

35 Barker Street Transportation Study
Queen Elizabeth Residences Inc.

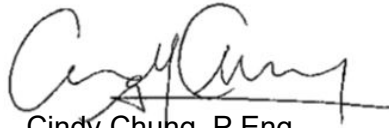
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Queen Elizabeth Residences Inc.

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July 2026
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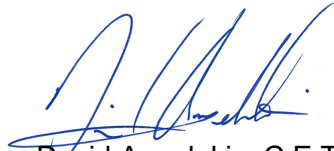
35 Barker Street Transportation Study
July 2026

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Executive Summary

R.J. Burnside & Associates Limited (Burnside) was retained by Queen Elizabeth Residences Inc. (Client) to undertake a Transportation Study as part of Zoning By-law (ZBL) Amendment and Site Plan applications for a redevelopment of the former Queen Elizabeth School, located at 35 Barker Street, into a residential / community hub development in the Town of Picton, Prince Edward County.

The existing school building is proposed to be demolished and replaced with four new buildings. The development will include a total of 209 apartments, comprised of 134 apartments (approximately 30% of which are proposed to be affordable) and 75 senior apartments. In addition, the ground floor of Building A will include a community hub with an approximate gross floor area of 1,816 m² (19,551 ft²). The community hub is intended to accommodate social service uses but tenants have not yet been established and it is anticipated they will primarily require office space with some community meeting spaces. Parking for the development is proposed as surface spaces distributed through the site.

Access to the site is proposed via two full-movement driveways on Elm Street and one full-movement driveway on Barker Street. In addition, based on consultation with the County and a review of the County's 2026 Capital Budget, Barker Street between Paul Street and Bowery Street is planned for reconstruction and urbanization and has recently been approved for conversion from one-way operation to two-way operation between Paul Street and Bowery Street.

The following is a summary of our key findings.

Traffic Operations

Overall, the analysis incorporates conservative assumptions that overestimates the traffic volumes, including seasonal adjustments, conservative traffic redistribution, and higher-than-expected trip generation. Despite this, all study intersections are and will operate with excess capacity and minimal delay under both existing and future conditions, and no road network improvements are required.

Site Plan Review

The site is well-designed to accommodate all modes of travel. Access and circulation analyses utilizing AutoTURN confirm that the site can accommodate all expected design vehicles.

Transportation Demand Management (TDM)

The following TDM measures are recommended:

- Internal secured bicycle storage (Long Term).
- Outdoor bicycle racks (Short Term).
- Sidewalk Connections.
- TDM information package.
- Unbundled resident parking.
- Parking supply reduction from County requirements.

These proposed TDM measures are expected to reduce vehicle trips and parking demand.

Parking Review

The proposed number of bicycle parking spaces, accessible parking spaces and loading spaces will exceed the minimum requirements of the ZBL.

According to the ZBL, the development will require 161 resident vehicle parking spaces. It is proposed to provide 117 resident spaces, which will result in a deficit of 44 spaces.

It is our opinion that the parking demand suggested by the ZBL is overestimating future parking demand for the proposed development, based on the site's proximity to the downtown area, current parking demand trends and future tenant demographics. We have come to the following conclusions:

- A review of other similar developments where parking demand surveys were conducted clearly show a pattern of reduced parking demand (0.11 spaces / unit to 0.47 spaces / unit). Therefore, it is our opinion that the proposed residential parking supply of 0.87 spaces / unit.
- A review of comparable municipal zoning by-laws indicates a typical parking rate of approximately 0.50 spaces per unit for senior apartments. Given the reduced reliance on personal vehicles among senior residents, particularly in established, well-served communities, the proposed parking supply is expected to adequately meet or exceed future demand.

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Abbreviations

The following are abbreviations utilized within this report:

- Burnside – R.J. Burnside & Associates Limited
- County – Prince Edward County
- Directions
 - EB – Eastbound
 - SB – Southbound
 - NB – Northbound
 - WB – Westbound
- ITE – Institute of Transportation Engineers
- LOS – level of service
- PHF – Peak Hour Factor
- Picton – Town of Picton
- Traffic Movements
 - LT – shared left-through movement
 - LTR – shared left-through-right movement
 - LR – shared left-right movement
 - TR – shared through-right movement
- v/c – volume to capacity ratio

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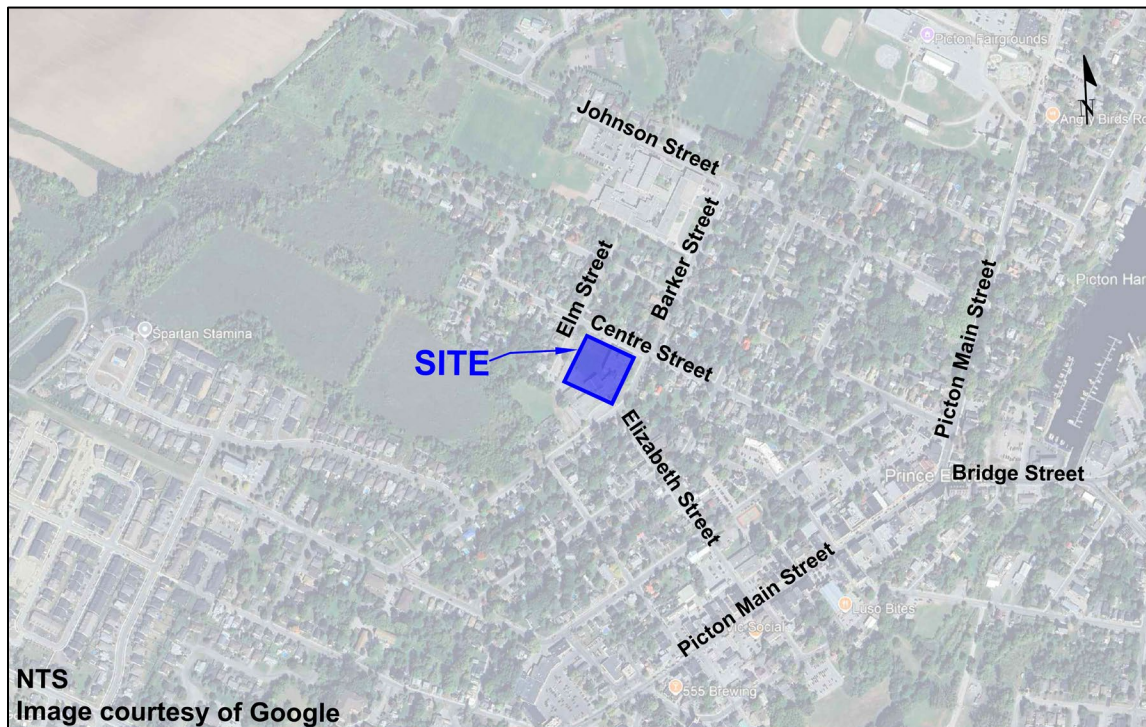
1.0 Introduction

1.1 Background

Queen Elizabeth Residences Inc. (Client) is proposing to redevelop the former Queen Elizabeth School, located at 35 Barker Street, into a residential / community hub development in the Town of Picton, Prince Edward County. The existing school building is proposed to be demolished, and four new buildings will be added which will consist of 134 apartments, 75 senior's apartments, for a total of 209 units, and a community hub with an approximate area of 1,816 m² (19,551 ft²). Approximately 30% of all units will be affordable units.

Access to the site is proposed via two full-movement driveways on Elm Street and one full-movement driveway on Barker Street. A cul-de-sac will be added at the south terminus of Elm Street. Parking for the development is proposed as surface spaces distributed through the site. The location of the subject site is shown in Figure 1. For the purpose of this study, Barker Street is assumed as a north-south roadway and Johnson Street as an east-west roadway.

Figure 1: Site Location



Zoning By-law (ZBL) Amendment and Site Plan applications are required and R.J. Burnside & Associates Limited (Burnside) was retained to undertake a Transportation Study as part of these applications.

1.2 Scope of Work

The scope of work below was confirmed with Prince Edward County (the County) prior to conducting this study and the email correspondence can be found in Appendix A.

Analysis Scenarios

- Existing traffic conditions.
- 2035 background traffic conditions.
- 2035 total traffic conditions (2035 background traffic plus site traffic).
- 2035 background and total traffic conditions with Barker Street as a two-way street.

Analysis Time Periods

- Weekday AM Peak Period (7:00 AM to 9:00 AM).
- Weekday PM Peak Period (4:00 PM to 6:00 PM).

Analysis Intersections (Study Area)

- Centre Street / Elm Street.
- Centre Street / Barker Street.
- Barker Street / Elizabeth Street.
- Johnson Street / Barker Street.
- Elm Street / Proposed Driveway.
- Barker Street / Proposed Driveway.

Parking Review

- ZBL review of vehicle, accessible, bicycle parking and loading spaces.

Transportation Demand Management (TDM) Plan

- Provide recommendations on feasible TDM strategies to discourage single-occupancy motor vehicle use.

1.3 Intersection Analysis Methodology

Stop controlled intersection operations were assessed for intersections in the study area using the software program Synchro 12, which employs methodology from the Highway Capacity Manual (HCM 2000 and HCM 2010), published by the Transportation Research Board National Research Council.

Synchro can analyze stop-controlled intersections in a road corridor or network considering the spacing, interaction, queues and operations between intersections. The analysis utilizes the HCM 2000 methodology except for all-way stop controlled (AWSC) intersections where HCM 6th Edition methodology is utilized. HCM 2000 methodology does not calculate queue lengths for all-way stop controlled intersections.

Stop controlled intersection analysis considers two separate measures of performance:

- The capacity of the intersection's critical movements, which is based on a volume to capacity ratio.
- The level of service for the critical movements, which is based on the average control delay per vehicle for the various critical movements within the intersection. The link between LOS and delay (in seconds) for stop-controlled intersections is summarized below.

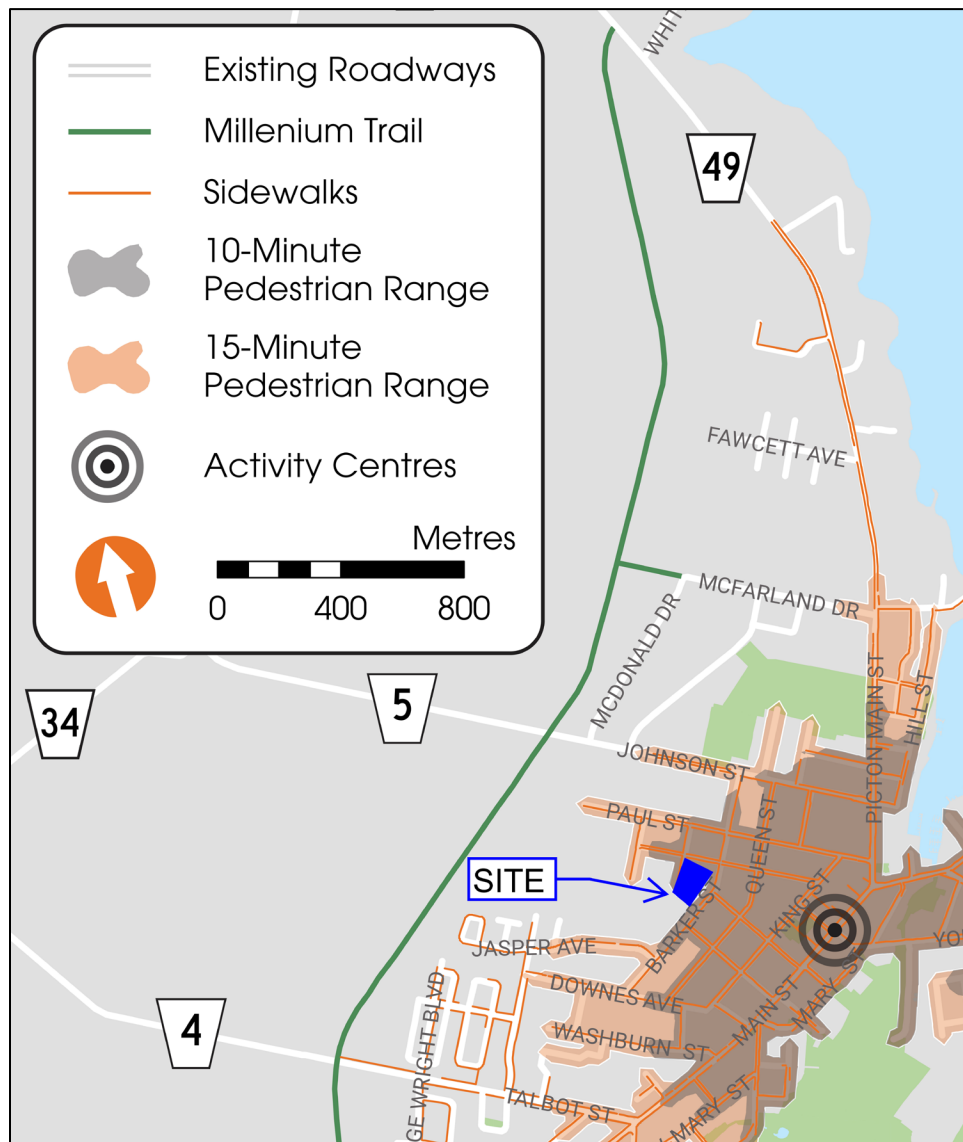
Level of Service	Control Delay per Vehicle(s)
A	0 – 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

2.0 Existing Conditions

2.1 Site Context

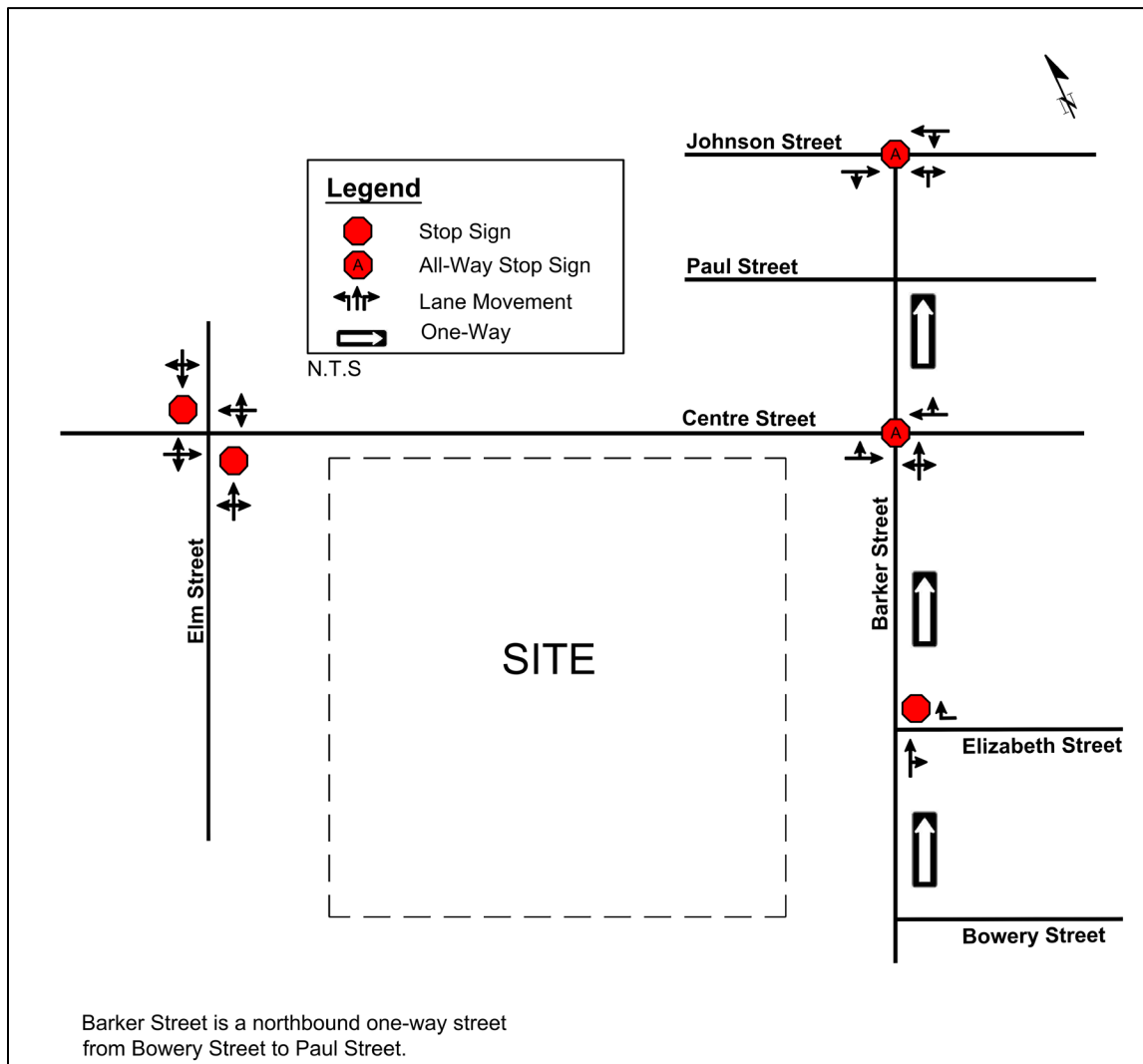
The site is currently occupied by the former Queen Elizabeth Public School, which has been vacant and unused since its closure in 2018. The site is bounded by Elm Street to the west, Centre Street to the north, Barker Street to the east and vacant land and single-family homes to the south. The site is located in a neighbourhood with predominantly single-family detached houses and a combined elementary and secondary school (Prince Edward Collegiate Institute) located to the north on Barker Street between Paul Street and Johnson Street. It is our understanding that the students that attended Queen Elizabeth Public School were relocated to Prince Edward Collegiate Institute.

The subject site is located approximately 400 m (a five-minute walking distance) from Downtown Picton, providing future residents with convenient access to a variety of shops, restaurants, and commercial services. Figure 2 is an excerpt from the Picton Settlement Area Master Transportation Plan Amendment (Picton TMP), dated March 2025, which further highlights the site's proximity to the downtown Main Street corridor.

Figure 2: Proximity to Downtown Picton (Excerpt from Picton TMP, Figure 13)

2.2 Existing Road Network

The existing road network in the study area is described below and illustrated in Figure 3, including existing traffic control. All roads are under the jurisdiction of the County.

