2	35.3		52.0	45.1	
Effective Green, g (s)		31.0			31.0	31.0	39.2	35.3		52.0	45.1	
Actuated g/C Ratio		0.32			0.32	0.32	0.40	0.36		0.54	0.46	
Clearance Time (s)		7.0			7.0	7.0	3.0	7.0		3.0	7.0	
Vehicle Extension (s)		2.3			2.3	2.3	2.3	2.5		2.3	2.5	
Lane Grp Cap (vph)		195			251	258	255	1053		311	1295	
v/s Ratio Prot							0.00	0.27		c0.10	0.23	
v/s Ratio Perm		c0.55			0.47	0.09	0.04			c0.29		
v/c Ratio		1.72			1.49	0.28	0.12	0.74		0.74	0.50	
Uniform Delay, d1		33.0			33.0	24.7	17.6	26.8		14.5	18.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		345.8			238.8	0.4	0.1	4.6		8.0	1.4	
Delay (s)		378.8			271.8	25.1	17.7	31.5		22.6	19.6	
Level of Service		F			F	C	B	C		C	B	
Approach Delay (s)		378.8			177.7			30.9			20.3	
Approach LOS		F			F			C			C	

Intersection Summary			
HCM 2000 Control Delay	105.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	114.4%	ICU Level of Service	H
Analysis Period (min)	15		

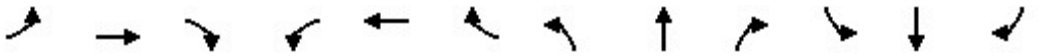
c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	333	88	334	277	44	187	119	268
v/c Ratio	0.56	0.97	0.34	0.59	0.77	0.27	0.59	0.40	0.54
Control Delay	42.5	72.9	17.8	25.4	20.1	31.4	34.3	19.6	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	72.9	17.8	25.4	20.1	31.4	34.3	19.6	24.6
Queue Length 50th (m)	13.6	57.6	8.6	43.6	3.5	6.2	26.1	12.6	34.8
Queue Length 95th (m)	#33.8	#112.2	17.3	70.4	#55.6	16.0	49.9	23.9	60.6
Internal Link Dist (m)		134.8		63.8			55.6		111.2
Turn Bay Length (m)	50.0		25.0		85.0	20.0			
Base Capacity (vph)	162	345	263	596	368	163	315	303	493
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	0.56	0.97	0.33	0.56	0.75	0.27	0.59	0.39	0.54

Intersection Summary

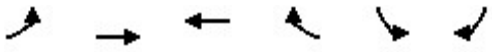
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	267	53	84	321	266	42	130	50	114	227	31
Future Volume (vph)	87	267	53	84	321	266	42	130	50	114	227	31
Ideal Flow (vphpl)	1454	1338	1301	1454	1579	1301	1454	1338	1301	1454	1338	1301
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95		1.00	1.00	0.53	1.00	0.90		1.00	0.96	
Flpb, ped/bikes	0.71	1.00		0.95	1.00	1.00	0.81	1.00		0.86	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	853	1047		1164	1351	526	827	953		997	1109	
Flt Permitted	0.56	1.00		0.38	1.00	1.00	0.59	1.00		0.56	1.00	
Satd. Flow (perm)	502	1047		461	1351	526	517	953		587	1109	
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)	91	278	55	88	334	277	44	135	52	119	236	32
RTOR Reduction (vph)	0	7	0	0	0	140	0	14	0	0	5	0
Lane Group Flow (vph)	91	326	0	88	334	137	44	173	0	119	263	0
Confl. Peds. (#/hr)	261		178	178		261	161		606	606		161
Heavy Vehicles (%)	3%	6%	0%	0%	4%	0%	20%	9%	3%	6%	2%	0%
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	30.4	30.4		40.2	40.2	40.2	29.1	29.1		40.8	40.8	
Effective Green, g (s)	30.4	30.4		40.2	40.2	40.2	29.1	29.1		40.8	40.8	
Actuated g/C Ratio	0.32	0.32		0.43	0.43	0.43	0.31	0.31		0.43	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	6.5	6.5		3.0	6.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	162	338		248	577	224	160	295		292	481	
v/s Ratio Prot		c0.31		0.03	0.25			0.18		0.04	c0.24	
v/s Ratio Perm	0.18			0.13		c0.26	0.09			0.14		
v/c Ratio	0.56	0.96		0.35	0.58	0.61	0.28	0.58		0.41	0.55	
Uniform Delay, d1	26.3	31.3		17.4	20.5	20.9	24.5	27.4		17.2	19.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.3	39.1		1.2	1.7	5.6	4.2	8.2		1.3	4.4	
Delay (s)	31.6	70.4		18.6	22.2	26.5	28.7	35.6		18.5	24.2	
Level of Service	C	E		B	C	C	C	D		B	C	
Approach Delay (s)		62.1			23.4			34.3			22.4	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

