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Transportation Impact Assessment

Proposed French Catholic Secondary School, Riverside South

675 Borbridge Avenue, Ottawa

March 2025 – 24-9182

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Certification

1. I have reviewed and have a sound understanding of the objectives, needs, and requirements of the City of Ottawa's Official Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the presentation of transportation impact assessment reports, including multimodal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering, or traffic operations; and,
4. I am either a licensed or registered professional in good standing, whose field of expertise is either transportation engineering or transportation planning.

Signature of individual certifier that s/he meets the above four criteria.

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1.0 Screening

1.1 Summary of Development

Municipal Address	675 Borbridge Avenue, Ottawa, Ontario.
Description of Location	The site is located within the Urbandale Phase 15 development at the southeast corner of the Borbridge Avenue and Brian Good Avenue intersection in Ottawa, Ontario. The limits of the lot are bounded by Borbridge Avenue to the north, to approximately 245 metres south, as well as Brian Good Avenue to the west to approximately 250 metres east.
Land Use Classification	I1A/R4Z – Minor Institutional Zone / Residential Fourth Density Zone
Development Size	The proposed development is a two-storey French Catholic secondary school with a childcare centre. It has a gross floor area of approximately 9,000 m2 (96,875 square feet). When it opens in September 2027, the school will support 826 students and 80 staff members. It is anticipated that 12 portables will be required in the future, accommodating an additional 360 students and 20 staff members, for a total of 1,186 students and 100 staff. A childcare facility inside the building will accommodate an additional 49 students and 10 staff members. An 87-space parking area is proposed on the site.
Number of accesses and locations	One driveway access is proposed to Borbridge Avenue, located approximately 120 metres east of Brian Good Avenue and 140 metres west of Eider Street. This driveway provides access to the parking lot and the main entranceway. Along the south side of Borbridge Avenue, west of the driveway access, is a proposed parking bay that can accommodate seven passenger vehicles (approximately 50 metres long). Along the east side of Brian Good Avenue, two proposed bus bays can accommodate five buses each, for 10 buses. The south bus bay could be extended to accommodate additional buses.
Phases of development	1
Build-out year	August 2027

1.2 Trip Generation Trigger

The proposed secondary school is anticipated to generate over 60 person trips during the peak hour, satisfying the trip generation trigger. Therefore, a transportation impact assessment is required.

Land Use Type	Minimum Development Size	Yes	No
Single-family homes	40 units		x
Townhomes or apartments	90 units		x
Office	3,500 sq.m.		x
Industrial	5,000 sq.m.		x
Fast-food restaurant or coffee shop	100 sq.m.		x
Destination retail	1,000 sq.m.		x
Gas station or convenience market	75 sq.m.		x
Other	60 person trips or more during weekday peak hours	x	

1.3 Location Triggers

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

1.4 Safety Triggers

Criteria	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**

Since the development satisfies the Trip Generation Trigger, this TIA study will address both the Design Review and Network Impact Components.

2.0 Scoping

2.1 Existing and Planned Conditions

2.1.1 Proposed Development

The proposed development is a French-Catholic high school located within the Urbandale Phase 15 Lands in the Riverside South Community, and north of the Claridge Homes, Riverside South Phase 2 development. The proposed school site is currently undeveloped and is located in the southeast corner of the Borbridge Avenue and Brian Good Avenue intersection in Ottawa, Ontario. The limits of the lot are bound by Borbridge Avenue to the north, to approximately 245 metres to the south, and from Brian Good Avenue on the west side of the property to approximately 250 metres to the east. **Figure 1** illustrates the location of the proposed development and **Figure 2** illustrates the proposed study area intersections to be considered within this TIA. **Figure 3** illustrates the proposed site plan.

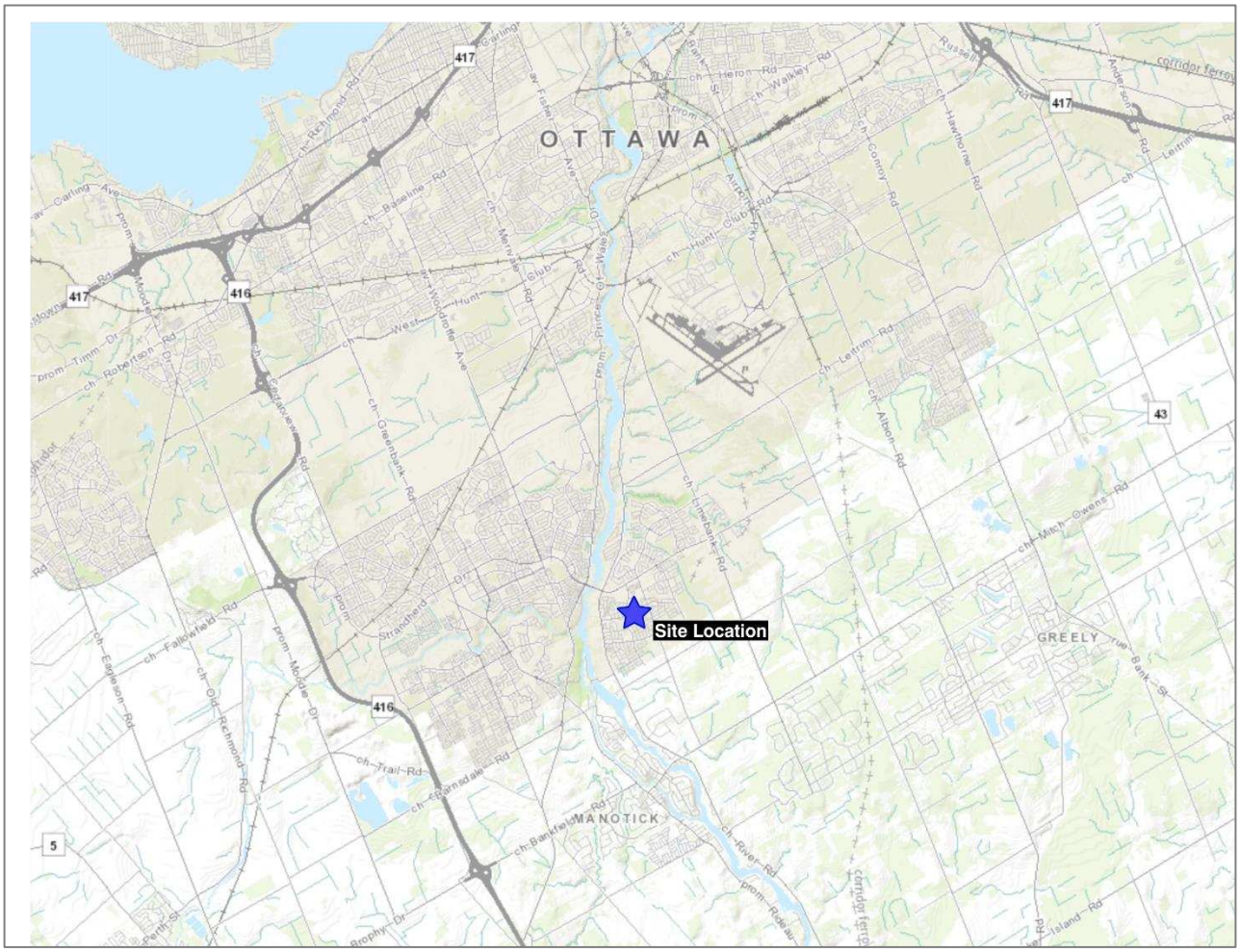
The study area intersections included within this study are as follows,

- Earl Armstrong Road at Brian Good Avenue;
- Borbridge Avenue at River Road;
- Borbridge Avenue at Brian Good Avenue; and,
- Borbridge Avenue at Spratt Road.

The site location is currently zoned as an I1A/R4Z – Minor Institutional Zone / Residential Fourth Density Zone which permits a school and daycare among other types of developments. The school and daycare facility are anticipated to be under construction starting in 2025 and opening in September 2027. By 2032, twelve portables are anticipated to be needed and will be installed on-site. For this Traffic Impact Assessment, we have assumed that the site will be fully developed, including the portables, by September 2027.

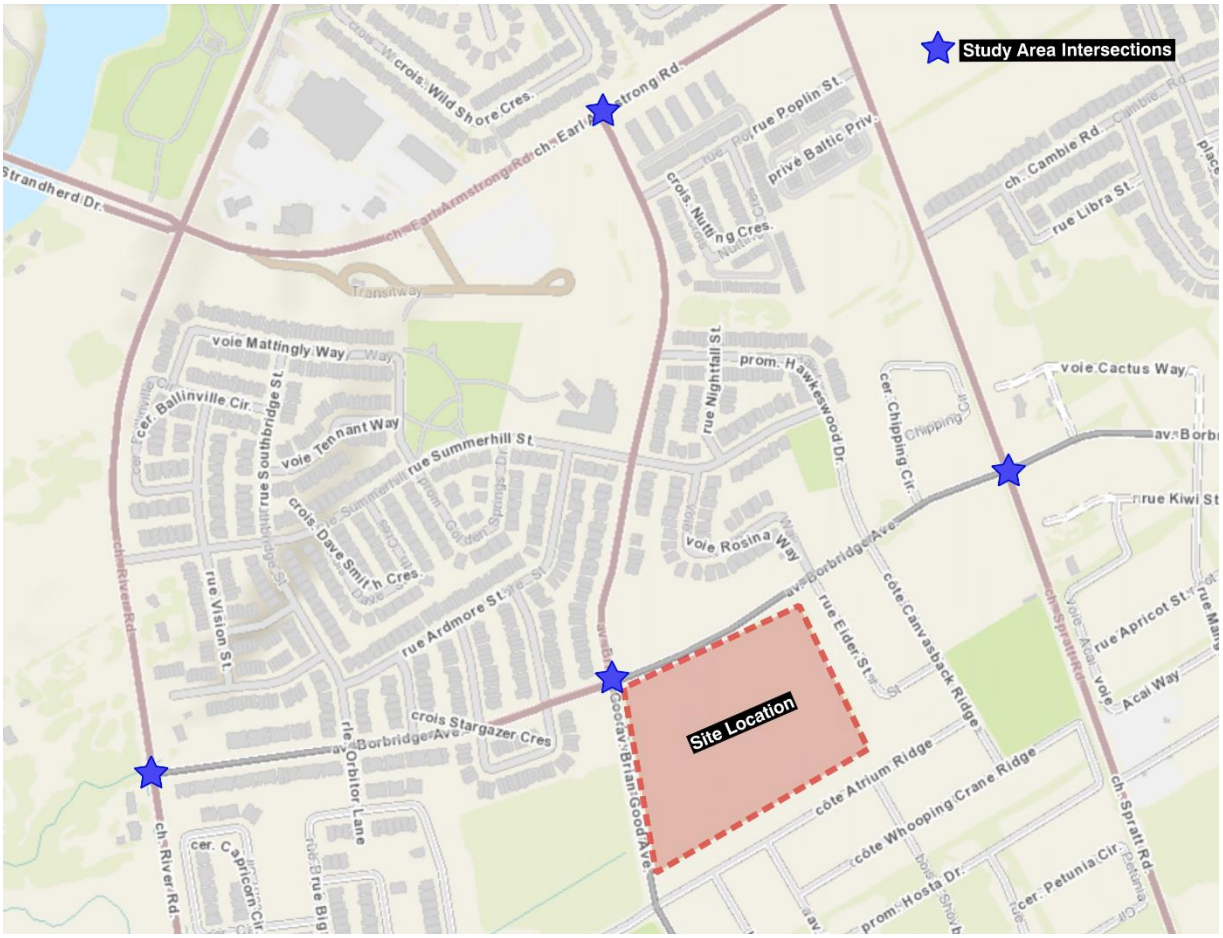
The proposed site plan provides an 87-space parking lot for staff, including a lay-by for student drop-off/pick-ups. Access to the parking lot would be via a single entrance from Borbridge Avenue. The site plan also proposes a dedicated on-street lay-by for school buses on Brian Good Avenue that can accommodate approximately 14 school buses and a layby on Borbridge Avenue for student drop-off.

Figure 1: Site Location



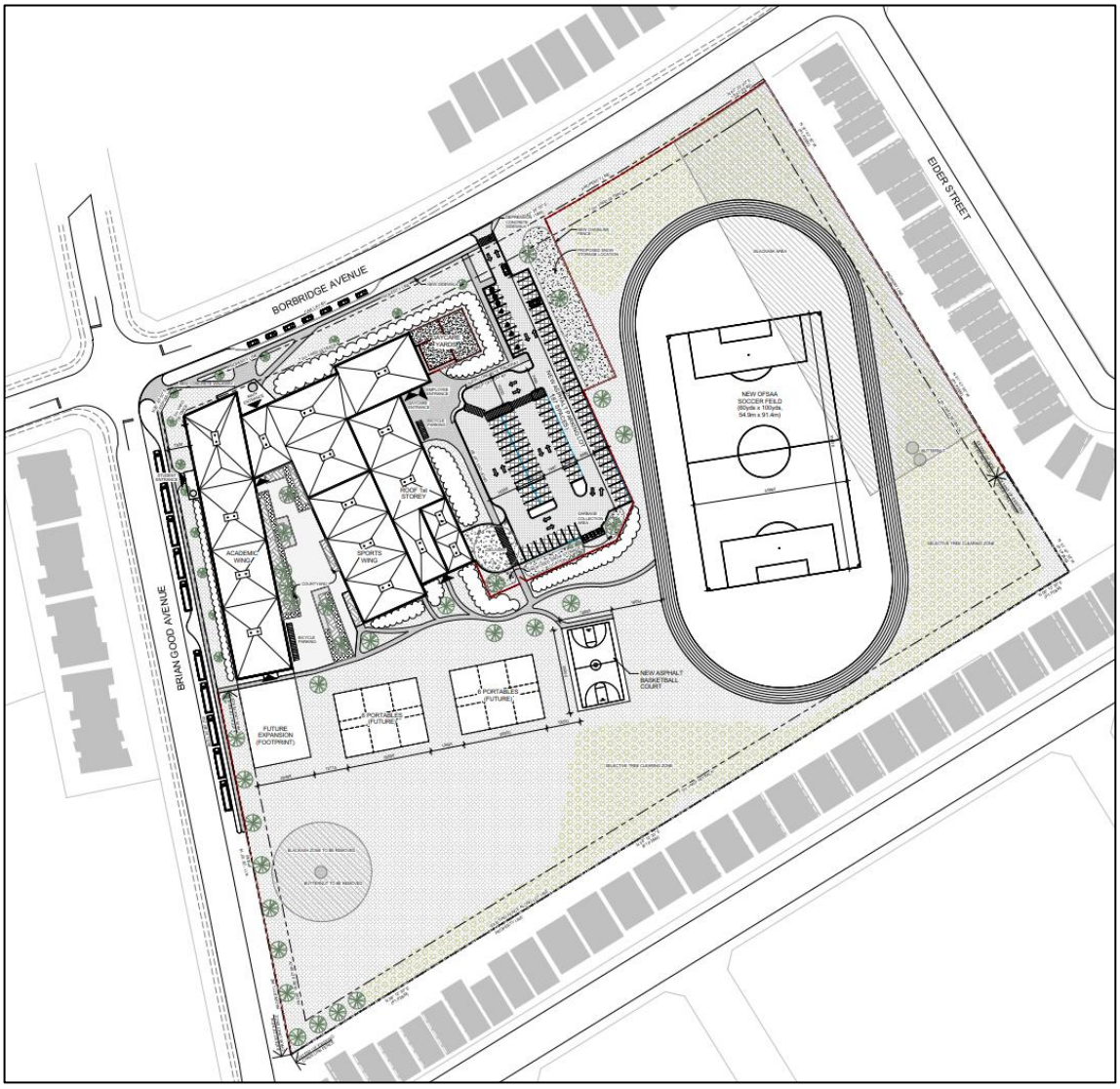
Background map source: geoOttawa, accessed December 2024

Figure 2: Study Area Intersections



Background map Source: geoOttawa, accessed December 2024

Figure 3: Proposed Site Plan



Source: Site plan by GRC Architects, dated Jan 27, 2025.

2.1.2 Existing Conditions

The subject site is currently undeveloped. **Figure 4** is a photo (taken in January 2025) of Borbridge Avenue adjacent to the school site, looking west towards Brian Good Avenue. The curb-to-curb width of Borbridge Avenue is approximately 11.0 metres.

Figure 4: Borbridge Avenue Looking West towards Brian Good Avenue (January 2025)

Source: Dillon Consulting

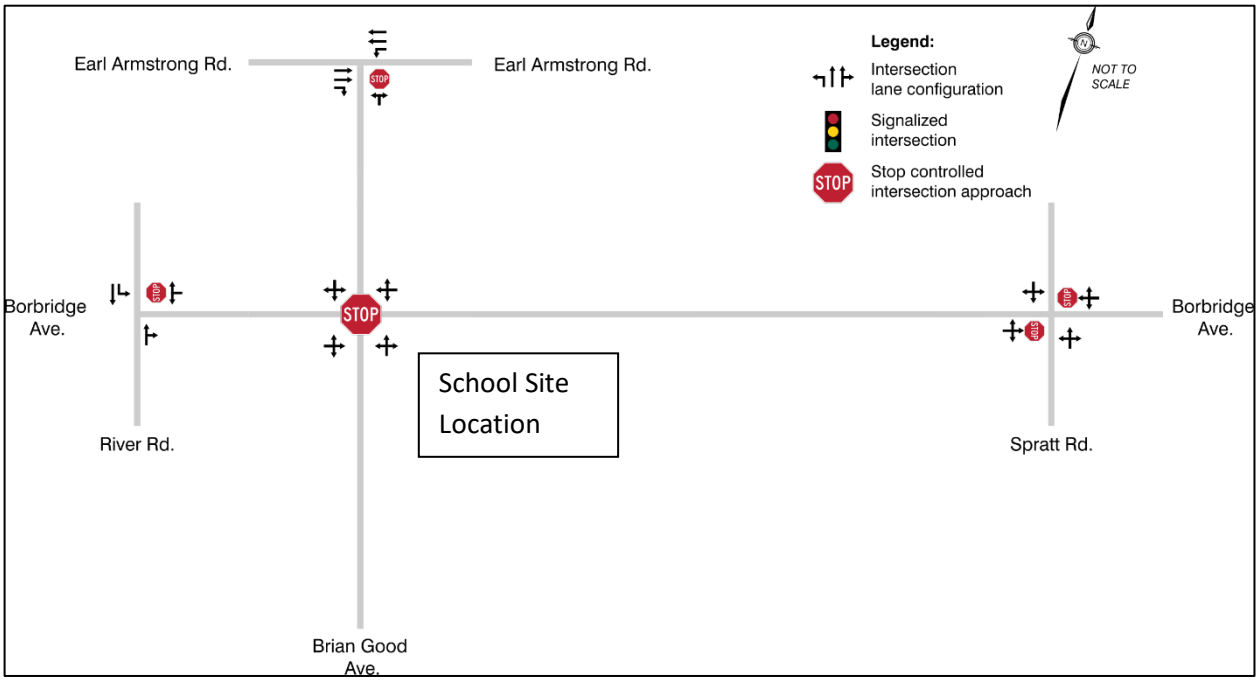
2.1.2.1 Roads and Traffic Control

The roadways under consideration in the study area are described as follows:

Brian Good Avenue	Brian Good Avenue is a municipally owned, two-lane collector road running north-south from Earl Armstrong Road in the north to Chorus Drive in the south within the Riverside South community. The roadway is approximately 11 metres wide with a posted speed limit of 50 km/h.
Borbridge Avenue	Borbridge Avenue is a municipally owned, two-lane collector road running east-west from River Road west to Ralph Hennessy Avenue east, through the Riverside South community. The unposted speed limit is 50 km/h. The roadway is approximately 11 metres wide adjacent to the school site.
Earl Armstrong Road	Earl Armstrong Road is a municipally owned, four-lane urban arterial roadway running east-west from the Rideau River (to the west of the Rideau River, it becomes Strandherd Drive) to High Road in the east near the Bowesville OC Transpo Station.
River Road	River Road is a municipally owned, two-lane urban arterial roadway running north-south along the east side of the Rideau River from Riverside Drive / Limebank Road south to beyond the City limits. River Road has a four-lane urban cross-section at the intersection with Earl Armstrong Road.
Spratt Road	Spratt Road is a municipally owned, two-lane major collector road running north-south from Limebank Road to Mitch Owens Road. Just north of Earl Armstrong Road, it has an urban cross-section and a posted speed limit of 60 km/h. To the south of Earl Armstrong Road, the roadway transitions to a rural cross-section with a posted speed limit of 80 km/h.

Figure 5 illustrates the existing lane configurations and traffic control for the study area intersections.

Figure 5: Existing Lane Geometry and Traffic Control



2.1.2.2 Walking and Cycling

The crosstown bikeway network extends east-west along Earl Armstrong Road, through the Brian Good Avenue intersection. Dedicated bike lanes and sidewalks are present on each side of the Earl Armstrong Road.

There are no bike lanes on Brian Good Avenue and Borbridge Avenue. Sidewalks are provided on both sides of Brian Good Avenue and Borbridge Avenue.

River Road near the Borbridge Road intersection does not provide sidewalks. Paved shoulders are signed as a bicycle route.

Spratt Road near the Borbridge Road intersection provides a sidewalk on the west side of the road which runs from the intersection north to Earl Armstrong Road. From the Spratt Road and Cambie Road intersection (approximately 250 metres north of Borbridge Road), sidewalks and on-street bicycle lanes are provided on both sides of the roadway, north toward Earl Armstrong Road.

2.1.2.3 Transit

OC Transpo operates transit service in the study area. The OC Transpo Riverview Station is just west of the Earl Armstrong and Brian Good intersection.

Figure 6 illustrates the transit routes servicing the surrounding area as of April 2025, based on the New Ways to Bus policy.

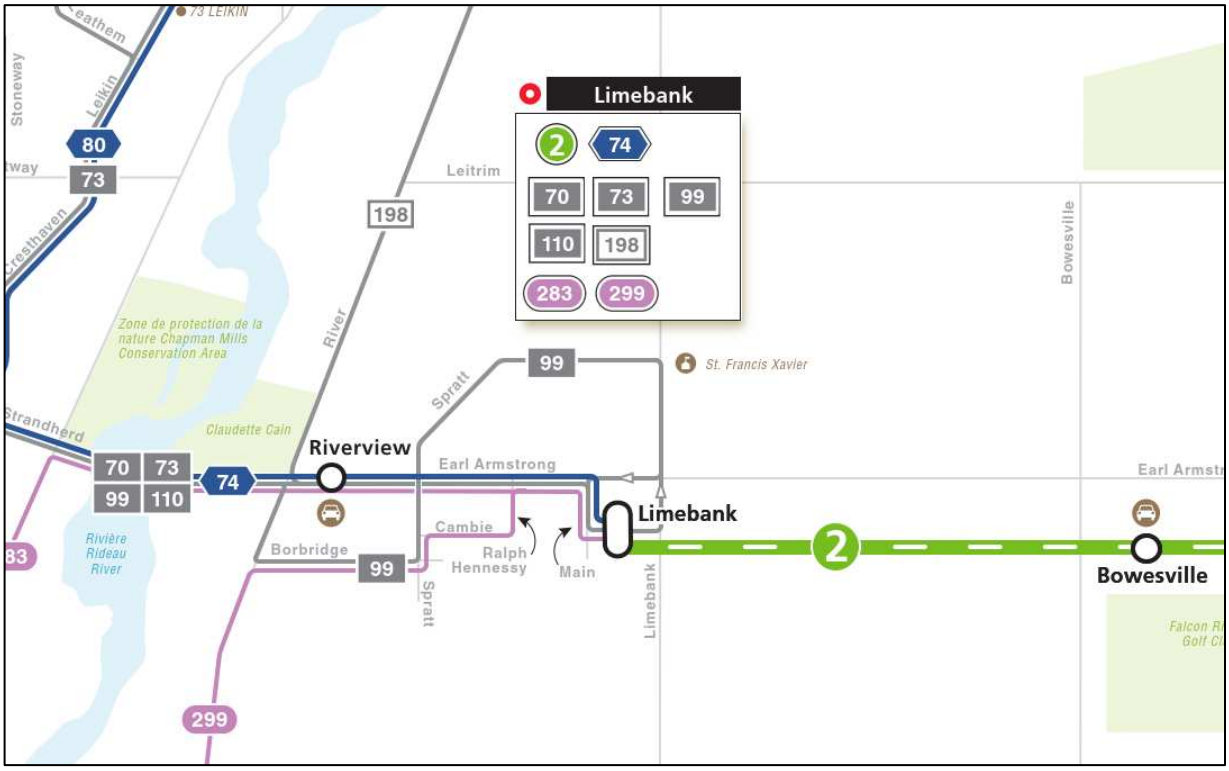
Route 299 Hurdman/Manotick provides service only from Monday to Friday during peak periods. The route travels north-south through the study area, passing through the intersections of Borbridge Avenue and River Road and Borbridge Avenue and Brian Good Avenue. This route passes immediately by the proposed school. The service provides just two stops in the AM peak hour on nearly 1-hour headways from Manotick to Hurdman. In the PM peak hour, the service provides two stops on nearly 50-minute headways in the PM peak period.

Route 99 Barhaven Centre will run between Barrhaven Centre and Limebank Station and will travel along Borbridge Avenue directly in front of the school. The local service will operate 7-days a week with all day service.

Routes 70, 73, 74 & 110 will travel east-west through the Earl Armstrong Road and Brian Good Avenue intersection offering all day service and frequent arrivals.

Line 2 (Light Rail Transit) connects Riverside South to the downtown core and operates on approximately 12-minute headways during the AM peak hour and PM peak commuter hours.

Figure 6: April 2025 Transit Routes



2.1.2.4 Traffic Management Measures

A speed warning device displays and flash vehicle travel speeds on Brian Good Avenue to the south of Borbridge Avenue. On Borbridge Avenue, the "Maximum Speed Limit is 50 km/h" is painted on the asphalt.

2.1.2.5 Traffic Volumes

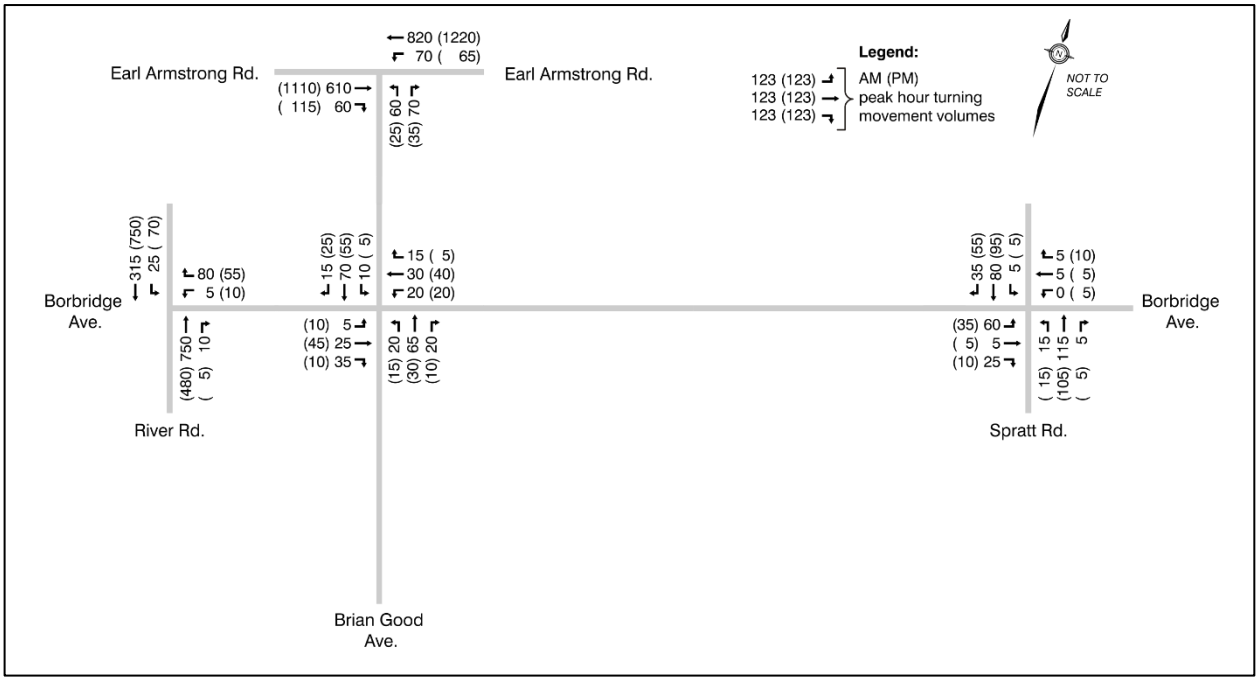
Table 1 summarizes the traffic counts used for this study. **Appendix A** contains the traffic count data.

Table 1: Traffic Counts

Intersection	Date and Time Periods	Source
1. Earl Armstrong Road at Brian Good Avenue	December 10, 2024 (Tuesday, 8 hours)	City of Ottawa
2. Borbridge Avenue at River Road	December 10, 2024 (Tuesday, 8 hours)	City of Ottawa
3. Borbridge Avenue at Brian Good Avenue	December 10, 2024 (Tuesday, 8 hours)	City of Ottawa
4. Borbridge Avenue at Spratt Road	January 7, 2025 (AM peak) January 8, 2025 (PM peak)	Dillon Consulting Limited

The existing weekday AM and PM traffic volumes are illustrated in **Figure 7**, and have been rounded to the nearest 5.

Figure 7: Existing Traffic Conditions, 2024/2025



2.1.2.6 Collision History

The City of Ottawa provided the most recent collision data for the five years from 2018 to 2022. The following summarizes the collision history at each study area intersection over that period.

- Borbridge Avenue at River Road – No reported collisions
- Borbridge Avenue at Brian Good Avenue – No reported collisions
- Borbridge Avenue at Spratt Road – No reported collisions
- Brian Good at Earl Armstrong – seven collisions, three involving a right-angle collision, one of the seven collisions involved a pedestrian, no correctable pattern observed.

2.1.3 Planned Conditions

2.1.3.1 Active Transportation

The City of Ottawa's Active Transportation Projects document, published in 2023, was reviewed to identify potential changes to the active transportation network that would occur by the 2032 horizon year. The goal of the active transportation projects is to link critical pieces of the city's active transportation network.

Active transportation projects include pedestrian and cycling projects, such as adding or upgrading sidewalks, multi-use paths (MUPs), bike lanes, cycle tracks, bridges, street crossings, and significant structures.

The 2023 Active Transportation document identifies the following projects that are most applicable to the study area:

- Spratt Road Cycling: Feasibility study to add buffered cycling facilities on Spratt Road from Earl Armstrong Road to Urbandale Shopping Plaza Entrance. Cycling facility will be added through lane removal. This project is located north of Earl Armstrong and is not within this study area; and
- Riverview Park & Ride Pathway: A pathway will be constructed between Riverview Park & Ride and Brian Good Avenue at Poplin Street.

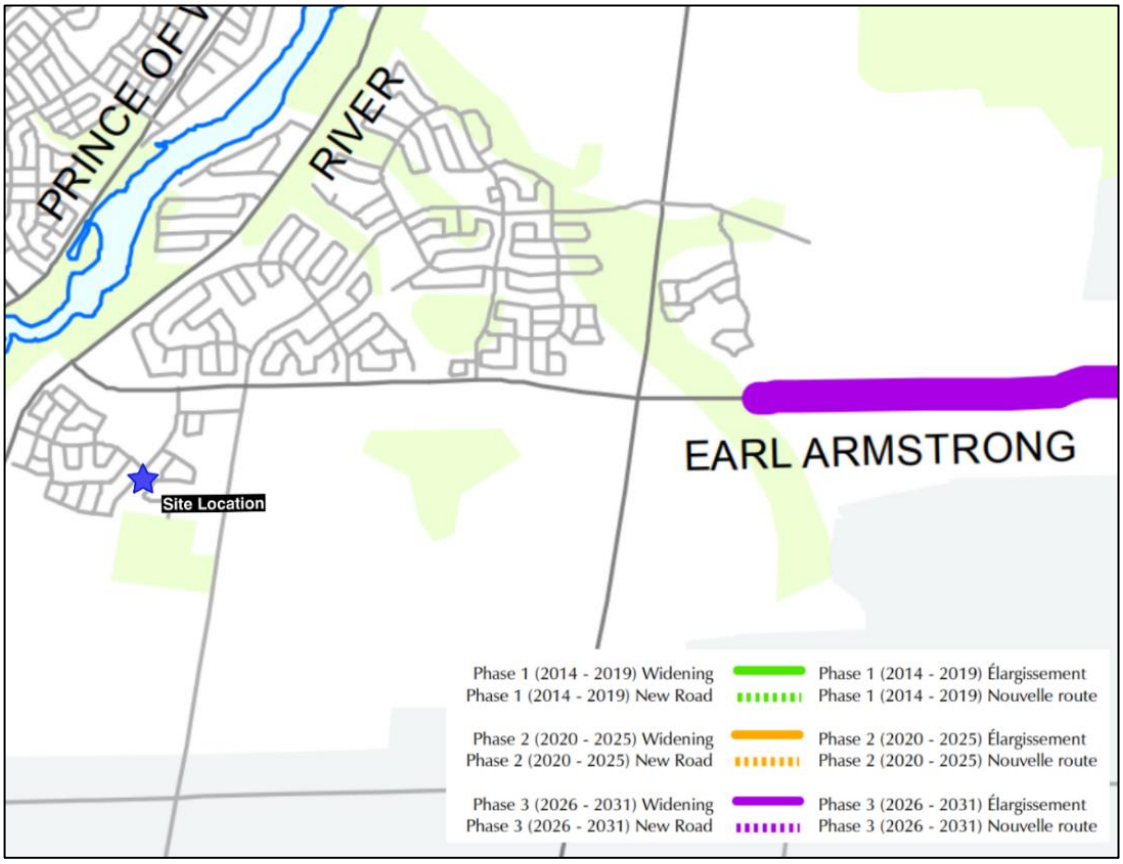
No horizon year was indicated for the above noted projects.

2.1.3.2 Road Network Improvements

Figure 8 shows the 2031 'Affordable' Road Network as proposed in the 2013 Transportation Master Plan (TMP) for the Riverside South area. Notable proposed road network changes include a road widening along Earl Armstrong Road to the east of Limebank Road, which was scheduled to occur between 2026 and 2031.