Figure 3: Existing Road Network**Barker Street**

Barker Street is a north-south local road with a two-lane semi urban cross section and posted speed limit of 40km/h. It is a one-way northbound street from Bowery Street to Paul Street and a two-way street north of Paul Street. Sidewalks vary along the corridor as follows:

- Sidewalks are provided on the east side, south of Bowery Street.
- Sidewalks are provided on both sides between Bowery Street and Elizabeth Street.
- Sidewalks are provided on the west side between Elizabeth Street and Paul Street.
- Sidewalks are provided on both sides between Paul Street and Johnson Street.

From Centre Street to Paul Street, parking is prohibited from Monday to Friday, during the hours of 9:00 AM to 5:00 PM on the north side of the road. From Centre Street to Elizabeth Street, parking is prohibited on both sides of the road.

Centre Street

Centre Street is an east-west local road with a two-lane urban cross section and a posted speed limit of 40 km/h. Sidewalks are provided on both sides of the road. Along the site frontage, between Elm Street and Barker Street, there is a school bus loading zone on the south side and parking is prohibited from 9:00 AM to 5:00 PM on the north side.

Elm Street

Elm Street is a north-south local road with a two-lane semi urban cross section and an assumed unposted speed limit of 50 km/h. A sidewalk is provided on the west side of the roadway; ninety-degree parking is provided on the east side south of Centre and parking is prohibited on the east side between Centre Street and Paul Street.

Elizabeth Street

Elizabeth Street is an east-west local road with a two-lane urban cross section and an assumed unposted speed limit of 50 km/h. Sidewalks are provided on both sides of the road.

Johnson Street (County Road 5)

Johnson Street is an east-west collector road with a two-lane urban cross section and a posted speed limit of 40 km/h within the vicinity of the school. Beyond the vicinity of the school, east of Queen Street and west of Macsteven Drive, the posted speed limit is 50 km/h. Sidewalks are provided on both sides of the road directly in front of the school, between Barker Street and Macsteven Drive. East of Barker Street, a sidewalk is provided on the south side of the road. Parking is prohibited on both sides of the road.

2.3 Existing Transit Service

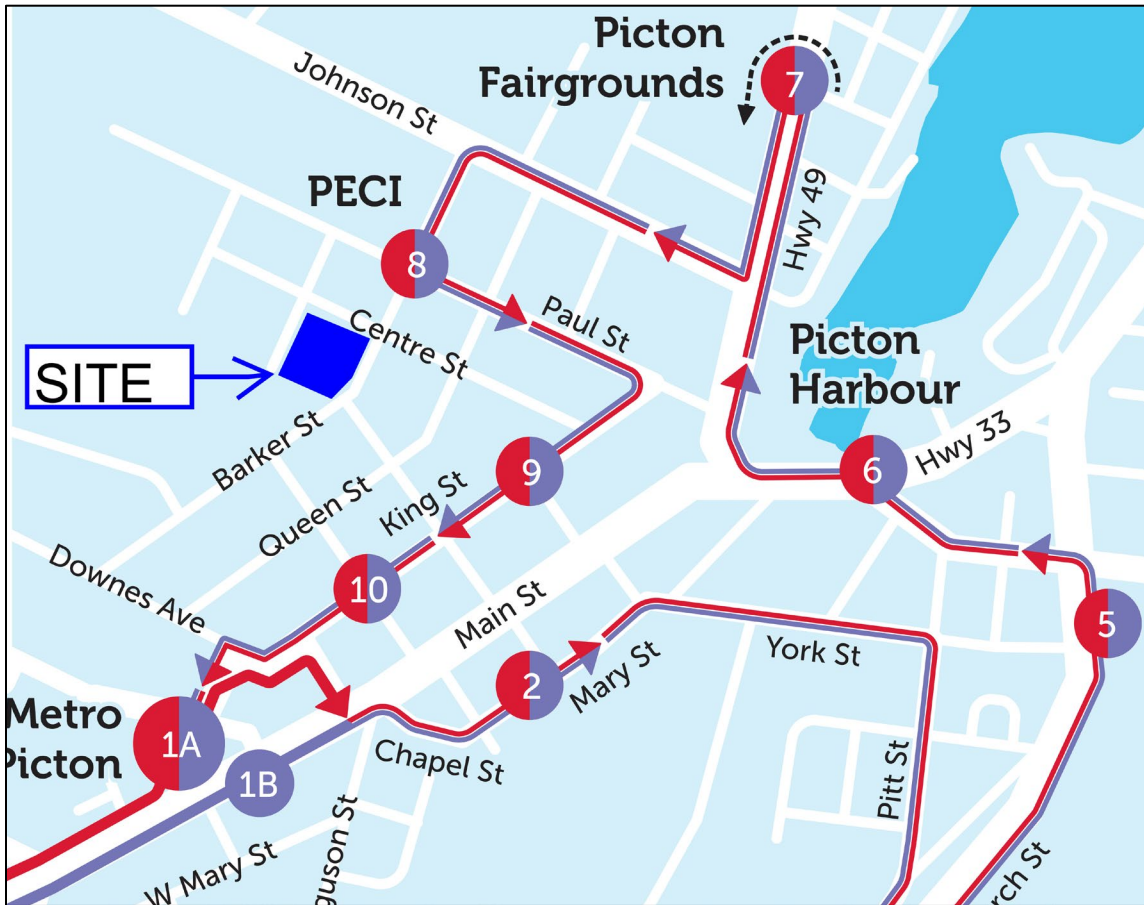
The County has three types of transit services: fixed route, on-demand service, and specialized transit services. Details are provided below.

Fixed Routes

County Transit provides two fixed-route bus services operated by Quinte Transit. These routes operate five times per day, Monday to Friday. The routes run in opposite directions to / from the Belleville Transit Terminal. Both routes travel through the Bloomfield and Picton area. The closest transit stop to the site is located at the

intersection of Barker Street / Paul Street, approximately 220 m (three-minute walking distance) north of the site. The two routes are illustrated in Figure 4.

Figure 4: County Fixed Route Transit Service



On-Demand Services and Specialized Transit Services

The on-demand and specialized transit services are operated by the same provider, TripSpark. The specialized transit service is intended for riders aged 55 and over, as well as individuals living with disabilities, and is given priority over on-demand trip requests. As a result, non-specialized users may experience reduced flexibility in routing and scheduling.

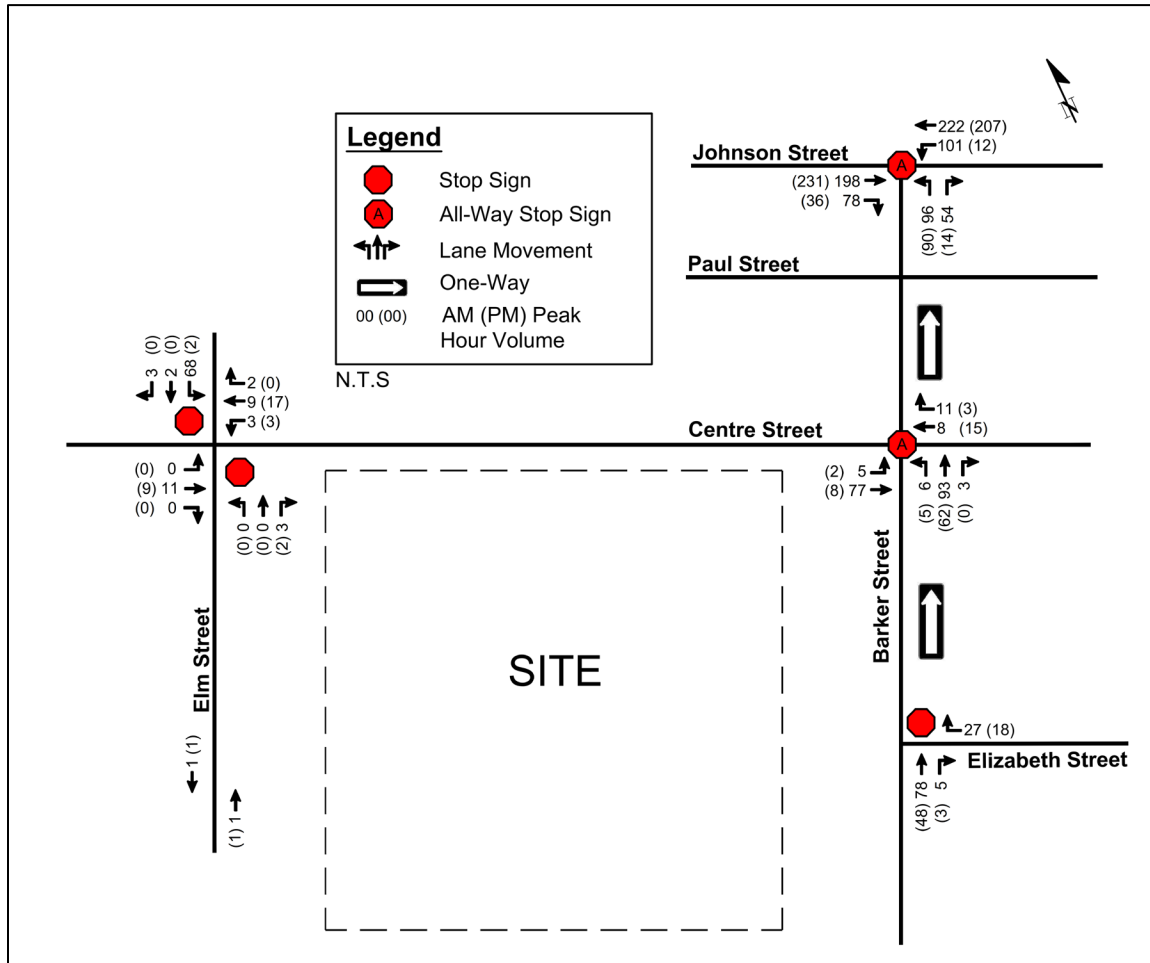
The service operates on weekdays from 6:30 AM to 6:00 PM and provides shared-ride trips, where passengers travel with others heading in a similar direction. Trips can be booked via a mobile application or by phone (typically at least one day in advance). The service offers stop-to-stop travel within the County and can also connect riders to bus stops along the fixed-route network.

2.4 Existing Traffic Volumes

Existing traffic counts were conducted by Accu-Traffic Inc. on behalf of Burnside, for the weekday morning (7:00 AM to 9:00 AM) and afternoon (4:00 PM to 6:00 PM) peak periods on Thursday, November 20, 2025, at study intersections.

The County requested the application of a seasonal factor to account for the counts being conducted during the non-peak winter season. Since the study intersections are situated within a built-out residential neighborhood, it is our opinion these roadways would be typically less susceptible to seasonal tourist fluctuations. Furthermore, it is our opinion that capturing typical school-generated traffic associated with the secondary school to the north of the site would provide a more conservative model than seasonal adjustments.

However, at the County's request, a review of historical Ministry of Transportation (MTO) data was performed. This included an analysis of average daily traffic, summer average daily traffic, and winter average daily traffic volumes on Highway 33 at the south end of Picton from 1988 to 2021. The analysis indicated that, historically, summer volumes on Highway 33 are approximately 1.5 times higher than winter volumes. As a result, a 1.5 seasonal factor was applied to the counts (all movements) to simulate peak summer conditions. The resulting adjusted existing traffic volumes are illustrated in Figure 5. Detailed traffic count data and the MTO seasonal analysis are provided in Appendix B.

Figure 5: Existing Traffic Volumes

3.0 Background Conditions

Future background traffic consists of existing traffic, background traffic growth and traffic from other developments. Background traffic growth and traffic from other developments are discussed below. Future road network, transit and active transportation improvements within the study horizon year are also discussed. The horizon year of 2035 was selected for future projections, assuming buildout by 2030.

3.1 Future Road Network

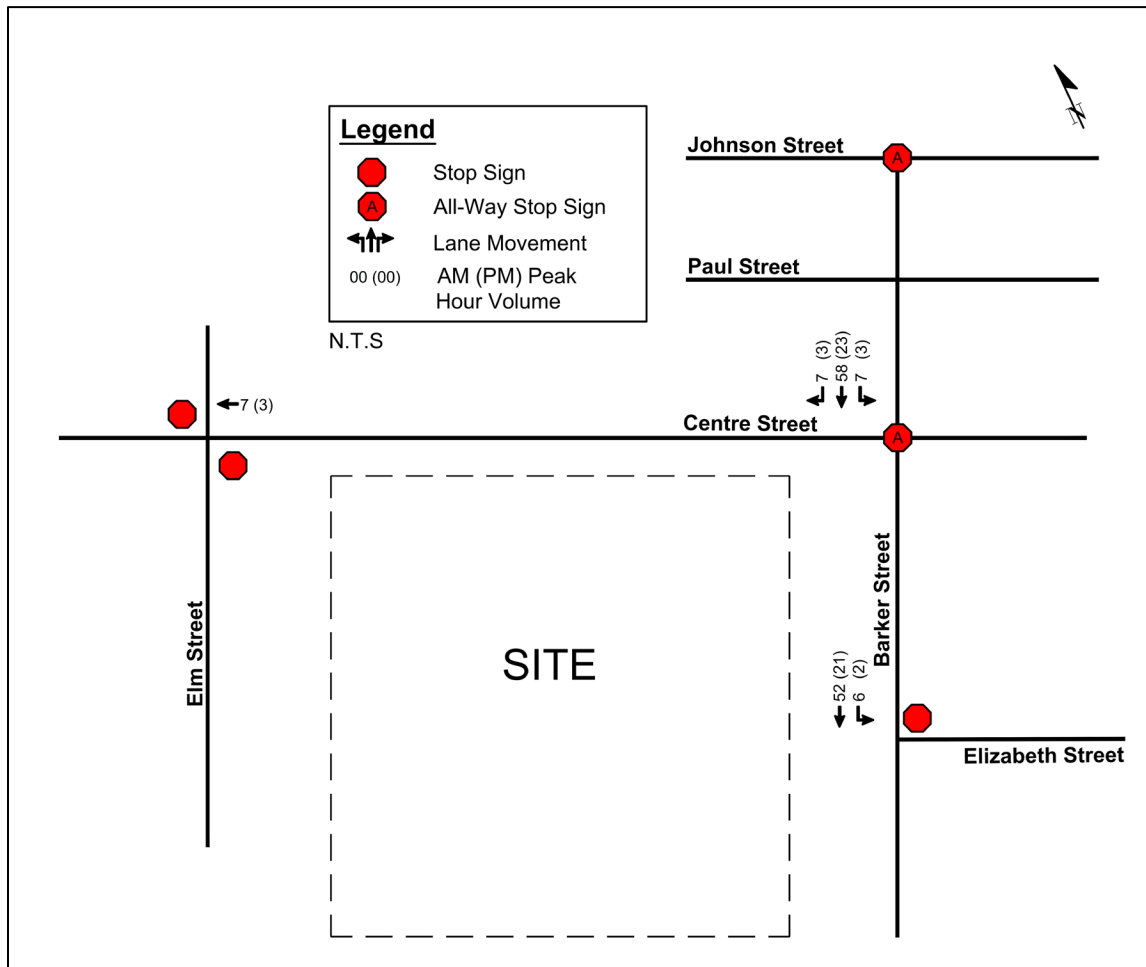
Based on consultation with the County and a review of the County's *2026 Capital Budget*, Barker Street between Downes Avenue and Johnston Street is planned for reconstruction and urbanization. The proposed improvements include upgrades to the sidewalk along Barker, such as the installation of new concrete curb ramps with tactile warning plates at intersections and conversion from one-way operation to two-way

operation between Bowery Street and Paul Street. The County has indicated that construction is anticipated to commence in 2027.

To model two-way operation, southbound traffic volumes on Barker Street were estimated based on the southbound traffic volumes at the Barker Street / Johnson Street intersection. Given the proximity of this intersection to Prince Edward Collegiate Institute, it is expected that a significant proportion of the southbound traffic is associated with school pick-up and drop-off activity, rather than through traffic. In addition, Barker Street terminates at Downes Avenue, which does not provide a direct connection to Main Street or other higher-order roadways. As such, it is our opinion that Barker Street does not function as a through route with limited demand for continuous southbound travel.

However, to provide a conservative assessment, a sensitivity test was applied whereby 40% of the southbound traffic observed at Johnson Street was assumed to continue south along Barker Street toward Centre Street and Elizabeth Street.

The resulting estimated southbound traffic volumes on Barker Street are presented in Figure 6.

Figure 6: Estimated Two-Way Traffic Volumes on Barker Street

3.2 Future Transit Network

The Picton TMP outlines a transit service progression strategy for the Picton Settlement Area. It is intended to evolve alongside future transit demand and with the reduction of vehicular traffic. In the near term, transit service is expected to continue to focus on an on-demand model, providing a high degree of routing flexibility. This approach is intended to build ridership and better understand local travel patterns. As demand increases and travel patterns become more established, there is potential to refine the service into more formalized fixed routes. The Picton TMP also identifies enhancements to the existing Picton-to-Belleville service, including increased service frequency at key times of the weekday.

