A.Y. Jackson Secondary School (OCDSB)

Transportation Impact Assessment (TIA) Report

Final

February 2025

A.Y. Jackson Secondary School (OCDSB)

Transportation Impact Assessment (TIA) Report

prepared for:
Edward J Cuhaci and Associates Architects Inc.
171 Slater St, Suite 100
Ottawa, ON
K1P 5H7

prepared by:
PARSONS
1223 Michael Street North
Suite 100
Ottawa, ON K1J 7T2

February 11, 2025

479108–01000

DOCUMENT CONTROL PAGE

CLIENT:	Edward J Cuhaci and Associates Architects Inc.
PROJECT NAME:	A.Y. Jackson Secondary School (OCDSB)
REPORT TITLE:	TIA Report
PARSONS PROJECT NO:	479108 - 01000
VERSION:	Site Plan Control (SPC) Application
DIGITAL MASTER:	https://parsons365can.sharepoint.com/sites/OttawaHub/Projects/Projects/479108 - A.Y. Jackson OCDSB (Cuhaci)/4. 01000 - WBS NAME/Documents/4-TIA Report/A.Y.Jackson Secondary School - TIA Report.docx
ORIGINATOR	Basel Ansari, P.Eng.
AUTHORIZATION:	Jake Berube, P.Eng.
CIRCULATION LIST:	Rochelle Fortier, P.Eng.
HISTORY:	• TIA Step 1 Screening Form – Sep 25, 2024 • TIA Step 2 Scoping & Forecasting Report – Sep 25, 2024 • TIA Step 3 Strategy Report – Nov 07, 2024 • TIA Report – February 11, 2025

TABLE OF CONTENTS

1.0 SCREENING FORM 4
2.0 SCOPING REPORT 4
2.1. EXISTING AND PLANNED CONDITIONS 4
2.1.1. PROPOSED DEVELOPMENT 4
2.1.2. EXISTING CONDITIONS 7
2.1.3. PLANNED CONDITIONS 13
2.2. STUDY AREA AND TIME PERIODS 14
2.3. EXEMPTION REVIEW 14
3.0 FORECASTING 15
3.1. DEVELOPMENT GENERATED TRAVEL DEMAND 15
3.1.1. TRIP GENERATION AND MODE SHARES 15
3.1.2. TRIP DISTRIBUTION AND ASSIGNMENT 18
3.2. BACKGROUND NETWORK TRAFFIC 19
3.2.1. TRANSPORTATION NETWORK PLANS 19
3.2.2. BACKGROUND GROWTH 19
3.3. DEMAND RATIONALIZATION 20
4.0 ANALYSIS 21
4.1. DEVELOPMENT DESIGN 21
4.1.1. DESIGN FOR SUSTAINABLE MODES 21
4.1.2. CIRCULATION AND ACCESS 24
4.1.3. NEW STREETS NETWORK 24
4.2. PARKING 24
4.3. BOUNDARY STREET DESIGN 24
4.4. ACCESS INTERSECTION DESIGN 26
4.5. TRANSPORTATION DEMAND MANAGEMENT 26
4.5.1. CONTEXT FOR TDM 26
4.5.2. NEED AND OPPORTUNITY 26
4.5.3. TDM PROGRAM 27
4.6. NEIGHBOURHOOD TRAFFIC MANAGEMENT 27
4.7. TRANSIT 27
4.8. REVIEW OF NETWORK CONCEPT 27
4.9. INTERSECTION DESIGN 27
4.9.1. INTERSECTION CONTROL 27
4.9.2. INTERSECTION DESIGN 27
5.0 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS 31

LIST OF FIGURES

FIGURE 1: LOCAL CONTEXT 4
FIGURE 2: EXISTING INTERNAL DRIVEWAY CONFIGURATION 5
FIGURE 3: PROPOSED SITE PLAN (JULY 2024) 6
FIGURE 4: ADJACENT DRIVEWAYS WITHIN 200M OF EXISTING SITE ACCESS 9
FIGURE 5: EXISTING PEDESTRIAN FACILITY NETWORK 10

FIGURE 6: EXISTING BIKE NETWORK 10
FIGURE 7: AREA TRANSIT NETWORK 11
FIGURE 8: BUS STOP LOCATIONS 11
FIGURE 9: EXISTING PEAK HOUR VEHICLE TRAFFIC VOLUMES 12
FIGURE 10: EXISTING PEDESTRIAN AND CYCLISTS PEAK HOUR VOLUMES 13
FIGURE 11: PROPOSED STUDY AREA AND INTERSECTIONS 14
FIGURE 12: SITE GENERATED VEHICLE TRAFFIC PERCENT DISTRIBUTION 18
FIGURE 13: NET 'NEW' SITE-GENERATED TRAFFIC 19
FIGURE 14: FUTURE BACKGROUND 2026 TRAFFIC VOLUMES 20
FIGURE 15: FUTURE BACKGROUND 2031 TRAFFIC VOLUMES 20
FIGURE 16: TOTAL PROJECTED 2026 TRAFFIC VOLUMES 21
FIGURE 17: TOTAL PROJECTED 2031 TRAFFIC VOLUMES 21
FIGURE 18: DEPRESSED CURB LOCATIONS AT SITE FRONTAGE 23

LIST OF TABLES

TABLE 1: EXEMPTIONS REVIEW SUMMARY 14
TABLE 2: RATIONALE FOR MODE SHARES OF DIFFERENT TRAVEL MODES 16
TABLE 3: EXISTING SITE ESTIMATED TRIP GENERATION BY TRAVEL MODE 17
TABLE 4: FUTURE ADDITION SITE ESTIMATED TRIP GENERATION BY TRAVEL MODE 17
TABLE 5: REQUIRED VEHICLE AND BICYCLE PARKING SPACES 24
TABLE 6: MMLOS - BOUNDARY ROAD ANALYSIS 26
TABLE 7: EXISTING CONDITIONS INTERSECTION PERFORMANCE 28
TABLE 8: FUTURE BACKGROUND 2026 CONDITIONS INTERSECTION PERFORMANCE 28
TABLE 9: FUTURE BACKGROUND 2031 CONDITIONS INTERSECTION PERFORMANCE 29
TABLE 10: TOTAL PROJECTED 2026 CONDITIONS INTERSECTION PERFORMANCE 29
TABLE 11: TOTAL PROJECTED 2031 CONDITIONS INTERSECTION PERFORMANCE 30
TABLE 12: MMLOS – SIGNALIZED INTERSECTION ANALYSIS 30

LIST OF APPENDICES

APPENDIX A: TIA SCREENING FORM AND SITE PLAN
APPENDIX B: TRANSIT ROUTE MAPS
APPENDIX C: EARL OF MARCH TIA EXCERPTS
APPENDIX D: TRAFFIC COUNTS
APPENDIX E: A.Y. JACKSON SECONDARY SCHOOL ATTENDANCE BOUNDARY
APPENDIX F: TDM CHECKLISTS
APPENDIX G: BUS TURN TEMPLATES
APPENDIX H: MMLOS ANALYSIS FOR BOUNDARY STREETS
APPENDIX I: SYNCHRO ANALYSIS REPORTS
APPENDIX J: MMLOS ANALYSIS FOR INTERSECTIONS

TIA STRATEGY REPORT

Parsons has been retained by Edward J Cuhaci and Associates Architects Inc. to prepare a TIA Report in support of a Site Plan Control (SPC) Application for a proposed extension of the existing A.Y. Jackson Secondary School, part of the Ottawa Carleton District School Board (OCDSB). The school is located at the municipal address of 150 Abbeyhill Drive in Ottawa, Ontario. This document follows the TIA process as outlined in the City of Ottawa Transportation Impact Assessment (TIA) Guidelines (2017) and Revisions (2023). The following report represents Step 3 – Strategy Report.

1.0 SCREENING FORM

The Screening Form confirmed the need for a TIA Report based on the Trip Generation Trigger as the development is anticipated to generate more than 60 person trips during peak hours. The Location and Safety triggers were not met. The Screening Form has been provided in **Appendix A**.

2.0 SCOPING REPORT

2.1. Existing and Planned Conditions

2.1.1. Proposed Development

The development site is bounded by Abbeyhill Dr to the north and low-rise residential neighborhoods to the south, east and west. The site is currently zoned as I1A (minor institutional zone). The local site context is illustrated in **Figure 1**. The site is currently occupied by the existing A.Y. Jackson Secondary School. Based on information provided by the Ottawa-Carleton School District Board (OCDSB), the existing school currently has 34 classrooms in the existing building, along with 16 portable classrooms. The total student population is estimated to be approximately 1,150 students. Additionally, the school website indicates approximately 76 teachers/administrative/support personnel currently work at the school.

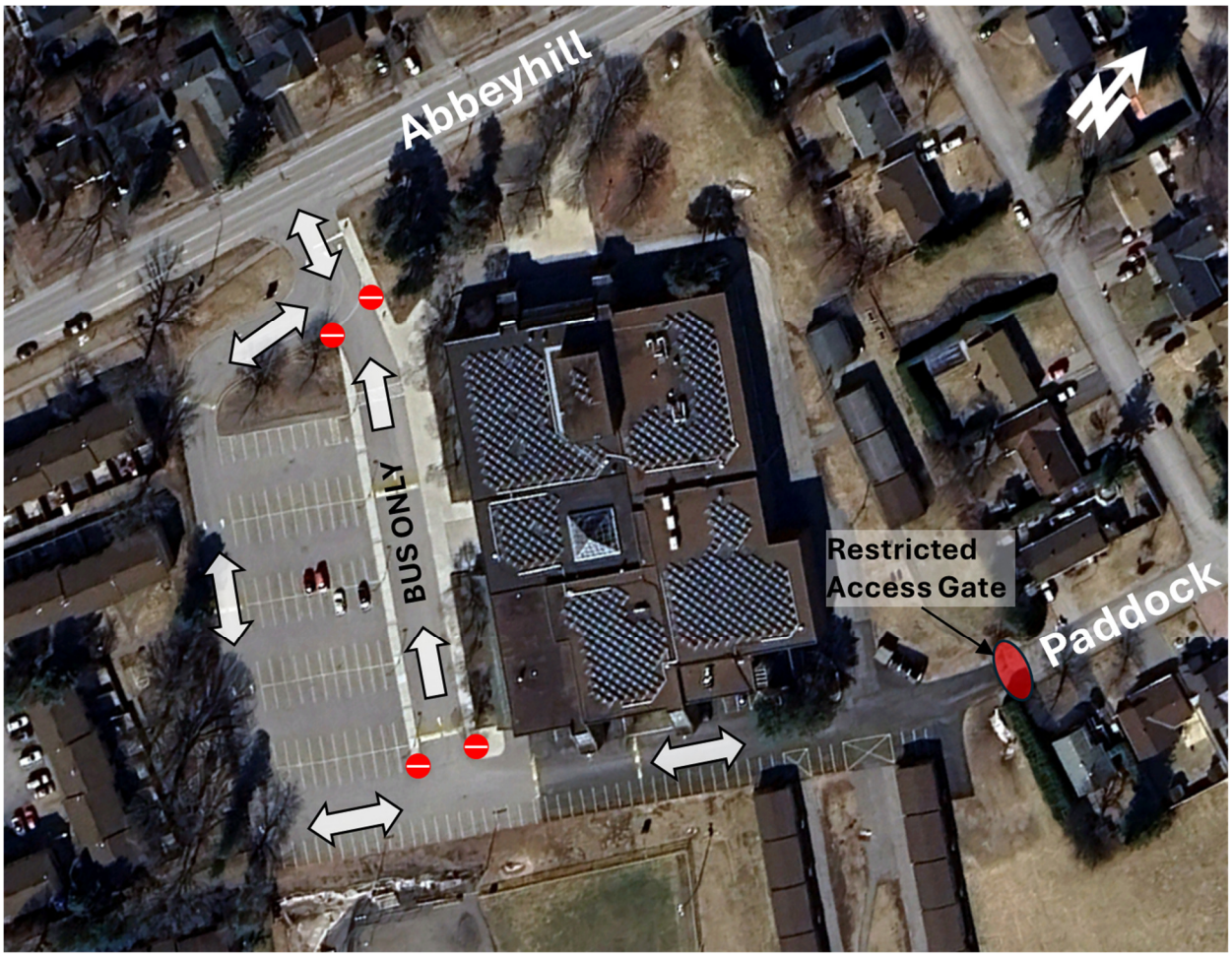
The school is proposing to add a new 2-storey building addition (2,311m^2) comprising 13 new classrooms, which will add another 299 students to the school population. The new building will result in the relocation of 12 of the 16 existing portable classrooms elsewhere on the site and the removal of the baseball diamond. The existing number of classrooms (34) and portable classrooms (16) will be maintained. As such, a total of approximately 1,449 students is expected in the future.

Figure 1: Local Context

Figure 2 illustrates the existing internal driveway operations of the school. Access is provided via a single two-way connection to Abbeyhill Dr. The internal driveway also connects to Paddock Way, where a gate typically restricts vehicle access at all times, while providing an opening for pedestrians and cyclists. The driveway provides connection to vehicle parking spaces and allows school buses to loop around and use the bus-only one-way NB section of the driveway, where they can line-up against the curb for student loading. OCDSB staff have indicated that six yellow school buses currently serve the school.

Six speed humps are currently provided along the driveway, where two are located along the bus-only section, two are located along the section on the south side of the school building and two are located along the section on the west side of the vehicle parking spaces.

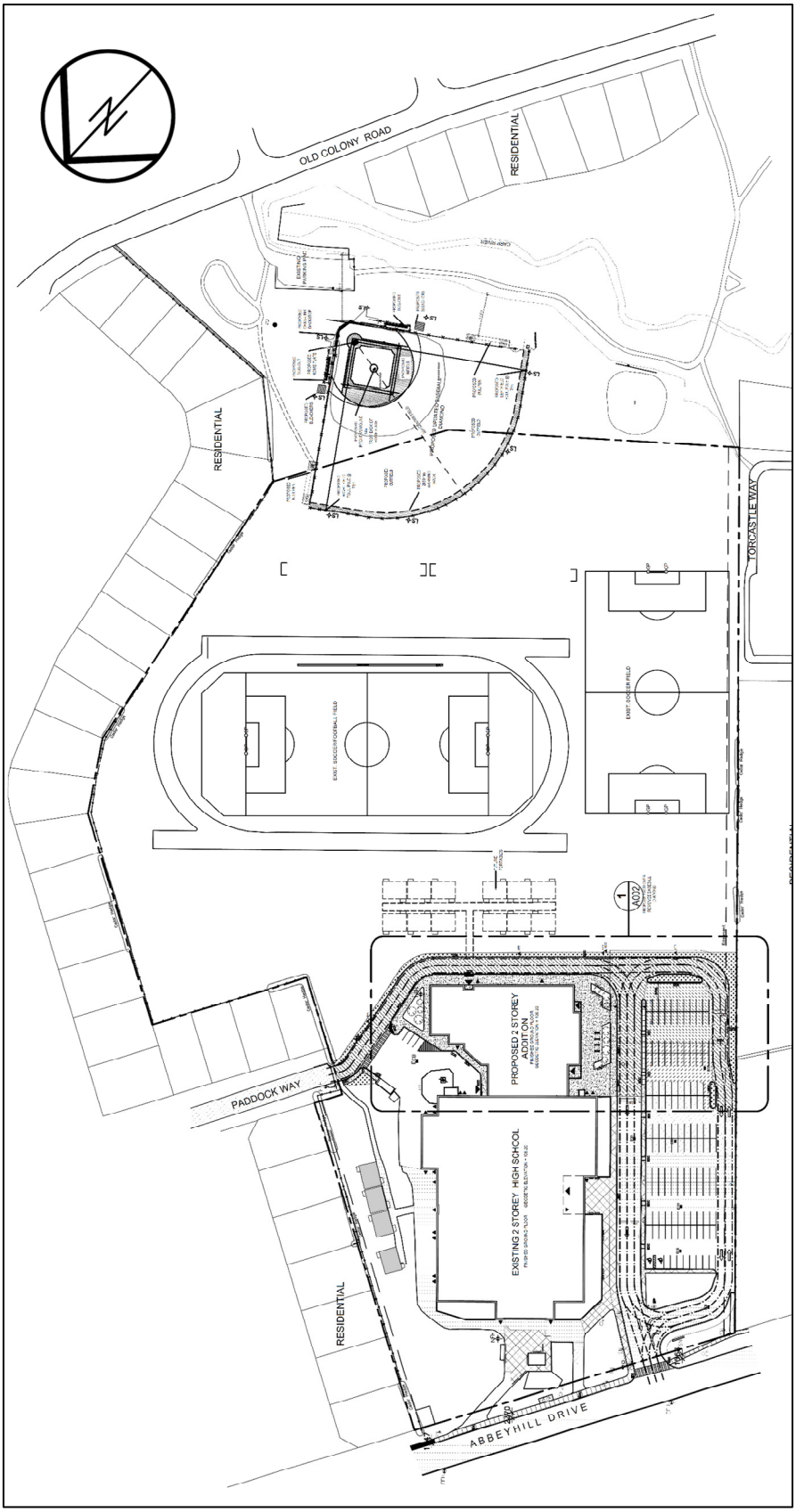
Figure 2: Existing Internal Driveway Configuration



Approximately 150 vehicle parking spaces are currently available and located along the east and south edges of the two-way driveway. The school addition proposes 44 new vehicle parking spaces and maintains 96 of the existing vehicle spaces, for a total of 140 future vehicle parking spaces. Adjustments will be made to the internal driveway, where existing parking spaces along the south edge will be removed and parking along the east edge will be extended south to make space for the additional parking needs. For bikes, 36 new parking spaces will be added near building entrances for a total of 140 spaces.

The site access location at Abbeyhill Dr will be maintained and the internal bus loop will continue to be provided. The proposed development is anticipated to be constructed in a single phase assumed by 2026. The site plan has been illustrated in **Figure 3** (high quality plan in **Appendix A**).

Figure 3: Proposed Site Plan (July 2024)



2.1.2. Existing Conditions

Area Road Network

A description for each road within the study area included in the TIA has been provided below.

Abbeyhill Dr is an east-west urban collector road extending from Castlefrank Rd in the west to Eagleson Rd in the east. The road provides a two-way two-lane cross-section with paved shoulders 1.0 to 1.8m wide on both sides of the road. The posted speed limit is 40km/h. The road provides direct access to low-rise residential, commercial and institutional land uses.

Old Colony Rd is a north-south urban collector road extending from Abbeyhill Dr in the north to Rothesay Dr in the south. The road provides a two-way two-lane cross-section with an assumed speed limit of 40km/h. The road provides access primarily to single home residential units.

Castlefrank Rd is a north-south urban major collector road extending from Aird Pl in the north (where it continues north as Kanata Ave) to Terry Fox Dr in the south (where it continues west as Abbott St). The road provides a two-way two-lane cross-section with a posted speed limit of 40km/h. The road provides access to residential communities and commercial land uses.

Eagleson Rd is a north-south urban arterial road extending from Highway 417 north ramp in the north (where it continues north as March Rd) to Terry Fox Dr in the south, where it continues as part of Ottawa's rural network as an arterial road to Brophy Dr. Within the study area, the road provides a 4 to 6 lane two-way cross-section with auxiliary turn lanes at intersections and a posted speed limit of 60km/h. The road provides access to commercial land uses and residential communities via intersecting collector and major collector roads.

Paddock Way is a short (180m) east-west urban local road that extends from Old Colony Rd in the east to the school property in the west, where it provides access to the school for pedestrians and cyclists through the use of a restricted gate access. The road provides a two-way two-lane cross-section with an assumed speed limit of 40km/h. The road provides access to single residential units.

Existing Study Area Intersections

Castlefrank/Abbeyhill

An unsignalized three-legged 'T'-intersection with all-way stop-control. All legs of the intersection provide a single all-movement lane. Pedestrian crossings are provided on the south and east legs. There are no prohibited movements at the intersection.

Old Colony/Abbeyhill

An unsignalized three-legged 'T'-intersection with all-way stop-control. All legs of the intersection provide a single all-movement lane. Pedestrian crossing is provided on the west leg. There are no prohibited movements at the intersection.

Eagleson/Abbeyhill

A signalized three-legged 'T'-intersection. The north leg on Eagleson Rd provides two through lanes and an auxiliary right-turn lane. The south leg on Eagleson Rd provides three through lanes and an auxiliary left-turn lane. The west leg on Abbeyhill Dr provides a right-turn lane and an auxiliary left-turn lane. Pedestrian crossings are provided on all legs of the intersection. There are no prohibited movements at the intersection.

Site Access/Abbeyhill

An unsignalized three-legged 'T'-intersection with stop-control at the school access. The west and east legs along Abbeyhill Dr provide a single all-movement lane, while the school access provides a left and right-turn lane. There are no prohibited movements at the intersection.

Existing Driveways to Adjacent Developments

This section is technically exempt as no new access is being proposed as part of the future school building extension. Nonetheless, adjacent development accesses within 200m of the existing school site access along Abbeyhill Dr have been identified in **Figure 4** and listed below.

- On the north side of Abbeyhill Dr, 17 driveways to single home residential units are within 200m of the site access.
- On the south side of Abbeyhill Dr, 2 driveways to single home residential units and 2 driveways to commercial land uses are within 200m of the site access.

Figure 4: Adjacent Driveways within 200m of Existing Site Access

Existing Area Traffic Management Measures

Existing area traffic management measures within the study area include:

- 'Pedestrians crossing ahead' signage at different locations along both Castlefrank Rd and Abbeyhill Dr.
- "Max 40km/h" pavement marking at different locations along both Castlefrank Rd and Abbeyhill Dr.
- Community safety zone on Abbeyhill Dr, between Oriole Ave and Banning Rd.
- A municipal speed camera at 152 Abbeyhill Dr frontage near the northwest corner of the school property.

Existing Pedestrian/Cycling Network

The existing sidewalk facilities are shown in **Figure 5**. Sidewalks facilities are available as follows:

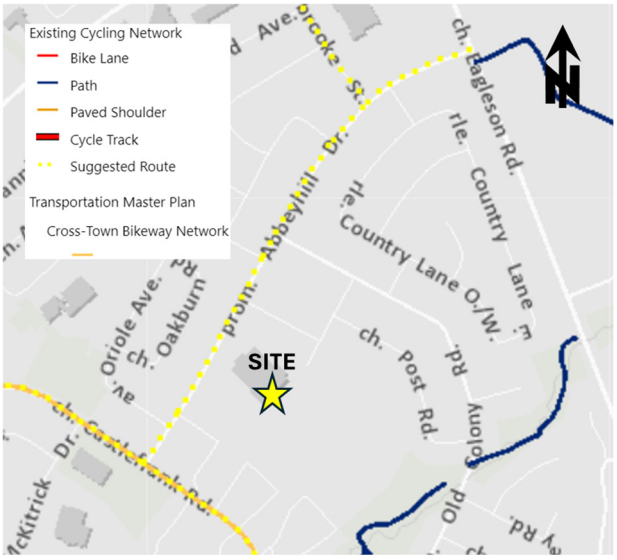
- On Abbeyhill Dr: along both sides between Old Colony Rd and Castlefrank Rd and between Eagleson Rd and Carbrooke St, as well as along on the north side only between Old Colony Rd and Carbrooke St.
- On Old Colony Rd: only provided on the west side between Abbeyhill Dr and Paddock Way. It is also noted that a sidewalk connects from Old Colony Rd through the Hope Cloutier Park and ends at the start of school property.
- On Eagleson Rd: along both sides in the study area.
- On Castlefrank Rd: along the east side mainly within the study area.
- Site frontage along Abbeyhill Dr: asphalt sidewalks are currently provided which are approximately 1.5m wide west of the site access and range from 1.8 to 2.6m wide east of the site access.

The existing cycling network is shown in **Figure 6**. The following is noted:

- Castlefrank Rd and Abbeyhill Dr are both suggested cycling routes, providing connection between cycling facilities on adjacent routes, such as bike lanes or Multi-Use Pathways (MUPs).
- A MUP is located along the east side of the Eagleson/Abbeyhill intersection, which provides connection to the Trans Canada Trail and other major MUPs.
- Based on the 2023 Transportation Master Plan (TMP) 2023 update, Castlefrank Rd is designated as a cross-town bikeway along its full length.
- An approximately 1.8m wide pathway runs south of school property through the Hope Cloutier Park and connects to Old Colony Rd.

Figure 5: Existing Pedestrian Facility Network

Figure 6: Existing Bike Network



Transit Network and School Bus Service

OC Transpo Services

The school is located along Abbeyhill Dr, where local OC Transpo bus routes currently operate. Additional routes operate along Castlefrank Rd, which provides connection to the existing bus station further north (Terry Fox Station), approximately 3.0km from the site. An expanded transit network of the study area and surrounding areas is illustrated in **Figure 7**, with **Figure 8** illustrating the bus stop locations near to the site as blue dots. Maps of relevant operational transit routes are included in **Appendix B**. Existing bus routes that travel through or near the study area are described below.

- **Route #161 (Bridlewood <-> Terry Fox):** identified by OC Transpo as a "local route", this route operates on weekdays between the hours of 6am and 12am. This route operates along Castlefrank Rd, Abbeyhill Dr and Eagleson Rd at a general rate of approximately once every 30 minutes. At the Abbeyhill/A.Y. Jackson bus stops, the nearest bus stops to the site, it is noted that 4 buses end at the EB bus stop at 8:57am and 4 buses start at the WB bus stop at 3:34pm, likely providing additional service to the school.
- **Route #168 (Bridlewood <-> Terry Fox):** identified by OC Transpo as a "local route", this route operates 7 days a week on its typical travel route along Eagleson Rd but travels on Castlefrank Rd and Abbeyhill Dr only on weekends between the hours of 6:30am and 8pm, with a weekend frequency of approximately once every 30 minutes.
- **Route #267 (Tunney's Pasture <-> Glen Cairn):** identified by OC Transpo as a "Connexion route", this route provides a connection to LRT Line 1 and operates during weekday rush-hours only. In the morning, the route operates in the NB direction only on Castlefrank Rd, between the hours of 5:30am and 8:30am, at a rate of every 25-to-30 minutes. In the afternoon, the route returns from Tunney's Pasture station, operating in the SB direction only on Castlefrank Rd, between the hours of 4:15pm and 7pm, at a rate of every 25-to-30 minutes. The nearest bus stops to the site are at the intersection of Castlefrank/Abbeyhill, at a walking distance of approximately 200m from the site.

Figure 7: Area Transit Network

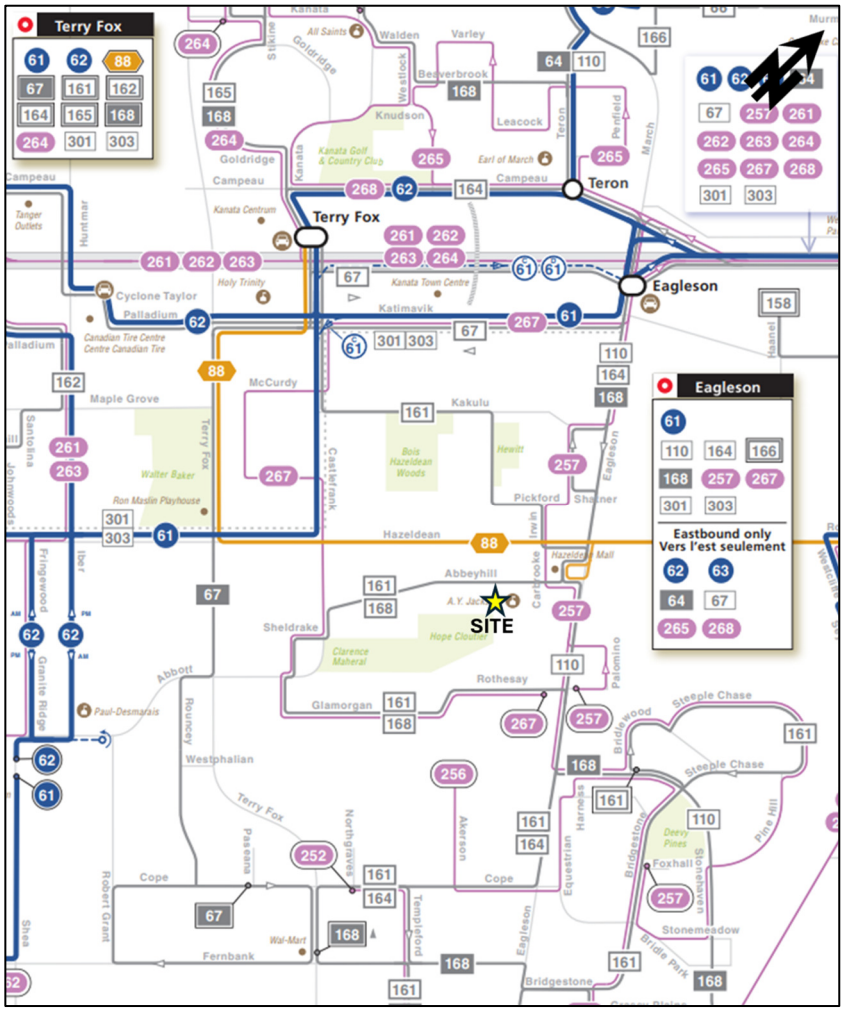
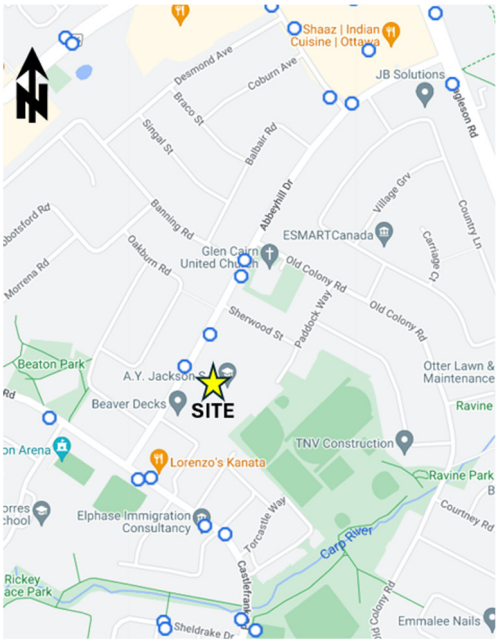


Figure 8: Bus Stop Locations



School Bus Service

It was confirmed by OCDSB staff that the school is currently served by 6 yellow school buses. The school buses enter the school via Abbeyhill Dr and loop around to the front entrance using the internal driveway. Based on general school bus loading capacity information available from the Ottawa Student Transportation Authority, the school buses have been assumed to hold up to 50 students each, for a total of 300 students.

Peak Hour Travel Demands

New traffic count data at the study area intersections was conducted by Parsons. Traffic counts obtained for the study area include the following:

- Eagleson/Abbeyhill – conducted by City of Ottawa on Thursday, January 30, 2020
- Castlefrank/Abbeyhill – conducted by Parsons on Tuesday, September 17, 2024
- Old Colony/Abbeyhill – conducted by Parsons on Tuesday, September 17, 2024

For the site access, data from the Earl of March Secondary School was used as a proxy site to determine inbound and outbound traffic volumes. Traffic volumes at the proxy site were collected by Parsons in April 2024. The proxy site has a student and staff population exactly twice the number of students and staff at the A.Y. Jackson Secondary School. Therefore, traffic volumes were divided in half for the purpose of this report. The travel directions are assumed based on the school's attendance boundary for nearby residents. Excerpts including traffic count data from the Earl of March Secondary School are provided in **Appendix C**.

The traffic volumes at study area intersections are illustrated in **Figure 9**, with raw traffic count data provided in **Appendix D** . Existing active transportations (walking and cycling) volumes have been provided in **Figure 10**. The Abbeyhill/Eagleson traffic count was conducted during winter months and may potentially reflect a less than average active transport volumes.

It should be noted that school classes start at 9:15 AM and finish at 3:20 PM. The commuter peak hours of the traffic counts along Abbeyhill Dr at the Castlefrank Rd and Old Colony Rd intersections are generally within the same timeframe that students and staff arrive to school by.

Figure 9: Existing Peak Hour Vehicle Traffic Volumes

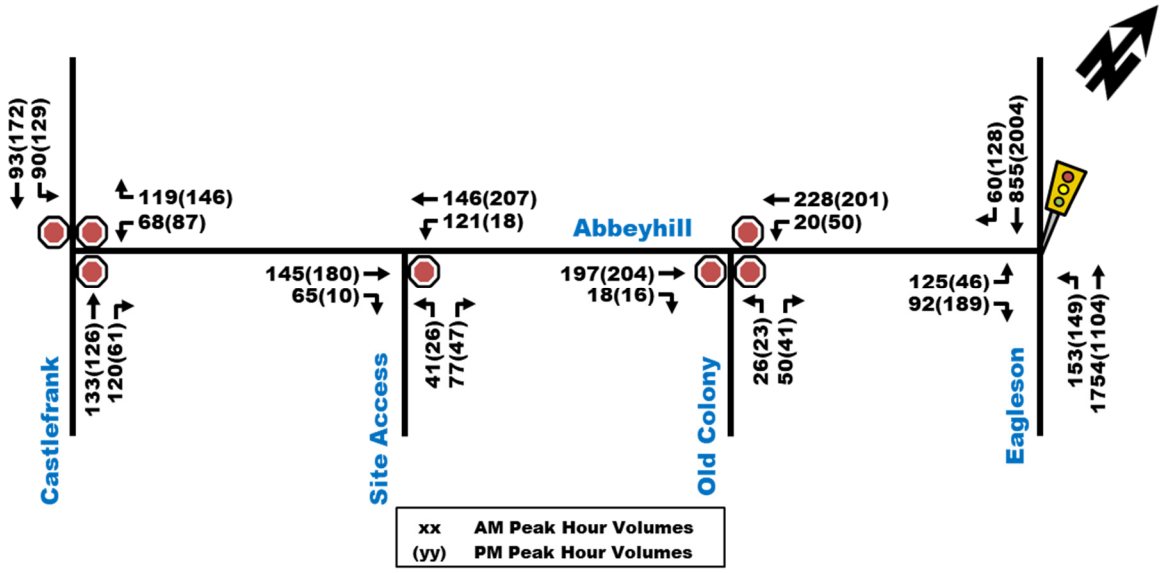
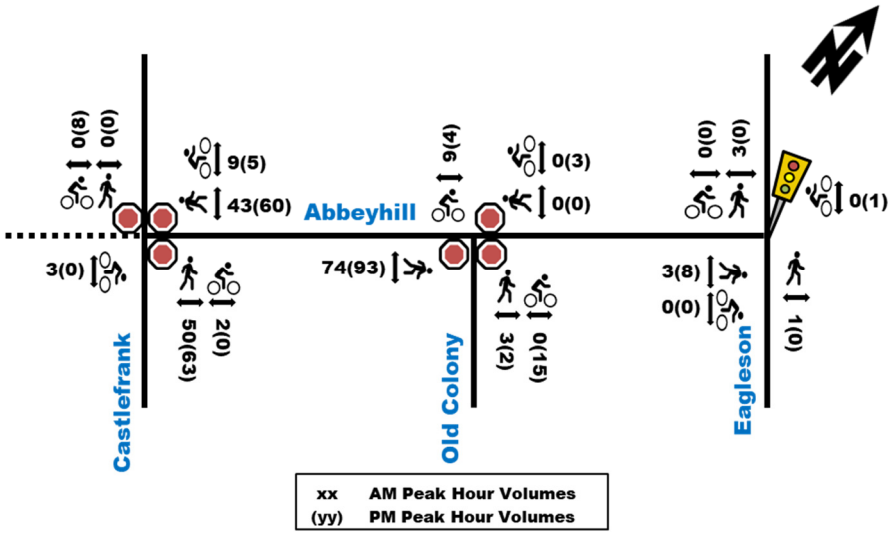


Figure 10: Existing Pedestrian and Cyclists Peak Hour Volumes



Existing Road Safety Conditions

A five-year collision history data (2016-2020, inclusive) was reviewed using the City of Ottawa Open Data source for the study area intersections and road segments. A mostly pre-COVID lockdown time period was chosen for the data to avoid skewed results due to lockdown. The City of Ottawa considers more than six collisions of the same impact type and location within the five-year time period to be a collision pattern in need of further investigation.

Based on the data, only 45 collisions have occurred in the given time period, where 35 collisions resulted in property damage only and 10 resulted in non-fatal injury. The collisions occurred as follows:

- At the Castlefrank/Abbeyhill intersection: 3 collisions occurred, which included 1 rear end, 1 angled and 1 single vehicle collisions. One of the collisions involved a bike but resulted in a minimal injury.
- Along Abbeyhill Dr, between Castlefrank Rd and Old Colony Rd: 8 collisions have occurred over the approximately 470m distance, which included 1 rear end, 4 angled and 3 single unattended vehicle collisions. All collisions involved vehicles only and the majority (5) resulted in property damage, while the remaining resulted in non-fatal injury.
- Along Abbeyhill Dr, between Old Colony Rd and Eagleson Rd: 5 collisions have occurred over the approximately 500m distance, which included 2 rear end, 2 angled and 1 “other” collisions. All collisions involved vehicles only and resulted in property damage only.
- At the Eagleson/Abbeyhill intersection: 3 collisions occurred, which included 13 rear end, 3 angled, 2 sideswipe, 6 turning movement and 5 single vehicle collisions. Six of the collisions resulted in a non-fatal injury, which includes two collisions involving pedestrians and resulting in minor or minimal injury. Although 13 rear end collisions have occurred, the collisions are divided between all legs of the intersection, which does not constitute a collision pattern.

No collision pattern was observed at any of the study area locations in the five-year period and there are no major concerns in regard to the collisions that have occurred.

2.1.3. Planned Conditions

Future Transportation Network Changes

Based on the City of Ottawa Official Plan (2021) and Transportation Master Plan (2013 and 2023), there are no major anticipated projects within the study area.

Other Area Developments

Based on the City of Ottawa Development Applications Search tool, there are no notable future developments in close proximity to the development site or within the study area.

2.2. Study Area and Time Periods

For the purposes of this report, the proposed development is assumed to be fully constructed by 2026. The full buildout scenario and five-years after development buildout would be 2026 and 2031. The future horizon years include weekday morning and afternoon peak hour traffic volumes. Proposed study area intersections are listed below and illustrated in **Figure 11**.

- Eagleson/Abbeyhill
- Castlefrank/Abbeyhill
- Old Colony/Abbeyhill
- Abbeyhill/Site Access

Figure 11: Proposed Study Area and Intersections

2.3. Exemption Review

The following modules/elements of the TIA process provided in **Table 1** are recommended to be exempt in the subsequent steps of the TIA process, based on the City's TIA guidelines and the site context:

Table 1: Exemptions Review Summary

Module	Element	Exemption Consideration
4.1 Development Design	4.1.3 New Street Network	Only required for Plans of Subdivision.
4.6 Neighborhood Traffic Calming	All	Only required for Zoning By-Law Amendment applications. Additionally, the development generates less than 75 auto trips, and no site trip infiltration is expected.
4.7 Transit	All	City staff have indicated that a transit capacity analysis is not necessary in this case.
4.8 Network Concept	All	Only required for Zoning By-Law Amendment applications.

3.0 FORECASTING

3.1. Development Generated Travel Demand

3.1.1. Trip Generation and Mode Shares

For the purpose of this report, the calculation of the trips generated by the proposed extension will be estimated using data and assumptions that were identified through data collection at the proxy site (Earl of March Secondary School, April 2024) and will also use the City of Ottawa TRANS Trip Generation Manual (2021). A first-principles approach will be taken to calculate the mode shares for different travel modes in existing conditions and will then be applied to the future site trip generation as well. The following trip generation assumptions are made for existing conditions:

- A student and staff absence rate of 10% is assumed as a typical school condition. This is a conservative assumption, as the OCDSB has reported typical historical average absence rates at secondary schools to be up to 17%. Therefore, for the A.Y. Jackson Secondary School, with a combined existing student and staff population of 1,225, approximately 1,103 non-absent daily weekday person trips may be currently made to and from the school.
- AM Peak Hour assumptions:
    - An estimated 90% of all non-absent person trips are expected to arrive at the school and the remaining 10% arrive either before or after the peak hour. Therefore, in existing conditions, with the total estimated person trips being 1,103, the total person trips during the AM peak hour are approximately 993 person trips.
    - Since school classes start at 9:15am, the AM peak hour of the school is assumed to coincide with the AM peak hour of Abbeyhill Dr and the adjacent intersections, where the peak hour was determined to be 8:15am to 9:15am based on traffic counts.
    - Outbound trips in the AM peak hour were understood to be parent “drop-off” trips. Therefore, the net difference in inbound and outbound trips are vehicles that remained parked on site (labeled as primary vehicles), equating to 68 vehicle trips.
    - No outbound trips are assumed in the morning for all travel modes, with the exception of drop-off trips, which can be both inbound and outbound.
- PM Peak Hour assumptions:
    - An estimated 55% of all non-absent person trips are expected to leave the school, with the remaining 45% either leaving earlier than the peak hour or remaining longer at the school for extracurricular activities. Therefore, in existing conditions, with the total estimated person trips being 1,103, the total person trips during the PM peak hour are approximately 607 person trips.
    - Since school classes end at 3:20pm, the PM peak hour is assumed to coincide with the PM peak hour of Abbeyhill Dr and the adjacent intersections, where the peak was determined to be 3:15pm to 4:15pm based on traffic counts.
    - Inbound trips in the PM peak hour were understood to be parent “pick-up” trips. The net difference between the outbound and inbound trips equating to 45 vehicle trips are labeled as primary vehicles.
    - No inbound trips are assumed for all travel modes, with the exception of pick-up trips, which can be both inbound and outbound.

On the basis of all above assumptions and existing traffic volumes at the site access, the existing mode shares of each travel mode have been calculated or assumed as indicated by **Table 2**. A rationale has been provided for each mode share used.

Table 2: Rationale for Mode Shares of Different Travel Modes

Travel Mode	Peak Hour Mode Share Percent (AM/PM)	Rationale
Vehicle Trips (Primary)	7% / 7%	This was calculated using existing traffic volumes (**Figure 9**) at the site access. For the AM peak, it represents the proportion of primary inbound vehicles (68) to the total person trips (993). For the PM peak, it represents the proportion of primary outbound vehicles (45) to the total person trips (607).
Vehicle Trips (Drop-off/Pick-up)	-	These are vehicle trips that travel in and out of site for drop-off and pick-up purposes only. The volume is calculated using existing traffic volumes (**Figure 9**) at the site access (236 vehicle for AM and 56 vehicles for PM). The vehicles themselves are technically not site-generated trips, rather they are carrying passengers to the school, which is reflected by the auto passenger mode share. Therefore, they have been assumed to not be part of the total person trips. Additionally, it is worth noting that the majority of these trips likely continue on their original travel route as commuters to/from work once the drop-off/pick-up is complete.
Auto Passenger	28% / 18%	All drop-off and pick-up vehicle trips (i.e. inbound vehicle trips during the AM peak and outbound vehicle trips during the PM peak) were assumed to carry passengers. The respective traffic volumes were multiplied by a conservative factor of 1.5, thereby accounting for vehicles carrying more than one passenger. The PM peak mode share percentage was calculated to be fairly lower compared to the AM peak mode share, which is assumed to be due to either students leaving the school through other travel modes, such as walking or transit, or students remaining longer at school for other activities.
Bus	50% / 55%	As mentioned in previous sections, the six yellow school buses serving the school are estimated to have capacity for up to 300 students. However, some students are also expected to travel via OC Transpo bus routes, particularly route #161 which stops at the site frontage. Using data collected from the proxy site and based on the City of Ottawa TRANS Trip Generation Manual, a total bus mode share ranging from 50% to 60% are expected for a high school. Therefore, bus trips in excess of 300 were assumed to be using the OC Transpo buses. The PM peak mode share was increased slightly to account for the decrease in passenger trips. OC Transpo transit ridership volumes will be verified as part of the next step of the report.
Bike	3% / 3%	Similar to bus trips, both bike and walk trip mode shares were estimated from the proxy site and based on the City of Ottawa TRANS Trip Generation Manual. The walk mode share during the PM peak was increase to account for decrease in passenger trips.
Walk	12% / 17%	

Using the existing site access traffic volumes, the estimated peak hour total person trips, and the assumed mode shares below, the site generated trips of the existing school conditions are calculated for each travel mode as shown in **Table 3**.

Table 3: Existing Site Estimated Trip Generation by Travel Mode

Travel Mode		AM Peak Mode Share	AM Peak (Person trips/hr)			PM Peak Mode Share	PM Peak (Person trips/hr)		
			In	Out	Total		In	Out	Total
Vehicle Trips	*Primary*	7%	68	0	68	7%	0	45	45
	Drop-off/Pick-up (not included in total person trips)	-	*118*	*118*	*236*	-	*28*	*28*	*56*
Auto Passenger		28%	279	0	279	18%	0	109	109
Bus	*School*	50%	300	0	300	55%	0	300	300
	OC Transpo		197	0	197		0	34	34
Bike		3%	30	0	30	3%	0	18	18
Walk		12%	119	0	119	17%	0	103	103
Total Person Trips		**100%**	**993**	**0**	**993**	**100%**	**0**	**607**	**607**
Total Existing Vehicle Trips		**-**	**186**	**118**	**304**	**-**	**28**	**73**	**101**

The development is proposing to add a new 2-storey building with 13 new classrooms and additional anticipated 299 new students. Using basic proportions of existing ratio of staff to students, it is estimated that 20 new teachers/school staff will be needed, resulting in a total combined student and staff population of 319 for the new building.

The future site generated trips of the proposed new school building were calculated using the same mode shares as existing conditions and the estimated total person trips for each peak hour. Future site generated trips are provided in **Table 4** below. For bus trips, note that a total number is provided that includes both school bus and OC Transpo bus trips. Additionally, 15% of the drop-off/pick-up trips have been assumed to be 'pass-by' trips, where trips already travelling along Abbeyhill Dr as part of their original travel route to/from work would conduct a stop at the school.