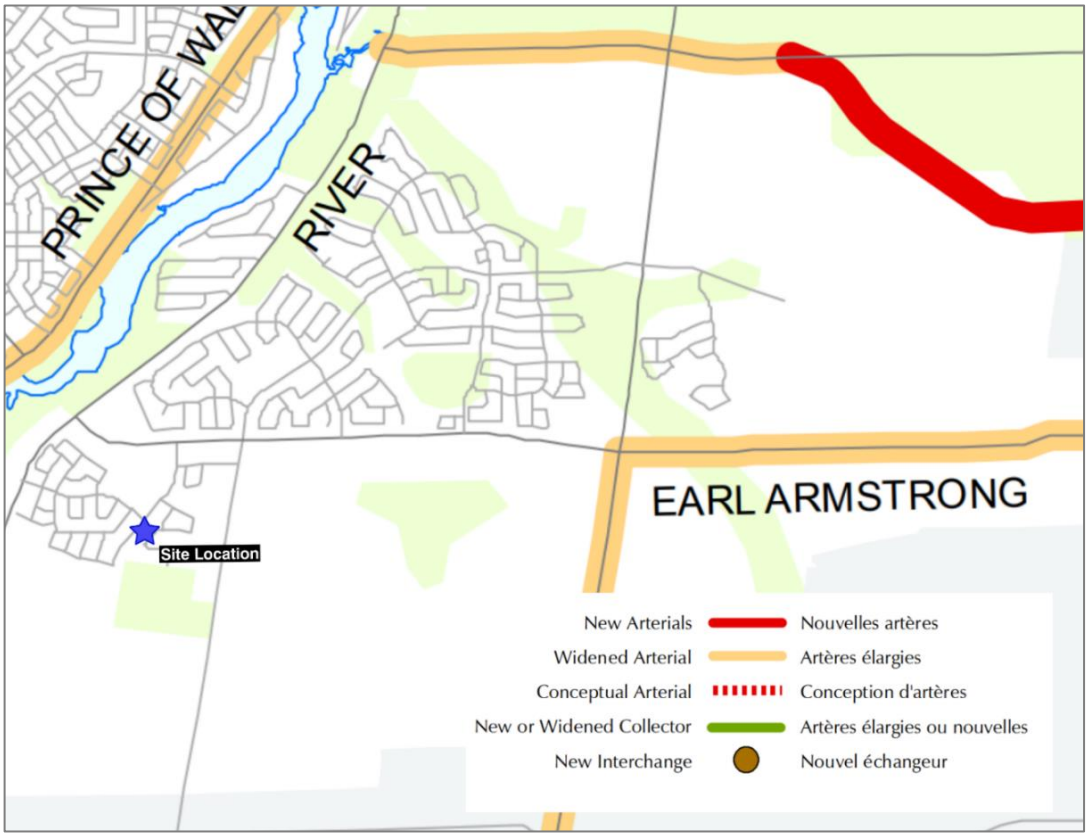
Figure 9 shows the 2031 Road Network Concept, which indicates a widening of Limebank Road, Earl Armstrong Road, Prince of Wales Drive, and a realignment of Leitrim Road. The timing for these projects is currently unknown.

Figure 8: 2031 Affordable Road Network



Source: City of Ottawa 2013 TMP, 2031 Affordable Road Network

Figure 9: 2031 Road Network Concept



Source: City of Ottawa 2013 TMP, 2031 Road Network Concept

2.1.3.3 Walking and Cycling

Figure 10 illustrates the planned walking and cycling facilities from the Riverside South Community Design Plan (CDP), 2016. The CDP shows Brian Good Avenue and Borbridge Avenue as collector roadways.

The City of Ottawa Transportation Master Plan (2023), Part 1, Active Transportation Network map as shown in **Figure 11** and indicates that Earl Armstrong Road will be a part of the Crosstown Bikeway.

Figure 10: Planned Walking and Cycling Facilities (Riverside South Community Design Plan, 2016)

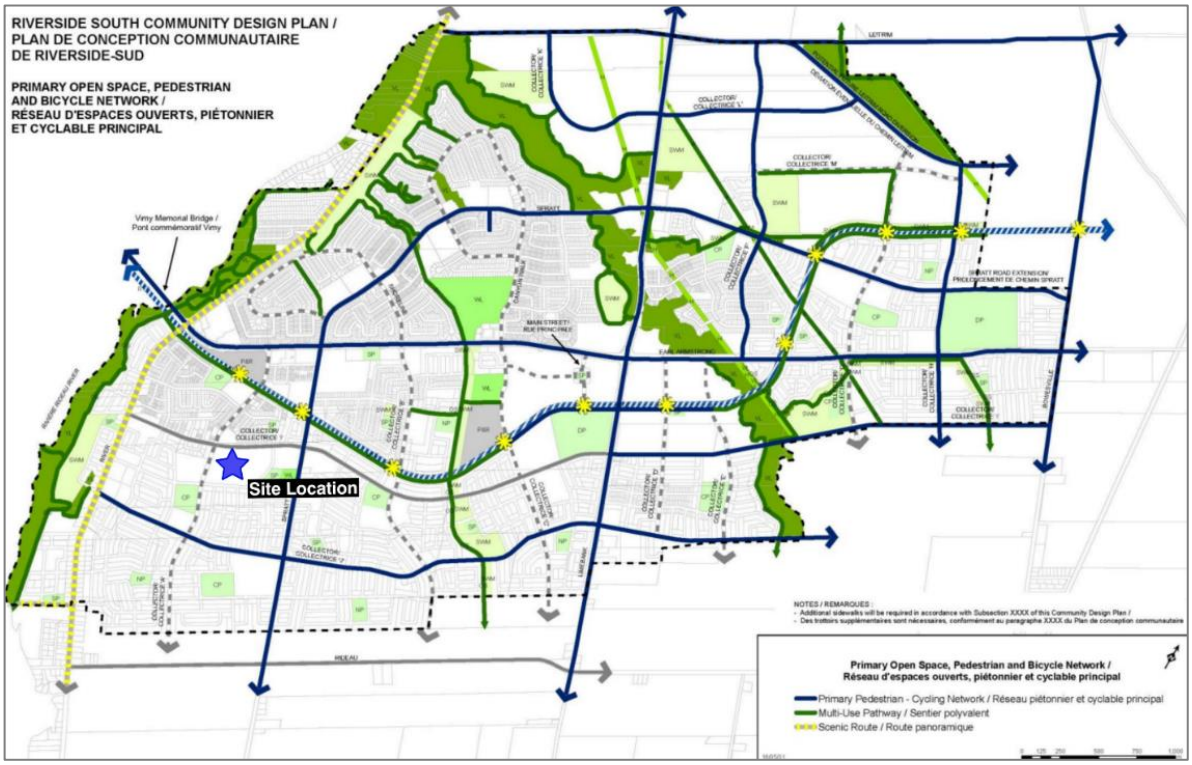
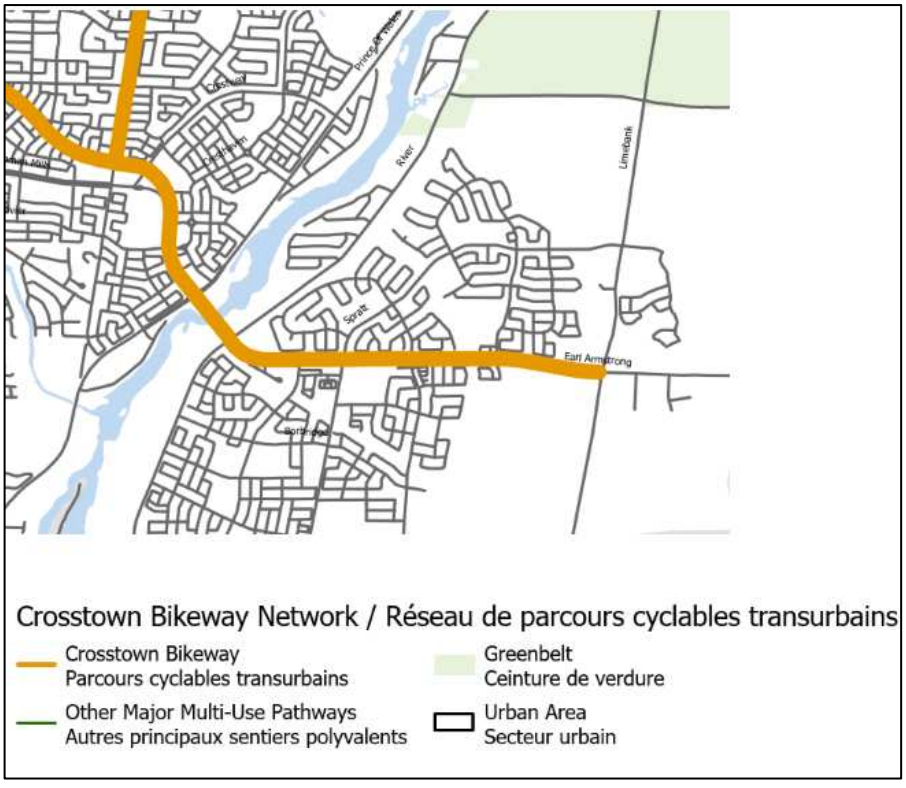


Figure 11: 2023 TMP Active Transportation Network



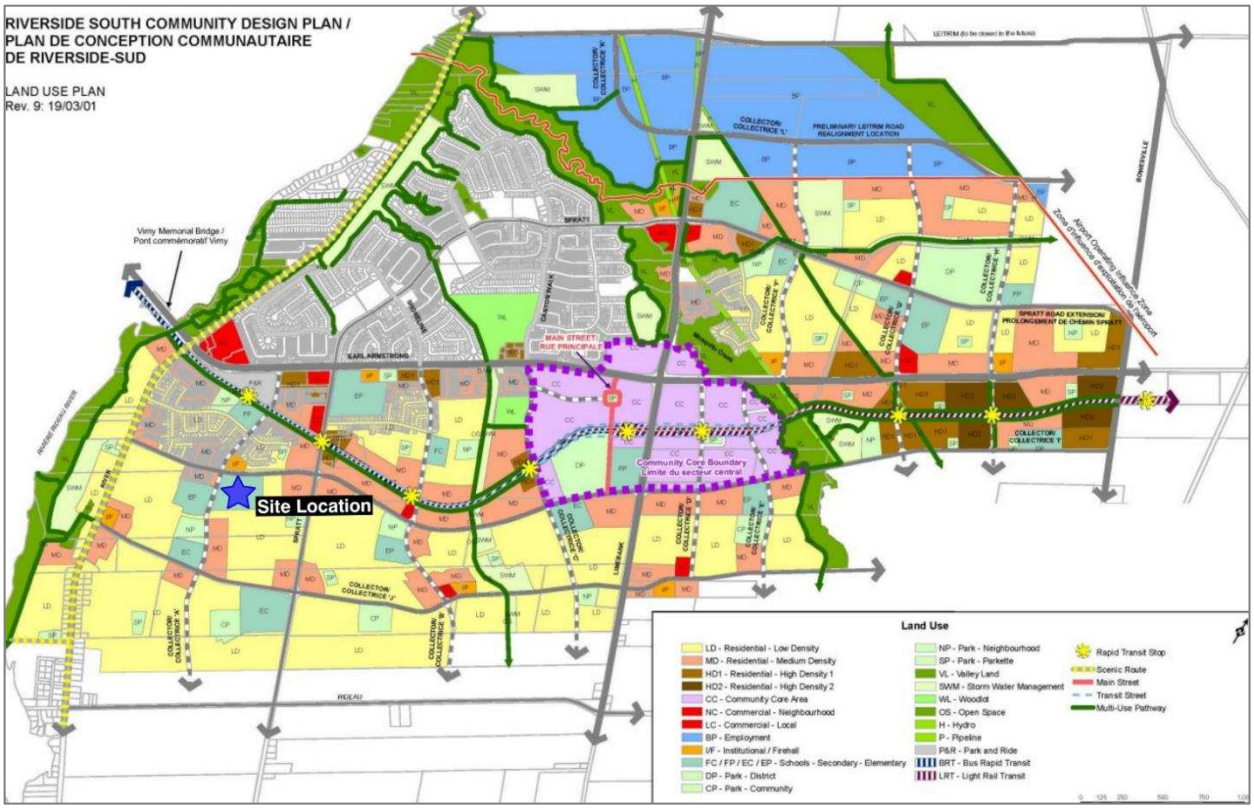
2.1.3.4 Transit

The Riverside South Community Design Plan (CDP) was updated in 2019 to reflect and accommodate:

- A change in the location of the future Leitrim Road by-pass (to accommodate a planned westerly extension to a future runway for the Macdonald Cartier airport); and
- A change in the location of the Rapid Transit Corridor from its current planned location through the north-easterly part of the community and connecting to the future Core Area (town centre), to a new location south of Earl Armstrong Road between Bowesville Road and the future Core Area.

Figure 12 illustrates the 2019 CDP and the proposed extension of the LRT line from Bowesville Road to the Riverside South Community Core, where Bus Rapid Transit will carry on from the Riverside South Community Core west beyond the Vimy Memorial Bridge. The LRT recently initiated service in the Riverside South Community Core.

Figure 12: 2019 Community Plan Update – New LRT and Transit Stop Locations



2.1.3.5 Other Study Area Developments

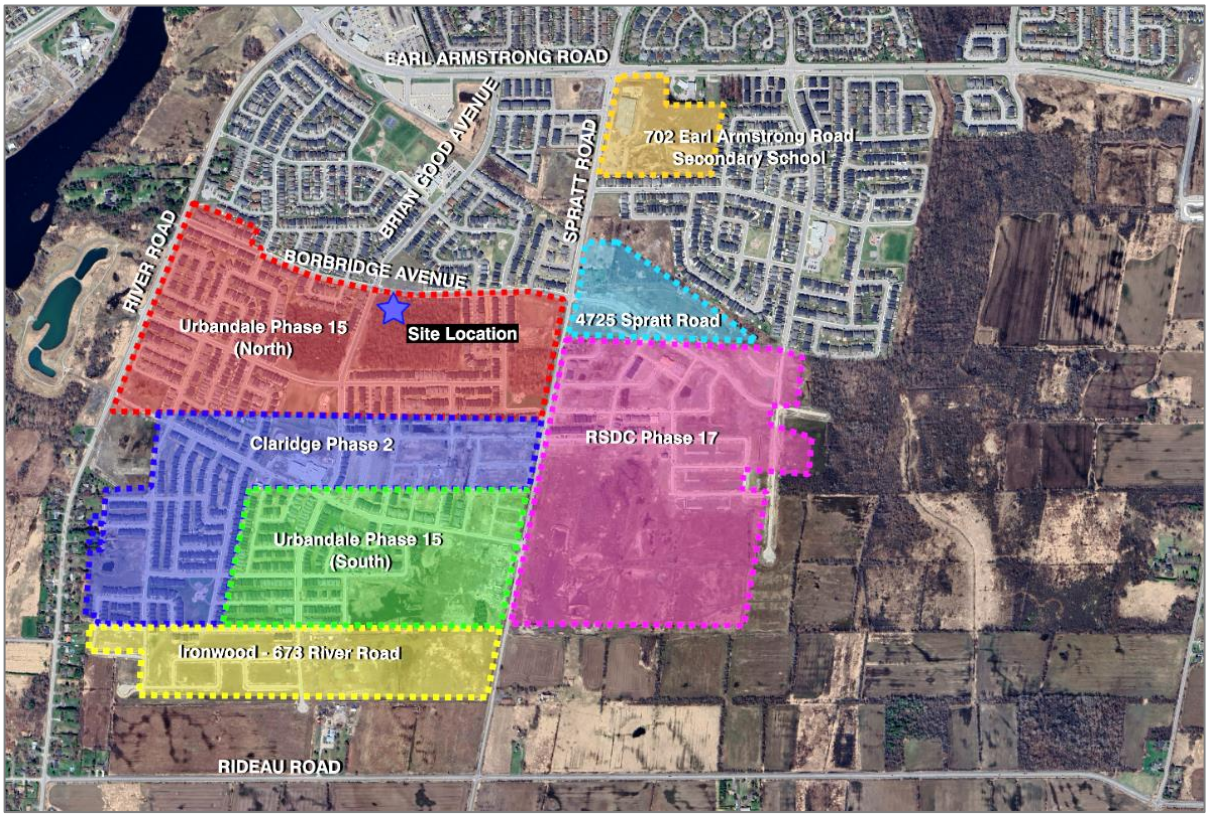
A Community Design Plan (CDP) was prepared for the Riverside South Community. The CDP was approved in 2004 and updated in 2010, 2014, 2015 and 2019. A Community Transportation Study (CTS) was also prepared as supporting information for the original CDP. The document identified and accounted for various background developments. The CTS for Phase 2 of the Claridge Homes Riverside South development (4720 Spratt Road, May 2017) identified and accounted for various background developments. However, the report did not include the subject French Catholic high school site, as the size and specifics of the school & childcare facility were unknown at the time of the study.

There are six known significant developments in the vicinity of the study area, which are summarized in **Table 2** and illustrated in **Figure 13.** These developments are either in the development application approval process, have already been approved and are in pre-construction, or are currently under construction. The number of dwelling units and assumed build-out dates for each development were obtained from previous traffic studies.

Table 2: Background Developments

Development	Location	Development Size	Assumed Build-Out
Urbandale Phase 15	4650 Spratt Road 750 River Road	452 single family homes 740 townhomes	2018 (still under construction)
RSDC Phase 17	East of 4775 - 4875 Spratt Road	1,240 residential units	2026
Claridge Phase 2	4720 Spratt Road 807 River Road	346 single family homes 409 townhomes	2026
Ironwood (Cardel Homes)	673 River Road	225 single family homes 244 townhomes	2029
Residential Subdivision	4725 Spratt Road	278 Townhomes	2021 (construction yet to begin)
New Secondary School	702 Earl Armstrong Road	1,519 students, 75 staff 40 daycare kids, 10 staff	September 2025

Figure 13: Background Developments



Background Image Source: Google Maps Satellite Image, Retrieved April 2024

2.2 Study Area and Time Periods

The study area for this report is limited to the following intersections:

- Brian Good Avenue at Borbridge Avenue;
- Brian Good Avenue at Spratt Road;
- Brian Good Avenue at Earl Armstrong Road;
- Borbridge Avenue at River Road; and,
- Borbridge Avenue at Site Driveway.

The study area traffic volume data indicates that the weekday AM peak hour begins at 7:45 AM, while the PM peak hour starts at approximately 4:00 PM. It is important to note that many secondary schools dismiss students before the adjacent street PM peak hour. The St. Gianna elementary school operates from 8:30 AM to 3:00 PM, and the proposed school's schedule is expected to be similar, with potential slight staggering. The weekday periods selected for analysis are from 7:45 to 8:45 AM and 3:00 to 4:00 PM to reflect peak travel times at the proposed school.

The proposed school is anticipated to be open for the 2027 school year. Therefore, this analysis will examine the existing traffic conditions (2024/2025), build-out year (2027), and five-year-post-build-out (2032) future horizon year.

2.3 Exemptions Review

Table 3 summarizes the exemptions review table from the City of Ottawa's 2017 *Transportation Impact Assessment Guidelines and 2024 update*. **Module 4.2.2** has been included since the school will experience pickup and drop-off activity along the public roadway.

Table 3: Exemptions Review

Module	Element	Exemption Consideration	Status
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plans	Included
	4.1.3 New Street Networks	Only required for plans of subdivision	Not included
4.2 Parking	4.2.1 Parking Supply	Only required for site plans	Included
	4.2.2 Spillover Parking	Only required for site plans where parking supply is 15% below unconstrained demand	Included
4.4 Access Intersections	All Elements	No Exemption, Maintained in Section 4.4 per 2017 TIA Guideline	Included
4.5 Transportation Demand Management	All Elements	Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time	Included
4.6 Neighbourhood Traffic Calming	All Elements	The site does not require a rezoning and is not a Draft Plan of Subdivision.	Not Included
4.7 Transit	4.7.1 Route Capacity	Only required if there are greater than 75 site OC Transpo transit trips	Not Included
	4.7.2 Transit Priority	Only required if there are greater than 75 site auto trips	Included
4.8 Network Concept	All Elements	Only required when proposed development generates more than 200 person trips during the peak hour in excess of the equivalent volume permitted by established zoning	Not included
4.9 Intersection Design	All Elements	Not required if site auto generation trigger is < 75 trips	Included

3.0 Forecasting

3.1 Development-Generated Travel Demand

Traffic volumes within the study area will consist of trips generated by the proposed school and trips generated by background land uses. The background land uses are generally residential in nature and were identified in **Table 2**. The following section discusses the trip generation for the proposed school.

3.1.1 Trip Generation and Mode Shares

3.1.1.1 Trip Generation

Trips generated by the proposed school and daycare during the weekday AM and PM peak hours have been estimated using first principles and data provided by the school board. The school board has advised that the school will have a maximum enrollment of 1,186 students and 100 staff members. The daycare will have a maximum capacity of 49 children and approximately ten staff. The school hours are assumed to be from 8:30 to 3:15 PM.

Student School Trips

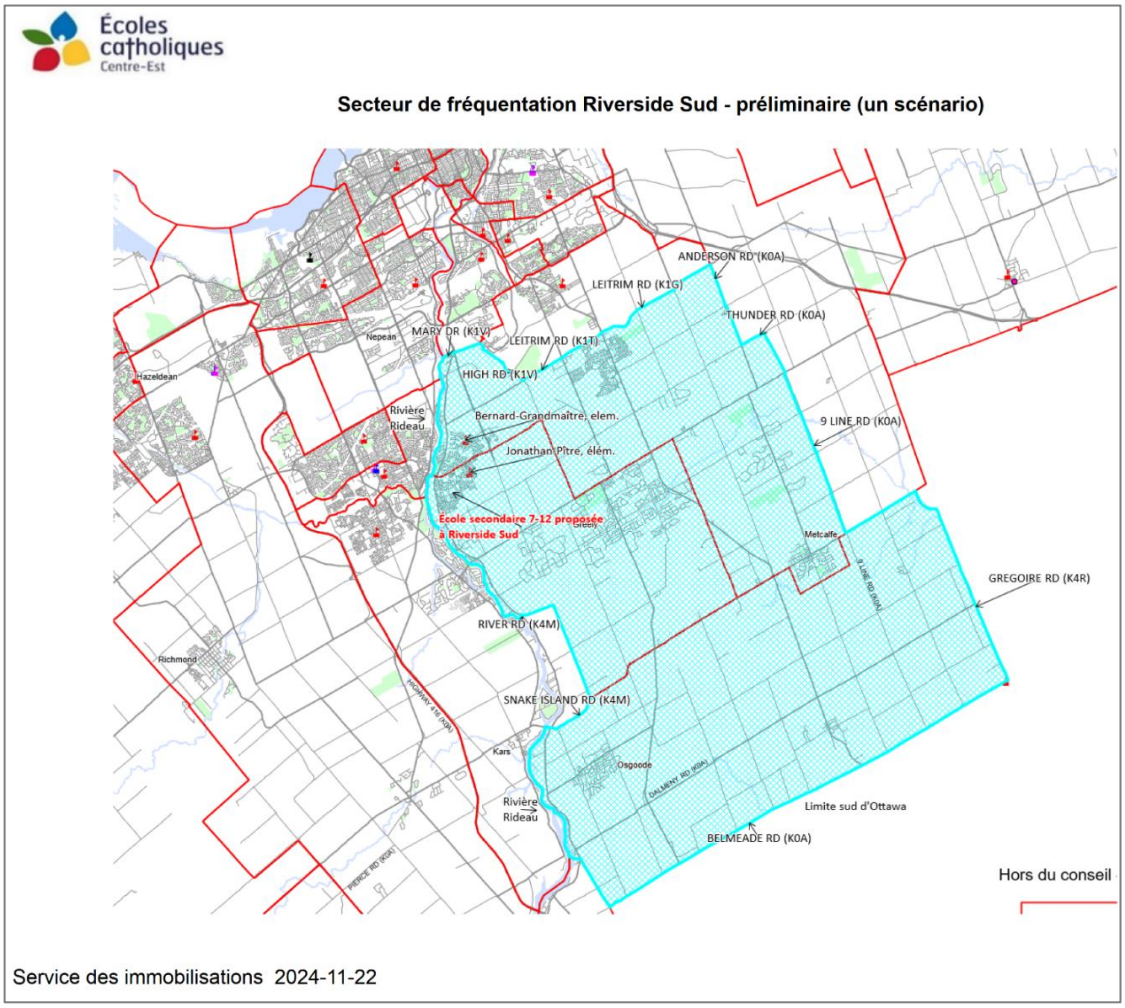
The City's 2020 TRANS Trip Generation Manual provides the baseline transportation modal shares for secondary schools in the City of Ottawa. The manual suggests that the modal shares should be developed site-specifically based on each school's conditions. The school board has indicated that students will use student transportation (school buses) rather than city transit. The TRANS mode share rates are provided in **Table 4.**

Table 4: TRANS Trip Generation Manual, Mode Shares

Mode Share	TRANS Secondary School Mode Share Rates
Auto Passenger	17%
School Bus	19%
Transit	38%
Walk	18%
Bike	3%
Other	5%

The proposed high school services a broad geographic area, **Figure 14** illustrates the school's catchment area. Typically, grade 7-8 students living 1.6 km or greater and grade 9-12 students living 3.2 km or greater away from the school will be provided with school bus transportation.

Figure 14 - Preliminary School Catchment Area, Nov 2024



The catchment area indicates that grade 9-12 students living within Riverside South will not be eligible for school busing. Some grade 7-8 students, especially in the northern portion of Riverside South, would be eligible for busing. Outside of Riverside South, students from other communities within the catchment area would qualify for busing. Based on the 2021 Canadian Census data, Riverside South has roughly 42% of the catchment area population. A full detailing of the population share by community is summarized in **Table 5**.

Table 5: Population Share by Catchment Community, 2021

Community	2021 Canadian Census Population	Catchment Area Population Share
Riverside South	19,802	42%
Findlay Creek	14,089	30%
Greely	9,049	19%
Osgoode	2,535	5%
Metcalfe	1,811	4%

Based on the above, the 58% of students living outside the Riverside South community would be expected to arrive primarily by bus, with some drop-offs**,** accounting for 688 students. The 498 students living in the Riverside South community would be expected to achieve higher walking and cycling mode shares. Therefore, the TRANS mode shares outlined in Table 4 were modified as outlined in **Table 6** and **Table 7**.

Table 6: Greater Community Transportation Mode Share, modified from TRANS, 2020

School Type	Mode Share				
	Auto Passenger	School Bus	Transit	Walk	Bike
High School	15%	80%	0%	0%	5%

Table 7: Riverside South Transportation Mode Share, modified from TRANS, 2020

School Type	Mode Share				
	Auto Passenger	School Bus	Transit	Walk	Bike
High School	20%	20%	0%	50%	10%

In January 2022, the Ottawa Catholic School Board reported an average 13.5% absence rate among students and staff. As a conservative estimate, it is assumed that 5% of students will be absent on any given school day. A summary of the student trips by mode share is provided in **Table 8.**

Table 8: Student Person Trips by Mode Share

Mode Share	Total Trips	Trips from Greater Community	Trips from within Riverside South
	AM In / PM Out	AM In / PM Out	AM In / PM Out
Auto Driver & Passenger	193	98	95
School Bus	618	523	95
Transit	0	0	0
Walk	237	0	237
Bike	80	33	47
Total	**935**	**556**	**379**

Many families have multiple children attending school and it is anticipated that the auto passengers will have an average of 1.2 students per vehicle. Of the students arriving by car, it was assumed that 90% would be dropped off with 10% of the students driving and parking. It was assumed that each school bus would carry approximately 45 students. **Table 9** summarizes the total number of student trips during the AM and PM peak period.

Table 9: Total Student Vehicle Trips

Mode Share	AM Period			PM Period		
	In	Out	Total	In	Out	Total
Auto Driver	16	0	16	0	16	16
Auto Passenger	145	145	290	145	145	290
School Bus Vehicles	14	14	28	14	14	28
Total	177	159	334	159	175	334

It has been assumed that 75% of the students arriving by automobile will arrive in the AM peak hour, accounting for late and early arrivals. Following the afternoon bell time, it was assumed that 70% of the students using automobiles will travel within the peak hour, accounting for those students that leave early or have after school programs. The total student trips during the peak hours of the school are summarized in **Table 10.**

The school board has indicated that the student population will start smaller and grow over time. The board does not currently know the number of school buses required to service the school; however, they will monitor the school population and bus requirements over time and manage their arrivals/departures to fit within the layby's along the frontage of the school.

Table 10: Total Peak Hour Student Trips by Mode Share

Mode Share	AM Period			PM Period		
	In	Out	Total	In	Out	Total
Auto Driver	12	0	12	0	12	12
No. of Auto Passengers	130	0	130	0	122	122
No of Passenger Vehicles	109	109	218	102	100	204
School Bus Passengers	618	0	618	0	618	618
School Bus Vehicles	14	14	28	14	14	28
Transit Trips	0	0	0	0	0	0
Walking Trips	233	0	233	0	233	233
Bike Trips	47	0	47	0	47	47
Total	**1,163**	**123**	**1,286**	**116**	**1,146**	**1,264**

School Staff Trips

The school is anticipated to have up to 100 staff members. The mode shares for staff trips generated by the site have been estimated based on the employment generator shares for South Gloucester/Leitrim district in the 2020 TRANS Trip Generation Manual, however, the driver rate was lowered from 89% to 82%, and the Auto Passenger increased from 7% to 10%. A summary of the staff trips by mode share during the AM and PM periods are provided in **Table 11**.

Table 11: Staff Trips by Mode

Mode Share			AM Period			PM Period		
	TRANS Rate	Modified Rate	In	Out	Total	In	Out	Total
Auto Driver	89%	82%	82	0	82	0	82	82
Auto Passenger	7%	10%	10	10	20	10	10	20
Transit	2%	5%	5	0	5	0	5	5
Walk	1%	2%	2	0	2	0	2	2
Bike	1%	1%	1	0	1	0	1	1

It was assumed that 85% of staff will arrive within the AM peak hour, with some arriving earlier. After the bell, it was assumed that 50% of staff would leave within the hour, with 50% remaining for after school preparation work or after school programs. The peak hour staff trips by mode are provided in **Table 12**.

Table 12: Peak Hour Staff Trips by Mode

Mode Share		AM Period			PM Period		
		In	Out	Total	In	Out	Total
Auto Driver	89%	70	0	70	0	41	70
Auto Passenger	7%	9	9	18	5	5	10
Transit	2%	0	0	0	0	0	0
Walk	1%	4	0	4	0	3	3
Bike	1%	2	0	2	0	1	1

Daycare Trips

The daycare trips were calculated using the ITE trip generation rates, land use code 565. The ITE indicates that a daycare will generate 0.78 trips per student during the AM and 0.79 trips per student during the PM peak hours, however the fitted curve calculation was utilized.

Table 13: Peak Hour Daycare Trip Generation

Mode Share	AM Period			PM Period		
	In	Out	Total	In	Out	Total
Daycare drop off	22	19	41	19	20	39

Trip Generation Summary

Table 14 summarizes the school's trip generation in terms of person and vehicle trips based on the first principles approach, TRANS mode shares, and ITE rates as identified above.

Table 14: Total Future Site Trip Generation by Mode

Location / Activity	AM Peak Hour of Roadway Traffic			PM Peak Hour of Roadway Traffic		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Staff Parking Lot						
Staff parking (vehicles)	70	0	70	0	41	70
Student parking (vehicles)	12	0	12	0	12	12
Daycare drop-off / pick-up (vehicles)	22	19	41	19	20	39
On-Street Laybys						
School bus trips (students)	618	0	618	618	0	618
School bus trips (vehicles)	14	14	28	14	14	28
Student & Staff pick-up/drop-off trips	139	9	147	5	127	132
Student & Staff pick-up/drop-offs (vehicles)	118	118	235	107	107	214
Transit & Active Transportation						
Transit	4	0	4	0	3	3
Walking (assume 24% of students)	239	0	239	0	238	238
Cycling (assume 5% of students)	48	0	48	0	48	48
Total Person Trips	1153	28	1180	642	489	1160

3.1.2 Vehicle Trip Distribution & Assignment

Three different users are accessing the school: staff, students, and daycare clients. Each user type is anticipated to reside in various areas within the City, so their vehicle trips will follow unique routes to/from the school. School staff typically live across the city and more regionally, whereas students will live within the attendance boundary as indicated by the blue crosshatched area in **Figure 14**. Daycare clients are anticipated to live more locally, most located directly within the Riverside South Subdivision. Based on their expected origins/destinations, each user type has been separately assigned to the road network.

Staff Trip Assignment

The proposed school is located centrally and near the southern built-up portion of the city. Therefore, most staff members are expected to travel west and north of Riverside South, to the arterial road network. It has been assumed that staff trip distribution would follow the South Nepean District travel patterns, with a minor adjustment as indicated in **Table 15**.

Table 15: Staff Trip Distribution & Assignment

Entry/Exit Boundary of Study Area	Percentage of Trips
West on Earl Armstrong Road	35%
East on Earl Armstrong Road	25%
North on River Road	20%
North on Spratt Road	10%
South on River Road	5%
South on Spratt Road	5%

Student & Daycare Pickup / Drop-off Assignment

Residing within Riverside South

The trip assignment of the students has been separated based on the location of their residence. Most of the students living in the immediate Riverside South community will not be eligible for school buses and will use other modes to get to school, as discussed earlier in **Section 3.1.1**. The children attending the daycare facility are assumed to originate within the immediate Riverside South community boundaries. Therefore, their trip distributions are assumed to be similar to most students residing within Riverside South.

Table 16: Riverside South Assignment, Local Students and Daycare Children

Trip Assignment	Percentage of Trips
South on River Road at Borbridge Avenue	10%
South on Brian Good Avenue at Borbridge Avenue	30%
South on Spratt Road at Borbridge Avenue	10%
North on River Road at Borbridge Avenue	5%
North on Spratt Road at Borbridge Avenue	20%
East on Earl Armstrong Road at Brian Good Avenue	10%
West on Earl Armstrong Road at Brian Good Avenue	5%
East on Spratt Road at Borbridge Avenue	10%

Students Residing outside of Riverside South

Students from outside Riverside South generally live east of the new school site. The trip assignment for these students is summarized in **Table 17.**

Table 17: Surrounding Communities, Student Distributions

Community	Entry/Exit Boundary of Study Area	Percentage of Trips from Community
Greely	South via Spratt Road	100%
Metcalfe	South via Spratt Road	100%
Findlay Creek	East via Earl Armstrong Road	80%
	South via Spratt Road	20%
Osgoode	South via River Road	100%

Automobile trips will use the Borbridge Avenue layby or turn into the site driveway. They are anticipated to arrive via Borbridge Avenue from Spratt Road, River Road, or Brian Good Avenue onto Borbridge Avenue. Some drop-offs may occur on the north side of Borbridge Avenue, opposite the school site.

School Bus Trips

Figure 15 and **Figure 16** illustrate the anticipated bus eligability radii; grade 7 and 8 students living outside the 1.6 km radius and grade 9-12 students living outside the 3.2 km radius will be offered a school bus as their mode of transport.

Figure 15: 1.6 km Radius Around Proposed Site

Figure 16: 3.2 km Radius Around Proposed Site

School buses will drop students off at the parking layby on Brian Good Avenue, on the west edge of the proposed site. Due to the road geometry and layout in the surrounding residential subdivision, the most straightforward and most likely bussing route will be one of the two following options:

- From River Road onto Atrium Ridge, turn left onto Brian Good Avenue, arrive at the layby.
- From Spratt Road onto Solarium Avenue, turn right onto Brian Good Avenue, arrive at the layby.

3.1.3 Total Site Trips

Vehicle trips were assigned to the road network per **Section 3.1.2**.