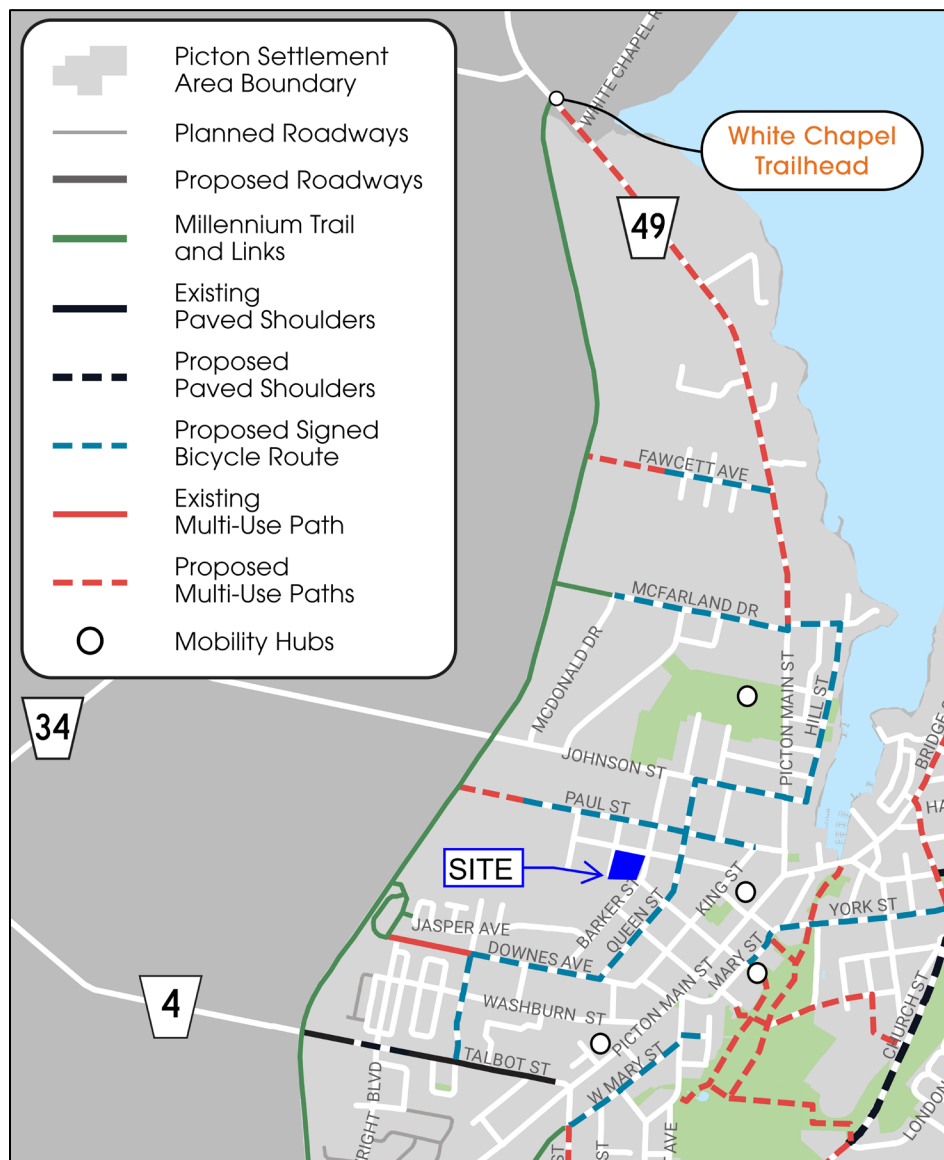
3.3 Future Active Transportation

According to the Picton TMP, several active transportation improvements are planned in the vicinity of the site, including:

- A signed bicycle route along Paul Street, Queen Street and Downes Avenue.
- A multi-use path connecting the westerly terminus of Paul Street to the Millennium Trail.
- A mobility hub at the northeast corner of the King Street / Ross Street intersection. A mobility hub is defined as a transportation plaza that would support mobility through integration of services such as walking, cycling, public transit, and personal vehicles in close proximity to activity centres.

However, there is no indication of timeline. These improvements are illustrated in the excerpt from the Picton TMP shown in Figure 7.

Figure 7: Planned Active Transportation Network



In addition to the planned network identified in the Picton TMP, a proposed development located southwest of the subject site (details in Section 3.5) is anticipated to provide further connectivity to the Millennium Trail.

3.4 Background Traffic Growth

As discussed with County staff, the surrounding neighbourhood is largely built out; therefore, no background traffic growth was applied to the study intersections, with the exception of traffic associated with the background development described below.

3.5 Background Development

Based on consultation with County staff, there is only one background development at 21 Barker Street, which has been approved and anticipated to impact future traffic within the vicinity of the site and within the study horizon year. The background development will occur in two phases as follows:

Phase 1

- 189 apartments, 23 townhouses, 16 link homes and 35 single-family detached homes.
- Total of 92 trips during the AM peak hour and 119 trips during the PM peak hour based on the *Barker Street Residential Development Traffic Impact Study* (21 Barker TIS), dated January 2011.

Phase 2

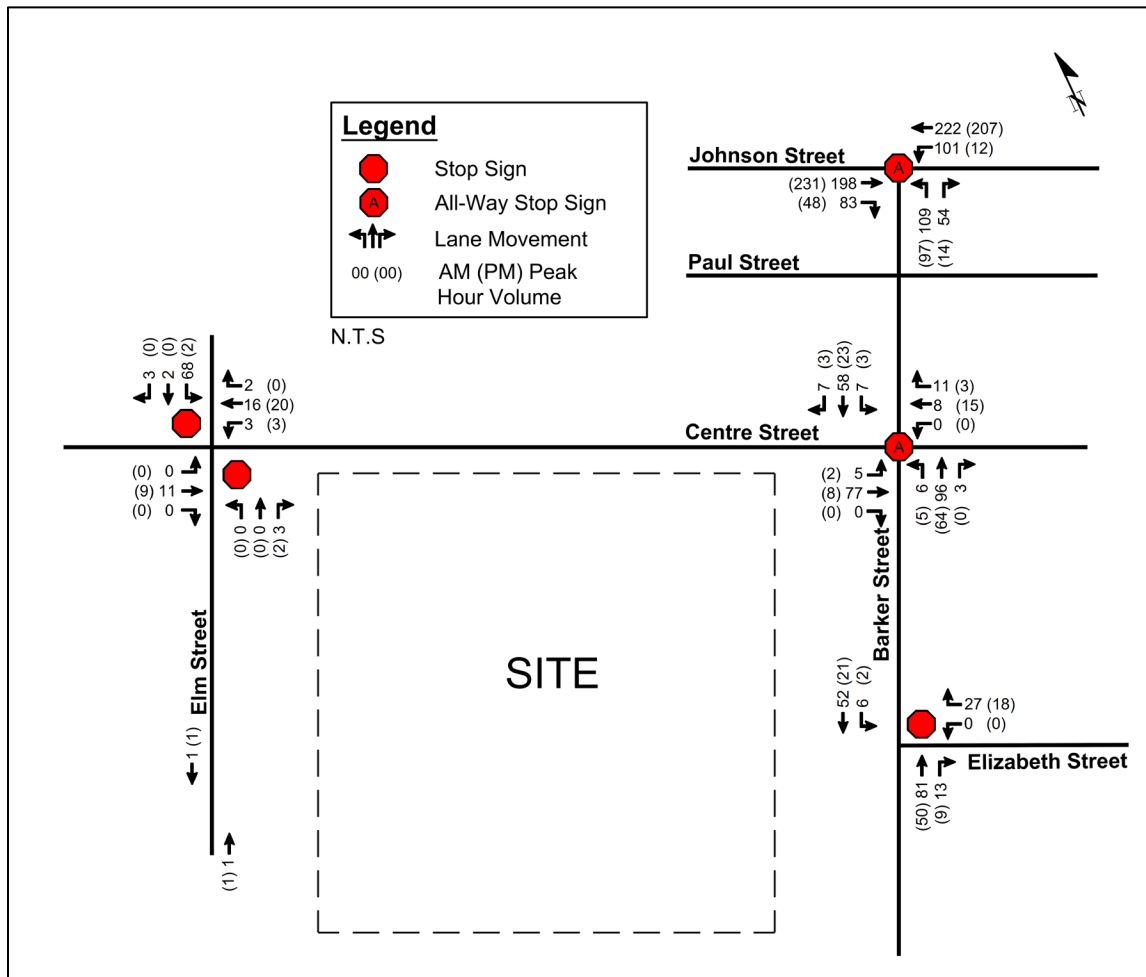
- 15 townhouses and 30 single family detached homes.
- Trip generation was based upon information contained in the publication *Trip Generation Manual, 12th Edition* (ITE Trip Generation Manual), published by the Institute of Transportation Engineers.
 - The Land Use Code (LUC) for Single-Family Detached Housing (LUC 210) and Multifamily Housing (Low-Rise) (LUC 215) were applied.
 - Total of 33 trips during the AM peak hour and 47 trips during the PM peak hour.
- Trips were distributed and assigned following the assumptions in the 21 Barker TIS.

This background development is proposed to connect to the existing northerly terminus of Curtis Street. In addition, the southerly terminus of Century Drive is planned to be extended to connect with Jasper Avenue. This development is also anticipated to connect to the future extension of Century Drive. Background development traffic figures are provided in Appendix C.

3.6 Background Traffic Volumes

Background traffic volumes consist of existing traffic volumes and traffic generated by the background development described above. As discussed with County staff, no growth was applied; therefore, background volumes reflect only the addition of background development-related traffic to existing conditions. The background traffic volumes are illustrated in Figure 8.

Figure 8: Background 2035 Traffic Volumes



4.0 Proposed Development

The existing school building is proposed to be demolished and replaced with four new buildings. Based on the site plan by HSPM Holdings Inc., dated May 7, 2026, the development will include a total of 209 residential units, comprised of 134 apartments and 75 senior apartments (approximately 30% of all units will be affordable). In addition, the ground floor of Building A will include a community hub with an approximate gross floor area of 1,816 m² (19,551 ft²). The community hub is intended to accommodate

social service uses but tenants have not yet been established and it is anticipated they will primarily require office space with some community meeting spaces. For a more conservative analysis office uses have been assumed for the entire community hub. The proposed site plan is shown in Figure 9.

4.1 Trip Generation

Trip generation was based upon information contained in the ITE Trip Generation Manual for a general urban / suburban environment. The following LUC were assumed for each proposed use:

- Apartments – LUC 220 (Multifamily Housing – Low-Rise)
- Senior's Apartments – LUC 252 (Senior Adult Housing – Multifamily)
- Community Hub – LUC 710 (General Office)

For the community hub, during the weekday AM and PM peak hours, traffic activity is anticipated to be driven primarily by staff. In particular, AM peak period trips are expected to reflect staff arriving to prepare for daily operations. Visitor activity associated with social services is more likely to occur during midday and early evening periods, outside of typical commuter peak hours. The general office land use is more representative of peak hour trip-making characteristics for the proposed community hub and provides a reasonable and appropriate basis for assessment.

In addition, a review of Statistics Canada Picton data found that approximately 37% of trips made by Picton residents are by transit, walking, or cycling, with a significant proportion (22%) of workers teleworking. Considering these existing travel patterns, along with the planned transit and active transportation improvements and the implementation of a robust Transportation Demand Management (TDM) plan, a reduction in vehicular demand was assumed. To be conservative, a 30% reduction in vehicle trip generation was applied. The resulting trip generation for the development is summarized below in Table 1.

Table 1: Site Trip Generation

Land use	Size	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Apartments (LUC 220)	134 units	14	46	60	45	27	72
Senior Apartments (LUC 252)	75 units	5	10	15	11	8	19
Community Hub (LUC 710)	19,551 ft ²	37	5	42	8	43	51
Mode Share (30%)	-	-17	-19	-36	-2	-13	-15
New Trips Total		39	42	81	62	65	127

Figure 9: Proposed Site Plan



A comparison was also undertaken between the estimated trips generated by the former school use and the proposed residential development to understand the relative change in historical traffic demand. LUC 520 (Elementary School) was assumed, and the same mode share reduction was applied to ensure consistency in the comparison. This comparison is provided in Table 2.

Table 2: Trip Generation Comparison of Former School and Proposed Use

Use	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Elementary School (LUC 520) - Approximately 400 Students	158	134	292	29	35	64
Mode Share (30%)	-48	-40	-88	-9	-10	-19
School Trips	110	94	204	20	25	45
Proposed Development Trips	39	42	81	62	65	127
Difference	-71	-52	-123	+42	+40	+82

The analysis indicates that the former school use would generate a higher number of trips during the AM peak hour than the proposed development. During the PM peak hour, the proposed development would generate approximately more trips than the previous school use. In addition, school-related traffic is typically more concentrated over shorter time periods and characterized by intense pick-up and drop-off activity, which can create more pronounced localized traffic impacts. In contrast, residential and office traffic is generally more distributed throughout the peak hour.

It is our opinion that the proposed change in land use from a school to a residential / community hub development is not anticipated to result in a noticeable change in overall traffic conditions of the surrounding road network. Regardless, all of the projected proposed development traffic was applied to the road network as follows.

4.2 Trip Distribution & Assignment

Trip distribution and assignment were based upon existing travel patterns and the existing road network. The estimated distribution of site trips is illustrated in Table 4.

Table 3: Trip Distribution

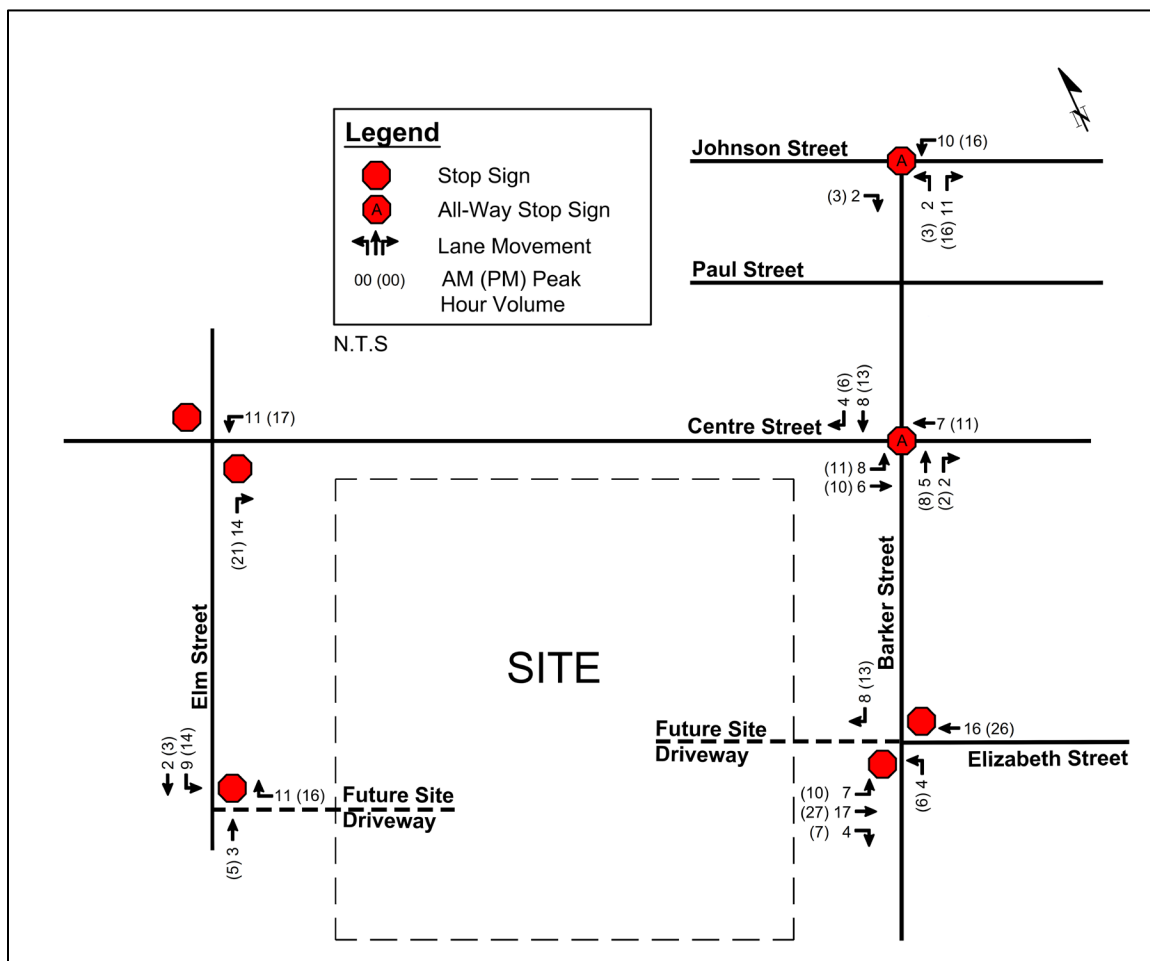
Via	To / From	Distribution
Johnson Street	East	25%
Johnson Street	West	5%
Barker Street	South	10%
Picton Main Street	North & South	60%
Total		100%

The primary external trip attraction for the site is anticipated to be Main Street, which serves as a key corridor within Picton and provides connections to the broader road network via County Road 33 and County Road 49. Site traffic is expected to access Main Street via Elizabeth Street, Centre Street, and Bowery Street.

Under future conditions, Barker Street will operate as a two-way street from Bowery Street and Paul Street. As such, southbound site traffic from Johnson Street will be able to access the site directly via Barker Street.