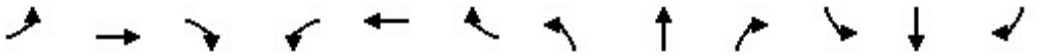
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	211	220	459	18	13	212
Future Volume (Veh/h)	211	220	459	18	13	212
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	229	239	499	20	14	230
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		88				
pX, platoon unblocked						
vC, conflicting volume	519				1086	509
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	519				1086	509
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	78				92	55
cM capacity (veh/h)	1057				168	515

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	309	159	519	244
Volume Left	229	0	0	14
Volume Right	0	0	20	230
cSH	1057	1700	1700	460
Volume to Capacity	0.22	0.09	0.31	0.53
Queue Length 95th (m)	6.3	0.0	0.0	23.1
Control Delay (s)	7.5	0.0	0.0	21.3
Lane LOS	A			C
Approach Delay (s)	4.9		0.0	21.3
Approach LOS				C

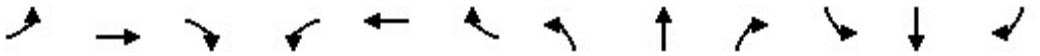
Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	635	13	5	514	11	7	1	5	11	7	11
Future Volume (Veh/h)	10	635	13	5	514	11	7	1	5	11	7	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	655	13	5	530	11	7	1	5	11	7	11
Pedestrians		13			7			107			52	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		1			1			9			5	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					224							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	593			775			1362	1392	776	1292	1392	600
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	420			775			1335	1371	776	1252	1372	429
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			91	99	99	89	93	98
cM capacity (veh/h)	921			769			82	104	361	104	105	499

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	678	546	13	29
Volume Left	10	5	7	11
Volume Right	13	11	5	11
cSH	921	769	119	149
Volume to Capacity	0.01	0.01	0.11	0.19
Queue Length 95th (m)	0.3	0.1	2.7	5.3
Control Delay (s)	0.3	0.2	39.0	34.9
Lane LOS	A	A	E	D
Approach Delay (s)	0.3	0.2	39.0	34.9
Approach LOS			E	D

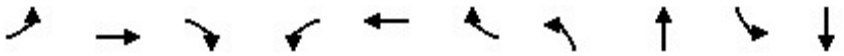
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	589	62	14	484	2	48	0	130	1	0	0
Future Volume (Veh/h)	1	589	62	14	484	2	48	0	130	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	640	67	15	526	2	52	0	141	1	0	0
Pedestrians		5			17			80			70	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			2			7			6	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					125							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	598			787			1318	1384	770	1460	1416	602
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	363			787			1270	1353	770	1450	1394	368
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			45	100	62	98	100	100
cM capacity (veh/h)	898			782			95	102	369	44	97	505

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	708	543	193	1
Volume Left	1	15	52	1
Volume Right	67	2	141	0
cSH	898	782	208	44
Volume to Capacity	0.00	0.02	0.93	0.02
Queue Length 95th (m)	0.0	0.4	57.8	0.5
Control Delay (s)	0.0	0.5	92.4	88.3
Lane LOS	A	A	F	F
Approach Delay (s)	0.0	0.5	92.4	88.3
Approach LOS			F	F

Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
Analysis Period (min)	15			

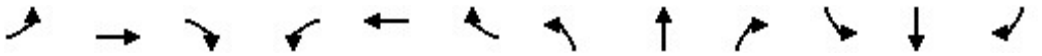


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	225	385	133	138	326	334	109	986	222	1305
v/c Ratio	1.11	0.87	0.44	0.58	0.80	0.85	0.67	1.00	1.14	1.22
Control Delay	128.9	56.1	9.7	44.2	51.8	30.2	41.2	64.9	135.1	137.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.9	56.1	9.7	44.2	51.8	30.2	41.2	64.9	135.1	137.5
Queue Length 50th (m)	~42.3	77.5	0.6	23.8	66.7	17.0	11.5	106.6	~39.4	~179.4
Queue Length 95th (m)	#81.8	103.8	14.7	34.6	84.7	#66.5	#37.6	#188.1	#96.1	#261.9
Internal Link Dist (m)		100.9			87.6			334.8		71.5
Turn Bay Length (m)	100.0		40.0	35.0		40.0	20.0		55.0	
Base Capacity (vph)	202	562	351	270	562	445	175	985	194	1074
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	1.11	0.69	0.38	0.51	0.58	0.75	0.62	1.00	1.14	1.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