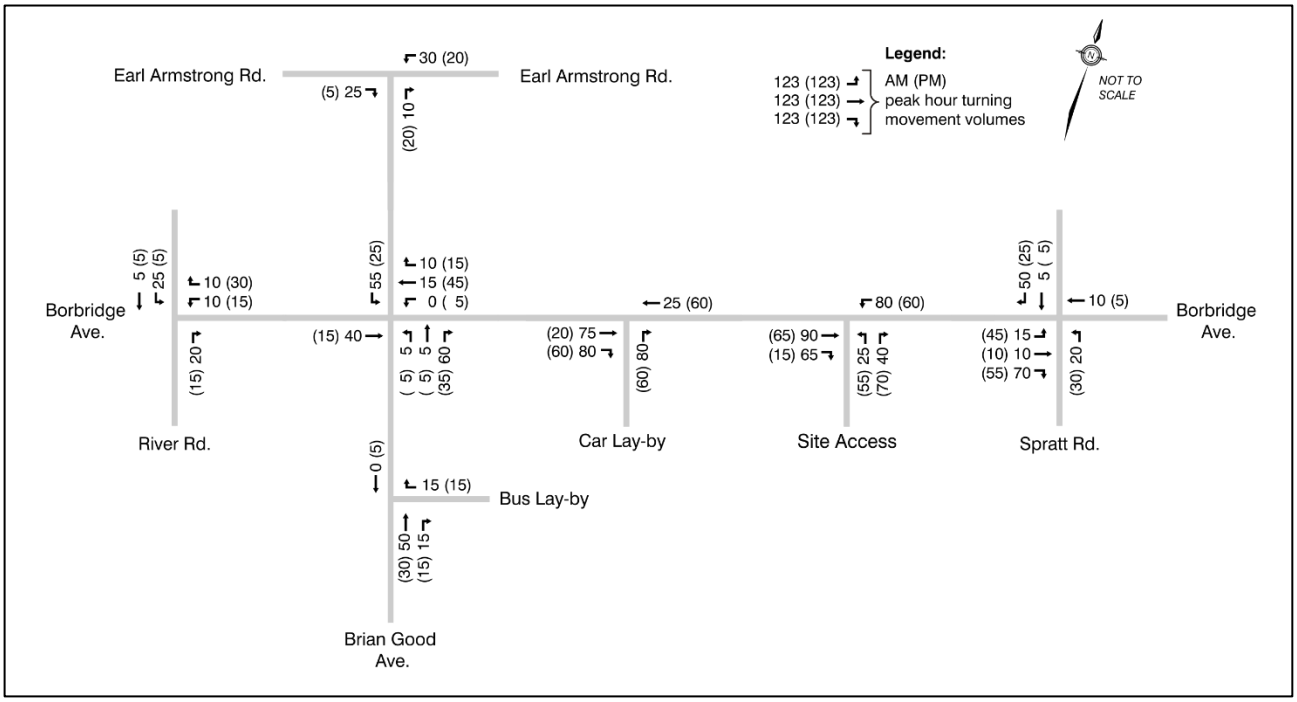
The trip generation forecasts fourteen school buses arriving and departing from the proposed school site. The bus layby along Brian Good Avenue can accommodate at least fourteen full-size buses at one time, with some room to extend this bay if required.

Student pick-up and drop-off are primarily expected to be facilitated through the lay-by on the south side of Borbridge Avenue. Some vehicles may use the north side of Borbridge Avenue as a short-term pickup/ drop-off area, and some drivers may also use the interior driveway loop on Borbridge Avenue.

The childcare drop-offs and staff parking are anticipated to occur within the site parking lot.

Figure 17 illustrates the total school site-generated trips for the weekday AM and PM peak hours based on the above assumptions for when the school is operating at full capacity with 1,186 students. Note that the values have been rounded to the nearest five vehicles.

Figure 17: Site Generated Traffic



3.2 Background Network Travel Demand

3.2.1 Transportation Network Plans

As discussed in **Section 2.1.3**, the Transportation Master Plan and the Official Plan do not show any planned network changes that would be expected to impact travel modes or travel patterns in the study area. Regardless, local intersection modifications may be required in the surrounding area to support future Ironwood developments, and transit routes may need to be adjusted to serve the residential developments as they build out and become occupied.

3.2.2 Background Growth

The background development plans within the study area were identified in Table 2. Many homes in the immediate surrounding area of the proposed school site are either occupied, still under construction, or undeveloped. To reflect overall growth within the city, an annual background growth rate of 1% was added to the existing traffic volumes at each intersection.

3.2.3 Other Background Developments

As noted in **Section 2.1.3**, and particularly in **Figure 13**, several background developments in the study area remain under construction or have not yet been initiated. These developments are expected to generate traffic within the study area intersections. The traffic studies completed for these background developments forecast traffic to/from the arterial road network but did not forecast localized internal subdivision traffic volume forecasts.

For the lands west of Spratt Road, Dillon forecasted the internal subdivision traffic volumes based on the lot patterns shown within the geoOttawa online mapping tool and the number of dwelling units remaining to be developed. Where the online mapping did not identify the lot pattern, the background traffic studies and associated subdivision plans were used to estimate the level of proposed development.

The area south of Borbridge Avenue was divided into nine independent local zones (Zones 1-8, and Zone 10), and trips were forecasted based on the number of dwelling units remaining to be constructed within each zone using the TRANS, 2020 methodology. Our zone boundaries were selected based on the local road pattern and routing assumptions.

Specifically, each zone was identified as it was likely to have a meaningfully different trip assignment to the arterial and major collector roadways. The zones are illustrated in **Figure 18.** Each zone's trips were assumed to follow the South Nepean District travel patterns. The trip assignment of these zones is summarized in **Table 18**.

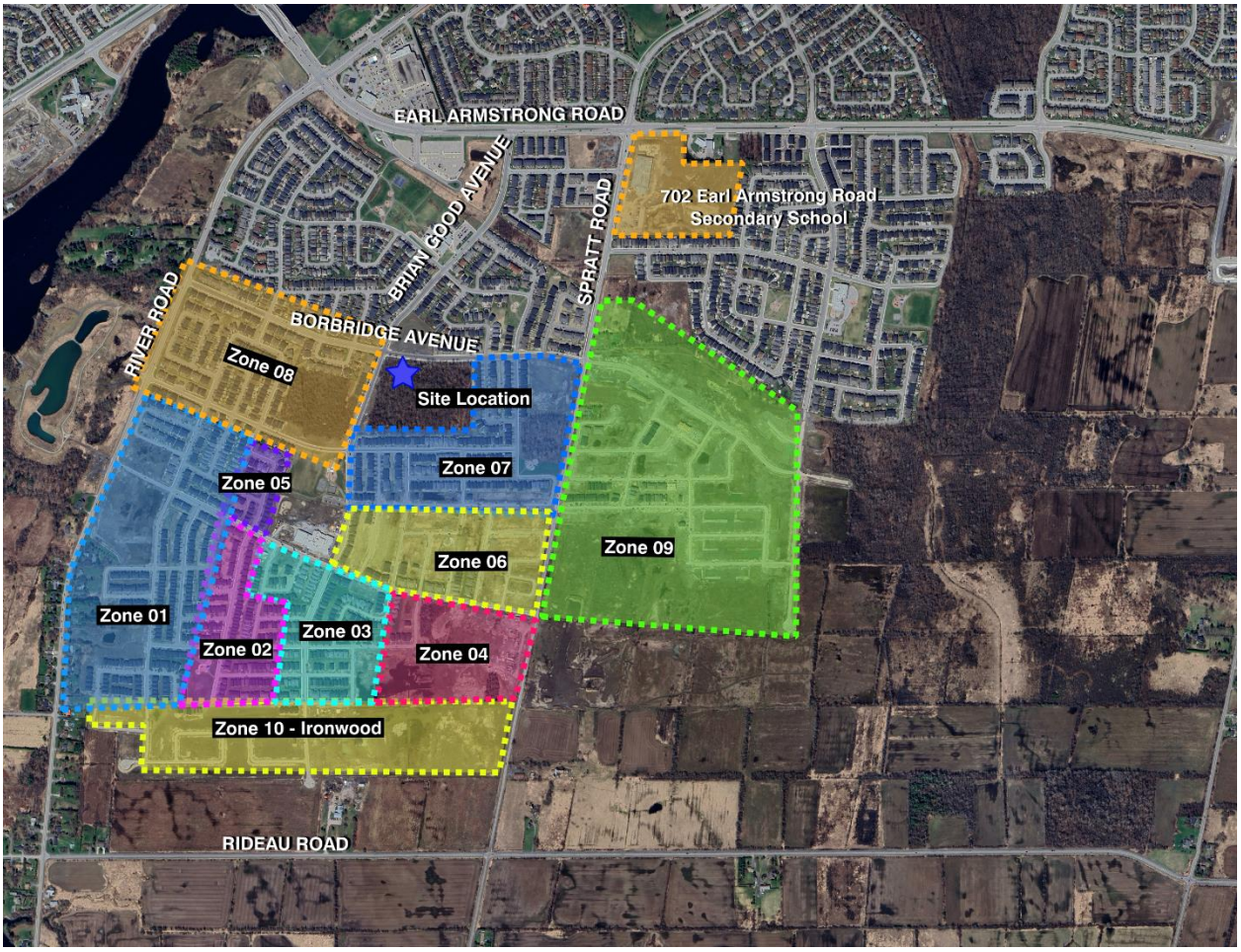
Table 18: Background Development Distributions

Entry/Exit Boundary of Study Area	Percentage of Trips
West on Earl Armstrong Road	35%
East on Earl Armstrong Road	25%
North on River Road	20%
North on Spratt Road	15%
South on River Road or Spratt Road	5%

To estimate the traffic generated by developments in Zone 09, the existing traffic volume entering and exiting the east approach of Borbridge Avenue at Spratt Road was subtracted from the total future traffic volume identified by the TIA completed for that development.

To estimate the background volumes from the 702 Earl Armstrong Road secondary school, its TIA site generated traffic volumes were referenced.

Figure 18: Background Developments - Zoning Map



3.2.4 Background Traffic Volumes

Figure 19 and **Figure 19** illustrate the 2027 and in 2032 future background traffic volumes at the study area intersections.

Figure 19: Future Background Traffic, 2027

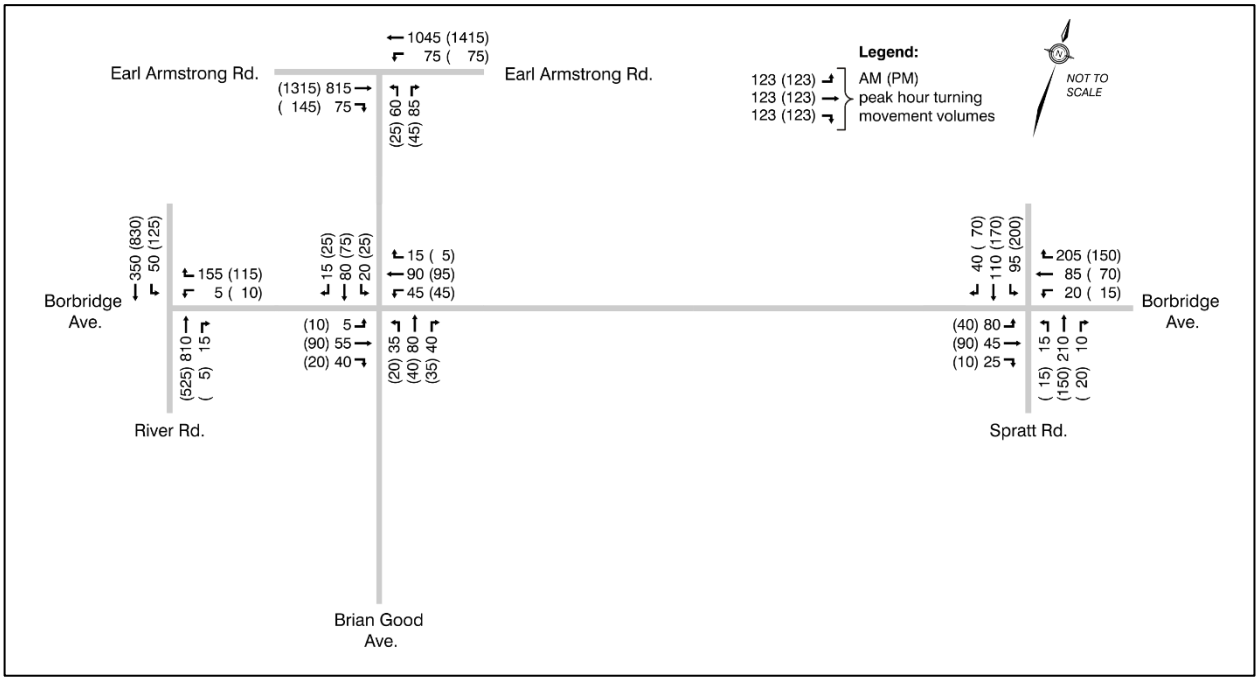
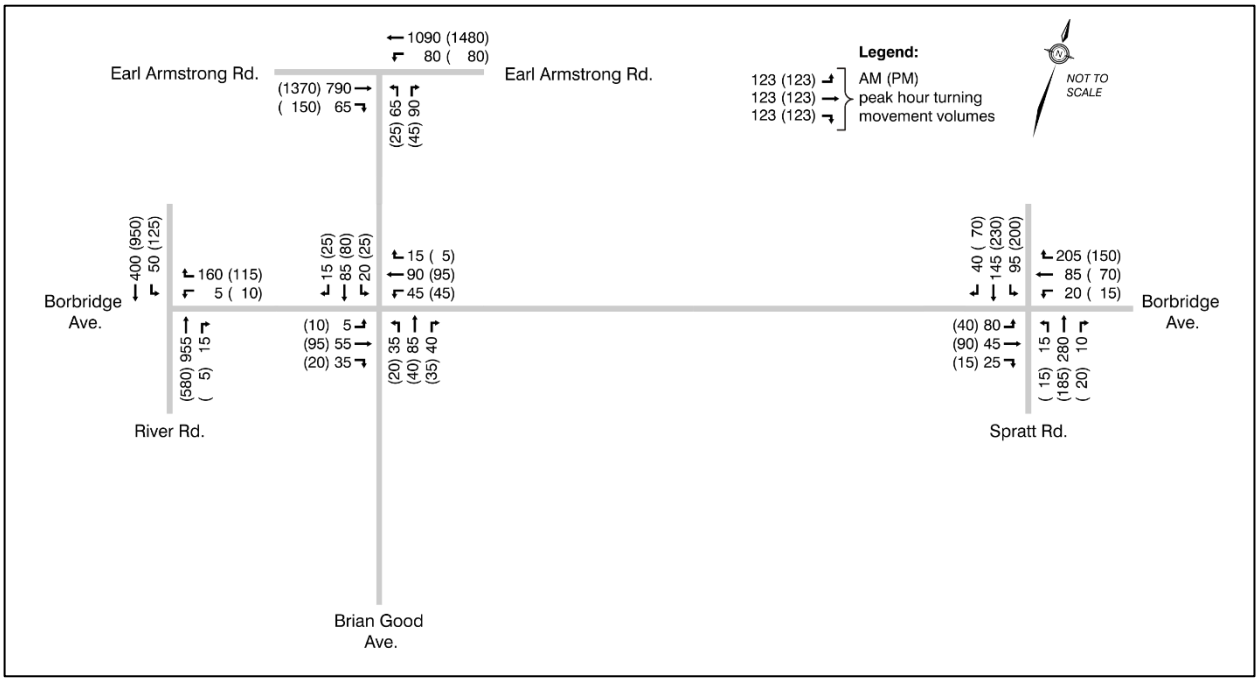


Figure 20: Future Background Traffic, 2032



3.3 Total Future Traffic Volumes

The total traffic volumes forecast for 2027 and 2032 are presented in **Figure 21** and **Figure 21**, respectively.

Figure 21: Total Future Traffic, 2027

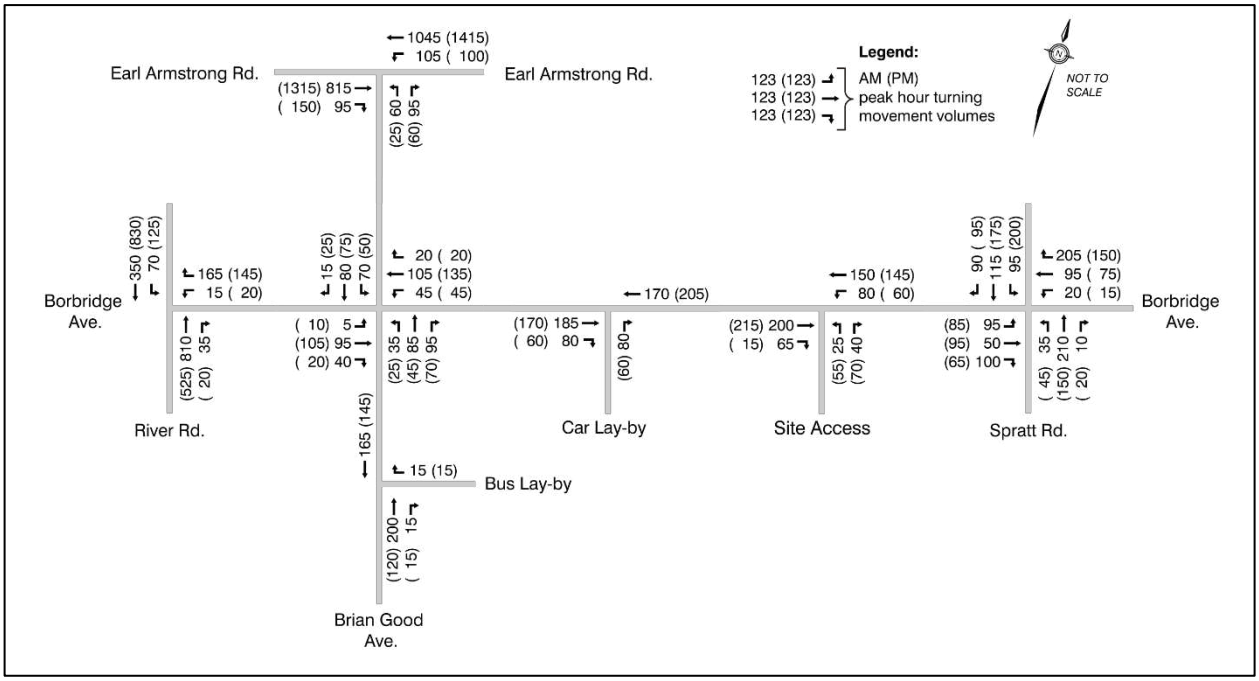
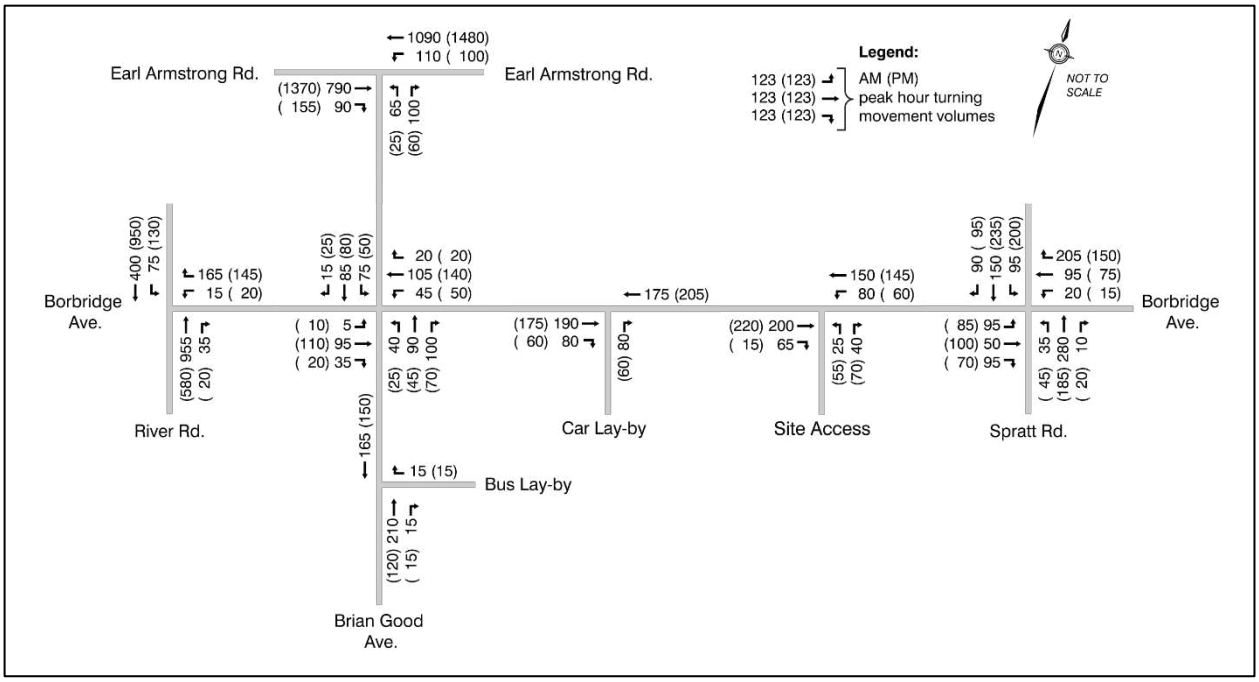


Figure 22: Total Future Traffic, 2032



4.0 Analysis

4.1 Development Design

4.1.1 Design for Sustainable Modes

Bicycle facilities - The school will provide 90 bicycle parking spaces. These spaces are located in two locations: on the south side of the school in the courtyard, and on the east side of the school near the employee entrance. Direct and convenient paved surfaces are provided to access the school from the bike parking areas. Cycling connections to/from the school can be made using Brian Good Avenue or Borbridge Avenue.

Pedestrian access and circulation - Sidewalks are currently provided around the school and along both sides of Brian Good Avenue or Borbridge Avenue, connecting the school to the surrounding pedestrian infrastructure. Direct access is provided from the school bus lay-by to a student entrance on the west side of the building, off Brian Good Avenue. A building entrance is also provided on the north side of the building close to the intersection of Brian Good Avenue at Borbridge Avenue, servicing the car lay-by and pedestrian activity. Paved surfaces around the school also provide direct and convenient access from the staff parking lot, bicycle parking areas, and drop-off/pick-up lay-by area to the school entrances.

Transit facilities—OC Transpo stops are provided at the intersection of Brian Good Avenue and Borbridge Avenue, within 50 metres of the school. Sidewalks on both sides of each roadway connect the stops to the school.

4.1.2 Circulation and Access

The school will have a single driveway, to Borbridge Avenue on the east side of the school, which is intended for staff parking and childcare drop-off /pickup. The staff parking lot also contains the waste bins.

Waste collection: The staff parking lot will be marked using painted lines. The parking end isles will also be painted, so waste collection vehicles will be able to maneuver through the parking lot easily on weekends or after the school day has finished. **Figure 23** illustrates the waste collection truck movements into and out of the site.

Daycare drop-off/pick-up area: the daycare drop-off/pick-up area is located within the staff parking lot and has approximately 45 metres designated for a drop-off/pick-up area, which can accommodate approximately seven (7) vehicles at a time. Up to 22 drop-offs/pick-ups may occur within an hour, requiring each drop-off/pick-up parking space to process four (4) vehicles per hour (22/7). The drop-offs and pick-ups would therefore need to occur within less than 19 minutes (60/3.2). There appears to be adequate short-term parking space for the daycare drop-off and pick-up activity.

Figure 23: Waste Collection Truck Turning Templates

4.2 Parking

4.2.1 Parking Supply

Automobile Parking – As per City of Ottawa Zoning By-law 2008-250 (Sections 101 and 102), the minimum parking space rate is two (2) parking spaces per classroom or portable. The school will have 18 classrooms plus up to 12 portables in the future, requiring 60 parking spaces. The Daycare is required to provide two (2) spaces per 100m^2, or 8 spaces in total. Therefore, 68 parking spaces[1] are

[1] 18+12 classrooms x 2.0 spaces/classroom = 60 spaces

required for the school. The site provides 87 total parking spaces, with 4 of these spaces designated as barrier-free. As a result, the minimum number of parking spaces is being exceeded.

Bicycle Parking – As per City of Ottawa Zoning By-law 2016-249 (Section 111), the minimum bicycle parking rate is one bicycle parking space per 100 m^2 of gross floor area. Therefore, 90 bicycle parking spaces[2] are required, the site plan will need to provide these spaces. Therefore, the site will provide 90 spaces to meet the zoning by-law requirements.

4.2.2 Spillover Parking

An on-street school bus lay-by is provided on Brian Good Avenue and an on-street student drop-off/pickup lay-by is provided on Borbridge Avenue.

School bus layby: The school bus layby will provide approximately 190 metres of storage space, capable of queuing fourteen (14) full-size school buses at one time. The school board will monitor the number of school buses required to service the school and manage their operations to ensure sufficient layby space along Brian Good Avenue is available to accommodate the buses when the school is operating at full capacity, with all portables in operation.

Parent drop-off/pick-up layby: the parent drop-off/pick-up lay-by on the south side of Borbridge Avenue is proposed to start approximately 20 metres east of the Brian Good Avenue intersection. The Borbridge Avenue on-street lay-by extends across the school frontage and is proposed to incorporate the Neighbourhood Collector Streets design philosophy. The on-street lay-by parking bay provides storage space for approximately 23+ vehicles. During the morning drop-off period, 117 vehicles are forecast to drop-off students and staff over a 20-minute period, requiring each drop-off space to process (turnover) 5.1 vehicles (117/23) in the 20 minutes in advance of the bell time. Therefore, an average drop-off duration of less than four (4) minutes (20/5.1) per vehicle is required, which is achievable. Additionally, curb space is available along the north side of Borbridge Avenue to accommodate drop-offs.

During the PM peak hour of the street, pick-ups are forecast to occur over an hour. The after school pickup demand is 105 vehicles, requiring each lay-by space to process (turnover) 4.6 vehicles (105/23) in an hour. The average pickup duration should not exceed approximately 13 minutes per vehicle (60 min/hr / 4.6 veh/hr). During the PM peak hour, parents picking up may also use the north curb line along Borbridge Avenue or access the school parking lot for additional short-term stopping or parking needs.

[2] 9,035 sq.m gross school floor area x 1 bicycle parking space / 100 sq.m = 108 bicycle parking spaces

4.3 Boundary Street Design

4.3.1 Mobility

The Multi-Modal Level of Service (MMLOS) was evaluated along Brian Good Avenue and Borbridge Avenue to assist with developing a concept that maximizes the achievement of the MMLOS objectives. Since the development is a school, it is subject to MMLOS targets of the school policy area. Note that there are no targets for trucks on a collector roadway within the school policy area, and there are no targets for auto traffic between intersections (there are targets for auto traffic at signalized intersections only, there are no signalized intersections within proximity of the site).

Table 19 presents the MMLOS conditions for roadway segments adjacent to the school on Brian Good Avenue and Borbridge Avenue. This MMLOS analysis is based on the proposed conditions along Brian Good Avenue and Borbridge Avenue, with the proposed lay-by's in place.

The analysis indicates that the Pedestrian LOS (PLOS) target is not achieved due to high traffic volumes, sidewalk width, number of students, and access to the school bus layby. Overall, the PLOS is projected at LOS B, which seems reasonable. The Bicycle LOS (BLOS) satisfies the City target at LOS B. The Transit LOS (TLOS) is anticipated to operate at LOS D, fulfilling the City target.

Table 19: MMLOS Conditions - Segments

Travel Mode	Criteria	Target	Brian Good Avenue Collector	Borbridge Avenue Collector
Pedestrian LOS (PLOS)	Sidewalk width	A	2 metres	2 metres
	Boulevard width		0.5 – 2 metres	0.5 – 2 metres
	AADT < 3000 AADT > 3000		ADT >3000 (assume 12x multiplier for AM peak hour volumes)	AADT >3000 (assume 12x multiplier for AM peak hour volumes)
	On-Street Parking		Yes	Yes
	Operating Speed		30-50 km/h	30-50 km/h
	Sidewalk Width		2.0 m	2.0 m
	Level of Service		B	B
Bicycle LOS (BLOS)	Type of facility	B	Mixed traffic	Mixed traffic
	Number of travel lanes/direction		2	2
	Operating speed		50 km/h	50 km/h
	Unsignalized Lane Crossings		1-3	1-3
	Side Street Operating Speed		41-54 km/h	41-54 km/h
	Level of Service		B	B
Transit LOS (TLOS)	Type of facility	D	Mixed traffic	Mixed traffic
	Parking/driveway friction		Moderate	Moderate
	Level of Service		D	D
Truck LOS (TkLOS)	Truck Lane Width	No Target	3.2 – 3.3 m	3.2 – 3.3 m
	Travel Lanes per Direction		1	1
	Level of Service		D	D

4.3.2 Road Safety

No existing safety issues were observed, and no modifications are anticipated to alter the safety performance of the boundary roads. As the various background developments become built out and are fully occupied, traffic management measures may be needed to manage speed-related safety concerns.

4.4 Access Intersection Design

4.4.1 Location and Design of Driveway

One new driveway is proposed to Borbridge Avenue, located approximately 130 metres east of Brian Good Avenue.

An automobile lay-by area is provided along Borbridge Avenue with capacity to store 23 vehicles. A bus lay-by is proposed along the east side of Brian Good Avenue with capacity to store approximately 14 buses.

4.4.2 Intersection Control

The site driveway is located on a Collector roadway; stop-control (TWSC) facing traffic exiting the site driveway is appropriate.

4.4.3 Access Intersection Design

The following subsections review the traffic operations for the access intersection. The 2027 and 2032 forecasted future traffic conditions have been analysed using Synchro 11 software**.** The City of Ottawa Unsignalized Intersection Level-of-Service Definitions are contained in **Appendix B**.

Table 20 summarizes the traffic operations for the site driveway on Borbridge Avenue for the weekday AM and PM peak hours in the 2027 and 2032 horizon years. **Appendix C** contains the intersection performance worksheets. All movements at the driveway intersection are forecast to operate at a LOS A with minimal delay.

Table 20: Site Driveway and Borbridge Avenue Intersection Operations - AM (PM) Peak Hour

Approach/Movement	Delay (s)	LOS	V/C	Q95th (m)
Total Future 2027				
EBTR	0.0 (0.0)	A	0.17 (0.13)	0 (0)
WBTR	1.8 (2.4)	A	0.07 (0.04)	2 (1)
NBLR	3.1 (11.7)	A	0.11 (0.18)	3 (5)
Total Future 2032				
EBTR	0.0 (0.0)	A	0.17 (0.13)	0 (0)
WBTR	1.8 (2.4)	A	0.07 (0.04)	2 (1)
NBLR	3.1 (11.7)	A	0.11 (0.18)	3 (5)

Note: Results are presented in the format AM (PM) peak hour; Q95th (m) indicates the 95th percentile queues, LOS is an abbreviation for Level-of-Service, EB = eastbound, WB = westbound, SB = southbound; LTR = left, through, right movements for single lane approach.

4.5 Transportation Demand Management

Appendix D contains the TDM checklists. From the TDM checklists, some recommendations are as follows:

- Display relevant transit schedules and route maps at entrances of the school;
- Provide links to OC Transpo and STO information on the school website and to teachers; and
- Provide shower and lockers for staff use (these measures are provided).

The school board could also consider offering preloaded PRESTO cards to encourage staff to use transit or reimburse employees for monthly transit passes.

All grade 7-8 students residing beyond a 1.6 km radius and 9-12 students residing 3.6 km from the school will be given access to school bus transportation. To promote active transportation for those who live closer to the school, students will be encouraged to walk or cycle to school. The school will develop and make available educational materials on alternative transportation modes through its website, displaying transportation options and encouraging parents to choose non-automotive options. The school's parent association, reporting to the principal, will support creating and distributing these educational materials and keep an eye on transportation-related matters. The school board plans to participate in the city's cycling education programs.

4.6 Neighbourhood Traffic Calming

The site was planned as a Secondary School in the Community Design Plan and is zoned for the school. As such, per the revised TIA guidelines, a further evaluation of Neighbourhood Traffic-Calming measures is not required.

4.7 Transit

4.7.1 Route Capacity

The proposed school is anticipated to generate very few OC Transpo bus trips (less than five), therefore transit service is not expected to be significantly impacted. It is noted that the mode shares indicated in the TRANS *Trip Generation Manual Summary Report* may overestimate the number of transit riders in this specific case. The capacity of the existing and future transit service can accommodate the development-generated demands.

4.7.2 Transit Priority

The site is located in a residential area with local intersections that are stop controlled. The site generated automobile traffic will have a minor impact on the transit operations. Transit priority measures are not anticipated to be required.

4.8 Review of Network Concept

A review of the network concept is not included within this study. The network concept review is only required when a proposed development generates more than 200 person trips during the peak hour in excess of the equivalent volume permitted by established zoning. The proposed school expansion is in keeping with the proposed zoning, I1A/R4Z – Minor Institutional Zone.

4.9 Intersection Design

The following subsections provide a review of the network intersection traffic operations. The existing, 2027 and 2032 forecasted total future traffic conditions have been analysed using Synchro 11 software. The definitions of the City of Ottawa's level of service (LOS) are provided in **Appendix B**.

To the south of Earl Armstrong Road, the Riverside South community provides multiple connections to Earl Armstrong Road, River Road, Spratt Road, and future connections to Rideau Road. The existing collector road connections from the subdivision provide single-lane, stop-controlled approaches to the higher order roadways. The City should monitor traffic operations within Riverside South to determine if and when modifications (turn lanes or traffic control) may be required to accommodate automobile traffic. A modification at one intersection may attract traffic to that intersection from within the subdivision, therefore, the City should carefully consider the impact of any one or more modifications on the road network and adjacent neighbours. For instance, if a traffic signal were added at the intersection of Earl Armstrong Road and Brian Good Avenue, this modification could increase the traffic volume on Brian Good Avenue, which is likely undesirable for local residents.

4.9.1 Earl Armstrong Road at Brian Good Avenue

Table 21 provides a summary of the intersection traffic operations. The unsignalized intersection currently operates acceptably; however, the northbound left/right turning movement is experiencing delays in exiting the subdivision. The northbound approach operates at LOS E during the AM peak hour and LOS F during the PM peak hour; however, the movement operates at approximately 60% of its capacity.

The forecast for 2027 and 2032 background and total future conditions is anticipated to operate similarly to the existing condition along Earl Armstrong Road; however, the northbound approach will degrade further. In the 2032 background condition, the northbound approach is forecast to operate at LOS F during the AM and PM peak hours, and over capacity with a v/c > 1.05. Mitigation measures should be considered to improve the background traffic operations. Mitigation measures could include:

- Traffic signals to improve traffic operations for vehicles exiting the subdivision,
- Consider restricting the northbound left turn movement by implementing a median island modification on Earl Armstrong Road; or,
- The northbound left turn traffic could be restricted during peak periods.