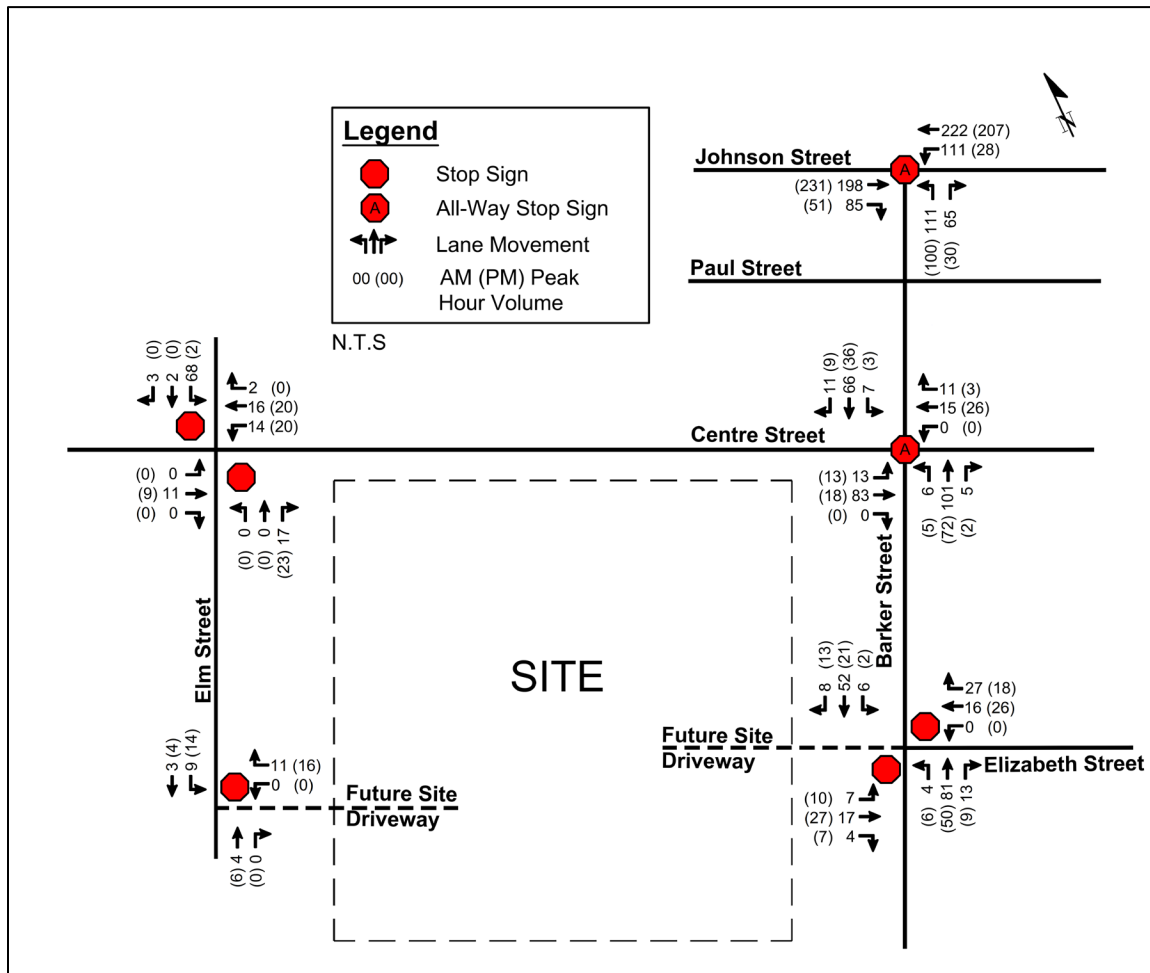
The resulting site traffic assignment for Barker Street is illustrated in Figure 10.

Figure 10: Site Traffic Volumes



5.0 Total Traffic Conditions

Total traffic volumes consist of background traffic volumes plus site traffic. The resulting total traffic volumes are shown in Figure 11.

Figure 11: Total 2035 Traffic Volumes

6.0 Traffic Operations Analysis

Traffic operations analyses were conducted for existing and future traffic volumes for the weekday AM and PM peak hours at all study intersections and are summarized in Table 4 to Table 8. Queueing was reviewed using Synchro's 95th percentile queue. A comparison of the existing or planned storage and projected queues are summarized for all movements. Detailed Synchro and queue reports are provided in Appendices D to F.

Table 4: Baker Street / Johnson Street Traffic Operations

Scenario & Movement	Existing Storage/ Link Distance (m)	AM Peak Hour			PM Peak Hour		
		v/c	LOS	95 th Queue (m)	v/c	LOS	95 th Queue (m)
Existing							
EBTR	100+	0.47	B	19	0.37	B	13
WBLT	100+	0.57	B	32	0.32	A	11
NBLR	100+	0.30	B	10	0.17	A	5
Background							
EBTR	100+	0.48	B	20	0.39	B	15
WBLT	100+	0.58	C	32	0.32	A	11
NBLR	100+	0.33	B	11	0.18	A	6
Total							
EBTR	100+	0.49	B	21	0.49	B	21
WBLT	100+	0.61	C	35	0.61	C	35
NBLR	100+	0.36	B	13	0.36	B	13

Table 5: Baker Street / Centre Street Traffic Operations

Scenario & Movement	Existing Storage/ Link Distance (m)	AM Peak Hour			PM Peak Hour		
		v/c	LOS	95 th Queue (m) ¹	v/c	LOS	95 th Queue (m) ¹
Existing							
EBLT	100+	0.19	A	6	0.02	A	1
WBTR	100+	0.04	A	1	0.04	A	1
NBLTR	90	0.23	A	7	0.14	A	4
Background							
EBLTR	100+	0.20	A	6	0.02	A	1
WBLTR	100+	0.05	A	1	0.04	A	1
NBLTR	90	0.25	A	8	0.15	A	4
SBLTR	90	0.17	A	5	0.06	A	2

Scenario & Movement	Existing Storage/ Link Distance (m)	AM Peak Hour			PM Peak Hour		
		v/c	LOS	95 th Queue (m) ¹	v/c	LOS	95 th Queue (m) ¹
Total							
EBLTR	100+	0.24	A	7	0.08	A	2
WBLTR	100+	0.07	A	2	0.07	A	2
NBLTR	90	0.27	A	9	0.18	A	5
SBLTR	90	0.20	A	6	0.11	A	4

Notes: 1. Queues calculated based on a 7.6 m vehicle length

Table 6: Elm Street / Centre Street Traffic Operations

Scenario & Movement	Existing Storage/ Link Distance (m)	AM Peak Hour			PM Peak Hour		
		v/c	LOS	95 th Queue (m)	v/c	LOS	95 th Queue (m)
Existing							
WBLTR	100+	0.00	A	1	0.00	A	1
NBLTR	100	0.00	A	1	0.00	A	1
SBLTR	90	0.18	A	5	0.00	A	1
Background							
WBLTR	100+	0.00	A	1	0.00	A	1
NBLTR	100	0.00	A	1	0.00	A	1
SBLTR	90	0.18	A	5	0.00	A	1
Total							
WBLTR	100+	0.02	A	1	0.02	A	1
NBLTR	100	0.04	A	1	0.04	A	1
SBLTR	90	0.21	B	6	0.00	A	1

Table 7: Baker Street / Elizabeth Street / Proposed Driveway Traffic Operations

Scenario & Movement	Existing Storage/ Link Distance (m)	AM Peak Hour			PM Peak Hour		
		v/c	LOS	95 th Queue (m)	v/c	LOS	95 th Queue (m)
Existing							
WBR	100+	0.04	A	1	0.03	A	1
Background							
WBLR	100+	0.04	A	1	0.03	A	1
SBLT	100	0.00	A	1	0.00	A	1
Total							
EBLTR	10+	0.06	B	2	0.10	B	3
WBLTR	100+	0.08	A	2	0.09	A	3
NBLTR	100+	0.00	A	1	0.00	A	1
SBLTR	90	0.00	A	1	0.00	A	0

Table 8: Elm Street / Proposed Driveway Total Traffic Operations

Scenario & Movement	Existing Storage/ Link Distance (m)	AM Peak Hour			PM Peak Hour		
		v/c	LOS	95 th Queue (m)	v/c	LOS	95 th Queue (m)
WBLR	10+	0.01	A	1	0.02	A	1
SBLT	100	0.00	A	1	0.00	A	1

Under existing and future conditions, during both peak hours, all movements at all study intersections are operating and will operate with excess capacity and a level of service C or better. All existing and future queues are contained and will be contained within their respective storage lengths and link distances. No road network improvements are required as a result of the development.

6.1 Conservative Traffic Volume Assumptions

The analysis includes several conservative assumptions that are expected to overestimate future traffic volumes within the study area. These include:

- The application of seasonal adjustment factors to traffic volumes, despite the study area being a local neighbourhood area that is not expected to experience significant seasonal or tourist-related traffic fluctuations.
- A conservative assumption regarding traffic redistribution under the two-way Barker Street scenario, which likely overestimates the proportion of traffic diverting to Barker Street given its limited connectivity and lack of through-routing function.
- Potential overestimation of site-generated vehicle trips, as the analysis does not fully account for existing travel behaviour in Picton, where approximately 37% of trips are made by non-auto modes, as well as the site's proximity to downtown and planned transit and active transportation improvements.
- The trips generated are conservatively high with the assumption that the community hub will be 100% offices and the inclusion of affordable units, which are typically associated with lower vehicle ownership and therefore trip rates.

Despite these conservative assumptions, the analysis demonstrates that the study area road network is expected to operate with sufficient capacity and minimal delay under all analyses scenarios.

7.0 Site Plan Review

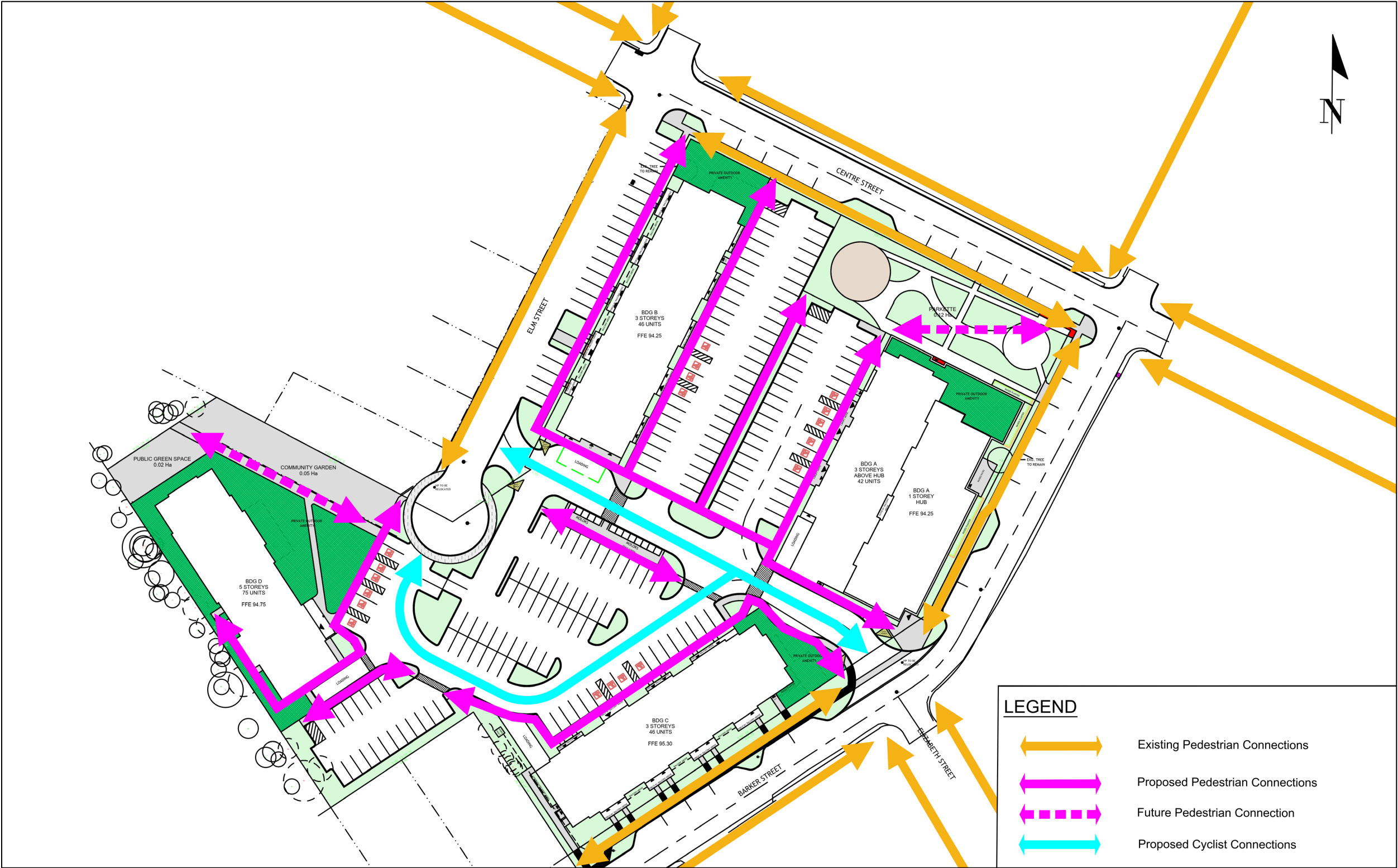
A high-level review of the site was conducted including driveway geometrics, internal site circulation and parking lot layout, which found an efficient design that will serve all modes of travel. An access analysis was conducted utilizing AutoTURN for the design vehicles expected to visit the site, which will be a private refuse truck (Molok refuse truck), delivery truck (HSU and MSU design vehicles), and passenger vehicle (PTAC design vehicle). The analysis is provided in Appendix G and confirms that the proposed site geometrics will accommodate all expected design vehicles.

In addition, the proposed parking space dimensions of 2.60 m in width and 5.20 m in length does not meet the minimum required parking space width of 3.0 m and length of 6.0 m in the ZBL. The proposed Type B accessible parking space dimensions of 2.60 m in width and 5.20 m in length do not meet the minimum required parking space width of 2.75 m and length of 5.50 m in length in the ZBL. A swept path analysis, provided in Appendix G, utilizing AutoTURN confirms that the proposed parking space sizes can accommodate a passenger PTAC design vehicle.

7.1 Pedestrian and Cyclist Accommodation

The site is well-designed to accommodate pedestrians, cyclists, and vehicles as illustrated in Figure 12. Internal walkways are proposed between building entrances, existing and proposed external sidewalks on Elm Street, Centre Street and Barker Street as well as a future connection to the southwest background development which will lead to the Millennium Trail. Cyclists can access the site via all driveways.

Figure 12: Planned Pedestrian and Cyclist Accommodation



8.0 Transportation Demand Management

The proposed site plan incorporates pedestrian and cyclist friendly design elements to discourage dependency on the single-occupant motor vehicle. This will complement the County's overall transportation vision to achieve a more sustainable transportation system by promoting and encouraging alternative modes of travel such as walking, cycling, and transit.

The development will include TDM measures as it grows in density to discourage the dependency on the single occupant motor vehicle and to maximize the movement of people utilizing other modes. There are many jurisdictions within North America that have recognized the impact of TDM on trip generation, including the following:

- The Region of Waterloo "Travel Wise" Strategies Overview Regional Transportation Master Plan, dated March 9, 2009, suggests a reduction in automobile trips depending on proposed TDM measures and the expected distance of travel.
- The Victoria Transport Policy Institute published a report, dated September 7, 2023, that summarizes the effectiveness of various TDM measures on the reduction of vehicle trips.
- The Vermont Agency of Transportation has a TDM Guide, dated February 2016, that provides guidance on estimating vehicular trip reductions from TDM measures. Their reduction rates are based on research from other jurisdictions' TDM guidelines including:
 - City of Berkeley, California
 - California Air Pollution Control Officers Association
 - Delaware Department of Transportation
 - Oregon Department of Environmental Quality
 - City of Sacramento

Table 9 summarizes the range of trip reductions that are recommended in these references and what measures will be considered in the development.

Table 9: Proposed TDM Measures

TDM Item Description	Trip Reduction	Comments
Internal secured bicycle storage (Long Term)	0.5% to 1%	Internal secured bicycle storage within each building for residents.
Outdoor bicycle racks (Short Term)	0.5%	Strategically placed at ground level near main entrances and lobbies for visitors and patrons
Sidewalk Connections	0.5% to 2%	Sidewalk connections from building entrances to the internal and external sidewalk network.
TDM information package	6% to 12%	An information package will be provided to residents that will include County transit maps and schedules, cycling and walking trails within the area.
Unbundled Resident Parking	2.6% to 13%	Parking spaces will not be bundled with any apartments.
Parking Supply Reduction	Up to 72%	Parking rate reductions for resident and visitor parking are recommended.

9.0 Parking Review

Parking for the proposed development is proposed as surface spaces distributed through the site for a total of 187 spaces. This includes 117 spaces (0.87 spaces per unit) allocated to the apartments, 38 spaces (0.51 spaces per unit) allocated to the senior's apartments, 21 spaces (0.10 spaces per unit) designated for residential visitors, and 11 spaces allocated to the community hub (one space per 165.1 m² of gross floor area).

In addition, on-street parking is proposed in the form of lay-by spaces along the site's frontages on Barker Street and Centre Street, providing a total of 22 spaces. A further 22 perpendicular parking spaces are proposed along site's frontage on Elm Street, which are intended to be signed for use by the community hub during its operating hours. Including both on-site and dedicated on-street spaces, a total of 33 parking spaces are available for the community hub (one space per 55.0 m² of gross floor area).

9.1 Bicycle Parking

The bicycle parking requirements of the County's Zoning By-law 140-2025 (ZBL) were reviewed and are summarized in Table 10. An excerpt from the ZBL is provided in Appendix H.

Table 10: ZBL Bicycle Parking Requirements

Proposed Use	ZBL Use	Parking Rate	Required Spaces	Provided Spaces	Surplus / Deficit
Apartments (209 units)	Apartment Dwelling Unit	0.5 space per unit	105	128	+23

The proposed bicycle parking supply will exceed the minimum requirements of the ZBL. However, the ZBL does not provide guidance on whether these spaces should be divided into short term (i.e. visitor) and long term (i.e. resident and employee) spaces. It is recommended that the proposed supply be split into 90% long term and 10% short term, which results 116 long term and 12 short term bicycle spaces.

9.2 Vehicle Parking

9.2.1 Zoning Bylaw Requirements

The vehicular ZBL parking requirements are shown in Table 11. An excerpt from the ZBL is contained in Appendix H.

Table 11: ZBL Vehicle Parking Requirements

Proposed Use	ZBL Use	Size	Rate	Required ¹	Supply	Surplus / Deficit
Apartment - Residents	Apartment Dwelling	134 units	1.20 / unit	161	117	-44
Senior Apartment	Apartment Dwelling	75 units		90	38	-52
Residential Total		209 units		251	155	-96
Apartment - Visitor	Apartment Dwelling: Visitor	209 units	0.1 / unit	21	21	0
Community Hub	Other Community Use	1,816 m²	1 / 56 m²	33	33 ²	0
Total				305	209	-96

Notes: 1. The number of spaces is rounded up to the nearest whole number.

2. As mentioned, this includes the parking spaces on Elm Street which will be signed for community use.

According to ZBL, the development will require 161 resident parking spaces. It is proposed to provide 117 resident spaces, which will result in a deficit of 44 spaces. As well, the development requires 90 senior apartment parking spaces and the development is proposing 38 spaces, resulting in a deficit of 52 spaces.

As noted in Section 8.0, the proposed development will have many robust TDM measures that will discourage the use of motor vehicles. This is expected to reduce vehicle trips and parking demand.