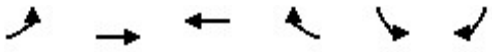
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	370	128	132	313	321	105	842	105	213	1159	94
Future Volume (vph)	216	370	128	132	313	321	105	842	105	213	1159	94
Ideal Flow (vphpl)	1454	1579	1301	1454	1579	1301	1454	1579	1301	1454	1579	1301
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.71	1.00	1.00	0.72	1.00	0.95		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.92	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1338	1546	742	1192	1546	781	1326	2694		1359	2865	
Flt Permitted	0.20	1.00	1.00	0.53	1.00	1.00	0.10	1.00		0.13	1.00	
Satd. Flow (perm)	286	1546	742	670	1546	781	140	2694		183	2865	
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)	225	385	133	138	326	334	109	877	109	222	1207	98
RTOR Reduction (vph)	0	0	92	0	0	187	0	8	0	0	4	0
Lane Group Flow (vph)	225	385	41	138	326	147	109	978	0	222	1301	0
Confl. Peds. (#/hr)	223		230	230		223	84		216	216		84
Heavy Vehicles (%)	0%	1%	5%	5%	1%	1%	3%	3%	2%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	31.7	31.7	31.7	32.6	29.1	29.1	48.8	39.9		51.0	41.0	
Effective Green, g (s)	31.7	31.7	31.7	32.6	29.1	29.1	48.8	39.9		51.0	41.0	
Actuated g/C Ratio	0.29	0.29	0.29	0.30	0.26	0.26	0.44	0.36		0.46	0.37	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5		3.0	6.5	
Vehicle Extension (s)	2.5	2.2	2.2	2.5	2.2	2.2	2.5	2.2		2.5	2.2	
Lane Grp Cap (vph)	197	445	213	243	408	206	158	977		191	1067	
v/s Ratio Prot	c0.12	0.25		0.05	c0.21		0.06	0.36		c0.11	c0.45	
v/s Ratio Perm	c0.20		0.06	0.12		0.19	0.25			0.43		
v/c Ratio	1.14	0.87	0.19	0.57	0.80	0.71	0.69	1.00		1.16	1.22	
Uniform Delay, d1	35.3	37.1	29.5	34.3	37.7	36.7	24.7	35.0		24.0	34.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	107.6	15.6	0.2	2.5	9.9	9.8	10.9	29.1		115.7	107.2	
Delay (s)	142.9	52.7	29.7	36.8	47.7	46.5	35.6	64.2		139.6	141.7	
Level of Service	F	D	C	D	D	D	D	E		F	F	
Approach Delay (s)		75.9			45.3			61.3			141.4	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	90.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	23	19	2	13	10
Future Volume (Veh/h)	1	23	19	2	13	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	2	35	29	3	20	15
Pedestrians			5		12	
Lane Width (m)			3.5		3.5	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	44				86	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44				86	42
tC, single (s)	4.3				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1458				905	1023

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	37	32	35
Volume Left	2	0	20
Volume Right	0	3	15
cSH	1458	1700	952
Volume to Capacity	0.00	0.02	0.04
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.4	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	0.4	0.0	8.9
Approach LOS			A

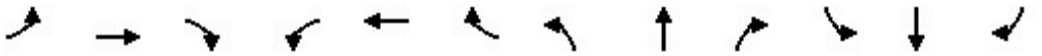
Intersection Summary			
Average Delay		3.2	
Intersection Capacity Utilization		16.6%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	27	17	55	44	5
Future Volume (Veh/h)	8	27	17	55	44	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	9	32	20	65	52	6
Pedestrians	3			17		
Lane Width (m)	3.5			3.5		
Walking Speed (m/s)	1.1			1.1		
Percent Blockage	0			2		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	163	75	61			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	163	75	61			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	97	99			
cM capacity (veh/h)	820	975	1551			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	41	85	58
Volume Left	9	20	0
Volume Right	32	0	6
cSH	936	1551	1700
Volume to Capacity	0.04	0.01	0.03
Queue Length 95th (m)	1.0	0.3	0.0
Control Delay (s)	9.0	1.8	0.0
Lane LOS	A	A	
Approach Delay (s)	9.0	1.8	0.0
Approach LOS	A		