If the northbound left turn movement is restricted at Earl Armstrong Road, the Total Future northbound right turn movement in 2032 would operate at a Level of Service (LOS) C or better. Approximately 20 to 60 northbound left turn movements would be reassigned to either Borbridge Avenue at River Road or at Spratt Road. The City should monitor the intersection over time and plan to improve overall access from the subdivision.

Table 21: Earl Armstrong Road at Brian Good Avenue Intersection Operations - AM (PM) Peak Hour

Approach/ Movement	Delay (s)	LOS	V/C	Q95th (m)
Existing				
EBT	0.0 (0.0)	A (A)	0.20 (0.33)	0 (0)
EBR	0.0 (0.0)	A (A)	0.04 (0.07)	0 (0)
WBL	9.6 (11.5)	A (B)	0.09 (0.10)	2 (3)
WBT	0.0 (0.0)	A (A)	0.27 (0.36)	0 (0)
NBLR	39.2 (66.6)	E (F)	0.59 (0.53)	27 (20)
Future Background 2027				
EBT	0.0 (0.0)	A (A)	0.27 (0.39)	0 (0)
EBR	0.0 (0.0)	A (A)	0.05 (0.08)	0 (0)
WBL	10.8 (13.1)	B (B)	0.12 (0.15)	3 (4)
WBT	0.0 (0.0)	A (A)	0.34 (0.42)	0 (0)
NBLR	137.0 (169.6)	F (F)	1.02 (0.91)	63 (38)
Future Background 2032				
EBT	0.0 (0.0)	A (A)	0.26 (0.40)	0 (0)
EBR	0.0 (0.0)	A (A)	0.04 (0.09)	0 (0)
WBL	10.7 (13.7)	B (B)	0.12 (0.16)	3 (5)
WBT	0.0 (0.0)	A (A)	0.36 (0.43)	0 (0)
NBLR	166.4 (232.5)	F (F)	1.12 (1.05)	73 (43)

Approach/ Movement	Delay (s)	LOS	V/C	Q95th (m)
Total Future 2027				
EBT	0.0 (0.0)	A (A)	0.27 (0.39)	0 (0)
EBR	0.0 (0.0)	A (A)	0.06 (0.09)	0 (0)
WBL	11.0 (13.5)	B (B)	0.16 (0.19)	5 (6)
WBT	0.0 (0.0)	A (A)	0.34 (0.42)	0 (0)
NBLR	197.6 (203.5)	F (F)	1.19 (1.05)	79 (48)
Total Future 2032				
EBT	0.0 (0.0)	A (A)	0.26 (0.40)	0 (0)
EBR	0.0 (0.0)	A (A)	0.06 (0.09)	0 (0)
WBL	10.8 (14.2)	B (B)	0.16 (0.20)	5 (6)
WBT	0.0 (0.0)	A (A)	0.36 (0.43)	0 (0)
NBLR	234.6 (280.3)	F (F)	1.29 (1.23)	90 (55)
Total Future 2032 – Mitigation Measures (Restrict NB Left Turn Movement)				
EBT	0.0 (0.0)	A (A)	0.26 (0.40)	0 (0)
EBR	0.0 (0.0)	A (A)	0.06 (0.09)	0 (0)
WBL	10.8 (14.2)	B (B)	0.16 (0.20)	5 (6)
WBT	0.0 (0.0)	A (A)	0.36 (0.43)	0 (0)
NBR	13.2 (16.8)	B (C)	0.20 (0.17)	6 (5)

Note: Results are presented in the format AM (PM) peak hour; Q95th (m) indicates the 95th percentile queues, LOS is an abbreviation for Level-of-Service, EB = eastbound, WB = westbound, SB = southbound; LTR = left, through, right movements for single lane

4.9.2 Borbridge Avenue at River Road

Table 22 This provides a summary of the intersection's traffic operations. Under existing conditions, the unsignalized intersection operates at an acceptable LOS C or better.

The forecast 2027 and 2032 background and total future conditions are anticipated to operate very well in the north/south direction. However, the westbound shared approach is expected to degrade to LOS E in the background condition by 2032. Additional site traffic is forecast to reduce the westbound approach to LOS F in the 2032 AM peak hour. However, the westbound approach will continue to operate below capacity, at 89% of its total capacity.

To enhance future traffic operations, the westbound approach was modelled with separate left and right turn lanes. While the mitigation efforts improve the functioning of the westbound approach by reducing the movement's delay and shortening the queue, the westbound left movement would still operate at LOS F due to delays; however, the movement would operate well below capacity. The City should monitor the intersection over time and plan to improve overall access from the subdivision.

Table 22: Borbridge Avenue at River Road Intersection Operations - AM (PM) Peak Hour

Approach/ Movement	Delay (s)	LOS	V/C	Q95th (m)
Existing				
WBLR	19.5 (14.8)	C (B)	0.28 (0.15)	9 (4)
NBTR	0.0 (0.0)	C (B)	0.50 (0.29)	0 (0)
SBL	9.8 (8.6)	A (A)	0.03 (0.06)	1 (2)
SBT	0.0 (0.0)	A (A)	0.20 (0.44)	0 (0)
Future Background 2027				
WBLR	29.5 (16.6)	D (C)	0.55 (0.28)	25 (9)
NBTR	0.0 (0.0)	A (A)	0.54 (0.31)	0 (0)
SBL	10.2 (3.2)	B (A)	0.07 (0.12)	2 (3)
SBT	0.0 (0.0)	A (A)	0.23 (0.49)	0 (0)
Future Background 2032				
WBLR	47.8 (19.6)	E (C)	0.71 (0.34)	39 (12)
NBTR	0.0 (0.0)	A (A)	0.63 (0.34)	0 (0)
SBL	11.1 (9.2)	B (A)	0.08 (0.13)	2 (4)
SBT	0.0 (0.0)	A (A)	0.26 (0.56)	0 (0)
Total Future 2027				
WBLR	41.0 (24.6)	E (C)	0.69 (0.48)	37 (20)
NBTR	0.0 (0.0)	A (A)	0.55 (0.32)	0 (0)
SBL	10.5 (9.0)	B (A)	0.11 (0.12)	3 (3)
SBT	0.0 (0.0)	A (A)	0.23 (0.49)	0 (0)
Total Future 2032				
WBLR	79.1 (33.3)	F (D)	0.89 (0.58)	58 (27)
NBTR	0.0 (0.0)	A (A)	0.65 (0.35)	0 (0)
SBL	11.5 (9.2)	B (A)	0.13 (0.13)	4 (4)
SBT	0.0 (0.0)	A (A)	0.26 (0.56)	0 (0)
Total Future 2032 – Mitigation Measure (Separate Westbound Left/Right Turn Lanes)				
WBL	56.1 (72.1)	F (F)	0.19 (0.29)	5 (9)
WBR	45.4 (14.9)	E (B)	0.70 (0.29)	38 (9)
NBTR	0.0 (0.0)	A (A)	0.65 (0.35)	0 (0)
SBL	11.5 (9.2)	B (A)	0.13 (0.13)	4 (4)
SBT	0.0 (0.0)	A (A)	0.26 (0.56)	0 (0)

Note: Results are presented in the format AM (PM) peak hour; Q95th (m) indicates the 95th percentile queues, LOS is an abbreviation for Level-of-Service, EB = eastbound, WB = westbound, SB = southbound; LTR = left, through, right movements for single lane

4.9.3 Borbridge Avenue at Brian Good Avenue

Table 23 provides a summary of the intersection traffic operations. Under existing conditions, the all-way stop-controlled intersection operates at an acceptable LOS A.

The 2027 and 2032 background and total future conditions are forecast to operate well, at LOS B or better.

Table 23: Borbridge Avenue at Brian Good Avenue Intersection Operations

Approach/ Movement	Delay (s)	LOS	V/C	Q95th (m)
Existing				
EBLTR	7.7 (7.6)	A (A)	0.09 (0.08)	-
WBLTR	8.0 (7.7)	A (A)	0.09 (0.08)	-
NBLTR	8.2 (7.6)	A (A)	0.15 (0.07)	-
SBLTR	8.0 (7.6)	A (A)	0.13 (0.10)	-
Overall	**8.0 (7.6)**	**A (A)**	-	-
Future Background 2027				
EBLTR	8.5 (8.4)	A (A)	0.15 (0.15)	-
WBLTR	9.2 (8.7)	A (A)	0.22 (0.19)	-
NBLTR	9.1 (8.2)	A (A)	0.22 (0.12)	-
SBLTR	8.8 (8.5)	A (A)	0.17 (0.16)	-
Overall	**8.9 (8.5)**	**A (A)**	-	-
Future Background 2032				
EBLTR	8.4 (8.4)	A (A)	0.14 (0.16)	-
WBLTR	9.2 (8.7)	A (A)	0.23 (0.19)	-
NBLTR	9.2 (8.2)	A (A)	0.23 (0.12)	-
SBLTR	8.9 (8.5)	A (A)	0.18 (0.17)	-
Overall	**9.0 (8.5)**	**A (A)**	-	-
Total Future 2027				
EBLTR	9.8 (9.0)	A (A)	0.23 (0.18)	-
WBLTR	10.3 (9.6)	B (A)	0.28 (0.27)	-
NBLTR	10.7 (9.0)	B (A)	0.34 (0.19)	-
SBLTR	10.3 (9.2)	B (A)	0.27 (0.21)	-
Overall	**10.3 (9.2)**	**B (A)**	-	-
Total Future 2032				
EBLTR	9.8 (9.0)	A (A)	0.22 (0.19)	-
WBLTR	10.5 (9.7)	B (A)	0.29 (0.28)	-
NBLTR	10.8 (9.1)	B (A)	0.35 (0.19)	-
SBLTR	10.4 (9.3)	B (A)	0.28 (0.21)	-
Overall	10.4 (9.3)	B (A)	-	-

Note: Results are presented in the format AM (PM) peak hour; Q95th (m) indicates the 95th percentile queues, LOS is an abbreviation for Level-of-Service, EB = eastbound, WB = westbound, SB = southbound; LTR = left, through, right movements for single lane

4.9.4 Borbridge Avenue at Spratt Road

Table 24 provides a summary of the intersection traffic operations. Under existing conditions, the side street stop-controlled movements operate at an acceptable LOS B.

The forecast 2027 and 2032 future background conditions indicate that the intersection is anticipated to operate at LOS F in the 2027 AM background condition, at 81% of the eastbound approach's capacity. By the 2032 future background condition, the eastbound approach is forecast to operate at LOS during both the AM and PM peak hours and is over capacity in the AM peak hour with a v/c = 1.02. Mitigation measures will be required to accommodate background traffic. The addition of the school site traffic will further degrade the intersection operations.

The Riverside South Phase 17 Traffic Impact Assessment, 2020, identified the need to convert the traffic control to an All-Way Stop. The Phase 17 report also recognized the need for a southbound left turn lane; however, our analysis does not include one. Operating the intersection with All-Way Stop control, the overall intersection is forecast to operate at LOS D in 2032, with the southbound shared lane operating at LOS E during the PM peak hour. The City should continue monitoring this intersection as the Riverside South Phase 17 is occupied, as significant differences in travel behaviour could impact the operations of the Borbridge Avenue and Spratt Road intersection.

Table 24: Borbridge Avenue at Spratt Road Intersection Operations

Approach/ Movement	Delay (s)	LOS	V/C	Q95th (m)
Existing – Side Street Stop Control				
EBLTR	11.0 (10.6)	B (B)	0.14 (0.08)	4 (2)
WBLTR	10.1 (10.0)	B (B)	0.02 (0.03)	1 (1)
NBLT	0.8 (1.0)	A (A)	0.01 (0.01)	0 (0)
SBLT	0.4 (0.2)	A (A)	0.00 (0.00)	0 (0)
Future Background 2027 – Side Street Stop Control				
EBLTR	69.9 (45.4)	F (E)	0.81 (0.63)	47 (30)
WBLTR	21.6 (24.6)	C (C)	0.62 (0.53)	34 (24)
NBLTR	0.5 (0.7)	A (A)	0.01 (0.01)	0 (0)
SBLTR	3.5 (4.3)	A (A)	0.08 (0.14)	2 (4)
Future Background 2032 – Side Street Stop Control				
EBLTR	134.0 (70.9)	F (F)	1.02 (0.78)	64 (42)
WBLTR	29.1 (27.0)	D (D)	0.72 (0.60)	45 (31)
NBLTR	0.5 (0.7)	A (A)	0.01 (0.01)	0 (0)
SBLTR	3.3 (4.1)	A (A)	0.09 (0.15)	2 (4)
Total Future 2027 – Side Street Stop Control				
EBLTR	206.1 (190.4)	F (F)	1.29 (1.24)	118 (104)
WBLTR	30.9 (29.6)	D (D)	0.74 (0.64)	49 (34)
NBLTR	1.3 (1.8)	A (A)	0.03 (0.03)	1 (1)
SBLTR	3.0 (4.2)	A (A)	0.08 (0.14)	2 (4)

Approach/ Movement	Delay (s)	LOS	V/C	Q95th (m)
Total Future 2032 – Side Street Stop Control				
EBLTR	361.6 (332.1)	F (F)	1.64 (1.54)	147 (133)
WBLTR	47.3 (41.5)	E (E)	0.85 (0.74)	67 (45)
NBLTR	1.1 (1.7)	A (A)	0.03 (0.04)	1 (1)
SBLTR	2.9 (3.9)	A (A)	0.09 (0.15)	2 (4)
Total Future 2032 – Mitigation Measure (All-Way Stop Control)				
EBLTR	20.9 (17.2)	C (C)	0.58 (0.50)	-
WBLTR	26.1 (16.0)	D (C)	0.71 (0.47)	-
NBLTR	29.7 (16.7)	D (C)	0.75 (0.49)	-
SBLTR	30.6 (48.9)	D (E)	0.77 (0.94)	-
Overall	**27.3 (30.1)**	**D (D)**	**0.85 (0.88)**	**-**

Note: Results are presented in the format AM (PM) peak hour; Q95th (m) indicates the 95th percentile queues, LOS is an abbreviation for Level-of-Service, EB = eastbound, WB = westbound, SB = southbound; LTR = left, through, right movements for single lane

5.0 Summary/Conclusions

The CECCE is proposing to construct a new French Catholic high school on the southeast corner of Brian Good Avenue at Borbridge Avenue in Riverside South. The school will educate students in grades 7 to 12 and accommodate up to 1,186 students and 100 staff members. The school will also have a daycare with space for 49 children and 10 staff members. The school is forecast to generate 394 AM peak hour vehicle trips and 373 PM peak hour vehicle trips.

Access to the site is proposed from Borbridge Avenue, with an 87-space parking area. A bus layby is proposed along Brian Good Avenue, accommodating 14 school buses or more. A pickup/drop-off layby is provided along Borbridge Avenue. Bulbouts are proposed to define the on-street parking laybys to meet the Designing Neighbourhood Collector Streets Guideline.

It is forecast that all MMLOS targets will be met except for the Pedestrian LOS which will operate at a PLOS = B, where the target is A, primarily due to the traffic volume being greater than 3,000 vpd.

The site access is forecast to operate at LOS A in the 2027 and 2032 future horizon years.

To the south of Earl Armstrong Road, the Riverside South community provides multiple connections to Earl Armstrong Road, River Road, Spratt Road, and future connections to Rideau Road. The existing collector road connections from the subdivision provide single-lane, stop-controlled approaches to the higher order roadways. The City should monitor traffic operations within Riverside South to determine if and when modifications (turn lanes or traffic control) may be required to accommodate automobile traffic. A modification at one intersection may attract traffic to that intersection from within the subdivision, therefore, the City should carefully consider the impact of any one or more modifications on the road network and adjacent neighbours. For instance, if a traffic signal were added at the intersection of Earl Armstrong Road and Brian Good Avenue, this modification could increase the traffic volume on Brian Good Avenue, which the neighbourhood may not welcome.

The intersection of Brian Good Avenue at Borbridge Avenue is forecast to operate at LOS B or better with no operational concerns.

The intersection of Borbridge Avenue at River Road is forecast to operate below capacity in 2032, however, the westbound shared lane approach will experience delays of over 70 seconds per vehicle, corresponding to a LOS F. The City should monitor the intersection over time and plan to improve overall access from the subdivision. Simply providing a separate westbound left and right turn lane enhances the capacity of the approach, however, the left turn movement would continue to operate at LOS F due to delays.

At the intersection of Earl Armstrong Road at Brian Good Avenue, in the 2032 background condition, the northbound approach is forecast to operate at LOS F during the AM and PM peak hours, and over capacity with a v/c > 1.05. Mitigation measures should be considered to improve the background traffic operations. Mitigation measures could include:

- Traffic signals to improve traffic operations for vehicles exiting the subdivision;
- Consider restricting the northbound left turn movement by implementing a median island modification on Earl Armstrong Road; or,
- The northbound left turn traffic could be restricted during peak periods.

If the northbound left turn movement is restricted at Earl Armstrong Road, the total future northbound right turn movement in 2032 would operate at a Level of Service (LOS) C or better. The City should monitor the intersection over time and plan to improve overall access from the subdivision.

At the intersection of Borbridge Avenue at Spratt Road, the future background conditions indicate that the eastbound shared lane approach to the side street stop sign controlled intersection will operate at LOS F. The Riverside South Phase 17 Traffic Impact Assessment, 2020, identified the need to convert the traffic control to an All-Way Stop. Operating the intersection with All-Way Stop control, the overall intersection is forecast to operate at LOS D in 2032, with the southbound shared lane operating at LOS E during the PM peak hour. The City should continue monitoring this intersection as the Riverside South Phase 17 is built and occupied. The City should monitor the intersection over time and plan to improve overall access from the subdivision.

The following TDM measures are to be provided:

- Display relevant transit schedules and route maps at the various school entrances;
- Provide links to OC Transpo and STO information on the school board website; and
- Provide shower and lockers for staff use (these measures are provided).

Consider offering preloaded PRESTO cards to encourage staff to use transit or providing monthly transit pass reimbursement for employees.

All grade 7-8 students residing beyond a 1.6 km radius and 9-12 students residing 3.6 km from the school will be given access to school bus transportation. To promote active transportation for those who live closer to the school, students will be encouraged to walk or cycle to school. The school will develop and make available educational materials on alternative transportation modes through its website, displaying transportation options and encouraging parents to choose non-automotive options. The school's parent association, reporting to the principal, will support creating and distributing these educational materials and keep an eye on transportation-related matters. The school board plans to participate in the city's cycling education programs.

Appendix A

Traffic Counts

5688055 - Brian Good Ave @ Borbridge Ave - D... - TMC

Tue Dec 10, 2024
Full Length (7 AM-10 AM, 11:30 AM-1:30 PM, 3 PM-6 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258695, Location: 45.264057, -75.692952

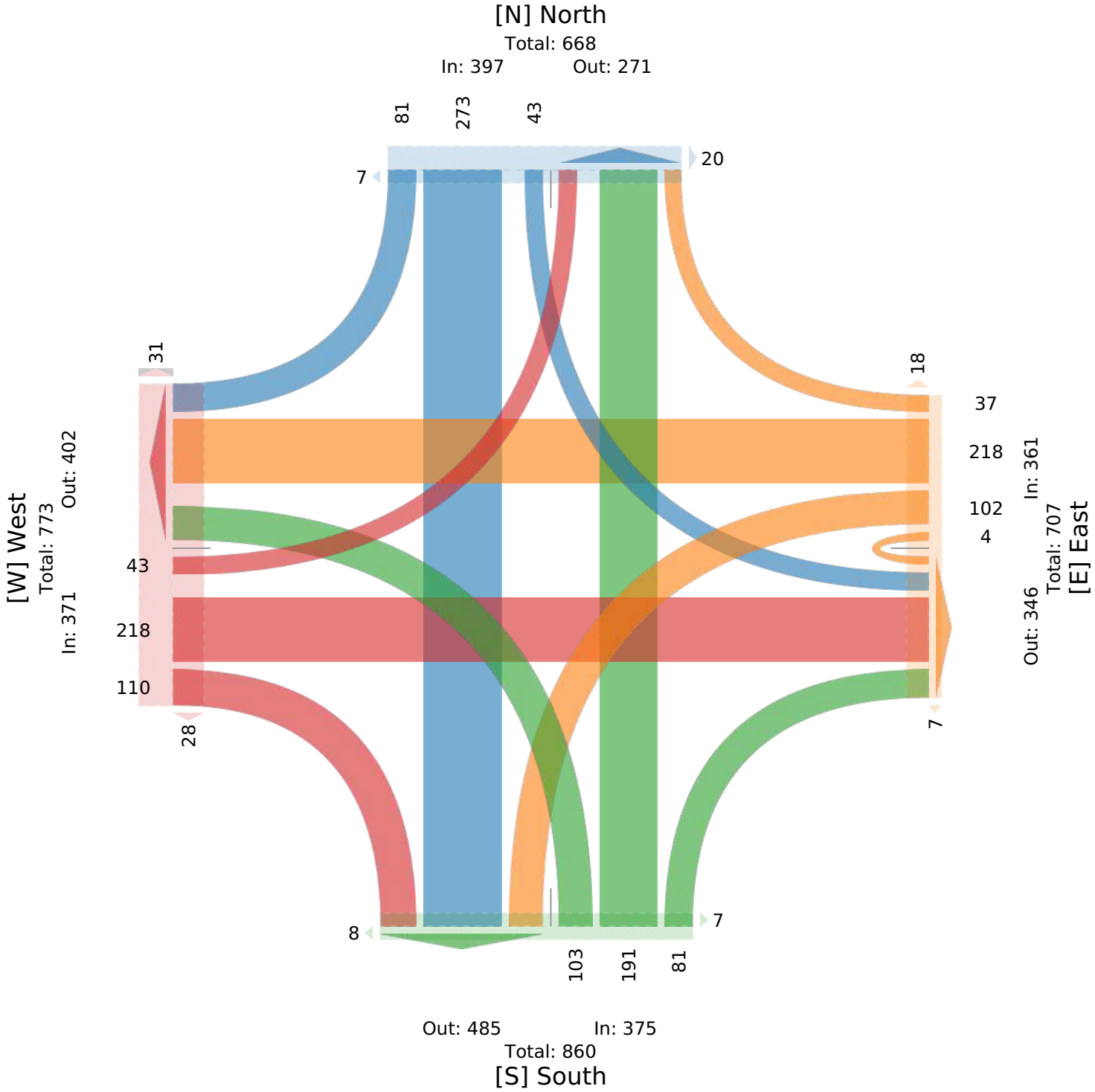
Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

Leg	North						East						South						West						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-12-10 7:00AM	1	2	0	0	**3**	0	0	4	2	0	**6**	0	1	6	0	0	**7**	0	2	7	0	0	**9**	1	**25**
7:15AM	0	6	1	0	**7**	3	0	6	2	0	**8**	6	2	7	0	0	**9**	3	0	3	0	0	**3**	4	**27**
7:30AM	3	5	3	0	**11**	1	3	9	1	0	**13**	3	3	10	2	0	**15**	3	0	4	10	0	**14**	0	**53**
7:45AM	4	9	2	0	**15**	2	3	7	4	0	**14**	1	1	12	0	0	**13**	0	0	6	5	0	**11**	1	**53**
Hourly Total	8	22	6	0	**36**	6	6	26	9	0	**41**	10	7	35	2	0	**44**	6	2	20	15	0	**37**	6	**158**
8:00AM	2	22	7	0	**31**	5	10	7	0	0	**17**	4	1	22	1	0	**24**	0	6	5	0	0	**11**	10	**83**
8:15AM	5	30	4	0	**39**	2	1	5	12	0	**18**	1	7	9	7	0	**23**	0	24	6	2	0	**32**	3	**112**
8:30AM	2	7	0	0	**9**	1	1	11	3	0	**15**	1	8	20	13	0	**41**	0	3	8	0	0	**11**	5	**76**
8:45AM	3	4	0	0	**7**	0	0	4	7	0	**11**	0	5	4	2	0	**11**	1	4	7	1	0	**12**	0	**41**
Hourly Total	12	63	11	0	**86**	8	12	27	22	0	**61**	6	21	55	23	0	**99**	1	37	26	3	0	**66**	18	**312**
9:00AM	1	5	2	0	**8**	0	0	7	3	3	**13**	0	3	5	3	0	**11**	0	4	6	1	0	**11**	0	**43**
9:15AM	3	3	1	0	**7**	0	0	5	1	0	**6**	0	0	4	1	0	**5**	0	1	9	1	0	**11**	0	**29**
9:30AM	0	2	0	0	**2**	0	0	1	4	0	**5**	0	1	3	2	0	**6**	0	1	1	0	0	**2**	1	**15**
9:45AM	1	0	1	0	**2**	0	1	6	0	0	**7**	0	1	1	1	0	**3**	0	0	4	0	0	**4**	0	**16**
Hourly Total	5	10	4	0	**19**	0	1	19	8	3	**31**	0	5	13	7	0	**25**	0	6	20	2	0	**28**	1	**103**
11:30AM	2	4	0	0	**6**	0	0	6	2	0	**8**	0	1	1	1	0	**3**	2	3	5	1	0	**9**	1	**26**
11:45AM	3	4	0	0	**7**	0	0	4	0	0	**4**	0	0	2	3	0	**5**	0	2	4	1	0	**7**	2	**23**
Hourly Total	5	8	0	0	**13**	0	0	10	2	0	**12**	0	1	3	4	0	**8**	2	5	9	2	0	**16**	3	**49**
12:00PM	4	7	0	0	**11**	0	0	3	1	0	**4**	0	1	4	2	0	**7**	0	1	3	1	0	**5**	2	**27**
12:15PM	1	4	1	0	**6**	0	0	9	3	0	**12**	0	0	3	2	0	**5**	0	1	6	0	0	**7**	1	**30**
12:30PM	1	3	1	0	**5**	1	0	3	0	0	**3**	1	2	0	1	0	**3**	1	1	6	0	0	**7**	1	**18**
12:45PM	1	4	0	0	**5**	0	0	5	1	0	**6**	1	1	3	2	0	**6**	0	4	6	1	0	**11**	1	**28**
Hourly Total	7	18	2	0	**27**	1	0	20	5	0	**25**	2	4	10	7	0	**21**	1	7	21	2	0	**30**	5	**103**
1:00PM	1	3	0	0	**4**	0	0	1	1	0	**2**	0	1	0	4	0	**5**	0	0	2	0	0	**2**	2	**13**
1:15PM	1	8	0	0	**9**	0	0	2	0	0	**2**	0	1	2	1	0	**4**	0	4	4	0	0	**8**	0	**23**
Hourly Total	2	11	0	0	**13**	0	0	3	1	0	**4**	0	2	2	5	0	**9**	0	4	6	0	0	**10**	2	**36**
3:00PM	1	15	2	0	**18**	5	0	11	6	0	**17**	0	14	12	18	0	**44**	0	8	9	1	0	**18**	15	**97**
3:15PM	2	10	2	0	**14**	0	2	8	3	0	**13**	3	2	3	3	0	**8**	3	1	12	2	0	**15**	0	**50**
3:30PM	1	7	2	0	**10**	0	2	8	3	0	**13**	0	0	4	4	0	**8**	0	2	5	1	0	**8**	0	**39**
3:45PM	1	9	3	0	**13**	2	2	11	4	0	**17**	1	4	6	5	0	**15**	0	4	5	1	0	**10**	0	**55**
Hourly Total	5	41	9	0	**55**	7	6	38	16	0	**60**	4	20	25	30	0	**75**	3	15	31	5	0	**51**	15	**241**
4:00PM	7	6	2	0	**15**	1	2	9	5	0	**16**	0	2	4	4	0	**10**	0	5	16	1	0	**22**	2	**63**
4:15PM	5	20	1	0	**26**	0	2	13	5	0	**20**	0	0	10	4	0	**14**	0	4	4	2	0	**10**	0	**70**
4:30PM	7	18	3	0	**28**	1	3	13	7	0	**23**	3	4	11	3	0	**18**	0	1	12	3	0	**16**	3	**85**
4:45PM	6	12	0	0	**18**	2	0	5	5	1	**11**	0	6	6	2	0	**14**	0	2	14	3	0	**19**	0	**62**
Hourly Total	25	56	6	0	**87**	4	7	40	22	1	**70**	3	12	31	13	0	**56**	0	12	46	9	0	**67**	5	**280**
5:00PM	4	14	1	0	**19**	0	2	12	2	0	**16**	0	3	3	2	0	**8**	0	7	8	2	0	**17**	1	**60**
5:15PM	1	12	1	0	**14**	0	0	9	8	0	**17**	0	2	7	4	0	**13**	1	3	13	0	0	**16**	2	**60**
5:30PM	7	8	1	0	**16**	1	1	5	2	0	**8**	0	1	4	3	0	**8**	1	6	5	1	0	**12**	1	**44**
5:45PM	0	10	2	0	**12**	0	2	9	5	0	**16**	0	3	3	3	0	**9**	0	6	13	2	0	**21**	0	**58**
Hourly Total	12	44	5	0	**61**	1	5	35	17	0	**57**	0	9	17	12	0	**38**	2	22	39	5	0	**66**	4	**222**
Total	81	273	43	0	**397**	27	37	218	102	4	**361**	25	81	191	103	0	**375**	15	110	218	43	0	**371**	59	**1504**
% Approach	20.4%	68.8%	10.8%	0%	**-**	-	10.2%	60.4%	28.3%	1.1%	**-**	-	21.6%	50.9%	27.5%	0%	**-**	-	29.6%	58.8%	11.6%	0%	**-**	-	-
% Total	5.4%	18.2%	2.9%	0%	**26.4%**	-	2.5%	14.5%	6.8%	0.3%	**24.0%**	-	5.4%	12.7%	6.8%	0%	**24.9%**	-	7.3%	14.5%	2.9%	0%	**24.7%**	-	-
Lights and Motorcycles	76	271	39	0	**386**	-	33	212	95	0	**340**	-	77	185	99	0	**361**	-	106	213	38	0	**357**	-	1444
% Lights and Motorcycles	93.8%	99.3%	90.7%	0%	**97.2%**	-	89.2%	97.2%	93.1%	0%	**94.2%**	-	95.1%	96.9%	96.1%	0%	**96.3%**	-	96.4%	97.7%	88.4%	0%	**96.2%**	-	96.0%
Heavy	5	2	4	0	**11**	-	4	6	7	4	**21**	-	4	6	4	0	**14**	-	4	5	5	0	**14**	-	60
% Heavy	6.2%	0.7%	9.3%	0%	**2.8%**	-	10.8%	2.8%	6.9%	100%	**5.8%**	-	4.9%	3.1%	3.9%	0%	**3.7%**	-	3.6%	2.3%	11.6%	0%	**3.8%**	-	4.0%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	27	-	-	-	-	-	25	-	-	-	-	-	15	-	-	-	-	-	59	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 - Brian Good Ave @ Borbridge Ave - D... - TMC
Tue Dec 10, 2024
Full Length (7 AM-10 AM, 11:30 AM-1:30 PM, 3 PM-6 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258695, Location: 45.264057, -75.692952

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 - Brian Good Ave @ Borbridge Ave - D... - TMC

Tue Dec 10, 2024
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258695, Location: 45.264057, -75.692952

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

Leg	North						East						South						West						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-12-10 7:45AM	4	9	2	0	**15**	2	3	7	4	0	**14**	1	1	12	0	0	**13**	0	0	6	5	0	**11**	1	**53**
8:00AM	2	22	7	0	**31**	5	10	7	0	0	**17**	4	1	22	1	0	**24**	0	6	5	0	0	**11**	10	**83**
8:15AM	5	30	4	0	**39**	2	1	5	12	0	**18**	1	7	9	7	0	**23**	0	24	6	2	0	**32**	3	**112**
8:30AM	2	7	0	0	**9**	1	1	11	3	0	**15**	1	8	20	13	0	**41**	0	3	8	0	0	**11**	5	**76**
Total	13	68	13	0	**94**	10	15	30	19	0	**64**	7	17	63	21	0	**101**	0	33	25	7	0	**65**	19	**324**
% Approach	13.8%	72.3%	13.8%	0%	**-**	-	23.4%	46.9%	29.7%	0%	**-**	-	16.8%	62.4%	20.8%	0%	**-**	-	50.8%	38.5%	10.8%	0%	**-**	-	-
% Total	4.0%	21.0%	4.0%	0%	**29.0%**	-	4.6%	9.3%	5.9%	0%	**19.8%**	-	5.2%	19.4%	6.5%	0%	**31.2%**	-	10.2%	7.7%	2.2%	0%	**20.1%**	-	-
PHF	0.650	0.567	0.464	-	**0.603**	-	0.375	0.682	0.396	-	**0.889**	-	0.531	0.716	0.404	-	**0.616**	-	0.344	0.781	0.350	-	**0.508**	-	0.723
Lights and Motorcycles	12	68	10	0	**90**	-	13	29	19	0	**61**	-	17	61	21	0	**99**	-	32	24	7	0	**63**	-	313
% Lights and Motorcycles	92.3%	100%	76.9%	0%	**95.7%**	-	86.7%	96.7%	100%	0%	**95.3%**	-	100%	96.8%	100%	0%	**98.0%**	-	97.0%	96.0%	100%	0%	**96.9%**	-	96.6%
Heavy	1	0	3	0	**4**	-	2	1	0	0	**3**	-	0	2	0	0	**2**	-	1	1	0	0	**2**	-	11
% Heavy	7.7%	0%	23.1%	0%	**4.3%**	-	13.3%	3.3%	0%	0%	**4.7%**	-	0%	3.2%	0%	0%	**2.0%**	-	3.0%	4.0%	0%	0%	**3.1%**	-	3.4%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	10	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	19	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 - Brian Good Ave @ Borbridge Ave - D... - TMC