It is also our opinion that the parking demand suggested by the ZBL is overestimating future parking demand for the proposed development, based on the site's proximity to the downtown area, current parking demand trends and future tenant demographics. A

review of the proposed parking supply for the apartment (resident component) and senior apartment is provided below.

9.2.2 Apartment Parking Supply Proxies

A review was completed of other similar developments where parking demand surveys were conducted. The findings are summarized in Table 3.

Table 12: Residential Parking Proxies

Location	Land Use Description	Nearby Amenities within a 10 to 15 min walk	Transit Availability	Parking Rate (per unit)
Subject Site	135 apartments (30% affordable)	• Grocery Store • Restaurants • Retail • Medical Centre • Pharmacy	1 bus route	0.87
695 Niagara Street, Welland	84 apartments ¹ (11% affordable)	• Shopping Mall • Grocery Store	1 bus route	Overall: 0.47 (survey)
699 Niagara Street, Welland	129 apartments ² (18% affordable)	• Convenience Store • Restaurants	1 bus route	Overall: 0.39 (survey)
4750 Huron Street, Niagara Falls	9 apartments ³ (100% affordable)	• Library • Pharmacy • Public Park • Retail Store • Restaurants	2 bus routes	Overall: 0.11 (survey)
555 King Street, Port Colborne (No off-street parking)	8 apartments ³ (100% affordable)	• Pharmacy • Public Park • Retail Store • Restaurants	1 bus route	Overall: 0.25 (on-street parking demand survey)
569 King Street, Port Colborne	23 apartments ³ (100% affordable)		1 bus route	Overall: 0.22 (survey)

It is our opinion that these proxy sites clearly show a pattern of reduced parking demand for similar developments. Therefore, it is our further opinion that the proposed residential parking supply of 0.87 spaces / unit will meet or exceed future resident parking demands.

9.2.3 Senior Apartment Parking

The parking requirements from Zoning By-laws of other municipalities were reviewed and summarized in the Table 13.

Table 13: Senior Apartment Parking Requirements of Other Municipalities

Municipality	ZBL Number	ZBL Use	Parking Rate (space per unit)
Subject Site (proposed rate)			0.50
City of Kingston	96-259	Apartments - Seniors	0.50
Town of Cobourg	066-205	Senior Apartment	0.50
City of Brampton	270-2004	Senior citizen residence	0.50
City of Oshawa	60-94	Senior citizen apartment building	0.27 to 0.50 depending on the area

As demonstrated above, other municipalities have a required parking rate of 0.5 parking spaces/unit for senior's apartments. In addition, senior residents are less likely to rely on vehicles, particularly where developments are located within established communities with access to nearby services and amenities. Many residents are expected to be transitioning from within the local area, further reducing the need for regular vehicle use. Therefore, it is our opinion that the proposed parking supply for the senior apartment will meet or exceed future parking demand.

9.3 Barrier-Free Parking

According to the ZBL 2% of the total parking supply of between 200 and 1,000 spaces be barrier-free parking spaces with an equal distribution of Type A and B parking spaces. This results in a minimum requirement of seven barrier-free spaces (three Type A and four Type B spaces). The subject site proposes 20 barrier-free spaces (ten Type A and ten Type B), which will exceed the minimum ZBL requirement.

9.4 Loading

According to the ZBL, two loading spaces are required for residential uses containing 101 or more dwelling units. Four loading spaces (one space per building) are proposed for the site, which will exceed the ZBL requirements.

10.0 Conclusions

10.1 Traffic Operations

The analysis incorporates several conservative assumptions that likely overestimate future traffic volumes, including the application of seasonal adjustments, conservative traffic redistribution assumptions, and potentially higher-than-expected trip generation. Despite this, under existing and future conditions, during both peak hours, all movements at all study intersections are operating and will operate with excess capacity and minimal delays. No road network improvements are required.

10.2 Site Plan Review

The site is well designed to accommodate all modes of travel. Access and circulation analyses utilizing AutoTURN confirm that the site can accommodate all expected design vehicles.

10.3 Transportation Demand Management (TDM)

The following TDM measures are recommended:

- Internal secured bicycle storage (Long Term).
- Outdoor bicycle racks (short Term).
- Sidewalk Connections.
- TDM information package.
- Unbundled resident parking.
- Parking supply reduction from County requirements.

The proposed TDM measures are expected to reduce vehicle trips and parking demand.

10.4 Parking Review

Bicycle Parking

The proposed bicycle parking supply of 116 spaces will exceed the minimum requirements of the ZBL.

Vehicular Parking

According to the ZBL, the development will require 161 resident parking spaces. It is proposed to provide 116 resident spaces, which will result in a deficit of 45 spaces. However, it is our opinion that the parking rate requirements in the ZBL do not contemplate a development of this type and the impact of the proposed Transportation Demand Management measures that will be implemented in this development.

It is also our opinion that the parking demand suggested by the ZBL is overestimating future parking demand for the proposed development, based on the site's proximity to the downtown area, current parking demand trends and future tenant demographics. A review of the proposed parking supply for the apartments (resident component) and senior's apartments are provided below:

- A review was completed of other similar developments where parking demand surveys were conducted. These proxy sites clearly show a pattern of reduced parking demand (0.11 spaces / unit to 0.47 spaces / unit) for similar developments. Therefore, it is our opinion that the proposed residential parking supply of 0.87 spaces / unit will meet or exceed future parking demand.

- A review of comparable municipal Zoning By-laws indicates a typical parking rate of approximately 0.5 spaces per unit for senior's apartments. Given the reduced reliance on personal vehicles among senior residents, particularly in established, well-served communities, the proposed parking supply is expected to meet or exceed future parking demand.

Barrier-Free Parking

Based on the ZBL, the minimum requirement is seven barrier-free spaces (three Type A and four Type B spaces). The subject site proposes 20 barrier-free spaces (ten Type A and ten Type B), which will exceed the minimum ZBL requirement.

Loading

Four loading spaces (one space per building) are proposed for the site, which will exceed the ZBL requirements of two loading spaces.



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Appendix A

Terms of Reference

Cedric Mosdell

From: Robert MacDonald <rmacdonald@pecounty.on.ca>
Sent: Thursday, November 13, 2025 1:17 PM
To: Cindy Chung
Cc: Cedric Mosdell; David Angelakis; David MacPherson
Subject: RE: 35 Barter St - QES Redevelopment - Transportation Terms of Reference
Attachments: 8175 20201217 Draft Plan D6.pdf; 2011.01.01- Traffic Impact Study.pdf; 2017.07.07- Traffic Impact Letter Addendum.pdf

Cindy,

What you have requested below is acceptable. But you will need to provide a correction factor for traffic counts, as the counts need to reflect peak summer volume. Your study may assume that Barker will stay as a single lane, but if this changes when the reconstruction takes place, you will need to update your report to include the final design of Barker St. Background traffic from the development needs to be included, and I have provided the original TIS and the addendum.

Regards,

Robert MacDonald, P.Eng.

Development Engineer
Department of Development Services
The Corporation of the County of Prince Edward
T: 613.476.2148 ext. 2007 | F: 613.471.2050
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From: Cindy Chung <Cindy.Chung@rjburnside.com>
Sent: November 13, 2025 9:40 AM
To: Robert MacDonald <rmacdonald@pecounty.on.ca>
Cc: Cedric Mosdell <Cedric.Mosdell@rjburnside.com>; David Angelakis <David.Angelakis@rjburnside.com>; David MacPherson <dmacpherson@pecounty.on.ca>
Subject: RE: 35 Barter St - QES Redevelopment - Transportation Terms of Reference

Hi Robert,

I wanted to follow up regarding the Transportation Study Terms of Reference below. We're hoping to conduct the traffic counts before snowfall returns. Given the time constraints, if possible, we'd appreciate receiving feedback specifically on the list of study intersections and proposed count timeframe (outlined below), so that we can proceed with engaging our surveyors in the meantime.

We apologize for the short turnaround and appreciate your understanding and assistance.

Thanks,
Cindy

Cindy Chung, P.Eng.
Transportation Engineer

R.J. Burnside & Associates Limited | www.rjburnside.com
Office: +1 800-265-9662 Direct: +1 289-545-1071

From: Cedric Mosdell <Cedric.Mosdell@rjburnside.com>

Sent: Tuesday, November 11, 2025 3:14 PM

To: Robert MacDonald <rmacdonald@pecounty.on.ca>

Cc: David Angelakis <David.Angelakis@rjburnside.com>; Cindy Chung <Cindy.Chung@rjburnside.com>; David MacPherson <dmacpherson@pecounty.on.ca>; abunamici@pecounty.on.ca.

Subject: 35 Barter St - QES Redevelopment - Transportation Terms of Reference

Hi Robert,

We hope you are doing well.

We would like to consult with you on the proposed Transportation Study Terms of Reference for the proposed residential redevelopment of the former Queen Elizabeth School located at 35 Barter Street in Picton. It is proposed to add 222 townhomes and a 20,500 ft² community hub. We propose the following scope:

Study Intersections

- Centre Street / Elm Street
- Centre Street / Barker Street
- Barker Street / Elizabeth Street
- Johnson Street / Barker Street
- Elm Street / Proposed Driveway
- Barker Street / Proposed Driveway

Analysis Periods

- Weekday AM peak period (7:00 to 9:00AM)
- Weekday PM peak period (4:00 to 6:00PM)

Traffic Counts

- Traffic counts will be undertaken for the above study intersections during the analysis periods.

Analysis Scenarios

- Existing Conditions
- Future Conditions (Background and Total) with a 5-year horizon of 2035, assuming full build-out in 2030

Background Developments

- Please advise if there are any background developments in the area that should be included in our analysis
- It is our understanding that there is an approved subdivision development at 21 Barker Street. Can you please confirm whether we should include this in our analysis? If so, can you please send us the most recent draft plan and transportation study documents?

Background Traffic Growth

- It is not proposed to apply a corridor growth rate to the study roadways as the neighbourhood is currently built out. Background traffic will consist of background developments in the area, if applicable.

Traffic Operations Analysis

- Operational analysis of study area intersections will be performed with Synchro software (version 12), based on Highway Capacity Manual methodologies
- Weekday AM and PM peak hours for existing, background and total traffic (background plus site traffic) scenarios will be analyzed for the horizon year

Trip Generation / Trip Distribution

- Estimated site traffic will be based on ITE's Trip Generation Manual, 12th Edition
- Trip distribution will be based on existing traffic patterns and TTS data

Future Road / Transit / Active Transportation Network

- It is our understanding that there may be future road improvements for Barker Street. However, the specific improvements have not been identified and will be subject to Council approval in the next month. As per your conversation with our team, should we examine Barker Street as a one-way street, as it is currently?
- Review transit plans and active transportation improvements within the study area. Are you aware of any other improvements proposed that we should consider?

Site Plan Review

- High level review of the site plan (access locations, site geometrics, parking lot layout, loading/refuse access)

Parking Review

- The proposed parking supply will be reviewed against the County's Zoning by-law requirements

Please let us know if you have any questions.

Thank you,
Cedric


Cedric Mosdell, M.Eng, EIT
Transportation Planner

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Appendix B

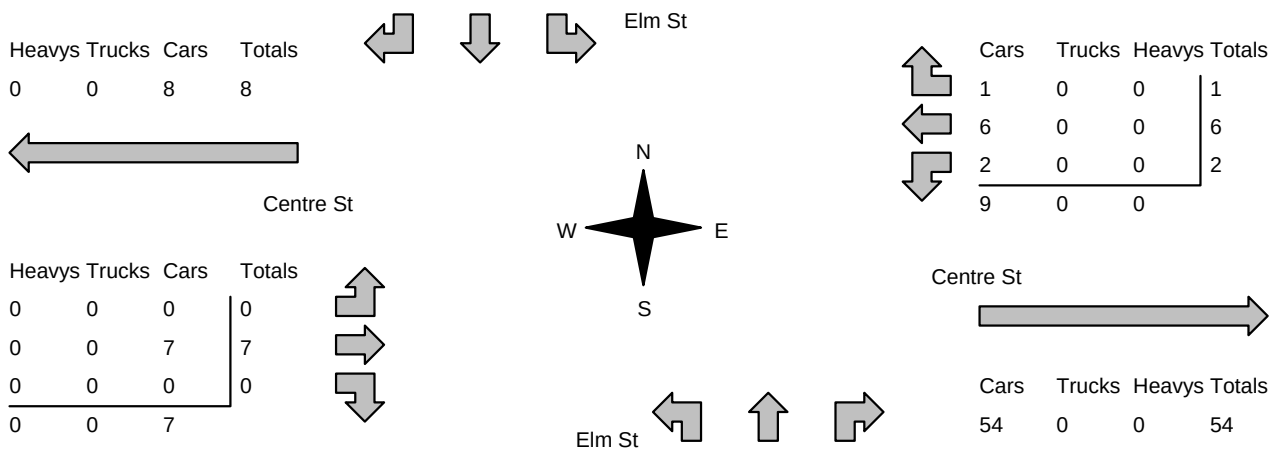
Existing and Historical Traffic Volumes

Accu-Traffic Inc.

Morning Peak Diagram	Specified Period From: 7:00:00 To: 9:00:00	One Hour Peak From: 7:45:00 To: 8:45:00
Municipality: Picton Site #: 2517900001 Intersection: Centre St & Elm St TFR File #: 1 Count date: 20-Nov-25	Weather conditions: Person counted: Person prepared: Person checked:	
** Non-Signalized Intersection **	Major Road: Centre St runs W/E	

North Leg Total: 49 North Entering: 48 North Peds: 4 Peds Cross:	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Cars</td><td>2</td><td>1</td><td>45</td><td>48</td></tr> <tr><td>Totals</td><td>2</td><td>1</td><td>45</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	0	0	0	0	Cars	2	1	45	48	Totals	2	1	45		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Cars</td><td>1</td></tr> <tr><td>Totals</td><td>1</td></tr> </table>	Heavys	0	Trucks	0	Cars	1	Totals	1	East Leg Total: 63 East Entering: 9 East Peds: 1 Peds Cross:
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Trucks	0	0	0	0																											
Cars	2	1	45	48																											
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Cars	1																														
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Heavys	Trucks	Cars	Totals
0	0	8	8



Cars	Trucks	Heavys	Totals
1	0	0	1
6	0	0	6
2	0	0	2
9	0	0	

Peds Cross: West Peds: 15 West Entering: 7 West Leg Total: 15	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>3</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>3</td></tr> </table>	Cars	3	Trucks	0	Heavys	0	Totals	3	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>0</td><td>0</td><td>2</td><td>2</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>0</td><td>0</td><td>2</td><td></td></tr> </table>	Cars	0	0	2	2	Trucks	0	0	0	0	Heavys	0	0	0	0	Totals	0	0	2		Peds Cross: South Peds: 6 South Entering: 2 South Leg Total: 5
Cars	3																														
Trucks	0																														
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Totals	3																														
Cars	0	0	2	2																											
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Heavys	0	0	0	0																											
Totals	0	0	2																												

Comments

Accu-Traffic Inc.

Afternoon Peak Diagram	Specified Period From: 16:00:00 To: 18:00:00	One Hour Peak From: 16:30:00 To: 17:30:00
Municipality: Picton Site #: 2517900001 Intersection: Centre St & Elm St TFR File #: 1 Count date: 20-Nov-25	Weather conditions: Person counted: Person prepared: Person checked:	
** Non-Signalized Intersection **	Major Road: Centre St runs W/E	

North Leg Total: 1 North Entering: 1 North Peds: 3 Peds Cross:	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Cars</td><td>1</td><td>0</td><td>0</td><td>1</td></tr> <tr style="border-top: 1px solid black;"><td>Totals</td><td>1</td><td>0</td><td>0</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	0	0	0	0	Cars	1	0	0	1	Totals	1	0	0		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Cars</td><td>0</td></tr> <tr style="border-top: 1px solid black;"><td>Totals</td><td>0</td></tr> </table>	Heavys	0	Trucks	0	Cars	0	Totals	0	East Leg Total: 20 East Entering: 13 East Peds: 1 Peds Cross:
Heavys	0	0	0	0																											
Trucks	0	0	0	0																											
Cars	1	0	0	1																											
Totals	1	0	0																												
Heavys	0																														
Trucks	0																														
Cars	0																														
Totals	0																														

Heavys	Trucks	Cars	Totals
0	0	12	12

N
 W ——— E
 S

Cars	Trucks	Heavys	Totals
0	0	0	0
11	0	0	11
2	0	0	2
13	0	0	

Centre St

Heavys	Trucks	Cars	Totals
0	0	0	0
0	0	6	6
0	0	0	0
0	0	6	

N
 W ——— E
 S

Cars	Trucks	Heavys	Totals
7	0	0	7

Centre St

Peds Cross: West Peds: 1 West Entering: 6 West Leg Total: 18	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>2</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr style="border-top: 1px solid black;"><td>Totals</td><td>2</td></tr> </table>	Cars	2	Trucks	0	Heavys	0	Totals	2	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr style="border-top: 1px solid black;"><td>Totals</td><td>0</td><td>0</td><td>1</td><td></td></tr> </table>	Cars	0	0	1	1	Trucks	0	0	0	0	Heavys	0	0	0	0	Totals	0	0	1		Peds Cross: South Peds: 3 South Entering: 1 South Leg Total: 3
Cars	2																														
Trucks	0																														
Heavys	0																														
Totals	2																														
Cars	0	0	1	1																											
Trucks	0	0	0	0																											
Heavys	0	0	0	0																											
Totals	0	0	1																												

Comments

Accu-Traffic Inc.