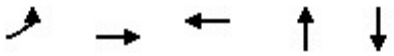
Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	182	8	11	137	22	7	23	13	31	31	7
Future Volume (Veh/h)	8	182	8	11	137	22	7	23	13	31	31	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	198	9	12	149	24	8	25	14	34	34	8
Pedestrians					15			63			33	
Lane Width (m)					3.5			3.5			3.5	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					1			6			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					126							
pX, platoon unblocked												
vC, conflicting volume	206			270			494	514	280	480	506	194
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	206			270			494	514	280	480	506	194
tC, single (s)	4.1			4.4			7.3	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.5			3.7	4.0	3.4	3.5	4.0	3.3
p0 queue free %	99			99			98	94	98	92	92	99
cM capacity (veh/h)	1337			1071			375	421	691	408	425	828

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	216	185	47	76
Volume Left	9	12	8	34
Volume Right	9	24	14	8
cSH	1337	1071	465	439
Volume to Capacity	0.01	0.01	0.10	0.17
Queue Length 95th (m)	0.2	0.3	2.5	4.7
Control Delay (s)	0.4	0.6	13.6	14.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.4	0.6	13.6	14.9
Approach LOS			B	B

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	35.4%	ICU Level of Service	A	
Analysis Period (min)	15			

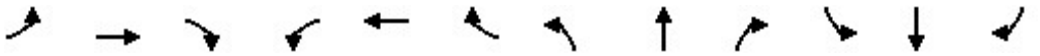


Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	24	217	388	1087	1286
v/c Ratio	0.12	0.56	1.11	1.04	1.67
Control Delay	19.5	24.3	104.9	57.8	329.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	24.3	104.9	57.8	329.9
Queue Length 50th (m)	2.2	20.3	~54.9	~80.4	~132.4
Queue Length 95th (m)	7.4	40.5	#103.6	#116.8	#170.4
Internal Link Dist (m)		101.6	85.9	298.0	334.8
Turn Bay Length (m)	30.0				
Base Capacity (vph)	192	386	351	1048	768
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.56	1.11	1.04	1.67

Intersection Summary

~ 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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	153	53	80	111	178	30	893	109	131	1059	31
Future Volume (vph)	23	153	53	80	111	178	30	893	109	131	1059	31
Ideal Flow (vphpl)	1454	1338	1301	1454	1433	1301	1454	1433	1301	1454	1433	1301
Total Lost time (s)	7.0	7.0			7.0			7.0			7.0	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frpb, ped/bikes	1.00	0.97			0.97			0.97			1.00	
Flpb, ped/bikes	0.98	1.00			0.98			1.00			1.00	
Frt	1.00	0.96			0.93			0.98			1.00	
Flt Protected	0.95	1.00			0.99			1.00			0.99	
Satd. Flow (prot)	1333	1211			1230			2503			2586	
Flt Permitted	0.45	1.00			0.86			0.84			0.60	
Satd. Flow (perm)	635	1211			1074			2102			1553	
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)	24	161	56	84	117	187	32	940	115	138	1115	33
RTOR Reduction (vph)	0	18	0	0	25	0	0	13	0	0	3	0
Lane Group Flow (vph)	24	199	0	0	363	0	0	1074	0	0	1283	0
Confl. Peds. (#/hr)	53		123	123		53	90		152	152		90
Heavy Vehicles (%)	0%	2%	0%	1%	2%	1%	4%	3%	0%	4%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.0	21.0			21.0			34.0			34.0	
Effective Green, g (s)	21.0	21.0			21.0			34.0			34.0	
Actuated g/C Ratio	0.30	0.30			0.30			0.49			0.49	
Clearance Time (s)	7.0	7.0			7.0			7.0			7.0	
Vehicle Extension (s)	2.1	2.1			2.1			2.2			2.2	
Lane Grp Cap (vph)	193	368			326			1035			765	
v/s Ratio Prot		0.16										
v/s Ratio Perm	0.04				c0.34			0.51			c0.83	
v/c Ratio	0.12	0.54			1.11			1.04			1.68	
Uniform Delay, d1	17.4	20.0			24.0			17.5			17.5	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	0.1	1.0			84.0			38.2			310.7	
Delay (s)	17.5	20.9			108.0			55.7			328.2	
Level of Service	B	C			F			E			F	
Approach Delay (s)		20.6			108.0			55.7			328.2	
Approach LOS		C			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	176.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	155.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	162	69	0
Future Volume (Veh/h)	0	0	0	162	69	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	176	75	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	251	75	75			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	251	75	75			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	738	986	1524			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	176	75
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1524	1700
Volume to Capacity	0.00	0.00	0.04
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	17.1%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix M