Tue Dec 10, 2024

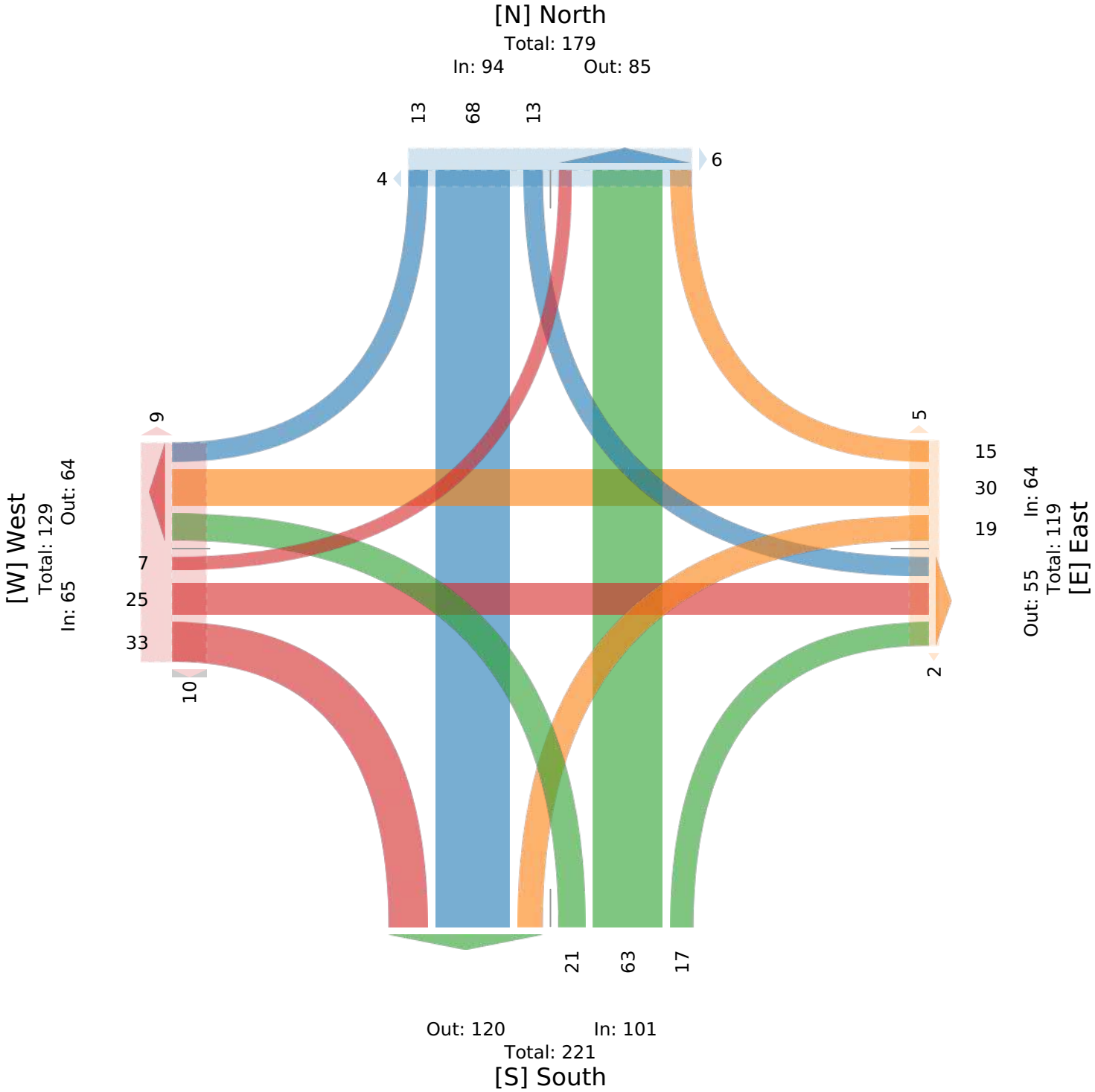
AM Peak (7:45 AM - 8:45 AM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1258695, Location: 45.264057, -75.692952

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 - Brian Good Ave @ Borbridge Ave - D... - TMC

Tue Dec 10, 2024
Midday Peak (11:30 AM - 12:30 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258695, Location: 45.264057, -75.692952

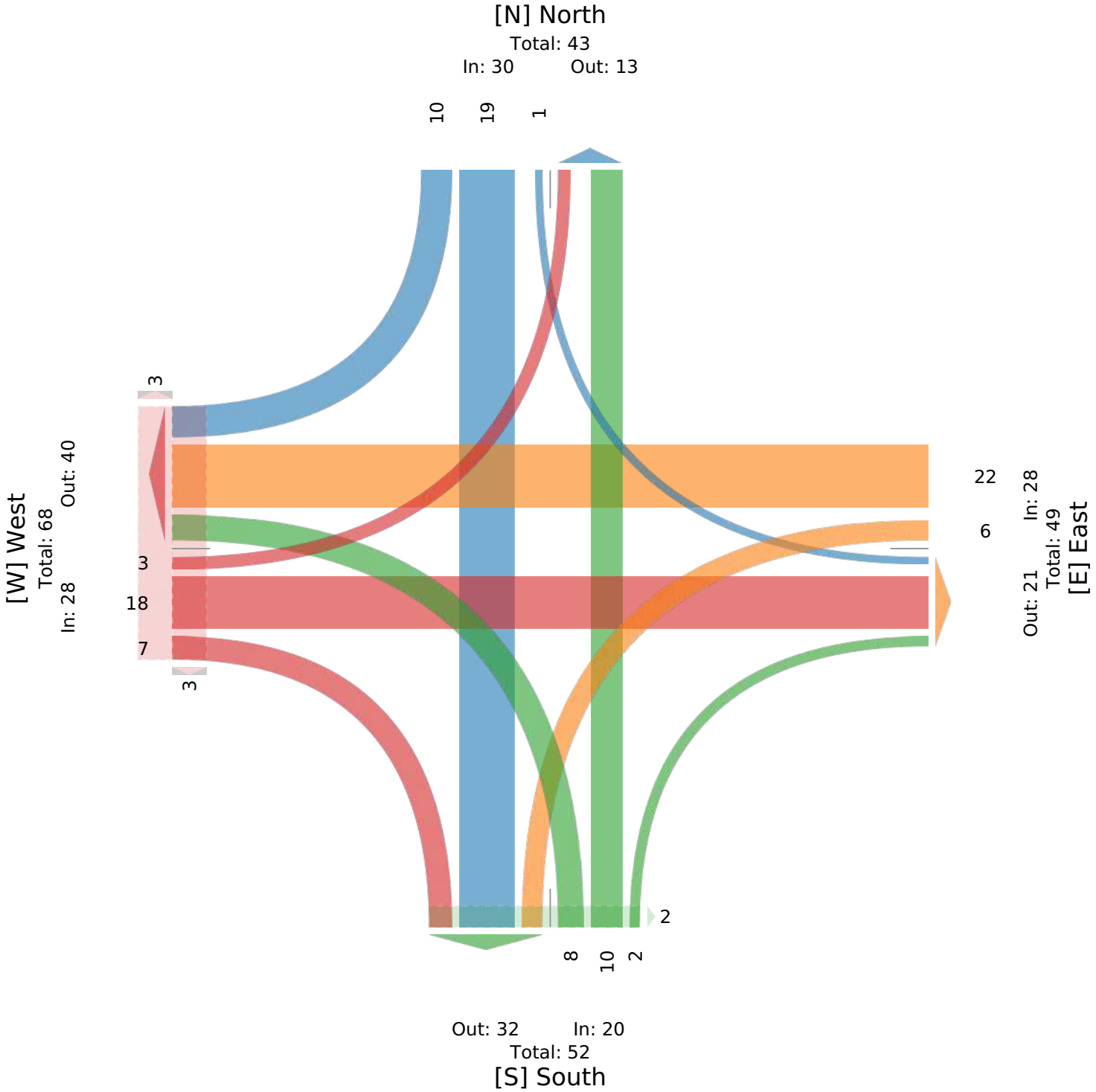
Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

Leg / Direction	North Southbound						East Westbound						South Northbound						West Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-12-10 11:30AM	2	4	0	0	**6**	0	0	6	2	0	**8**	0	1	1	1	0	**3**	2	3	5	1	0	**9**	1	**26**
11:45AM	3	4	0	0	**7**	0	0	4	0	0	**4**	0	0	2	3	0	**5**	0	2	4	1	0	**7**	2	**23**
12:00PM	4	7	0	0	**11**	0	0	3	1	0	**4**	0	1	4	2	0	**7**	0	1	3	1	0	**5**	2	**27**
12:15PM	1	4	1	0	**6**	0	0	9	3	0	**12**	0	0	3	2	0	**5**	0	1	6	0	0	**7**	1	**30**
Total	10	19	1	0	**30**	0	0	22	6	0	**28**	0	2	10	8	0	**20**	2	7	18	3	0	**28**	6	**106**
% Approach	33.3%	63.3%	3.3%	0%	**-**	-	0%	78.6%	21.4%	0%	**-**	-	10.0%	50.0%	40.0%	0%	**-**	-	25.0%	64.3%	10.7%	0%	**-**	-	-
% Total	9.4%	17.9%	0.9%	0%	**28.3%**	-	0%	20.8%	5.7%	0%	**26.4%**	-	1.9%	9.4%	7.5%	0%	**18.9%**	-	6.6%	17.0%	2.8%	0%	**26.4%**	-	-
PHF	0.625	0.679	0.250	-	**0.682**	-	-	0.611	0.500	-	**0.583**	-	0.500	0.625	0.667	-	**0.714**	-	0.583	0.750	0.750	-	**0.778**	-	0.883
Lights and Motorcycles	9	18	1	0	**28**	-	0	21	5	0	**26**	-	2	9	6	0	**17**	-	7	17	3	0	**27**	-	98
% Lights and Motorcycles	90.0%	94.7%	100%	0%	**93.3%**	-	0%	95.5%	83.3%	0%	**92.9%**	-	100%	90.0%	75.0%	0%	**85.0%**	-	100%	94.4%	100%	0%	**96.4%**	-	92.5%
Heavy	1	1	0	0	**2**	-	0	1	1	0	**2**	-	0	1	2	0	**3**	-	0	1	0	0	**1**	-	8
% Heavy	10.0%	5.3%	0%	0%	**6.7%**	-	0%	4.5%	16.7%	0%	**7.1%**	-	0%	10.0%	25.0%	0%	**15.0%**	-	0%	5.6%	0%	0%	**3.6%**	-	7.5%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	6	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 - Brian Good Ave @ Borbridge Ave - D... - TMC
Tue Dec 10, 2024
Midday Peak (11:30 AM - 12:30 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258695, Location: 45.264057, -75.692952

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 - Brian Good Ave @ Borbridge Ave - D... - TMC

Tue Dec 10, 2024
PM Peak (4 PM - 5 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258695, Location: 45.264057, -75.692952

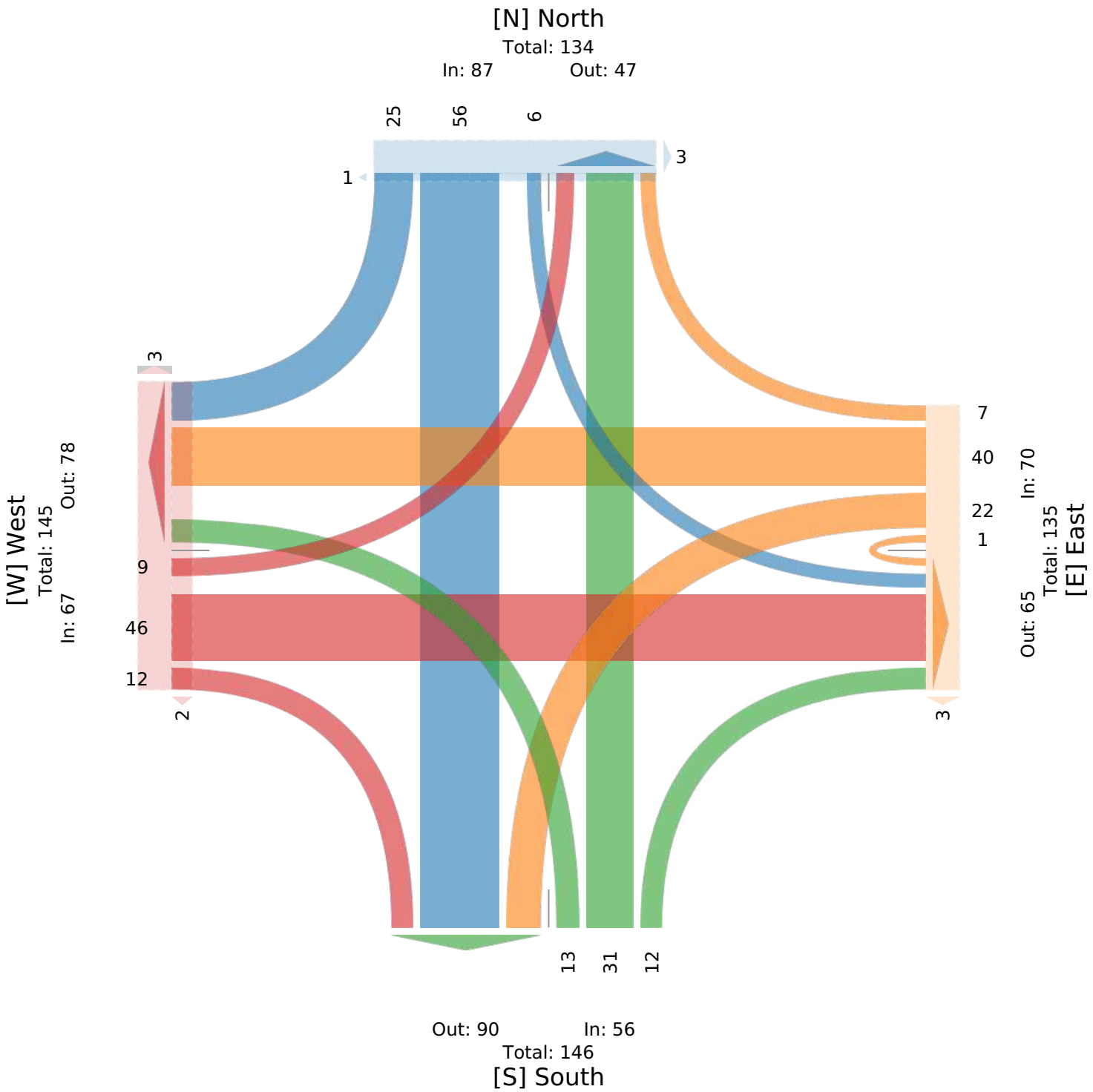
Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

Leg	North						East						South						West						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-12-10 4:00PM	7	6	2	0	**15**	1	2	9	5	0	**16**	0	2	4	4	0	**10**	0	5	16	1	0	**22**	2	**63**
4:15PM	5	20	1	0	**26**	0	2	13	5	0	**20**	0	0	10	4	0	**14**	0	4	4	2	0	**10**	0	**70**
4:30PM	7	18	3	0	**28**	1	3	13	7	0	**23**	3	4	11	3	0	**18**	0	1	12	3	0	**16**	3	**85**
4:45PM	6	12	0	0	**18**	2	0	5	5	1	**11**	0	6	6	2	0	**14**	0	2	14	3	0	**19**	0	**62**
Total	25	56	6	0	**87**	4	7	40	22	1	**70**	3	12	31	13	0	**56**	0	12	46	9	0	**67**	5	**280**
% Approach	28.7%	64.4%	6.9%	0%	**-**	-	10.0%	57.1%	31.4%	1.4%	**-**	-	21.4%	55.4%	23.2%	0%	**-**	-	17.9%	68.7%	13.4%	0%	**-**	-	**-**
% Total	8.9%	20.0%	2.1%	0%	**31.1%**	-	2.5%	14.3%	7.9%	0.4%	**25.0%**	-	4.3%	11.1%	4.6%	0%	**20.0%**	-	4.3%	16.4%	3.2%	0%	**23.9%**	-	**-**
PHF	0.893	0.700	0.500	-	**0.777**	-	0.583	0.769	0.786	0.250	**0.761**	-	0.500	0.705	0.813	-	**0.778**	-	0.600	0.719	0.750	-	**0.761**	-	0.824
Lights and Motorcycles	24	56	6	0	**86**	-	6	40	21	0	**67**	-	11	30	12	0	**53**	-	11	45	8	0	**64**	-	270
% Lights and Motorcycles	96.0%	100%	100%	0%	**98.9%**	-	85.7%	100%	95.5%	0%	**95.7%**	-	91.7%	96.8%	92.3%	0%	**94.6%**	-	91.7%	97.8%	88.9%	0%	**95.5%**	-	96.4%
Heavy	1	0	0	0	**1**	-	1	0	1	1	**3**	-	1	1	1	0	**3**	-	1	1	1	0	**3**	-	10
% Heavy	4.0%	0%	0%	0%	**1.1%**	-	14.3%	0%	4.5%	100%	**4.3%**	-	8.3%	3.2%	7.7%	0%	**5.4%**	-	8.3%	2.2%	11.1%	0%	**4.5%**	-	3.6%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	4	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 - Brian Good Ave @ Borbridge Ave - D... - TMC
Tue Dec 10, 2024
PM Peak (4 PM - 5 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1258695, Location: 45.264057, -75.692952

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 Brian Good Ave. @ Earl Armstrong Rd ... - TMC

Tue Dec 10, 2024
Full Length (7 AM-10 AM, 11:30 AM-1:30 PM, 3 PM-6 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258693, Location: 45.270621, -75.693119

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

Leg / Direction	East Westbound					South Northbound					West Eastbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2024-12-10 7:00AM	107	1	0	**108**	0	10	6	0	**16**	1	5	103	1	**109**	0	**233**
7:15AM	145	7	0	**152**	1	12	10	0	**22**	0	19	106	0	**125**	0	**299**
7:30AM	166	12	0	**178**	0	18	12	0	**30**	0	19	143	0	**162**	0	**370**
7:45AM	233	19	0	**252**	0	31	16	0	**47**	0	20	180	0	**200**	0	**499**
Hourly Total	651	39	0	**690**	1	71	44	0	**115**	1	63	532	1	**596**	0	**1401**
8:00AM	176	34	0	**210**	0	15	11	0	**26**	4	21	141	0	**162**	0	**398**
8:15AM	218	7	0	**225**	0	19	14	0	**33**	0	13	143	0	**156**	0	**414**
8:30AM	191	9	0	**200**	0	7	17	0	**24**	1	6	148	0	**154**	1	**378**
8:45AM	167	5	0	**172**	0	14	11	0	**25**	0	17	151	1	**169**	0	**366**
Hourly Total	752	55	0	**807**	0	55	53	0	**108**	5	57	583	1	**641**	1	**1556**
9:00AM	180	12	0	**192**	0	8	9	0	**17**	2	11	145	0	**156**	0	**365**
9:15AM	145	6	0	**151**	0	6	9	0	**15**	0	6	124	0	**130**	0	**296**
9:30AM	124	8	0	**132**	0	9	5	0	**14**	2	7	100	0	**107**	0	**253**
9:45AM	152	1	1	**154**	0	3	5	0	**8**	1	4	102	1	**107**	0	**269**
Hourly Total	601	27	1	**629**	0	26	28	0	**54**	5	28	471	1	**500**	0	**1183**
11:30AM	144	5	0	**149**	0	5	9	0	**14**	1	9	146	0	**155**	0	**318**
11:45AM	139	6	0	**145**	0	8	4	0	**12**	0	15	112	0	**127**	0	**284**
Hourly Total	283	11	0	**294**	0	13	13	0	**26**	1	24	258	0	**282**	0	**602**
12:00PM	143	9	0	**152**	0	2	8	0	**10**	2	14	121	1	**136**	0	**298**
12:15PM	135	3	0	**138**	0	1	8	0	**9**	2	15	125	0	**140**	0	**287**
12:30PM	132	7	0	**139**	0	1	7	0	**8**	1	8	142	0	**150**	0	**297**
12:45PM	128	4	0	**132**	0	5	4	0	**9**	0	14	179	0	**193**	0	**334**
Hourly Total	538	23	0	**561**	0	9	27	0	**36**	5	51	567	1	**619**	0	**1216**
1:00PM	131	4	0	**135**	0	4	10	0	**14**	0	12	138	0	**150**	0	**299**
1:15PM	120	11	0	**131**	0	5	7	0	**12**	0	9	129	0	**138**	0	**281**
Hourly Total	251	15	0	**266**	0	9	17	0	**26**	0	21	267	0	**288**	0	**580**
3:00PM	179	11	0	**190**	1	4	16	0	**20**	2	24	216	0	**240**	0	**450**
3:15PM	211	9	0	**220**	0	11	14	0	**25**	0	28	239	0	**267**	0	**512**
3:30PM	267	19	0	**286**	0	8	7	0	**15**	2	16	240	0	**256**	0	**557**
3:45PM	271	18	0	**289**	0	5	10	0	**15**	0	21	235	0	**256**	0	**560**
Hourly Total	928	57	0	**985**	1	28	47	0	**75**	4	89	930	0	**1019**	0	**2079**
4:00PM	292	15	0	**307**	0	7	9	0	**16**	3	24	281	0	**305**	0	**628**
4:15PM	324	14	0	**338**	0	6	4	0	**10**	4	35	265	0	**300**	0	**648**
4:30PM	302	21	0	**323**	0	16	3	0	**19**	1	28	285	0	**313**	0	**655**
4:45PM	300	14	0	**314**	0	6	11	0	**17**	1	28	281	0	**309**	0	**640**
Hourly Total	1218	64	0	**1282**	0	35	27	0	**62**	9	115	1112	0	**1227**	0	**2571**
5:00PM	307	13	0	**320**	0	7	11	0	**18**	1	18	232	0	**250**	0	**588**
5:15PM	287	16	0	**303**	0	9	5	0	**14**	2	20	247	0	**267**	0	**584**
5:30PM	249	15	0	**264**	0	11	7	0	**18**	2	37	242	0	**279**	0	**561**
5:45PM	222	9	0	**231**	0	8	8	0	**16**	2	24	191	1	**216**	0	**463**
Hourly Total	1065	53	0	**1118**	0	35	31	0	**66**	7	99	912	1	**1012**	0	**2196**
Total	6287	344	1	**6632**	2	281	287	0	**568**	37	547	5632	5	**6184**	1	**13384**
% Approach	94.8%	5.2%	0%	**-**	-	49.5%	50.5%	0%	**-**	-	8.8%	91.1%	0.1%	**-**	-	-
% Total	47.0%	2.6%	0%	**49.6%**	-	2.1%	2.1%	0%	**4.2%**	-	4.1%	42.1%	0%	**46.2%**	-	-
Lights and Motorcycles	6115	332	1	**6448**	-	273	279	0	**552**	-	533	5478	5	**6016**	-	13016
% Lights and Motorcycles	97.3%	96.5%	100%	**97.2%**	-	97.2%	97.2%	0%	**97.2%**	-	97.4%	97.3%	100%	**97.3%**	-	97.3%
Heavy	172	12	0	**184**	-	8	8	0	**16**	-	14	154	0	**168**	-	368
% Heavy	2.7%	3.5%	0%	**2.8%**	-	2.8%	2.8%	0%	**2.8%**	-	2.6%	2.7%	0%	**2.7%**	-	2.7%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	2	-	-	-	-	37	-	-	-	-	1	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	

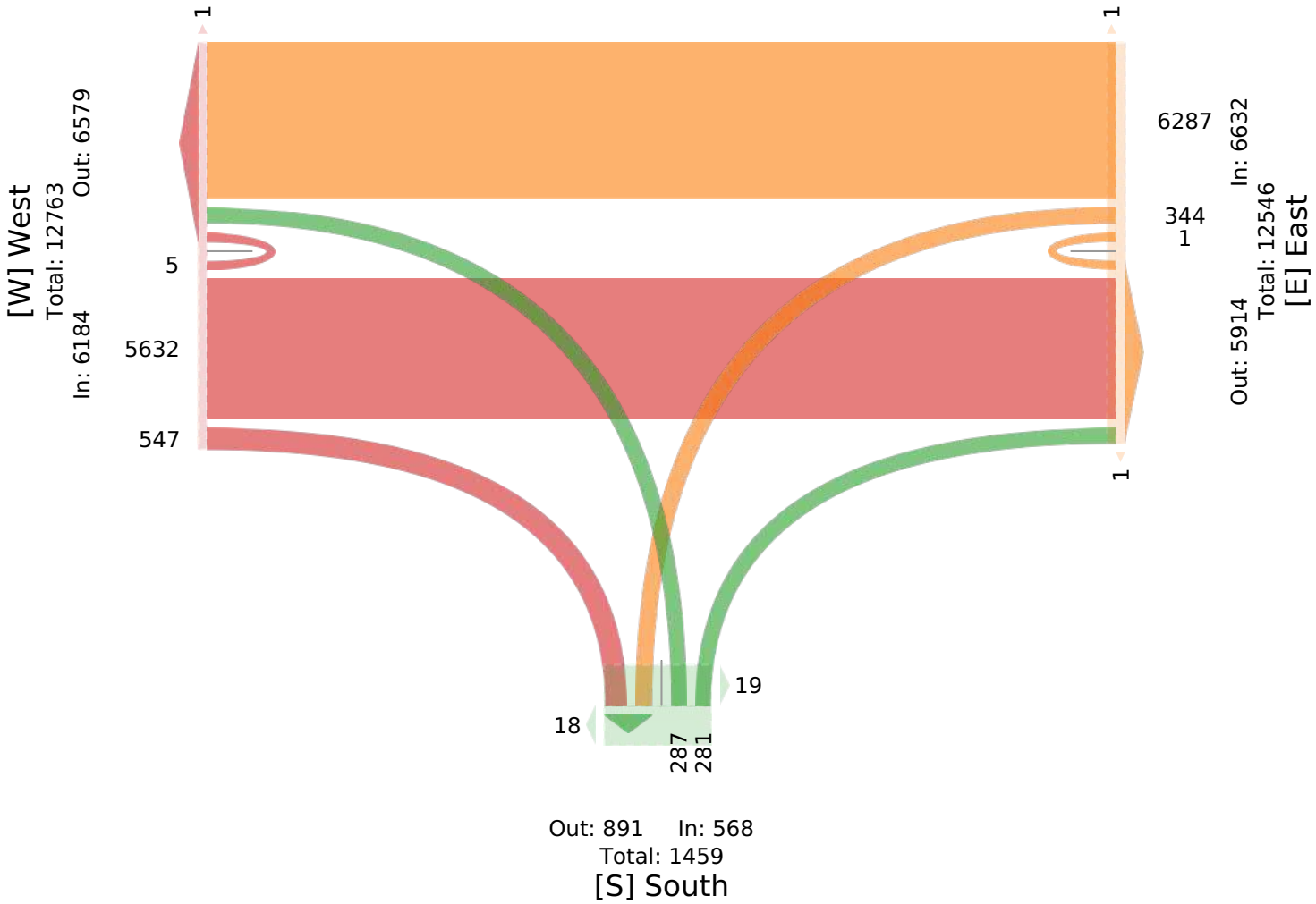
Leg Direction	East Westbound					South Northbound					West Eastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 Brian Good Ave. @ Earl Armstrong Rd ... - TMC

Tue Dec 10, 2024
Full Length (7 AM-10 AM, 11:30 AM-1:30 PM, 3 PM-6 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258693, Location: 45.270621, -75.693119

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 Brian Good Ave. @ Earl Armstrong Rd ... - TMC

Tue Dec 10, 2024
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258693, Location: 45.270621, -75.693119

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

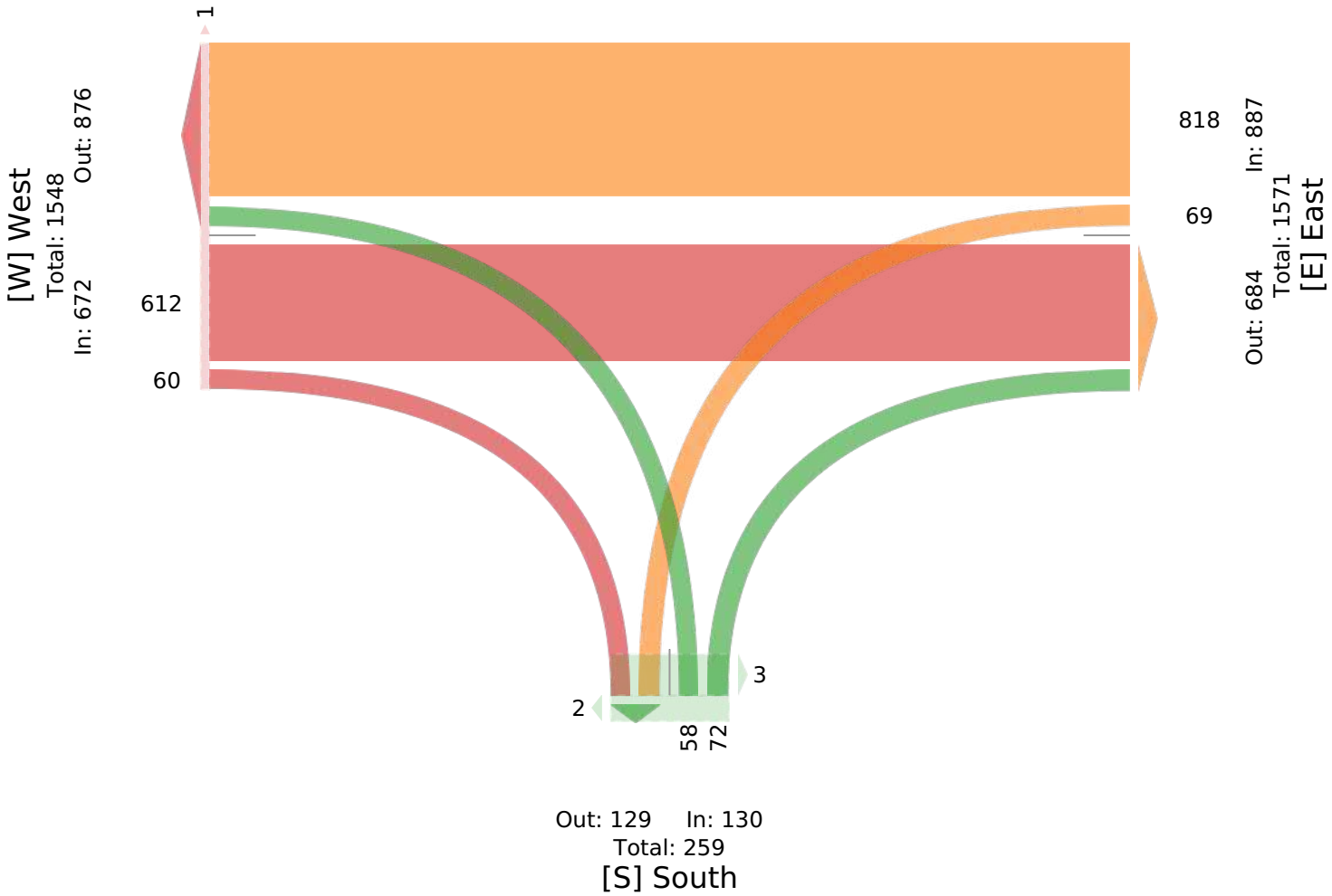
Leg Direction	East Westbound					South Northbound					West Eastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-12-10 7:45AM	233	19	0	**252**	0	31	16	0	**47**	0	20	180	0	**200**	0	**499**
8:00AM	176	34	0	**210**	0	15	11	0	**26**	4	21	141	0	**162**	0	**398**
8:15AM	218	7	0	**225**	0	19	14	0	**33**	0	13	143	0	**156**	0	**414**
8:30AM	191	9	0	**200**	0	7	17	0	**24**	1	6	148	0	**154**	1	**378**
Total	818	69	0	**887**	0	72	58	0	**130**	5	60	612	0	**672**	1	**1689**
% Approach	92.2%	7.8%	0%	**-**	-	55.4%	44.6%	0%	**-**	-	8.9%	91.1%	0%	**-**	-	**-**
% Total	48.4%	4.1%	0%	**52.5%**	-	4.3%	3.4%	0%	**7.7%**	-	3.6%	36.2%	0%	**39.8%**	-	**-**
PHF	0.878	0.507	-	**0.880**	-	0.581	0.853	-	**0.691**	-	0.714	0.850	-	**0.840**	-	0.846
Lights and Motorcycles	782	63	0	**845**	-	72	55	0	**127**	-	55	602	0	**657**	-	1629
% Lights and Motorcycles	95.6%	91.3%	0%	**95.3%**	-	100%	94.8%	0%	**97.7%**	-	91.7%	98.4%	0%	**97.8%**	-	96.4%
Heavy	36	6	0	**42**	-	0	3	0	**3**	-	5	10	0	**15**	-	60
% Heavy	4.4%	8.7%	0%	**4.7%**	-	0%	5.2%	0%	**2.3%**	-	8.3%	1.6%	0%	**2.2%**	-	3.6%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	5	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 Brian Good Ave. @ Earl Armstrong Rd ... - TMC

Tue Dec 10, 2024
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258693, Location: 45.270621, -75.693119

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 Brian Good Ave. @ Earl Armstrong Rd ... - TMC

Tue Dec 10, 2024
Midday Peak (12:15 PM - 1:15 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258693, Location: 45.270621, -75.693119

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

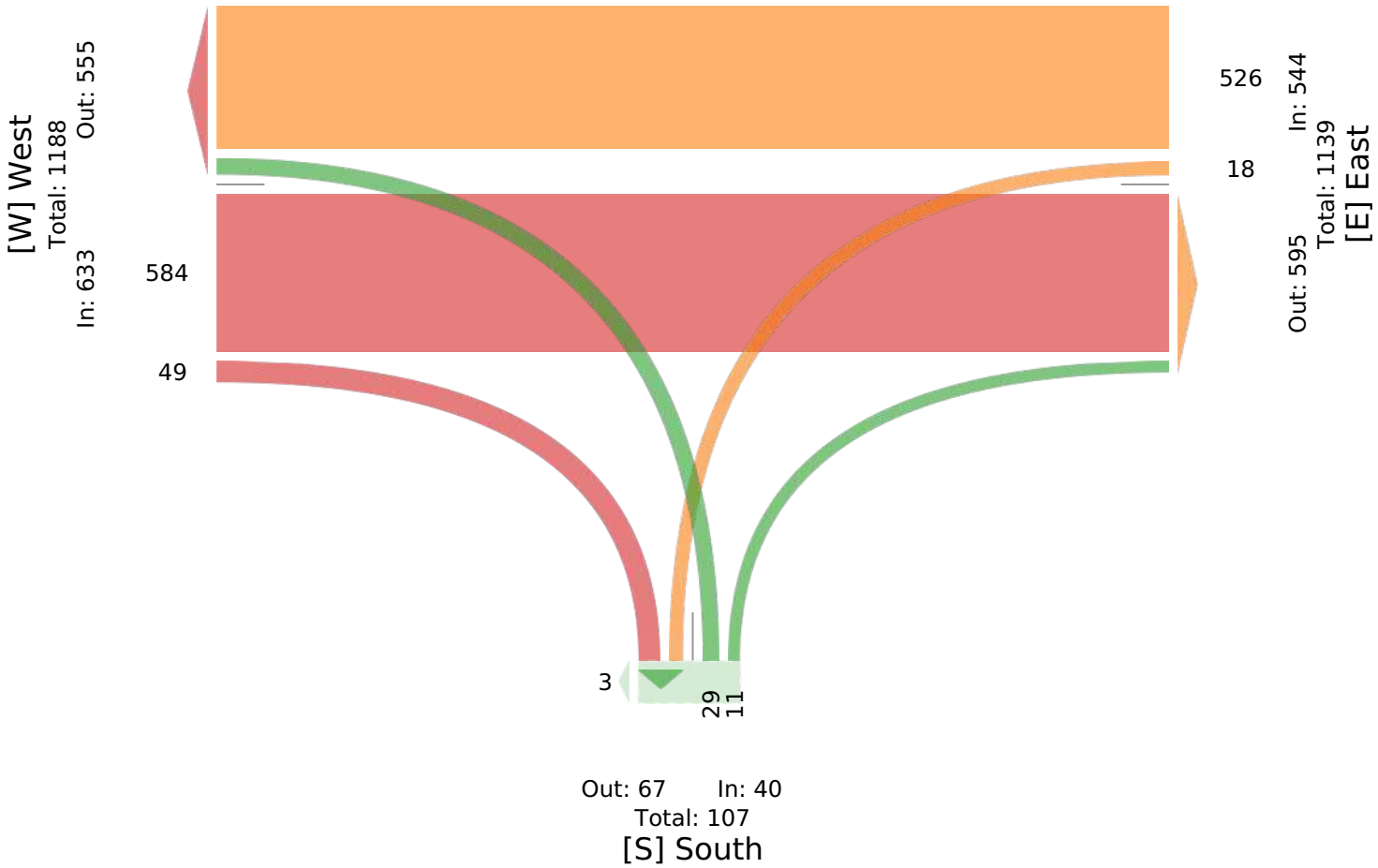
Leg Direction	East Westbound					South Northbound					West Eastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-12-10 12:15PM	135	3	0	**138**	0	1	8	0	**9**	2	15	125	0	**140**	0	**287**
12:30PM	132	7	0	**139**	0	1	7	0	**8**	1	8	142	0	**150**	0	**297**
12:45PM	128	4	0	**132**	0	5	4	0	**9**	0	14	179	0	**193**	0	**334**
1:00PM	131	4	0	**135**	0	4	10	0	**14**	0	12	138	0	**150**	0	**299**
Total	526	18	0	**544**	0	11	29	0	**40**	3	49	584	0	**633**	0	**1217**
% Approach	96.7%	3.3%	0%	**-**	-	27.5%	72.5%	0%	**-**	-	7.7%	92.3%	0%	**-**	-	**-**
% Total	43.2%	1.5%	0%	**44.7%**	-	0.9%	2.4%	0%	**3.3%**	-	4.0%	48.0%	0%	**52.0%**	-	**-**
PHF	0.974	0.643	-	**0.978**	-	0.550	0.725	-	**0.714**	-	0.817	0.816	-	**0.820**	-	0.911
Lights and Motorcycles	514	18	0	**532**	-	11	27	0	**38**	-	47	568	0	**615**	-	1185
% Lights and Motorcycles	97.7%	100%	0%	**97.8%**	-	100%	93.1%	0%	**95.0%**	-	95.9%	97.3%	0%	**97.2%**	-	97.4%
Heavy	12	0	0	**12**	-	0	2	0	**2**	-	2	16	0	**18**	-	32
% Heavy	2.3%	0%	0%	**2.2%**	-	0%	6.9%	0%	**5.0%**	-	4.1%	2.7%	0%	**2.8%**	-	2.6%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	3	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 Brian Good Ave. @ Earl Armstrong Rd ... - TMC