Morning Peak Diagram		Specified Period From: 7:00:00 To: 9:00:00	One Hour Peak From: 7:45:00 To: 8:45:00
Municipality: Picton Site #: 2517900002 Intersection: Barker St & Centre St TFR File #: 1 Count date: 20-Nov-25		Weather conditions: Person counted: Person prepared: Person checked:	
** Non-Signalized Intersection **		Major Road: Barker St runs N/S	

North Leg Total: 72 North Entering: 0 North Peds: 4 Peds Cross:	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Cars</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </table>	Heavys	0	0	0	0	Trucks	0	0	0	0	Cars	0	0	0	0	Totals	0	0	0	0		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>2</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Cars</td><td>70</td></tr> <tr><td>Totals</td><td>72</td></tr> </table>	Heavys	2	Trucks	0	Cars	70	Totals	72	East Leg Total: 65 East Entering: 12 East Peds: 2 Peds Cross:
Heavys	0	0	0	0																												
Trucks	0	0	0	0																												
Cars	0	0	0	0																												
Totals	0	0	0	0																												
Heavys	2																															
Trucks	0																															
Cars	70																															
Totals	72																															

Heavys	Trucks	Cars	Totals
0	0	9	9

Centre St

Barker St

Heavys	Trucks	Cars	Totals
0	0	3	3
0	1	50	51
0	0	0	0
0	1	53	

N
S
E
W

Barker St

Cars	Trucks	Heavys	Totals
6	0	1	7
5	0	0	5
0	0	0	0
11	0	1	

Centre St

Cars	Trucks	Heavys	Totals
52	1	0	53

Peds Cross: West Peds: 22 West Entering: 54 West Leg Total: 63	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>0</td></tr> </table>	Cars	0	Trucks	0	Heavys	0	Totals	0		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>4</td><td>61</td><td>2</td><td>67</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>Totals</td><td>4</td><td>62</td><td>2</td><td></td></tr> </table>	Cars	4	61	2	67	Trucks	0	0	0	0	Heavys	0	1	0	1	Totals	4	62	2		Peds Cross: South Peds: 3 South Entering: 68 South Leg Total: 68
Cars	0																															
Trucks	0																															
Heavys	0																															
Totals	0																															
Cars	4	61	2	67																												
Trucks	0	0	0	0																												
Heavys	0	1	0	1																												
Totals	4	62	2																													

Comments

Accu-Traffic Inc.

Afternoon Peak Diagram		Specified Period From: 16:00:00 To: 18:00:00	One Hour Peak From: 16:15:00 To: 17:15:00
Municipality: Picton Site #: 2517900002 Intersection: Barker St & Centre St TFR File #: 1 Count date: 20-Nov-25		Weather conditions: Person counted: Person prepared: Person checked:	
** Non-Signalized Intersection **		Major Road: Barker St runs N/S	

North Leg Total: 44 North Entering: 0 North Peds: 4 Peds Cross:	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Cars</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </table>	Heavys	0	0	0	0	Trucks	0	0	0	0	Cars	0	0	0	0	Totals	0	0	0	0	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>3</td></tr> <tr><td>Trucks</td><td>1</td></tr> <tr><td>Cars</td><td>40</td></tr> <tr><td>Totals</td><td>44</td></tr> </table>	Heavys	3	Trucks	1	Cars	40	Totals	44	East Leg Total: 17 East Entering: 12 East Peds: 0 Peds Cross:
Heavys	0	0	0	0																											
Trucks	0	0	0	0																											
Cars	0	0	0	0																											
Totals	0	0	0	0																											
Heavys	3																														
Trucks	1																														
Cars	40																														
Totals	44																														

Heavys	Trucks	Cars	Totals
0	0	13	13

Centre St

Heavys	Trucks	Cars	Totals
0	0	1	1
0	0	5	5
0	0	0	0
0	0	6	

N
S
W
E

Barker St

Cars	Trucks	Heavys	Totals
2	0	0	2
10	0	0	10
0	0	0	0
12	0	0	

Centre St

Cars	Trucks	Heavys	Totals
5	0	0	5

Peds Cross: West Peds: 9 West Entering: 6 West Leg Total: 19	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>0</td></tr> </table>	Cars	0	Trucks	0	Heavys	0	Totals	0	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>3</td><td>37</td><td>0</td><td>40</td></tr> <tr><td>Trucks</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>Heavys</td><td>0</td><td>3</td><td>0</td><td>3</td></tr> <tr><td>Totals</td><td>3</td><td>41</td><td>0</td><td></td></tr> </table>	Cars	3	37	0	40	Trucks	0	1	0	1	Heavys	0	3	0	3	Totals	3	41	0		Peds Cross: South Peds: 6 South Entering: 44 South Leg Total: 44
Cars	0																														
Trucks	0																														
Heavys	0																														
Totals	0																														
Cars	3	37	0	40																											
Trucks	0	1	0	1																											
Heavys	0	3	0	3																											
Totals	3	41	0																												

Comments

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:30:00

To: 8:30:00

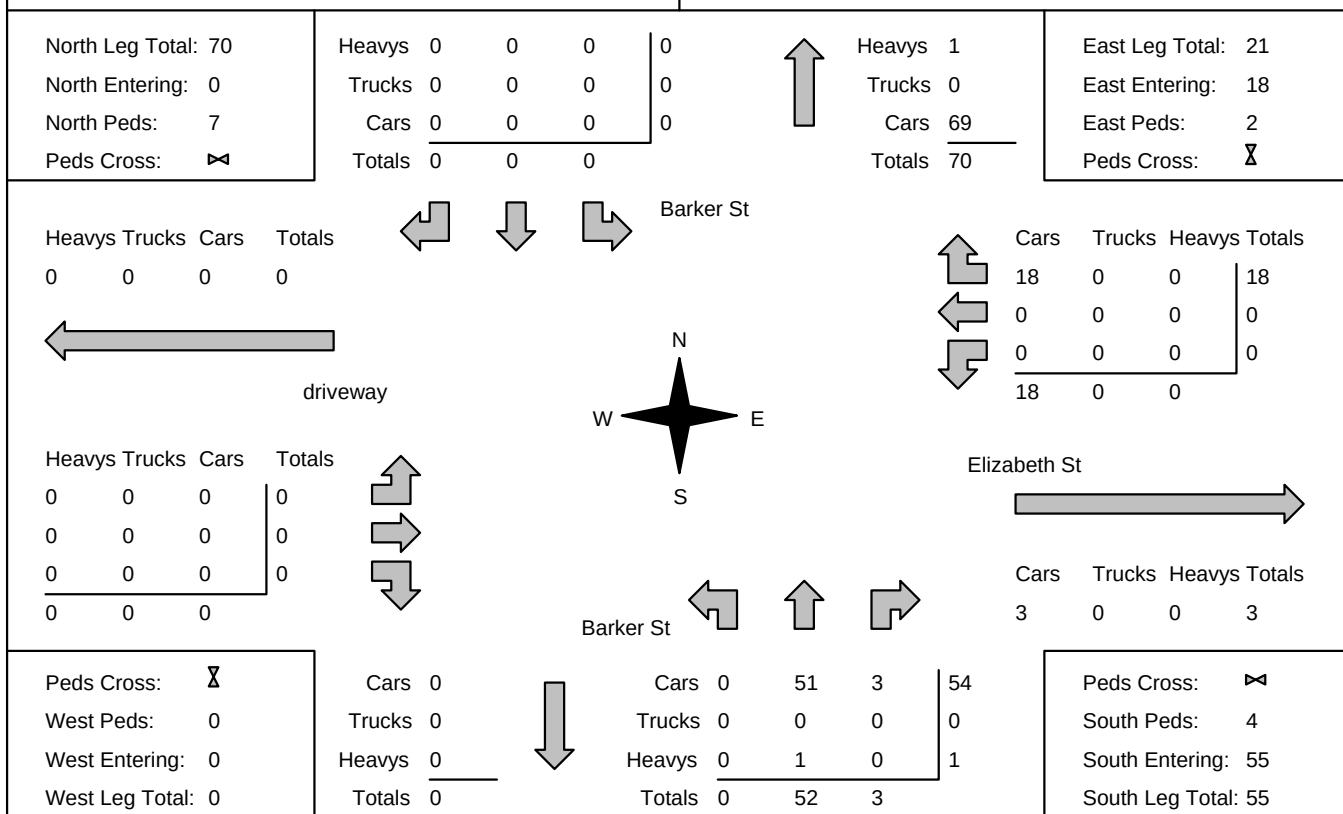
Municipality: Picton
Site #: 2517900003
Intersection: Barker St & Elizabeth St
TFR File #: 1
Count date: 20-Nov-25

Weather conditions:

Person counted:
Person prepared:
Person checked:

** Non-Signalized Intersection **

Major Road: Barker St runs N/S



Comments

Accu-Traffic Inc.

Afternoon Peak Diagram	Specified Period From: 16:00:00 To: 18:00:00	One Hour Peak From: 16:15:00 To: 17:15:00
Municipality: Picton Site #: 2517900003 Intersection: Barker St & Elizabeth St TFR File #: 1 Count date: 20-Nov-25	Weather conditions: Person counted: Person prepared: Person checked:	
** Non-Signalized Intersection **	Major Road: Barker St runs N/S	

North Leg Total: 44 North Entering: 0 North Peds: 4 Peds Cross:	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Cars</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </table>	Heavys	0	0	0	0	Trucks	0	0	0	0	Cars	0	0	0	0	Totals	0	0	0	0	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>3</td></tr> <tr><td>Trucks</td><td>1</td></tr> <tr><td>Cars</td><td>40</td></tr> <tr><td>Totals</td><td>44</td></tr> </table>	Heavys	3	Trucks	1	Cars	40	Totals	44	East Leg Total: 14 East Entering: 12 East Peds: 1 Peds Cross:
Heavys	0	0	0	0																											
Trucks	0	0	0	0																											
Cars	0	0	0	0																											
Totals	0	0	0	0																											
Heavys	3																														
Trucks	1																														
Cars	40																														
Totals	44																														

Heavys	Trucks	Cars	Totals
0	0	0	0

driveway

Heavys	Trucks	Cars	Totals
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

Barker St

N
S
W
E

Barker St

Cars	Trucks	Heavys	Totals
11	1	0	12
0	0	0	0
0	0	0	0
11	1	0	

Elizabeth St

Cars	Trucks	Heavys	Totals
2	0	0	2

Peds Cross: West Peds: 0 West Entering: 0 West Leg Total: 0	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>0</td></tr> </table>	Cars	0	Trucks	0	Heavys	0	Totals	0	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>0</td><td>29</td><td>2</td><td>31</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Heavys</td><td>0</td><td>3</td><td>0</td><td>3</td></tr> <tr><td>Totals</td><td>0</td><td>32</td><td>2</td><td></td></tr> </table>	Cars	0	29	2	31	Trucks	0	0	0	0	Heavys	0	3	0	3	Totals	0	32	2		Peds Cross: South Peds: 6 South Entering: 34 South Leg Total: 34
Cars	0																														
Trucks	0																														
Heavys	0																														
Totals	0																														
Cars	0	29	2	31																											
Trucks	0	0	0	0																											
Heavys	0	3	0	3																											
Totals	0	32	2																												

Comments

Accu-Traffic Inc.

Morning Peak Diagram	Specified Period From: 7:00:00 To: 9:00:00	One Hour Peak From: 7:45:00 To: 8:45:00
Municipality: Picton Site #: 2517900004 Intersection: Johnson St & Barker St TFR File #: 1 Count date: 20-Nov-25	Weather conditions: Person counted: Person prepared: Person checked:	
** Non-Signalized Intersection **	Major Road: Johnson St runs W/E	

	East Leg Total: 383 East Entering: 215 East Peds: 1 Peds Cross: 8
--	--

<table style="width: 100%;"> <tr><th>Heavys</th><th>Trucks</th><th>Cars</th><th>Totals</th></tr> <tr><td>9</td><td>0</td><td>203</td><td>212</td></tr> </table> Johnson St	Heavys	Trucks	Cars	Totals	9	0	203	212	N W E S	<table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>145</td><td>0</td><td>3</td><td>148</td></tr> <tr><td>49</td><td>0</td><td>18</td><td>67</td></tr> <tr><td>194</td><td>0</td><td>21</td><td></td></tr> </table> Johnson St	Cars	Trucks	Heavys	Totals	145	0	3	148	49	0	18	67	194	0	21	
Heavys	Trucks	Cars	Totals																							
9	0	203	212																							
Cars	Trucks	Heavys	Totals																							
145	0	3	148																							
49	0	18	67																							
194	0	21																								

<table style="width: 100%;"> <tr><th>Heavys</th><th>Trucks</th><th>Cars</th><th>Totals</th></tr> <tr><td>1</td><td>0</td><td>131</td><td>132</td></tr> <tr><td>7</td><td>0</td><td>45</td><td>52</td></tr> <tr><td>8</td><td>0</td><td>176</td><td></td></tr> </table>	Heavys	Trucks	Cars	Totals	1	0	131	132	7	0	45	52	8	0	176		W E S	<table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>163</td><td>0</td><td>5</td><td>168</td></tr> </table> Johnson St	Cars	Trucks	Heavys	Totals	163	0	5	168
Heavys	Trucks	Cars	Totals																							
1	0	131	132																							
7	0	45	52																							
8	0	176																								
Cars	Trucks	Heavys	Totals																							
163	0	5	168																							

Peds Cross: 8 West Peds: 1 West Entering: 184 West Leg Total: 396	W E S	<table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>94</td><td>0</td><td>25</td><td>119</td></tr> </table>	Cars	Trucks	Heavys	Totals	94	0	25	119	<table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>58</td><td>0</td><td>6</td><td>64</td></tr> </table>	Cars	Trucks	Heavys	Totals	58	0	6	64
Cars	Trucks	Heavys	Totals																
94	0	25	119																
Cars	Trucks	Heavys	Totals																
58	0	6	64																

Peds Cross: 8 South Peds: 27 South Entering: 100 South Leg Total: 219	W E S	<table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>32</td><td>0</td><td>4</td><td>36</td></tr> </table>	Cars	Trucks	Heavys	Totals	32	0	4	36	<table style="width: 100%;"> <tr><th>Cars</th><th>Trucks</th><th>Heavys</th><th>Totals</th></tr> <tr><td>90</td><td>0</td><td>10</td><td></td></tr> </table>	Cars	Trucks	Heavys	Totals	90	0	10	
Cars	Trucks	Heavys	Totals																
32	0	4	36																
Cars	Trucks	Heavys	Totals																
90	0	10																	

Comments

Accu-Traffic Inc.

Afternoon Peak Diagram	Specified Period From: 16:00:00 To: 18:00:00	One Hour Peak From: 16:00:00 To: 17:00:00
Municipality: Picton Site #: 2517900004 Intersection: Johnson St & Barker St TFR File #: 1 Count date: 20-Nov-25	Weather conditions: Person counted: Person prepared: Person checked:	
** Non-Signalized Intersection **	Major Road: Johnson St runs W/E	

	East Leg Total: 309 East Entering: 146 East Peds: 0 Peds Cross: 8
--	--

Heavys	Trucks	Cars	Totals
6	2	190	198

Johnson St

Cars	Trucks	Heavys	Totals
132	2	4	138
7	0	1	8
139	2	5	

Johnson St

Heavys	Trucks	Cars	Totals
4	2	148	154
0	0	24	24
4	2	172	

Barker St

Cars	Trucks	Heavys	Totals
157	2	4	163

Peds Cross: 8 West Peds: 0 West Entering: 178 West Leg Total: 376	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>31</td></tr> <tr><td>Trucks</td><td>0</td></tr> <tr><td>Heavys</td><td>1</td></tr> <tr><td style="border-top: 1px solid black;">Totals</td><td style="border-top: 1px solid black;">32</td></tr> </table>	Cars	31	Trucks	0	Heavys	1	Totals	32	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>58</td><td>9</td><td>67</td></tr> <tr><td>Trucks</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Heavys</td><td>2</td><td>0</td><td>2</td></tr> <tr><td style="border-top: 1px solid black;">Totals</td><td style="border-top: 1px solid black;">60</td><td style="border-top: 1px solid black;">9</td><td></td></tr> </table>	Cars	58	9	67	Trucks	0	0	0	Heavys	2	0	2	Totals	60	9		Peds Cross: 1 South Peds: 1 South Entering: 69 South Leg Total: 101
Cars	31																										
Trucks	0																										
Heavys	1																										
Totals	32																										
Cars	58	9	67																								
Trucks	0	0	0																								
Heavys	2	0	2																								
Totals	60	9																									