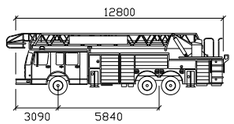
Vehicle Swept Path Analysis

Allendale Avenue

True North

Project North

TOTAL PARKING FOR 347 CARS



Aerial Fire

	mm
Width	: 2540
Track	: 2540
Lock to Lock Time	: 6.0
Steering Angle	: 37.0

ARCADIS
55 St. Clair Avenue West - 7th Floor
Toronto ON M4V 2Y7 Canada
tel 416 596 1930
www.arcadis.com

CLIENT
Hennepin Fallsview Inc.

6546 Fallsview Blvd, Niagara Falls, ON L2G 3W2

PROJECT NAME
Oakes Hotel Hydro Corridor Parking Lot, Niagara Falls
Hydro One Land Parcel: Ferry Street (PID 4338) (Hydro Corridor - Part of Lot 143)

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SCALE:	DATE:
1:600	2025-01-16
PROJECT ENG:	DRAWN BY: GJ
CHECKED BY: KL	APPROVED BY: CS
PROJECT NO: 30313395	

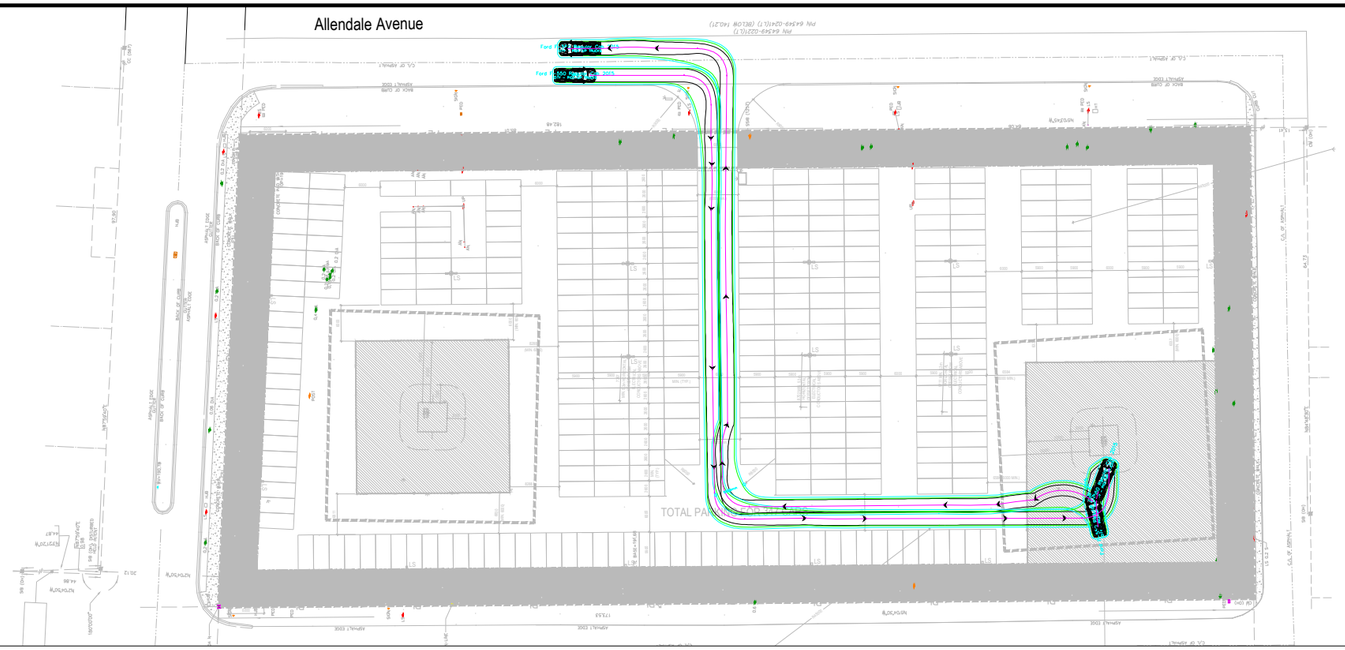
FIGURE NAME
Transportation Maneuvering Plan - Fire Route - Aerial Fire Truck