Tue Dec 10, 2024
Midday Peak (12:15 PM - 1:15 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258693, Location: 45.270621, -75.693119

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 Brian Good Ave. @ Earl Armstrong Rd ... - TMC

Tue Dec 10, 2024
PM Peak (4 PM - 5 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258693, Location: 45.270621, -75.693119

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

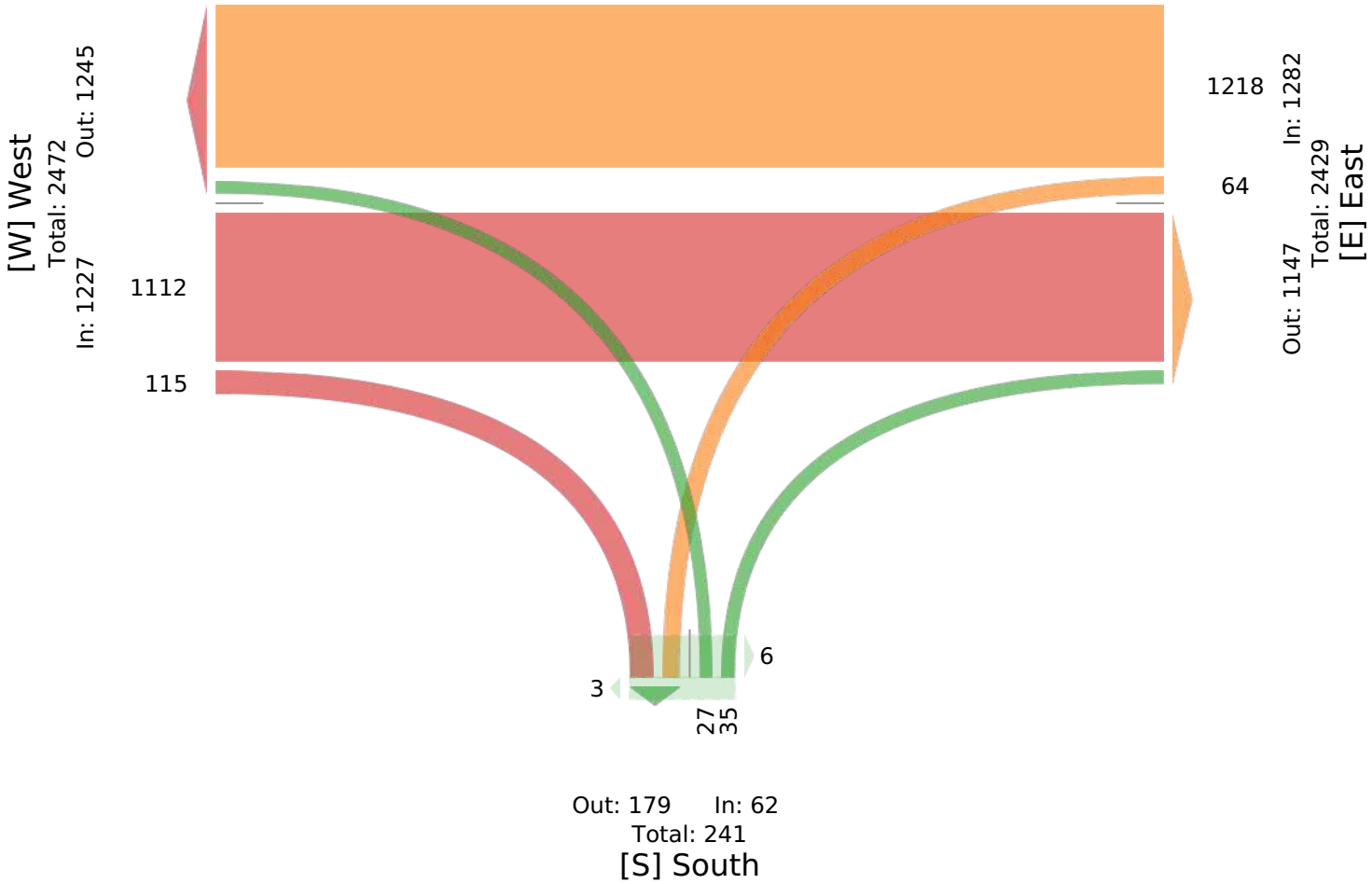
Leg Direction	East Westbound					South Northbound					West Eastbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-12-10 4:00PM	292	15	0	**307**	0	7	9	0	**16**	3	24	281	0	**305**	0	**628**
4:15PM	324	14	0	**338**	0	6	4	0	**10**	4	35	265	0	**300**	0	**648**
4:30PM	302	21	0	**323**	0	16	3	0	**19**	1	28	285	0	**313**	0	**655**
4:45PM	300	14	0	**314**	0	6	11	0	**17**	1	28	281	0	**309**	0	**640**
Total	1218	64	0	**1282**	0	35	27	0	**62**	9	115	1112	0	**1227**	0	**2571**
% Approach	95.0%	5.0%	0%	**-**	-	56.5%	43.5%	0%	**-**	-	9.4%	90.6%	0%	**-**	-	**-**
% Total	47.4%	2.5%	0%	**49.9%**	-	1.4%	1.1%	0%	**2.4%**	-	4.5%	43.3%	0%	**47.7%**	-	**-**
PHF	0.940	0.762	-	**0.948**	-	0.547	0.614	-	**0.816**	-	0.821	0.975	-	**0.980**	-	0.981
Lights and Motorcycles	1195	63	0	**1258**	-	34	27	0	**61**	-	113	1080	0	**1193**	-	2512
% Lights and Motorcycles	98.1%	98.4%	0%	**98.1%**	-	97.1%	100%	0%	**98.4%**	-	98.3%	97.1%	0%	**97.2%**	-	97.7%
Heavy	23	1	0	**24**	-	1	0	0	**1**	-	2	32	0	**34**	-	59
% Heavy	1.9%	1.6%	0%	**1.9%**	-	2.9%	0%	0%	**1.6%**	-	1.7%	2.9%	0%	**2.8%**	-	2.3%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	9	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 Brian Good Ave. @ Earl Armstrong Rd ... - TMC

Tue Dec 10, 2024
PM Peak (4 PM - 5 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258693, Location: 45.270621, -75.693119

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 Borbridge Ave @ River Rd - Dec 10 20... - TMC

Tue Dec 10, 2024
Full Length (7 AM-10 AM, 11:30 AM-1:30 PM, 3 PM-6 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258698, Location: 45.263028, -75.700485

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

Leg Direction	North Southbound					East Westbound					South Northbound					
Time	T	L	U	App	Ped*	R	L	U	App	Ped*	R	T	U	App	Ped*	Int
2024-12-10 7:00AM	52	1	0	**53**	0	8	1	0	**9**	0	1	137	0	**138**	0	**200**
7:15AM	57	4	0	**61**	0	22	3	0	**25**	0	0	162	0	**162**	0	**248**
7:30AM	89	2	0	**91**	0	24	4	0	**28**	0	3	163	0	**166**	0	**285**
7:45AM	79	4	0	**83**	0	15	2	0	**17**	0	3	165	0	**168**	0	**268**
Hourly Total	277	11	0	**288**	0	69	10	0	**79**	0	7	627	0	**634**	0	**1001**
8:00AM	70	2	0	**72**	0	14	0	0	**14**	0	2	155	0	**157**	0	**243**
8:15AM	80	7	0	**87**	0	19	1	0	**20**	0	3	196	0	**199**	0	**306**
8:30AM	84	11	0	**95**	0	33	2	0	**35**	0	2	233	0	**235**	0	**365**
8:45AM	65	8	0	**73**	0	20	4	0	**24**	0	3	153	0	**156**	0	**253**
Hourly Total	299	28	0	**327**	0	86	7	0	**93**	0	10	737	0	**747**	0	**1167**
9:00AM	67	10	0	**77**	0	13	4	0	**17**	0	0	126	0	**126**	0	**220**
9:15AM	62	9	0	**71**	0	11	0	0	**11**	0	3	113	0	**116**	0	**198**
9:30AM	73	7	0	**80**	0	11	0	0	**11**	0	3	93	0	**96**	0	**187**
9:45AM	66	3	0	**69**	0	12	0	0	**12**	1	1	115	0	**116**	0	**197**
Hourly Total	268	29	0	**297**	0	47	4	0	**51**	1	7	447	0	**454**	0	**802**
11:30AM	73	10	0	**83**	0	12	1	0	**13**	1	0	107	0	**107**	0	**203**
11:45AM	88	7	0	**95**	0	8	3	0	**11**	0	0	113	0	**113**	0	**219**
Hourly Total	161	17	0	**178**	0	20	4	0	**24**	1	0	220	0	**220**	0	**422**
12:00PM	104	4	0	**108**	0	16	0	0	**16**	0	2	89	0	**91**	0	**215**
12:15PM	70	7	0	**77**	0	15	3	0	**18**	0	1	98	0	**99**	0	**194**
12:30PM	94	10	0	**104**	0	8	2	0	**10**	0	1	103	0	**104**	0	**218**
12:45PM	98	16	0	**114**	0	13	1	0	**14**	1	1	81	0	**82**	0	**210**
Hourly Total	366	37	0	**403**	0	52	6	0	**58**	1	5	371	0	**376**	0	**837**
1:00PM	90	8	0	**98**	0	8	3	0	**11**	0	2	92	0	**94**	0	**203**
1:15PM	85	17	0	**102**	0	6	0	0	**6**	0	3	80	0	**83**	0	**191**
Hourly Total	175	25	0	**200**	0	14	3	0	**17**	0	5	172	0	**177**	0	**394**
3:00PM	149	21	0	**170**	0	12	3	0	**15**	0	2	100	0	**102**	0	**287**
3:15PM	139	13	0	**152**	0	14	6	0	**20**	0	2	108	0	**110**	0	**282**
3:30PM	205	16	0	**221**	0	10	1	0	**11**	2	1	97	0	**98**	0	**330**
3:45PM	184	9	0	**193**	0	14	3	0	**17**	0	1	99	0	**100**	0	**310**
Hourly Total	677	59	0	**736**	0	50	13	0	**63**	2	6	404	0	**410**	0	**1209**
4:00PM	179	24	0	**203**	0	14	3	0	**17**	0	1	99	0	**100**	0	**320**
4:15PM	209	10	0	**219**	0	15	2	0	**17**	0	0	119	0	**119**	0	**355**
4:30PM	183	17	0	**200**	0	18	2	0	**20**	0	0	123	0	**123**	0	**343**
4:45PM	202	23	0	**225**	0	10	2	0	**12**	0	1	102	0	**103**	0	**340**
Hourly Total	773	74	0	**847**	0	57	9	0	**66**	0	2	443	0	**445**	0	**1358**
5:00PM	154	19	0	**173**	0	12	2	0	**14**	0	4	138	0	**142**	0	**329**
5:15PM	160	24	0	**184**	0	12	3	0	**15**	0	4	111	0	**115**	0	**314**
5:30PM	159	22	0	**181**	0	15	1	0	**16**	0	1	100	0	**101**	0	**298**
5:45PM	134	24	0	**158**	0	19	1	0	**20**	0	5	108	0	**113**	0	**291**
Hourly Total	607	89	0	**696**	0	58	7	0	**65**	0	14	457	0	**471**	0	**1232**
Total	3603	369	0	**3972**	0	453	63	0	**516**	5	56	3878	0	**3934**	0	**8422**
% Approach	90.7%	9.3%	0%	**-**	-	87.8%	12.2%	0%	**-**	-	1.4%	98.6%	0%	**-**	-	-
% Total	42.8%	4.4%	0%	**47.2%**	-	5.4%	0.7%	0%	**6.1%**	-	0.7%	46.0%	0%	**46.7%**	-	-
Lights and Motorcycles	3473	356	0	**3829**	-	443	59	0	**502**	-	54	3750	0	**3804**	-	8135
% Lights and Motorcycles	96.4%	96.5%	0%	**96.4%**	-	97.8%	93.7%	0%	**97.3%**	-	96.4%	96.7%	0%	**96.7%**	-	96.6%
Heavy	130	13	0	**143**	-	10	4	0	**14**	-	2	128	0	**130**	-	287
% Heavy	3.6%	3.5%	0%	**3.6%**	-	2.2%	6.3%	0%	**2.7%**	-	3.6%	3.3%	0%	**3.3%**	-	3.4%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	5	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	

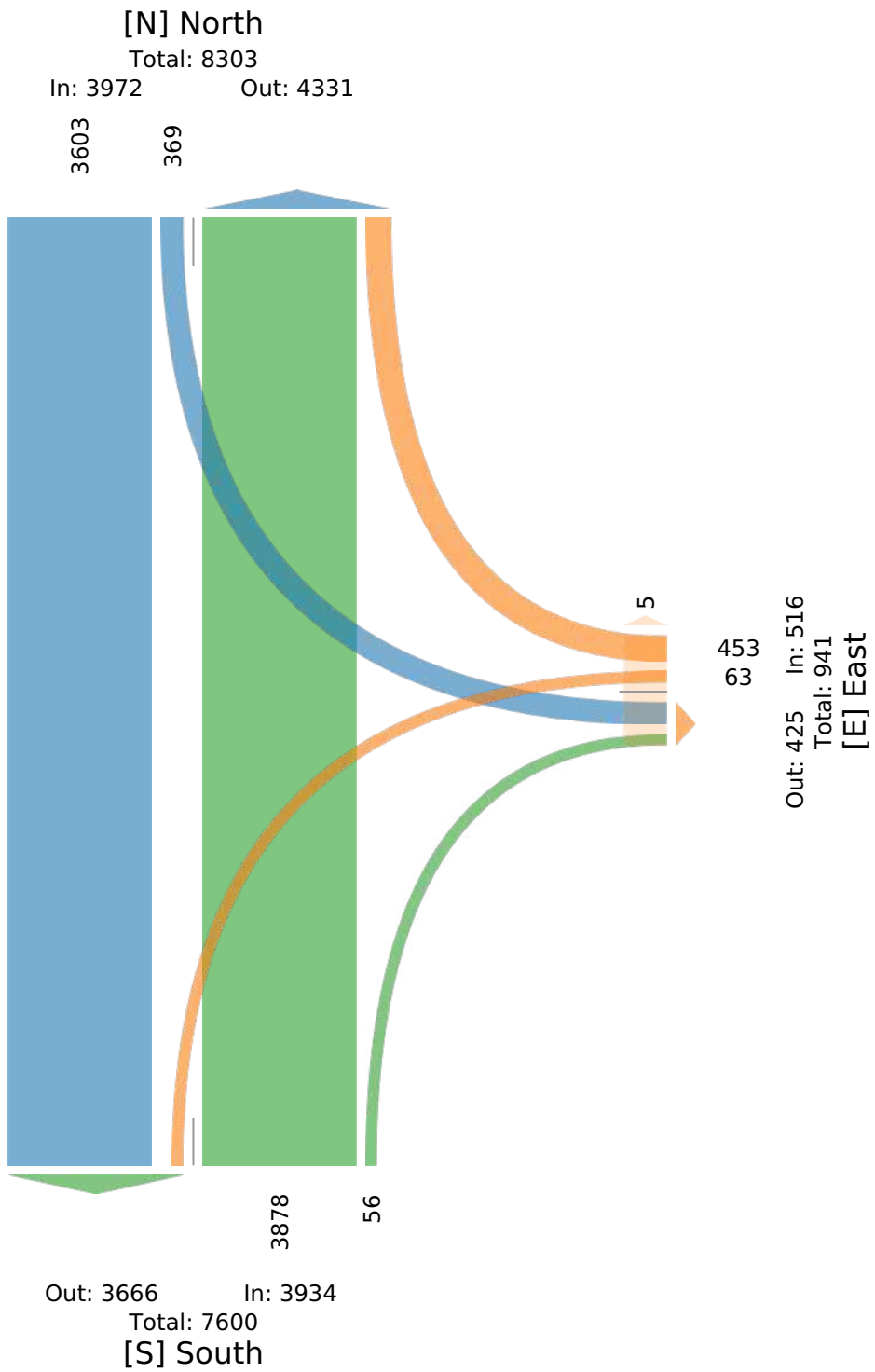
Leg	North					East					South					
Direction	Southbound					Westbound					Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 Borbridge Ave @ River Rd - Dec 10 20... - TMC

Tue Dec 10, 2024
Full Length (7 AM-10 AM, 11:30 AM-1:30 PM, 3 PM-6 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258698, Location: 45.263028, -75.700485

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 Borbridge Ave @ River Rd - Dec 10 20... - TMC

Tue Dec 10, 2024
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258698, Location: 45.263028, -75.700485

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

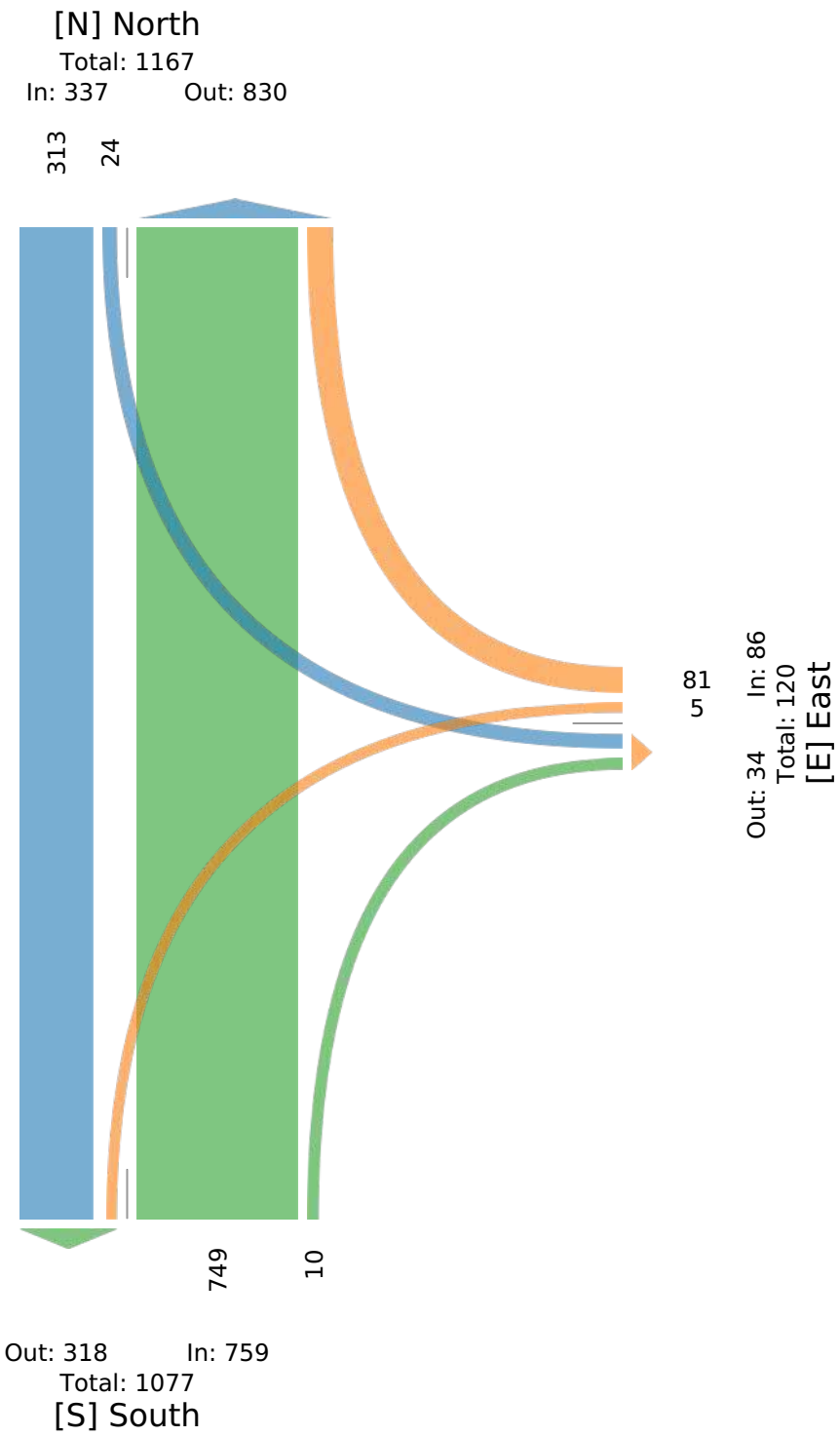
Leg Direction	North Southbound					East Westbound					South Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-12-10 7:45AM	79	4	0	**83**	0	15	2	0	**17**	0	3	165	0	**168**	0	**268**
8:00AM	70	2	0	**72**	0	14	0	0	**14**	0	2	155	0	**157**	0	**243**
8:15AM	80	7	0	**87**	0	19	1	0	**20**	0	3	196	0	**199**	0	**306**
8:30AM	84	11	0	**95**	0	33	2	0	**35**	0	2	233	0	**235**	0	**365**
Total	313	24	0	**337**	0	81	5	0	**86**	0	10	749	0	**759**	0	**1182**
% Approach	92.9%	7.1%	0%	**-**	-	94.2%	5.8%	0%	**-**	-	1.3%	98.7%	0%	**-**	-	-
% Total	26.5%	2.0%	0%	**28.5%**	-	6.9%	0.4%	0%	**7.3%**	-	0.8%	63.4%	0%	**64.2%**	-	-
PHF	0.932	0.545	-	**0.887**	-	0.614	0.625	-	**0.614**	-	0.833	0.804	-	**0.807**	-	0.810
Lights and Motorcycles	298	23	0	**321**	-	78	5	0	**83**	-	10	722	0	**732**	-	1136
% Lights and Motorcycles	95.2%	95.8%	0%	**95.3%**	-	96.3%	100%	0%	**96.5%**	-	100%	96.4%	0%	**96.4%**	-	96.1%
Heavy	15	1	0	**16**	-	3	0	0	**3**	-	0	27	0	**27**	-	46
% Heavy	4.8%	4.2%	0%	**4.7%**	-	3.7%	0%	0%	**3.5%**	-	0%	3.6%	0%	**3.6%**	-	3.9%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 Borbridge Ave @ River Rd - Dec 10 20... - TMC

Tue Dec 10, 2024
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258698, Location: 45.263028, -75.700485

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 Borbridge Ave @ River Rd - Dec 10 20... - TMC

Tue Dec 10, 2024
Midday Peak (11:45 AM - 12:45 PM)
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258698, Location: 45.263028, -75.700485

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

Leg Direction	North Southbound					East Westbound					South Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-12-10 11:45AM	88	7	0	**95**	0	8	3	0	**11**	0	0	113	0	**113**	0	**219**
12:00PM	104	4	0	**108**	0	16	0	0	**16**	0	2	89	0	**91**	0	**215**
12:15PM	70	7	0	**77**	0	15	3	0	**18**	0	1	98	0	**99**	0	**194**
12:30PM	94	10	0	**104**	0	8	2	0	**10**	0	1	103	0	**104**	0	**218**
Total	356	28	0	**384**	0	47	8	0	**55**	0	4	403	0	**407**	0	**846**
% Approach	92.7%	7.3%	0%	**-**	-	85.5%	14.5%	0%	**-**	-	1.0%	99.0%	0%	**-**	-	-
% Total	42.1%	3.3%	0%	**45.4%**	-	5.6%	0.9%	0%	**6.5%**	-	0.5%	47.6%	0%	**48.1%**	-	-
PHF	0.856	0.700	-	**0.889**	-	0.734	0.667	-	**0.764**	-	0.500	0.892	-	**0.900**	-	0.966
Lights and Motorcycles	335	28	0	**363**	-	46	7	0	**53**	-	4	392	0	**396**	-	812
% Lights and Motorcycles	94.1%	100%	0%	**94.5%**	-	97.9%	87.5%	0%	**96.4%**	-	100%	97.3%	0%	**97.3%**	-	96.0%
Heavy	21	0	0	**21**	-	1	1	0	**2**	-	0	11	0	**11**	-	34
% Heavy	5.9%	0%	0%	**5.5%**	-	2.1%	12.5%	0%	**3.6%**	-	0%	2.7%	0%	**2.7%**	-	4.0%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 Borbridge Ave @ River Rd - Dec 10 20... - TMC

Tue Dec 10, 2024

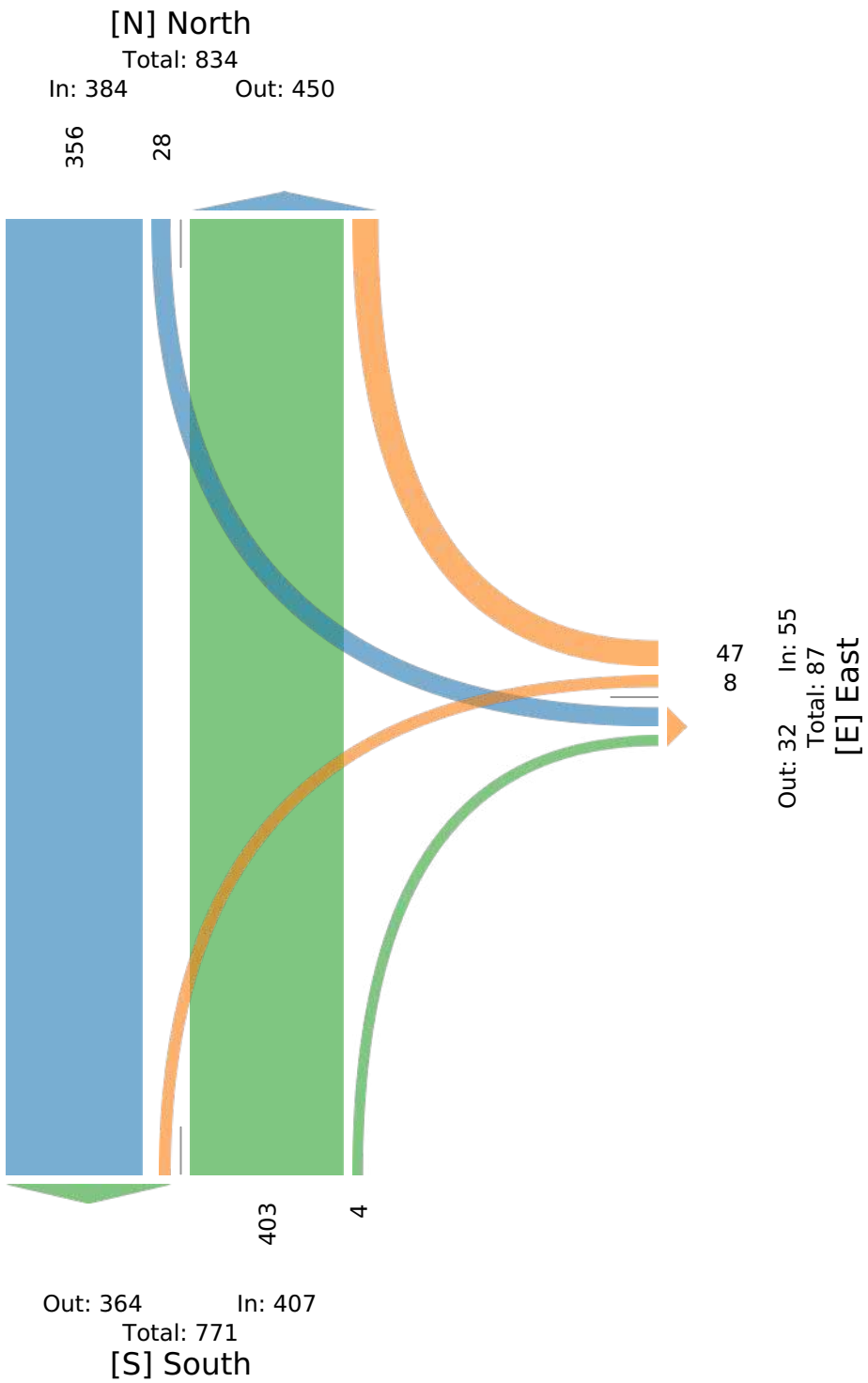
Midday Peak (11:45 AM - 12:45 PM)

All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1258698, Location: 45.263028, -75.700485

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



5688055 Borbridge Ave @ River Rd - Dec 10 20... - TMC

Tue Dec 10, 2024
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258698, Location: 45.263028, -75.700485

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA

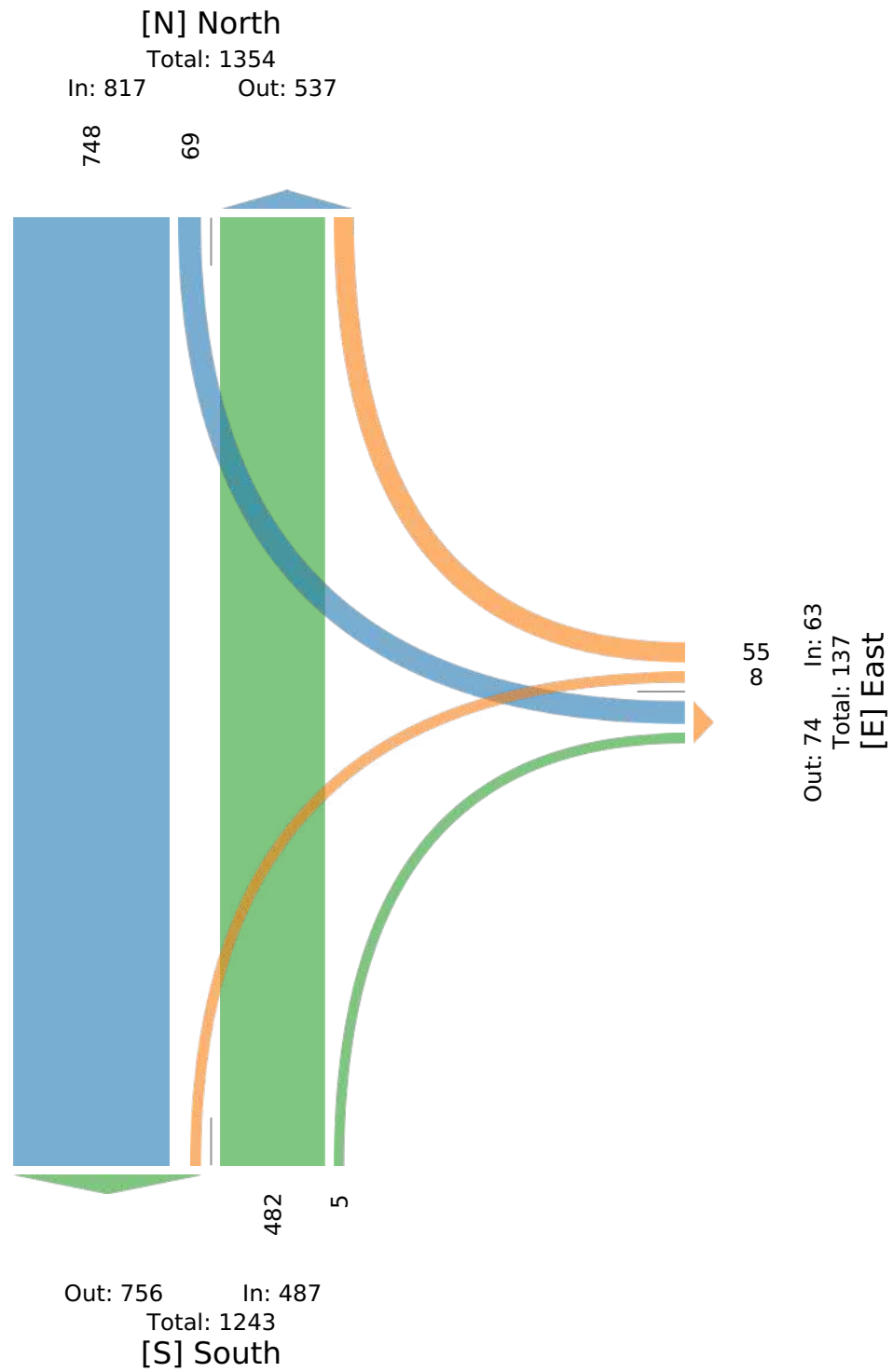
Leg Direction	North Southbound					East Westbound					South Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2024-12-10 4:15PM	209	10	0	**219**	0	15	2	0	**17**	0	0	119	0	**119**	0	**355**
4:30PM	183	17	0	**200**	0	18	2	0	**20**	0	0	123	0	**123**	0	**343**
4:45PM	202	23	0	**225**	0	10	2	0	**12**	0	1	102	0	**103**	0	**340**
5:00PM	154	19	0	**173**	0	12	2	0	**14**	0	4	138	0	**142**	0	**329**
Total	748	69	0	**817**	0	55	8	0	**63**	0	5	482	0	**487**	0	**1367**
% Approach	91.6%	8.4%	0%	**-**	-	87.3%	12.7%	0%	**-**	-	1.0%	99.0%	0%	**-**	-	-
% Total	54.7%	5.0%	0%	**59.8%**	-	4.0%	0.6%	0%	**4.6%**	-	0.4%	35.3%	0%	**35.6%**	-	-
PHF	0.895	0.750	-	**0.908**	-	0.764	1.000	-	**0.788**	-	0.313	0.873	-	**0.857**	-	0.963
Lights and Motorcycles	733	66	0	**799**	-	54	8	0	**62**	-	5	475	0	**480**	-	1341
% Lights and Motorcycles	98.0%	95.7%	0%	**97.8%**	-	98.2%	100%	0%	**98.4%**	-	100%	98.5%	0%	**98.6%**	-	98.1%
Heavy	15	3	0	**18**	-	1	0	0	**1**	-	0	7	0	**7**	-	26
% Heavy	2.0%	4.3%	0%	**2.2%**	-	1.8%	0%	0%	**1.6%**	-	0%	1.5%	0%	**1.4%**	-	1.9%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

5688055 Borbridge Ave @ River Rd - Dec 10 20... - TMC

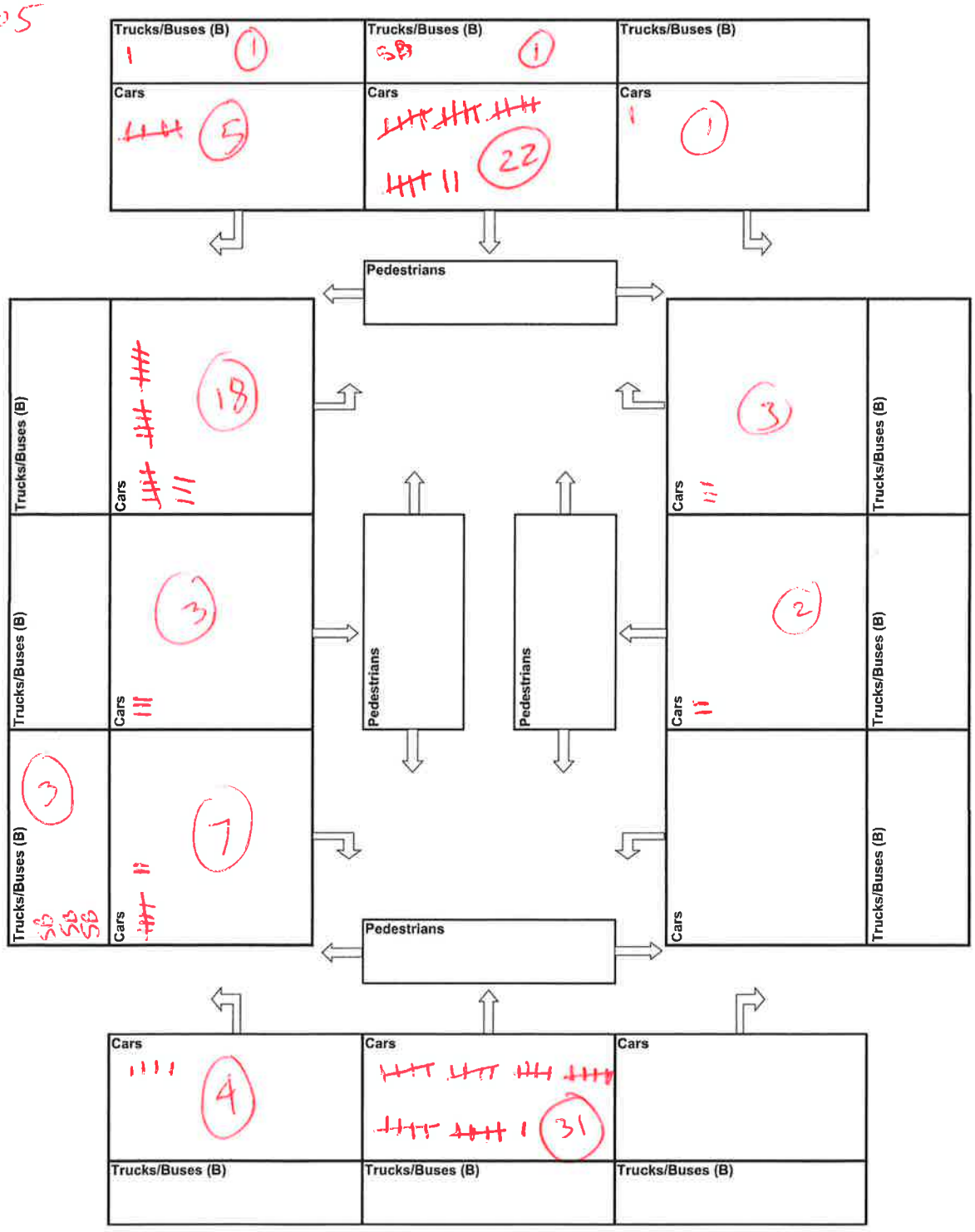
Tue Dec 10, 2024
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights and Motorcycles, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1258698, Location: 45.263028, -75.700485

Provided by: City of Ottawa
100 Constellation Dr,
Nepean, ON, K2G 5J9, CA



7:50 - 8:05

VEHICLE TURNING MOVEMENT COUNT



Main Street: Spratt
Side Street: Borbridge
Observer: Doug Green

Weather: Clear -10°
Date: JAN 7, 2025
Time: ____ to ____

Draw north arrow below

NOTES: Use tick-marks in the appropriate box for each vehicle. (i.e. ||||)
Change sheets every 15 minutes.