Comments

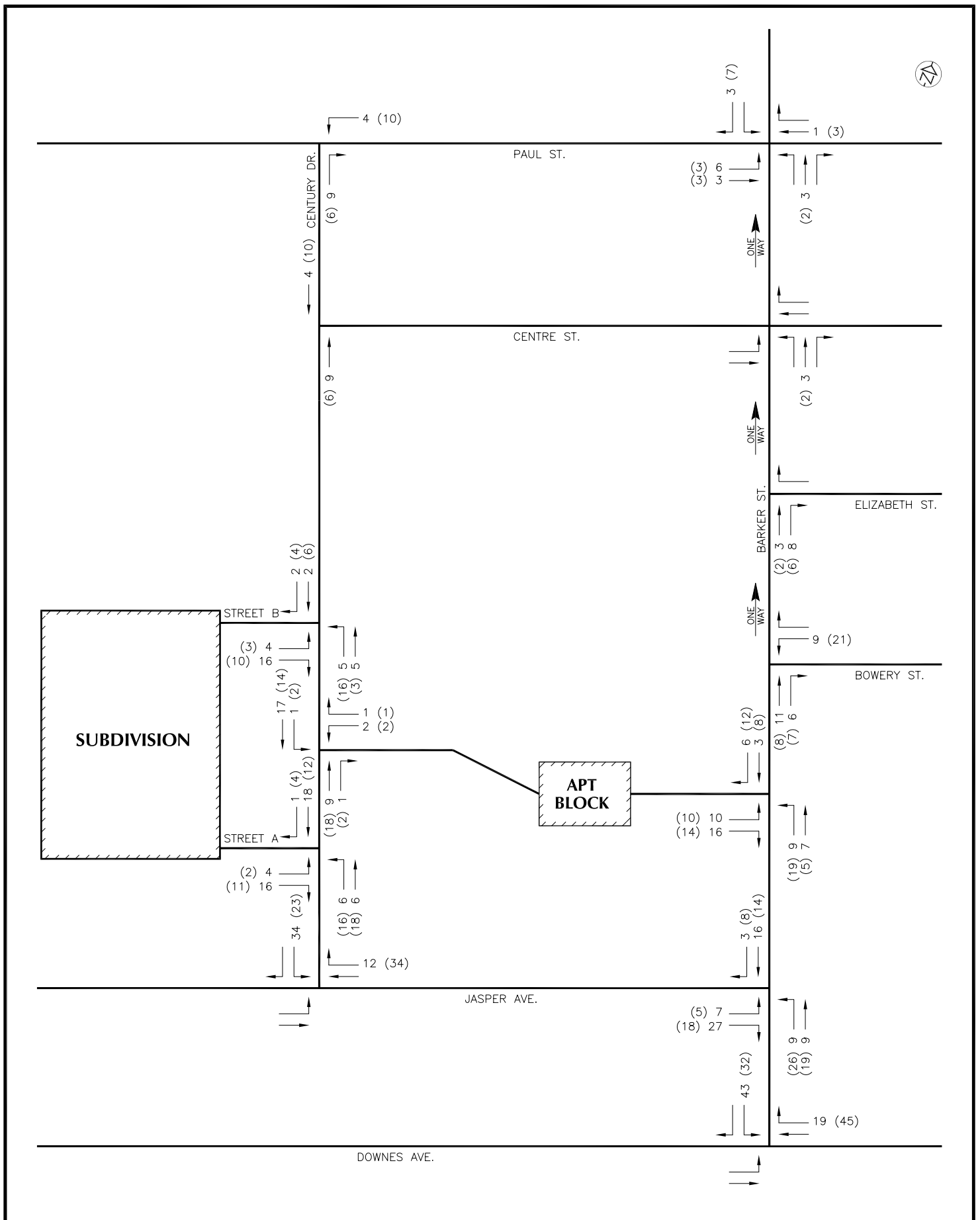


BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

Background Development Traffic



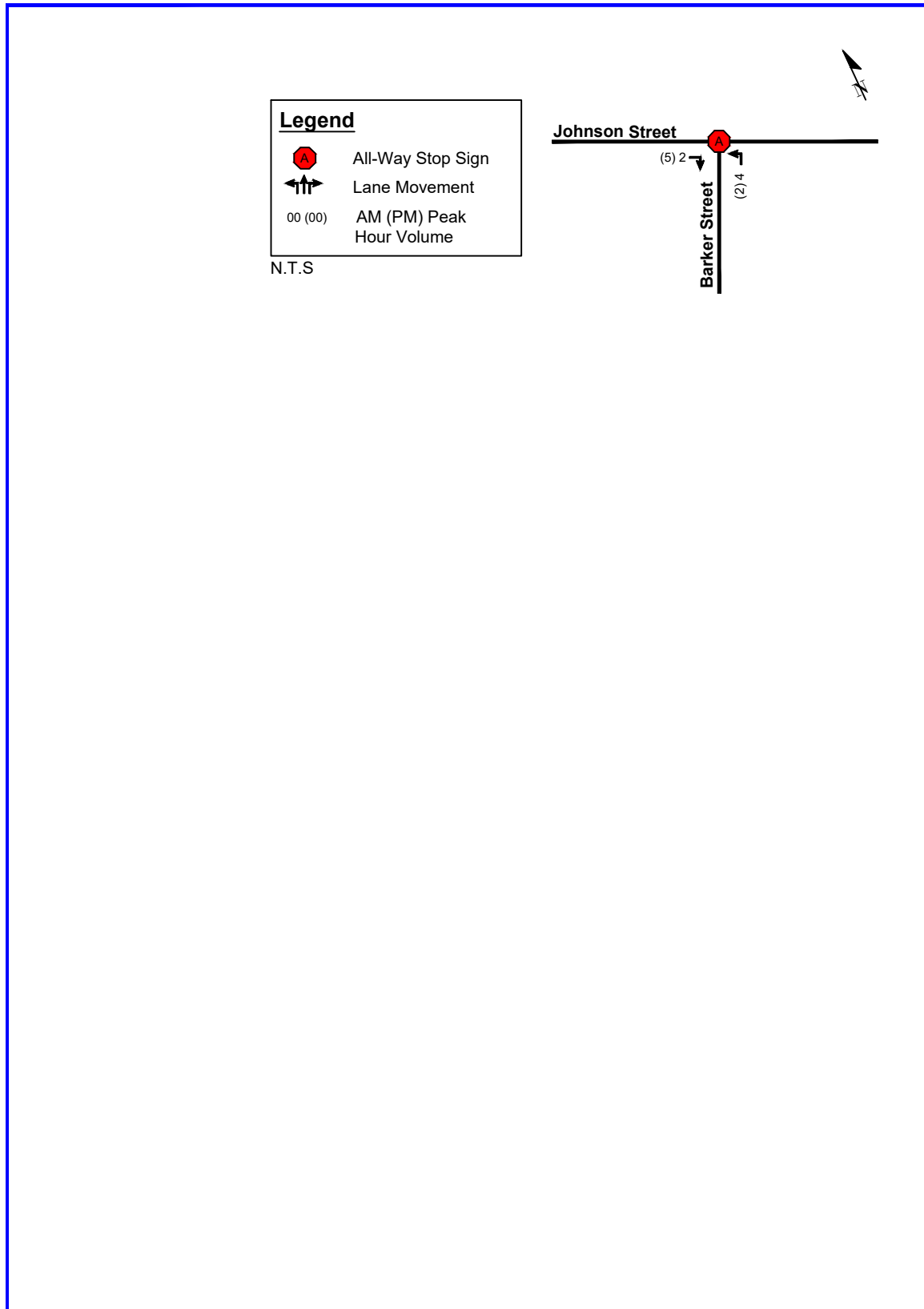
LEGEND

- 48 A.M. PEAK HOUR VOLUME
- (11) P.M. PEAK HOUR VOLUME

SITE TRAFFIC

FIGURE 5

21 Barker Street Development - Phase 2





BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix D

Existing Traffic Operations

HCM Unsignalized Intersection Capacity Analysis

Existing AM Conditions

1: Barker St & Johnson Street

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	198	78	101	222	96	54
Future Volume (vph)	198	78	101	222	96	54
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	244	96	125	274	119	67
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	340	399	186			
Volume Left (vph)	0	125	119			
Volume Right (vph)	96	0	67			
Hadj (s)	-0.09	0.23	0.11			
Departure Headway (s)	4.9	5.2	5.8			
Degree Utilization, x	0.47	0.57	0.30			
Capacity (veh/h)	696	676	556			
Control Delay (s/veh)	12.2	14.9	11.3			
Approach Delay (s/veh)	12.2	14.9	11.3			
Approach LOS	B	B	B			
Intersection Summary						
Delay			13.2			
Level of Service			B			
Intersection Capacity Utilization			52.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Existing AM Conditions

2: Barker Street & Centre Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	5	77	0	0	8	11	6	93	3	0	0	0
Future Volume (vph)	5	77	0	0	8	11	6	93	3	0	0	0
Peak Hour Factor	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Hourly flow rate (vph)	9	143	0	0	15	20	11	172	6	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1									
Volume Total (vph)	152	35	189									
Volume Left (vph)	9	0	11									
Volume Right (vph)	0	20	6									
Hadj (s)	0.01	-0.21	0.02									
Departure Headway (s)	4.4	4.3	4.4									
Degree Utilization, x	0.19	0.04	0.23									
Capacity (veh/h)	776	781	793									
Control Delay (s/veh)	8.4	7.5	8.6									
Approach Delay (s/veh)	8.4	7.5	8.6									
Approach LOS	A	A	A									
Intersection Summary												
Delay			8.4									
Level of Service			A									
Intersection Capacity Utilization			25.5%	ICU Level of Service		A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Existing AM Conditions

3: Elm Street & Centre Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	11	0	3	9	2	0	0	3	68	2	3
Future Volume (Veh/h)	0	11	0	3	9	2	0	0	3	68	2	3
Sign Control	Free				Free				Stop			
Grade	0%				0%				0%			
Peak Hour Factor	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Hourly flow rate (vph)	0	24	0	7	20	4	0	0	7	148	4	7
Pedestrians	4				6				15			
Lane Width (m)	3.7				3.7				3.7			
Walking Speed (m/s)	1.1				1.1				1.1			
Percent Blockage	0				1				1			
Right turn flare (veh)												
Median type	None				None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	25			39			88	78	45	74	76	27
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	25			39			88	78	45	74	76	27
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	83	100	99
cM capacity (veh/h)	1601			1562			864	800	1010	895	802	1049
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	24	31	7	159								
Volume Left	0	7	0	148								
Volume Right	0	4	7	7								
cSH	1601	1562	1010	899								
Volume to Capacity	0.00	0.00*	0.00*	0.18								
Queue Length 95th (m)	0.0	0.1	0.2	4.9								
Control Delay (s/veh)	0.0	1.7	8.6	9.9								
Lane LOS	A		A	A								
Approach Delay (s/veh)	0.0	1.7	8.6	9.9								
Approach LOS			A	A								
Intersection Summary												
Average Delay			7.6									
Intersection Capacity Utilization			25.0%	ICU Level of Service				A				
Analysis Period (min)			15									

* Value less than 0.01.

4: Barker Street & Elizabeth Street

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	27	78	5	0	0
Future Volume (Veh/h)	0	27	78	5	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	0	39	111	7	0	0
Pedestrians	2		4			7
Lane Width (m)	3.7		3.7			0.0
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	121	124			120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	121	124			120	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	875	931			1478	
Direction, Lane #	WB 1	NB 1				
Volume Total	39	118				
Volume Left	0	0				
Volume Right	39	7				
cSH	931	1700				
Volume to Capacity	0.04	0.07				
Queue Length 95th (m)	1.0	0.0				
Control Delay (s/veh)	9.0	0.0				
Lane LOS	A					
Approach Delay (s/veh)	9.0	0.0				
Approach LOS	A					
Intersection Summary						
Average Delay		2.2				
Intersection Capacity Utilization		17.1%		ICU Level of Service		A
Analysis Period (min)		15				
* Value less than 0.01.						

HCM Unsignalized Intersection Capacity Analysis

Existing PM Conditions

1: Barker St & Johnson Street

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↰	↰	
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	231	36	12	207	90	14
Future Volume (vph)	231	36	12	207	90	14
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	260	40	13	233	101	16
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	300	246	117			
Volume Left (vph)	0	13	101			
Volume Right (vph)	40	0	16			
Hadj (s)	-0.04	0.07	0.13			
Departure Headway (s)	4.5	4.6	5.3			
Degree Utilization, x	0.37	0.32	0.17			
Capacity (veh/h)	779	745	622			
Control Delay (s/veh)	10.1	9.8	9.4			
Approach Delay (s/veh)	10.1	9.8	9.4			
Approach LOS	B	A	A			
Intersection Summary						
Delay			9.9			
Level of Service			A			
Intersection Capacity Utilization			33.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

Existing PM Conditions

2: Barker Street & Centre Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	8	0	0	15	3	5	62	0	0	0	0
Future Volume (vph)	2	8	0	0	15	3	5	62	0	0	0	0
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Hourly flow rate (vph)	4	15	0	0	28	6	9	117	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1									
Volume Total (vph)	19	34	126									
Volume Left (vph)	4	0	9									
Volume Right (vph)	0	6	0									
Hadj (s)	0.04	-0.11	0.12									
Departure Headway (s)	4.3	4.1	4.1									
Degree Utilization, x	0.02	0.04	0.14									
Capacity (veh/h)	815	849	849									
Control Delay (s/veh)	7.4	7.3	7.8									
Approach Delay (s/veh)	7.4	7.3	7.8									
Approach LOS	A	A	A									
Intersection Summary												
Delay			7.7									
Level of Service			A									
Intersection Capacity Utilization			19.2%	ICU Level of Service				A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

Existing PM Conditions

3: Elm Street & Centre Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	0	3	17	0	0	0	2	2	0	0
Future Volume (Veh/h)	0	9	0	3	17	0	0	0	2	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Hourly flow rate (vph)	0	17	0	6	32	0	0	0	4	4	0	0
Pedestrians		1			1			3			3	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	35			20			65	67	21	69	67	36
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	35			20			65	67	21	69	67	36
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1585			1605			924	820	1058	915	820	1038
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	17	38	4	4								
Volume Left	0	6	0	4								
Volume Right	0	0	4	0								
cSH	1585	1605	1058	915								
Volume to Capacity	0.00	0.00*	0.00*	0.00*								
Queue Length 95th (m)	0.0	0.1	0.1	0.1								
Control Delay (s/veh)	0.0	1.2	8.4	9.0								
Lane LOS		A	A	A								
Approach Delay (s/veh)	0.0	1.2	8.4	9.0								
Approach LOS			A	A								
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization			14.7%	ICU Level of Service					A			
Analysis Period (min)			15									
* Value less than 0.01.												

4: Barker Street & Elizabeth Street

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	18	48	3	0	0
Future Volume (Veh/h)	0	18	48	3	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Hourly flow rate (vph)	0	30	79	5	0	0
Pedestrians	1		6			4
Lane Width (m)	3.7		3.7			0.0
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	0		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	89	87			85	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	89	87			85	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	911	977			1523	
Direction, Lane #	WB 1	NB 1				
Volume Total	30	84				
Volume Left	0	0				
Volume Right	30	5				
cSH	977	1700				
Volume to Capacity	0.03	0.05				
Queue Length 95th (m)	0.7	0.0				
Control Delay (s/veh)	8.8	0.0				
Lane LOS	A					
Approach Delay (s/veh)	8.8	0.0				
Approach LOS	A					
Intersection Summary						
Average Delay		2.3				
Intersection Capacity Utilization		14.9%		ICU Level of Service		A
Analysis Period (min)		15				
* Value less than 0.01.						



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix E

Background Traffic Operations

HCM Unsignalized Intersection Capacity Analysis

1: Barker St & Johnson Street

BG AM Conditions

Two-Way

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	198	83	101	222	109	54
Future Volume (vph)	198	83	101	222	109	54
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	244	102	125	274	135	67
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	346	399	202			
Volume Left (vph)	0	125	135			
Volume Right (vph)	102	0	67			
Hadj (s)	-0.10	0.23	0.13			
Departure Headway (s)	5.0	5.2	5.9			
Degree Utilization, x	0.48	0.58	0.33			
Capacity (veh/h)	687	665	553			
Control Delay (s/veh)	12.6	15.3	11.8			
Approach Delay (s/veh)	12.6	15.3	11.8			
Approach LOS	B	C	B			
Intersection Summary						
Delay			13.5			
Level of Service			B			
Intersection Capacity Utilization			53.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Barker Street & Centre Street

BG AM Conditions

Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	77	0	0	8	11	6	96	3	7	58	7
Future Volume (vph)	5	77	0	0	8	11	6	96	3	7	58	7
Peak Hour Factor	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Hourly flow rate (vph)	9	143	0	0	15	20	11	178	6	13	107	13
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	152	35	195	133								
Volume Left (vph)	9	0	11	13								
Volume Right (vph)	0	20	6	13								
Hadj (s)	0.01	-0.21	0.02	-0.04								
Departure Headway (s)	4.7	4.7	4.5	4.6								
Degree Utilization, x	0.20	0.05	0.25	0.17								
Capacity (veh/h)	708	700	756	744								
Control Delay (s/veh)	8.9	7.9	9.0	8.5								
Approach Delay (s/veh)	8.9	7.9	9.0	8.5								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.8									
Level of Service			A									
Intersection Capacity Utilization			25.1%	ICU Level of Service		A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: Elm Street & Centre Street

BG AM Conditions
Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	11	0	3	16	2	0	0	3	68	2	3
Future Volume (Veh/h)	0	11	0	3	16	2	0	0	3	68	2	3
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Hourly flow rate (vph)	0	24	0	7	35	4	0	0	7	148	4	7
Pedestrians	4			6			15			1		
Lane Width (m)	3.7			3.7			3.7			3.7		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			1			1			0		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	40			39			103	93	45	89	91	42
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	40			39			103	93	45	89	91	42
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	83	99	99
cM capacity (veh/h)	1581			1562			845	785	1010	876	787	1030
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	24	46	7	159								
Volume Left	0	7	0	148								
Volume Right	0	4	7	7								
cSH	1581	1562	1010	879								
Volume to Capacity	0.00	0.00*	0.00*	0.18								
Queue Length 95th (m)	0.0	0.1	0.2	5.0								
Control Delay (s/veh)	0.0	1.1	8.6	10.0								
Lane LOS		A	A	A								
Approach Delay (s/veh)	0.0	1.1	8.6	10.0								
Approach LOS			A	A								
Intersection Summary												
Average Delay				7.2								
Intersection Capacity Utilization				25.0%	ICU Level of Service				A			
Analysis Period (min)				15								

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis

4: Barker Street & Elizabeth Street

BG AM Conditions

Two-Way

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	27	81	13	6	52
Future Volume (Veh/h)	0	27	81	13	6	52
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	0	39	116	19	9	74
Pedestrians	2		4			7
Lane Width (m)	3.7		3.7			3.7
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	0		0			1
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	224	135			137	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	224	135			137	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			99	
cM capacity (veh/h)	760	912			1457	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	39	135	83			
Volume Left	0	0	9			
Volume Right	39	19	0			
cSH	912	1700	1457			
Volume to Capacity	0.04	0.08	0.00*			
Queue Length 95th (m)	1.0	0.0	0.1			
Control Delay (s/veh)	9.1	0.0	0.9			
Lane LOS	A		A			
Approach Delay (s/veh)	9.1	0.0	0.9			
Approach LOS	A					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			19.8%	ICU Level of Service		A
Analysis Period (min)			15			
* Value less than 0.01.						