Table 4: Future Addition Site Estimated Trip Generation by Travel Mode

Travel Mode		AM Peak Mode Share	AM Peak (Person trips/hr)			PM Peak Mode Share	PM Peak (Person trips/hr)		
			In	Out	Total		In	Out	Total
Vehicle Trips	*Primary*	7%	18	0	18	7%	0	11	11
	Drop-off/Pick-up (not included in total person trips)	-	*30*	*30*	*60*	-	*8*	*8*	*16*
Auto Passenger		28%	72	0	72	18%	0	28	28
Bus (*School* + OC Transpo)		50%	129	0	129	55%	0	87	87
Bike		3%	8	0	8	3%	0	5	5
Walk		12%	31	0	31	17%	0	27	27
Total Person Trips		**100%**	**258**	**0**	**258**	**100%**	**0**	**158**	**158**
Pass-by Vehicle Trips (15% of Drop-off/Pick-up)		**15%**	**-5**	**-5**	**-10**	**15%**	**-1**	**-1**	**-2**
Total Vehicle Trips		**-**	**43**	**25**	**68**	**-**	**7**	**18**	**25**

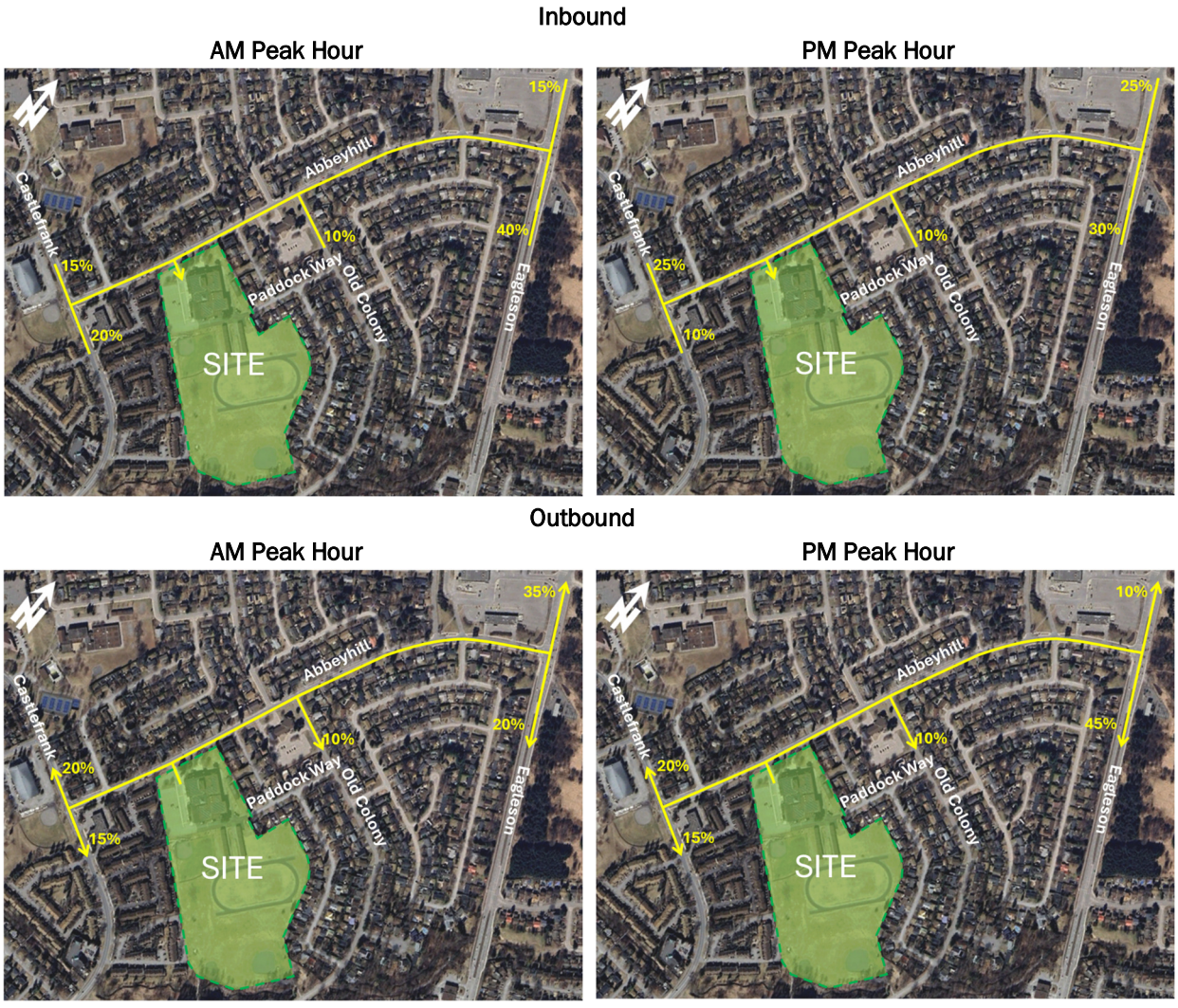
As shown in **Table 4**, the new 2-storey building addition will result in 258 new total person trips during the AM peak hour and 158 new total person trips during the PM peak hour. This includes 68 and 25 total vehicle trips at the site access during the respective peak hours. This includes a reduction of vehicle trips to account for 'pass-by' drop-off and pick-up activity that are not new along Abbeyhill Dr as their travel route to/from work after stopping at the school. The new building addition would generate less than 20 primary auto trips during each peak hour. It may also potentially generate up to 129 new bus trips which would utilize both school buses and OC Transpo bus service.

3.1.2. Trip Distribution and Assignment

Based on the location of adjacent roadways, location of residential neighbourhoods in the school's attendance boundary, and the existing vehicle travel patterns at adjacent intersections, the distribution of site-generated traffic volumes was estimated for inbound and outbound trips as shown in **Figure 12**. The school's attendance boundary obtained from the OCDSB website is provided in **Appendix E**. Based on the boundary, a large portion of the residential neighbourhoods served by the school are located to the south and southeast areas of the site.

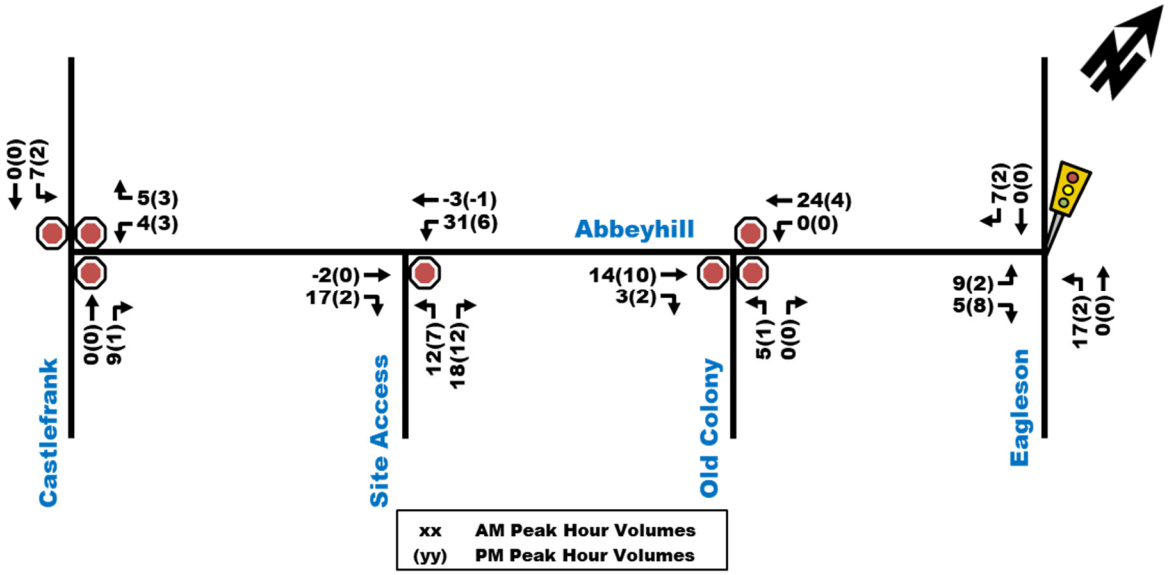
Due to the unique nature of the school as a trip generator where vehicles perform pick-up/drop-off as well as a potential commuting point to/from work, different trip distributions have been assumed for inbound and outbound trips during the morning and afternoon peak hours. for primary vehicle trips, only the inbound during the AM peak hour and the outbound during the PM peak hour apply as these vehicles are expected to remain on site.

Figure 12: Site Generated Vehicle Traffic Percent Distribution



The anticipated 'new' auto trips for the proposed development from **Table 4** were assigned to the road network using the distribution in **Figure 12** as illustrated by **Figure 13**. A negative volume indicates 'pass-by' drop-off/pick-up vehicle trips being removed from their respective original travel route on Abbeyhill Dr to stop at the school. Only 15% of the drop-off/pick-up trips are assumed to be 'pass-by' as the majority likely have to take a larger detour via Castlefrank Rd or Eagleson Rd to conduct the drop-off/pick-up activity.

Figure 13: Net 'New' Site-Generated Traffic



3.2. Background Network Traffic

3.2.1. Transportation Network Plans

Refer to Section 2.1.3: Planned Conditions. There are no anticipated major future transportation plans in the study area.

3.2.2. Background Growth

Considering the lack of future study area plans or proposed major development in close proximity to the study area, a significant growth in traffic is not currently anticipated at the specified horizon years (2026 and 2031). This particularly applies to roads such as Abbeyhill Dr and Old Colony Rd, which are relatively short and provide connections to mature and established neighbourhoods where no major changes are expected. Although Castlefrank Rd provides connection to established residential neighbourhoods as well, there may be some increase in traffic due to its function and connectivity to major roads such as Terry Fox Dr and Hazeldean Rd. It may also be reasonable to assume that Eagleson Rd could experience some growth in traffic given its function as an arterial road and as a result of general future growth from developments outside of the study area.

Therefore, an annual growth rate of 0.5% along Abbeyhill Dr and Old Colony Rd, 1% along Castlefrank Rd and 2% along Eagleson Rd was assumed to be reasonable. The resulting future background 2026 and 2031 traffic volumes are illustrated in Figure 14 and Figure 15.

Figure 14: Future Background 2026 Traffic Volumes

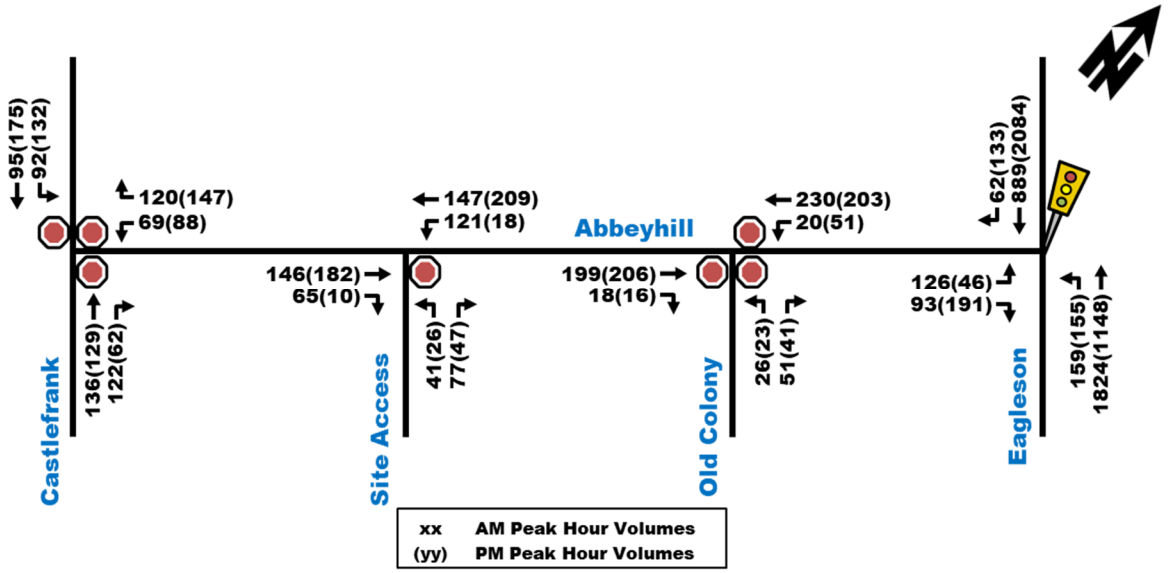
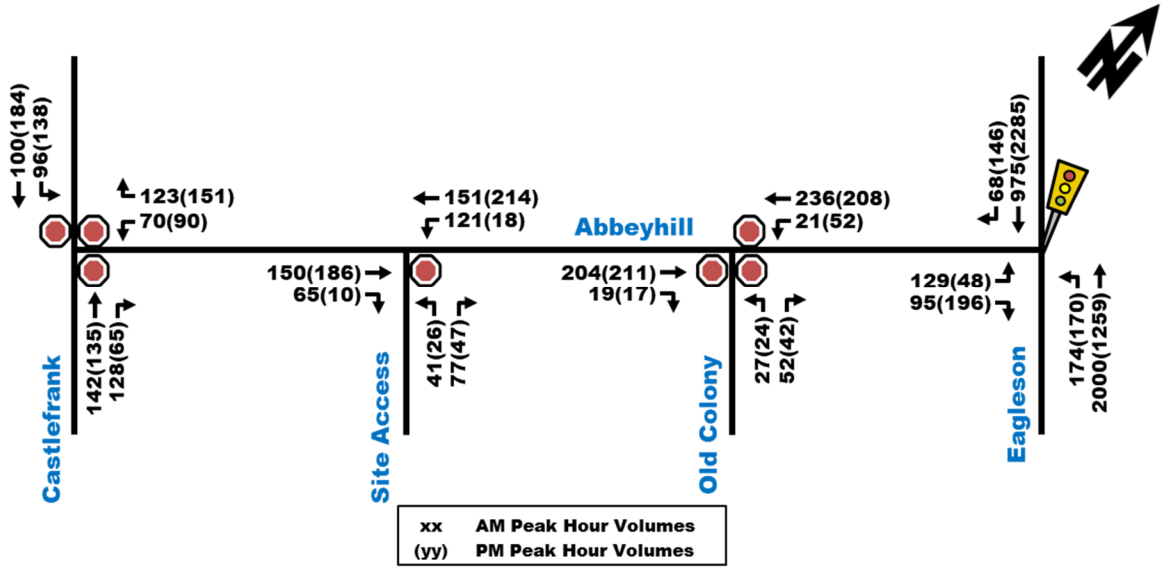


Figure 15: Future Background 2031 Traffic Volumes



3.3. Demand Rationalization

The total projected future traffic volumes can be estimated by superimposing the site-generated traffic volumes (**Figure 13**) onto the future background 2026 and 2031 traffic volumes (**Figure 14** and **Figure 15**), resulting in the total projected 2026 and 2031 traffic volumes illustrated in **Figure 16** and **Figure 17**, respectively.

Vehicle trip generation from the new proposed school building is expected to result in less than 50 vehicle trips per hour generated at study area intersections during the morning peak hour and less than 20 vehicle trips per hour during the afternoon peak hour. These volumes are not expected to be significantly impactful to traffic operations at study area intersections. Future intersection performance will be reviewed as part of **Section 4.9**. Nonetheless, one simple measure that can be implemented by the school if needed is to increase school bus activity in order to reduce existing and future vehicle trips. For students living in locations not served by the yellow school buses, subsidized OC Transpo bus passes can be provided. No additional mitigation measures are expected to be needed by the school at this time.

Figure 16: Total Projected 2026 Traffic Volumes

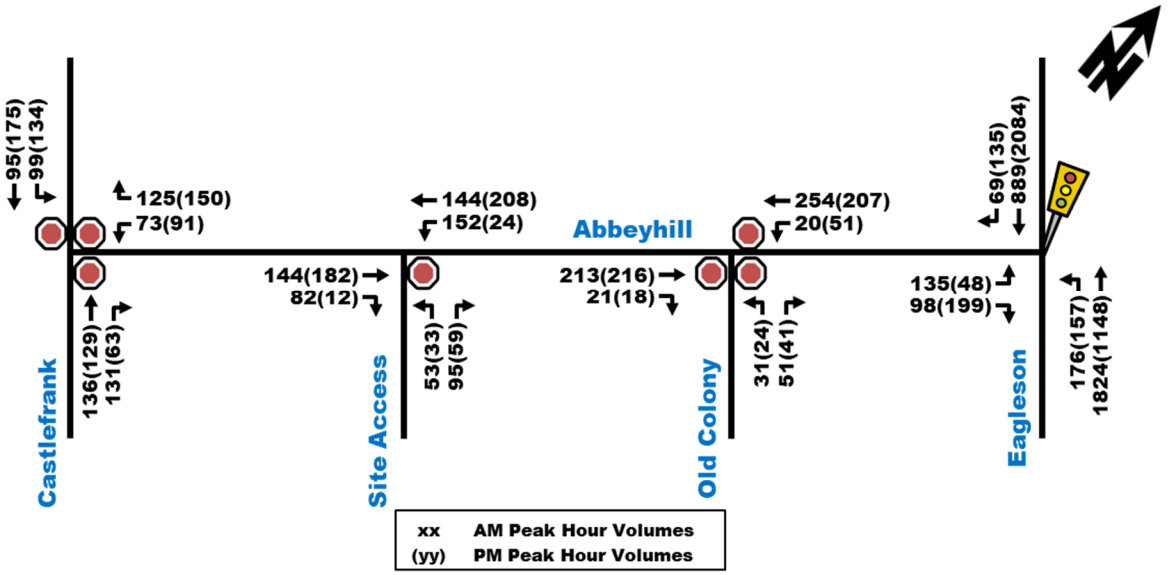
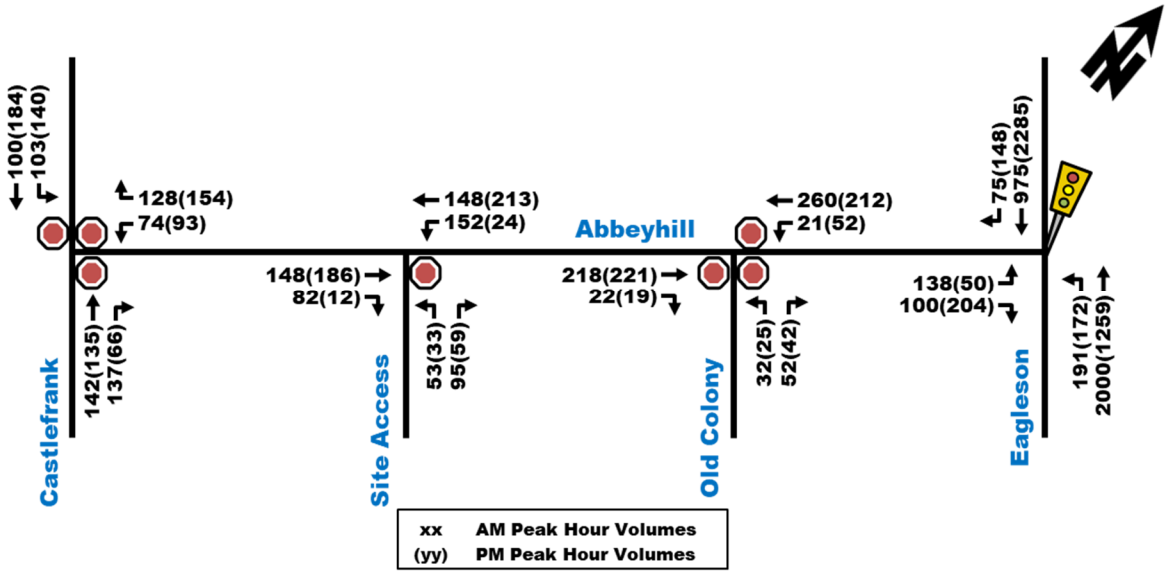


Figure 17: Total Projected 2031 Traffic Volumes



4.0 ANALYSIS

4.1. Development Design

4.1.1. Design for Sustainable Modes

The City of Ottawa's TDM-Supportive Development Design and Infrastructure has been provided in **Appendix F** and discussed in more detail in **Section 4.5**. The sections below discuss the existing and proposed designs of the parking areas, pedestrian and cyclist facilities, and transit amenities, as shown on the proposed Site Plan (**Appendix A**).

Auto/Bike Parking and Vehicle Access

Auto Parking

A surface parking lot is currently provided for the school and can be accessed via the driveway connection to Abbeyhill Dr. Dimensions of vehicle parking spaces will meet the requirements of the City of Ottawa Zoning By-Law's Parking Space Dimensions (Section 106), as well as the requirements of the Accessibility for Ontarians with Disabilities Act (AODA), as follows:

- Most parking spaces will be 2.6m wide and 5.4m long.
- Parking spaces located along the east curb edge of the parking will provide a wider 3.1m wide spaces to allow vehicles to enter and exit more easily.
- Accessible spaces will include six spaces near building entrances, which consists of 3 Type A and 3 Type B spaces, with parking aisles, as per AODA requirements.

Bike Parking

Bike parking is provided at designated areas with bike racks, where existing bike racks are located between the existing building's north access and Abbeyhill Dr and proposed additional bike racks will be located at the frontage of the main access to the new building.

Vehicle Access

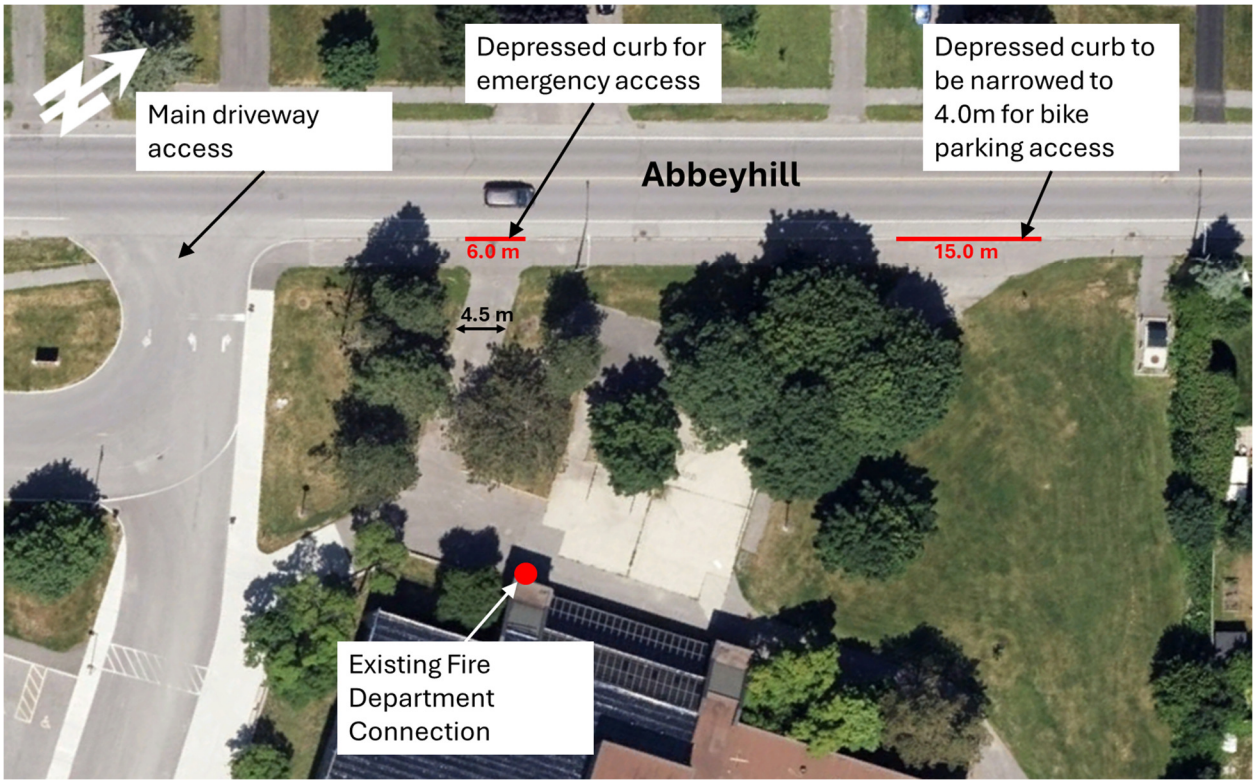
There are no significant changes to site access and circulation. The existing general site operations which include a two-way driveway providing access the parking lot and a one-way bus-only segment of driveway will continue to be provided in the future. Yellow school buses will enter the northbound bus-only segment from the south end and park against the east curb of the segment in order to load and unload students in the morning and afternoon.

At the site frontage and east of the main driveway access along Abbeyhill Dr, depressed curbs are currently provided as shown in **Figure 18** below. The existing purpose of the depressed curbs is to provide access for emergency vehicles such as fire trucks (west access) and to provide pedestrians and bikes access to the school and the bike parking area (east access).

In case of emergency, fire trucks would need to use the west depressed curb and 4.5m asphalt path to use the fire department connection (FDC) at the building. Therefore, this access will be maintained and modified slightly in the future to continue to serve the existing building, as confirmed by Ottawa Fire Services Department. The east curb provides an excessively wide opening that will be narrowed to 4.0m as part of the new Site Plan, to continue to allow bikes to access bike parking directly from Abbeyhill Dr. The proposed new building will have a separate FDC to the back of its building and fire trucks would be able to access via the internal driveway network.

Based on the location of garbage bins, garbage collection is expected to occur on the rear driveway of the two buildings, near Paddock Way.

Figure 18: Depressed Curb Locations at Site Frontage



Pedestrian and Cycling Facilities

Pedestrians and cyclist are expected to access the school using Abbeyhill Dr and Paddock Way (using a restricted access gate that allows only pedestrians and bikes), which the site is generally well connected to. Pedestrian sidewalks on the site frontage along the south side of Abbeyhill Dr will be upgraded to concrete sidewalks and will be widened from the existing 1.5m wide sidewalk on the west side of the access to 1.8m. On the east side of the access, the sidewalk width of 2.0m or greater will be maintained. At the main site access along Abbeyhill Dr, the sidewalk will be continuous and depressed through the access, as per City of Ottawa design standards.

Internally, the existing concrete and asphalt pathways to the existing building will be maintained and concrete sidewalks at least 2.0m wide will be extended to surround the proposed future building. The existing pedestrian crossing of the bus-only driveway segment at the north end of the parking lot will be maintained. New crossings will be provided with painted pavement markings, depressed curbs and TWSI at two locations, which includes the bus only driveway segment near the new building's main entrance and at the two building's rear driveway connection to the main driveway. The new building will also have direct connection from south entrance to pathway leading to future portables location, with depressed curb and TWSI on north side of driveway.

Transit Facilities

Yellow school buses will continue to operate similar to existing conditions and use the northbound bus-only driveway segment to park against the curb for loading and unloading. OC Transpo buses will also continue to operate along Abbeyhill Dr, with a bus stop at the school frontage. The existing off-site bus stop sign on the streetlight will be upgraded to a concrete bus shelter pad and located slightly east of current location as shown on Site Plan.

4.1.2. Circulation and Access

Bus and truck turn templates have been provided in **Appendix G** to illustrate the circulation and access of certain design vehicles to the site, assuming all potential travel directions on Abbeyhill Dr. Adjustments have been made to the Site Plan to ensure no conflicts for the site to accommodate the maneuvering of these vehicles. Bus turns are illustrated using "B-12" vehicle profile including all potential turning directions on Abbeyhill Dr and internally within the site.

Fire trucks were assessed using the "HSU" vehicle profile. As mentioned previously, existing depressed curb access for the existing building will be maintained, while the new building will utilize the site driveways and provide a new FDC and fire hydrant at the rear of the building. The semi-mountable depressed curb used for emergency vehicle access on Abbeyhill Dr will be widened to an approximate 9.5m to ensure a fire truck can turn in and out as needed. No concerns are anticipated for any vehicular access to the site.

4.1.3. New Streets Network

Exempt – see **Table 1**.

4.2. Parking

The following parking analysis reflects the minimum number of parking rates and spaces required based on the City of Ottawa Zoning By-Law for developments located in Area C on Schedule 1A. **Table 5** summarizes the minimum vehicle and bicycle parking rates from Part 4, Parking, Queueing and Loading Provisions parking by-law, referenced from Tables 101 and 111A of the by-law.

The site currently provides an approximate 150 vehicle parking spaces and 104 bike parking spaces. The overall number of existing vehicle parking spaces is expected to decrease with the new addition but will still provide the minimum requirements as per Zoning By-Law.

Table 5: Required Vehicle and Bicycle Parking Spaces

Land Use	Number of Classrooms and GFA	Vehicle Spaces			Bicycles		
		Base Rate	Min Required Spaces	Proposed Spaces	Base Rate	Min Required	Proposed Spaces
Secondary School (N80) – *Existing*	34 classrooms and 16 portables, 6,258 m²	2.0/Class	100	104	1 per 100m²	63	104
Secondary School (N80) – *Future*	13 classrooms, 2,774m²	2.0/Class	26	26	1 per 100m²	28	36
	Total		**126**	**130**	**Total**	**91**	**140**

As shown above in **Table 5**, the site provides the minimum parking requirements for both vehicles and bikes for the existing site and its future addition. Bike parking is proposed to be located outdoors with bike racks near building entrances.

4.3. Boundary Street Design

Multi-Modal Level of Service (MMLOS) analysis was conducted for existing and future conditions for the proposed development's boundary streets at the development frontage, Abbeyhill Dr and Paddock Way, based on the City of Ottawa's MMLOS Analysis Guidelines.

The multi-modal level of service analysis for the two roads is summarized in **Table 6** for both existing and future conditions, with detailed analysis sheets provided in **Appendix H**. The table also identifies the desirable MMLOS targets, based on the land-use designation and road classification of the development site and the boundary streets. The Official Plan Designation/Policy Area used by the current MMLOS Guidelines identify the

development as being located "within 300m of a school". Red font in the table indicates that the respective desirable MMLOS targets were not met. The road classifications of each of the boundary streets were noted in the descriptions of features below.

Abbeyhill Dr (collector road classification) – west of the site access

Existing

- 1 vehicle travel lane in each direction
- 1.5m wide sidewalk with greater than 2.0m wide boulevard
- Assumed operating speed of less than 50km/h
- Permitted on-street parking
- No dedicated bike or transit lanes
- Less than 3,000 average daily curb lane traffic volume
- A paved shoulder approximately 1.8m wide
- Approximately 4.0m wide lanes
- No truck route designation
- Existing OC Transpo bus operations

Future modifications

- 1.8m wide sidewalk with greater than 2.0m wide boulevard

Abbeyhill Dr (collector road classification) – east of the site access

Existing and Future

- 1 vehicle travel lane in each direction
- Greater than 2.0m wide sidewalk with no boulevard
- Assumed operating speed of less than 50km/h
- Prohibited on-street parking due to bus zone
- No dedicated bike or transit lanes
- Less than 3,000 average daily curb lane traffic volume
- A paved shoulder approximately 1.5m wide
- Approximately 4.0m wide lanes
- No truck route designation
- Existing OC Transpo bus operations

Paddock Way (local road classification)

Existing and Future

- 1 vehicle travel lane in each direction
- No sidewalk or boulevard facilities
- Assumed operating speed of less than 50km/h
- Permitted on-street parking
- No dedicated bike or transit lanes
- Less than 3,000 average daily curb lane traffic volume
- Approximately 4.0m wide lanes
- No truck route designation
- No existing bus operations

Table 6: MMLOS - Boundary Road Analysis

Road Segment	Scenario	Multi-Modal Level of Service							
		Pedestrian		Bicycle		Transit		Truck	
		PLOS	Target	BLOS	Target	TLOS	Target	TkLOS	Target
Abbeyhill Drive – west of site access	Existing	C	A	B	B	D	N/A	-	No target
	Future	B	A	B	B	D	N/A	-	No target
Abbeyhill Drive – east of site access	Existing/Future	B	A	B	B	D	N/A	-	No target
Paddock Way	Existing/Future	F	A	B	D	-	N/A	-	No target

Pedestrian

- Both existing and future desirable PLOS targets have not been met along the boundary roads. For Paddock Way, no sidewalk facilities are provided, resulting in PLOS 'F'. However, it is important to note that Paddock Way is a short dead-end local street limited to single-house residential land uses and minimal anticipated traffic volumes. Therefore, there are no major concerns for pedestrians along this road.

  The PLOS target is also not met along Abbeyhill Dr. The desirable target PLOS 'A' is difficult to achieve as it requires speeds of less than 30 km/h and an effective sidewalk width of at least 3.0m, assuming less than 250 pedestrians an hour are anticipated. Notably, the PLOS improves from 'C' to 'B' west of the site access as the development is proposing to widen the sidewalk to 1.8m. East of the site access, the existing sidewalk with varying widths greater than 2.0m wide will continue to be maintained.

Bicycle

- The BLOS targets were met at all locations for existing and future conditions.

Transit

- TLOS results are provided for Abbeyhill Dr as bus routes travel along this road, but not along Paddock Way. However, no TLOS targets are provided by the MMLOS Guidelines for roads with no transit priority or rapid transit designations.

Truck

- There are no truck routes or arterial road classification on the site's boundary roads. Therefore, as per the MMLOS Guidelines, a TkLOS is not required, and no targets are provided.

4.4. Access Intersection Design

As per the TIA Guideline revisions (July 2023), this section has been removed and combined with **Section 4.9**. It is also noted that the existing site access will be maintained with minor modifications, and no new access is being proposed.

4.5. Transportation Demand Management

4.5.1. Context for TDM

Based on the type of development, it is assumed that most trips generated by the proposed site will be students and staff entering the site in the AM peak hour and existing the proposed site in the PM peak hour to return home. **Sections 3.1.1** and **3.1.2** describe how many trips are anticipated per travel mode. A number of vehicle trips are also expected to conduct drop-off/pick-up activity for students at the school.

4.5.2. Need and Opportunity

Since the A.Y. Jackson Secondary School is an existing school, OCDSB already has several TDM measures in place to help support different travel modes for students and staff. This includes the provision of yellow school buses and PRESTO cards to eligible students. It also includes the availability of bike parking and student facilities such as lockers, showers and change rooms that can support students that bike or walk to school. These

measures are expected to continue supporting students in the future. Further details regarding TDM measures provided are indicated in the following section.

4.5.3. TDM Program

The TDM-Supportive Development Design and TDM Measures Checklists are both provided in **Appendix F**. measures provided by the two checklists are identified below.

TDM Supportive Development Design and Infrastructure Checklist (Institutional):

- All "required" measures relevant to the site as an institution have been satisfied.
- Ten (10) of sixteen (16) "basic" measures related to walking, cycling and transit have been satisfied.
- One (1) of the of the eleven (11) "better" measures relating to provision of shower and change facilities has been satisfied.

TDM Measures Checklist (Institutional):

- Six (6) of ten (10) "basic" measures related to TDM Program Management, walking, cycling, transit, and TDM marketing have been satisfied. Two (2) of those, which have been designated by an asterisk (*), are considered by the TDM Measures to be some of the most dependably effective tools to encourage sustainable travel modes. This includes:
    - Display walking and cycling information at major entrances.
    - Display transit information at major entrances.
    - Provide online links to OC Transpo information.
    - *Designate an internal coordinator or contract with external coordinator.
    - *Provide multi-modal travel information package to staff and students.
- Two (2) out of twenty-six (26) "better" measures related to transit have been satisfied. This includes:
    - Provision of preloaded PRESTO cards to eligible students.
    - Provision of yellow school buses to students.

4.6. Neighbourhood Traffic Management

Exempt – see **Table 1**.

4.7. Transit

Exempt – see **Table 1**.

4.8. Review of Network Concept

Exempt – see **Table 1**.

4.9. Intersection Design

4.9.1. Intersection Control

No modifications are proposed to existing intersection controls within the study area. Stop control will continue to be provided for traffic exiting the school and a restricted access gate will continue to be provided along Paddock Way.

4.9.2. Intersection Design

Synchro 11 Trafficware was used to analyze intersection performance of intersections within the study area. Critical movements at each of the intersections were assessed based on either the movement with the highest volume-to-capacity ratio (for signalized intersections), or the movement experiencing the highest average delay (for unsignalized intersections). It should be noted that, as per the TIA Guidelines, the Peak Hour Factor (PHF)

used for analysis was 0.90 in existing conditions and 1.0 in all future scenario conditions. All Synchro report outputs for existing and future conditions have been provided in **Appendix I**.

Existing Conditions Synchro Analysis

Table 7 below summarizes the intersection performance of study area intersections, based on existing conditions traffic volumes illustrated in **Figure 9**.

Table 7: Existing Conditions Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Eagleson/Abbeyhill (S)	B(F)	0.62(1.05)	EBL(SBT)	10.5(37.6)	A(E)	0.53(1.00)
Castlefrank/Abbeyhill (U)	A(B)	9.8(12.3)	SB(SB)	9.7(11.2)	A(B)	-
Old Colony/Abbeyhill (U)	A(A)	9.8(9.7)	WB(WB)	9.4(9.3)	A(A)	-
Abbeyhill/Site Access (U)	C(B)	20.0(14.5)	NBL(NBL)	5.0(2.2)	A(A)	-
Note: Analysis of signalized intersections assumes a PHF of 0.9 and a saturation flow rate of 1800 veh/h/lane. (S) – Signalized intersection, movement with highest v/c ratio identified as critical movement. (U) – Unsignalized intersection, movement with highest average delay identified as critical movement.						

As shown in **Table 7**, the signalized intersection of Eagleson/Abbeyhill operates at capacity during the afternoon peak hour, with the critical SBT movement operating at capacity. This is due to the high recorded existing SBT volume of 2,000 vehicles during the afternoon peak hour. Notably, traffic at the intersection is reduced by 10 to 20% during other time periods of the afternoon peak period (3 to 6pm), which would reduce the v/c ratio of both the critical movement and the overall intersection to below 1.0. This indicates that the congested operations of the intersection may be limited to the afternoon peak hour only. However, it is also noted that the Synchro analysis indicates a long SBT 95th percentile queue length of approximately 385m during the afternoon peak hour.

Unsignalized intersections are found to operate at LOS 'A' or 'B' for the overall intersections during peak hours. The critical NBL movement at the Abbeyhill/Site Access intersection operates at an acceptable LOS 'C' or better during peak hours.

Future Background 2026 Conditions Synchro Analysis

Table 8 below summarizes the intersection performance of study area intersections, based on future background 2026 conditions traffic volumes illustrated in **Figure 14**.

Table 8: Future Background 2026 Conditions Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Eagleson/Abbeyhill (S)	A(E)	0.59(0.95)	EBL(SBT)	9.7(23.0)	A(E)	0.50(0.91)
Castlefrank/Abbeyhill (U)	A(B)	9.4(11.4)	SB(SB)	9.3(10.5)	A(B)	-
Old Colony/Abbeyhill (U)	A(A)	9.3(9.3)	WB(WB)	9.0(9.0)	A(A)	-
Abbeyhill/Site Access (U)	C(B)	18.1(13.8)	NBL(NBL)	4.7(2.1)	A(A)	-
Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane. (S) – Signalized intersection, movement with highest v/c ratio identified as critical movement. (U) – Unsignalized intersection, movement with highest average delay identified as critical movement.						

As shown in **Table 8**, intersection operations show slight improvements compared to existing conditions, as a result of increasing the PHF to 1.0. In these conditions, the intersection of Eagleson/Abbeyhill and its critical SBT movement are not anticipated to operate at capacity during the afternoon peak hour as they result in LOS 'E'.

Unsignalized intersections continue to operate at LOS 'B' or better, with their critical movements operating at LOS 'C' or better during peak hours.

Future Background 2031 Conditions Synchro Analysis

Table 9 below summarizes the intersection performance of study area intersections, based on future background 2031 conditions traffic volumes illustrated in **Figure 15**.

Table 9: Future Background 2031 Conditions Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Eagleson/Abbeyhill (S)	A(F)	0.59(1.07)	EBL(SBT)	10.2(42.3)	A(F)	0.54(1.02)
Castlefrank/Abbeyhill (U)	A(B)	9.6(11.8)	NB(SB)	9.5(10.8)	A(B)	-
Old Colony/Abbeyhill (U)	A(A)	9.5(9.4)	WB(WB)	9.1(9.1)	A(A)	-
Abbeyhill/Site Access (U)	C(B)	18.3(14.0)	NBL(NBL)	4.7(2.1)	A(A)	-
Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane. (S) – Signalized intersection, movement with highest v/c ratio identified as critical movement. (U) – Unsignalized intersection, movement with highest average delay identified as critical movement.						

With the conservative annual background growth rate applied on different roads, intersection performances with the future background 2031 conditions are expected to operate closer to existing conditions. The Eagleson/Abbeyhill intersection is expected to operate slightly worse in the afternoon peak hour compared to existing conditions, with a slightly longer 95th percentile queue length of approximately 400m.

Total Projected 2026 Conditions Synchro Analysis

Table 10 below summarizes the intersection performance of study area intersections, based on total projected 2026 conditions traffic volumes illustrated in **Figure 16**.

Table 10: Total Projected 2026 Conditions Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Eagleson/Abbeyhill (S)	B(E)	0.61(0.96)	EBL(SBT)	10.2(24.1)	A(E)	0.50(0.92)
Castlefrank/Abbeyhill (U)	A(B)	9.5(11.5)	SB(SB)	9.5(10.6)	A(B)	-
Old Colony/Abbeyhill (U)	A(A)	9.7(9.4)	WB(WB)	9.3(9.1)	A(A)	-
Abbeyhill/Site Access (U)	C(B)	21.0(14.2)	NBL(NBL)	5.6(2.6)	A(A)	-
Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane. (S) – Signalized intersection, movement with highest v/c ratio identified as critical movement. (U) – Unsignalized intersection, movement with highest average delay identified as critical movement.						

Intersection operations with the total projected 2026 conditions shows minor differences compared to the future background 2026 operations. This indicates that the addition of the site generated traffic results in minimal difference to intersection performance in the study area.

The Eagleson/Abbeyhill intersection continues to operate at LOS 'E' or better in the overall operations and for the critical movements during peak hours. The site access experiences increase in delay due to the added traffic from the new building but continues to operate at LOS 'A' for the overall intersection and LOS 'C' or better for the critical movement during peak hours.

Total Projected 2031 Synchro Analysis

Table 11 below summarizes the intersection performance of study area intersections, based on total projected 2031 conditions traffic volumes illustrated in **Figure 17**.

Table 11: Total Projected 2031 Conditions Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Eagleson/Abbeyhill (S)	B(F)	0.61(1.08)	EBL(SBT)	10.7(44.5)	A(F)	0.54(1.02)
Castlefrank/Abbeyhill (U)	A(B)	9.7(11.9)	NB(SB)	9.7(10.9)	A(B)	-
Old Colony/Abbeyhill (U)	A(A)	9.8(9.5)	WB(WB)	9.4(9.2)	A(A)	-
Abbeyhill/Site Access (U)	C(B)	21.2(14.3)	NBL(NBL)	5.6(2.6)	A(A)	-
Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane. (S) – Signalized intersection, movement with highest v/c ratio identified as critical movement. (U) – Unsignalized intersection, movement with highest average delay identified as critical movement.						

Intersection operations show minimal difference compared to the future background 2031 results. The Eagleson/Abbeyhill intersection continues to operate at capacity during the afternoon peak hour. Improvements to the intersection operations during the afternoon peak hour may require significant mitigation measures from the City to either increase intersection capacity with an additional SB travel lane on Eagleson Rd or to significantly decrease growth of background traffic volumes through promoting alternate travel modes, which the city has been progressing towards for several years.

Multi-Modal Level of Service Analysis for Signalized Intersections

As per requirements of the TIA Guidelines, MMLOS intersection analysis is conducted for signalized intersections within the study area (i.e. Eagleson/Abbeyhill intersection). Similar to boundary street MMLOS analysis, the signalized intersection MMLOS analysis is conducted for four different travel modes, including pedestrian, cyclist, transit, and trucks. For each travel mode, the minimum desirable LOS target is obtained from the City of Ottawa TIA Guidelines, assuming the "General Urban Area" targets based on the location of the intersection. A summary of the analysis results and respective minimum desirable LOS targets are provided in **Table 12**, with the detailed analysis provided in **Appendix J**.

Table 12: MMLOS – Signalized Intersection Analysis

Intersection (Existing and Future)	Multi-Modal Level of Service							
	Pedestrian		Bicycle		Transit		Truck	
	PLOS	Target	BLOS	Target	TLOS	Target	TkLOS	Target
Eagleson/Abbeyhill	F	C	F	D	F	N/A	C	D

Pedestrian

- The PLOS is largely dependent on crossing distances of the intersection. Due to the size of the intersection and lane widths (greater than 3.5m), pedestrians cross the equivalent of 6 to 8 lanes on each leg of the intersection, resulting in an LOS 'F'. Meeting the minimum PLOS target of 'C' would require significant reduction in crossing widths to 3 or 4 lanes and possibly prohibiting right-turns-on-red. It is noted that the traffic count at the intersection captured minimal pedestrian volumes with less than 10 pedestrians crossing the Abbeyhill Dr and less than 5 crossing Eagleson Rd. Low pedestrian volumes are expected at the intersection considering the suburban context and low-density residential uses on Eagleson Rd.

Bicycle

- The BLOS minimum desirable target is not met primarily due to the lack of bike facilities on Eagleson Rd, the length of the SBR turn lane on the north approach and the high assumed operating speed of more than 60km/h. Achieving the minimum target of LOS 'D' would require significant reduction of operating speeds to less than 50km/h and a reduction of the SBR lane length to less than 50m. the provision of bike facilities such as bike lanes or cycle tracks would also improve the respective LOS. However, it is noted that existing cycling volumes reflect a minimal volume of cyclists.

Transit

- There are no TLOS targets for this context as neither of the intersecting roads are designated transit priority or rapid transit corridors. A TLOS 'F' resulted from the high delays experienced by the SBT movement.