HEAVY VEHICLE

Trucks include anything larger than a typical pickup truck or van or anything with 3 or more axles.

Cyclists riding their bikes should be counted the same way as cars/trucks/buses. They can be counted using the letter "C" in either the box for cars or the box for trucks/buses. Cyclists walking beside their bike should be counted as a pedestrian.

Pedestrians should be categorized as:
Adult (A) || Senior (S) >= 65 yrs old || Handicap (H) physical impairment || Child (K) <=12 years old

Please add up the tallys at the end of the count. Summarize as "100 Cars, 10 T, 20 B, 5 Cyclists, 12 A, 5S, 1H, and 2K"

8:05 - 8:20 AM

VEHICLE TURNING MOVEMENT COUNT

North approach (top)

Trucks/Buses (B)	Trucks/Buses (B)	Trucks/Buses (B)
SB (1)	I (1)	
Cars	**Cars**	**Cars**
~~IIII~~ (5)	~~IIII~~ ~~IIII~~ ~~IIII~~ II (17)	

Pedestrians

West approach (left)

Trucks/Buses (B)	Cars
	~~IIII~~ ~~IIII~~ IIII (14)
	I (1)
	~~IIII~~ II (7)

Pedestrians

Pedestrians

East approach (right)

Cars	Trucks/Buses (B)
I (1)	

Pedestrians

South approach (bottom)

Cars	Cars	Cars
I (1)	~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ I (36)	I (1)
Trucks/Buses (B)	**Trucks/Buses (B)**	**Trucks/Buses (B)**
SB (1)	SB SB SB (3)	

↑ (north arrow)

Main Street: Spratt

Side Street: Barbridge

Observer: Doug Frezov

Weather: Clear -10°

Date: JAN 7, 2025

Time: ______ to ______

Draw north arrow below

NOTES: Use tick-marks in the appropriate box for each vehicle. (i.e. ~~IIII~~)
Change sheets every 15 minutes.

HEAVY VEHICLE

Trucks include anything larger than a typical pickup truck or van or anything with 3 or more axles.

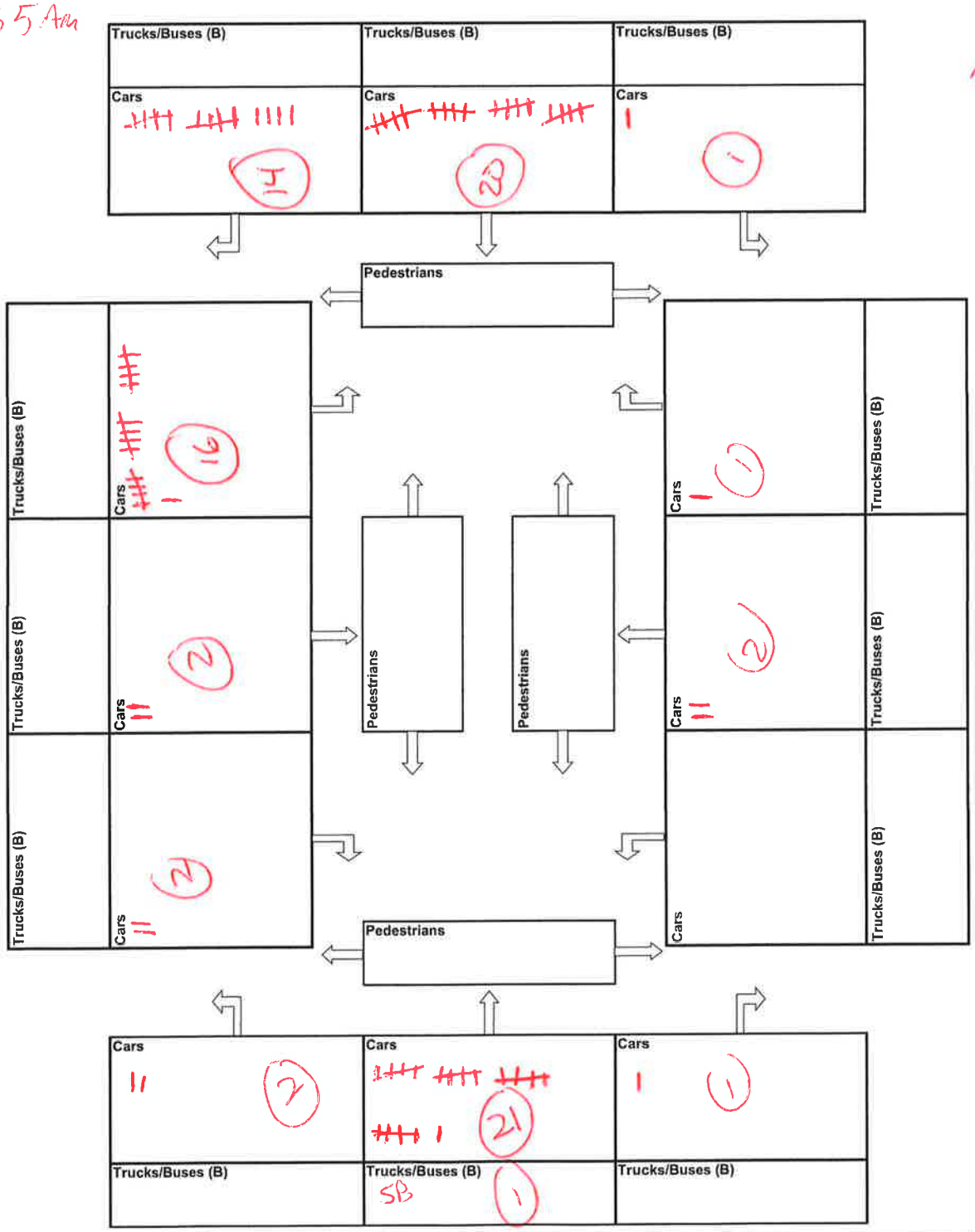
Cyclists riding their bikes should be counted the same way as cars/trucks/buses. They can be counted using the letter "C" in either the box for cars or the box for trucks/buses. Cyclists walking beside their bike should be counted as a pedestrian.

Pedestrians should be categorized as:
Adult (A) || Senior (S) >= 65 yrs old || Handicap (H) physical impairment || Child (K) <=12 years old

Please add up the tallys at the end of the count. Summarize as "100 Cars, 10 T, 20 B, 5 Cyclists, 12 A, 5S, 1H, and 2K"

8:20 - 8:35 AM

VEHICLE TURNING MOVEMENT COUNT



Main Street: Spruce

Side Street: Birch Ridge

Observer: Drone

Weather: Clear -10

Date: JAN 7, 2025

Time: ____ to ____

Draw north arrow below

NOTES: Use tick-marks in the appropriate box for each vehicle. Change sheets every 15 minutes. (i.e. 𝍸)

HEAVY VEHICLE

Trucks include anything larger than a typical pickup truck or van or anything with 3 or more axles.

Cyclists riding their bikes should be counted the same way as cars/trucks/buses. They can be counted using the letter "C" in either the box for cars or the box for trucks/buses. Cyclists walking beside their bike should be counted as a pedestrian.

Pedestrians should be categorized as:
Adult (A) || Senior (S) >= 65 yrs old || Handicap (H) physical impairment || Child (K) <=12 years old

Please add up the tallys at the end of the count. Summarize as "100 Cars, 10 T, 20 B, 5 Cyclists, 12 A, 5S, 1H, and 2K"

VEHICLE TURNING MOVEMENT COUNT

8:35 - 8:50

Main Street: Spratt

Side Street: Berbridge

Observer: Dave

Weather: Clear -10°

Date: JAN 7, 2025

Time: ____ to ____

Draw north arrow below

NOTES: Use tick-marks in the appropriate box for each vehicle. (i.e. 𝍸)
Change sheets every 15 minutes.

HEAVY VEHICLE

Trucks include anything larger than a typical pickup truck or van or anything with 3 or more axles.

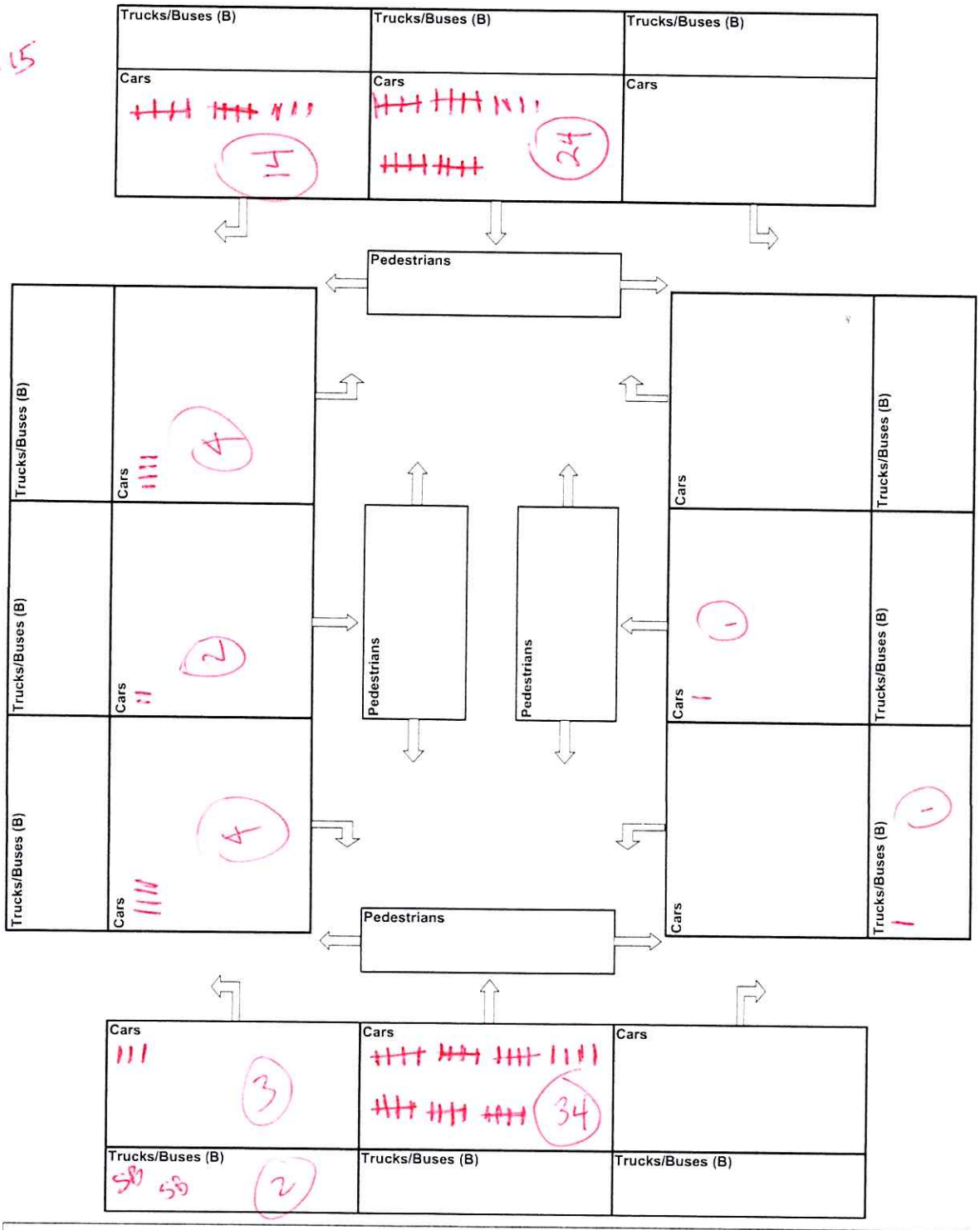
Cyclists riding their bikes should be counted the same way as cars/trucks/buses. They can be counted using the letter "C" in either the box for cars or the box for trucks/buses. Cyclists walking beside their bike should be counted as a pedestrian.

Pedestrians should be categorized as:
Adult (A) || Senior (S) >= 65 yrs old || Handicap (H) physical impairment || Child (K) <=12 years old

Please add up the tallys at the end of the count. Summarize as "100 Cars, 10 T, 20 B, 5 Cyclists, 12 A, 5S, 1H, and 2K"

300 - 3:15

VEHICLE TURNING MOVEMENT COUNT



Main Street: Sprott

Side Street: Bethpage

Observer: DOUG

Weather: Cloudy -11°C

Date: JAN 3, 2025

Time: ____ to ____

Draw north arrow below

HEAVY VEHICLE

NOTES: Use tick-marks in the appropriate box for each vehicle. Change sheets every 15 minutes. (i.e. 𝍸)

Trucks include anything larger than a typical pickup truck or van or anything with 3 or more axles.

Cyclists riding their bikes should be counted the same way as cars/trucks/buses. They can be counted using the letter "C" in either the box for cars or the box for trucks/buses. Cyclists walking beside their bike should be counted as a pedestrian.

Pedestrians should be categorized as
Adult (A) || Senior (S) >= 65 yrs old || Handicap (H) physical impairment || Child (K) <=12 years old

Please add up the tallys at the end of the count. Summarize as "100 Cars, 10 T, 20 B, 5 Cyclists, 12 A, 5S, 1H, and 2K"

3:15 - 3:30

VEHICLE TURNING MOVEMENT COUNT

Main Street: Spratt

Side Street: Bairbridge

Observer: Dave

Weather: Cloudy -11

Date: JAN 3 2025

Time: _____ to _____

Draw north arrow below

NOTES: Use tick-marks in the appropriate box for each vehicle. (i.e. 𝍸)
Change sheets every 15 minutes.

HEAVY VEHICLE

Trucks include anything larger than a typical pickup truck or van or anything with 3 or more axles.

Cyclists riding their bikes should be counted the same way as cars/trucks/buses. They can be counted using the letter "C" in either the box for cars or the box for trucks/buses. Cyclists walking beside their bike should be counted as a pedestrian.

Pedestrians should be categorized as:
Adult (A) || Senior (S) >= 65 yrs old || Handicap (H) physical impairment || Child (K) <=12 years old

Please add up the tallys at the end of the count. Summarize as "100 Cars, 10 T, 20 B, 5 Cyclists, 12 A, 5S, 1H, and 2K"

3:30 - 3:45

VEHICLE TURNING MOVEMENT COUNT

Main Street: Spratt

Side Street: Burbridge

Observer: DoG

Weather: Cloudy -11

Date: JAN 8, 2025

Time: ____ to ____

Draw north arrow below

NOTES. Use tick-marks in the appropriate box for each vehicle. Change sheets every 15 minutes. (i.e. 𝍸)

HEAVY VEHICLE

Trucks include anything larger than a typical pickup truck or van or anything with 3 or more axles.

Cyclists riding their bikes should be counted the same way as cars/trucks/buses. They can be counted using the letter "C" in either the box for cars or the box for trucks/buses. Cyclists walking beside their bike should be counted as a pedestrian.

Pedestrians should be categorized as
Adult (A) || Senior (S) >= 65 yrs old || Handicap (H) physical impairment || Child (K) <=12 years old

Please add up the tallys at the end of the count. Summarize as "100 Cars, 10 T, 20 B, 5 Cyclists, 12 A, 5S, 1H, and 2K"

3:45 - 4:00

VEHICLE TURNING MOVEMENT COUNT

Main Street: South Bosbridge

Side Street:

Observer:

Weather:

Date:

Time: to

Draw north arrow below

NOTES: Use tick-marks in the appropriate box for each vehicle. (i.e. ||||)
Change sheets every 15 minutes.

HEAVY VEHICLE

Trucks include anything larger than a typical pickup truck or van or anything with 3 or more axles.

Cyclists riding their bikes should be counted the same way as cars/trucks/buses. They can be counted using the letter "C" in either the box for cars or the box for trucks/buses. Cyclists walking beside their bike should be counted as a pedestrian.

Pedestrians should be categorized as:
Adult (A) || Senior (S) >= 65 yrs old || Handicap (H) physical impairment || Child (K) <=12 years old

Please add up the tallys at the end of the count. Summarize as "100 Cars, 10 T, 20 B, 5 Cyclists, 12 A, 5S, 1H, and 2K"

Appendix B

Level of Service Definitions

LEVEL OF SERVICE ANALYSIS AT UNSIGNALIZED INTERSECTIONS[1]

The term "level of service" implies a qualitative measure of traffic flow at an intersection. It is dependent upon the vehicle delay and vehicle queue lengths at approaches. The level of service at unsignalized intersections is often related to the delay accumulated by flows on the minor streets, caused by all other conflicting movements. The following table describes the characteristics of each level.

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

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(1) Highway Capacity Manual - Special Report No. 209, Transportation Research Board, 1985.

Appendix C

Synchro Report

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	201	63	79	139	23	40
Future Volume (Veh/h)	201	63	79	139	23	40
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)	223	70	88	154	26	44
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			293		588	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			293		588	258
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		94	94
cM capacity (veh/h)			1280		442	786

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	293	242	70
Volume Left	0	88	26
Volume Right	70	0	44
cSH	1700	1280	610
Volume to Capacity	0.17	0.07	0.11
Queue Length 95th (m)	0.0	1.8	3.1
Control Delay (s)	0.0	3.3	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	3.3	11.7
Approach LOS			B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	214	13	59	154	52	69
Future Volume (Veh/h)	214	13	59	154	52	69
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)	214	13	59	154	52	69
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			227		492	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			227		492	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		90	92
cM capacity (veh/h)			1353		516	824

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	227	213	121
Volume Left	0	59	52
Volume Right	13	0	69
cSH	1700	1353	656
Volume to Capacity	0.13	0.04	0.18
Queue Length 95th (m)	0.0	1.1	5.4
Control Delay (s)	0.0	2.4	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	2.4	11.7
Approach LOS			B

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	202	63	79	142	23	40
Future Volume (Veh/h)	202	63	79	142	23	40
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)	224	70	88	158	26	44
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			294		593	259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			294		593	259
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		94	94
cM capacity (veh/h)			1279		439	785

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	294	246	70
Volume Left	0	88	26
Volume Right	70	0	44
cSH	1700	1279	607
Volume to Capacity	0.17	0.07	0.12
Queue Length 95th (m)	0.0	1.8	3.1
Control Delay (s)	0.0	3.3	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	3.3	11.7
Approach LOS			B

Intersection Summary			
Average Delay	2.7		
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)	217	13	59	156	52	69
Future Volume (Veh/h)	217	13	59	156	52	69
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)	217	13	59	156	52	69
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			230		498	224
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			230		498	224
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		90	92
cM capacity (veh/h)			1350		512	821

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	230	215	121
Volume Left	0	59	52
Volume Right	13	0	69
cSH	1700	1350	652
Volume to Capacity	0.14	0.04	0.19
Queue Length 95th (m)	0.0	1.1	5.4
Control Delay (s)	0.0	2.4	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.4	11.8
Approach LOS			B

Intersection Summary			
Average Delay	3.4		
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)	612	60	69	818	58	72
Future Volume (Veh/h)	612	60	69	818	58	72
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)	680	67	77	909	64	80
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			685		1294	345
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			685		1294	345
tC, single (s)			4.3		6.9	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			91		53	88
cM capacity (veh/h)			855		136	654

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	340	340	67	77	454	454	144
Volume Left	0	0	0	77	0	0	64
Volume Right	0	0	67	0	0	0	80
cSH	1700	1700	1700	855	1700	1700	243
Volume to Capacity	0.20	0.20	0.04	0.09	0.27	0.27	0.59
Queue Length 95th (m)	0.0	0.0	0.0	2.4	0.0	0.0	27.3
Control Delay (s)	0.0	0.0	0.0	9.6	0.0	0.0	39.2
Lane LOS				A			E
Approach Delay (s)	0.0			0.8			39.2
Approach LOS							E

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1112	115	64	1218	27	35
Future Volume (Veh/h)	1112	115	64	1218	27	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1112	115	64	1218	27	35
Pedestrians					9	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			1121		1858	565
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1121		1858	565
tC, single (s)			4.1		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		54	92
cM capacity (veh/h)			614		59	462

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	556	556	115	64	609	609	62
Volume Left	0	0	0	64	0	0	27
Volume Right	0	0	115	0	0	0	35
cSH	1700	1700	1700	614	1700	1700	116
Volume to Capacity	0.33	0.33	0.07	0.10	0.36	0.36	0.53
Queue Length 95th (m)	0.0	0.0	0.0	2.8	0.0	0.0	20.0
Control Delay (s)	0.0	0.0	0.0	11.5	0.0	0.0	66.6
Lane LOS				B			F
Approach Delay (s)	0.0			0.6			66.6
Approach LOS							F

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	815	74	76	1046	58	84
Future Volume (Veh/h)	815	74	76	1046	58	84
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)	906	82	84	1162	64	93
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			911		1660	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			911		1660	458
tC, single (s)			4.3		6.9	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			88		15	83
cM capacity (veh/h)			704		75	553

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	453	453	82	84	581	581	157
Volume Left	0	0	0	84	0	0	64
Volume Right	0	0	82	0	0	0	93
cSH	1700	1700	1700	704	1700	1700	154
Volume to Capacity	0.27	0.27	0.05	0.12	0.34	0.34	1.02
Queue Length 95th (m)	0.0	0.0	0.0	3.2	0.0	0.0	63.0
Control Delay (s)	0.0	0.0	0.0	10.8	0.0	0.0	137.0
Lane LOS				B			F
Approach Delay (s)	0.0			0.7			137.0
Approach LOS							F

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1314	144	77	1415	27	43
Future Volume (Veh/h)	1314	144	77	1415	27	43
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1314	144	77	1415	27	43
Pedestrians					9	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			1323		2184	666
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1323		2184	666
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			85		20	89
cM capacity (veh/h)			519		34	399

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	657	657	144	77	708	708	70
Volume Left	0	0	0	77	0	0	27
Volume Right	0	0	144	0	0	0	43
cSH	1700	1700	1700	519	1700	1700	77
Volume to Capacity	0.39	0.39	0.08	0.15	0.42	0.42	0.91
Queue Length 95th (m)	0.0	0.0	0.0	4.1	0.0	0.0	37.5
Control Delay (s)	0.0	0.0	0.0	13.1	0.0	0.0	169.6
Lane LOS				B			F
Approach Delay (s)	0.0			0.7			169.6
Approach LOS							F

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	815	97	105	1046	58	96
Future Volume (Veh/h)	815	97	105	1046	58	96
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)	906	108	117	1162	64	107
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			911		1726	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			911		1726	458
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			84		1	80
cM capacity (veh/h)			716		64	539

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	453	453	108	117	581	581	171
Volume Left	0	0	0	117	0	0	64
Volume Right	0	0	108	0	0	0	107
cSH	1700	1700	1700	716	1700	1700	143
Volume to Capacity	0.27	0.27	0.06	0.16	0.34	0.34	1.19
Queue Length 95th (m)	0.0	0.0	0.0	4.7	0.0	0.0	79.4
Control Delay (s)	0.0	0.0	0.0	11.0	0.0	0.0	197.6
Lane LOS				B			F
Approach Delay (s)	0.0			1.0			197.6
Approach LOS							F

Intersection Summary			
Average Delay	14.2		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1314	148	98	1415	27	61
Future Volume (Veh/h)	1314	148	98	1415	27	61
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)	1314	148	98	1415	27	61
Pedestrians					9	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			1323		2226	666
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1323		2226	666
tC, single (s)			4.1		6.8	7.1
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			81		11	84
cM capacity (veh/h)			519		30	383

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	657	657	148	98	708	708	88
Volume Left	0	0	0	98	0	0	27
Volume Right	0	0	148	0	0	0	61
cSH	1700	1700	1700	519	1700	1700	84
Volume to Capacity	0.39	0.39	0.09	0.19	0.42	0.42	1.05
Queue Length 95th (m)	0.0	0.0	0.0	5.5	0.0	0.0	48.2
Control Delay (s)	0.0	0.0	0.0	13.5	0.0	0.0	203.5
Lane LOS				B			F
Approach Delay (s)	0.0			0.9			203.5
Approach LOS							F

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	788	67	79	1089	63	90
Future Volume (Veh/h)	788	67	79	1089	63	90
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)	876	74	88	1210	70	100
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			881		1662	443
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			881		1662	443
tC, single (s)			4.3		6.9	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			88		6	82
cM capacity (veh/h)			723		75	565

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	438	438	74	88	605	605	170
Volume Left	0	0	0	88	0	0	70
Volume Right	0	0	74	0	0	0	100
cSH	1700	1700	1700	723	1700	1700	152
Volume to Capacity	0.26	0.26	0.04	0.12	0.36	0.36	1.12
Queue Length 95th (m)	0.0	0.0	0.0	3.3	0.0	0.0	73.2
Control Delay (s)	0.0	0.0	0.0	10.7	0.0	0.0	166.4
Lane LOS				B			F
Approach Delay (s)	0.0			0.7			166.4
Approach LOS							F

Intersection Summary			
Average Delay	12.1		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1372	150	80	1479	27	43
Future Volume (Veh/h)	1372	150	80	1479	27	43
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1372	150	80	1479	27	43
Pedestrians					9	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			1381		2280	695
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1381		2280	695
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			84		6	89
cM capacity (veh/h)			494		29	382

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	686	686	150	80	740	740	70
Volume Left	0	0	0	80	0	0	27
Volume Right	0	0	150	0	0	0	43
cSH	1700	1700	1700	494	1700	1700	66
Volume to Capacity	0.40	0.40	0.09	0.16	0.43	0.43	1.05
Queue Length 95th (m)	0.0	0.0	0.0	4.6	0.0	0.0	42.8
Control Delay (s)	0.0	0.0	0.0	13.7	0.0	0.0	232.5
Lane LOS				B			F
Approach Delay (s)	0.0			0.7			232.5
Approach LOS							F

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	788	90	108	1089	63	102
Future Volume (Veh/h)	788	90	108	1089	63	102
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)	876	100	120	1210	70	113
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			881		1726	443
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			881		1726	443
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			84		0	80
cM capacity (veh/h)			735		64	552

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	438	438	100	120	605	605	183
Volume Left	0	0	0	120	0	0	70
Volume Right	0	0	100	0	0	0	113
cSH	1700	1700	1700	735	1700	1700	142
Volume to Capacity	0.26	0.26	0.06	0.16	0.36	0.36	1.29
Queue Length 95th (m)	0.0	0.0	0.0	4.6	0.0	0.0	90.1
Control Delay (s)	0.0	0.0	0.0	10.8	0.0	0.0	234.6
Lane LOS				B			F
Approach Delay (s)	0.0			1.0			234.6
Approach LOS							F

Intersection Summary			
Average Delay	17.8		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1372	154	101	1479	27	61
Future Volume (Veh/h)	1372	154	101	1479	27	61
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)	1372	154	101	1479	27	61
Pedestrians					9	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			1381		2322	695
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1381		2322	695
tC, single (s)			4.1		6.8	7.1
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			80		0	83
cM capacity (veh/h)			494		25	366

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	686	686	154	101	740	740	88
Volume Left	0	0	0	101	0	0	27
Volume Right	0	0	154	0	0	0	61
cSH	1700	1700	1700	494	1700	1700	72
Volume to Capacity	0.40	0.40	0.09	0.20	0.43	0.43	1.23
Queue Length 95th (m)	0.0	0.0	0.0	6.1	0.0	0.0	54.8
Control Delay (s)	0.0	0.0	0.0	14.2	0.0	0.0	280.3
Lane LOS				B			F
Approach Delay (s)	0.0			0.9			280.3
Approach LOS							F

Intersection Summary			
Average Delay	8.2		
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	788	90	108	1089	0	102
Future Volume (Veh/h)	788	90	108	1089	0	102
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)	876	100	120	1210	0	113
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			881		1726	443
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			881		1726	443
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			84		100	80
cM capacity (veh/h)			735		64	552

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	438	438	100	120	605	605	113
Volume Left	0	0	0	120	0	0	0
Volume Right	0	0	100	0	0	0	113
cSH	1700	1700	1700	735	1700	1700	552
Volume to Capacity	0.26	0.26	0.06	0.16	0.36	0.36	0.20
Queue Length 95th (m)	0.0	0.0	0.0	4.6	0.0	0.0	6.1
Control Delay (s)	0.0	0.0	0.0	10.8	0.0	0.0	13.2
Lane LOS				B			B
Approach Delay (s)	0.0			1.0			13.2
Approach LOS							B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1372	154	101	1479	0	61
Future Volume (Veh/h)	1372	154	101	1479	0	61
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)	1372	154	101	1479	0	61
Pedestrians					9	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	277			327		
pX, platoon unblocked						
vC, conflicting volume			1381		2322	695
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1381		2322	695
tC, single (s)			4.1		6.8	7.1
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			80		100	83
cM capacity (veh/h)			494		25	366

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1
Volume Total	686	686	154	101	740	740	61
Volume Left	0	0	0	101	0	0	0
Volume Right	0	0	154	0	0	0	61
cSH	1700	1700	1700	494	1700	1700	366
Volume to Capacity	0.40	0.40	0.09	0.20	0.43	0.43	0.17
Queue Length 95th (m)	0.0	0.0	0.0	6.1	0.0	0.0	4.7
Control Delay (s)	0.0	0.0	0.0	14.2	0.0	0.0	16.8
Lane LOS				B			C
Approach Delay (s)	0.0			0.9			16.8
Approach LOS							C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	81	749	10	24	313
Future Volume (Veh/h)	5	81	749	10	24	313
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	90	832	11	27	348
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1240	838			843	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1240	838			843	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	75			97	
cM capacity (veh/h)	189	363			784	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	96	843	27	348
Volume Left	6	0	27	0
Volume Right	90	11	0	0
cSH	343	1700	784	1700
Volume to Capacity	0.28	0.50	0.03	0.20
Queue Length 95th (m)	9.0	0.0	0.9	0.0
Control Delay (s)	19.5	0.0	9.8	0.0
Lane LOS	C		A	
Approach Delay (s)	19.5	0.0	0.7	
Approach LOS	C			