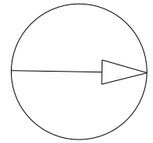
FIGURE NO. 01

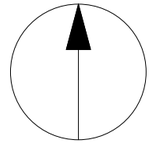
REVISION 01

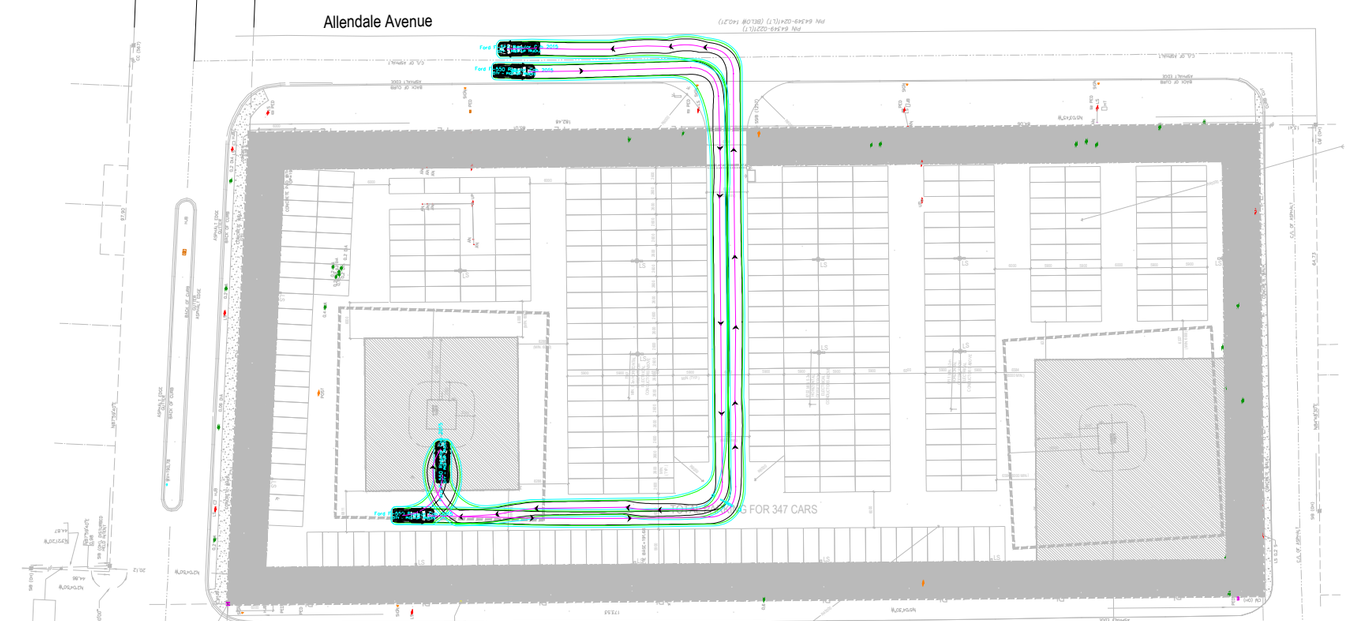
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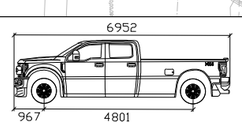
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Ford F-550 Regular Cab 2015

	mm
Width	: 2385
Track	: 2200
Lock to Lock Time	: 6.0
Steering Angle	: 45.5

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tel 416 596 1930
www.arcadis.com

CLIENT
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6546 Fallsview Blvd, Niagara Falls, ON L2G 3W2

PROJECT NAME
Oakes Hotel Hydro Corridor Parking Lot, Niagara Falls
Hydro One Land Parcel: Ferry Street (PID 4338) (Hydro Corridor - Part of Lot 143)