Truck

- The target LOS 'D' is based on the designation of Eagleson Rd as both an arterial and a truck route. The TkLOS target is met at the intersection.

5.0 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Based on the results summarized herein the following findings and recommendations are provided:

Existing Conditions

- The A.Y. Jackson Secondary School has an existing population of 1,150 students and 76 staff members to utilize the existing building's 34 classrooms and 16 portable classrooms.
- The school is accessed by vehicles via the existing main driveway along Abbeyhill Dr. Pedestrians and cyclists can access via Abbeyhill Dr and a restricted access gate at Paddock Way.
- Internally, the driveway provides two-way connection to parking stalls and a northbound only segment for buses to queue at the front entrance.
- The school currently provides 150 parking spaces, which is an excessive amount based on current Zoning By-Law. The school also provides 104 bike parking spaces.
- The school is served by six yellow school buses with general capacity up to 50 students each. OC Transpo bus route #161 also offers service, stopping at school frontage several times before and after school hours.
- Collision data indicates no major collision patterns or concerns for the study area.
- MMLOS analysis of boundary streets and study area signalized intersections indicates the following:
    - The pedestrian LOS result on Abbeyhill Dr and Paddock Way do not meet the minimum desirable LOS targets.
    - The pedestrian and bicycle LOS results at the intersection of Eagleson/Abbeyhill do not meet the minimum desirable LOS targets.
- Synchro intersection analysis indicates no concerns at most intersections within the study area during peak hours, with the exception of Eagleson/Abbeyhill, which operates at capacity during the afternoon peak hour due to the heavy SBT traffic volume of approximately 2,000 vehicles across the two available lanes.

Proposed Development

- OCDSB school board is proposing a new two-storey building addition to the existing A.Y. Jackson Secondary School, which will add 13 new classrooms that include an estimated 299 new students and 20 staff members. Buildout of the new building is expected in 2026.
- Access and internal driveway operations will remain the same as existing conditions. The school will maintain 96 vehicle parking spaces and add 44 new spaces for a total of 130 spaces. The school will also add 36 bike parking spaces for a total of 140 spaces. Both vehicle and bike parking spaces and designs meet the requirements of the City of Ottawa Parking Provisions. New bike racks will be provided near the entrance of the new building. Accessible parking space requirements by AODA are also met with 6 spaces.
- Several assumptions were followed to determine trips generated by the school by using a proxy site with similar conditions where data was collected earlier in the year. Mode share percentages were also assumed based on the proxy site, as well as the City of Ottawa TRANS Trip Generation Manual and all available services and facilities at the school. The new addition is expected to generate up to 258 new person trips during peak hours, with up to 68 new vehicle trips, 129 bus trips and 39 active transport trips.

- The sidewalks at site frontage will be upgraded to concrete with width of 1.8m or greater. The sidewalk will be continuous and depressed through the site access. Internally, new sidewalks will surround the new building and new pedestrian crossing will be provided with pavement marking and TWSI on both sides.
- The existing off-site bus stop on Abbeyhill Dr at site frontage will be upgraded to a bus shelter.
- Bus and truck turns at site access and within the site were reviewed to ensure no conflicts to vehicles. It is noted that the existing building will continue to be served by the emergency vehicle access along Abbeyhill Dr to access the FDC. For the new building, a new FDC will be provided at the building rear.
- The east semi-mountable depressed curb on Abbeyhill Dr will be narrowed to still accommodate bikes accessing bike parking near building entrance. The west semi-mountable depressed curb used for emergency access on Abbeyhill Dr will be widened to allow fire trucks to access with no conflict.
- Existing TDM Measures will continue to be provided by the school, which includes notable measures such as providing preloaded PRESTO cards to eligible students, provision of the yellow school buses, designating an internal coordinator, and providing multi-modal travel information package.

Future Conditions

- There are no anticipated major planned projects or developments within the study area. Intersection operations at study area intersections are also expected to remain the same.
- To be conservative, an annual growth rate of 0.5% along Abbeyhill Dr and Old Colony Rd, 1% along Castlefrank Rd and 2% along Eagleson Rd was assumed for traffic volumes.
- MMLOS analysis of boundary streets and study area signalized intersections indicates the following:
    - Similar to existing conditions, the pedestrian LOS result on Abbeyhill Dr and Paddock Way do not meet the minimum desirable LOS targets. However, the sidewalk improvements on Abbeyhill Dr, particularly west of site access, will result in notable improvement to the PLOS result.
    - Similar to existing conditions, the pedestrian and bicycle LOS results at the intersection of Eagleson/Abbeyhill do not meet the minimum desirable LOS targets.
- Synchro intersection analysis for future conditions indicates similar operations to existing conditions with slightly worse operations by horizon year 2031. The intersection of Eagleson/Abbeyhill and its critical SBT movement will continue to operate at capacity by 2031, with notable 95th percentile traffic queue length of up to 400m. All remaining intersections, including site access are expected to operate acceptably in all future horizon years with LOS 'C' or better for critical movements.

Based on the subject report findings, the proposed new school building extension for A.Y. Jackson Secondary School is recommended to proceed from a transportation perspective.

Prepared By:

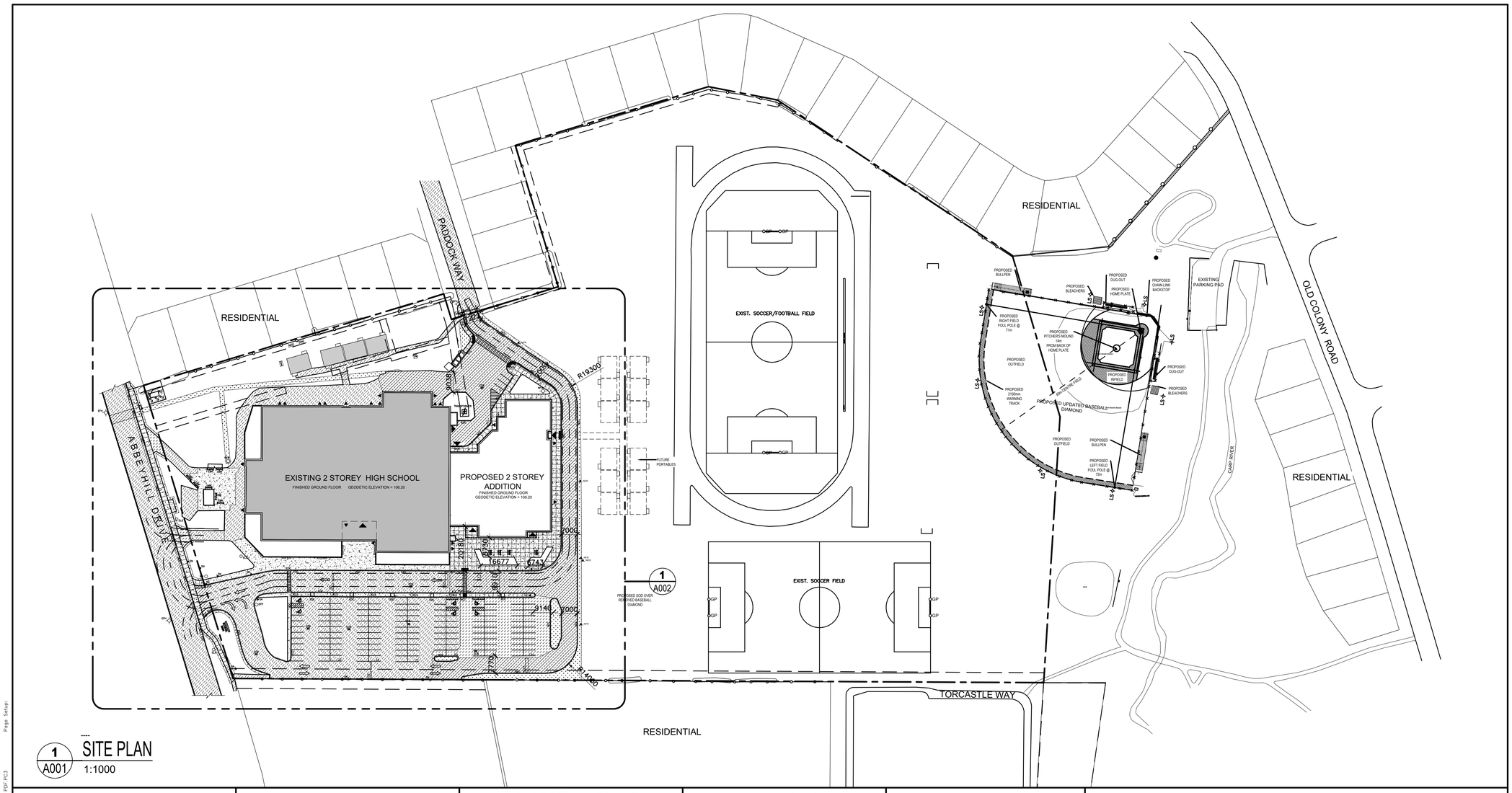
Basel Ansari, P. Eng.
Transportation Engineer

Reviewed By:

Jake Berube, P.Eng. RSP$_1$
Transportation Engineer

Appendix A:

TIA Screening Form and Site Plan



1 A001 SITE PLAN
1:1000

PROPERTY LOCATION

LEGAL DESCRIPTION OF PROPERTY

SITE DATA

LOT AREA	80873 M SQ
EXISTING BUILDING AREA	5683 M SQ
ADDITION BUILDING AREA	2314 M SQ
TOTAL BUILDING AREA	7997 M SQ
LOT COVERAGE	10%

PARKING CALCULATIONS

EXISTING PARKING COUNT	94 REGULAR SPACES 2 BARRIER FREE SPACES
	SUB-TOTAL 96 PARKING SPACES
NEW ADDITION PARKING	SUB-TOTAL 42 REGULAR PARKING SPACES
TOTAL PARKING PROVIDED	138 SPACES

PARKING REQ'D	USE	No.CLASS	SPACES PER	SPACES REQ'D
	EXISTING HIGH SCHOOL	36	2.0/CLASS	72
	EXISTING PORTABLES	4	2.0/CLASS	8
	NEW HIGH SCHOOL	13	2.0/CLASS	26
	FUTURE PORTABLES	12	2.0/CLASS	24
TOTAL PARKING REQUIRED				130 SPACES

BICYCLE PARKING CALCULATIONS

RATIO	1 PER 100m² OF GROSS FLOOR AREA
EXISTING BUILDING GROSS FL. AREA	5978.0 M SQ
NEW ADDITION GROSS FL. AREA	1934.5 M SQ
EXISTING PORTABLE GROSS FL. AREA	280.0 M SQ
NEW PORTABLE GROSS FL. AREA	840.0 M SQ
TOTAL GROSS FLOOR AREA	9032.5 M SQ
TOTAL REQUIRED PARKING	91 PARKING SPOTS
NEW BICYCLE PARKING	28 PARKING SPOTS
TOTAL PROVIDED PARKING	91 PARKING SPOTS

CITY OF OTTAWA ZONING

REQUIRED			PROVIDED
MINOR INSTITUTIONAL ZONE: I1A			
LOT AREA	MIN.	400m²	80,873 SQ M
LOT WIDTH	MIN.	15.0m	138.8 M
BUILDING HEIGHT	MAX.	15.0m	9.5 M
FRONT YARD SETBACK	MIN.	6.0 M	26.7 M
REAR YARD SETBACK	MIN.	7.5 M	226.8 M
SIDE YARD SETBACK	MIN.	7.5 M	24.2 M
LANDSCAPE @ PARKING	MIN.	15%	20%

GENERAL NOTES

1. EXTENT OF CONTRACT IS LIMITED WITHIN PROPERTY EXCEPT WHERE NOTED OTHERWISE.
2. FOR SCHOOL SITE GRADING INFORMATION REFER TO SITE GRADING DRAWING AS PREPARED BY CIVIL ENGINEER.
3. FOR SOIL INVESTIGATION REPORT REFER TO GEOTECHNICAL REPORT.
4. ALL WORK OUTSIDE PROPERTY LINE TO BE CONSTRUCTED TO LOCAL MUNICIPALITY CONSTRUCTION STANDARDS.
5. RE-SOD ALL LANDSCAPING AREAS DISTURBED BY NEW CONSTRUCTION.
6. FOR SCHOOL SITE SERVICES REFER TO SITE SERVICE DRAWING PREPARED BY CIVIL ENGINEER.
7. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY ERRORS TO THE ARCHITECT. CONTRACTOR TO CO-ORDINATE WITH ALL DRAWINGS
8. FOR LANDSCAPING DESIGN REFER TO LANDSCAPING PLAN PREPARED BY LANDSCAPE ARCHITECT.
9. COORDINATE AND OBTAIN REQUIRED PERMITS FROM OTTAWA-MACDONALD CARTIER INTERNATIONAL AIRPORT AZR IN CONNECTION WITH THE ERECTION OF CONSTRUCTION EQUIPMENT SUCH AS BUT NOT LIMITED TO CONSTRUCTION CRANES.
10. NEW PARKING STALL SIZE: 2600mm x 5400mm, and 2600mm x 5200mm
11. SLOPES OF CONCRETE/PAVING AT DEPRESSED CURBS SHALL NOT EXCEED 5%
12. FOR SITE SURVEY INFORMATION, SEE TOPOGRAPHIC SURVEY DRAWING PREPARED BY FARLEY, SMITH & DENIS SURVEYING LTD.

LEGEND

- BARRIER FREE PARKING
- BUILDING ENTRANCE/EXIT
- EXISTING BUILDING
- NEW SOD AND TOPSOIL (REFER ALSO TO LANDSCAPE PLAN)
- NEW SEED AND TOPSOIL (REFER ALSO TO LANDSCAPE PLAN)
- NEW CONCRETE WALKWAY WITH CONTROL JOINTS
- NEW TYPE 1 ASPHALT – HEAVY DUTY (REFER TO SPEC.)
- NEW TYPE 2 ASPHALT – MEDIUM DUTY (REFER TO SPEC.)
- NEW TYPE 2 ASPHALT ON EXISTING BASE – MEDIUM DUTY (REFER TO SPEC.)
- EXISTING CONCRETE WALKWAY WITH CONTROL JOINTS
- EXISTING ASPHALT PAVING
- NEW ASPHALT PAVING
- SB — EXISTING SPEED BUMPS TO REMAIN
- NSH — NEW SPEED HUMPS
- NEW PAINTED PEDESTRIAN CROSSING
- SN — EXISTING SIGN
- NFR — NEW 'FIRE ROUTE' SIGN
- NBO — NEW 'NO ENTRY BUS ONLY' SIGN
- NDO — NEW 'NO ENTRY DELIVERY ONLY' SIGN
- B — EXISTING BOLLARD
- NB — NEW BOLLARD
- ECC — EXISTING CONCRETE CURB
- NCC — NEW CONCRETE CURB
- EDC — EXISTING DEPRESSED CONCRETE CURB
- DCC — NEW DEPRESSED CONCRETE CURB
- SMDC — NEW SEMI-MOUNTABLE DEPRESSED CONCRETE CURB

- EFH — EXISTING FIRE HYDRANT
- NFH — NEW FIRE HYDRANT
- EFDC — EXIST. FIRE DEPARTMENT CONN.
- FDC — NEW FIRE DEPARTMENT CONN.
- ECB — EXISTING CATCH BASIN
- EFP — EXISTING FLAG POLE
- MH — MAINTENANCE HOLE – REF TO SURVEY.
- ELS — EXISTING LIGHT STANDARD
- NLS — NEW PARKING LOT LIGHT STANDARD (REFER TO ELECTRICAL)
- FLS — NEW FIELD LIGHT STANDARD (REFER TO ELECTRICAL)
- GP — EXISTING GOAL POST
- EXISTING SOCCER NET
- EXISTING FENCE
- FIRE ROUTE
- PROPERTY LOT LINE
- PROPERTY EASMENTS
- EBR — EXISTING BICYCLE RACK
- NBR — NEW BICYCLE RACK
- EXISTING BENCH
- EXISTING PORTABLE CLASSROOM
- FUTURE PORTABLE CLASSROOM

OTTAWA-CARLETON DISTRICT SCHOOL BOARD

ISSUE NO.	REV. NO.	DATE YYMMDD	ISSUE
1	0	2024/10/30	xxxxxx

LES IDÉES, CONCEPTS, DISPOSITIONS ET PLANS MONTRÉS OU REPRÉSENTÉS PAR CE DESSIN APPARTIENNENT À EDWARD J. CUHACI AND ASSOCIATES ARCHITECTS INC. ET ONT ÉTÉ CRÉÉS, ET DÉVELOPPÉS POUR ÊTRE UTILISÉS DANS LE CADRE DU PRÉSENT PROJET. ILS NE DOIVENT PAS ÊTRE UTILISÉS À D'AUTRES FINS NI COMMUNIQUÉS À QUI QUE CE SOIT SANS LA PERMISSION ÉCRITE DE EDWARD J. CUHACI AND ASSOCIATES ARCHITECTS INC.

L'ARCHITECTE DÉCLINE TOUTE RESPONSABILITÉ DÉCOULANT DE PROBLÈMES FAISANT SUITE AU NON RESPECT DES PLANS ET DEVIS OU DE L'INTENTION DU CONCEPT QU'ILS TRANSMETTENT, OU DE TOUS PROBLÈMES POUVANT RÉSULTER DU DÉFAUT DE TIERS D'OBTENIR OU DE SUIVRE LES INSTRUCTIONS DE L'ARCHITECTE RELATIVEMENT AUX ERREURS, OMISSIONS, INCOHÉRENCES, AMBIGUÏTÉS OU CONTRADICTIONS ALLÉGUÉS.

L'ENTREPRENEUR DOIT VÉRIFIER TOUTES LES DIMENSIONS SUR PLACE ET INFORMER L'ARCHITECTE DE TOUT ÉCART AVANT LE DÉBUT DES TRAVAUX. NE PAS MESURER LES DESSINS À L'ÉCHELLE.

TRUE NORTH | PLAN NORTH

EDWARD J. CUHACI
& ASSOCIATES ARCHITECTS Inc.
171 Slater St. Suite 100, Ottawa, Ontario, K1P 5H7
Fax: (613) 236-1944 Telephone: (613) 236-7135 E-mail: info@cuhaci.com

PROJECT TITLE/TITRE DU PROJET
A.Y. JACKSON SECONDARY SCHOOL ADDITION 2024
150 ABBEYHILL DRIVE
OTTAWA, ON K2L 1H7

OTTAWA-CARLETON DISTRICT SCHOOL BOARD

DRAWING TITLE/TITRE DU DESSIN
SITE PLAN

SCALE / ECHELLE	1:1000	PROJ. No 2435	ISSUE No 0 / REV. No 0
DRAWN BY / DESSINE PAR	DB	DRAWING/DESSIN	A001
CHECKED BY / VERIFIE PAR	XF		
DATE	OCT 2024	ACAD FILE/FICHIER: 2435-A001.DWG	

City of Ottawa 2017 Transportation Impact Assessment (TIA) Guidelines Screening Form

1. Description of Proposed Development

Municipal Address	150 Abbeyhill Dr, Kanata, ON K2L 1H7, Canada
Description of Location	South side of Abbeyhill Dr, 200m east of Castlefrank Rd
Land Use Classification	Institutional - Secondary School
Development Size (units)	new 2-storey building, 13 new classrooms and 319 student/staff
Development Size (m^2)	2311
Number of Accesses and Locations	Existing access on Abbeyhill Dr 200m east of Castlefrank Rd
Phase of Development	1 phase
Buildout Year	Assumed 2026

If available, please attach a sketch of the development or site plan to this form.

2. Trip Generation Trigger

Considering the Development's Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

Table notes:

1.Table 2, Table 3 & Table 4 TRANS Trip Generation Manual
2.Institute of Transportation Engineers (ITE) Trip Generation Manual 11.1 Ed.

Land Use Type	Minimum Development Size
Single-family homes	60 units
Multi-Use Family (Low-Rise)[1]	90 units
Multi-Use Family (High-Rise)[1]	150 units
Office[2]	1,400 m^2
Industrial[2]	7,000 m^2
Fast-food restaurant or coffee shop[2]	110 m^2
Destination retail[2]	1,800 m^2
Gas station or convenience market[2]	90 m^2

If the proposed development size is greater than the sizes identified above, the Trip Generation Trigger is satisfied.

[1] Hubs are identified in Schedules B1 to B8 of the City of Ottawa Official Plan. PMTSAs are identified in ScheduleC1 of the Official Plan. DPAs are identified in Schedule C7A and C7B of the Official. See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA.

3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the City's Transit Priority Network, Rapid Transit network or Cross-Town Bikeways?		X
Is the development in a Hub, a Protected Major Transit Station Area (PMTSA), or a Design Priority Area (DPA)?[1]		X

If any of the above questions were answered with 'Yes,' the Location Trigger is satisfied.

4. Safety Triggers

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

If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.

5. Summary

	Yes	No
Does the development satisfy the Trip Generation Trigger?	X	
Does the development satisfy the Location Trigger?		X
Does the development satisfy the Safety Trigger?		X

If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).

Appendix B:

Transit Route Maps

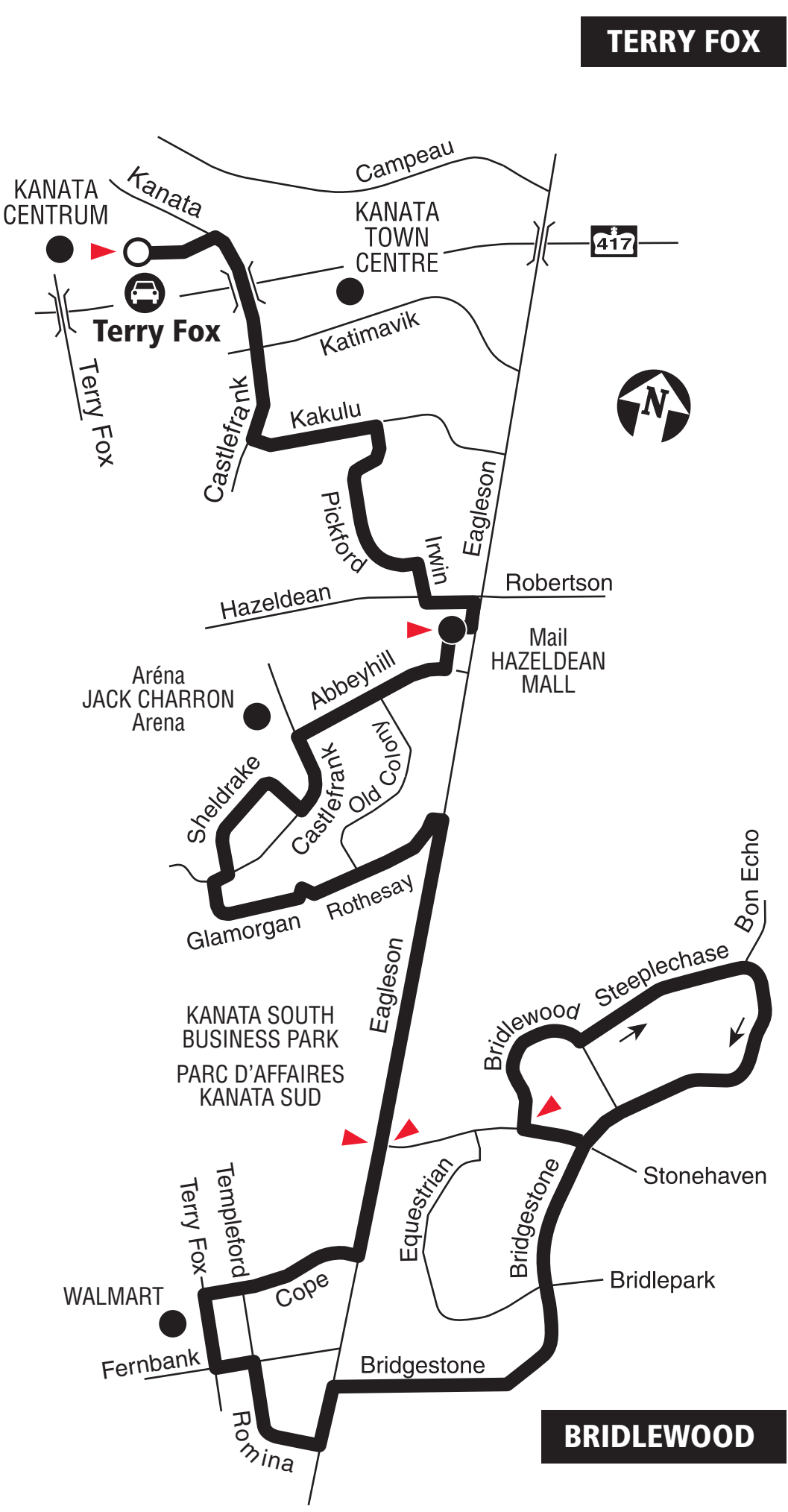
161

TERRY FOX
BRIDLEWOOD

Local

Monday to Friday/ Lundi au vendredi

All day service. No weekend service
Service toute la journée.
Aucun service les fins de semaine



- Station
- Park & Ride / Parc-o-bus
- Timepoint / Heures de passage

2019.06

Schedule / Horaire.....613-560-1000
Text / Texto 560560

plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle **613-741-4390**

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité **613-741-2478**

Effective June 29, 2015
En vigueur 29 juin 2015

OC Transpo

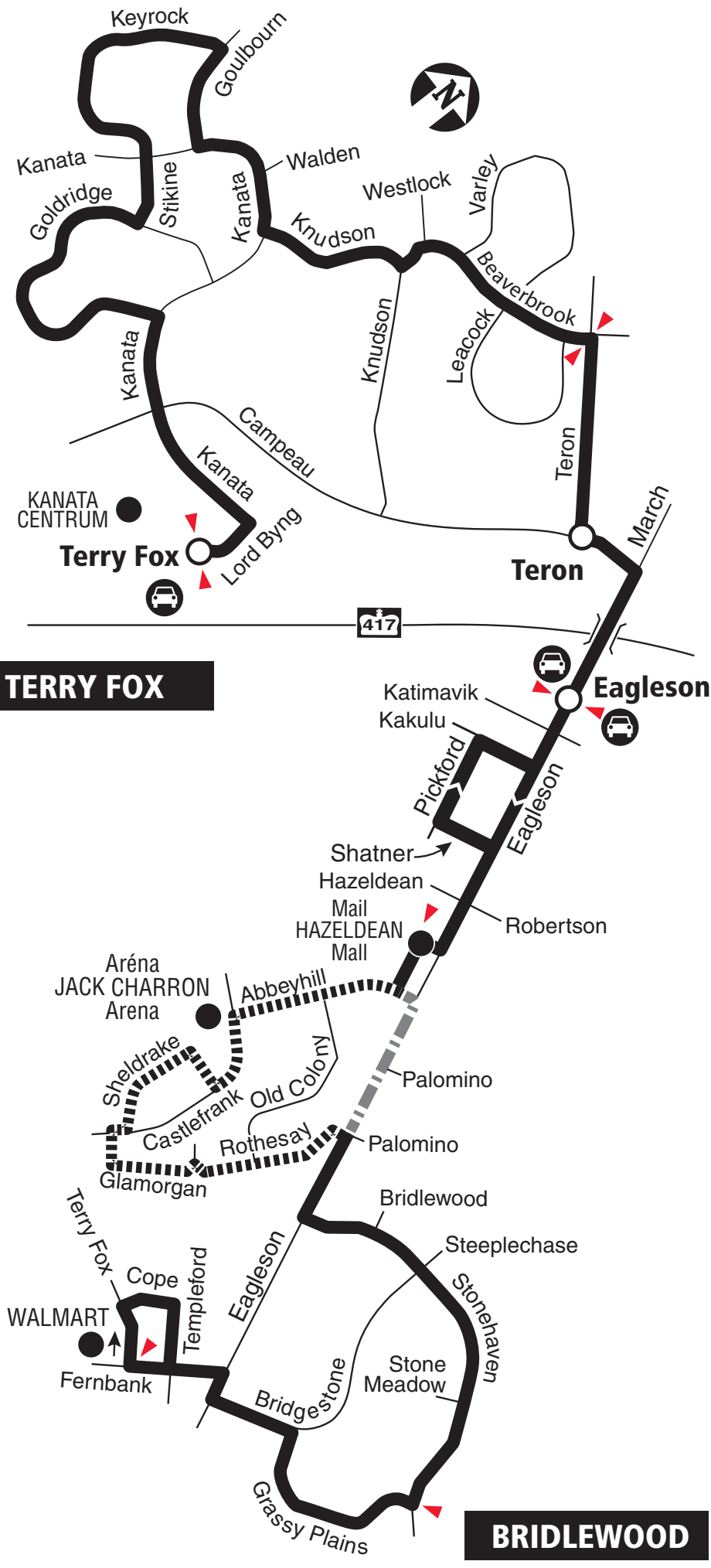
INFO 613-741-4390
octranspo.com

168

TERRY FOX
BRIDLEWOOD

Local

7 days a week / 7 jours par semaine
All day service
Service toute la journée



○	Transitway Station / Station du Transitway
▮▮▮▮▮▮▮▮▮▮▮▮	Saturday and Sunday only Samedi et dimanche seulement
▮▮▮ ▮▮▮ ▮	No weekend service Aucun service la fin de semaine
P	Park & Ride / Parc-o-bus
▲	Timepoint / Heures de passage

2019.06

Schedule / Horaire.....613-560-1000
Text / Texto 560560
plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle **613-741-4390**

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité **613-741-2478**

Effective December 24, 2017
En vigueur 24 décembre 2017

OC Transpo

INFO 613-741-4390
octranspo.com

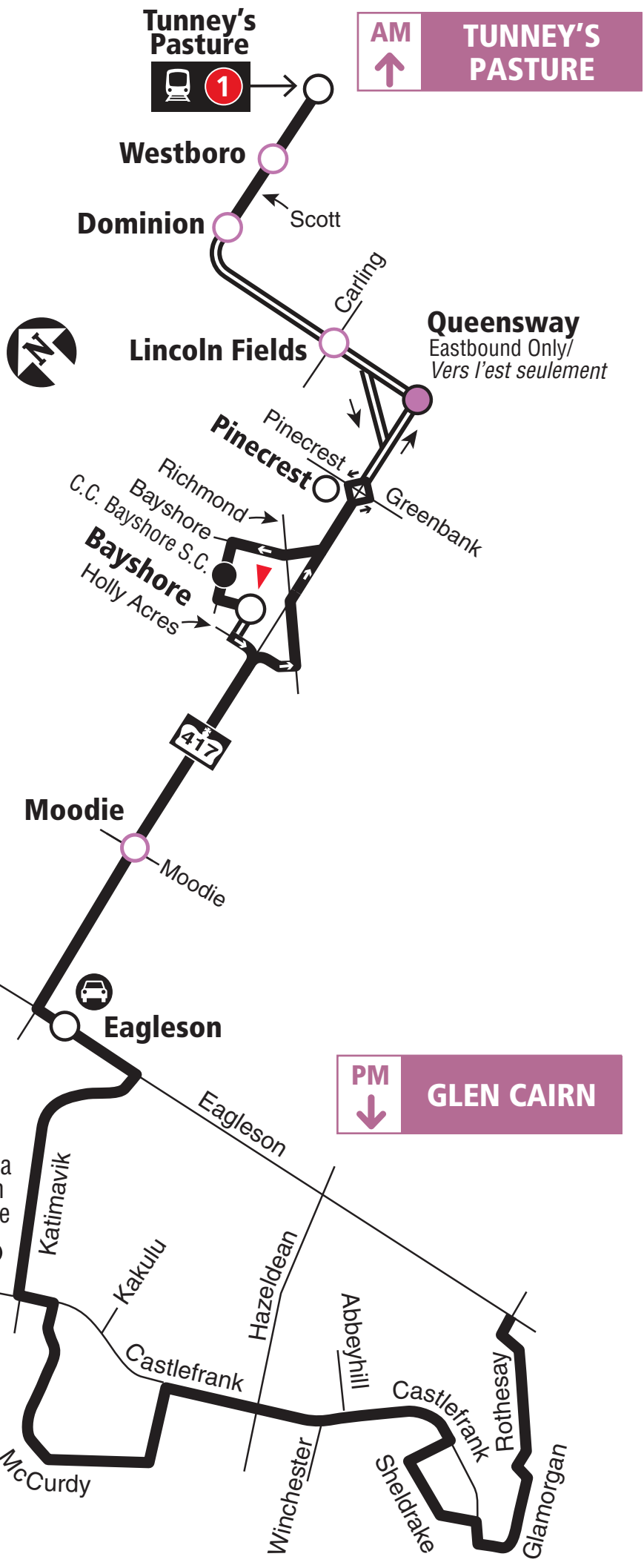
267 Connexion

GLEN CAIRN
TUNNEY'S PASTURE

Monday to Friday / Lundi au vendredi

Peak periods only

Périodes de pointe seulement



2022.06

Transitway & Station

Limited stops: Off only in AM / No stop in PM
Arrêts limités : débarquement en AM seul. / aucun arrêt en PM

AM: Off only - PM: Full Service
AM : débarquement seul. - PM : service complet

Park & Ride / Parc-o-bus

2022.06

Schedule / Horaire 613-560-1000

Text / Texto* 560560

plus your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Customer Service
Service à la clientèle **613-560-5000**

Lost and Found / Objets perdus **613-563-4011**

Security / Sécurité **613-741-2478**

Effective June 26, 2022
En vigueur 26 juin 2022

OC Transpo

INFO 613-560-5000
octranspo.com

Appendix C:

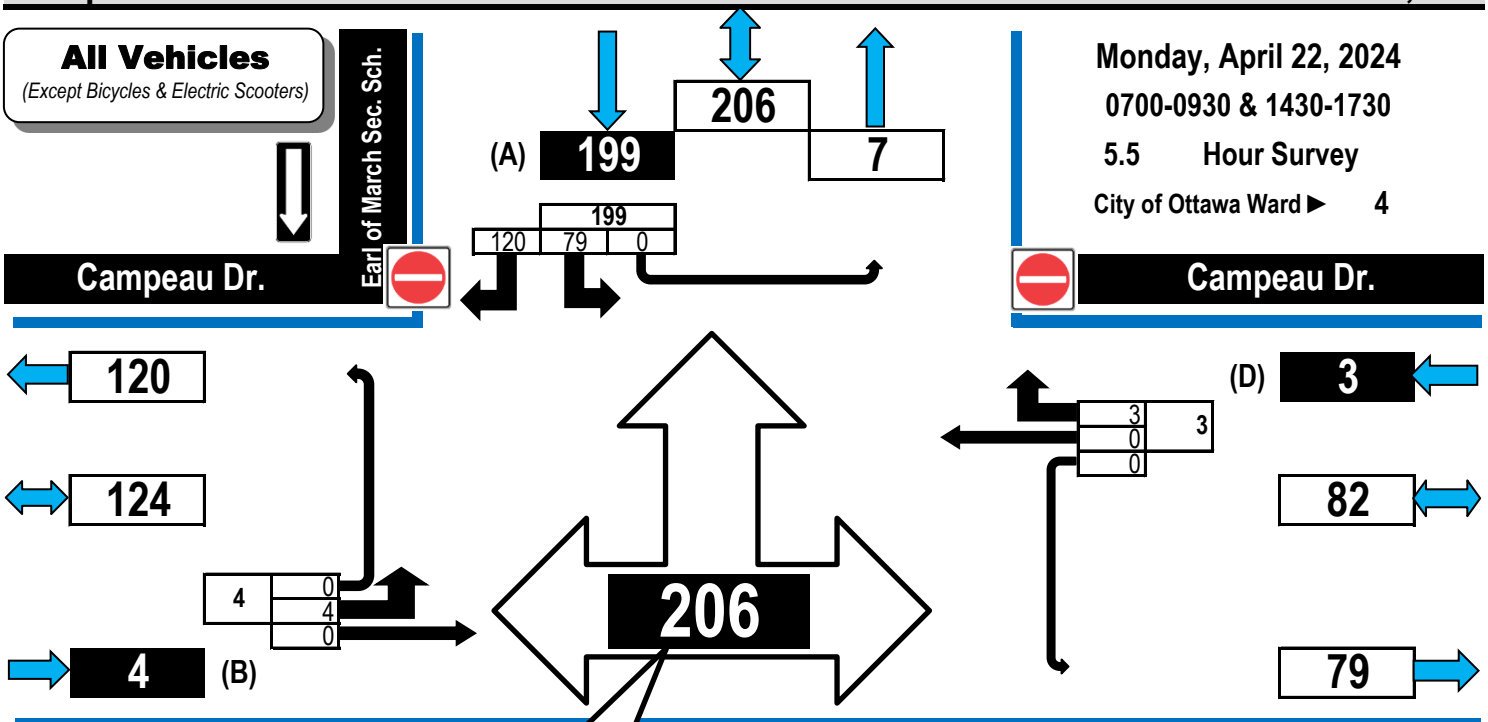
Earl of March TIA Excerpts

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

Campeau Drive & Earl of March Sec. School Exit — Kanata, ON

All Vehicles
(Except Bicycles & Electric Scooters)

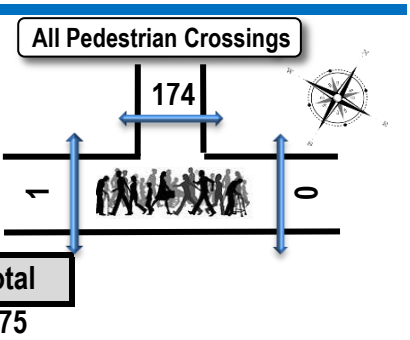
Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ▶ 4



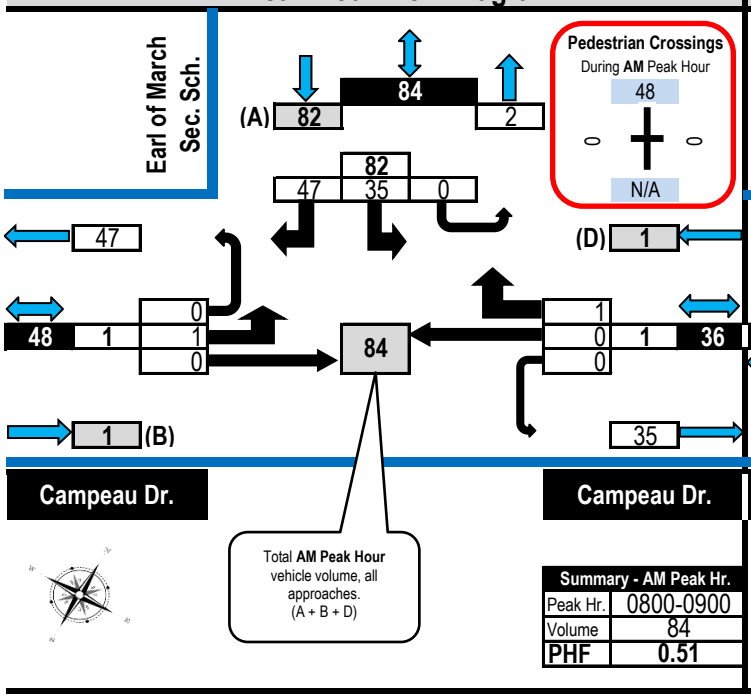
Total vehicle volume, all approaches. (A + B + D)

Through Traffic on Campeau Drive was not counted.

The peak hours are associated with traffic to and from the school access ONLY. Please refer to the traffic count at the Campeau/Hawkestone intersection for Campeau Drive traffic volumes.



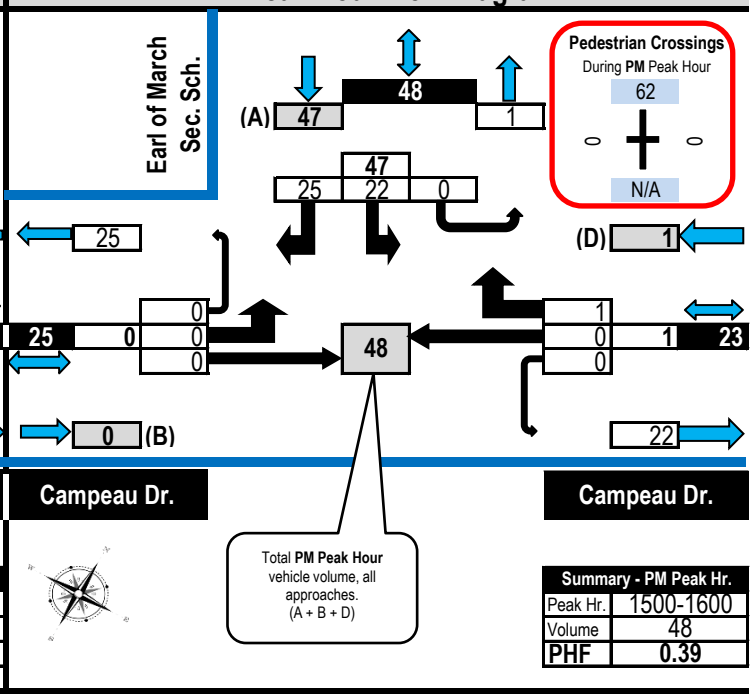
AM Peak Hour Flow Diagram



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

Summary - AM Peak Hr.	
Peak Hr.	0800-0900
Volume	84
PHF	0.51

PM Peak Hour Flow Diagram



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

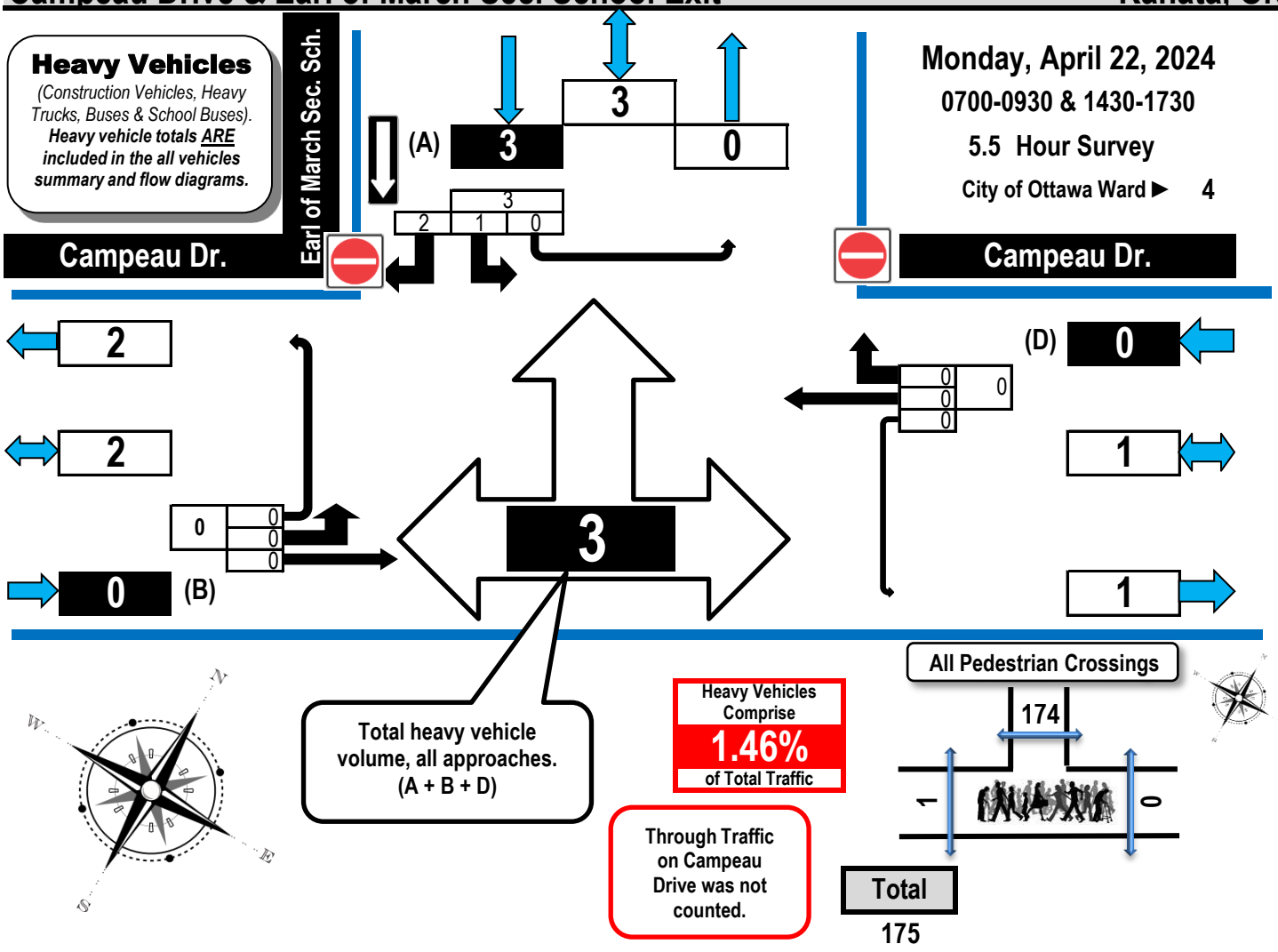
Summary - PM Peak Hr.	
Peak Hr.	1500-1600
Volume	48
PHF	0.39

Turning Movement Count
Heavy Vehicle Summary (FHWA Class 4-13)
Flow Diagram

Campeau Drive & Earl of March Sec. School Exit — Kanata, ON

Heavy Vehicles
(Construction Vehicles, Heavy Trucks, Buses & School Buses).
Heavy vehicle totals ARE included in the all vehicles summary and flow diagrams.