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	55	482	5	69	748
Future Volume (Veh/h)	8	55	482	5	69	748
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	8	55	482	5	69	748
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1370	484			487	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1370	484			487	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	91			94	
cM capacity (veh/h)	152	582			1066	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	63	487	69	748
Volume Left	8	0	69	0
Volume Right	55	5	0	0
cSH	429	1700	1066	1700
Volume to Capacity	0.15	0.29	0.06	0.44
Queue Length 95th (m)	4.1	0.0	1.7	0.0
Control Delay (s)	14.8	0.0	8.6	0.0
Lane LOS	B		A	
Approach Delay (s)	14.8	0.0	0.7	
Approach LOS	B			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	154	811	14	48	348
Future Volume (Veh/h)	5	154	811	14	48	348
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	171	901	16	53	387
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1402	909			917	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1402	909			917	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	49			93	
cM capacity (veh/h)	145	333			744	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	177	917	53	387
Volume Left	6	0	53	0
Volume Right	171	16	0	0
cSH	319	1700	744	1700
Volume to Capacity	0.55	0.54	0.07	0.23
Queue Length 95th (m)	25.4	0.0	1.8	0.0
Control Delay (s)	29.5	0.0	10.2	0.0
Lane LOS	D		B	
Approach Delay (s)	29.5	0.0	1.2	
Approach LOS	D			

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	113	523	5	123	829
Future Volume (Veh/h)	8	113	523	5	123	829
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	8	113	523	5	123	829
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1600	526			528	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1600	526			528	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	80			88	
cM capacity (veh/h)	104	554			1039	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	121	528	123	829
Volume Left	8	0	123	0
Volume Right	113	5	0	0
cSH	431	1700	1039	1700
Volume to Capacity	0.28	0.31	0.12	0.49
Queue Length 95th (m)	9.1	0.0	3.2	0.0
Control Delay (s)	16.6	0.0	8.9	0.0
Lane LOS	C		A	
Approach Delay (s)	16.6	0.0	1.2	
Approach LOS	C			

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	163	811	33	72	349
Future Volume (Veh/h)	14	163	811	33	72	349
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	181	901	37	80	388
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1468	920			938	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1468	920			938	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	87	45			89	
cM capacity (veh/h)	121	327			735	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	197	938	80	388
Volume Left	16	0	80	0
Volume Right	181	37	0	0
cSH	287	1700	735	1700
Volume to Capacity	0.69	0.55	0.11	0.23
Queue Length 95th (m)	37.1	0.0	2.9	0.0
Control Delay (s)	41.0	0.0	10.5	0.0
Lane LOS	E		B	
Approach Delay (s)	41.0	0.0	1.8	
Approach LOS	E			

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	21	145	523	18	127	830
Future Volume (Veh/h)	21	145	523	18	127	830
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	21	145	523	18	127	830
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1616	532			541	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1616	532			541	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	79	74			88	
cM capacity (veh/h)	98	549			1028	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	166	541	127	830
Volume Left	21	0	127	0
Volume Right	145	18	0	0
cSH	347	1700	1028	1700
Volume to Capacity	0.48	0.32	0.12	0.49
Queue Length 95th (m)	19.9	0.0	3.4	0.0
Control Delay (s)	24.6	0.0	9.0	0.0
Lane LOS	C		A	
Approach Delay (s)	24.6	0.0	1.2	
Approach LOS	C			

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	158	956	15	49	401
Future Volume (Veh/h)	5	158	956	15	49	401
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	176	1062	17	54	446
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1624	1070			1079	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1624	1070			1079	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	34			92	
cM capacity (veh/h)	104	268			646	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	182	1079	54	446
Volume Left	6	0	54	0
Volume Right	176	17	0	0
cSH	255	1700	646	1700
Volume to Capacity	0.71	0.63	0.08	0.26
Queue Length 95th (m)	38.9	0.0	2.2	0.0
Control Delay (s)	47.8	0.0	11.1	0.0
Lane LOS	E		B	
Approach Delay (s)	47.8	0.0	1.2	
Approach LOS	E			

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	115	578	5	126	948
Future Volume (Veh/h)	9	115	578	5	126	948
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	9	115	578	5	126	948
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1780	580			583	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1780	580			583	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	78			87	
cM capacity (veh/h)	80	516			991	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	124	583	126	948
Volume Left	9	0	126	0
Volume Right	115	5	0	0
cSH	369	1700	991	1700
Volume to Capacity	0.34	0.34	0.13	0.56
Queue Length 95th (m)	11.6	0.0	3.5	0.0
Control Delay (s)	19.6	0.0	9.2	0.0
Lane LOS	C		A	
Approach Delay (s)	19.6	0.0	1.1	
Approach LOS	C			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	167	956	34	73	402
Future Volume (Veh/h)	14	167	956	34	73	402
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	186	1062	38	81	447
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1690	1081			1100	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1690	1081			1100	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	81	30			87	
cM capacity (veh/h)	86	265			638	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	202	1100	81	447
Volume Left	16	0	81	0
Volume Right	186	38	0	0
cSH	227	1700	638	1700
Volume to Capacity	0.89	0.65	0.13	0.26
Queue Length 95th (m)	58.1	0.0	3.5	0.0
Control Delay (s)	79.1	0.0	11.5	0.0
Lane LOS	F		B	
Approach Delay (s)	79.1	0.0	1.8	
Approach LOS	F			

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	147	578	18	130	949
Future Volume (Veh/h)	22	147	578	18	130	949
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	22	147	578	18	130	949
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1796	587			596	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1796	587			596	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	71	71			87	
cM capacity (veh/h)	75	511			980	

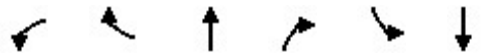
Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	169	596	130	949
Volume Left	22	0	130	0
Volume Right	147	18	0	0
cSH	291	1700	980	1700
Volume to Capacity	0.58	0.35	0.13	0.56
Queue Length 95th (m)	27.3	0.0	3.7	0.0
Control Delay (s)	33.3	0.0	9.2	0.0
Lane LOS	D		A	
Approach Delay (s)	33.3	0.0	1.1	
Approach LOS	D			

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	167	956	34	73	402
Future Volume (Veh/h)	14	167	956	34	73	402
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	186	1062	38	81	447
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1690	1081			1100	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1690	1081			1100	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	81	30			87	
cM capacity (veh/h)	86	265			638	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	16	186	1100	81	447
Volume Left	16	0	0	81	0
Volume Right	0	186	38	0	0
cSH	86	265	1700	638	1700
Volume to Capacity	0.19	0.70	0.65	0.13	0.26
Queue Length 95th (m)	5.1	38.2	0.0	3.5	0.0
Control Delay (s)	56.1	45.4	0.0	11.5	0.0
Lane LOS	F	E		B	
Approach Delay (s)	46.2		0.0	1.8	
Approach LOS	E				

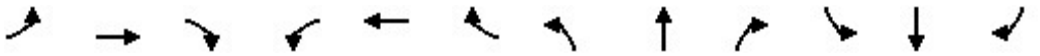
Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	147	578	18	130	949
Future Volume (Veh/h)	22	147	578	18	130	949
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	22	147	578	18	130	949
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1796	587			596	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1796	587			596	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	71	71			87	
cM capacity (veh/h)	75	511			980	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	22	147	596	130	949
Volume Left	22	0	0	130	0
Volume Right	0	147	18	0	0
cSH	75	511	1700	980	1700
Volume to Capacity	0.29	0.29	0.35	0.13	0.56
Queue Length 95th (m)	8.6	9.4	0.0	3.7	0.0
Control Delay (s)	72.1	14.9	0.0	9.2	0.0
Lane LOS	F	B		A	
Approach Delay (s)	22.3		0.0	1.1	
Approach LOS	C				

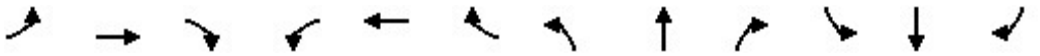
Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	25	35	22	29	13	22	66	20	10	70	14
Future Volume (vph)	7	25	35	22	29	13	22	66	20	10	70	14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	28	39	24	32	14	24	73	22	11	78	16

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	75	70	119	105
Volume Left (vph)	8	24	24	11
Volume Right (vph)	39	14	22	16
Hadj (s)	-0.21	0.03	0.08	0.00
Departure Headway (s)	4.3	4.5	4.4	4.4
Degree Utilization, x	0.09	0.09	0.15	0.13
Capacity (veh/h)	792	743	778	781
Control Delay (s)	7.7	8.0	8.2	8.0
Approach Delay (s)	7.7	8.0	8.2	8.0
Approach LOS	A	A	A	A

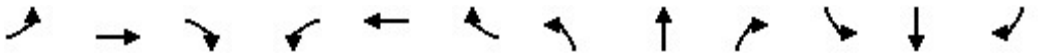
Intersection Summary				
Delay	8.0			
Level of Service	A			
Intersection Capacity Utilization	28.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	46	12	22	40	7	13	31	12	6	56	25
Future Volume (vph)	9	46	12	22	40	7	13	31	12	6	56	25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	9	46	12	22	40	7	13	31	12	6	56	25

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	67	69	56	87
Volume Left (vph)	9	22	13	6
Volume Right (vph)	12	7	12	25
Hadj (s)	-0.01	0.05	0.01	-0.14
Departure Headway (s)	4.3	4.3	4.3	4.1
Degree Utilization, x	0.08	0.08	0.07	0.10
Capacity (veh/h)	807	797	798	839
Control Delay (s)	7.6	7.7	7.6	7.6
Approach Delay (s)	7.6	7.7	7.6	7.6
Approach LOS	A	A	A	A

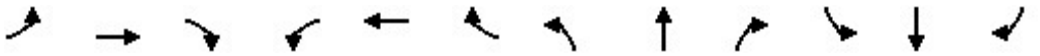
Intersection Summary				
Delay		7.6		
Level of Service		A		
Intersection Capacity Utilization		23.0%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	54	40	44	91	13	33	78	38	19	80	14
Future Volume (vph)	7	54	40	44	91	13	33	78	38	19	80	14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	60	44	49	101	14	37	87	42	21	89	16

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	112	164	166	126
Volume Left (vph)	8	49	37	21
Volume Right (vph)	44	14	42	16
Hadj (s)	-0.17	0.04	-0.01	0.02
Departure Headway (s)	4.7	4.8	4.7	4.8
Degree Utilization, x	0.15	0.22	0.22	0.17
Capacity (veh/h)	708	698	713	693
Control Delay (s)	8.5	9.2	9.1	8.8
Approach Delay (s)	8.5	9.2	9.1	8.8
Approach LOS	A	A	A	A

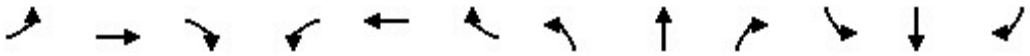
Intersection Summary				
Delay	8.9			
Level of Service	A			
Intersection Capacity Utilization	35.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	90	21	44	94	7	20	39	33	27	75	26
Future Volume (vph)	9	90	21	44	94	7	20	39	33	27	75	26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	9	90	21	44	94	7	20	39	33	27	75	26

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	120	145	92	128
Volume Left (vph)	9	44	20	27
Volume Right (vph)	21	7	33	26
Hadj (s)	-0.05	0.05	-0.11	-0.07
Departure Headway (s)	4.6	4.6	4.6	4.6
Degree Utilization, x	0.15	0.19	0.12	0.16
Capacity (veh/h)	737	732	733	732
Control Delay (s)	8.4	8.7	8.2	8.5
Approach Delay (s)	8.4	8.7	8.2	8.5
Approach LOS	A	A	A	A

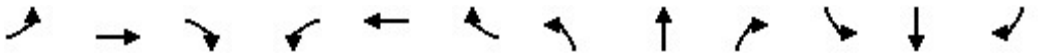
Intersection Summary			
Delay	8.5		
Level of Service	A		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	96	40	44	106	21	36	83	97	72	80	14
Future Volume (vph)	7	96	40	44	106	21	36	83	97	72	80	14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	107	44	49	118	23	40	92	108	80	89	16

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	159	190	240	185
Volume Left (vph)	8	49	40	80
Volume Right (vph)	44	23	108	16
Hadj (s)	-0.12	0.01	-0.06	0.08
Departure Headway (s)	5.2	5.3	5.1	5.3
Degree Utilization, x	0.23	0.28	0.34	0.27
Capacity (veh/h)	624	622	661	626
Control Delay (s)	9.8	10.3	10.7	10.3
Approach Delay (s)	9.8	10.3	10.7	10.3
Approach LOS	A	B	B	B

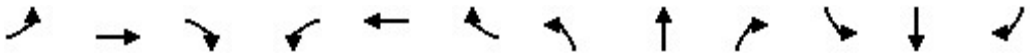
Intersection Summary			
Delay	10.3		
Level of Service	B		
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	106	21	47	136	20	23	44	69	51	75	26
Future Volume (vph)	9	106	21	47	136	20	23	44	69	51	75	26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	9	106	21	47	136	20	23	44	69	51	75	26

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	136	203	136	152
Volume Left (vph)	9	47	23	51
Volume Right (vph)	21	20	69	26
Hadj (s)	-0.04	0.00	-0.05	-0.02
Departure Headway (s)	4.9	4.8	4.9	4.9
Degree Utilization, x	0.18	0.27	0.19	0.21
Capacity (veh/h)	683	699	676	676
Control Delay (s)	9.0	9.6	9.0	9.2
Approach Delay (s)	9.0	9.6	9.0	9.2
Approach LOS	A	A	A	A

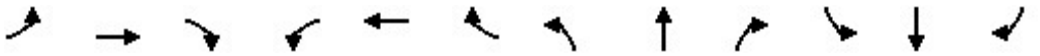
Intersection Summary				
Delay	9.2			
Level of Service	A			
Intersection Capacity Utilization	45.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	53	36	45	92	14	35	83	39	20	84	15
Future Volume (vph)	7	53	36	45	92	14	35	83	39	20	84	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	59	40	50	102	16	39	92	43	22	93	17

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	107	168	174	132
Volume Left (vph)	8	50	39	22
Volume Right (vph)	40	16	43	17
Hadj (s)	-0.21	0.04	0.00	0.01
Departure Headway (s)	4.7	4.8	4.8	4.8
Degree Utilization, x	0.14	0.23	0.23	0.18
Capacity (veh/h)	706	693	712	694
Control Delay (s)	8.4	9.2	9.2	8.9
Approach Delay (s)	8.4	9.2	9.2	8.9
Approach LOS	A	A	A	A

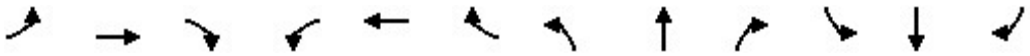
Intersection Summary				
Delay	9.0			
Level of Service	A			
Intersection Capacity Utilization	35.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	93	22	45	96	7	20	39	33	27	78	27
Future Volume (vph)	10	93	22	45	96	7	20	39	33	27	78	27
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	93	22	45	96	7	20	39	33	27	78	27

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	125	148	92	132
Volume Left (vph)	10	45	20	27
Volume Right (vph)	22	7	33	27
Hadj (s)	-0.05	0.05	-0.11	-0.07
Departure Headway (s)	4.6	4.6	4.6	4.6
Degree Utilization, x	0.16	0.19	0.12	0.17
Capacity (veh/h)	734	728	727	728
Control Delay (s)	8.4	8.7	8.2	8.5
Approach Delay (s)	8.4	8.7	8.2	8.5
Approach LOS	A	A	A	A

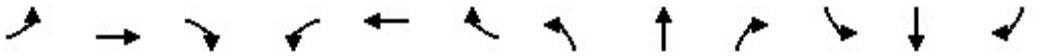
Intersection Summary				
Delay	8.5			
Level of Service	A			
Intersection Capacity Utilization	32.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	95	36	45	107	22	38	88	98	73	84	15
Future Volume (vph)	7	95	36	45	107	22	38	88	98	73	84	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	106	40	50	119	24	42	98	109	81	93	17

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	154	193	249	191
Volume Left (vph)	8	50	42	81
Volume Right (vph)	40	24	109	17
Hadj (s)	-0.15	0.01	-0.06	0.07
Departure Headway (s)	5.3	5.3	5.1	5.3
Degree Utilization, x	0.22	0.29	0.35	0.28
Capacity (veh/h)	619	618	650	627
Control Delay (s)	9.8	10.5	10.8	10.4
Approach Delay (s)	9.8	10.5	10.8	10.4
Approach LOS	A	B	B	B

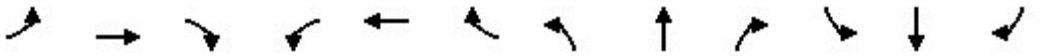
Intersection Summary				
Delay	10.4			
Level of Service	B			
Intersection Capacity Utilization	50.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	109	22	48	138	20	23	44	69	51	78	27
Future Volume (vph)	10	109	22	48	138	20	23	44	69	51	78	27
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	109	22	48	138	20	23	44	69	51	78	27

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	141	206	136	156
Volume Left (vph)	10	48	23	51
Volume Right (vph)	22	20	69	27
Hadj (s)	-0.04	0.00	-0.05	-0.03
Departure Headway (s)	4.9	4.8	4.9	4.9
Degree Utilization, x	0.19	0.28	0.19	0.21
Capacity (veh/h)	680	695	671	673
Control Delay (s)	9.0	9.7	9.1	9.3
Approach Delay (s)	9.0	9.7	9.1	9.3
Approach LOS	A	A	A	A

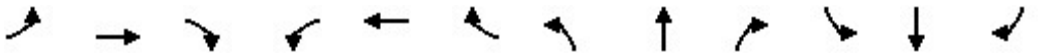
Intersection Summary				
Delay	9.3			
Level of Service	A			
Intersection Capacity Utilization	45.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	7	26	1	6	6	13	115	3	5	82	36
Future Volume (Veh/h)	58	7	26	1	6	6	13	115	3	5	82	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	64	8	29	1	7	7	14	128	3	6	91	40
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	291	282	111	314	300	130	131			131		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	291	282	111	314	300	130	131			131		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	90	99	97	100	99	99	99			100		
cM capacity (veh/h)	647	621	916	610	607	926	1418			1467		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	101	15	145	137
Volume Left	64	1	14	6
Volume Right	29	7	3	40
cSH	704	723	1418	1467
Volume to Capacity	0.14	0.02	0.01	0.00
Queue Length 95th (m)	4.0	0.5	0.2	0.1
Control Delay (s)	11.0	10.1	0.8	0.4
Lane LOS	B	B	A	A
Approach Delay (s)	11.0	10.1	0.8	0.4
Approach LOS	B	B		

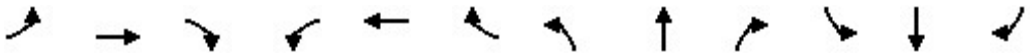
Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	30.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	7	12	5	5	11	15	106	5	3	97	56
Future Volume (Veh/h)	35	7	12	5	5	11	15	106	5	3	97	56
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	35	7	12	5	5	11	15	106	5	3	97	56
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	283	272	125	285	298	108	153			111		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	283	272	125	285	298	108	153			111		
tC, single (s)	7.1	6.5	6.3	7.5	6.5	6.2	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.9	4.0	3.3	2.4			2.2		
p0 queue free %	95	99	99	99	99	99	99			100		
cM capacity (veh/h)	655	630	910	579	609	951	1325			1492		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	21	126	156
Volume Left	35	5	15	3
Volume Right	12	11	5	56
cSH	694	739	1325	1492
Volume to Capacity	0.08	0.03	0.01	0.00
Queue Length 95th (m)	2.0	0.7	0.3	0.0
Control Delay (s)	10.6	10.0	1.0	0.2
Lane LOS	B	B	A	A
Approach Delay (s)	10.6	10.0	1.0	0.2
Approach LOS	B	B		

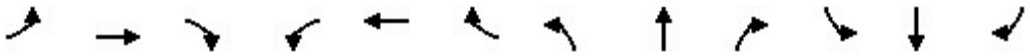
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	29.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	44	27	19	86	204	13	208	10	97	112	40
Future Volume (Veh/h)	80	44	27	19	86	204	13	208	10	97	112	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	89	49	30	21	96	227	14	231	11	108	124	44
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	902	632	146	681	648	236	168			242		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	902	632	146	681	648	236	168			242		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	36	87	97	93	73	72	99			92		
cM capacity (veh/h)	139	364	878	297	356	807	1374			1336		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	168	344	256	276
Volume Left	89	21	14	108
Volume Right	30	227	11	44
cSH	207	554	1374	1336
Volume to Capacity	0.81	0.62	0.01	0.08
Queue Length 95th (m)	46.8	33.9	0.2	2.1
Control Delay (s)	69.9	21.6	0.5	3.5
Lane LOS	F	C	A	A
Approach Delay (s)	69.9	21.6	0.5	3.5
Approach LOS	F	C		

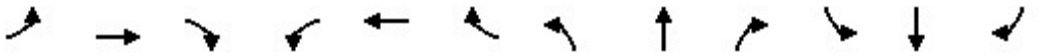
Intersection Summary				
Average Delay	19.4			
Intersection Capacity Utilization	68.7%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	89	12	16	70	151	15	148	22	200	169	69
Future Volume (Veh/h)	39	89	12	16	70	151	15	148	22	200	169	69
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	39	89	12	16	70	151	15	148	22	200	169	69
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	978	804	204	849	827	159	238			170		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	978	804	204	849	827	159	238			170		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.4			2.2		
p0 queue free %	71	67	99	91	73	83	99			86		
cM capacity (veh/h)	136	271	822	176	262	892	1230			1420		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	140	237	185	438
Volume Left	39	16	15	200
Volume Right	12	151	22	69
cSH	222	450	1230	1420
Volume to Capacity	0.63	0.53	0.01	0.14
Queue Length 95th (m)	30.0	24.0	0.3	3.9
Control Delay (s)	45.4	21.6	0.7	4.3
Lane LOS	E	C	A	A
Approach Delay (s)	45.4	21.6	0.7	4.3
Approach LOS	E	C		

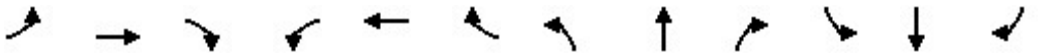
Intersection Summary				
Average Delay	13.5			
Intersection Capacity Utilization	65.9%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	52	97	19	95	204	34	208	10	97	117	90
Future Volume (Veh/h)	97	52	97	19	95	204	34	208	10	97	117	90
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	108	58	108	21	106	227	38	231	11	108	130	100
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	988	714	180	846	758	236	230			242		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	988	714	180	846	758	236	230			242		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	2	82	87	89	65	72	97			92		
cM capacity (veh/h)	110	321	843	197	302	807	1332			1336		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	274	354	280	338
Volume Left	108	21	38	108
Volume Right	108	227	11	100
cSH	212	479	1332	1336
Volume to Capacity	1.29	0.74	0.03	0.08
Queue Length 95th (m)	117.6	48.8	0.7	2.1
Control Delay (s)	206.1	30.9	1.3	3.0
Lane LOS	F	D	A	A
Approach Delay (s)	206.1	30.9	1.3	3.0
Approach LOS	F	D		

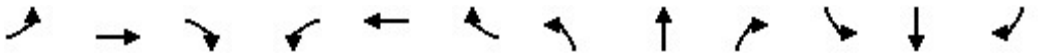
Intersection Summary				
Average Delay	55.2			
Intersection Capacity Utilization	79.9%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	97	66	16	77	151	43	148	22	200	174	93
Future Volume (Veh/h)	83	97	66	16	77	151	43	148	22	200	174	93
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	83	97	66	16	77	151	43	148	22	200	174	93
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1055	876	220	980	912	159	267			170		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1055	876	220	980	912	159	267			170		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3			2.2		
p0 queue free %	25	60	92	87	66	83	97			86		
cM capacity (veh/h)	111	240	795	121	229	892	1268			1420		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	246	244	213	467
Volume Left	83	16	43	200
Volume Right	66	151	22	93
cSH	199	382	1268	1420
Volume to Capacity	1.24	0.64	0.03	0.14
Queue Length 95th (m)	104.0	34.0	0.8	3.9
Control Delay (s)	190.4	29.6	1.8	4.2
Lane LOS	F	D	A	A
Approach Delay (s)	190.4	29.6	1.8	4.2
Approach LOS	F	D		

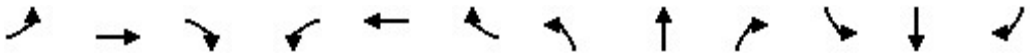
Intersection Summary				
Average Delay	48.2			
Intersection Capacity Utilization	82.3%	ICU Level of Service	E	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	44	23	19	86	204	14	278	10	97	143	42
Future Volume (Veh/h)	78	44	23	19	86	204	14	278	10	97	143	42
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	87	49	26	21	96	227	16	309	11	108	159	47
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1020	750	182	796	768	314	206			320		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1020	750	182	796	768	314	206			320		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	17	84	97	91	68	69	99			91		
cM capacity (veh/h)	105	309	865	243	302	731	1336			1251		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	162	344	336	314
Volume Left	87	21	16	108
Volume Right	26	227	11	47
cSH	159	481	1336	1251
Volume to Capacity	1.02	0.72	0.01	0.09
Queue Length 95th (m)	63.9	45.3	0.3	2.3
Control Delay (s)	134.0	29.1	0.5	3.3
Lane LOS	F	D	A	A
Approach Delay (s)	134.0	29.1	0.5	3.3
Approach LOS	F	D		

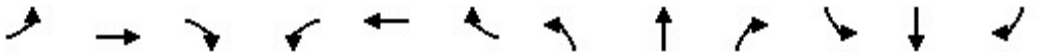
Intersection Summary				
Average Delay	28.5			
Intersection Capacity Utilization	74.1%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	90	13	16	70	152	15	187	22	200	232	71
Future Volume (Veh/h)	41	90	13	16	70	152	15	187	22	200	232	71
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	41	90	13	16	70	152	15	187	22	200	232	71
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1082	906	268	954	931	198	303			209		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1082	906	268	954	931	198	303			209		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.4			2.2		
p0 queue free %	62	62	98	89	69	82	99			85		
cM capacity (veh/h)	109	234	757	139	227	848	1162			1374		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	144	238	224	503
Volume Left	41	16	15	200
Volume Right	13	152	22	71
cSH	185	395	1162	1374
Volume to Capacity	0.78	0.60	0.01	0.15
Queue Length 95th (m)	41.7	30.5	0.3	4.1
Control Delay (s)	70.9	27.0	0.7	4.1
Lane LOS	F	D	A	A
Approach Delay (s)	70.9	27.0	0.7	4.1
Approach LOS	F	D		

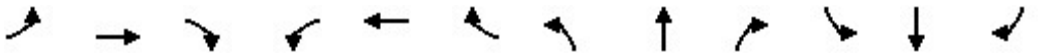
Intersection Summary				
Average Delay	17.0			
Intersection Capacity Utilization	72.7%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	52	93	19	95	204	35	278	10	97	148	92
Future Volume (Veh/h)	95	52	93	19	95	204	35	278	10	97	148	92
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	106	58	103	21	106	227	39	309	11	108	164	102
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1104	829	215	956	874	314	266			320		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1104	829	215	956	874	314	266			320		
tC, single (s)	7.1	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	79	87	87	59	69	97			91		
cM capacity (veh/h)	82	273	810	160	257	731	1292			1251		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	267	354	359	374
Volume Left	106	21	39	108
Volume Right	103	227	11	102
cSH	163	415	1292	1251
Volume to Capacity	1.64	0.85	0.03	0.09
Queue Length 95th (m)	147.3	66.7	0.7	2.3
Control Delay (s)	361.6	47.3	1.1	2.9
Lane LOS	F	E	A	A
Approach Delay (s)	361.6	47.3	1.1	2.9
Approach LOS	F	E		

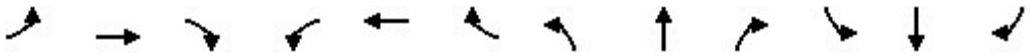
Intersection Summary			
Average Delay	84.8		
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	98	67	16	77	152	43	187	22	200	237	95
Future Volume (Veh/h)	85	98	67	16	77	152	43	187	22	200	237	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	85	98	67	16	77	152	43	187	22	200	237	95
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1159	980	284	1084	1016	198	332			209		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1159	980	284	1084	1016	198	332			209		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3			2.2		
p0 queue free %	2	53	91	83	61	82	96			85		
cM capacity (veh/h)	87	208	731	93	198	848	1200			1374		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	250	245	252	532
Volume Left	85	16	43	200
Volume Right	67	152	22	95
cSH	162	330	1200	1374
Volume to Capacity	1.54	0.74	0.04	0.15
Queue Length 95th (m)	132.8	45.1	0.9	4.1
Control Delay (s)	322.1	41.5	1.7	3.9
Lane LOS	F	E	A	A
Approach Delay (s)	322.1	41.5	1.7	3.9
Approach LOS	F	E		

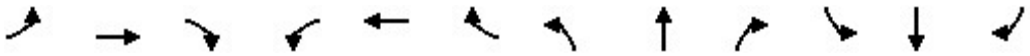
Intersection Summary				
Average Delay	72.9			
Intersection Capacity Utilization	88.4%	ICU Level of Service	E	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	95	52	93	19	95	204	35	278	10	97	148	92
Future Volume (vph)	95	52	93	19	95	204	35	278	10	97	148	92
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	106	58	103	21	106	227	39	309	11	108	164	102

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	267	354	359	374
Volume Left (vph)	106	21	39	108
Volume Right (vph)	103	227	11	102
Hadj (s)	-0.10	-0.37	0.04	-0.07
Departure Headway (s)	7.8	7.2	7.5	7.4
Degree Utilization, x	0.58	0.71	0.75	0.77
Capacity (veh/h)	403	462	449	459
Control Delay (s)	20.9	26.1	29.7	30.6
Approach Delay (s)	20.9	26.1	29.7	30.6
Approach LOS	C	D	D	D

Intersection Summary				
Delay	27.3			
Level of Service	D			
Intersection Capacity Utilization	84.7%	ICU Level of Service	E	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	85	98	67	16	77	152	43	187	22	200	237	95
Future Volume (vph)	85	98	67	16	77	152	43	187	22	200	237	95
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	85	98	67	16	77	152	43	187	22	200	237	95

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	250	245	252	532
Volume Left (vph)	85	16	43	200
Volume Right (vph)	67	152	22	95
Hadj (s)	-0.04	-0.34	0.03	0.00
Departure Headway (s)	7.2	6.9	7.0	6.3
Degree Utilization, x	0.50	0.47	0.49	0.94
Capacity (veh/h)	468	488	478	556
Control Delay (s)	17.2	16.0	16.7	48.9
Approach Delay (s)	17.2	16.0	16.7	48.9
Approach LOS	C	C	C	E

Intersection Summary				
Delay	30.1			
Level of Service	D			
Intersection Capacity Utilization	88.4%	ICU Level of Service	E	
Analysis Period (min)	15			

Appendix D

TDM Check Lists

DILLON CONSULTING

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	☐ N/A for site plan application.
	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	☐ N/A site is located near street
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)	☐ N/A school site

		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)*	☒ Bicycle parking is located in the south cortyard and on the east side of the school at the parking lot.
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	☒ Forecasting 48, providing 90
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)*	☐ N/A for school
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)	☐ N/A for school
	2.3	**Shower & change facilities**	
BASIC	2.3.1	Provide shower and change facilities for the use of active commuters	☒ Shower provided for staff.
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	☒
	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)	☐ N/A for school

		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	☐ No 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	☐ N/A
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐ N/A for school
	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	☐ N/A for school
	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	☐ N/A for school
BETTER	4.2.2	At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	☐ N/A for school
	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)*	☐ N/A for school
	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	☐ N/A for school

		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	☐ N/A parking meets zoning requirements
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	☐ N/A for school
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)*	☐ N/A for school
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)*	☐ N/A for school
	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)	☐ N/A for school
	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	☐ N/A for school

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	☐ N/A for school
	1.2	**Travel surveys**	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐ N/A for school
	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	☐ N/A for school
	2.2	**Bicycle skills training**	
		Commuter travel	
BETTER ★	2.2.1	Offer on-site cycling courses for commuters, or subsidize off-site courses	☐ N/A for school
	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)	☐ N/A for school

		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	☒ Recommended
BASIC	3.1.2	Provide online links to OC Transpo and STO information	☒ Recommended
BETTER	3.1.3	Provide real-time arrival information display at entrances	☐ N/A for school
		3.2 Transit fare incentives	
		Commuter travel	
BETTER	3.2.1	Offer preloaded PRESTO cards to encourage commuters to use transit	☒ Recommended
BETTER ★	3.2.2	Subsidize or reimburse monthly transit pass purchases by employees	☒ Recommended
		Visitor travel	
BETTER	3.2.3	Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	☐ N/A for school
		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)	☐ N/A for school
		Visitor travel	
BETTER	3.3.2	Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	☐ N/A for school
		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)	☐ N/A for school
		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)	☐ N/A for school

		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	☐ N/A for school
	4.2	**Carpool parking price incentives**	
		Commuter travel	
BETTER	4.2.1	Provide discounts on parking costs for registered carpools	☐ N/A for school
	4.3	**Vanpool service**	
		Commuter travel	
BETTER	4.3.1	Provide a vanpooling service for long-distance commuters	☐ N/A for school
	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	☐ N/A for school
		Commuter travel	
BETTER	5.1.2	Provide employees with bikeshare memberships for local business travel	☐ N/A for school
	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	☐ N/A for school
BETTER	5.2.2	Provide employees with carshare memberships for local business travel	☐ N/A for school
	6.	**PARKING**	
	6.1	**Priced parking**	
		Commuter travel	
BASIC ★	6.1.1	Charge for long-term parking (daily, weekly, monthly)	☐ N/A for school
BASIC	6.1.2	Unbundle parking cost from lease rates at multi-tenant sites	☐ N/A for school
		Visitor travel	
BETTER	6.1.3	Charge for short-term parking (hourly)	☐ N/A for school

		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	☐ N/A for school
		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)	☐ N/A for school
	7.2	**Personalized trip planning**	
		Commuter travel	
BETTER ★	7.2.1	Offer personalized trip planning to new/relocating employees	☐ N/A for school
	7.3	**Promotions**	
		Commuter travel	
BETTER	7.3.1	Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	☐ N/A for school
	8.	**OTHER INCENTIVES & AMENITIES**	
	8.1	**Emergency ride home**	
		Commuter travel	
BETTER ★	8.1.1	Provide emergency ride home service to non-driving commuters	☐ N/A for school
	8.2	**Alternative work arrangements**	
		Commuter travel	
BASIC ★	8.2.1	Encourage flexible work hours	☐ N/A for school
BETTER	8.2.2	Encourage compressed workweeks	☐ N/A for school
BETTER ★	8.2.3	Encourage telework	☐ N/A for school
	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	☐ N/A for school
	8.4	**Commuter incentives**	
		Commuter travel	
BETTER	8.4.1	Offer employees a taxable, mode-neutral commuting allowance	☐ N/A for school
	8.5	**On-site amenities**	
		Commuter travel	
BETTER	8.5.1	Provide on-site amenities/services to minimize mid-day or mid-commute errands	☐ N/A for school