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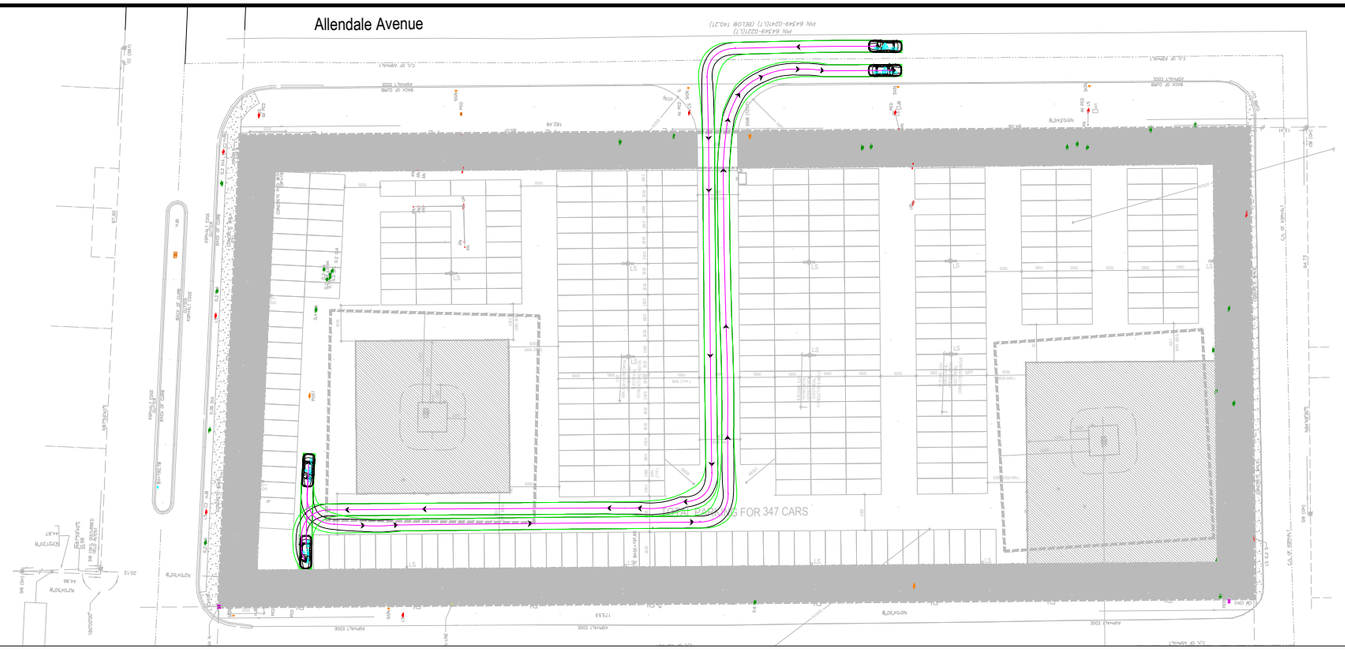
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1:1000	2025-01-16
PROJECT ENG:	DRAWN BY: GJ
CHECKED BY: KL	APPROVED BY: CS
PROJECT NO: 30313395	

FIGURE NAME
Transportation Maneuvering Plan - Hydro One Service Vehicle - Ford F-550

FIGURE NO.	REVISION
02	01

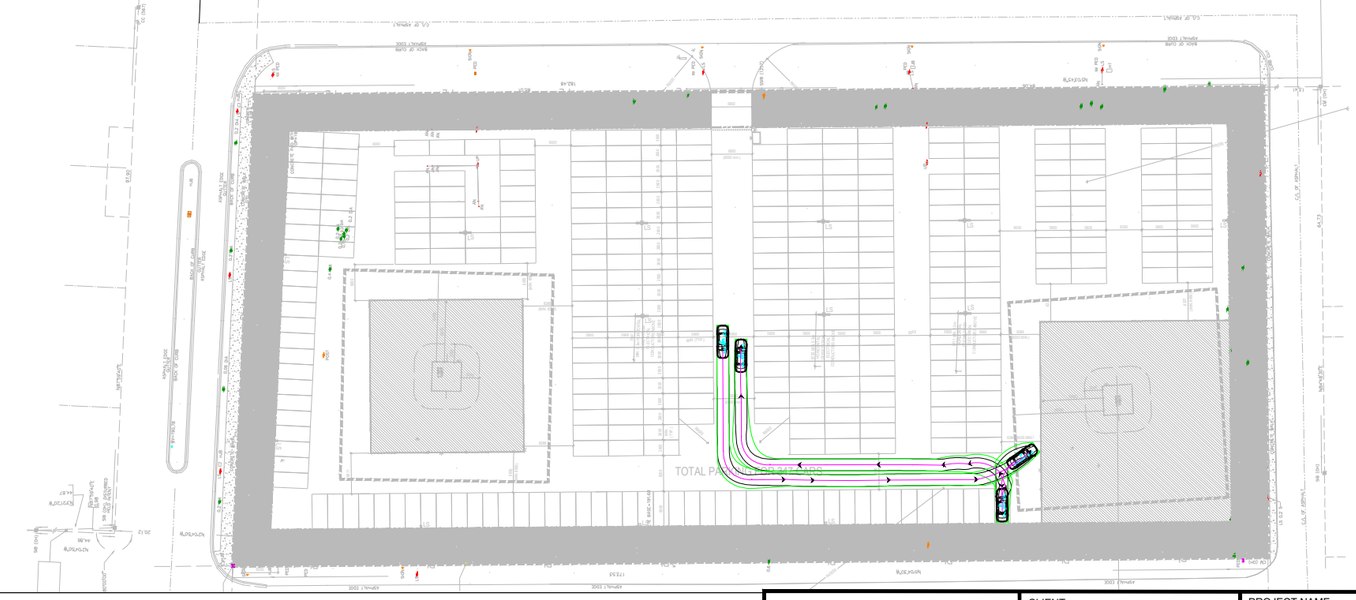
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1 in
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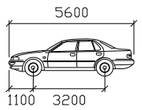
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True North