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ► 4



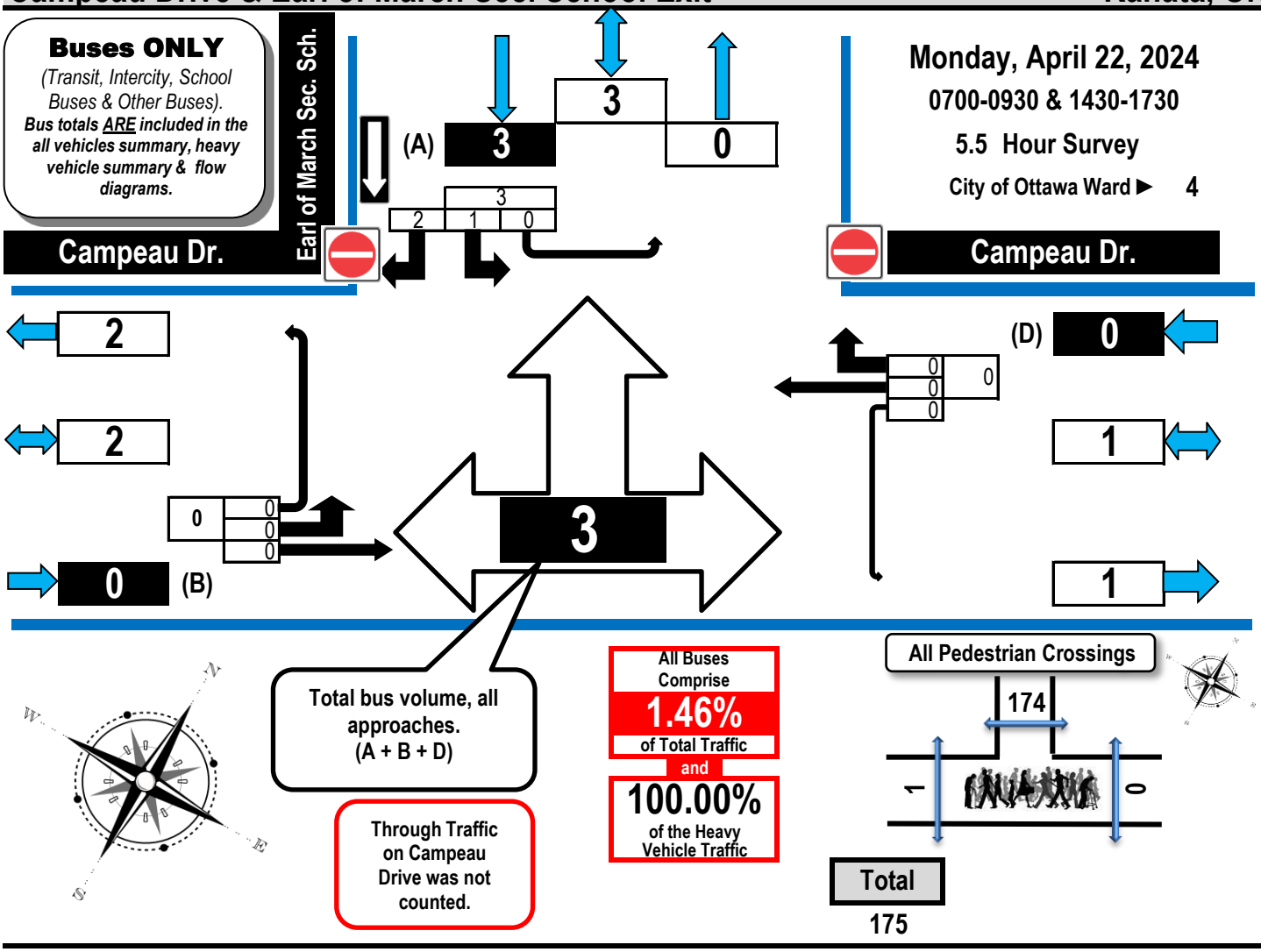
	Campeau Dr.					Campeau Dr.					N/A					Earl of March Sec. Sch.					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	0	0		0	0		0	0	0	0						0		0	0	0	0
0800-0900	0	0		0	0		0	0	0	0						1		1	0	2	2
0900-0930	0	0		0	0		0	0	0	0						0		0	0	0	0
1430-1500	0	0		0	0		0	0	0	0						0		0	0	0	0
1500-1600	0	0		0	0		0	0	0	0						0		1	0	1	1
1600-1700	0	0		0	0		0	0	0	0						0		0	0	0	0
1700-1730	0	0		0	0		0	0	0	0						0		0	0	0	0
Totals	0	0		0	0		0	0	0	0						1		2	0	3	3

Turning Movement Count
All Buses Summary (FHWA Class 4 ONLY)
Flow Diagram

Campeau Drive & Earl of March Sec. School Exit — Kanata, ON

Buses ONLY
(Transit, Intercity, School Buses & Other Buses).
Bus totals ARE included in the all vehicles summary, heavy vehicle summary & flow diagrams.

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ► 4



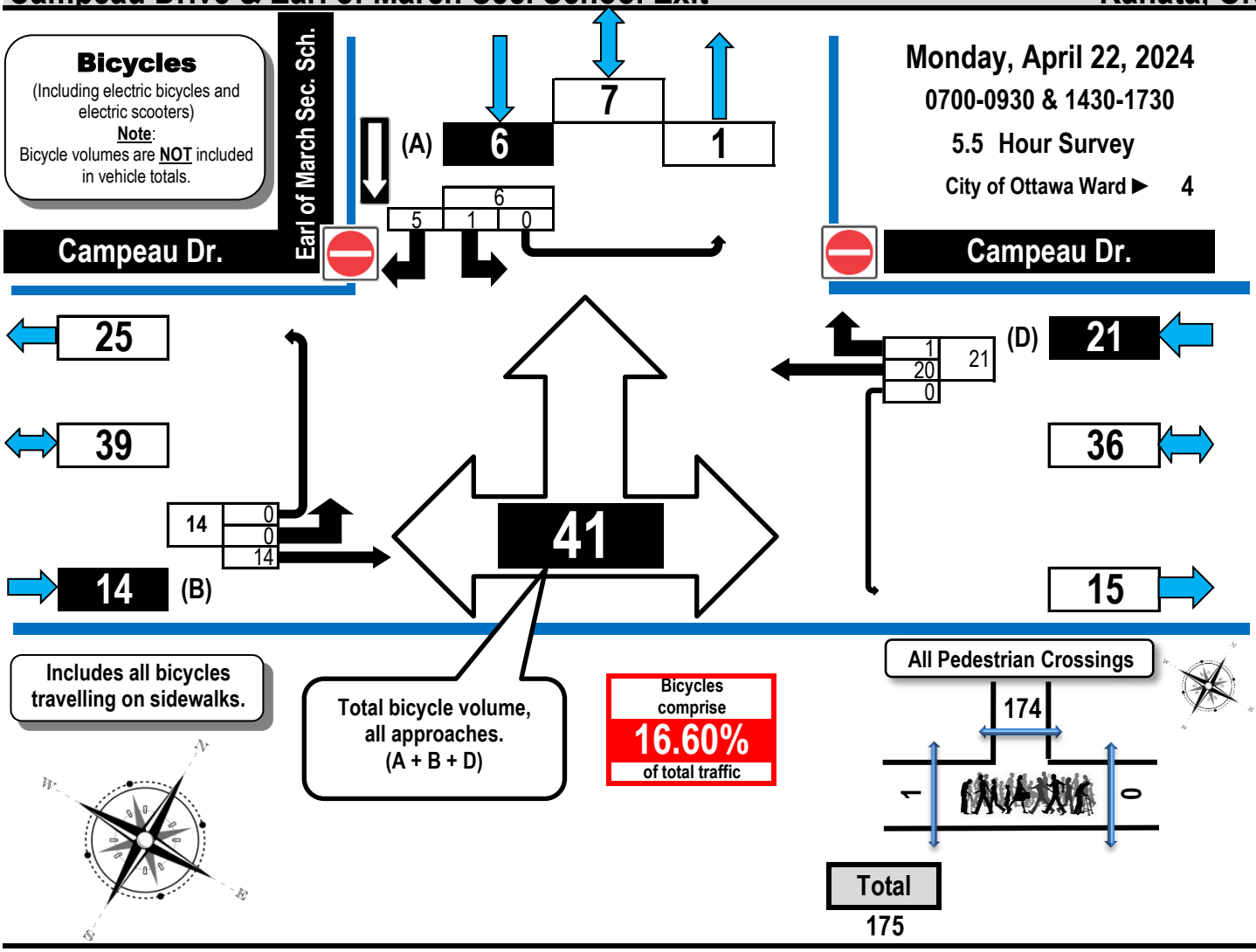
	Campeau Dr.					Campeau Dr.					N/A					Earl of March Sec. Sch.					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	0	0		0	0		0	0	0	0						0		0	0	0	0
0800-0900	0	0		0	0		0	0	0	0						1		1	0	2	2
0900-0930	0	0		0	0		0	0	0	0						0		0	0	0	0
1430-1500	0	0		0	0		0	0	0	0						0		0	0	0	0
1500-1600	0	0		0	0		0	0	0	0						0		1	0	1	1
1600-1700	0	0		0	0		0	0	0	0						0		0	0	0	0
1700-1730	0	0		0	0		0	0	0	0						0		0	0	0	0
Totals	0	0		0	0		0	0	0	0						1		2	0	3	3

Turning Movement Count
Bicycle Summary
Flow Diagram

Campeau Drive & Earl of March Sec. School Exit — Kanata, ON

Bicycles
(Including electric bicycles and electric scooters)
Note:
Bicycle volumes are NOT included in vehicle totals.

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ► 4



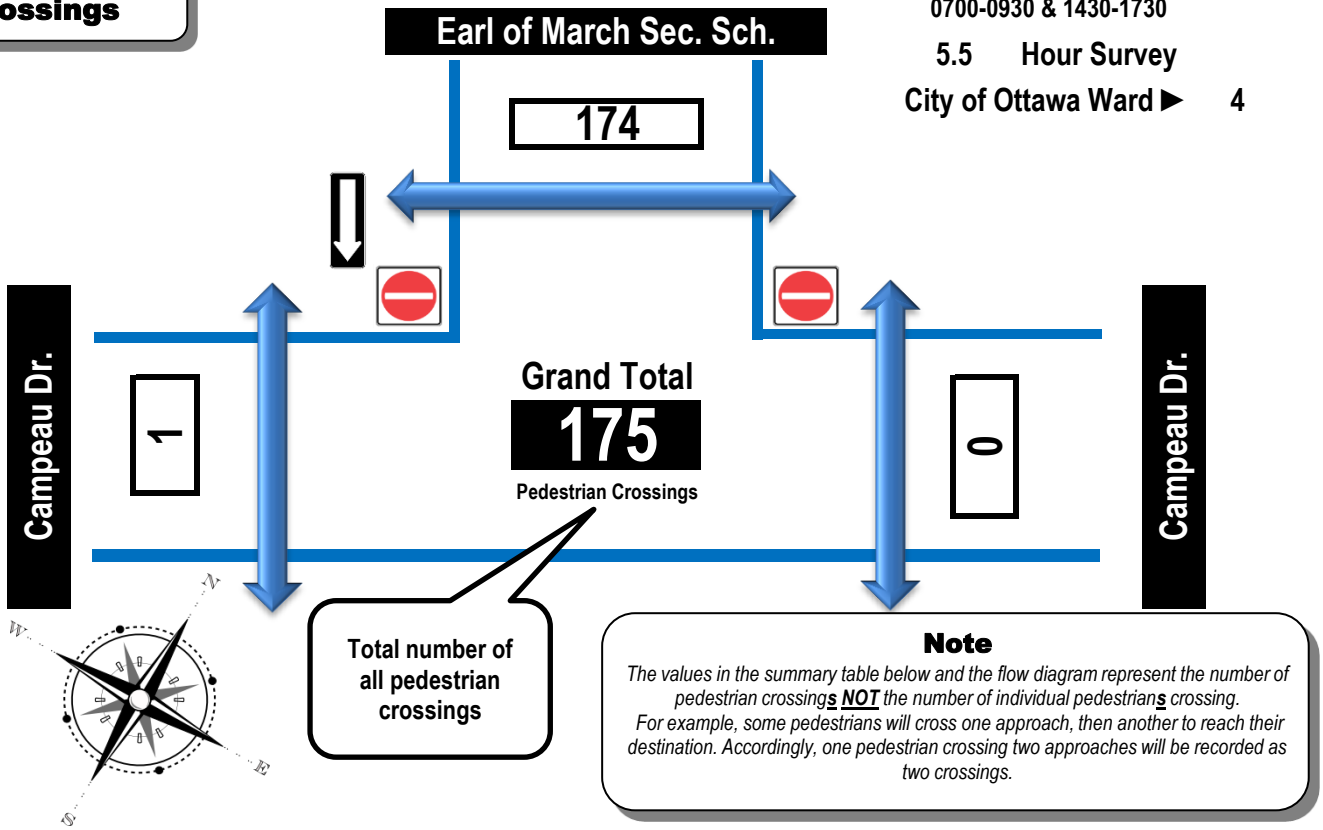
	Campeau Dr.					Campeau Dr.					N/A					Earl of March Sec. Sch.					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	0	5		0	5		2	1	0	3						0		0	0	0	8
0800-0900	0	3		0	3		4	0	0	4						0		0	0	0	7
0900-0930	0	0		0	0		1	0	0	1						0		0	0	0	1
1430-1500	0	0		0	0		0	0	0	0						0		2	0	2	2
1500-1600	0	1		0	1		1	0	0	1						0		1	0	1	3
1600-1700	0	3		0	3		4	0	0	4						0		2	0	2	9
1700-1730	0	2		0	2		8	0	0	8						1		0	0	1	11
Totals	0	14		0	14		20	1	0	21						1		5	0	6	41

Turning Movement Count
Pedestrian Crossings Summary and Flow Diagram

Campeau Drive & Earl of March Sec. School Exit — Kanata, ON

Pedestrian Crossings

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ► 4



Time Period	West Side Crossing Campeau Dr.	East Side Crossing Campeau Dr.	Street Total	South Side Crossing N/A	North Side Crossing Earl of March Sec. Sch.	Street Total	Grand Total
0700-0800	0	0	0		5	5	5
0800-0900	0	0	0		48	48	48
0900-0930	0	0	0		6	6	6
1430-1500	0	0	0		38	38	38
1500-1600	0	0	0		62	62	62
1600-1700	1	0	1		14	14	15
1700-1730	0	0	0		1	1	1
Totals	**1**	**0**	**1**		**174**	**174**	**175**

Comments:

OC Transpo buses and school buses comprise 100% of the heavy vehicle traffic exiting Earl of March Secondary School. Only vehicles exiting the school property are recorded here. Please refer to the traffic count at the intersection of Campeau Drive/Hawkstone Gate intersection for vehicle volumes on Campeau Drive. All bicycle movements and all pedestrian crossings were counted.

Turning Movement Count

Summary Report Including AM, OFF Peak and PM Peak Hours Including PHF

All Vehicles Except Bicycles

Campeau Drive & Earl of March Sec. School Exit — Kanata, ON

Survey Date: Monday, April 22, 2024 **Start Time:** 0700 **AADT Factor:** 1.0

Weather AM: Sunny -2° C **Survey Duration:** 5.5 Hrs. **Survey Hours:** 0700-0930 & 1430-1730

Weather PM: Sunny 8° C **Surveyor(s)** J. Mousseau

	Campeau Dr. (Eastbound)					Campeau Dr. (Westbound)						N/A (Northbound)					Earl of March Sec. Sch. (Southbound)						
Time Period	LT	ST	RT	UT	E/B Tot	LT	ST	RT	UT	W/B Tot	Street Total	LT	ST	RT	UT	N/B Tot	LT	ST	RT	UT	S/B Tot	Street Total	Grand Total
0700-0800	2	0	0	0	2	0	0	1	0	1	3	0	0	0	0	0	3	0	1	0	4	4	7
0800-0900	1	0	0	0	1	0	0	1	0	1	2	0	0	0	0	0	35	0	47	0	82	82	84
0900-0930	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0	3	0	5	5	6
1430-1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	21	0	27	27	27
1500-1600	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	22	0	25	0	47	47	48
1600-1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	15	0	24	24	24
1700-1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	8	0	10	10	10
Totals	4	0	0	0	4	0	0	3	0	3	7	0	0	0	0	0	79	0	120	0	199	199	206

Equivalent 12 & 24-hour Vehicle Volumes Including the Annual Average Daily Traffic (AADT) Factor Applicable to the Day and Month of the Turning Movement Count

Average daily 12-hour vehicle volumes. These volumes are calculated by multiplying the 12-hour totals by the AADT factor of: 1.0

AADT 12 Hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

24-Hour AADT. These volumes are calculated by multiplying the average daily 12-hour vehicle volumes by the 12 ➡24 expansion factor of 1.31

AADT 24 Hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

AADT and Expansion Factors provided by the City of Ottawa

AM Peak Hour Factor ➡ 0.51												Highest Hourly Vehicle Volume between 0700h & 1000h											
AM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
0800-0900	1	0	0	0	1	0	0	1	0	1	2	0	0	0	0	0	35	0	47	0	82	82	84
OFF Peak Hour Factor ➡ N/A												Highest Hourly Vehicle Volume Between 1000h & 1500h											
OFF Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PM Peak Hour Factor ➡ 0.39												Highest Hourly Vehicle Volume Between 1500h & 1900h											
PM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
1500-1600	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	22	0	25	0	47	47	48

Comments:

OC Transpo buses and school buses comprise 100% of the heavy vehicle traffic exiting Earl of March Secondary School. Only vehicles exiting the school property are recorded here. Please refer to the traffic count at the intersection of Campeau Drive/Hawkstone Gate intersection for vehicle volumes on Campeau Drive. All bicycle movements and all pedestrian crossings were counted.

Notes:

1. Includes all vehicle types except bicycles and electric scooters.
2. When expansion and AADT factors are applied, the results will differ slightly due to rounding.

Figure 5: Area Transit Network

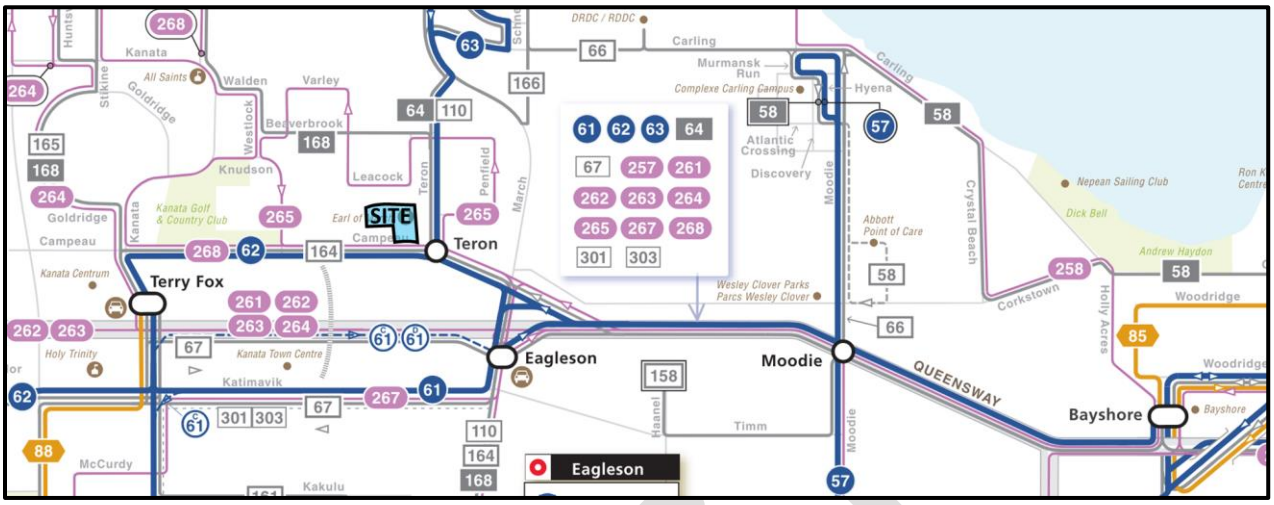
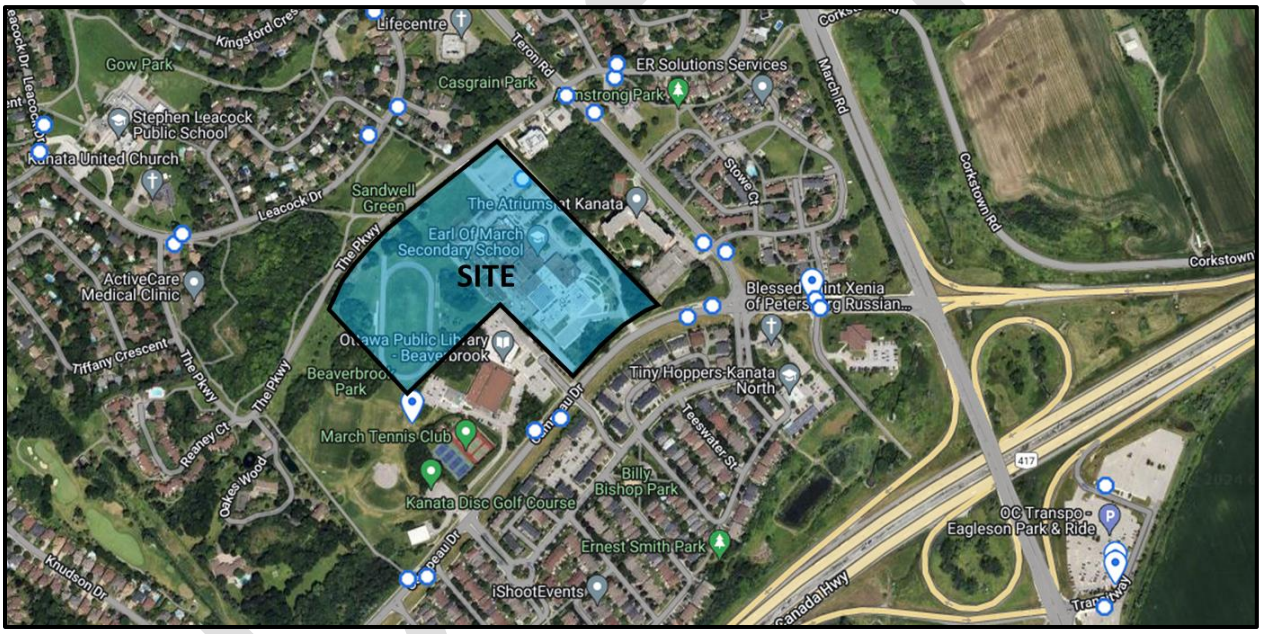


Figure 6: Bus Stop Locations



Peak Hour Travel Demands

Traffic count data was obtained from the City of Ottawa and performed by Parsons. The traffic volumes at study area intersections are illustrated in **Figure 7**, with raw traffic count data provided in **Appendix C**. Existing active transportations volumes have been provided in **Figure 8**. Note that school classes start at 8:40 AM and finish at 2:50 – 3:00 PM. The AM commuter peak hour is generally within the same timeframe that students and staff arrive to school by, but the PM commuter peak hour is generally understood to occur later than the peak departure timeframe for the school. For this reason, the 3:00-4:00 PM counts will be used for the PM peak hour.

Figure 7: Existing Peak Hour Vehicle Traffic Volumes

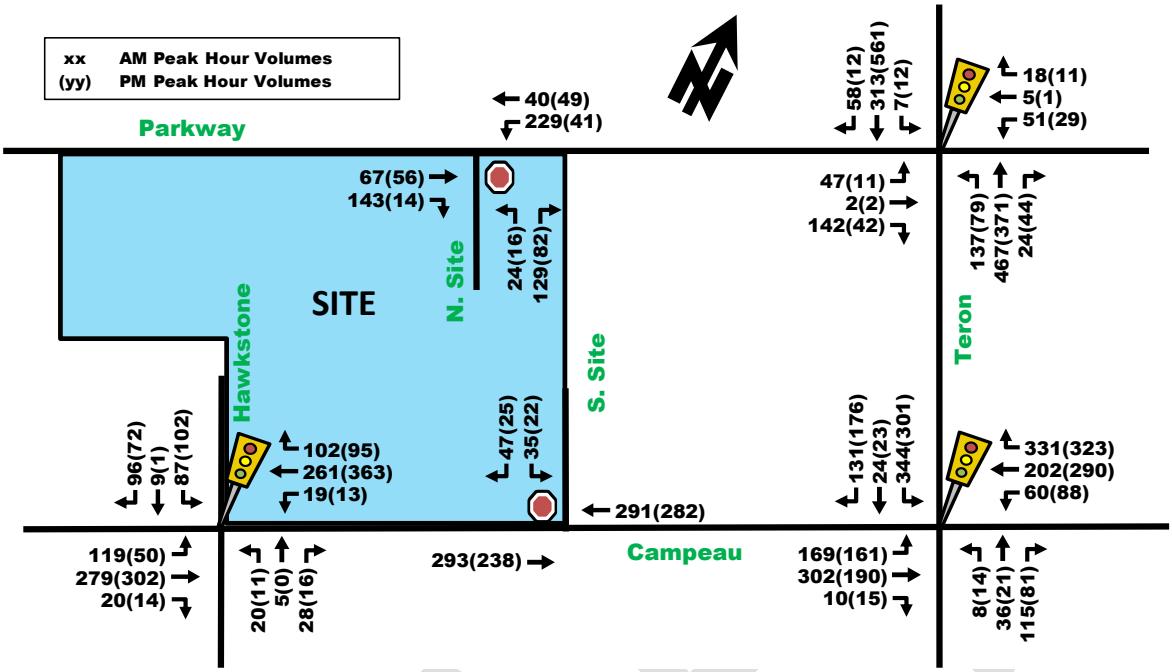
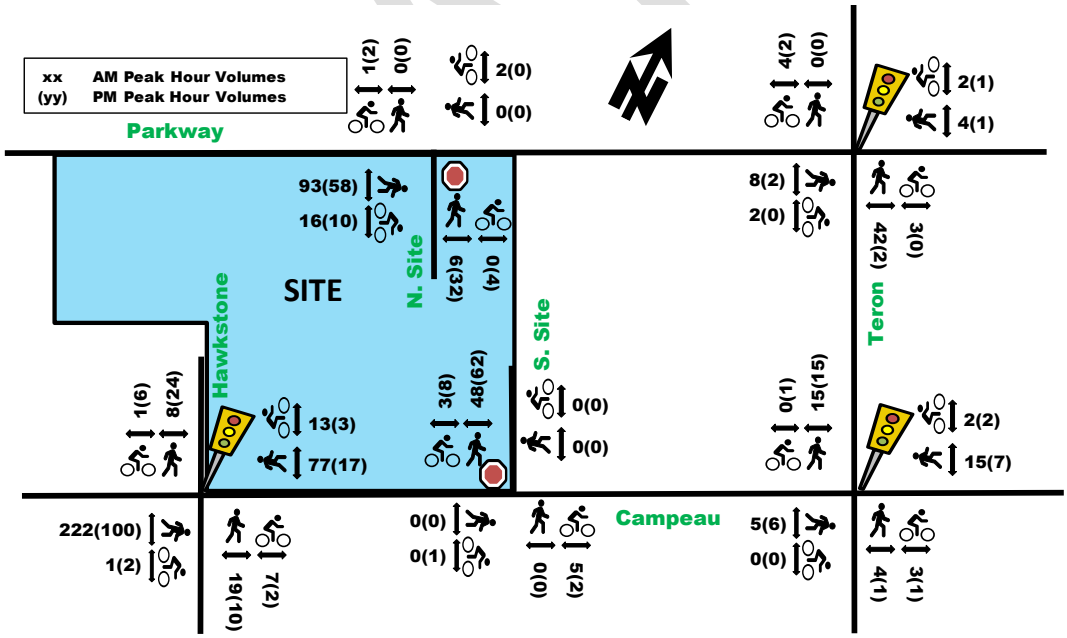


Figure 8: Existing Pedestrian and Cyclists Peak Hour Volumes



Note: some counts were performed in winter and may reflect lower than average AT users.

Existing Road Safety Conditions

A five-year collision history data (2018-2022, inclusive) was obtained from the City of Ottawa Open Data for the study area intersections, as well as road segments within the study area. Detailed collision analysis has been provided in **Appendix D**.

Upon analyzing the collision data, the total number of collisions observed within the study area was determined to be 40 collisions within the past five-years. About a third of the collisions (26 or 65%) resulted in property

3.0 FORECASTING

3.1. Development Generated Travel Demand

3.1.1. Trip Generation and Mode Shares

Given that the proposed development is an extension of an existing site with the same land use, then a more accurate trip generation that can be prepared for future trip generation gathers data from the existing site and expands it to a future proportional growth. This methodology therefore retains existing commuting habits specific to this site.

Trip Generation Rates

The trip generation rates for this development have been derived using first principles based on traffic count data on a typical school day (April 22, 2024), with a focus on trips entering and leaving the site.

The school currently has two public accesses, a Parkway Access to The Parkway and a Campeau Access egress to Campeau Dr. Note that a fire route does exist around the western edge of the site connecting to the Beaverbrook Public Library, but the access appears to be gated and it is understood that it is not used by anyone. The following observations were made based on the data provided from the traffic counts:

- AM peak hour was determined to be 8:00-9:00, with approximately 90% of all trips arriving within this single peak hour.
- PM peak hour was determined to be 15:00-16:00, with approximately 45% of all trips departing within this single peak hour.
- Outbound trips in the AM peak hour were understood to be parent "drop-off/pick-up" trips.
- Inbound trips in the PM peak hour were understood to parent "drop-off/pick-up" trips.
- The net difference in inbound and outbound trips during the AM hours were understood to be vehicles that arrived and parked on site, considered "primary trips".

Based on these observations, the following assumptions were made:

- The existing population of the school consists of 2,300 students and 150 staff/support team. A 10% absentee per day has been assumed.
- The quantity of people trips generated for the AM peak hour was derived by reducing the school population by the absentee rate and multiplying that number by 90% to account for arrivals within the busiest peak hour.
  - It is understood that a large portion of staff tend to drive and stay for more than an hour after the dismissal bell. Some students also stay after hours for extra-curricular activities, sports, tutor courses, etc. While some students drive, it is estimated that the majority of primary vehicle trips originate from staff. Therefore, the 45% of vehicle trips departing the school during the PM peak hour is expected to be lower than the proportion of all people trips leaving the school.
  - Given that non-vehicle mode share data is challenging to capture accurately (i.e. predominantly students), the PM total people trip was calibrated based on ITE Trip Generation Manual (ITE land use 525 – high school) to represent approximately 62% of AM people trips.

Table 3 summarizes the estimated existing trip generation for the school based on traffic counts conducted during a typical school day. Note that the values extrapolated were compared to ITE Trip Generation Manual 11th Edition for a High School land use for consistency and was found to have similar arrival and departure magnitudes for a school of a similar size. It was noted that the Earl of March PM peak hour was much more dispersed during the afternoon hours than the heaviest morning arrival hour.

Turning Movement Count

Summary Report Including AM, OFF Peak and PM Peak Hours Including PHF

All Vehicles Except Bicycles

Earl of March Secondary School and The Parkway — Kanata, ON

Survey Date: Monday, April 22, 2024 **Start Time:** 0700 **AADT Factor:** 1.0

Weather AM: Sunny -2° C **Survey Duration:** 5.5 Hrs. **Survey Hours:** 0700-0930 & 1430-1730

Weather PM: Sunny 8° C **Surveyor(s)** J. Mousseau

	The Parkway Eastbound					The Parkway Westbound						Earl of March Sec. Sch. Northbound					Pathway Southbound						
Time Period	LT	ST	RT	UT	E/B Tot	LT	ST	RT	UT	W/B Tot	Street Total	LT	ST	RT	UT	N/B Tot	LT	ST	RT	UT	S/B Tot	Street Total	Grand Total
0700-0800	0	46	2	0	48	28	65	0	0	93	141	0	0	5	0	5	0	0	0	0	0	5	146
0800-0900	0	67	143	0	210	229	40	0	0	269	479	24	0	129	0	153	0	0	0	0	0	153	632
0900-0930	0	24	3	0	27	8	19	0	0	27	54	2	0	5	0	7	0	0	0	0	0	7	61
1430-1500	0	41	20	0	61	54	17	0	0	71	132	16	0	48	0	64	0	0	0	0	0	64	196
1500-1600	0	56	14	0	70	41	49	0	0	90	160	16	0	82	0	98	0	0	0	0	0	98	258
1600-1700	0	62	8	1	71	19	71	0	0	90	161	13	0	25	0	38	0	0	0	0	0	38	199
1700-1730	0	24	2	0	26	4	30	0	0	34	60	1	0	3	0	4	0	0	0	0	0	4	64
Totals	0	320	192	1	513	383	291	0	0	674	1187	72	0	297	0	369	0	0	0	0	0	369	1556

Equivalent 12 & 24-hour Vehicle Volumes Including the Annual Average Daily Traffic (AADT) Factor Applicable to the Day and Month of the Turning Movement Count

Average daily 12-hour vehicle volumes. These volumes are calculated by multiplying the 12-hour totals by the AADT factor of: 1.0

AADT 12 Hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

24-Hour AADT. These volumes are calculated by multiplying the average daily 12-hour vehicle volumes by the 12 ➡24 expansion factor of 1.31

AADT 24 Hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

AADT and Expansion Factors provided by the City of Ottawa

AM Peak Hour Factor ➡ 0.67												Highest Hourly Vehicle Volume between 0700h & 1000h										
AM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
0745-0845	0	83	134	0	217	227	57	0	0	284	501	22	0	120	0	142	0	0	0	0	0	142	643
OFF Peak Hour Factor ➡ N/A												Highest Hourly Vehicle Volume Between 1000h & 1500h										
OFF Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PM Peak Hour Factor ➡ 0.48												Highest Hourly Vehicle Volume Between 1500h & 1900h										
PM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
1500-1600	0	56	14	0	70	41	49	0	0	90	160	16	0	82	0	98	0	0	0	0	0	98	258

Comments:

OC Transpo buses and school buses comprise 92.73% of the heavy vehicle traffic. The southbound approach consists solely of a bicycle/pedestrian pathway.

Notes:

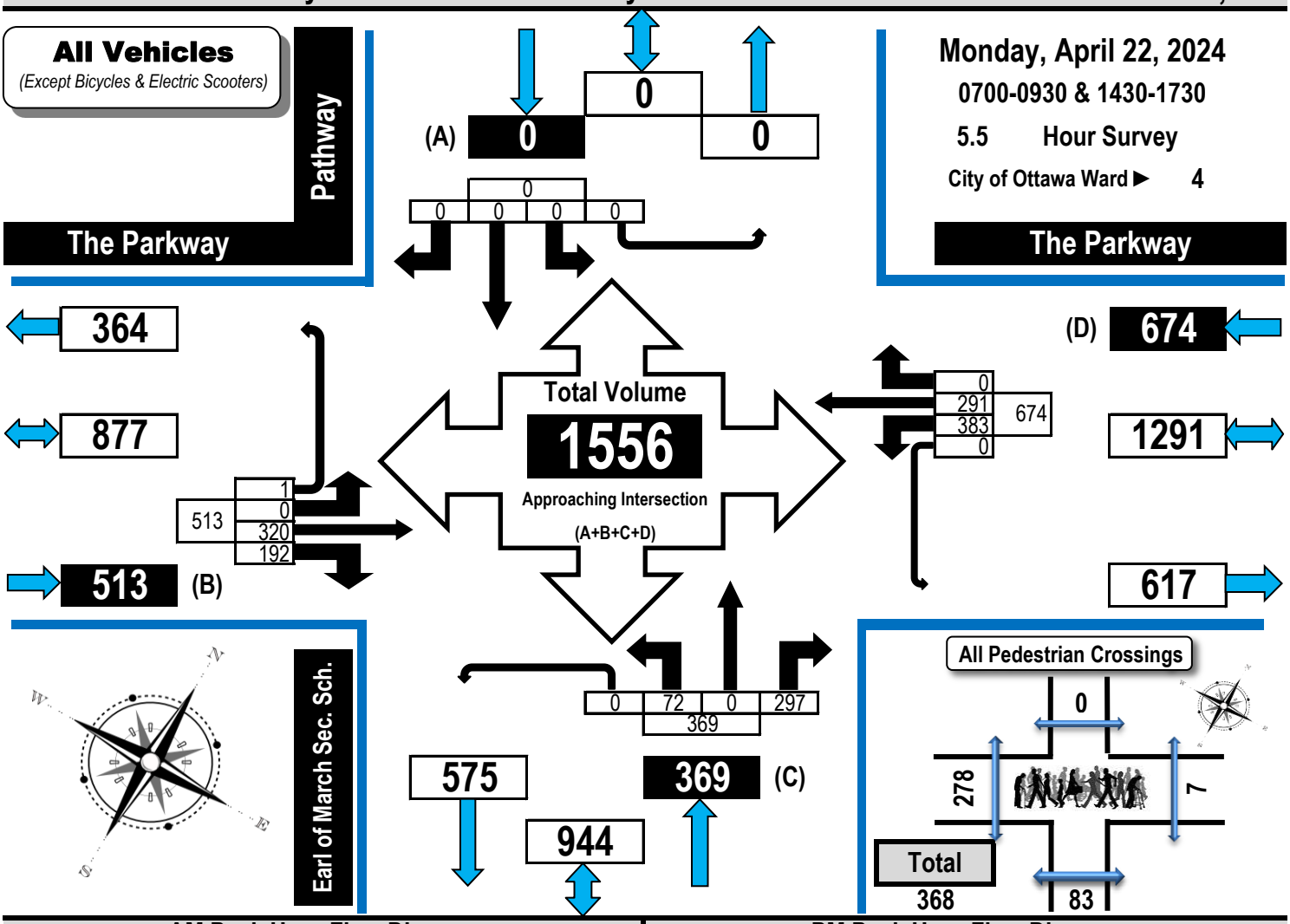
1. Includes all vehicle types except bicycles and electric scooters.
2. When expansion and AADT factors are applied, the results will differ slightly due to rounding.

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

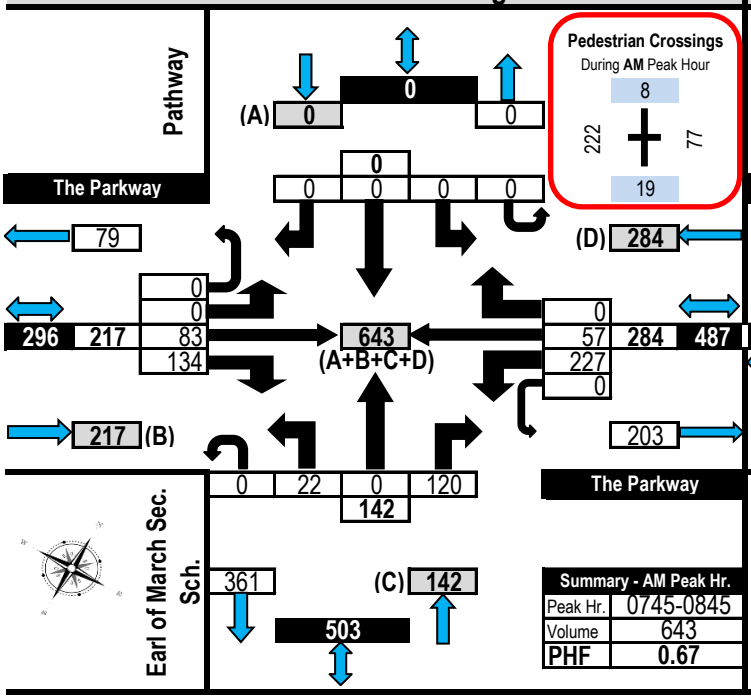
Earl of March Secondary School and The Parkway — **Kanata, ON**

All Vehicles
(Except Bicycles & Electric Scooters)

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ▶ 4

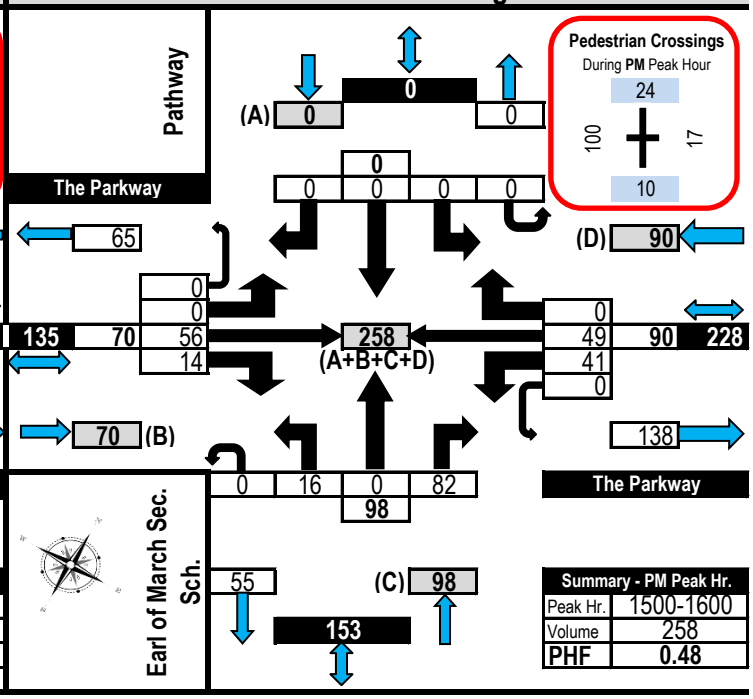


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0745-0845
Volume	643
PHF	0.67

PM Peak Hour Flow Diagram



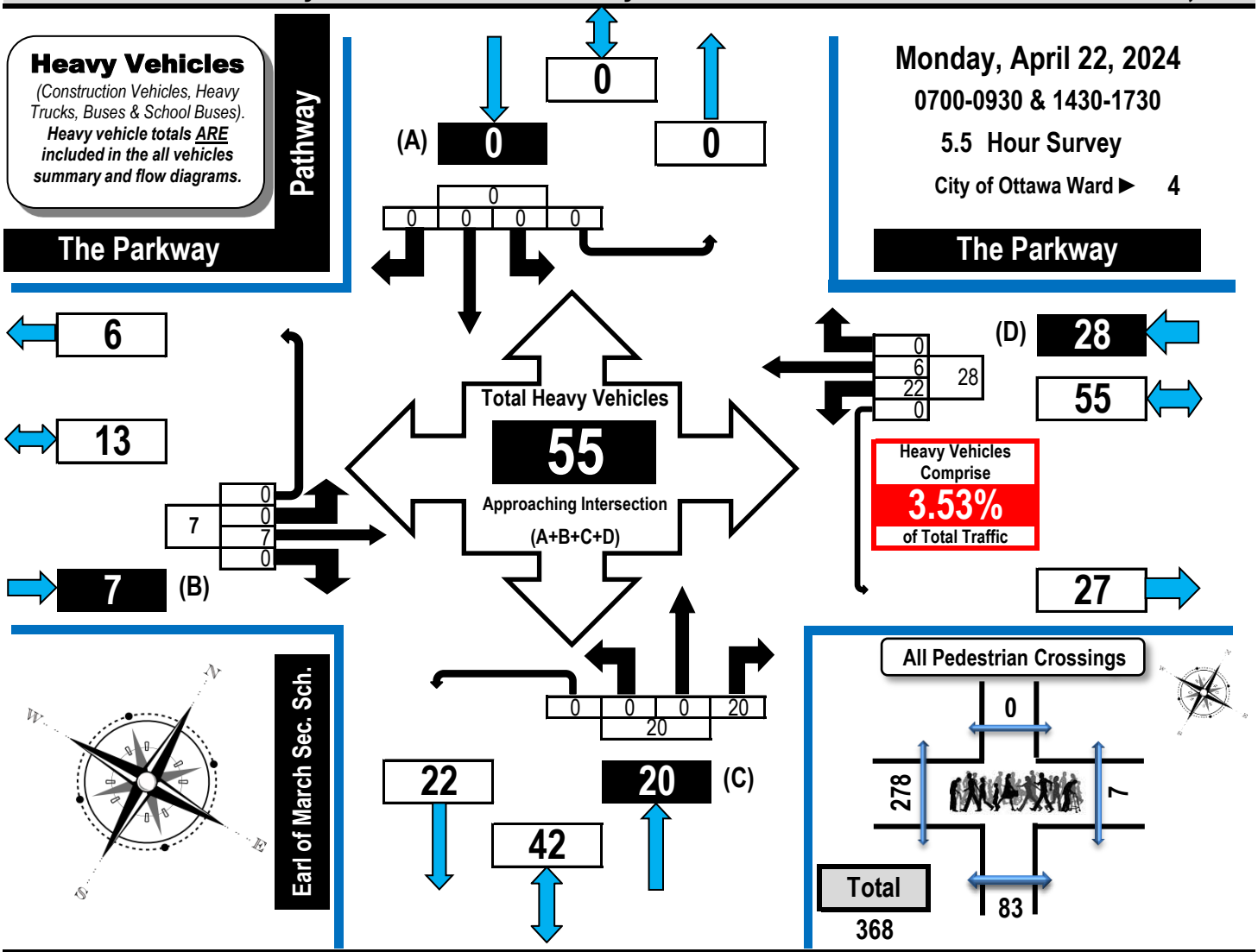
Summary - PM Peak Hr.	
Peak Hr.	1500-1600
Volume	258
PHF	0.48

Turning Movement Count
Heavy Vehicle Summary (FHWA Class 4-13)
Flow Diagram

Earl of March Secondary School and The Parkway — Kanata, ON

Heavy Vehicles
(Construction Vehicles, Heavy Trucks, Buses & School Buses).
Heavy vehicle totals ARE included in the all vehicles summary and flow diagrams.

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ► 4



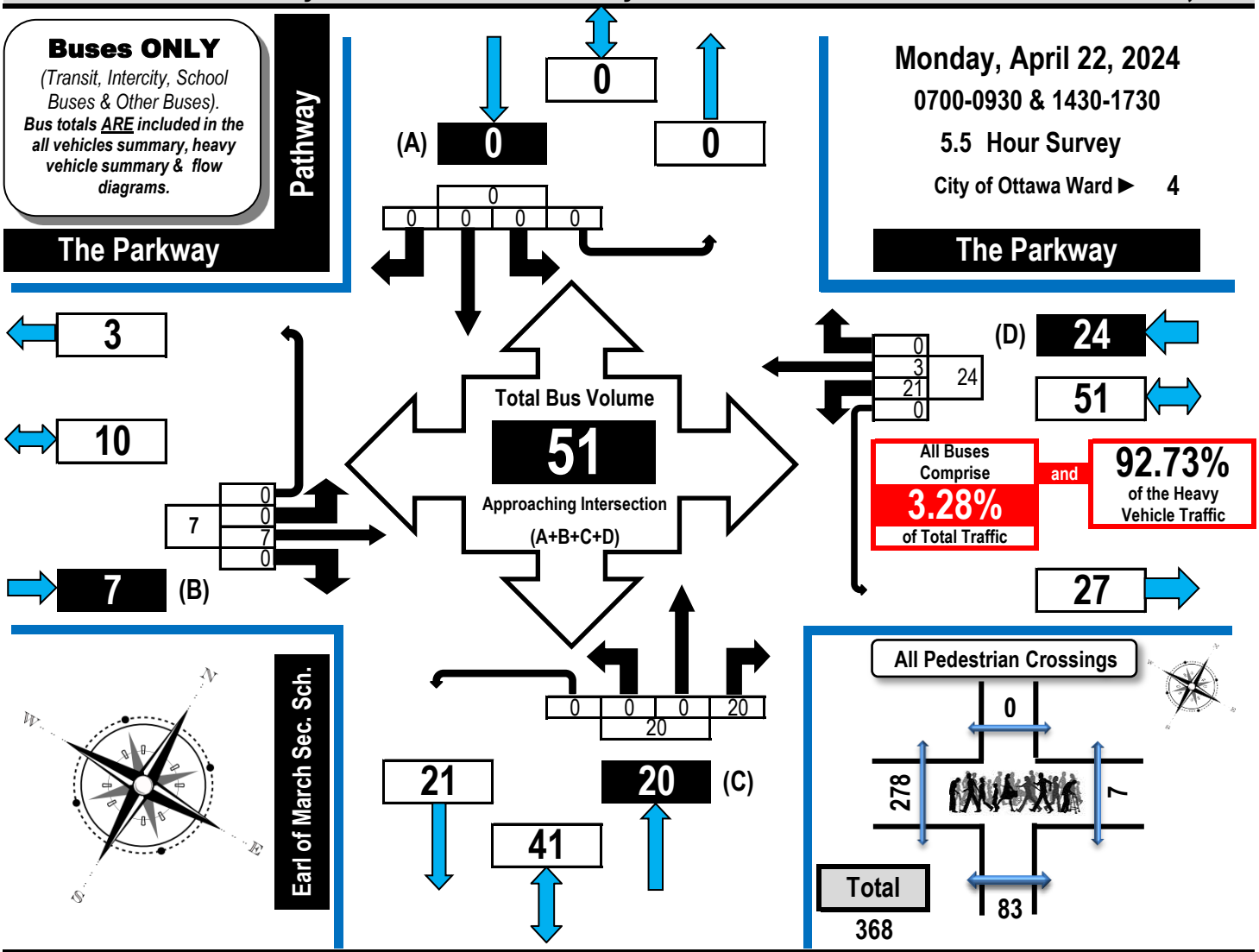
	The Parkway Eastbound					The Parkway Westbound					Earl of March Sec. Sch. Northbound					Pathway Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
0800-0900	0	2	0	0	2	11	1	0	0	12	0	0	10	0	10	0	0	0	0	0	24
0900-0930	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1430-1500	0	1	0	0	1	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	8
1500-1600	0	0	0	0	0	4	0	0	0	4	0	0	10	0	10	0	0	0	0	0	14
1600-1700	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	4
1700-1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	7	0	0	7	22	6	0	0	28	0	0	20	0	20	0	0	0	0	0	55

Turning Movement Count
All Buses Summary (FHWA Class 4 ONLY)
Flow Diagram

Earl of March Secondary School and The Parkway — Kanata, ON

Buses ONLY
(Transit, Intercity, School Buses & Other Buses).
Bus totals ARE included in the all vehicles summary, heavy vehicle summary & flow diagrams.

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ► 4



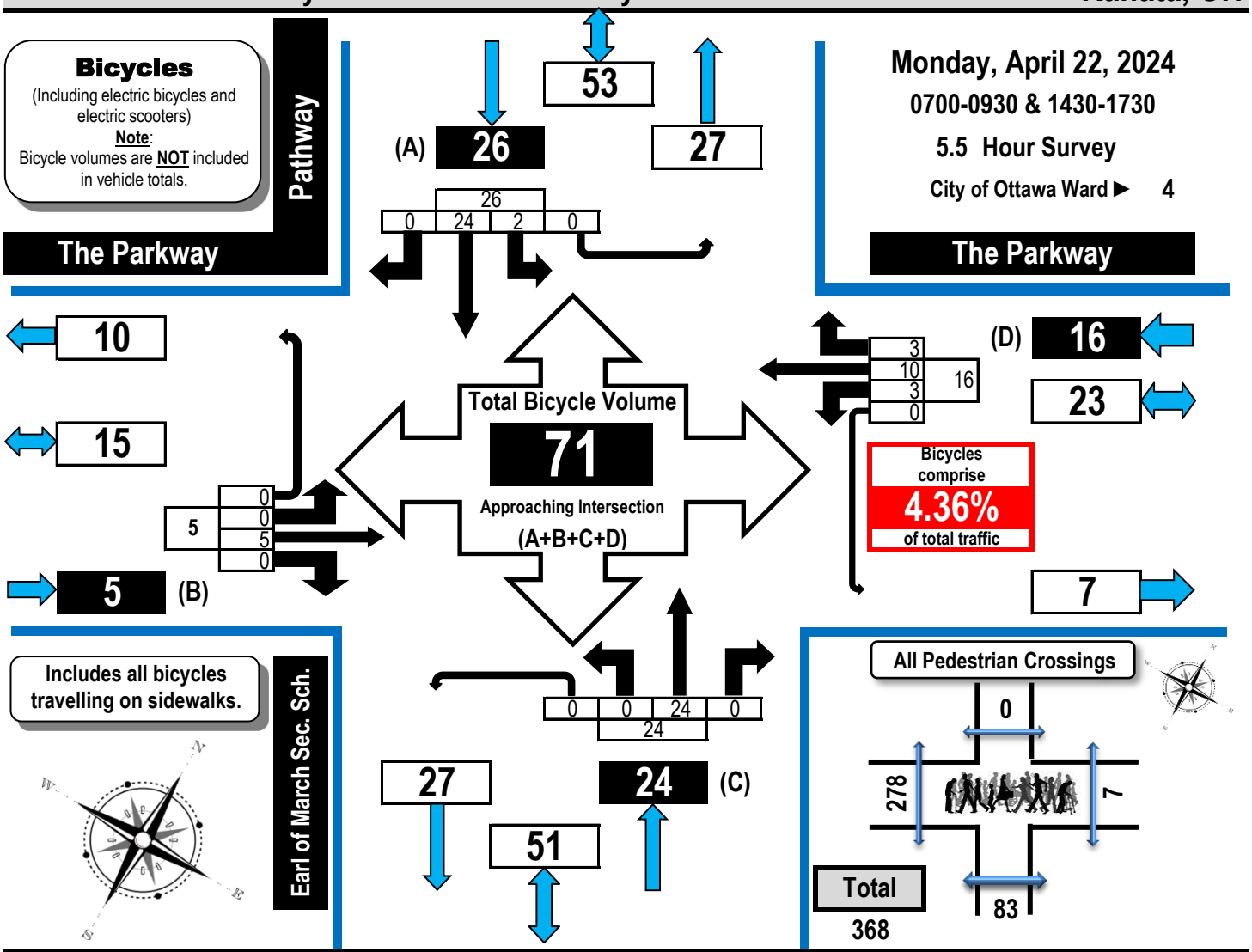
	The Parkway Eastbound					The Parkway Westbound					Earl of March Sec. Sch. Northbound					Pathway Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
0800-0900	0	2	0	0	2	10	0	0	0	10	0	0	10	0	10	0	0	0	0	0	22
0900-0930	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1430-1500	0	1	0	0	1	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	8
1500-1600	0	0	0	0	0	4	0	0	0	4	0	0	10	0	10	0	0	0	0	0	14
1600-1700	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
1700-1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	7	0	0	7	21	3	0	0	24	0	0	20	0	20	0	0	0	0	0	51

Turning Movement Count
Bicycle Summary
Flow Diagram

Earl of March Secondary School and The Parkway — Kanata, ON

Bicycles
(Including electric bicycles and electric scooters)
Note:
Bicycle volumes are **NOT** included in vehicle totals.

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ► 4



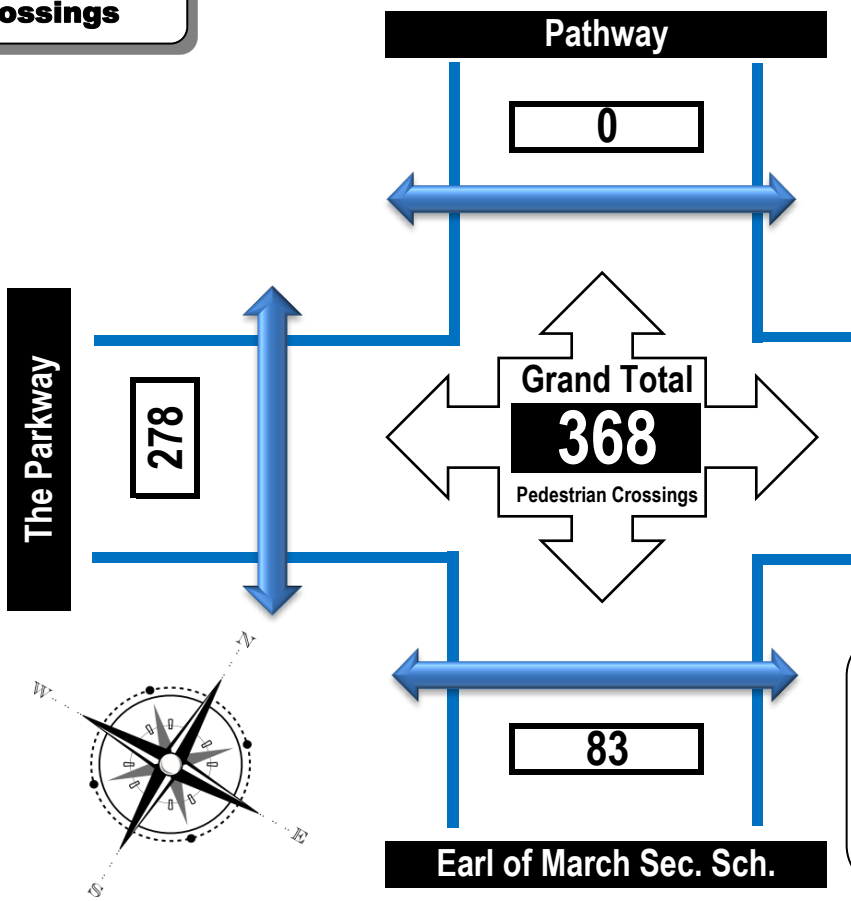
	The Parkway Eastbound					The Parkway Westbound					Earl of March Sec. Sch. Northbound					Pathway Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	2	0	0	2	5
0800-0900	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	16	0	0	16	19
0900-0930	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	3
1430-1500	0	0	0	0	0	0	3	0	0	3	0	4	0	0	4	1	2	0	0	3	10
1500-1600	0	4	0	0	4	0	2	0	0	2	0	10	0	0	10	0	0	0	0	0	16
1600-1700	0	0	0	0	0	0	5	2	0	7	0	6	0	0	6	1	2	0	0	3	16
1700-1730	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Totals	0	5	0	0	5	3	10	3	0	16	0	24	0	0	24	2	24	0	0	26	71

Turning Movement Count
Pedestrian Crossings Summary and Flow Diagram

Earl of March Secondary School and The Parkway — **Kanata, ON**

Pedestrian Crossings

Monday, April 22, 2024
0700-0930 & 1430-1730
5.5 Hour Survey
City of Ottawa Ward ► 4



Note
*The values in the summary table below and the flow diagram represent the number of pedestrian crossing**s** **NOT** the number of individual pedestrian**s** crossing. For example, some pedestrians will cross one approach, then another to reach their destination. Accordingly, one pedestrian crossing two approaches will be recorded as two crossings.*

Time Period	West Side Crossing The Parkway	East Side Crossing The Parkway	Street Total	South Side Crossing Earl of March Sec. Sch.	North Side Crossing Pathway	Street Total	Grand Total
0700-0800	14	4	18	13	0	13	31
0800-0900	93	0	93	6	0	6	99
0900-0930	8	0	8	4	0	4	12
1430-1500	64	0	64	12	0	12	76
1500-1600	58	0	58	32	0	32	90
1600-1700	28	3	31	8	0	8	39
1700-1730	13	0	13	8	0	8	21
Totals	**278**	**7**	**285**	**83**	**0**	**83**	**368**

Comments:
OC Transpo buses and school buses comprise 92.73% of the heavy vehicle traffic. The southbound approach consists solely of a bicycle/pedestrian pathway.

Appendix D:

Traffic Counts

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

Abbeyhill Drive & Castlefrank Road — Kanata, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Tuesday, September 17, 2024
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ▶ 23

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

3397

Castlefrank Rd.

(A) 1272 — 2530 — 1258
1272: 751 | 521 | 0

Abbeyhill Dr.

(D) 1051 — 2044 — 993
1051: 656 | 395 | 0

(C) 1074 — 1146 — 2220
1074: 0 | 602 | 472

All Pedestrian Crossings
0
188
Total 346
158

AM Peak Hour Flow Diagram

Pedestrian Crossings During **AM** Peak Hr.
0
N/A + 43
50

(A) 183 — 435 — 252
183: 93 | 90 | 0

(D) 187
119 | 68 | 187 | 397 | 0

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

210

0 | 133 | 120 | 253

(C) 253 — 161 — 414

Summary - AM Peak Hr.	
Peak Hr.	0815-0915
Volume	623
PHF	0.69

PM Peak Hour Flow Diagram

Pedestrian Crossings During **PM** Peak Hr.
0
N/A + 60
63

(A) 301 — 573 — 272
301: 172 | 129 | 0

(D) 233
146 | 87 | 233 | 423 | 0

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

190

0 | 126 | 61 | 187

(C) 187 — 259 — 446

Summary - PM Peak Hr.	
Peak Hr.	1515-1615
Volume	721
PHF	0.86

Turning Movement Count
Summary Report Including Peak Hours, AADT and Expansion Factors
All Vehicles Except Bicycles

Abbeyhill Drive & Castlefrank Road — Kanata, ON

Survey Date: Tuesday, September 17, 2024 **Start Time:** 0700 **AADT Factor:** 1.0
Weather AM: Partly Cloudy 17º C **Survey Duration:** 6 Hrs. **Survey Hours:** 0700-1000 & 1500-1800
Weather PM: Partly Cloudy 28º C **Surveyor(s):** J. Mousseau

	Graham Ball Soft-ball					Abbeyhill Dr.						Castlefrank Rd.					Castlefrank Rd.						
	Eastbound					Westbound						Northbound					Southbound						
Time Period	LT	ST	RT	UT	E/B Tot	LT	ST	RT	UT	W/B Tot	Street Total	LT	ST	RT	UT	N/B Tot	LT	ST	RT	UT	S/B Tot	Street Total	Grand Total
0700-0800						30		53	0	83	83		76	96	0	172	36	48		0	84	256	339
0800-0900						53		87	0	140	140		114	99	0	213	81	79		0	160	373	513
0900-1000						52		108	0	160	160		89	78	0	167	68	86		0	154	321	481
1500-1600						86		142	0	228	228		124	62	0	186	129	158		0	287	473	701
1600-1700						85		140	0	225	225		99	63	0	162	90	184		0	274	436	661
1700-1800						89		126	0	215	215		100	74	0	174	117	196		0	313	487	702
Totals						395		656	0	1051	1051		602	472	0	1074	521	751		0	1272	2346	3397

Equivalent 12 & 24-hour Vehicle Volumes Including the Annual Average Daily Traffic (AADT) Factor Applicable to the Day and Month of the Turning Movement Count

Expansion factors are applied exclusively to standard weekday 8-hour turning movement counts conducted during the hours of 0700h - 1000h, 1130h - 1330h and 1500h - 1800h

Equivalent 12-hour vehicle volumes. These volumes are calculated by multiplying the 8-hour totals by the 8 ➡12 expansion factor of 1.39

Equ. 12 Hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Average daily 12-hour vehicle volumes. These volumes are calculated by multiplying the equivalent 12-hour totals by the AADT factor of: 1.0

AADT 12-hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

24-Hour AADT. These volumes are calculated by multiplying the average daily 12-hour vehicle volumes by the 12 ➡24 expansion factor of 1.31

AADT 24 Hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

AADT and expansion factors provided by the City of Ottawa

AM Peak Hour Factor ➡ 0.69												Highest Hourly Vehicle Volume Between 0700h & 1000h											
AM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
0815-0915	0	0	0	0	0	68	0	119	0	187	187	0	133	120	0	253	90	93	0	0	183	436	623
OFF Peak Hour Factor ➡ N/A												Highest Hourly Vehicle Volume Between 1130h & 1330h											
OFF Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak Hour Factor ➡ 0.86												Highest Hourly Vehicle Volume Between 1500h & 1800h											
PM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
1515-1615	0	0	0	0	0	87	0	146	0	233	233	0	126	61	0	187	129	172	0	0	301	488	721

Comments:

OC Transpo and Para Transpo buses and school buses comprise 77.98% of the heavy vehicle traffic. This location operates as a 4-way intersection for cyclists as some use a well-worn pathway on the west side of Castlefrank Road to access the Graham Ball Soft-ball Diamond. A school crossing guard is on duty during the morning and afternoon peak school time periods.

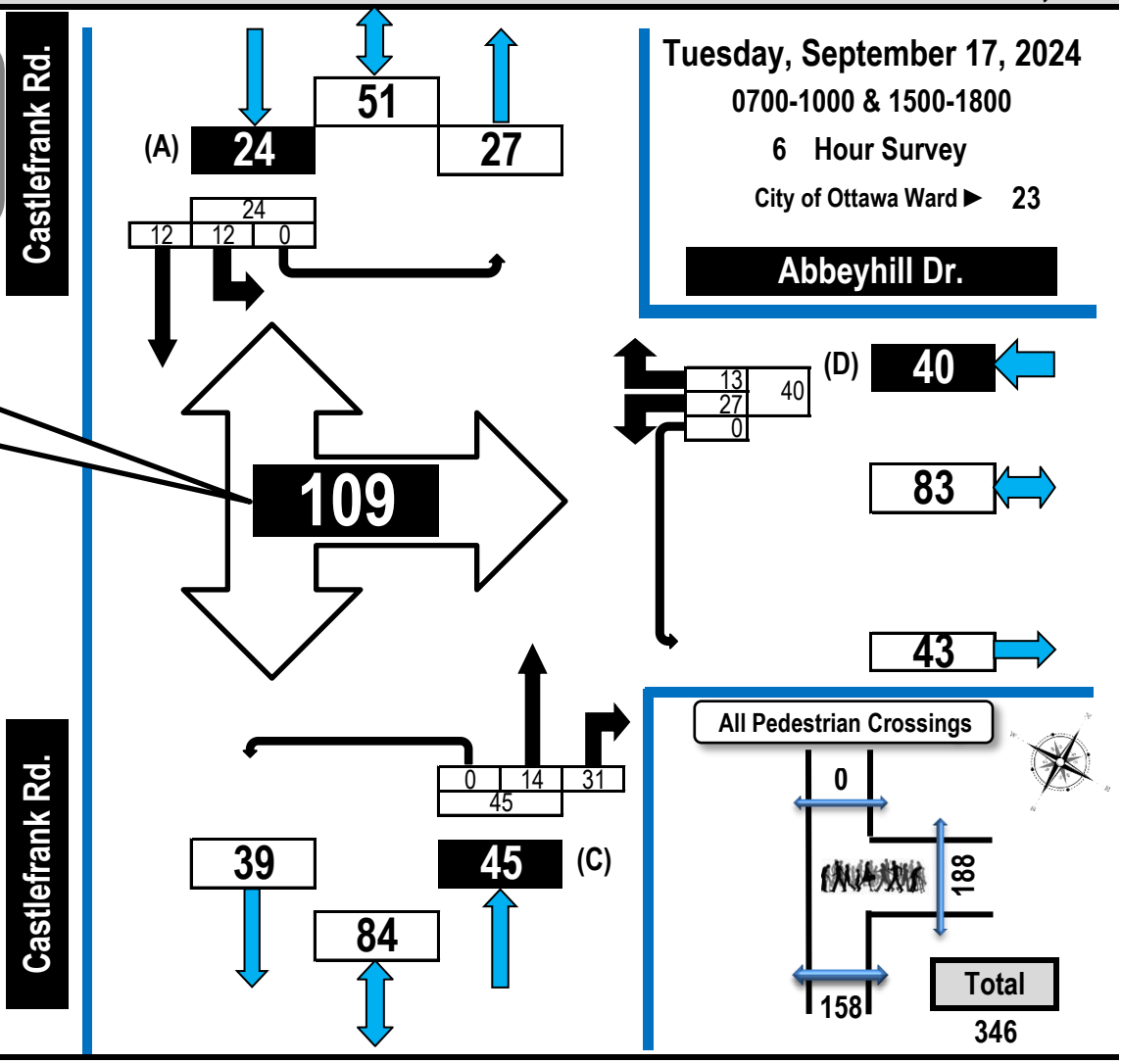
Notes:

1. Includes all vehicle types except bicycles, electric bicycles, and electric scooters.
2. When expansion and AADT factors are applied, the results will differ slightly due to rounding.

Turning Movement Count
Heavy Vehicle Summary (FHWA Class 4 to 13)
Flow Diagram

Abbeyhill Drive & Castlefrank Road — Kanata, ON

Heavy Vehicles
(Construction Vehicles, Heavy Trucks, Buses & School Buses).
Heavy vehicle totals ARE included in the all vehicles summary and flow diagrams.



	Graham Ball Soft-ball					Abbeyhill Dr.					Castlefrank Rd.					Castlefrank Rd.					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800						3		1	0	4		3	3	0	6	0	1		0	1	11
0800-0900						3		2	0	5		3	6	0	9	3	1		0	4	18
0900-1000						2		8	0	10		1	14	0	15	1	1		0	2	27
1500-1600						14		1	0	15		3	2	0	5	8	3		0	11	31
1600-1700						2		1	0	3		3	4	0	7	0	4		0	4	14
1700-1800						3		0	0	3		1	2	0	3	0	2		0	2	8
Totals						27		13	0	40		14	31	0	45	12	12		0	24	109

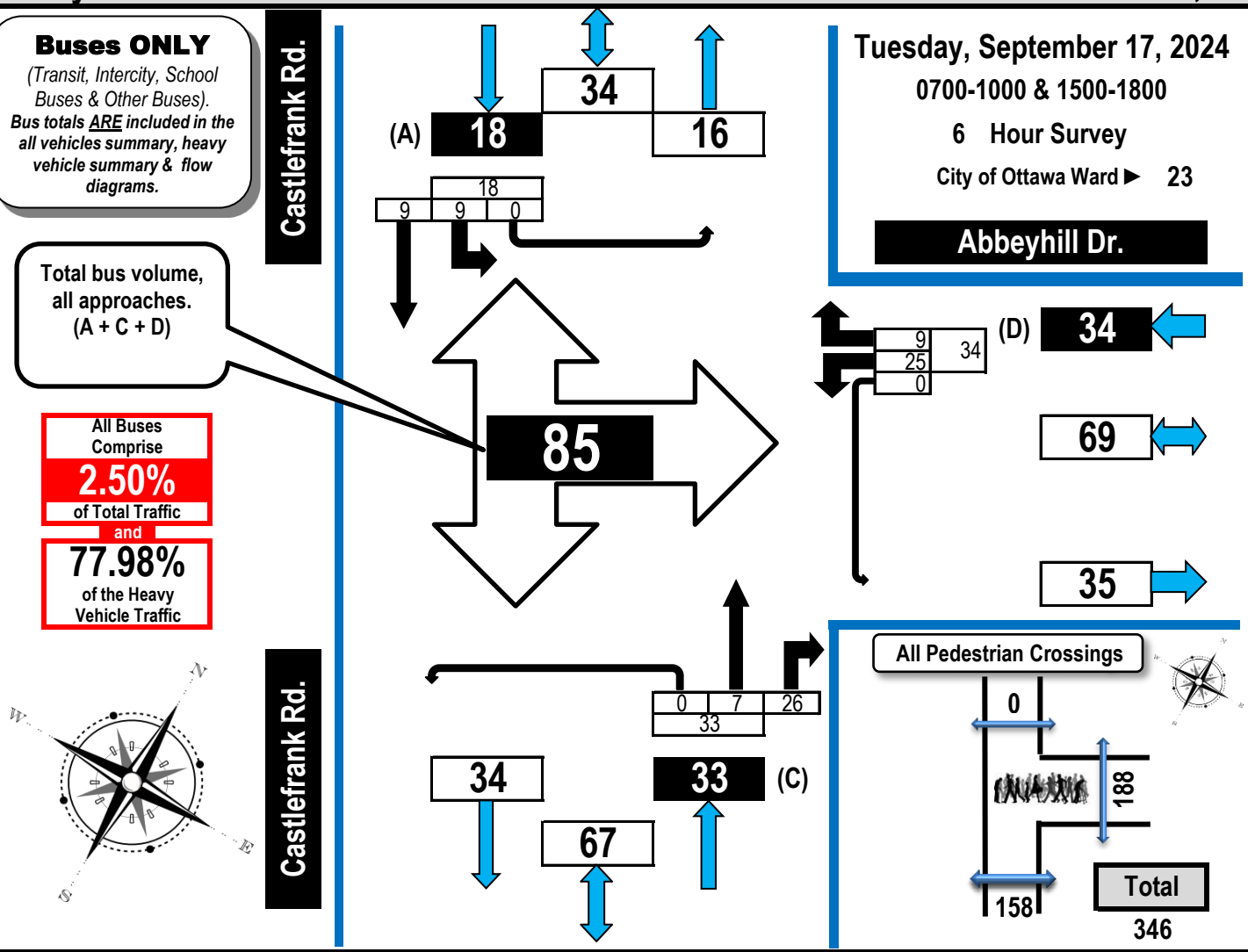
Comments:

OC Transpo and Para Transpo buses and school buses comprise 77.98% of the heavy vehicle traffic. This location operates as a 4-way intersection for cyclists as some use a well-worn pathway on the west side of Castlefrank Road to access the Graham Ball Soft-ball Diamond. A school crossing guard is on duty during the morning and afternoon peak school time periods.

Turning Movement Count
All Buses Summary (FHWA Class 4 ONLY)
Flow Diagram

Abbeyhill Drive & Castlefrank Road — Kanata, ON

Buses ONLY
(Transit, Intercity, School Buses & Other Buses).
Bus totals ARE included in the all vehicles summary, heavy vehicle summary & flow diagrams.



	Graham Ball Soft-ball					Abbeyhill Dr.					Castlefrank Rd.					Castlefrank Rd.					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800						2		0	0	2		3	3	0	6	0	1		0	1	9
0800-0900						3		1	0	4		2	6	0	8	1	1		0	2	14
0900-1000						2		6	0	8		0	11	0	11	0	0		0	0	19
1500-1600						14		1	0	15		2	2	0	4	8	3		0	11	30
1600-1700						1		1	0	2		0	2	0	2	0	2		0	2	6
1700-1800						3		0	0	3		0	2	0	2	0	2		0	2	7
Totals						25		9	0	34		7	26	0	33	9	9		0	18	85

Comments:

OC Transpo and Para Transpo buses and school buses comprise 77.98% of the heavy vehicle traffic. This location operates as a 4-way intersection for cyclists as some use a well-worn pathway on the west side of Castlefrank Road to access the Graham Ball Soft-ball Diamond. A school crossing guard is on duty during the morning and afternoon peak school time periods.

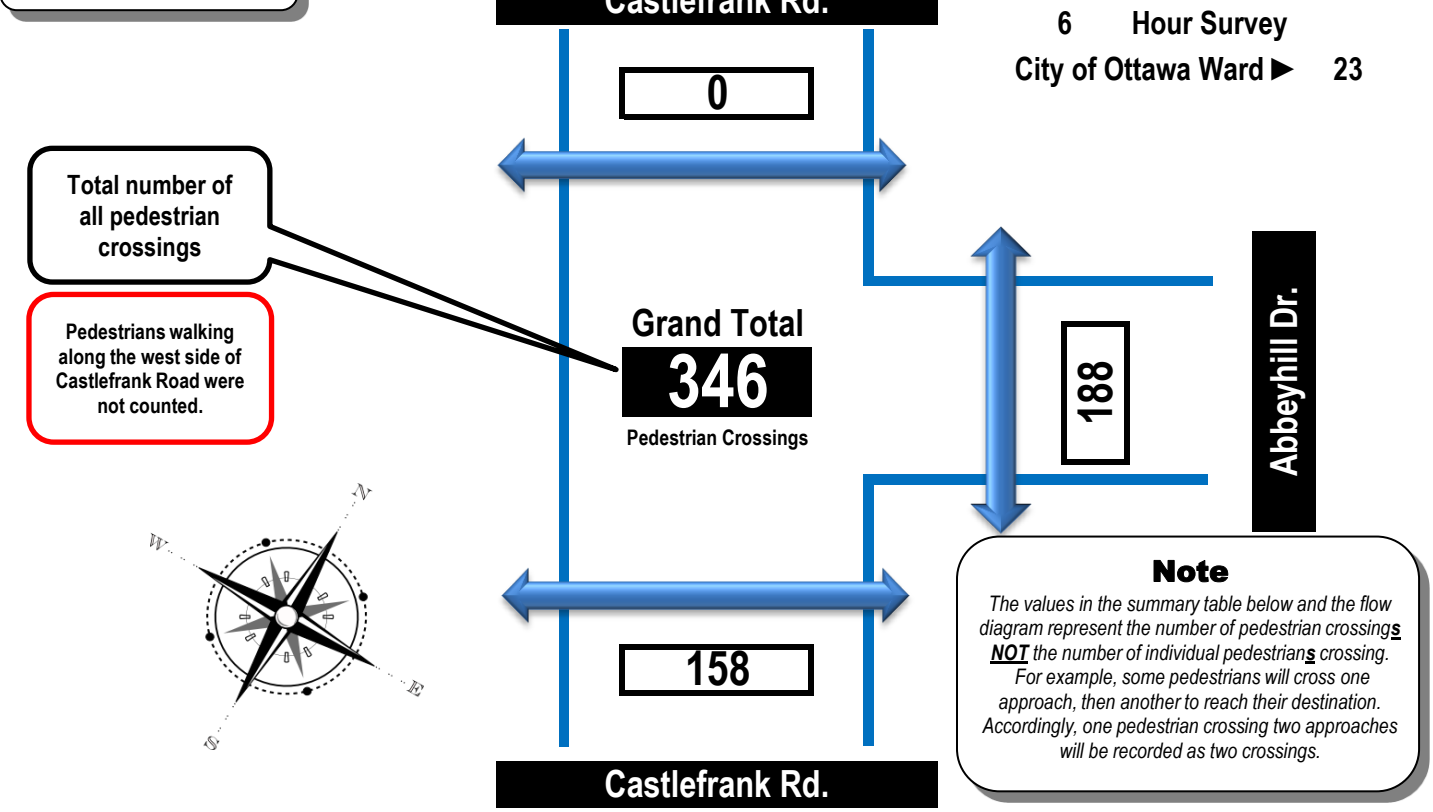
Turning Movement Count

Pedestrian Crossings Summary and Flow Diagram

Abbeyhill Drive & Castlefrank Road — Kanata, ON

Pedestrian Crossings

Tuesday, September 17, 2024
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► 23



Note

*The values in the summary table below and the flow diagram represent the number of pedestrian crossing**s** **NOT** the number of individual pedestrian**s** crossing. For example, some pedestrians will cross one approach, then another to reach their destination. Accordingly, one pedestrian crossing two approaches will be recorded as two crossings.*

Time Period	West Side Crossing Graham Ball Soft-ball	East Side Crossing Abbeyhill Dr.	Street Total	South Side Crossing Castlefrank Rd.	North Side Crossing Castlefrank Rd.	Street Total	Grand Total
0700-0800		6	6	7	0	7	13
0800-0900		43	43	31	0	31	74
0900-1000		22	22	25	0	25	47
1500-1600		83	83	70	0	70	153
1600-1700		21	21	13	0	13	34
1700-1800		13	13	12	0	12	25
Totals		**188**	**188**	**158**	**0**	**158**	**346**

Comments:
OC Transpo and Para Transpo buses and school buses comprise 77.98% of the heavy vehicle traffic. This location operates as a 4-way intersection for cyclists as some use a well-worn pathway on the west side of Castlefrank Road to access the Graham Ball Soft-ball Diamond. A school crossing guard is on duty during the morning and afternoon peak school time periods.

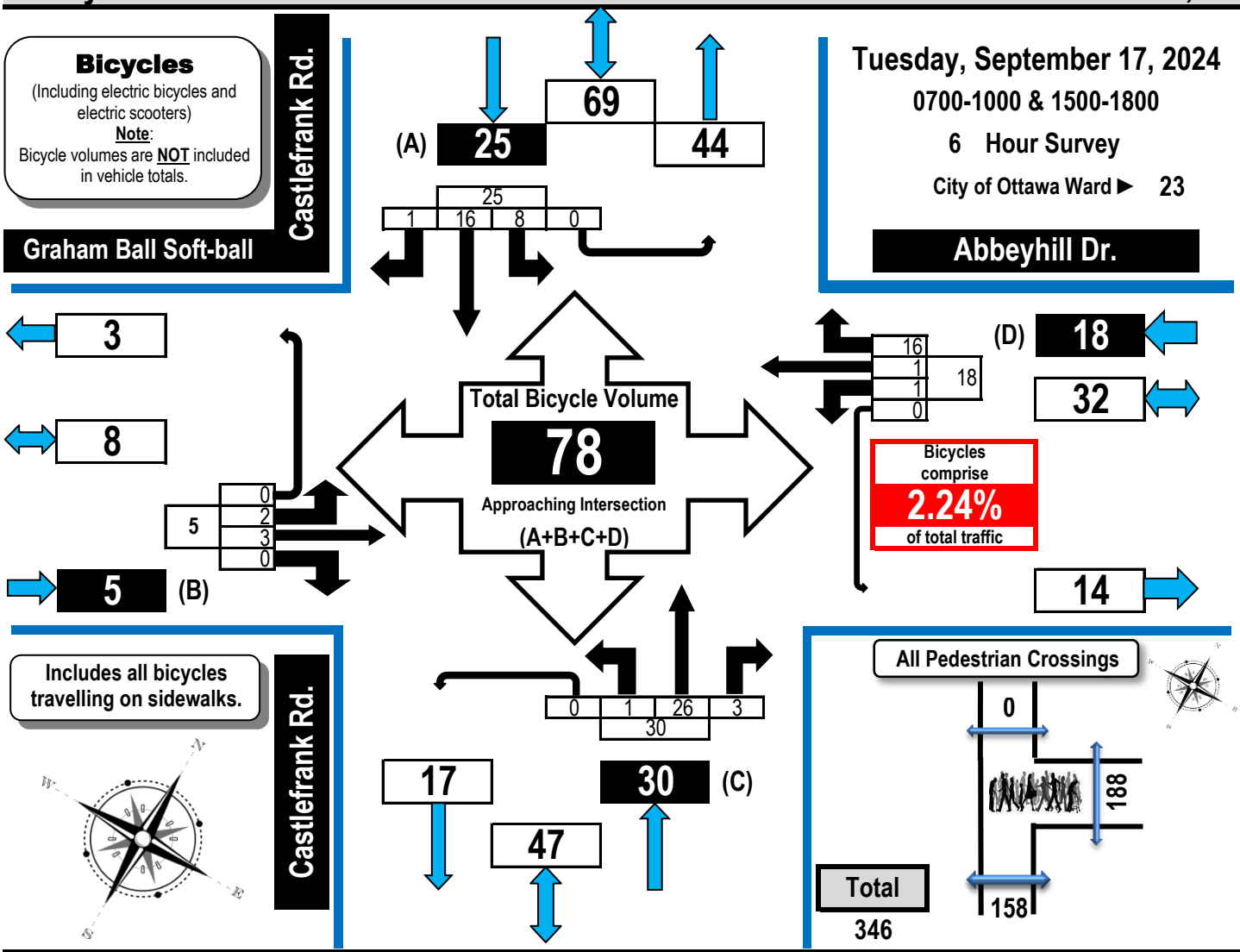
ACCURATE TRUSTED TRAFFIC DATA

Turning Movement Count
Bicycle Summary
Flow Diagram

Abbeyhill Drive & Castlefrank Road — Kanata, ON

Bicycles
(Including electric bicycles and electric scooters)
Note:
Bicycle volumes are **NOT** included in vehicle totals.

Tuesday, September 17, 2024
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► 23



	Graham Ball Soft-ball					Abbeyhill Dr.					Castlefrank Rd.					Castlefrank Rd.					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800	0	0	0	0	0	0	0	2	0	2	0	4	0	0	4	3	5	1	0	9	15
0800-0900	2	0	0	0	2	0	0	0	0	0	0	8	1	0	9	2	1	0	0	3	14
0900-1000	0	0	0	0	0	0	0	2	0	2	0	1	0	0	1	1	1	0	0	2	5
1500-1600	0	0	0	0	0	1	1	6	0	8	0	5	0	0	5	0	0	0	0	0	13
1600-1700	0	1	0	0	1	0	0	4	0	4	1	7	0	0	8	2	5	0	0	7	20
1700-1800	0	2	0	0	2	0	0	2	0	2	0	1	2	0	3	0	4	0	0	4	11
Totals	**2**	**3**	**0**	**0**	**5**	**1**	**1**	**16**	**0**	**18**	**1**	**26**	**3**	**0**	**30**	**8**	**16**	**1**	**0**	**25**	**78**

Comments:

OC Transpo and Para Transpo buses and school buses comprise 77.98% of the heavy vehicle traffic. This location operates as a 4-way intersection for cyclists as some use a well-worn pathway on the west side of Castlefrank Road to access the Graham Ball Soft-ball Diamond. A school crossing guard is on duty during the morning and afternoon peak school time periods.

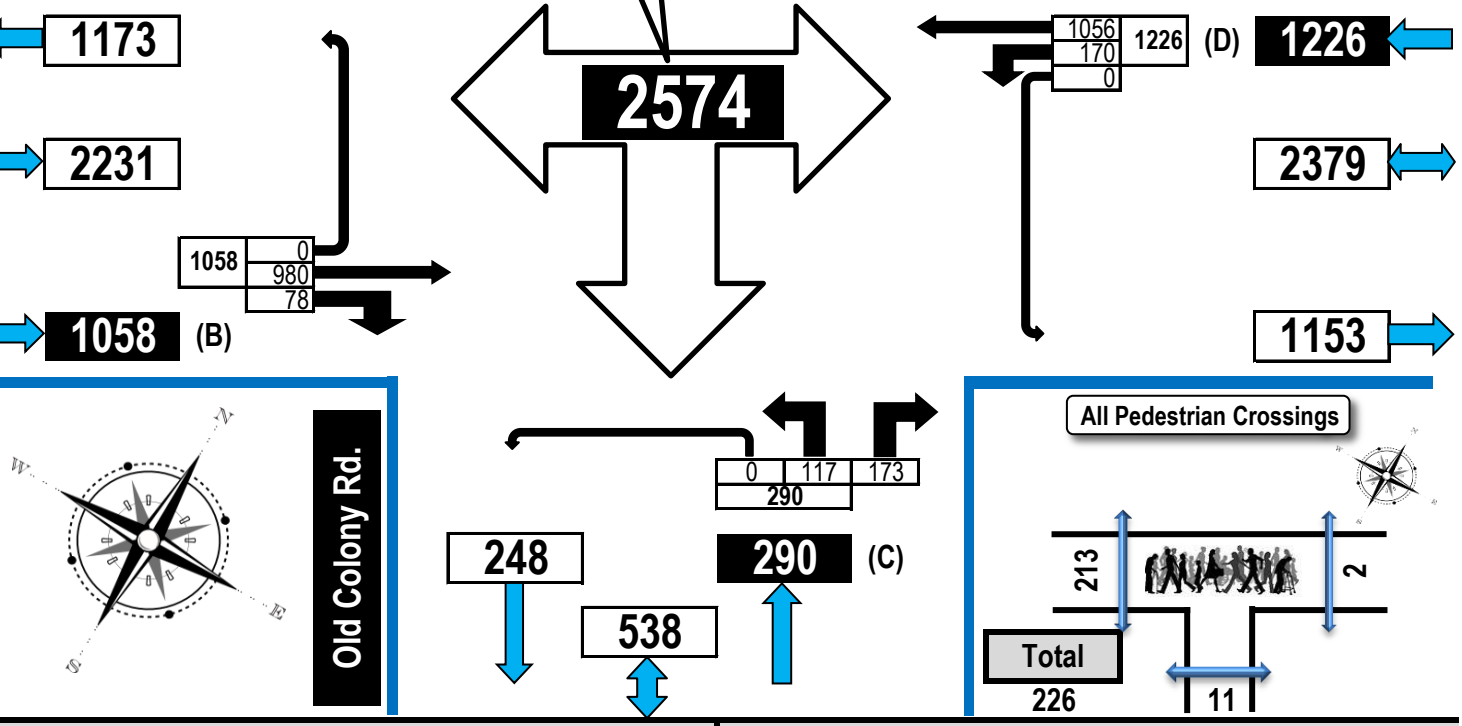
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams
All Vehicles Except Bicycles

Abbeyhill Drive & Old Colony Road — Kanata, ON

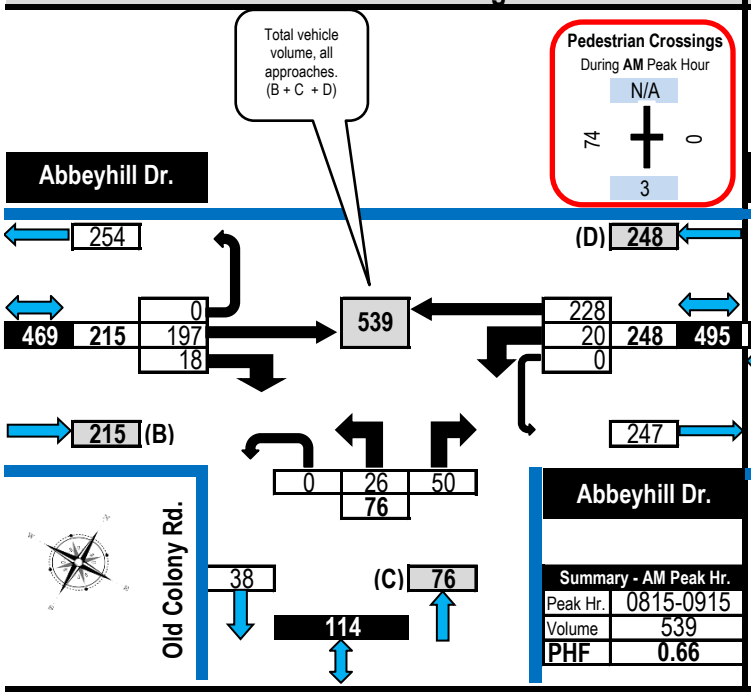
All Vehicles
(Except Bicycles & Electric Scooters)

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

Tuesday, September 17, 2024
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ▶ 23

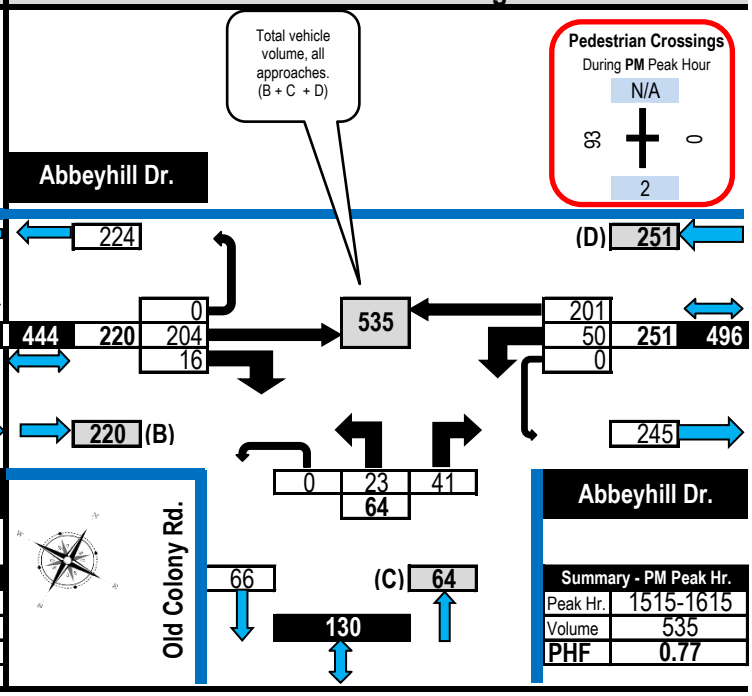


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0815-0915
Volume	539
PHF	0.66

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1515-1615
Volume	535
PHF	0.77

Turning Movement Count
Summary Report Including Peak Hours, AADT and Expansion Factors
All Vehicles Except Bicycles

Abbeyhill Drive & Old Colony Road — Kanata, ON

Survey Date: Tuesday, September 17, 2024 **Start Time:** 0700 **AADT Factor:** 1.0

Weather AM: Partly Cloudy 17º C **Survey Duration:** 6 Hrs. **Survey Hours:** 0700-1000 & 1500-1800

Weather PM: Partly Cloudy 28º C **Surveyor(s):** J. Mousseau

	Abbeyhill Dr. Eastbound					Abbeyhill Dr. Westbound						Old Colony Rd. Northbound					N/A Southbound						
Time Period	LT	ST	RT	UT	E/B Tot	LT	ST	RT	UT	W/B Tot	Street Total	LT	ST	RT	UT	N/B Tot	LT	ST	RT	UT	S/B Tot	Street Total	Grand Total
0700-0800		151	5	0	**156**	5	93		0	**98**	**254**	16		31	0	**47**						**47**	**301**
0800-0900		153	14	0	**167**	10	173		0	**183**	**350**	21		41	0	**62**						**62**	**412**
0900-1000		163	12	0	**175**	26	153		0	**179**	**354**	17		31	0	**48**						**48**	**402**
1500-1600		203	18	0	**221**	44	200		0	**244**	**465**	23		40	0	**63**						**63**	**528**
1600-1700		150	14	0	**164**	44	210		0	**254**	**418**	20		15	0	**35**						**35**	**453**
1700-1800		160	15	0	**175**	41	227		0	**268**	**443**	20		15	0	**35**						**35**	**478**
Totals		**980**	**78**	**0**	**1058**	**170**	**1056**		**0**	**1226**	**2284**	**117**		**173**	**0**	**290**						**290**	**2574**

Equivalent 12 & 24-hour Vehicle Volumes Including the Annual Average Daily Traffic (AADT) Factor Applicable to the Day and Month of the Turning Movement Count

Expansion factors are applied exclusively to standard weekday 8-hour turning movement counts conducted during the hours of 0700h - 1000h, 1130h - 1330h and 1500h - 1800h

Equivalent 12-hour vehicle volumes. These volumes are calculated by multiplying the 8-hour totals by the 8 ➡12 expansion factor of 1.39

Equ. 12 Hr	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	n/a	**n/a**	**n/a**	**n/a**

Average daily 12-hour vehicle volumes. These volumes are calculated by multiplying the equivalent 12-hour totals by the AADT factor of: 1.0

AADT 12-hr	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	n/a	**n/a**	**n/a**	**n/a**

24-Hour AADT. These volumes are calculated by multiplying the average daily 12-hour vehicle volumes by the 12 ➡24 expansion factor of 1.31

AADT 24 Hr	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	n/a	**n/a**	**n/a**	n/a	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	n/a	**n/a**	**n/a**	**n/a**

AADT and expansion factors provided by the City of Ottawa

AM Peak Hour Factor ➡ 0.66												Highest Hourly Vehicle Volume Between 0700h & 1000h											
AM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
0815-0915	0	197	18	0	**215**	20	228	0	0	**248**	**463**	26	0	50	0	**76**	0	0	0	0	**0**	**76**	**539**
OFF Peak Hour Factor ➡ N/A												Highest Hourly Vehicle Volume Between 1130h & 1330h											
OFF Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
N/A	0	0	0	0	**0**	0	0	0	0	**0**	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**	**0**
PM Peak Hour Factor ➡ 0.77												Highest Hourly Vehicle Volume Between 1500h & 1800h											
PM Peak Hr	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	LT	ST	RT	UT	Total	LT	ST	RT	UT	Total	Str. Tot.	Gr. Tot.
1515-1615	0	204	16	0	**220**	50	201	0	0	**251**	**471**	23	0	41	0	**64**	0	0	0	0	**0**	**64**	**535**

Comments:

OC Transpo and Para Transpo buses and school buses comprise 84.21% of the heavy vehicle traffic.