Project North





P

	mm
Width	: 2000
Track	: 2000
Lock to Lock Time	6.0
Steering Angle	: 35.9

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PROJECT NAME

Oakes Hotel Hydro Corridor Parking Lot, Niagara Falls

Hydro One Land Parcel: Ferry Street (PID 4338) (Hydro Corridor - Part of Lot 143)

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1:1000	2025-01-16
PROJECT ENG:	DRAWN BY: GJ
CHECKED BY: KL	APPROVED BY: CS
PROJECT NO: 30313395	

FIGURE NAME: Transportation Maneuvering Plan - Critical Parking Spaces - P-TAC

FIGURE NO.: 03

REVISION: 01

SCALE CHECK: 1 in / 10mm

File Location: C:\Users\jagjaitg9660\ARCADIS\30313395 - 3014 Oakes Hotel Traffic Studi - Project\05 Project execution\05_Analytic-Models\Auto1\URN\2026-01-09\AT_HydroOneCorridorLot.dwg Last Saved: January 7, 2026, by jagjaitg9660 Plotted: Wednesday, January 07, 2026 12:44:29 by Jagjait, Gurminder

Appendix N

Pavement Marking & Signage Plan



PLAN VIEW - SCALE 1:300

GENERAL NOTES

1. ALL TRAFFIC SIGNS SHOULD BE VISIBLE TO ALL APPROACHING TRAFFIC.
2. ALL SIGNAGE AND PAVEMENTS MARKINGS SHALL CONFORM TO THE ONTARIO TRAFFIC MANUAL, BOOK 5–REGULATORY SIGNS, AND BOOK 11–PAVEMENT, HAZARD AND DELINEATION MARKINGS.
3. ALL WORK TO CONFORM TO THE APPLICABLE MUNICIPAL STANDARDS, PROVINCIAL STANDARDS, AND SPECIFICATIONS AND ALL OTHER RELEVANT CODES, STANDARDS, GUIDELINES ETC.
4. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED FOR WORKING ON–SITE AND WITHIN THE PUBLIC RIGHT–OF–WAY.
5. CONTRACTOR IS RESPONSIBLE FOR THE LAYOUT OF ALL WORKS.
6. ALL DISCREPANCIES BETWEEN THE DRAWINGS AND THE FIELD LAYOUT SHALL BE REPORTED TO THE SITE SUPERVISOR AND THE OWNER BEFORE FURTHER ACTION IS TAKEN.

LEGEND

PAVEMENT ID	PAVEMENT MARKINGS DESCRIPTION
1	60cm WIDTH STOP BAR
2	10cm SOLID YELLOW LINE

LEGEND

SIGN	SIGN NUMBER AND DESCRIPTION	QUANTITY
STOP	Ra-1 STOP SIGN (60X60cm)	1
R FIRE ROUTE	FIRE ROUTE SIGN (30x45cm)	4
R	Rb-5 NO PARKING SIGN (30X30cm)	8
	PROPOSED TRAFFIC SIGN	5
	PROPOSED WALL MOUNT	8

True North

Project North

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ISSUES

No.	DESCRIPTION	DATE
01	ISSUED FOR SITE PLAN APPROVAL	2026-01-16

NOT FOR CONSTRUCTION

SEAL

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PROJECT

Oakes Hotel Hydro Corridor Parking Lot, Niagara Falls

Hydro One Land Parcel: Ferry Street (PID 4338) (Hydro Corridor - Part of Lot 143)

SHEET TITLE

SITE PAVEMENT MARKINGS AND SIGNAGE PLAN - GROUND LEVEL

PROJECT NO: 30313395

DRAWN BY:	CHECKED BY:
AH	**GJ**
PROJECT MGR:	APPROVED BY:
KL	**CS**

SHEET NUMBER 01

ISSUE 01

SCALE CHECK 10mm 1 in

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