Notes:

1. Includes all vehicle types except bicycles, electric bicycles, and electric scooters.
2. When expansion and AADT factors are applied, the results will differ slightly due to rounding.

Turning Movement Count
Heavy Vehicle Summary (FHWA Class 4 to 13)
Flow Diagram

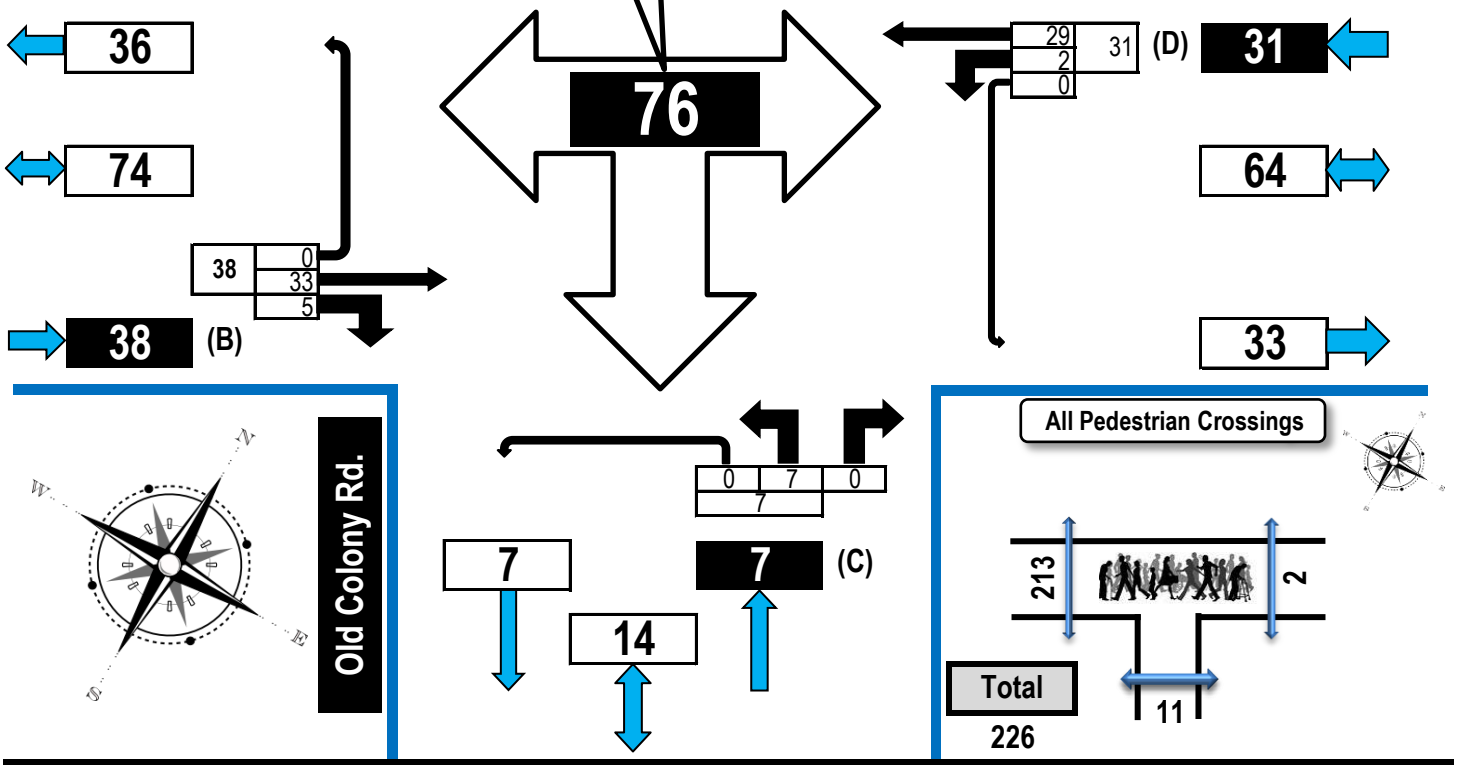
Abbeyhill Drive & Old Colony Road — Kanata, ON

Heavy Vehicles
(Construction Vehicles, Heavy Trucks, Buses & School Buses).
Heavy vehicle totals ARE included in the all vehicles summary and flow diagrams.

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

Heavy Vehicles Comprise **2.95%** of Total Traffic

Tuesday, September 17, 2024
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► 23



	Abbeyhill Dr.					Abbeyhill Dr.					Old Colony Rd.					N/A					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800		2	1	0	3	0	5		0	5	0		0	0	0						8
0800-0900		10	3	0	13	0	4		0	4	1		0	0	1						18
0900-1000		9	0	0	9	1	6		0	7	0		0	0	0						16
1500-1600		5	1	0	6	1	8		0	9	4		0	0	4						19
1600-1700		4	0	0	4	0	3		0	3	2		0	0	2						9
1700-1800		3	0	0	3	0	3		0	3	0		0	0	0						6
Totals		33	5	0	38	2	29		0	31	7		0	0	7						76

Comments:
OC Transpo and Para Transpo buses and school buses comprise 84.21% of the heavy vehicle traffic.

Turning Movement Count
All Buses Summary (FHWA Class 4 ONLY)
Flow Diagram

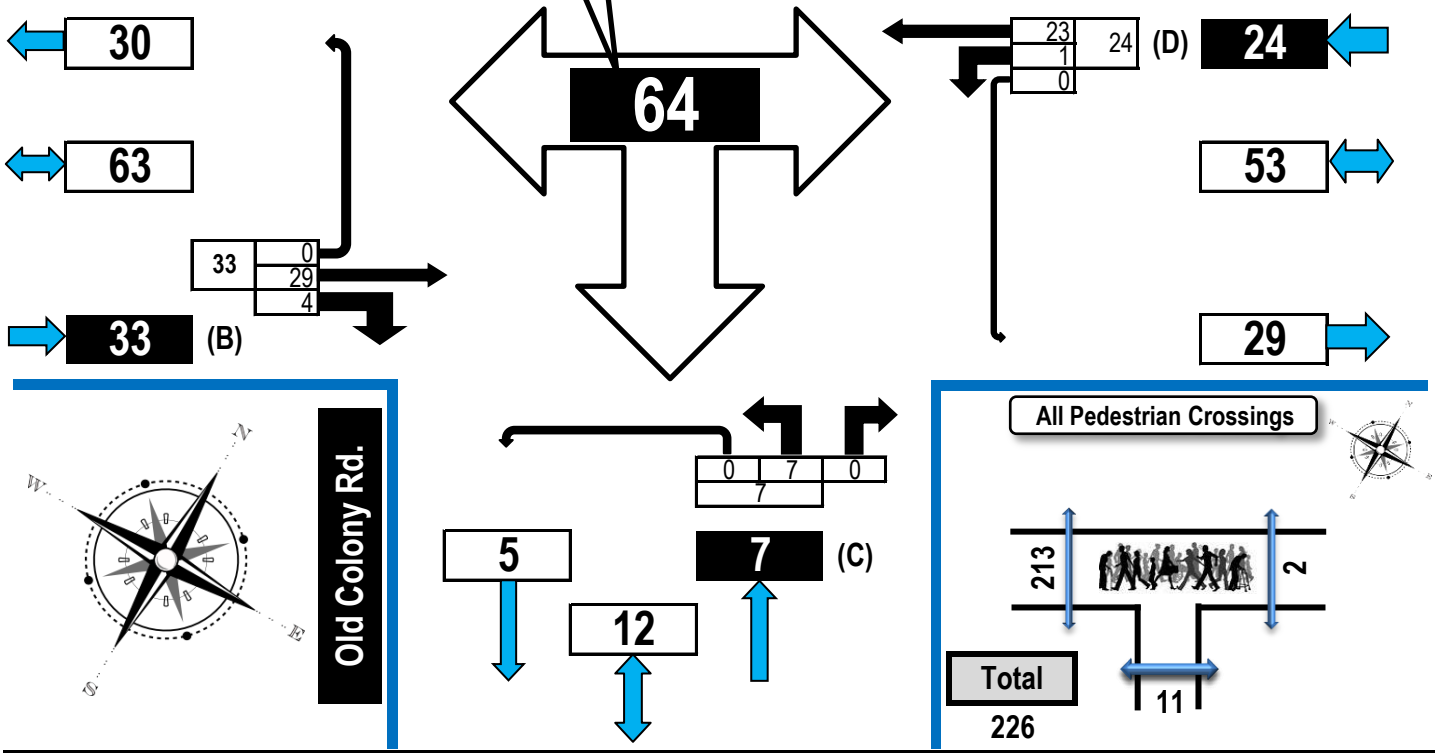
Abbeyhill Drive & Old Colony Road — Kanata, ON

Buses ONLY
(Transit, Intercity, School Buses & Other Buses).
Bus totals ARE included in the all vehicles summary, heavy vehicle summary & flow diagrams.

Total bus volume, all approaches. (B + C + D)

All Buses Comprise **2.49%** of Total Traffic and **84.21%** of the Heavy Vehicle Traffic

Tuesday, September 17, 2024
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► 23



	Abbeyhill Dr.					Abbeyhill Dr.					Old Colony Rd.					N/A					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800		2	1	0	3	0	2		0	2	0		0	0	0						5
0800-0900		8	2	0	10	0	4		0	4	1		0	0	1						15
0900-1000		8	0	0	8	0	5		0	5	0		0	0	0						13
1500-1600		5	1	0	6	1	7		0	8	4		0	0	4						18
1600-1700		4	0	0	4	0	3		0	3	2		0	0	2						9
1700-1800		2	0	0	2	0	2		0	2	0		0	0	0						4
Totals		29	4	0	33	1	23		0	24	7		0	0	7						64

Comments:
OC Transpo and Para Transpo buses and school buses comprise 84.21% of the heavy vehicle traffic.

Turning Movement Count
Bicycle Summary
Flow Diagram

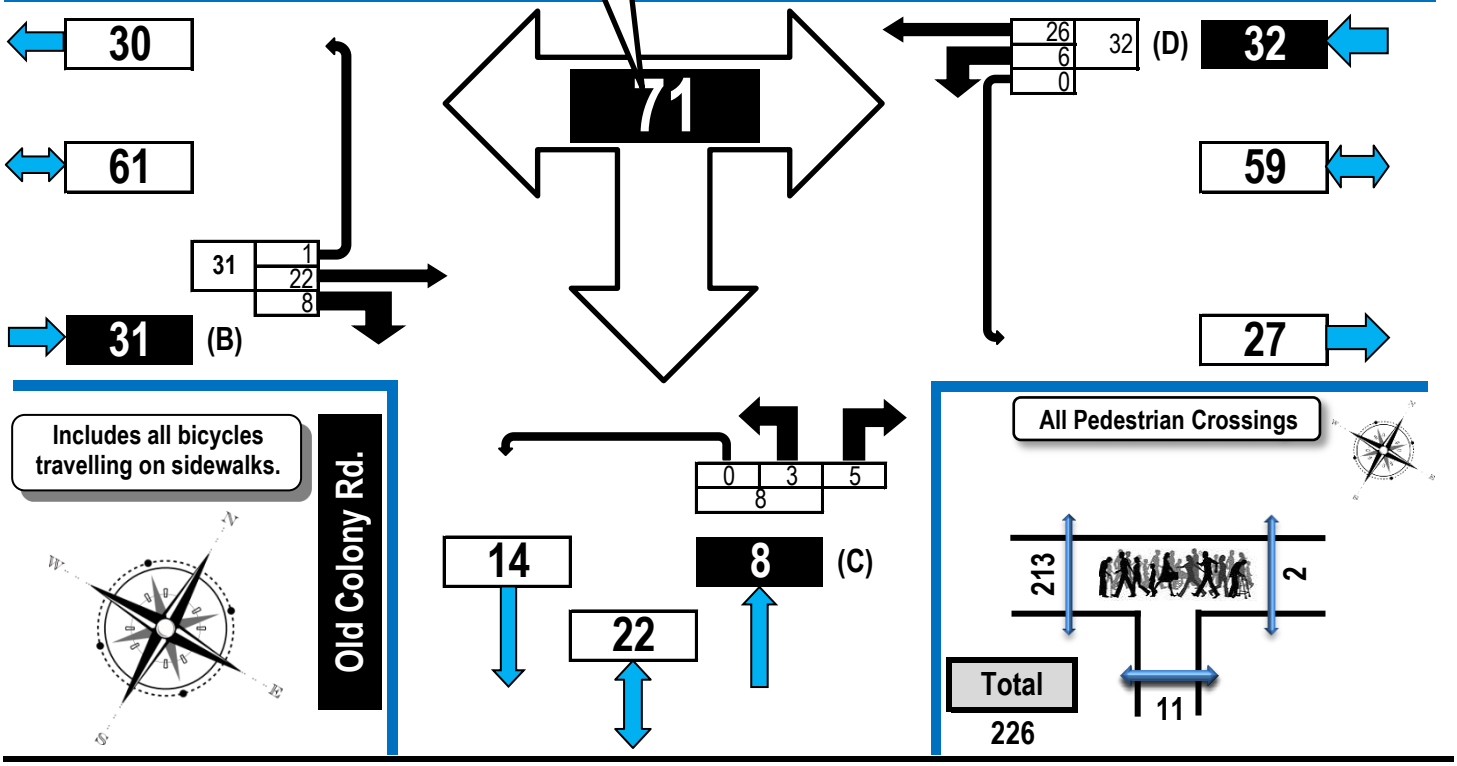
Abbeyhill Drive & Old Colony Road — Kanata, ON

Bicycles
(Including electric bicycles and electric scooters)
Note:
Bicycle volumes are **NOT** included in vehicle totals.

Total bicycle volume, all approaches. (B + C + D)

Bicycles comprise **2.68%** of total traffic

Tuesday, September 17, 2024
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► 23



	Abbeyhill Dr.					Abbeyhill Dr.					Old Colony Rd.					N/A					
	Eastbound					Westbound					Northbound					Southbound					
Time Period	LT	ST	RT	UT	EB Tot	LT	ST	RT	UT	WB Tot	LT	ST	RT	UT	NB Tot	LT	ST	RT	UT	SB Tot	GR Tot
0700-0800		2	1	0	3	3	3		0	6	0		1	0	1						10
0800-0900		0	0	0	0	1	8		0	9	0		0	0	0						9
0900-1000		0	0	0	0	0	6		0	6	2		0	0	2						8
1500-1600		12	2	1	15	1	3		0	4	0		3	0	3						22
1600-1700		6	1	0	7	1	3		0	4	0		0	0	0						11
1700-1800		2	4	0	6	0	3		0	3	1		1	0	2						11
Totals		22	8	1	31	6	26		0	32	3		5	0	8						71

Comments:
OC Transpo and Para Transpo buses and school buses comprise 84.21% of the heavy vehicle traffic.

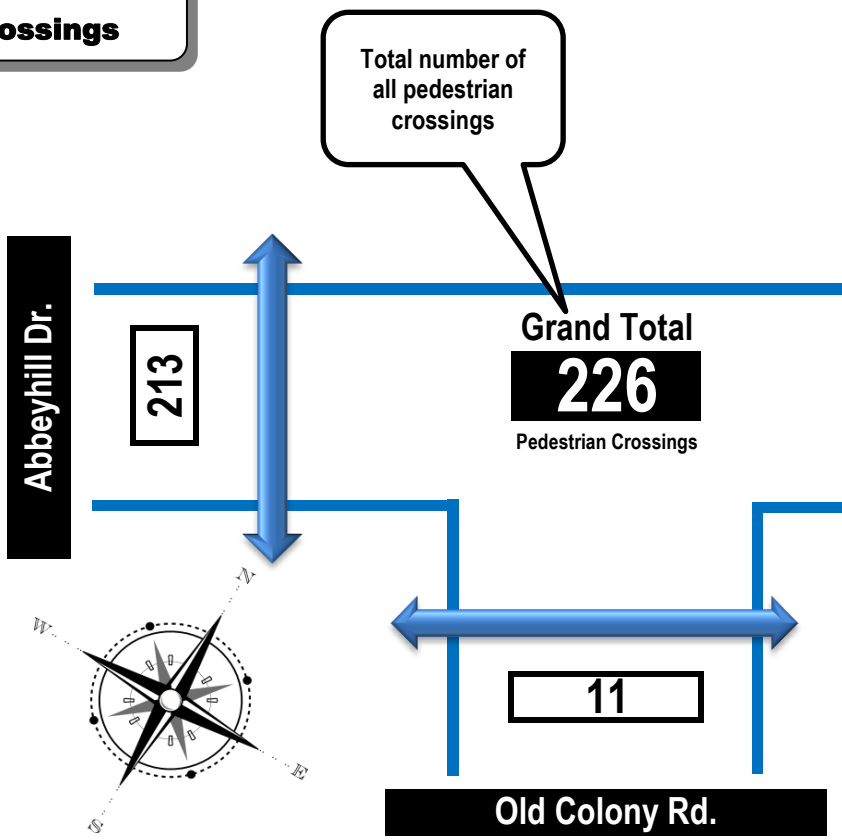
Turning Movement Count

Pedestrian Crossings Summary and Flow Diagram

Abbeyhill Drive & Old Colony Road — Kanata, ON

Pedestrian Crossings

Tuesday, September 17, 2024
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► 23



Note

*The values in the summary table below and the flow diagram represent the number of pedestrian crossing**s** **NOT** the number of individual pedestrian**s** crossing. For example, some pedestrians will cross one approach, then another to reach their destination. Accordingly, one pedestrian crossing two approaches will be recorded as two crossings.*

Time Period	West Side Crossing Abbeyhill Dr.	East Side Crossing Abbeyhill Dr.	Street Total	South Side Crossing Old Colony Rd.	North Side Crossing N/A	Street Total	Grand Total
0700-0800	4	0	4	1		1	5
0800-0900	65	0	65	1		1	66
0900-1000	24	0	24	5		5	29
1500-1600	95	0	95	2		2	97
1600-1700	21	1	22	2		2	24
1700-1800	4	1	5	0		0	5
Totals	**213**	**2**	**215**	**11**		**11**	**226**

Comments:
OC Transpo and Para Transpo buses and school buses comprise 84.21% of the heavy vehicle traffic.

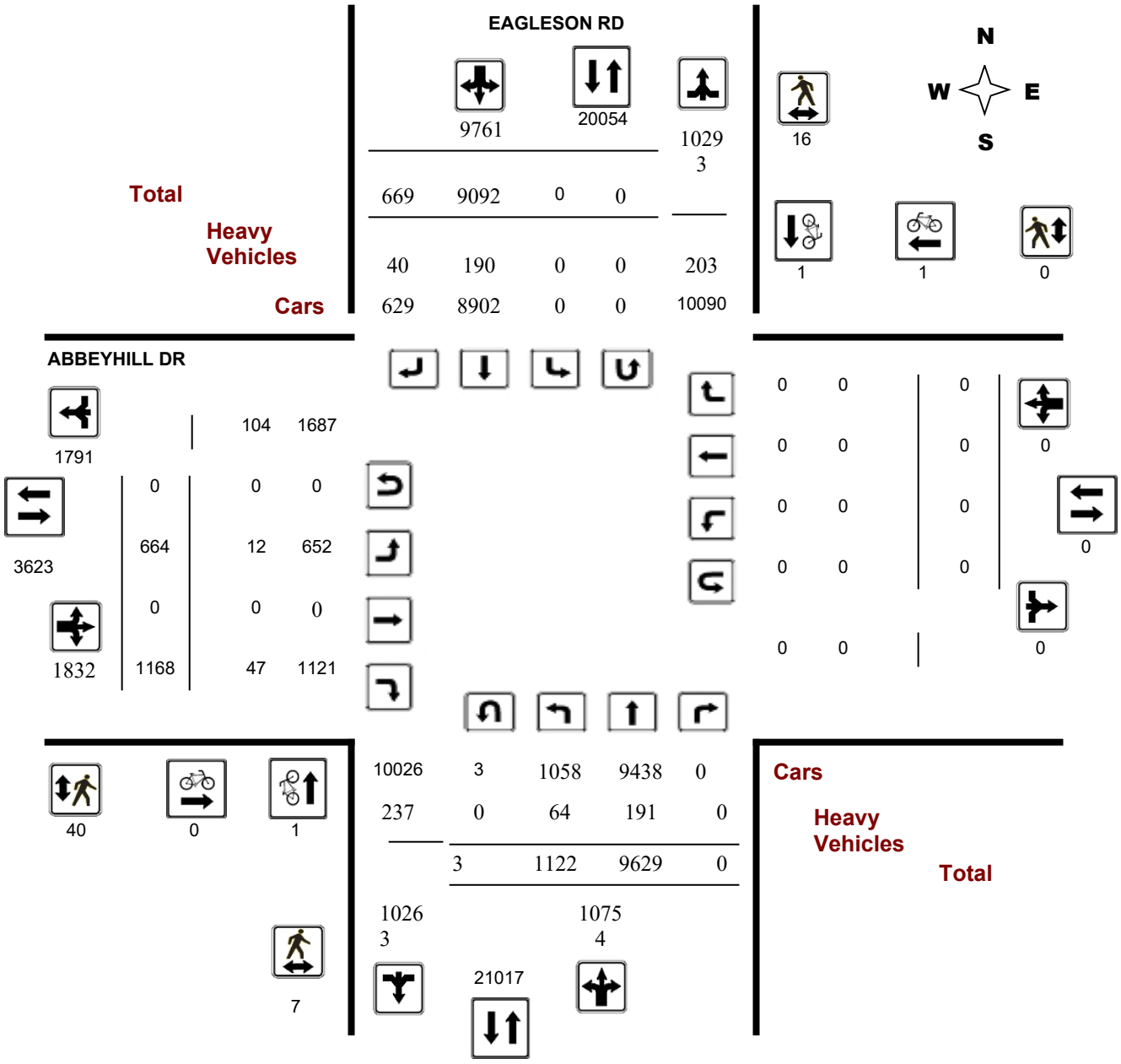
Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020
Start Time: 07:00
WO No: 39416
Device: Miovision

Full Study Diagram



5473148 - THU JAN 30, 2020 - 8HRS - LORETTA

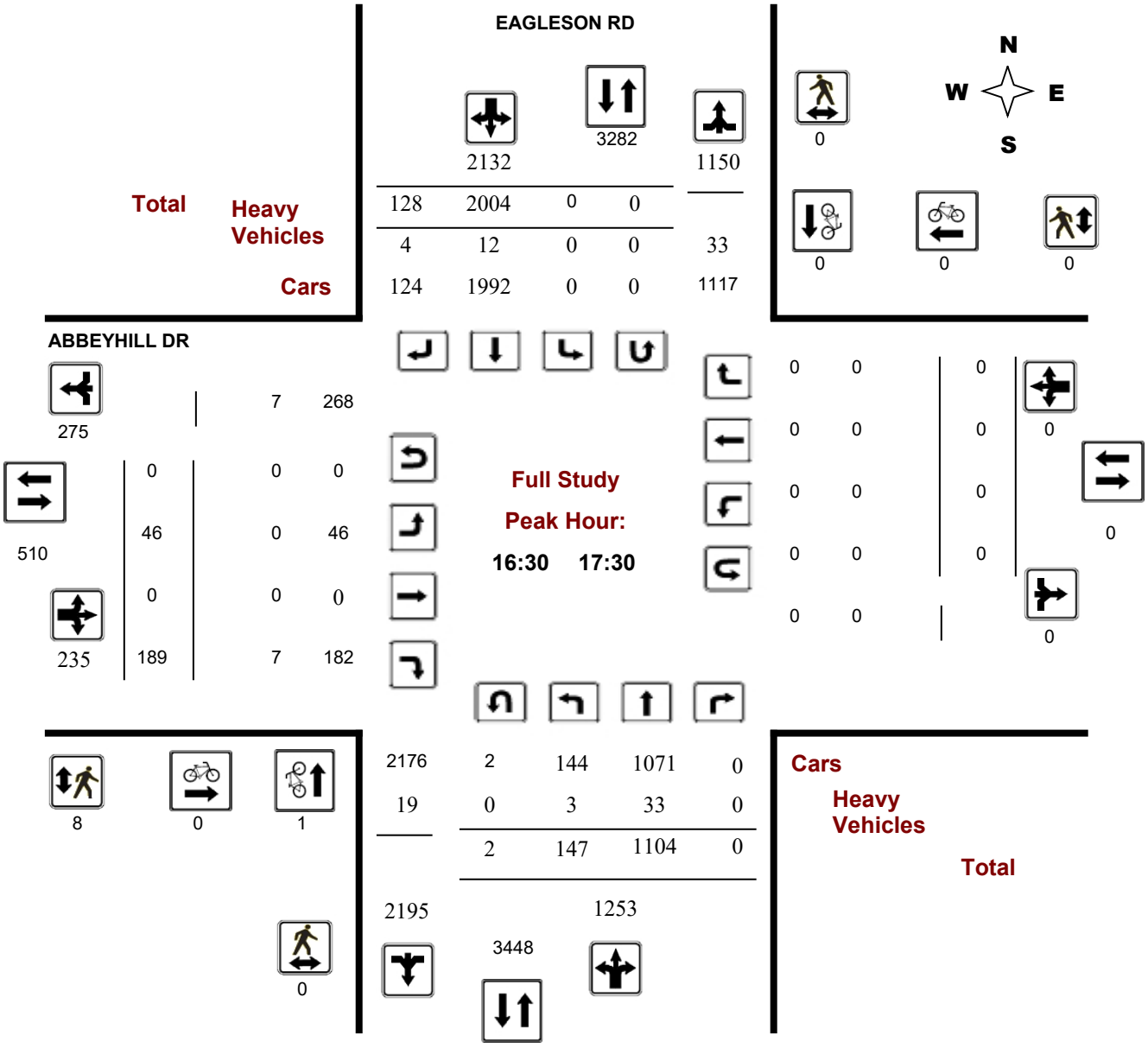
Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020
Start Time: 07:00
WO No: 39416
Device: Miovision

Full Study Peak Hour Diagram



5473148 - THU JAN 30, 2020 - 8HRS - LORETTA

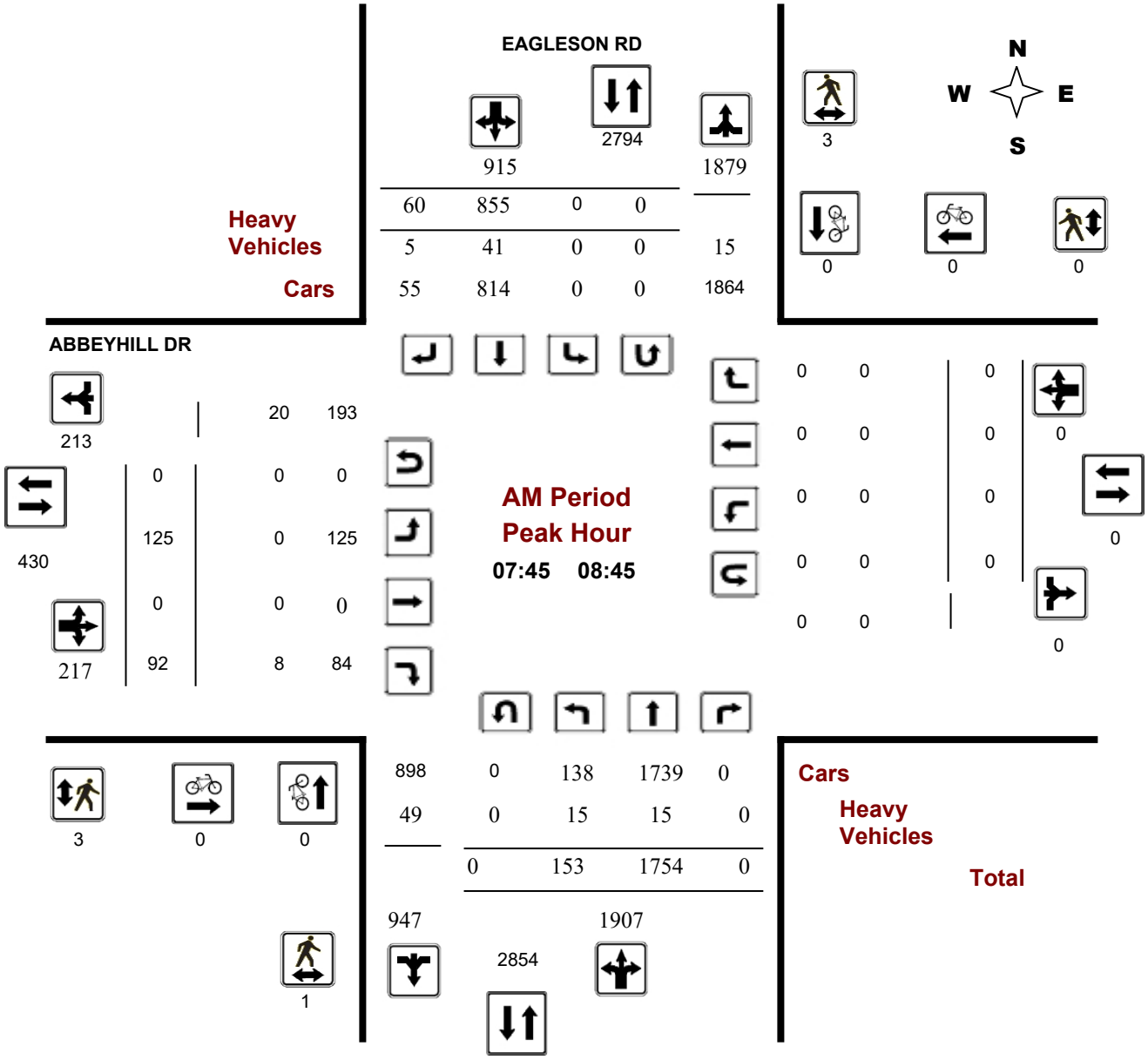
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision



Comments 5473148 - THU JAN 30, 2020 - 8HRS - LORETTA

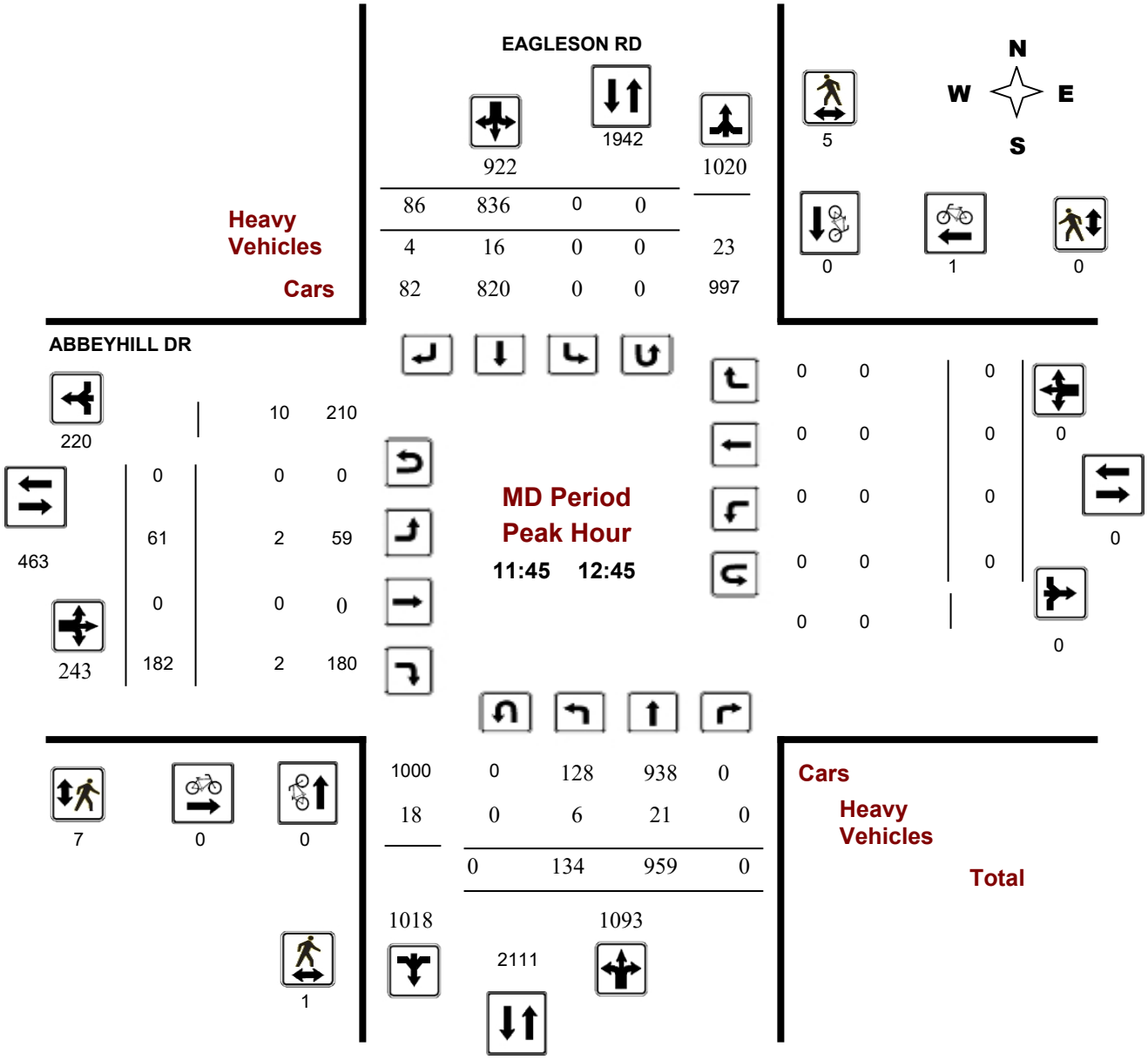
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision



Comments 5473148 - THU JAN 30, 2020 - 8HRS - LORETTA

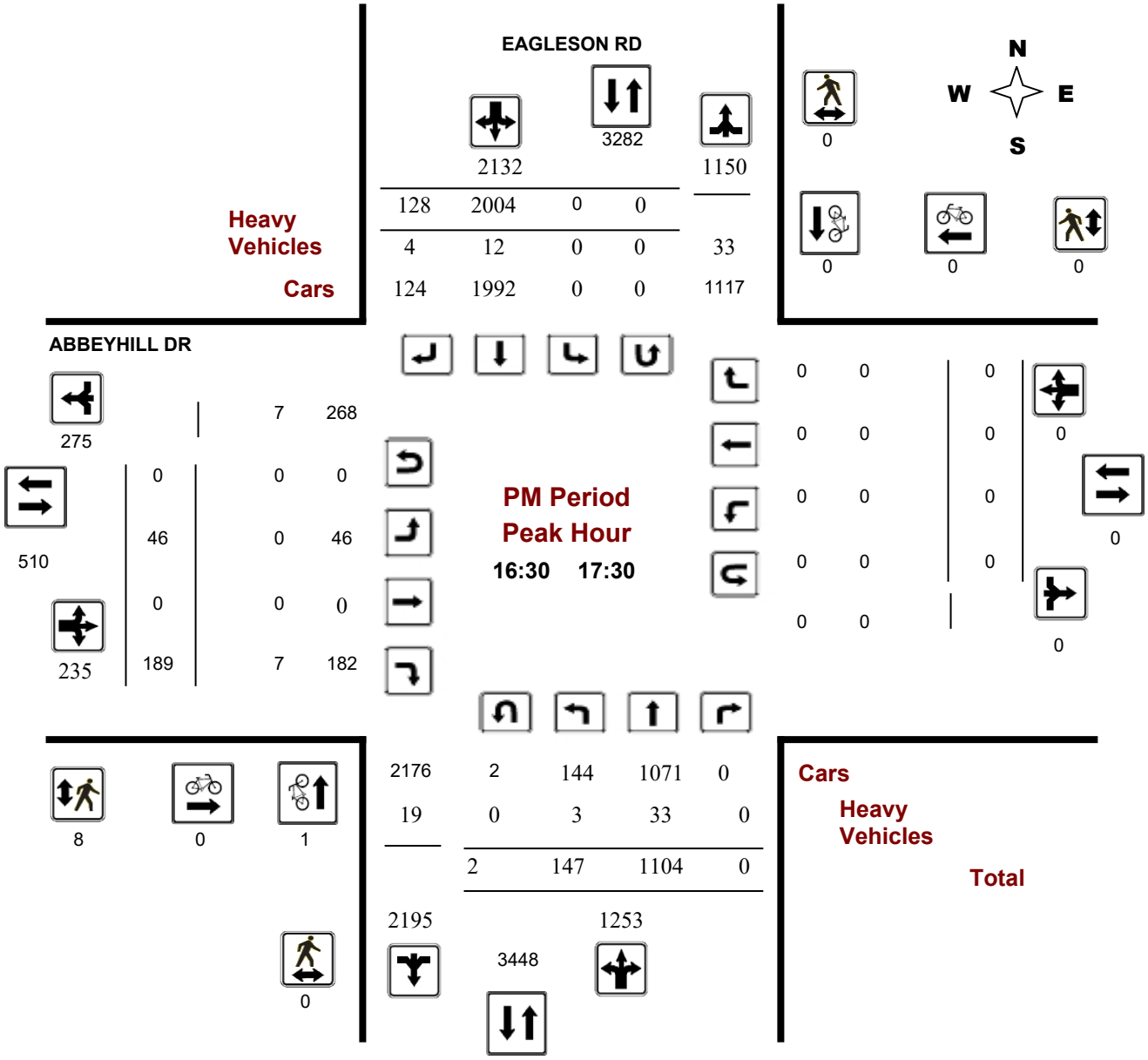
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision



Comments 5473148 - THU JAN 30, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Thursday, January 30, 2020

Total Observed U-Turns

Northbound: 3 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

1.00

	EAGLESON RD									ABBEYHILL DR									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	78	1802	0	**1880**	0	610	42	**652**	**2532**	153	0	62	**215**	0	0	0	**0**	**215**	**2747**
08:00 09:00	207	1607	0	**1814**	0	903	60	**963**	**2777**	119	0	114	**233**	0	0	0	**0**	**233**	**3010**
09:00 10:00	164	1243	0	**1407**	0	682	56	**738**	**2145**	94	0	118	**212**	0	0	0	**0**	**212**	**2357**
11:30 12:30	129	916	0	**1045**	0	828	73	**901**	**1946**	62	0	200	**262**	0	0	0	**0**	**262**	**2208**
12:30 13:30	111	910	0	**1021**	0	836	58	**894**	**1915**	54	0	134	**188**	0	0	0	**0**	**188**	**2103**
15:00 16:00	133	925	0	**1058**	0	1469	130	**1599**	**2657**	64	0	173	**237**	0	0	0	**0**	**237**	**2894**
16:00 17:00	149	1174	0	**1323**	0	1826	128	**1954**	**3277**	60	0	182	**242**	0	0	0	**0**	**242**	**3519**
17:00 18:00	151	1052	0	**1203**	0	1938	122	**2060**	**3263**	58	0	185	**243**	0	0	0	**0**	**243**	**3506**
Sub Total	1122	9629	0	**10751**	0	9092	669	**9761**	**20512**	664	0	1168	**1832**	0	0	0	**0**	**1832**	**22344**
U Turns				**3**				**0**	**3**				**0**				**0**	**0**	**3**
Total	1122	9629	0	**10754**	0	9092	669	**9761**	**20515**	664	0	1168	**1832**	0	0	0	**0**	**1832**	**22347**
EQ 12Hr	1560	13384	0	**14948**	0	12638	930	**13568**	**28516**	923	0	1624	**2546**	0	0	0	**0**	**2546**	**31062**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	1470	12614	0	**14088**	0	11911	876	**12787**	**28516**	870	0	1530	**2400**	0	0	0	**0**	**2546**	**31062**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	1925	16524	0	**18455**	0	15603	1148	**16751**	**35206**	1139	0	2004	**3144**	0	0	0	**0**	**3144**	**38350**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute Increments

		EAGLESON RD									ABBEYHILL DR									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	7	422	0	429	0	114	10	124	13	42	0	11	53	0	0	0	0	13	606
07:15	07:30	15	420	0	435	0	138	11	149	21	42	0	18	60	0	0	0	0	21	644
07:30	07:45	22	480	0	502	0	156	6	162	22	38	0	15	53	0	0	0	0	22	717
07:45	08:00	34	480	0	514	0	202	15	217	18	31	0	18	49	0	0	0	0	18	780
08:00	08:15	32	423	0	455	0	210	17	227	18	29	0	24	53	0	0	0	0	18	735
08:15	08:30	46	436	0	482	0	211	11	222	25	40	0	27	67	0	0	0	0	25	771
08:30	08:45	41	415	0	456	0	232	17	249	15	25	0	23	48	0	0	0	0	15	753
08:45	09:00	88	333	0	421	0	250	15	265	20	25	0	40	65	0	0	0	0	20	751
09:00	09:15	77	367	0	444	0	195	17	212	23	37	0	49	86	0	0	0	0	23	742
09:15	09:30	40	346	0	386	0	162	14	176	16	24	0	30	54	0	0	0	0	16	616
09:30	09:45	23	267	0	290	0	177	13	190	18	17	0	24	41	0	0	0	0	18	521
09:45	10:00	24	263	0	287	0	148	12	160	12	16	0	15	31	0	0	0	0	12	478
11:30	11:45	27	216	0	243	0	196	9	205	10	19	0	58	77	0	0	0	0	10	525
11:45	12:00	45	233	0	278	0	217	15	232	10	14	0	54	68	0	0	0	0	10	578
12:00	12:15	31	242	0	273	0	218	28	246	9	13	0	44	57	0	0	0	0	9	576
12:15	12:30	26	225	0	251	0	197	21	218	10	16	0	44	60	0	0	0	0	10	529
12:30	12:45	32	259	0	291	0	204	22	226	18	18	0	40	58	0	0	0	0	18	575
12:45	13:00	35	225	0	260	0	220	9	229	10	18	0	44	62	0	0	0	0	10	551
13:00	13:15	18	207	0	225	0	192	13	205	11	3	0	27	30	0	0	0	0	11	460
13:15	13:30	26	219	0	245	0	220	14	234	10	15	0	23	38	0	0	0	0	10	517
15:00	15:15	33	243	0	276	0	357	29	386	24	16	0	37	53	0	0	0	0	24	715
15:15	15:30	32	219	0	251	0	332	46	378	10	21	0	38	59	0	0	0	0	10	688
15:30	15:45	37	226	0	263	0	363	14	377	15	15	0	56	71	0	0	0	0	15	711
15:45	16:00	31	237	0	268	0	417	41	458	21	12	0	42	54	0	0	0	0	21	780
16:00	16:15	39	320	0	359	0	390	35	425	24	20	0	44	64	0	0	0	0	24	848
16:15	16:30	51	287	0	338	0	481	32	513	12	17	0	51	68	0	0	0	0	12	919
16:30	16:45	31	266	0	297	0	457	22	479	16	9	0	42	51	0	0	0	0	16	827
16:45	17:00	28	301	0	329	0	498	39	537	11	14	0	45	59	0	0	0	0	11	925
17:00	17:15	37	296	0	334	0	501	35	536	10	10	0	52	62	0	0	0	0	10	932
17:15	17:30	51	241	0	293	0	548	32	580	15	13	0	50	63	0	0	0	0	15	936
17:30	17:45	28	256	0	284	0	455	20	475	9	20	0	47	67	0	0	0	0	9	826
17:45	18:00	35	259	0	295	0	434	35	469	9	15	0	36	51	0	0	0	0	9	815
Total:		1122	9629	0	1075	0	9092	669	9761	485	664	0	1168	1832	0	0	0	0	485	22,347

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision

Full Study Cyclist Volume

Time Period		EAGLESON RD			ABBEYHILL DR			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	0	0	0
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	0	0	0	0	0	0	0
08:30	08:45	0	0	0	0	0	0	0
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	1	1	1
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	1	1	0	0	0	1
16:30	16:45	1	0	1	0	0	0	1
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		1	1	**2**	0	1	1	3

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision

Full Study Pedestrian Volume

	EAGLESON RD			ABBEYHILL DR			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	1	**1**	0	0	**0**	**1**
07:15 07:30	0	0	**0**	0	0	**0**	**0**
07:30 07:45	0	2	**2**	0	0	**0**	**2**
07:45 08:00	0	0	**0**	0	0	**0**	**0**
08:00 08:15	0	1	**1**	1	0	**1**	**2**
08:15 08:30	0	0	**0**	0	0	**0**	**0**
08:30 08:45	1	2	**3**	2	0	**2**	**5**
08:45 09:00	0	2	**2**	1	0	**1**	**3**
09:00 09:15	0	0	**0**	0	0	**0**	**0**
09:15 09:30	0	0	**0**	0	0	**0**	**0**
09:30 09:45	0	0	**0**	0	0	**0**	**0**
09:45 10:00	1	1	**2**	1	0	**1**	**3**
11:30 11:45	0	1	**1**	4	0	**4**	**5**
11:45 12:00	0	1	**1**	2	0	**2**	**3**
12:00 12:15	0	0	**0**	2	0	**2**	**2**
12:15 12:30	0	2	**2**	0	0	**0**	**2**
12:30 12:45	1	2	**3**	3	0	**3**	**6**
12:45 13:00	1	0	**1**	1	0	**1**	**2**
13:00 13:15	0	1	**1**	0	0	**0**	**1**
13:15 13:30	1	0	**1**	1	0	**1**	**2**
15:00 15:15	0	0	**0**	3	0	**3**	**3**
15:15 15:30	0	0	**0**	1	0	**1**	**1**
15:30 15:45	0	0	**0**	3	0	**3**	**3**
15:45 16:00	0	0	**0**	2	0	**2**	**2**
16:00 16:15	1	0	**1**	0	0	**0**	**1**
16:15 16:30	0	0	**0**	3	0	**3**	**3**
16:30 16:45	0	0	**0**	4	0	**4**	**4**
16:45 17:00	0	0	**0**	0	0	**0**	**0**
17:00 17:15	0	0	**0**	1	0	**1**	**1**
17:15 17:30	0	0	**0**	3	0	**3**	**3**
17:30 17:45	1	0	**1**	2	0	**2**	**3**
17:45 18:00	0	0	**0**	0	0	**0**	**0**
Total	7	16	**23**	40	0	**40**	**63**

5473148 - THU JAN 30, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision

Full Study Heavy Vehicles

		EAGLESON RD									ABBEYHILL DR									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	2	0	0	**2**	0	11	0	**11**	**13**	0	0	0	**0**	0	0	0	**0**	**0**	**13**
07:15	07:30	4	8	0	**12**	0	6	3	**9**	**21**	1	0	1	**2**	0	0	0	**0**	**2**	**23**
07:30	07:45	2	6	0	**8**	0	14	0	**14**	**22**	1	0	0	**1**	0	0	0	**0**	**1**	**23**
07:45	08:00	3	1	0	**4**	0	12	2	**14**	**18**	0	0	1	**1**	0	0	0	**0**	**1**	**19**
08:00	08:15	2	6	0	**8**	0	9	1	**10**	**18**	0	0	0	**0**	0	0	0	**0**	**0**	**18**
08:15	08:30	8	5	0	**13**	0	12	0	**12**	**25**	0	0	6	**6**	0	0	0	**0**	**6**	**31**
08:30	08:45	2	3	0	**5**	0	8	2	**10**	**15**	0	0	1	**1**	0	0	0	**0**	**1**	**16**
08:45	09:00	7	6	0	**13**	0	4	3	**7**	**20**	1	0	3	**4**	0	0	0	**0**	**4**	**24**
09:00	09:15	5	9	0	**14**	0	7	2	**9**	**23**	1	0	4	**5**	0	0	0	**0**	**5**	**28**
09:15	09:30	2	4	0	**6**	0	8	2	**10**	**16**	1	0	0	**1**	0	0	0	**0**	**1**	**17**
09:30	09:45	0	9	0	**9**	0	6	3	**9**	**18**	0	0	0	**0**	0	0	0	**0**	**0**	**18**
09:45	10:00	2	4	0	**6**	0	5	1	**6**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**12**
11:30	11:45	0	3	0	**3**	0	6	1	**7**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
11:45	12:00	2	4	0	**6**	0	3	1	**4**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
12:00	12:15	1	5	0	**6**	0	2	1	**3**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
12:15	12:30	2	3	0	**5**	0	4	1	**5**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
12:30	12:45	1	9	0	**10**	0	7	1	**8**	**18**	2	0	2	**4**	0	0	0	**0**	**4**	**22**
12:45	13:00	0	4	0	**4**	0	5	1	**6**	**10**	0	0	1	**1**	0	0	0	**0**	**1**	**11**
13:00	13:15	0	5	0	**5**	0	5	1	**6**	**11**	0	0	0	**0**	0	0	0	**0**	**0**	**11**
13:15	13:30	2	5	0	**7**	0	3	0	**3**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
15:00	15:15	4	8	0	**12**	0	9	3	**12**	**24**	2	0	3	**5**	0	0	0	**0**	**5**	**29**
15:15	15:30	2	4	0	**6**	0	3	1	**4**	**10**	1	0	1	**2**	0	0	0	**0**	**2**	**12**
15:30	15:45	2	2	0	**4**	0	10	1	**11**	**15**	0	0	11	**11**	0	0	0	**0**	**11**	**26**
15:45	16:00	2	10	0	**12**	0	8	1	**9**	**21**	0	0	1	**1**	0	0	0	**0**	**1**	**22**
16:00	16:15	1	14	0	**15**	0	7	2	**9**	**24**	1	0	1	**2**	0	0	0	**0**	**2**	**26**
16:15	16:30	2	7	0	**9**	0	2	1	**3**	**12**	1	0	2	**3**	0	0	0	**0**	**3**	**15**
16:30	16:45	2	9	0	**11**	0	4	1	**5**	**16**	0	0	3	**3**	0	0	0	**0**	**3**	**19**
16:45	17:00	0	7	0	**7**	0	3	1	**4**	**11**	0	0	1	**1**	0	0	0	**0**	**1**	**12**
17:00	17:15	0	6	0	**6**	0	3	1	**4**	**10**	0	0	1	**1**	0	0	0	**0**	**1**	**11**
17:15	17:30	1	11	0	**12**	0	2	1	**3**	**15**	0	0	2	**2**	0	0	0	**0**	**2**	**17**
17:30	17:45	1	6	0	**7**	0	2	0	**2**	**9**	0	0	1	**1**	0	0	0	**0**	**1**	**10**
17:45	18:00	0	8	0	**8**	0	0	1	**1**	**9**	0	0	1	**1**	0	0	0	**0**	**1**	**10**
Total:	None	64	191	0	**255**	0	190	40	**230**	**485**	12	0	47	**59**	0	0	0	**0**	**59**	**544**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBEYHILL DR @ EAGLESON RD

Survey Date: Thursday, January 30, 2020 **WO No:** 39416

Start Time: 07:00 **Device:** Miovision

Full Study 15 Minute U-Turn Total

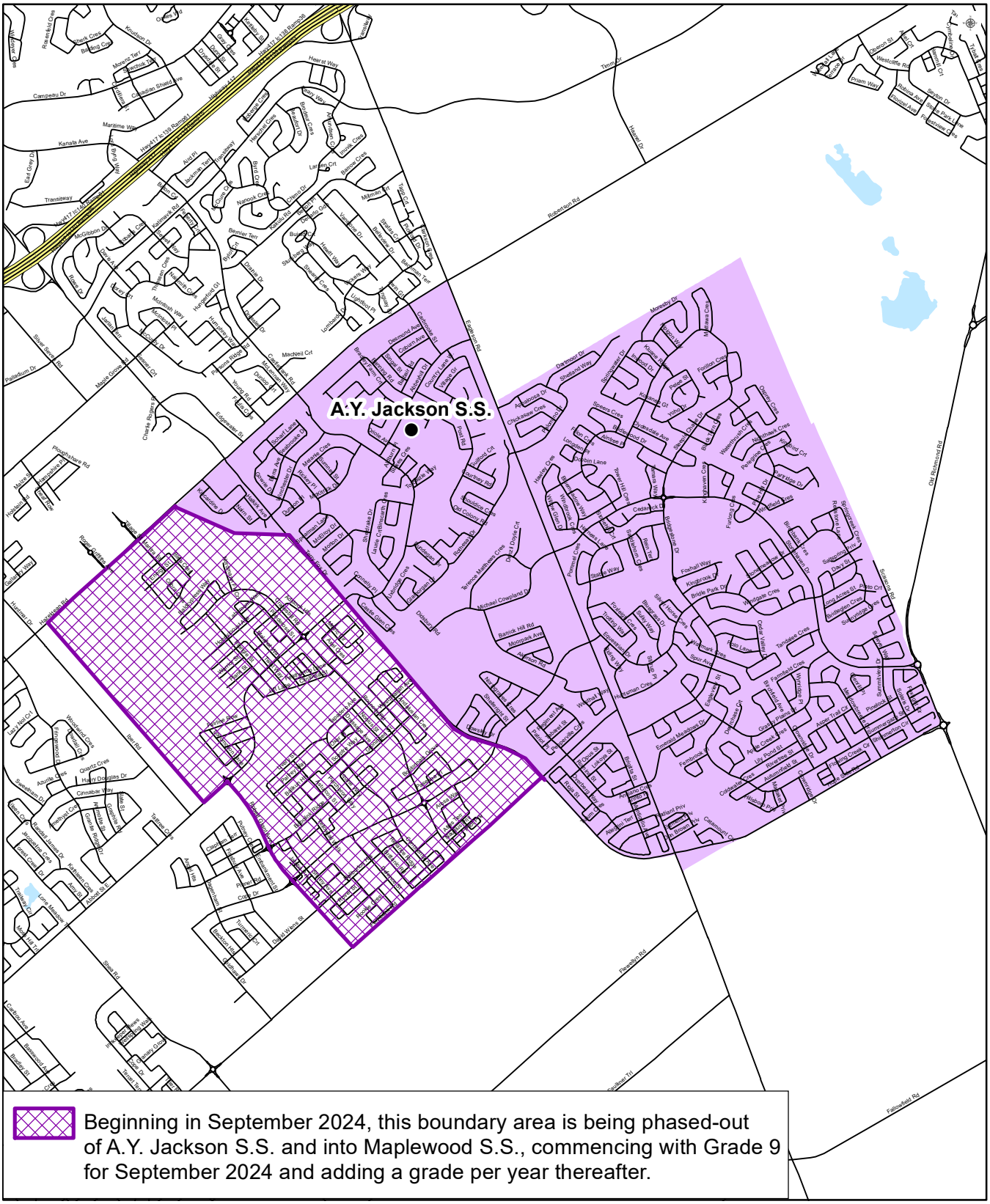
Time Period		EAGLESON RD		ABBEYHILL DR		
		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	1	0	0	0	1
17:15	17:30	1	0	0	0	1
17:30	17:45	0	0	0	0	0
17:45	18:00	1	0	0	0	1
Total		3	0	0	0	3

Appendix E:

A.Y. Jackson Secondary School Attendance Boundary

OTTAWA-CARLETON
DISTRICT SCHOOL BOARD

A.Y. JACKSON SECONDARY SCHOOL
Grade 9 to 12
English and Immersion Attendance Boundary



Beginning in September 2024, this boundary area is being phased-out of A.Y. Jackson S.S. and into Maplewood S.S., commencing with Grade 9 for September 2024 and adding a grade per year thereafter.

A.Y. Jackson Secondary School
150 Abbeyhill Drive
Kanata, Ontario
K2L 1H7
(613) 836-2527

Map is for illustrative purposes only.
For further information, visit www.ocdsb.ca
September 2024

Appendix F:

TDM Checklists

TDM-Supportive Development Design and Infrastructure Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	1.	**WALKING & CYCLING: ROUTES**	
	1.1	**Building location & access points**	
BASIC	1.1.1	Locate building close to the street, and do not locate parking areas between the street and building entrances	☑
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☑
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☑
	1.2	**Facilities for walking & cycling**	
REQUIRED	1.2.1	Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)*	☑
REQUIRED	1.2.2	Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible *(see Official Plan policy 4.3.12)*	☑

	TDM-supportive design & infrastructure measures: *Non-residential developments*		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3	Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.4	Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps *(see Official Plan policy 4.3.10)*	☑
REQUIRED	1.2.5	Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians *(see Official Plan policy 4.3.11)*	☑
BASIC	1.2.6	Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☑
BASIC	1.2.7	Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☑
BASIC	1.2.8	Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	☑
	1.3	**Amenities for walking & cycling**	
BASIC	1.3.1	Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	☑
BASIC	1.3.2	Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	☑

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	☐
BETTER	2.1.5	Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	☐
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☐
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met)	☐
	2.3	**Shower & change facilities**	
BASIC	2.3.1	Provide shower and change facilities for the use of active commuters	☑ Existing shower and change facilities are available to students.
BETTER	2.3.2	In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	☑ Existing lockers are available to students.
	2.4	**Bicycle repair station**	
BETTER	2.4.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐

	TDM-supportive design & infrastructure measures: *Non-residential developments*		Check if completed & add descriptions, explanations or plan/drawing references
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☑
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☐
	4.2	**Carpool parking**	
BASIC	4.2.1	Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	☐
BETTER	4.2.2	At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	☐
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces *(see Zoning By-law Section 94)*	☐
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☑
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☐
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	☐
	7.	**OTHER**	
	7.1	**On-site amenities to minimize off-site trips**	
BETTER	7.1.1	Provide on-site amenities to minimize mid-day or mid-commute errands	☐

TDM Measures Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		1. TDM PROGRAM MANAGEMENT	
		1.1 Program coordinator	
BASIC ★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☑
		1.2 Travel surveys	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐
		2. WALKING AND CYCLING	
		2.1 Information on walking/cycling routes & destinations	
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances	☑
		2.2 Bicycle skills training	
		Commuter travel	
BETTER ★	2.2.1	Offer on-site cycling courses for commuters, or subsidize off-site courses	☐
		2.3 Valet bike parking	
		Visitor travel	
BETTER	2.3.1	Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	☐

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		3. TRANSIT	
		3.1 Transit information	
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances	☑
BASIC	3.1.2	Provide online links to OC Transpo and STO information	☑
BETTER	3.1.3	Provide real-time arrival information display at entrances	☐
		3.2 Transit fare incentives	
		Commuter travel	
BETTER	3.2.1	Offer preloaded PRESTO cards to encourage commuters to use transit	☑ Presto cards are provided to eligible students.
BETTER ★	3.2.2	Subsidize or reimburse monthly transit pass purchases by employees	☐
		Visitor travel	
BETTER	3.2.3	Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	☐
		3.3 Enhanced public transit service	
		Commuter travel	
BETTER	3.3.1	Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER	3.3.2	Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	☐
		3.4 Private transit service	
		Commuter travel	
BETTER	3.4.1	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	☑ Yellow school buses available in addition to OC Transpo Service
		Visitor travel	
BETTER	3.4.2	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	☐

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		4. RIDESHARING	
		4.1 Ridematching service	
		Commuter travel	
BASIC	★	4.1.1 Provide a dedicated ridematching portal at OttawaRideMatch.com	☐
		4.2 Carpool parking price incentives	
		Commuter travel	
BETTER		4.2.1 Provide discounts on parking costs for registered carpools	☐
		4.3 Vanpool service	
		Commuter travel	
BETTER		4.3.1 Provide a vanpooling service for long-distance commuters	☐
		5. CARSHARING & BIKESHARING	
		5.1 Bikeshare stations & memberships	
BETTER		5.1.1 Contract with provider to install on-site bikeshare station for use by commuters and visitors	☐
		Commuter travel	
BETTER		5.1.2 Provide employees with bikeshare memberships for local business travel	☐
		5.2 Carshare vehicles & memberships	
		Commuter travel	
BETTER		5.2.1 Contract with provider to install on-site carshare vehicles and promote their use by tenants	☐
BETTER		5.2.2 Provide employees with carshare memberships for local business travel	☐
		6. PARKING	
		6.1 Priced parking	
		Commuter travel	
BASIC	★	6.1.1 Charge for long-term parking (daily, weekly, monthly)	☐
BASIC		6.1.2 Unbundle parking cost from lease rates at multi-tenant sites	☐
		Visitor travel	
BETTER		6.1.3 Charge for short-term parking (hourly)	☐

			TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		7.	**TDM MARKETING & COMMUNICATIONS**	
		7.1	**Multimodal travel information**	
			Commuter travel	
BASIC	★	7.1.1	Provide a multimodal travel option information package to new/relocating employees and students	☑
			Visitor travel	
BETTER	★	7.1.2	Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	☐
		7.2	**Personalized trip planning**	
			Commuter travel	
BETTER	★	7.2.1	Offer personalized trip planning to new/relocating employees	☐
		7.3	**Promotions**	
			Commuter travel	
BETTER		7.3.1	Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	☐
		8.	**OTHER INCENTIVES & AMENITIES**	
		8.1	**Emergency ride home**	
			Commuter travel	
BETTER	★	8.1.1	Provide emergency ride home service to non-driving commuters	☐
		8.2	**Alternative work arrangements**	
			Commuter travel	
BASIC	★	8.2.1	Encourage flexible work hours	☐
BETTER		8.2.2	Encourage compressed workweeks	☐
BETTER	★	8.2.3	Encourage telework	☐
		8.3	**Local business travel options**	
			Commuter travel	
BASIC	★	8.3.1	Provide local business travel options that minimize the need for employees to bring a personal car to work	☐
		8.4	**Commuter incentives**	
			Commuter travel	
BETTER		8.4.1	Offer employees a taxable, mode-neutral commuting allowance	☐
		8.5	**On-site amenities**	
			Commuter travel	
BETTER		8.5.1	Provide on-site amenities/services to minimize mid-day or mid-commute errands	☐

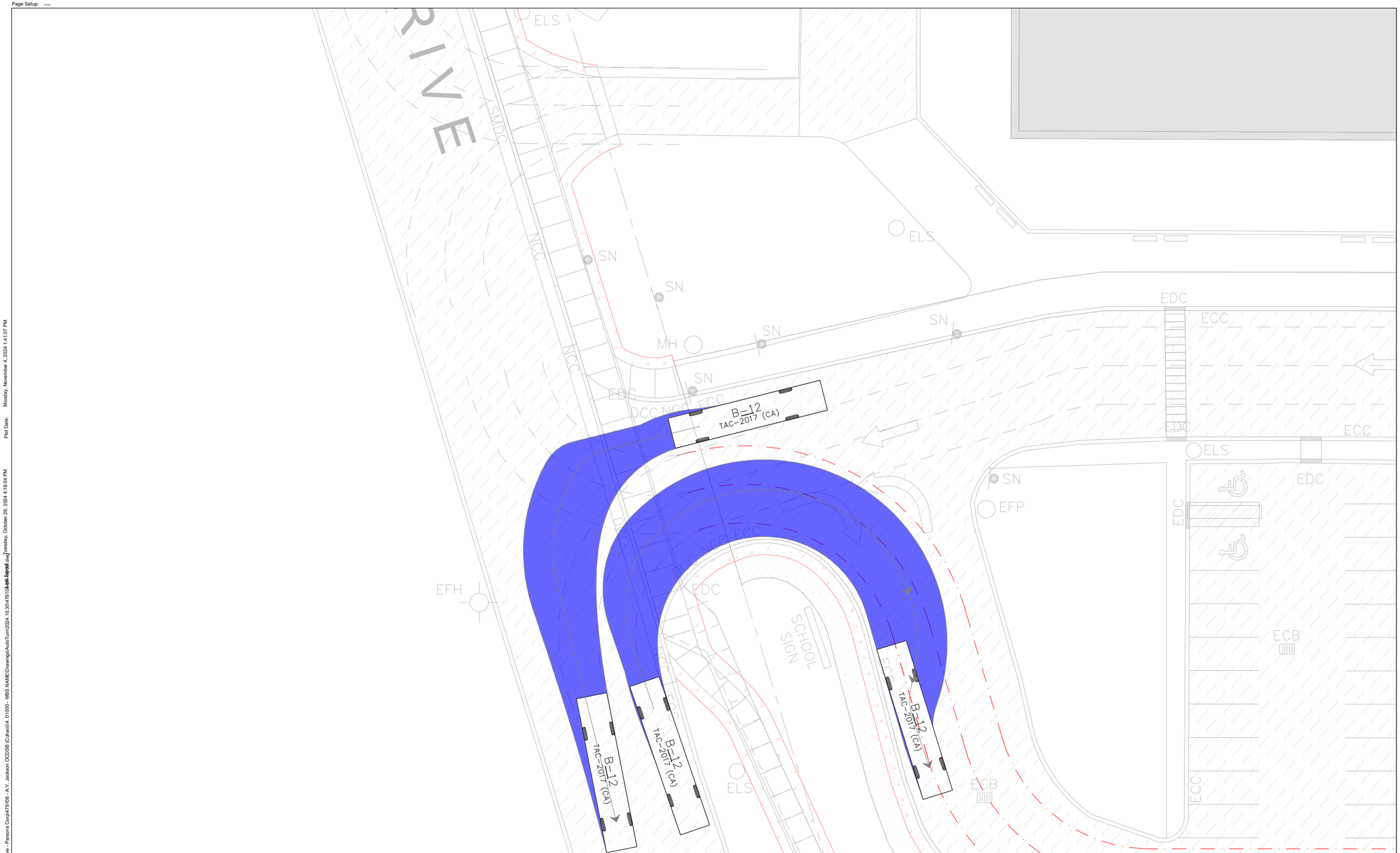
Appendix G:

Bus Turn Templates

Page Setup: ----

Plot Date: Monday, November 4, 2024 1:41:37 PM

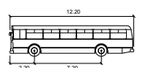
Consultant's Information: C:\Users\p0091220\OneDrive - Parsons Corp\479108 - A.Y. Jackson OCDSB (Ottawa)\4_01000 - WBS NAME\Drawings\AutoTurn\2024.10.30\479108-Layout1.dwg Tuesday, October 29, 2024 4:19:04 PM



PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend

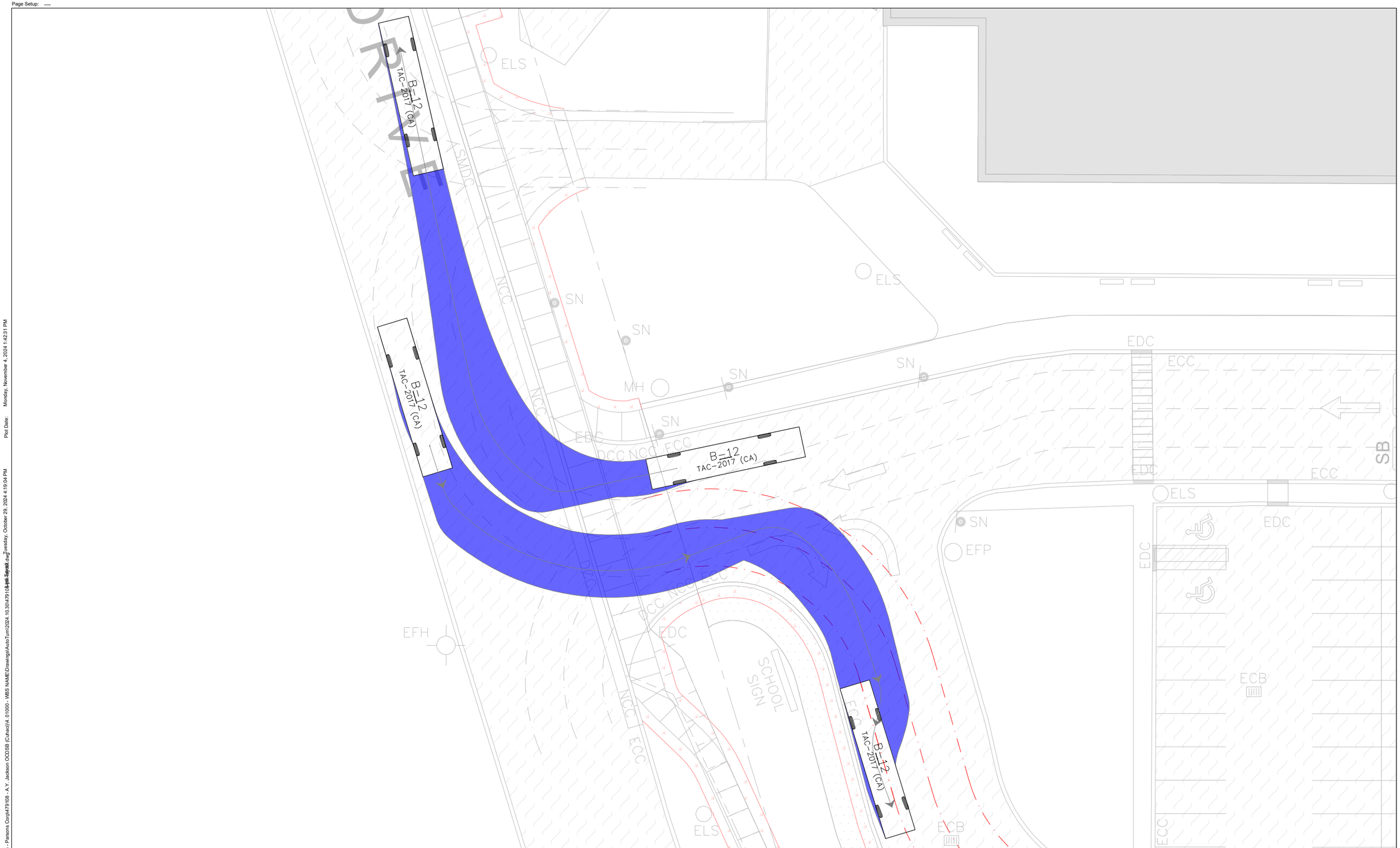


B-12
metric

Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 37.1

Not to Scale

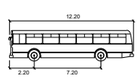
Drawing Description: School Bus (B12) Turns at Access - Abbeyhill West		
Client	Date: Oct 29, 2024	Figure Number: 001
Project Number: 479108	Project Description: A.Y JAckson Secondary School Site Plan	



PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend



B-12
meters

Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 37.1

Not to Scale

Drawing Description: School Bus (B12) Turns at Access - Abbeyhill East		
Client	Date: Oct 29, 2024	Figure Number: 002
Project Number: 479108	Project Description: A.Y JAckson Secondary School Site Plan	

Page Setup: ----

FINISHED GROUND FLOOR
GEODETIC ELEVATION = 106.20

B-12
TAC-2017 (CA)

EBR
ELS
SN
EDC
ECC
ECB
SB
NSH
NCC
DCC
NBR
NBO
NFR
NDO
MH
EFP
SCHOOL SIGN
32
54
76
95
114
134

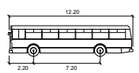
Consultant's Information: C:\Users\p0091200\OneDrive - Parsons Corp\479108 - A.Y. Jackson OCDSB (Cutras)\4. 01000 - WBS NAME\Drawings\AutoTurn\2024 10.30\479108-Layout Space.dwg, Tuesday, October 29, 2024 4:19:04 PM

Plot Date: Monday, November 4, 2024 1:42:43 PM

PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend



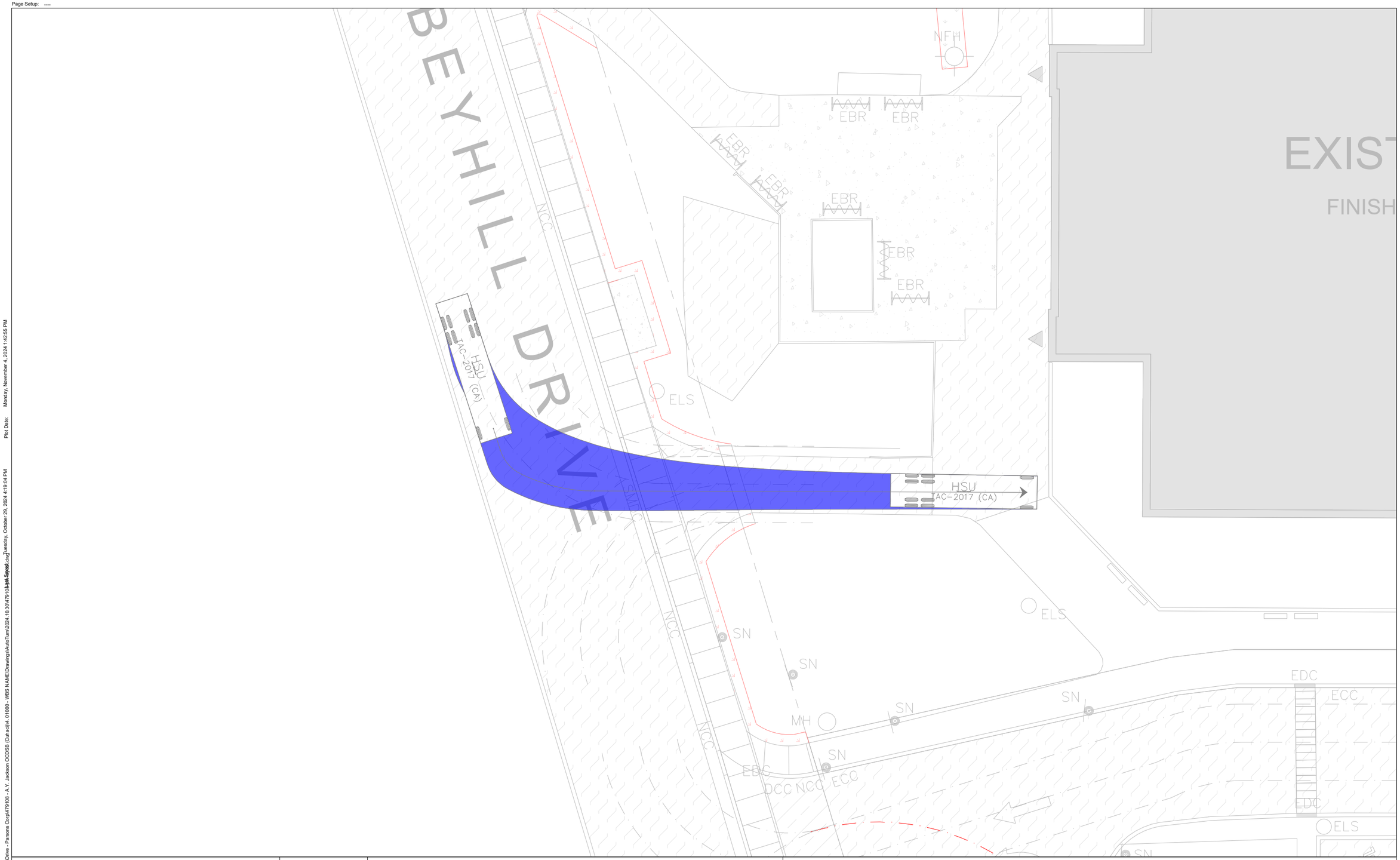
B-12
meters

Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 37.1

Not to Scale

Drawing Description: School Bus (B12) Turns Site Internal		
Client	Date: Oct 29, 2024	Figure Number: 003
Project Number: 479108	Project Description: A.Y JAckson Secondary School Site Plan	

Page Setup: ----



Plot Date: Monday, November 4, 2024 1:42:55 PM

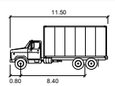
Last Saved: October 29, 2024 4:19:04 PM

Consultant's Information C:\Users\ejo091220D\OneDrive - Parsons Corp\479108 - A.Y. Jackson OCDSB (Ouhan)\4. 01000- WBS NAME\Drawings\AutoTurn\2024.10.30\479108-Inbound Turns.dwg Tuesday, October 29, 2024

PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend



HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

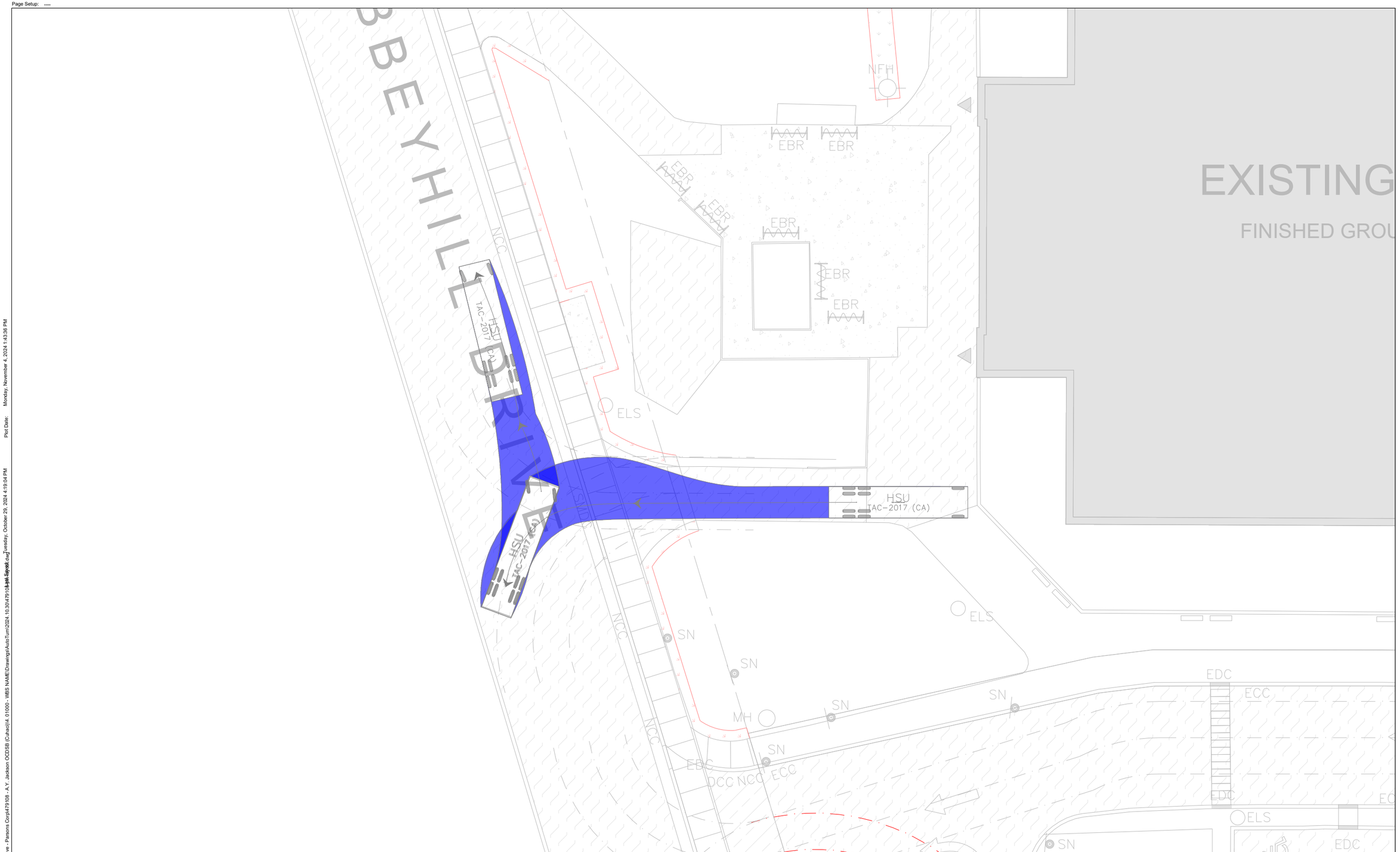
Not to Scale

Drawing Description: Fire Truck (HSU) Inbound Turns at Emergency Access - Abbeyhill East		
Client	Date: Oct 29, 2024	Figure Number: 004
Project Number: 479108	Project Description: A.Y JAckson Secondary School Site Plan	

Page Setup: ----

Plot Date: Monday, November 4, 2024 1:43:36 PM

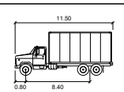
Consultant's Information: C:\Users\rjo00912\OneDrive - Parsons Corp\479108 - A.Y. Jackson OCDSB (C:\Users)\4. 01000 - WBS NAME\Drawings\AutoTurn\2024.10.30\479108-turn-Sweep-Tuesday, October 29, 2024 4:19:04 PM.dwg



PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend



HSU

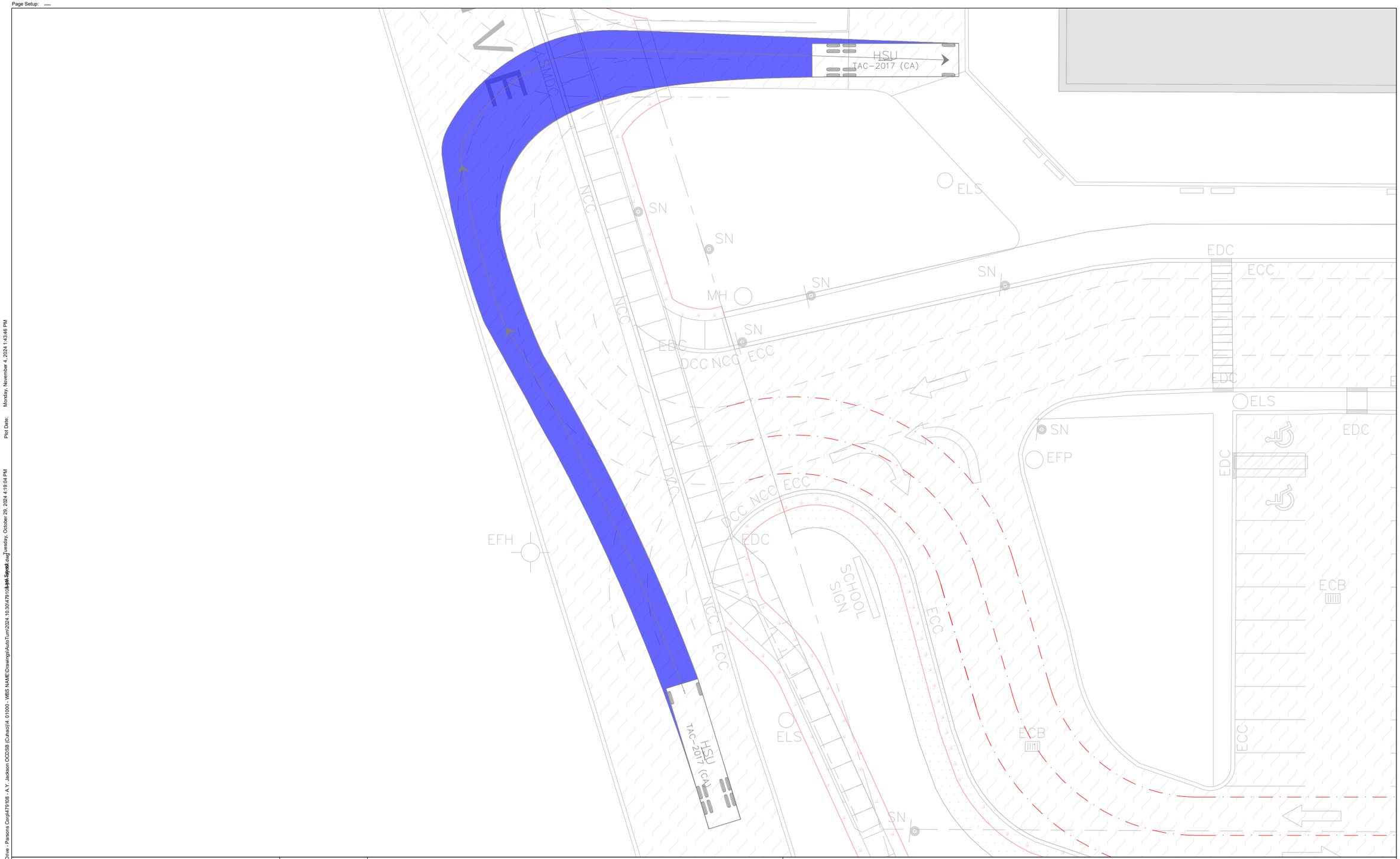
	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Not to Scale

Drawing Description: Fire Truck (HSU) Outbound Turns at Emergency Access - Abbeyhill East

Client	Date	Figure Number
	Oct 29, 2024	005
Project Number	**Project Description**	
479108	A.Y JAckson Secondary School Site Plan	

Page Setup: ----



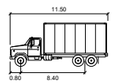
Plot Date: Monday, November 4, 2024 1:43:46 PM

Consultant's Information: C:\Users\jvp0912\OneDrive - Parsons Corp\479108 - A.Y. Jackson OCDSB (Cuhas)\4 01000 - WBS NAME\Drawings\AutoTurn\2024.10.30\479108-Layout1.dwg Tuesday, October 29, 2024 4:19:04 PM

PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend



HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Not to Scale

Drawing Description: Fire Truck (HSU) Inbound Turns at Emergency Access - Abbeyhill West

Client:

Date: Oct 29, 2024

Figure Number: 006

Project Number: 479108

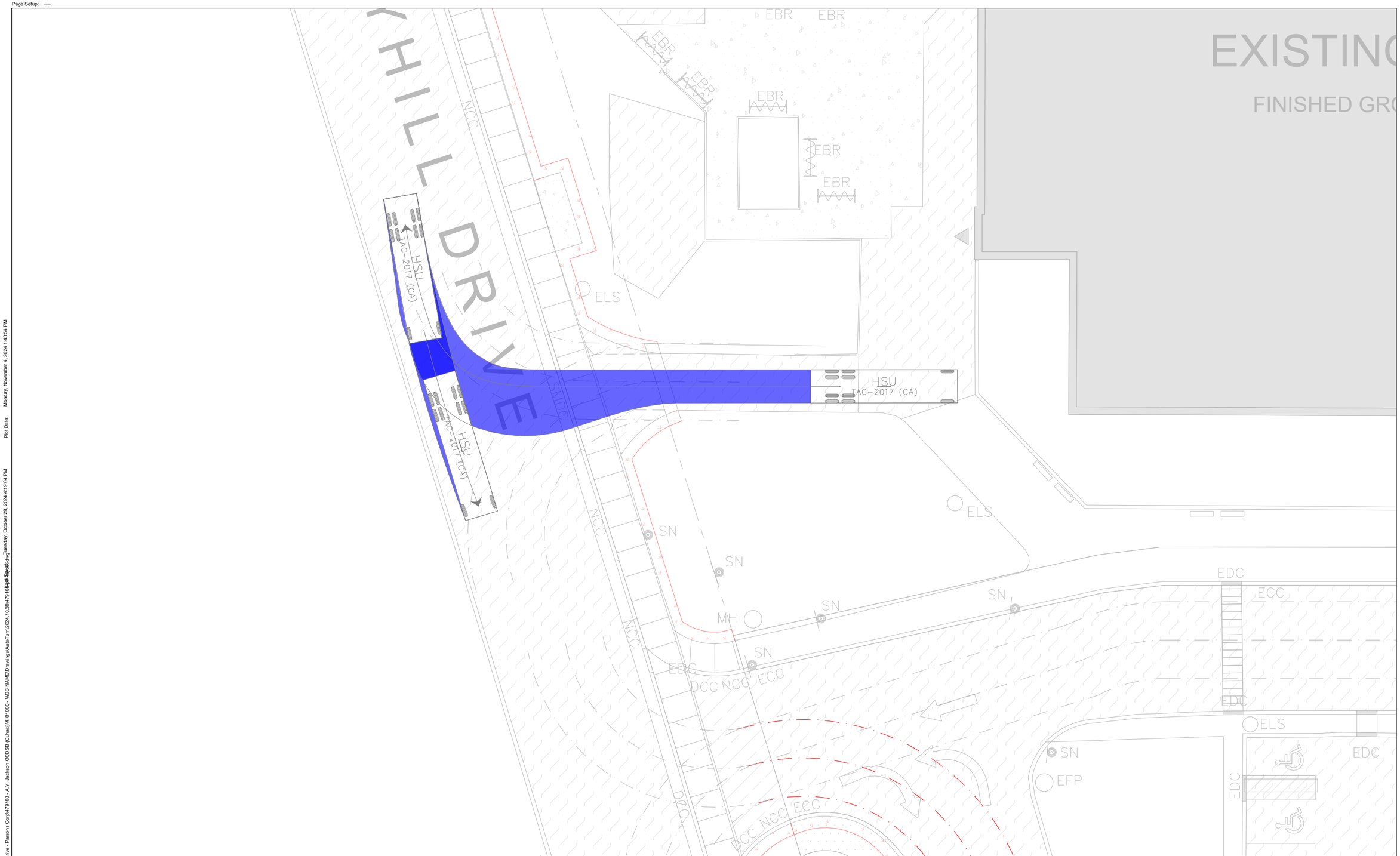
Project Description: A.Y JAckson Secondary School Site Plan

Page Setup: ----

Plot Date: Monday, November 4, 2024 1:43:54 PM

Last Saved By: Tuesday, October 29, 2024 4:19:04 PM

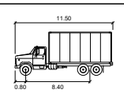
Consultant's Information: C:\Users\p009120\OneDrive - Parsons Corp\479108 - A.Y. Jackson OCDSB (Cuhas)\4. 01000 - WBS NAME\Drawings\AutoTurn\2024.10.30\479108-Fire Truck Turns.dwg



PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend



HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Not to Scale

Drawing Description: Fire Truck (HSU) Outbound Turns at Emergency Access - Abbeyhill West

Client:

Date: Oct 29, 2024

Figure Number: 007

Project Number: 479108

Project Description: A.Y JAckson Secondary School Site Plan

Page Setup: ----

Plot Date: Monday, November 4, 2024 1:44:02 PM

Consultant's Information: C:\Users\jo0912\OD\OneDrive - Parsons Corp\479108 - A.Y. Jackson OCDSB (Cirtaic)\4. 01000 - WBS NAME\Drawings\AutoTurn\2024.10.30\479108-Layout Tuesday, October 29, 2024 4:19:04 PM

Cedar Hedge

ABBEYHILL DRIVE

EXISTING 2 STOREY HIGH SCHOOL

FINISHED GROUND FLOOR GEODETIC ELEVATION = 106.20

PROPOSED 2 STOREY ADDITION

FINISHED GROUND FLOOR

GEODETIC ELEVATION = 106.20

TRANSFORMER

FUTURE PORTABLES

PROPOSED SOD OVER REMOVED BASEBALL DIAMOND

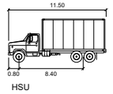
Easement

Cedar Hedge

PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend



HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

Not to Scale

Drawing Description: Fire Truck (HSU) Inbound Route to Proposed Building

Client:

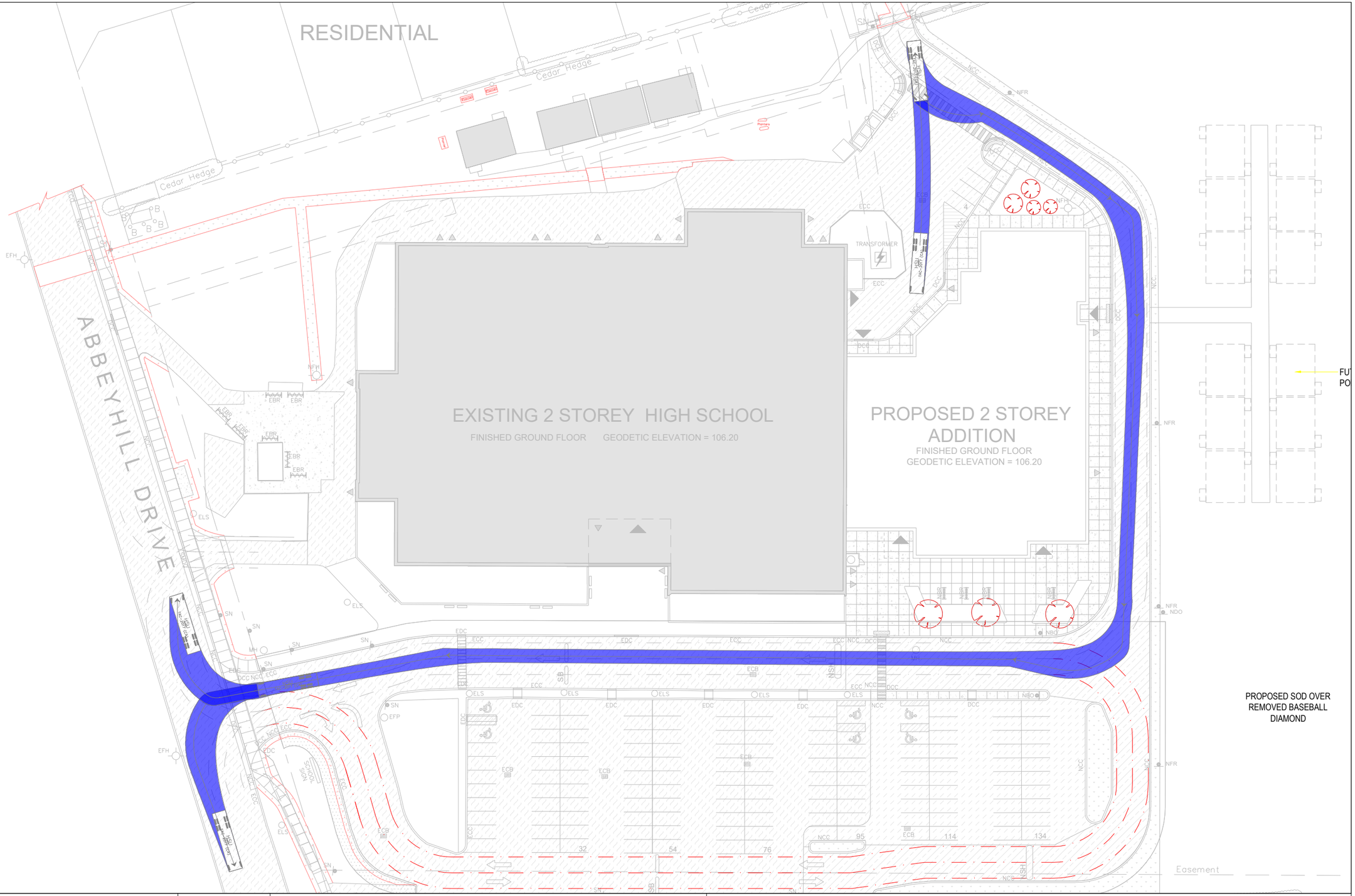
Date: Oct 29, 2024

Figure Number: 008

Project Number: 479108

Project Description: A.Y JAckson Secondary School Site Plan

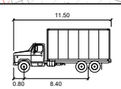
Page Setup: ----



PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend



Not to Scale

Drawing Description: Fire Truck (HSU) Outbound Route to Proposed Building

Client

Date: Oct 29, 2024

Figure Number: 009

Project Number: 479108

Project Description: A.Y JAckson Secondary School Site Plan

Consultants Information

Plot Date: Monday, November 4, 2024 1:44:14 PM

C:\Users\jx009120D\OneDrive - Parsons Corp\479108 - A.Y. Jackson OCDSB (Curtain)\4. 01000 - WBS NAME\Drawings\AutoTurn\2024.10.30\479108-Layout Tuesday, October 29, 2024 4:19:04 PM

Appendix H:

MMLOS Analysis for Boundary Streets

Multi-Modal Level of Service - Segments Form

Consultant	**Parsons**	**Project**	**AYJ SS TIA**
Scenario	**Existing and Future**	**Date**	**15-Oct-24**
Comments			

SEGMENTS		**Abbeyhill Dr**	West of Site Access		East of Site Access		Paddock Way
			Existing	Future	Existing	Future	Existing/Future
Pedestrian	Sidewalk Width Boulevard Width	**C**	1.5 m > 2 m	1.8 m > 2 m	≥ 2 m < 0.5	≥ 2 m < 0.5	no sidewalk n/a
	Avg Daily Curb Lane Traffic Volume		≤ 3000	≤ 3000	≤ 3000	≤ 3000	≤ 3000
	Operating Speed On-Street Parking		> 30 to 50 km/h yes	> 30 to 50 km/h yes	> 30 to 50 km/h no	> 30 to 50 km/h no	> 30 to 50 km/h yes
	Exposure to Traffic PLoS		**C**	**A**	**B**	**B**	**F**
	Effective Sidewalk Width		1.5 m	1.5 m	2.5 m	2.5 m	
	Pedestrian Volume		250 ped/hr	250 ped/hr	250 ped/hr	250 ped/hr	
	Crowding PLoS		**B**	**B**	**B**	**B**	**-**
	Level of Service		**C**	**B**	**B**	**B**	**-**
Bicycle	Type of Cycling Facility	**B**	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Number of Travel Lanes		≤ 2 (no centreline)	≤ 2 (no centreline)	≤ 2 (no centreline)	≤ 2 (no centreline)	≤ 2 (no centreline)
	Operating Speed		>40 to <50 km/h	>40 to <50 km/h	>40 to <50 km/h	>40 to <50 km/h	>40 to <50 km/h
	# of Lanes & Operating Speed LoS		**B**	**B**	**B**	**B**	**B**
	Bike Lane (+ Parking Lane) Width						
	Bike Lane Width LoS		-	-	-	-	-
	Bike Lane Blockages						
	Blockage LoS		-	-	-	-	-
	Median Refuge Width (no median = < 1.8 m)		< 1.8 m refuge	< 1.8 m refuge	< 1.8 m refuge	< 1.8 m refuge	< 1.8 m refuge
	No. of Lanes at Unsignalized Crossing		≤ 3 lanes	≤ 3 lanes	≤ 3 lanes	≤ 3 lanes	≤ 3 lanes
	Sidestreet Operating Speed		≤ 40 km/h	≤ 40 km/h	≤ 40 km/h	≤ 40 km/h	≤ 40 km/h
	Unsignalized Crossing - Lowest LoS		**A**	**A**	**A**	**A**	**A**
	Level of Service		**B**	**B**	**B**	**B**	**B**
Transit	Facility Type	**D**	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	
	Friction or Ratio Transit:Posted Speed		Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	
	Level of Service		**D**	**D**	**D**	**D**	**-**
Truck	Truck Lane Width	**-**					
	Travel Lanes per Direction						
	Level of Service		**-**	**-**	**-**	**-**	**-**

Appendix I:

Synchro Analysis Reports

Existing Conditions

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	125	92	153	1754	855	60
Future Volume (vph)	125	92	153	1754	855	60
Lane Group Flow (vph)	139	102	170	1949	950	67
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	37.0	37.0	16.0	73.0	57.0	57.0
Total Split (%)	33.6%	33.6%	14.5%	66.4%	51.8%	51.8%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	14.5	14.5	83.0	83.0	68.1	68.1
Actuated g/C Ratio	0.13	0.13	0.75	0.75	0.62	0.62
v/c Ratio	0.62	0.38	0.44	0.52	0.47	0.08
Control Delay	56.4	12.0	7.8	6.4	13.0	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	12.0	7.8	6.4	13.0	3.0
LOS	E	B	A	A	B	A
Approach Delay	37.6			6.5	12.3	
Approach LOS	D			A	B	
Queue Length 50th (m)	28.7	0.0	8.3	51.7	52.5	0.0
Queue Length 95th (m)	46.1	14.1	17.5	76.1	83.0	6.2
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	477	462	404	3713	2037	889
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.22	0.42	0.52	0.47	0.08

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 73 (66%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 59.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	68	119	133	120	90	93
Future Volume (vph)	68	119	133	120	90	93
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	76	132	148	133	100	103

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	208	281	203
Volume Left (vph)	76	0	100
Volume Right (vph)	132	133	0
Hadj (s)	-0.26	-0.23	0.13
Departure Headway (s)	4.8	4.5	4.9
Degree Utilization, x	0.28	0.35	0.28
Capacity (veh/h)	696	769	695
Control Delay (s)	9.6	9.8	9.8
Approach Delay (s)	9.6	9.8	9.8
Approach LOS	A	A	A

Intersection Summary			
Delay	9.7		
Level of Service	A		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	197	18	20	228	26	50
Future Volume (vph)	197	18	20	228	26	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	219	20	22	253	29	56

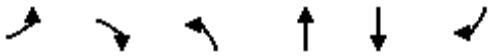
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	239	275	85
Volume Left (vph)	0	22	29
Volume Right (vph)	20	0	56
Hadj (s)	0.05	0.09	-0.30
Departure Headway (s)	4.5	4.5	4.7
Degree Utilization, x	0.30	0.34	0.11
Capacity (veh/h)	783	781	687
Control Delay (s)	9.3	9.8	8.3
Approach Delay (s)	9.3	9.8	8.3
Approach LOS	A	A	A

Intersection Summary			
Delay	9.4		
Level of Service	A		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	145	65	121	146	41	77
Future Volume (Veh/h)	145	65	121	146	41	77
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	161	72	134	162	46	86
Pedestrians					120	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					12	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			353		747	317
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			353		747	317
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			87		84	86
cM capacity (veh/h)			1057		286	630

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	233	296	46	86
Volume Left	0	134	46	0
Volume Right	72	0	0	86
cSH	1700	1057	286	630
Volume to Capacity	0.14	0.13	0.16	0.14
Queue Length 95th (m)	0.0	3.3	4.3	3.6
Control Delay (s)	0.0	4.7	20.0	11.6
Lane LOS		A	C	B
Approach Delay (s)	0.0	4.7	14.5	
Approach LOS			B	

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

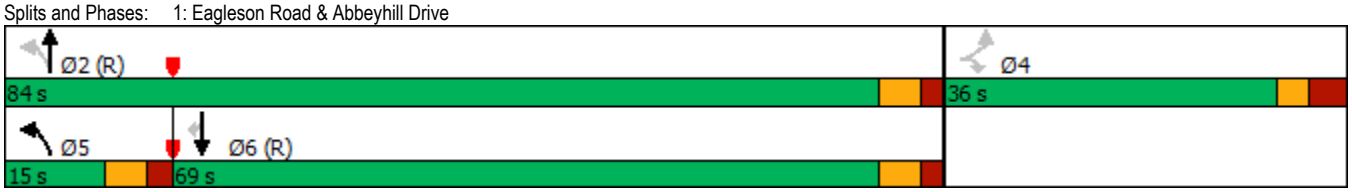


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	46	189	149	1104	2004	128
Future Volume (vph)	46	189	149	1104	2004	128
Lane Group Flow (vph)	51	210	166	1227	2227	142
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	36.0	36.0	15.0	84.0	69.0	69.0
Total Split (%)	30.0%	30.0%	12.5%	70.0%	57.5%	57.5%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	13.6	13.6	93.9	93.9	74.4	74.4
Actuated g/C Ratio	0.11	0.11	0.78	0.78	0.62	0.62
v/c Ratio	0.26	0.72	0.66	0.32	1.05	0.15
Control Delay	50.2	32.4	38.8	4.4	58.0	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	32.4	38.8	4.4	58.0	5.7
LOS	D	C	D	A	E	A
Approach Delay	35.9			8.5	54.8	
Approach LOS	D			A	D	
Queue Length 50th (m)	11.3	16.1	21.9	23.1	~294.6	4.9
Queue Length 95th (m)	21.8	39.5	45.5	41.0	#383.7	16.7
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	425	470	251	3776	2122	930
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.45	0.66	0.32	1.05	0.15

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 13 (11%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 37.6	Intersection LOS: D
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	87	146	126	61	129	172
Future Volume (vph)	87	146	126	61	129	172
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	97	162	140	68	143	191

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	259	208	334
Volume Left (vph)	97	0	143
Volume Right (vph)	162	68	0
Hadj (s)	-0.19	-0.16	0.15
Departure Headway (s)	5.0	4.9	5.0
Degree Utilization, x	0.36	0.28	0.47
Capacity (veh/h)	661	691	683
Control Delay (s)	10.9	9.8	12.3
Approach Delay (s)	10.9	9.8	12.3
Approach LOS	B	A	B

Intersection Summary			
Delay	11.2		
Level of Service	B		
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	204	16	50	201	23	41
Future Volume (vph)	204	16	50	201	23	41
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	227	18	56	223	26	46

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	245	279	72
Volume Left (vph)	0	56	26
Volume Right (vph)	18	0	46
Hadj (s)	-0.01	0.07	-0.26
Departure Headway (s)	4.4	4.4	4.8
Degree Utilization, x	0.30	0.34	0.10
Capacity (veh/h)	801	791	678
Control Delay (s)	9.2	9.7	8.3
Approach Delay (s)	9.2	9.7	8.3
Approach LOS	A	A	A

Intersection Summary			
Delay	9.3		
Level of Service	A		
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	180	10	18	207	26	47
Future Volume (Veh/h)	180	10	18	207	26	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	200	11	20	230	29	52
Pedestrians					100	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					10	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			311		576	306
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			311		576	306
tC, single (s)			4.3		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.4		3.6	3.4
p0 queue free %			98		93	92
cM capacity (veh/h)			1049		408	651

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	211	250	29	52
Volume Left	0	20	29	0
Volume Right	11	0	0	52
cSH	1700	1049	408	651
Volume to Capacity	0.12	0.02	0.07	0.08
Queue Length 95th (m)	0.0	0.4	1.7	2.0
Control Delay (s)	0.0	0.9	14.5	11.0
Lane LOS		A	B	B
Approach Delay (s)	0.0	0.9	12.3	
Approach LOS			B	

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

Future Background 2026

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	126	93	159	1824	889	62
Future Volume (vph)	126	93	159	1824	889	62
Lane Group Flow (vph)	126	93	159	1824	889	62
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	37.0	37.0	16.0	73.0	57.0	57.0
Total Split (%)	33.6%	33.6%	14.5%	66.4%	51.8%	51.8%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	13.8	13.8	83.7	83.7	69.1	69.1
Actuated g/C Ratio	0.13	0.13	0.76	0.76	0.63	0.63
v/c Ratio	0.59	0.36	0.38	0.49	0.43	0.07
Control Delay	56.0	12.7	6.6	5.8	11.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	12.7	6.6	5.8	11.9	2.9
LOS	E	B	A	A	B	A
Approach Delay	37.6			5.9	11.3	
Approach LOS	D			A	B	
Queue Length 50th (m)	26.0	0.0	7.5	44.6	46.4	0.0
Queue Length 95th (m)	42.9	13.9	15.8	65.6	73.0	5.6
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	477	455	432	3744	2068	900
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.20	0.37	0.49	0.43	0.07

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 73 (66%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 9.7	Intersection LOS: A
Intersection Capacity Utilization 59.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	69	120	136	122	92	95
Future Volume (vph)	69	120	136	122	92	95
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	69	120	136	122	92	95

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	189	258	187
Volume Left (vph)	69	0	92
Volume Right (vph)	120	122	0
Hadj (s)	-0.26	-0.23	0.13
Departure Headway (s)	4.7	4.4	4.8
Degree Utilization, x	0.24	0.31	0.25
Capacity (veh/h)	711	785	710
Control Delay (s)	9.2	9.4	9.4
Approach Delay (s)	9.2	9.4	9.4
Approach LOS	A	A	A

Intersection Summary			
Delay	9.3		
Level of Service	A		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	199	18	20	230	26	51
Future Volume (vph)	199	18	20	230	26	51
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	199	18	20	230	26	51

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	217	250	77
Volume Left (vph)	0	20	26
Volume Right (vph)	18	0	51
Hadj (s)	0.05	0.09	-0.31
Departure Headway (s)	4.4	4.4	4.6
Degree Utilization, x	0.27	0.31	0.10
Capacity (veh/h)	795	790	707
Control Delay (s)	9.0	9.3	8.1
Approach Delay (s)	9.0	9.3	8.1
Approach LOS	A	A	A

Intersection Summary			
Delay	9.0		
Level of Service	A		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	146	65	121	147	41	77
Future Volume (Veh/h)	146	65	121	147	41	77
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	146	65	121	147	41	77
Pedestrians					120	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					12	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			331		688	298
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			331		688	298
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			89		87	88
cM capacity (veh/h)			1077		315	645

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	211	268	41	77
Volume Left	0	121	41	0
Volume Right	65	0	0	77
cSH	1700	1077	315	645
Volume to Capacity	0.12	0.11	0.13	0.12
Queue Length 95th (m)	0.0	2.9	3.4	3.1
Control Delay (s)	0.0	4.5	18.1	11.3
Lane LOS		A	C	B
Approach Delay (s)	0.0	4.5	13.7	
Approach LOS			B	

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	46	191	155	1148	2084	133
Future Volume (vph)	46	191	155	1148	2084	133
Lane Group Flow (vph)	46	191	155	1148	2084	133
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	36.0	36.0	15.0	84.0	69.0	69.0
Total Split (%)	30.0%	30.0%	12.5%	70.0%	57.5%	57.5%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.4	12.4	95.1	95.1	76.7	76.7
Actuated g/C Ratio	0.10	0.10	0.79	0.79	0.64	0.64
v/c Ratio	0.26	0.68	0.66	0.30	0.95	0.14
Control Delay	51.9	28.6	39.2	3.8	32.3	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	28.6	39.2	3.8	32.3	4.8
LOS	D	C	D	A	C	A
Approach Delay	33.1			8.0	30.6	
Approach LOS	C			A	C	
Queue Length 50th (m)	10.4	11.6	19.6	19.2	205.5	3.7
Queue Length 95th (m)	20.5	33.7	41.8	34.7	#338.5	14.5
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	425	471	237	3823	2189	956
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.41	0.65	0.30	0.95	0.14

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 13 (11%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 23.0	Intersection LOS: C
Intersection Capacity Utilization 93.6%	ICU Level of Service F
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	88	147	129	62	132	175
Future Volume (vph)	88	147	129	62	132	175
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	88	147	129	62	132	175

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	235	191	307
Volume Left (vph)	88	0	132
Volume Right (vph)	147	62	0
Hadj (s)	-0.19	-0.16	0.15
Departure Headway (s)	4.9	4.8	4.9
Degree Utilization, x	0.32	0.25	0.42
Capacity (veh/h)	677	711	699
Control Delay (s)	10.2	9.4	11.4
Approach Delay (s)	10.2	9.4	11.4
Approach LOS	B	A	B

Intersection Summary			
Delay	10.5		
Level of Service	B		
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	206	16	51	203	23	41
Future Volume (vph)	206	16	51	203	23	41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	206	16	51	203	23	41

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	222	254	64
Volume Left (vph)	0	51	23
Volume Right (vph)	16	0	41
Hadj (s)	0.00	0.07	-0.26
Departure Headway (s)	4.3	4.4	4.7
Degree Utilization, x	0.27	0.31	0.08
Capacity (veh/h)	813	800	697
Control Delay (s)	8.9	9.3	8.1
Approach Delay (s)	8.9	9.3	8.1
Approach LOS	A	A	A

Intersection Summary			
Delay	9.0		
Level of Service	A		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	182	10	18	209	26	47
Future Volume (Veh/h)	182	10	18	209	26	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	182	10	18	209	26	47
Pedestrians					100	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					10	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			292		532	287
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			292		532	287
tC, single (s)			4.3		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.4		3.6	3.4
p0 queue free %			98		94	93
cM capacity (veh/h)			1066		433	666

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	192	227	26	47
Volume Left	0	18	26	0
Volume Right	10	0	0	47
cSH	1700	1066	433	666
Volume to Capacity	0.11	0.02	0.06	0.07
Queue Length 95th (m)	0.0	0.4	1.5	1.7
Control Delay (s)	0.0	0.8	13.8	10.8
Lane LOS		A	B	B
Approach Delay (s)	0.0	0.8	11.9	
Approach LOS			B	

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

Future Background 2031

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	129	95	174	2000	975	68
Future Volume (vph)	129	95	174	2000	975	68
Lane Group Flow (vph)	129	95	174	2000	975	68
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	37.0	37.0	16.0	73.0	57.0	57.0
Total Split (%)	33.6%	33.6%	14.5%	66.4%	51.8%	51.8%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	13.9	13.9	83.6	83.6	68.6	68.6
Actuated g/C Ratio	0.13	0.13	0.76	0.76	0.62	0.62
v/c Ratio	0.59	0.37	0.45	0.54	0.47	0.08
Control Delay	56.2	12.4	7.8	6.3	12.8	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	12.4	7.8	6.3	12.8	2.9
LOS	E	B	A	A	B	A
Approach Delay	37.6			6.4	12.1	
Approach LOS	D			A	B	
Queue Length 50th (m)	26.6	0.0	8.3	52.3	53.5	0.0
Queue Length 95th (m)	43.5	13.9	17.3	76.5	84.0	6.0
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	477	457	400	3738	2054	896
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.21	0.43	0.54	0.47	0.08

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 73 (66%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 62.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	70	123	142	128	96	100
Future Volume (vph)	70	123	142	128	96	100
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	70	123	142	128	96	100

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	193	270	196
Volume Left (vph)	70	0	96
Volume Right (vph)	123	128	0
Hadj (s)	-0.26	-0.23	0.13
Departure Headway (s)	4.7	4.4	4.8
Degree Utilization, x	0.25	0.33	0.26
Capacity (veh/h)	703	780	706
Control Delay (s)	9.3	9.6	9.5
Approach Delay (s)	9.3	9.6	9.5
Approach LOS	A	A	A

Intersection Summary			
Delay	9.5		
Level of Service	A		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	204	19	21	236	27	52
Future Volume (vph)	204	19	21	236	27	52
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	204	19	21	236	27	52

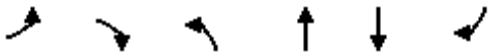
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	223	257	79
Volume Left (vph)	0	21	27
Volume Right (vph)	19	0	52
Hadj (s)	0.05	0.09	-0.30
Departure Headway (s)	4.4	4.4	4.7
Degree Utilization, x	0.27	0.32	0.10
Capacity (veh/h)	792	787	701
Control Delay (s)	9.1	9.5	8.2
Approach Delay (s)	9.1	9.5	8.2
Approach LOS	A	A	A

Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	150	65	121	151	41	77
Future Volume (Veh/h)	150	65	121	151	41	77
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	150	65	121	151	41	77
Pedestrians					120	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					12	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			335		696	302
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			335		696	302
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			89		87	88
cM capacity (veh/h)			1073		311	642

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	215	272	41	77
Volume Left	0	121	41	0
Volume Right	65	0	0	77
cSH	1700	1073	311	642
Volume to Capacity	0.13	0.11	0.13	0.12
Queue Length 95th (m)	0.0	2.9	3.4	3.1
Control Delay (s)	0.0	4.5	18.3	11.4
Lane LOS		A	C	B
Approach Delay (s)	0.0	4.5	13.8	
Approach LOS			B	

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

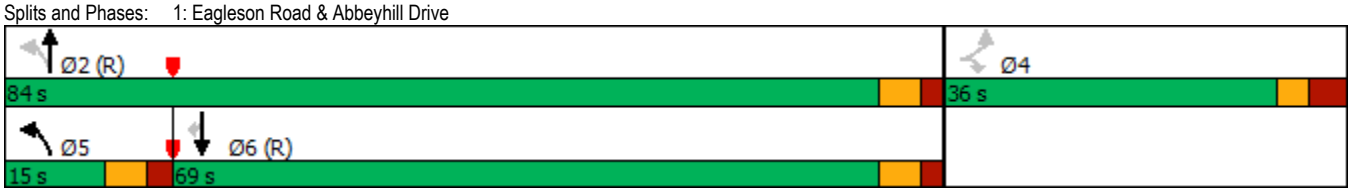


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	48	196	170	1259	2285	146
Future Volume (vph)	48	196	170	1259	2285	146
Lane Group Flow (vph)	48	196	170	1259	2285	146
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	36.0	36.0	15.0	84.0	69.0	69.0
Total Split (%)	30.0%	30.0%	12.5%	70.0%	57.5%	57.5%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.7	12.7	94.8	94.8	74.5	74.5
Actuated g/C Ratio	0.11	0.11	0.79	0.79	0.62	0.62
v/c Ratio	0.26	0.70	0.65	0.33	1.07	0.16
Control Delay	51.4	30.1	37.9	4.1	66.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	30.1	37.9	4.1	66.9	5.7
LOS	D	C	D	A	E	A
Approach Delay	34.3			8.1	63.2	
Approach LOS	C			A	E	
Queue Length 50th (m)	10.8	13.2	22.5	22.4	~307.1	5.1
Queue Length 95th (m)	21.0	35.6	45.7	40.0	#397.3	17.4
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	425	469	260	3809	2126	932
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.42	0.65	0.33	1.07	0.16

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 13 (11%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.07	
Intersection Signal Delay: 42.3	Intersection LOS: D
Intersection Capacity Utilization 100.4%	ICU Level of Service G
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	90	151	135	65	138	184
Future Volume (vph)	90	151	135	65	138	184
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	90	151	135	65	138	184

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	241	200	322
Volume Left (vph)	90	0	138
Volume Right (vph)	151	65	0
Hadj (s)	-0.19	-0.16	0.15
Departure Headway (s)	5.0	4.8	5.0
Degree Utilization, x	0.33	0.27	0.44
Capacity (veh/h)	668	704	694
Control Delay (s)	10.5	9.6	11.8
Approach Delay (s)	10.5	9.6	11.8
Approach LOS	B	A	B

Intersection Summary			
Delay	10.8		
Level of Service	B		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	211	17	52	208	24	42
Future Volume (vph)	211	17	52	208	24	42
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	211	17	52	208	24	42

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	228	260	66
Volume Left (vph)	0	52	24
Volume Right (vph)	17	0	42
Hadj (s)	-0.01	0.07	-0.25
Departure Headway (s)	4.3	4.4	4.7
Degree Utilization, x	0.27	0.32	0.09
Capacity (veh/h)	810	798	692
Control Delay (s)	9.0	9.4	8.2
Approach Delay (s)	9.0	9.4	8.2
Approach LOS	A	A	A

Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	186	10	18	214	26	47
Future Volume (Veh/h)	186	10	18	214	26	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	186	10	18	214	26	47
Pedestrians					100	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					10	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			296		541	291
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			296		541	291
tC, single (s)			4.3		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.4		3.6	3.4
p0 queue free %			98		94	93
cM capacity (veh/h)			1063		428	663

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	196	232	26	47
Volume Left	0	18	26	0
Volume Right	10	0	0	47
cSH	1700	1063	428	663
Volume to Capacity	0.12	0.02	0.06	0.07
Queue Length 95th (m)	0.0	0.4	1.5	1.7
Control Delay (s)	0.0	0.8	14.0	10.8
Lane LOS		A	B	B
Approach Delay (s)	0.0	0.8	12.0	
Approach LOS			B	

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		

Total Projected 2026

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	135	98	176	1824	889	69
Future Volume (vph)	135	98	176	1824	889	69
Lane Group Flow (vph)	135	98	176	1824	889	69
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	37.0	37.0	16.0	73.0	57.0	57.0
Total Split (%)	33.6%	33.6%	14.5%	66.4%	51.8%	51.8%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	14.3	14.3	83.2	83.2	68.2	68.2
Actuated g/C Ratio	0.13	0.13	0.76	0.76	0.62	0.62
v/c Ratio	0.61	0.37	0.43	0.49	0.44	0.08
Control Delay	56.2	12.3	7.4	6.0	12.5	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	12.3	7.4	6.0	12.5	3.0
LOS	E	B	A	A	B	A
Approach Delay	37.7			6.1	11.8	
Approach LOS	D			A	B	
Queue Length 50th (m)	27.8	0.0	8.6	46.0	47.7	0.0
Queue Length 95th (m)	45.0	14.0	17.9	67.7	75.8	6.1
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	477	459	429	3722	2041	891
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.21	0.41	0.49	0.44	0.08

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 73 (66%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 60.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	73	125	136	131	99	95
Future Volume (vph)	73	125	136	131	99	95
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	73	125	136	131	99	95

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	198	267	194
Volume Left (vph)	73	0	99
Volume Right (vph)	125	131	0
Hadj (s)	-0.26	-0.24	0.14
Departure Headway (s)	4.7	4.4	4.8
Degree Utilization, x	0.26	0.33	0.26
Capacity (veh/h)	705	779	703
Control Delay (s)	9.3	9.5	9.5
Approach Delay (s)	9.3	9.5	9.5
Approach LOS	A	A	A

Intersection Summary			
Delay	9.5		
Level of Service	A		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	213	21	20	254	31	51
Future Volume (vph)	213	21	20	254	31	51
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	213	21	20	254	31	51

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	234	274	82
Volume Left (vph)	0	20	31
Volume Right (vph)	21	0	51
Hadj (s)	0.05	0.08	-0.27
Departure Headway (s)	4.5	4.4	4.8
Degree Utilization, x	0.29	0.34	0.11
Capacity (veh/h)	785	784	685
Control Delay (s)	9.3	9.7	8.3
Approach Delay (s)	9.3	9.7	8.3
Approach LOS	A	A	A

Intersection Summary			
Delay	9.3		
Level of Service	A		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	144	82	152	144	53	95
Future Volume (Veh/h)	144	82	152	144	53	95
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	144	82	152	144	53	95
Pedestrians					120	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					12	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			346		753	305
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			346		753	305
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			86		81	85
cM capacity (veh/h)			1063		278	640

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	226	296	53	95
Volume Left	0	152	53	0
Volume Right	82	0	0	95
cSH	1700	1063	278	640
Volume to Capacity	0.13	0.14	0.19	0.15
Queue Length 95th (m)	0.0	3.8	5.2	3.9
Control Delay (s)	0.0	5.3	21.0	11.6
Lane LOS		A	C	B
Approach Delay (s)	0.0	5.3	15.0	
Approach LOS			B	

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	48	199	157	1148	2084	135
Future Volume (vph)	48	199	157	1148	2084	135
Lane Group Flow (vph)	48	199	157	1148	2084	135
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	36.0	36.0	15.0	84.0	69.0	69.0
Total Split (%)	30.0%	30.0%	12.5%	70.0%	57.5%	57.5%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	12.8	12.8	94.7	94.7	76.1	76.1
Actuated g/C Ratio	0.11	0.11	0.79	0.79	0.63	0.63
v/c Ratio	0.26	0.70	0.66	0.30	0.96	0.14
Control Delay	51.2	30.2	39.0	4.0	34.1	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	30.2	39.0	4.0	34.1	5.1
LOS	D	C	D	A	C	A
Approach Delay	34.3			8.2	32.3	
Approach LOS	C			A	C	
Queue Length 50th (m)	10.8	13.4	20.0	19.9	210.8	3.9
Queue Length 95th (m)	21.0	35.9	42.5	35.9	#342.6	15.1
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	425	471	240	3805	2170	949
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.42	0.65	0.30	0.96	0.14

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 13 (11%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 24.1	Intersection LOS: C
Intersection Capacity Utilization 93.7%	ICU Level of Service F
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	91	150	129	63	134	175
Future Volume (vph)	91	150	129	63	134	175
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	91	150	129	63	134	175

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	241	192	309
Volume Left (vph)	91	0	134
Volume Right (vph)	150	63	0
Hadj (s)	-0.18	-0.16	0.15
Departure Headway (s)	4.9	4.8	4.9
Degree Utilization, x	0.33	0.26	0.42
Capacity (veh/h)	676	708	695
Control Delay (s)	10.4	9.4	11.5
Approach Delay (s)	10.4	9.4	11.5
Approach LOS	B	A	B

Intersection Summary			
Delay	10.6		
Level of Service	B		
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	216	18	51	207	24	41
Future Volume (vph)	216	18	51	207	24	41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	216	18	51	207	24	41

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	234	258	65
Volume Left (vph)	0	51	24
Volume Right (vph)	18	0	41
Hadj (s)	-0.01	0.07	-0.25
Departure Headway (s)	4.3	4.4	4.7
Degree Utilization, x	0.28	0.31	0.09
Capacity (veh/h)	811	797	690
Control Delay (s)	9.0	9.4	8.2
Approach Delay (s)	9.0	9.4	8.2
Approach LOS	A	A	A

Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	182	12	24	208	33	59
Future Volume (Veh/h)	182	12	24	208	33	59
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	182	12	24	208	33	59
Pedestrians					100	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					10	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			294		544	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			294		544	288
tC, single (s)			4.3		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.4		3.6	3.4
p0 queue free %			98		92	91
cM capacity (veh/h)			1065		424	665

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	194	232	33	59
Volume Left	0	24	33	0
Volume Right	12	0	0	59
cSH	1700	1065	424	665
Volume to Capacity	0.11	0.02	0.08	0.09
Queue Length 95th (m)	0.0	0.5	1.9	2.2
Control Delay (s)	0.0	1.1	14.2	10.9
Lane LOS		A	B	B
Approach Delay (s)	0.0	1.1	12.1	
Approach LOS			B	

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		

Total Projected 2031

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	138	100	191	2000	975	75
Future Volume (vph)	138	100	191	2000	975	75
Lane Group Flow (vph)	138	100	191	2000	975	75
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	37.0	37.0	16.0	73.0	57.0	57.0
Total Split (%)	33.6%	33.6%	14.5%	66.4%	51.8%	51.8%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	14.4	14.4	83.1	83.1	67.6	67.6
Actuated g/C Ratio	0.13	0.13	0.76	0.76	0.61	0.61
v/c Ratio	0.61	0.37	0.49	0.54	0.48	0.08
Control Delay	56.4	12.1	8.8	6.5	13.5	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	12.1	8.8	6.5	13.5	3.0
LOS	E	B	A	A	B	A
Approach Delay	37.8			6.7	12.8	
Approach LOS	D			A	B	
Queue Length 50th (m)	28.5	0.0	9.5	53.7	55.0	0.0
Queue Length 95th (m)	45.9	14.1	19.6	78.9	87.7	6.5
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	477	460	399	3715	2023	886
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.22	0.48	0.54	0.48	0.08

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 73 (66%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.7	Intersection LOS: B
Intersection Capacity Utilization 63.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	74	128	142	137	103	100
Future Volume (vph)	74	128	142	137	103	100
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	74	128	142	137	103	100

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	202	279	203
Volume Left (vph)	74	0	103
Volume Right (vph)	128	137	0
Hadj (s)	-0.26	-0.24	0.14
Departure Headway (s)	4.8	4.4	4.9
Degree Utilization, x	0.27	0.34	0.28
Capacity (veh/h)	696	775	699
Control Delay (s)	9.5	9.7	9.7
Approach Delay (s)	9.5	9.7	9.7
Approach LOS	A	A	A

Intersection Summary			
Delay	9.7		
Level of Service	A		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	218	22	21	260	32	52
Future Volume (vph)	218	22	21	260	32	52
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	218	22	21	260	32	52

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	240	281	84
Volume Left (vph)	0	21	32
Volume Right (vph)	22	0	52
Hadj (s)	0.05	0.08	-0.27
Departure Headway (s)	4.5	4.5	4.8
Degree Utilization, x	0.30	0.35	0.11
Capacity (veh/h)	783	781	680
Control Delay (s)	9.4	9.8	8.4
Approach Delay (s)	9.4	9.8	8.4
Approach LOS	A	A	A

Intersection Summary			
Delay	9.4		
Level of Service	A		
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	148	82	152	148	53	95
Future Volume (Veh/h)	148	82	152	148	53	95
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	148	82	152	148	53	95
Pedestrians					120	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					12	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			350		761	309
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			350		761	309
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			86		81	85
cM capacity (veh/h)			1060		275	637

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	230	300	53	95
Volume Left	0	152	53	0
Volume Right	82	0	0	95
cSH	1700	1060	275	637
Volume to Capacity	0.14	0.14	0.19	0.15
Queue Length 95th (m)	0.0	3.8	5.3	4.0
Control Delay (s)	0.0	5.2	21.2	11.6
Lane LOS		A	C	B
Approach Delay (s)	0.0	5.2	15.1	
Approach LOS			C	

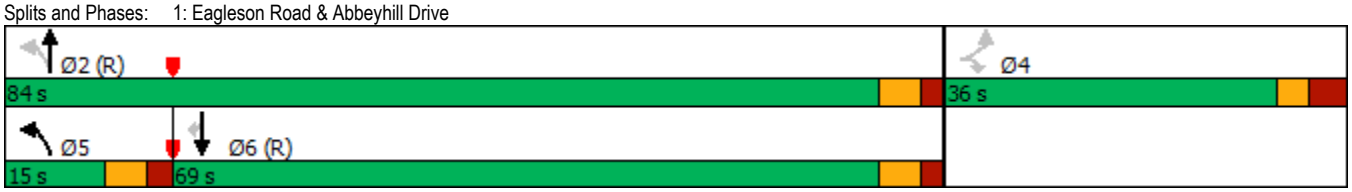
Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	204	172	1259	2285	148
Future Volume (vph)	50	204	172	1259	2285	148
Lane Group Flow (vph)	50	204	172	1259	2285	148
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	35.5	35.5	11.0	16.0	37.0	37.0
Total Split (s)	36.0	36.0	15.0	84.0	69.0	69.0
Total Split (%)	30.0%	30.0%	12.5%	70.0%	57.5%	57.5%
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.5	3.5	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	13.2	13.2	94.3	94.3	73.9	73.9
Actuated g/C Ratio	0.11	0.11	0.79	0.79	0.62	0.62
v/c Ratio	0.26	0.71	0.66	0.33	1.08	0.16
Control Delay	50.8	31.7	38.3	4.3	70.7	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	31.7	38.3	4.3	70.7	5.9
LOS	D	C	D	A	E	A
Approach Delay	35.4			8.4	66.7	
Approach LOS	D			A	E	
Queue Length 50th (m)	11.2	15.0	23.1	23.3	~310.7	5.3
Queue Length 95th (m)	21.7	38.1	46.9	41.2	#398.4	17.6
Internal Link Dist (m)	492.7			71.9	357.0	
Turn Bay Length (m)	20.0		40.0			
Base Capacity (vph)	425	469	262	3790	2109	925
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.43	0.66	0.33	1.08	0.16

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 13 (11%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 44.5	Intersection LOS: D
Intersection Capacity Utilization 100.5%	ICU Level of Service G
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Eagleson Road & Abbeyhill Drive



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	93	154	135	66	140	184
Future Volume (vph)	93	154	135	66	140	184
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	93	154	135	66	140	184

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	247	201	324
Volume Left (vph)	93	0	140
Volume Right (vph)	154	66	0
Hadj (s)	-0.19	-0.16	0.15
Departure Headway (s)	5.0	4.8	5.0
Degree Utilization, x	0.34	0.27	0.45
Capacity (veh/h)	667	700	691
Control Delay (s)	10.6	9.6	11.9
Approach Delay (s)	10.6	9.6	11.9
Approach LOS	B	A	B

Intersection Summary			
Delay	10.9		
Level of Service	B		
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	221	19	52	212	25	42
Future Volume (vph)	221	19	52	212	25	42
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	221	19	52	212	25	42

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	240	264	67
Volume Left (vph)	0	52	25
Volume Right (vph)	19	0	42
Hadj (s)	-0.01	0.07	-0.24
Departure Headway (s)	4.3	4.4	4.8
Degree Utilization, x	0.29	0.32	0.09
Capacity (veh/h)	809	795	684
Control Delay (s)	9.1	9.5	8.2
Approach Delay (s)	9.1	9.5	8.2
Approach LOS	A	A	A

Intersection Summary			
Delay	9.2		
Level of Service	A		
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	186	12	24	213	33	59
Future Volume (Veh/h)	186	12	24	213	33	59
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	186	12	24	213	33	59
Pedestrians					100	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.0	
Percent Blockage					10	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			298		553	292
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			298		553	292
tC, single (s)			4.3		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.4		3.6	3.4
p0 queue free %			98		92	91
cM capacity (veh/h)			1061		419	662

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	198	237	33	59
Volume Left	0	24	33	0
Volume Right	12	0	0	59
cSH	1700	1061	419	662
Volume to Capacity	0.12	0.02	0.08	0.09
Queue Length 95th (m)	0.0	0.5	1.9	2.2
Control Delay (s)	0.0	1.1	14.3	11.0
Lane LOS		A	B	B
Approach Delay (s)	0.0	1.1	12.2	
Approach LOS			B	

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix J:

MMLOS Analysis for Intersections

Multi-Modal Level of Service - Intersections Form

Consultant	**Parsons**	**Project**	**AYJ SS TIA**
Scenario	**Existing and Future**	**Date**	**15-Oct-24**
Comments			

	INTERSECTIONS	Abbeyhill / Eagleson			
	Crossing Side	**NORTH**	**SOUTH**	**EAST**	**WEST**
Pedestrian	Lanes	8	7		6
	Median	No Median - 2.4 m	No Median - 2.4 m		No Median - 2.4 m
	Conflicting Left Turns	Permissive	No left turn / Prohib.		Protected/ Permissive
	Conflicting Right Turns	No right turn	Permissive or yield control		Permissive or yield control
	Right Turns on Red (RToR) ?	RTOR allowed	RTOR allowed		RTOR prohibited
	Ped Signal Leading Interval?	No	No		No
	Right Turn Channel	No Channel	No Right Turn		No Channel
	Corner Radius	15-25m	No Right Turn		15-25m
	Crosswalk Type	Std transverse markings	Std transverse markings		Std transverse markings
	PETSI Score	**-9**	**22**		**21**
	Ped. Exposure to Traffic LoS	**F**	**F**	**-**	**F**
	Cycle Length		110		110
	Effective Walk Time		40		9
	Average Pedestrian Delay		**22**		**46**
	Pedestrian Delay LoS	**-**	**C**	**-**	**E**
	Level of Service	**F**	**F**	**-**	**F**
		F			
	Approach From	**NORTH**	**SOUTH**	**EAST**	**WEST**
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic			Mixed Traffic
	Right Turn Lane Configuration	> 50 m			≤ 50 m
	Right Turning Speed	≤ 25 km/h			≤ 25 km/h
	Cyclist relative to RT motorists	**F**	**-**	**-**	**D**
	Separated or Mixed Traffic	**Mixed Traffic**	**-**	**-**	**Mixed Traffic**
	Left Turn Approach		One lane crossed		No lane crossed
	Operating Speed		≥ 60 km/h		> 40 to ≤ 50 km/h
	Left Turning Cyclist	**-**	**F**	**-**	**B**
	Level of Service	**-**	**-**	**-**	**D**
		D			
Transit	Average Signal Delay	> 40 sec	≤ 40 sec		≤ 40 sec
	Level of Service	**F**	**E**	**-**	**E**
		F			
Truck	Effective Corner Radius	> 15 m			> 15 m
	Number of Receiving Lanes on Departure from Intersection	1			≥ 2
	Level of Service	**C**	**-**	**-**	**A**
		C			