BG PM Conditions

Two-Way

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	🚦			🚦	🚦	
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	231	48	12	207	97	14
Future Volume (vph)	231	48	12	207	97	14
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	260	54	13	233	109	16
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	314	246	125			
Volume Left (vph)	0	13	109			
Volume Right (vph)	54	0	16			
Hadj (s)	-0.06	0.07	0.14			
Departure Headway (s)	4.5	4.7	5.3			
Degree Utilization, x	0.39	0.32	0.18			
Capacity (veh/h)	768	737	607			
Control Delay (s/veh)	10.3	9.9	9.5			
Approach Delay (s/veh)	10.3	9.9	9.5			
Approach LOS	B	A	A			
Intersection Summary						
Delay			10.0			
Level of Service			B			
Intersection Capacity Utilization			33.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Barker Street & Centre Street

BG PM Conditions

Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	8	0	0	15	3	5	64	0	3	23	3
Future Volume (vph)	2	8	0	0	15	3	5	64	0	3	23	3
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Hourly flow rate (vph)	4	15	0	0	28	6	9	121	0	6	43	6
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	19	34	130	55								
Volume Left (vph)	4	0	9	6								
Volume Right (vph)	0	6	0	6								
Hadj (s)	0.04	-0.11	0.12	-0.04								
Departure Headway (s)	4.4	4.2	4.2	4.1								
Degree Utilization, x	0.02	0.04	0.15	0.06								
Capacity (veh/h)	781	812	836	857								
Control Delay (s/veh)	7.5	7.4	7.9	7.4								
Approach Delay (s/veh)	7.5	7.4	7.9	7.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.7									
Level of Service			A									
Intersection Capacity Utilization			17.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 3: Elm Street & Centre Street

BG PM Conditions
Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	0	3	20	0	0	0	2	2	0	0
Future Volume (Veh/h)	0	9	0	3	20	0	0	0	2	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Hourly flow rate (vph)	0	17	0	6	38	0	0	0	4	4	0	0
Pedestrians		1			1			3			3	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	41			20			71	73	21	75	73	42
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	41			20			71	73	21	75	73	42
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1577			1605			915	814	1058	906	814	1031
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	17	44	4	4								
Volume Left	0	6	0	4								
Volume Right	0	0	4	0								
cSH	1577	1605	1058	906								
Volume to Capacity	0.00	0.00*	0.00*	0.00*								
Queue Length 95th (m)	0.0	0.1	0.1	0.1								
Control Delay (s/veh)	0.0	1.0	8.4	9.0								
Lane LOS		A	A	A								
Approach Delay (s/veh)	0.0	1.0	8.4	9.0								
Approach LOS			A	A								
Intersection Summary												
Average Delay			1.7									
Intersection Capacity Utilization			14.8%	ICU Level of Service				A				
Analysis Period (min)			15									

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis 4: Barker Street & Elizabeth Street

BG PM Conditions
Two-Way

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	18	50	9	2	21
Future Volume (Veh/h)	0	18	50	9	2	21
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Hourly flow rate (vph)	0	30	82	15	3	34
Pedestrians	1		6			4
Lane Width (m)	3.7		3.7			3.7
Walking Speed (m/s)	1.1		1.1			1.1
Percent Blockage	0		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	137	95			98	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137	95			98	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	854	963			1506	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	30	97	37			
Volume Left	0	0	3			
Volume Right	30	15	0			
cSH	963	1700	1506			
Volume to Capacity	0.03	0.06	0.00*			
Queue Length 95th (m)	0.7	0.0	0.0			
Control Delay (s/veh)	8.9	0.0	0.6			
Lane LOS	A		A			
Approach Delay (s/veh)	8.9	0.0	0.6			
Approach LOS	A					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			14.9%	ICU Level of Service	A	
Analysis Period (min)			15			
* Value less than 0.01.						



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix F

Total Traffic Operations

HCM Unsignalized Intersection Capacity Analysis

1: Barker St & Johnson Street

Tot AM Conditions

Two-Way

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	198	85	111	222	111	65
Future Volume (vph)	198	85	111	222	111	65
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	244	105	137	274	137	80
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	349	411	217			
Volume Left (vph)	0	137	137			
Volume Right (vph)	105	0	80			
Hadj (s)	-0.10	0.24	0.10			
Departure Headway (s)	5.1	5.3	5.9			
Degree Utilization, x	0.49	0.61	0.36			
Capacity (veh/h)	676	656	552			
Control Delay (s/veh)	12.9	16.2	12.2			
Approach Delay (s/veh)	12.9	16.2	12.2			
Approach LOS	B	C	B			
Intersection Summary						
Delay			14.2			
Level of Service			B			
Intersection Capacity Utilization			54.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Barker Street & Centre Street

Tot AM Conditions

Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	83	0	0	15	11	6	101	5	7	66	11
Future Volume (vph)	13	83	0	0	15	11	6	101	5	7	66	11
Peak Hour Factor	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Hourly flow rate (vph)	24	154	0	0	28	20	11	187	9	13	122	20
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	178	48	207	155								
Volume Left (vph)	24	0	11	13								
Volume Right (vph)	0	20	9	20								
Hadj (s)	0.03	-0.15	0.02	-0.06								
Departure Headway (s)	4.9	4.9	4.7	4.7								
Degree Utilization, x	0.24	0.07	0.27	0.20								
Capacity (veh/h)	687	664	729	721								
Control Delay (s/veh)	9.4	8.2	9.4	8.9								
Approach Delay (s/veh)	9.4	8.2	9.4	8.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.2									
Level of Service			A									
Intersection Capacity Utilization			28.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 3: Elm Street & Centre Street

Tot AM Conditions
Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	11	0	14	16	2	0	0	17	68	2	3
Future Volume (Veh/h)	0	11	0	14	16	2	0	0	17	68	2	3
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Hourly flow rate (vph)	0	24	0	30	35	4	0	0	37	148	4	7
Pedestrians	4			6			15			1		
Lane Width (m)	3.7			3.7			3.7			3.7		
Walking Speed (m/s)	1.1			1.1			1.1			1.1		
Percent Blockage	0			1			1			0		
Right turn flare (veh)												
Median type	None			None								
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	40			39			149	139	45	165	137	42
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	40			39			149	139	45	165	137	42
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	96	80	99	99
cM capacity (veh/h)	1581			1562			779	730	1010	750	732	1030
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	24	69	37	159								
Volume Left	0	30	0	148								
Volume Right	0	4	37	7								
cSH	1581	1562	1010	758								
Volume to Capacity	0.00	0.02	0.04	0.21								
Queue Length 95th (m)	0.0	0.4	0.9	6.0								
Control Delay (s/veh)	0.0	3.3	8.7	11.0								
Lane LOS		A	A	B								
Approach Delay (s/veh)	0.0	3.3	8.7	11.0								
Approach LOS			A	B								
Intersection Summary												
Average Delay				7.9								
Intersection Capacity Utilization				26.3%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis 4: Barker Street & Proposed Driveway/Elizabeth Street

Tot AM Conditions
Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	7	17	4	0	16	27	4	81	13	6	52	8
Future Volume (Veh/h)	7	17	4	0	16	27	4	81	13	6	52	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	10	24	6	0	23	39	6	116	19	9	74	11
Pedestrians					2			4			7	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.1			1.1			1.1	
Percent Blockage					0			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	293	247	84	259	243	135	85			137		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	293	247	84	259	243	135	85			137		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	96	99	100	96	96	100			99		
cM capacity (veh/h)	605	648	972	664	651	912	1512			1457		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	40	62	141	94								
Volume Left	10	0	6	9								
Volume Right	6	39	19	11								
cSH	670	794	1512	1457								
Volume to Capacity	0.06	0.08	0.00*	0.00*								
Queue Length 95th (m)	1.4	1.9	0.1	0.1								
Control Delay (s/veh)	10.7	9.9	0.3	0.8								
Lane LOS	B	A	A	A								
Approach Delay (s/veh)	10.7	9.9	0.3	0.8								
Approach LOS	B	A										
Intersection Summary												
Average Delay			3.5									
Intersection Capacity Utilization			20.5%			ICU Level of Service				A		
Analysis Period (min)			15									

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis 5: Elm Street & Proposed Driveway

Tot AM Conditions
Two-Way

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	11	4	0	9	3
Future Volume (Veh/h)	0	11	4	0	9	3
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	12	4	0	10	3
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	27	4			4	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27	4			4	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			99	
cM capacity (veh/h)	982	1080			1618	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	12	4	13			
Volume Left	0	0	10			
Volume Right	12	0	0			
cSH	1080	1700	1618			
Volume to Capacity	0.01	0.00*	0.00*			
Queue Length 95th (m)	0.3	0.0	0.1			
Control Delay (s/veh)	8.4	0.0	5.6			
Lane LOS	A		A			
Approach Delay (s/veh)	8.4	0.0	5.6			
Approach LOS	A					
Intersection Summary						
Average Delay		6.0				
Intersection Capacity Utilization		17.3%		ICU Level of Service		A
Analysis Period (min)		15				
* Value less than 0.01.						

Tot PM Conditions

Two-Way

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	2	
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	231	51	28	207	100	30
Future Volume (vph)	231	51	28	207	100	30
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	260	57	31	233	112	34
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	317	264	146			
Volume Left (vph)	0	31	112			
Volume Right (vph)	57	0	34			
Hadj (s)	-0.07	0.09	0.05			
Departure Headway (s)	4.6	4.8	5.3			
Degree Utilization, x	0.40	0.35	0.21			
Capacity (veh/h)	753	721	611			
Control Delay (s/veh)	10.6	10.3	9.7			
Approach Delay (s/veh)	10.6	10.3	9.7			
Approach LOS	B	B	A			
Intersection Summary						
Delay			10.3			
Level of Service			B			
Intersection Capacity Utilization			45.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Barker Street & Centre Street

Tot PM Conditions

Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	18	0	0	26	3	5	72	2	3	36	9
Future Volume (vph)	13	18	0	0	26	3	5	72	2	3	36	9
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Hourly flow rate (vph)	25	34	0	0	49	6	9	136	4	6	68	17
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	59	55	149	91								
Volume Left (vph)	25	0	9	6								
Volume Right (vph)	0	6	4	17								
Hadj (s)	0.08	-0.07	0.10	-0.10								
Departure Headway (s)	4.6	4.5	4.4	4.2								
Degree Utilization, x	0.08	0.07	0.18	0.11								
Capacity (veh/h)	730	754	795	819								
Control Delay (s/veh)	8.0	7.8	8.3	7.7								
Approach Delay (s/veh)	8.0	7.8	8.3	7.7								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.0									
Level of Service			A									
Intersection Capacity Utilization			22.0%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 3: Elm Street & Centre Street

Tot PM Conditions
Two-Way

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	0	20	20	0	0	0	23	2	0	0
Future Volume (Veh/h)	0	9	0	20	20	0	0	0	23	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Hourly flow rate (vph)	0	17	0	38	38	0	0	0	43	4	0	0
Pedestrians		1			1			3			3	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	41			20			135	137	21	178	137	42
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	41			20			135	137	21	178	137	42
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	96	99	100	100
cM capacity (veh/h)	1577			1605			819	736	1058	737	736	1031
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	17	76	43	4								
Volume Left	0	38	0	4								
Volume Right	0	0	43	0								
cSH	1577	1605	1058	737								
Volume to Capacity	0.00	0.02	0.04	0.00*								
Queue Length 95th (m)	0.0	0.6	1.0	0.1								
Control Delay (s/veh)	0.0	3.7	8.5	9.9								
Lane LOS		A	A	A								
Approach Delay (s/veh)	0.0	3.7	8.5	9.9								
Approach LOS			A	A								
Intersection Summary												
Average Delay			4.9									
Intersection Capacity Utilization			19.6%		ICU Level of Service				A			
Analysis Period (min)			15									

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis 4: Barker Street & Proposed Driveway/Elizabeth Street

Tot PM Conditions
Two-Way

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	10	27	7	0	26	18	6	50	9	2	21	13	
Future Volume (Veh/h)	10	27	7	0	26	18	6	50	9	2	21	13	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	
Hourly flow rate (vph)	16	44	11	0	43	30	10	82	15	3	34	21	
Pedestrians					1					6			4
Lane Width (m)					3.7					3.7			3.7
Walking Speed (m/s)					1.1					1.1			1.1
Percent Blockage					0					1			0
Right turn flare (veh)													
Median type							None						None
Median storage veh													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	216	169	51	200	172	95	55				98		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	216	169	51	200	172	95	55				98		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	98	94	99	100	94	97	99				100		
cM capacity (veh/h)	678	718	1012	709	715	963	1550				1506		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	71	73	107	58									
Volume Left	16	0	10	3									
Volume Right	11	30	15	21									
cSH	741	800	1550	1506									
Volume to Capacity	0.10	0.09	0.00*	0.00*									
Queue Length 95th (m)	2.4	2.3	0.1	0.0									
Control Delay (s/veh)	10.4	10.0	0.7	0.4									
Lane LOS	B	A	A	A									
Approach Delay (s/veh)	10.4	10.0	0.7	0.4									
Approach LOS	B	A											
Intersection Summary													
Average Delay				5.1									
Intersection Capacity Utilization				21.2%	ICU Level of Service				A				
Analysis Period (min)				15									

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis 5: Elm Street & Proposed Driveway

Tot PM Conditions
Two-Way

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	16	6	0	14	4
Future Volume (Veh/h)	0	16	6	0	14	4
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	17	7	0	15	4
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	41	7			7	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	41	7			7	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			99	
cM capacity (veh/h)	961	1075			1614	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	17	7	19			
Volume Left	0	0	15			
Volume Right	17	0	0			
cSH	1075	1700	1614			
Volume to Capacity	0.02	0.00*	0.00*			
Queue Length 95th (m)	0.4	0.0	0.2			
Control Delay (s/veh)	8.4	0.0	5.7			
Lane LOS	A		A			
Approach Delay (s/veh)	8.4	0.0	5.7			
Approach LOS	A					
Intersection Summary						
Average Delay		5.9				
Intersection Capacity Utilization		17.7%		ICU Level of Service		A
Analysis Period (min)		15				
* Value less than 0.01.						

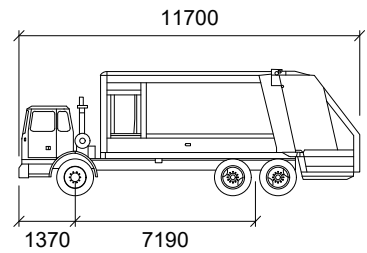


BURNSIDE

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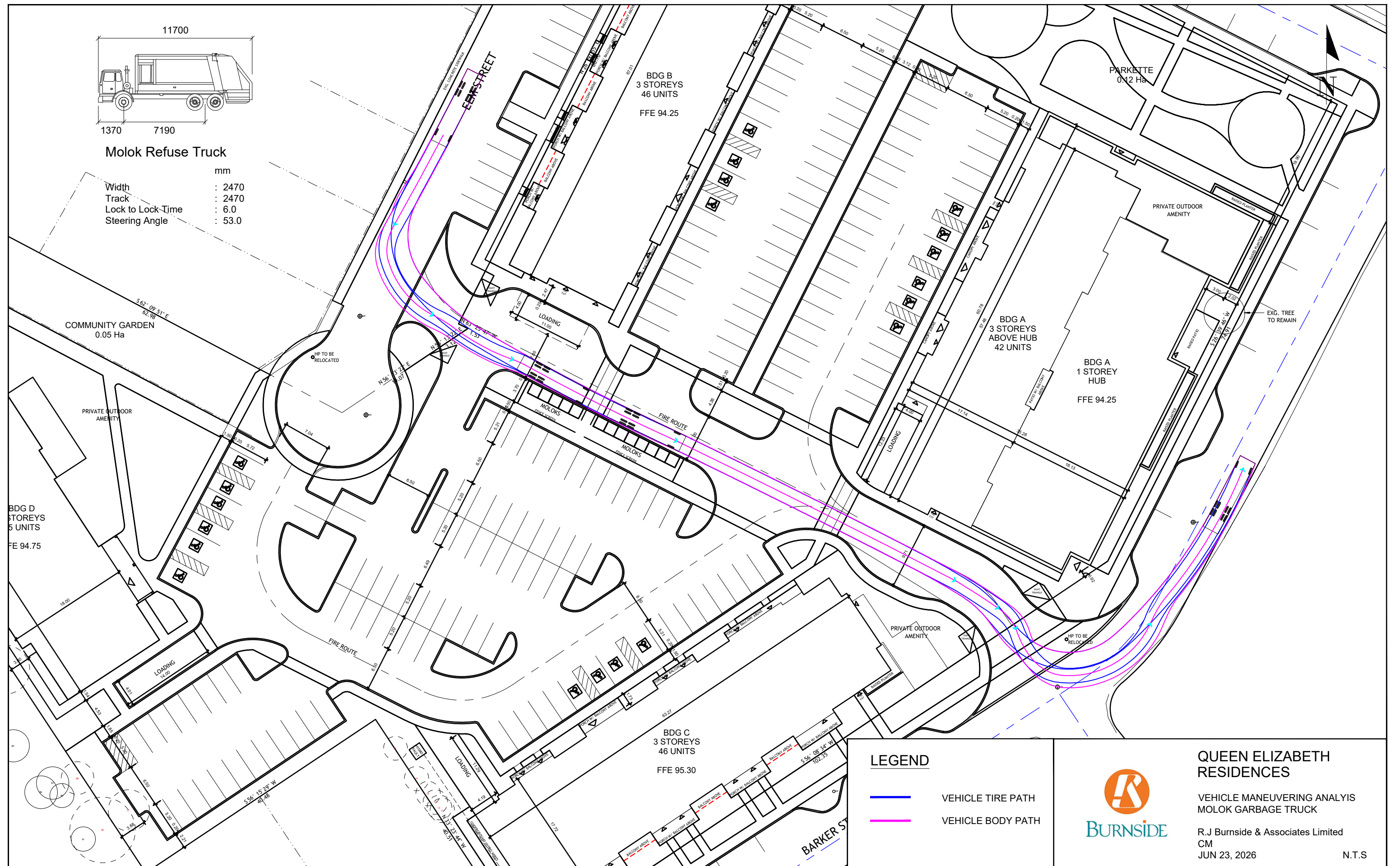
Appendix G

Swept Path Analysis



Molok Refuse Truck

	mm
Width	: 2470
Track	: 2470
Lock to Lock Time	: 6.0
Steering Angle	: 53.0



LEGEND

- VEHICLE TIRE PATH
- VEHICLE BODY PATH

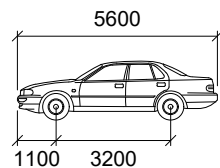


QUEEN ELIZABETH RESIDENCES

VEHICLE MANEUVERING ANALYSIS
MOLOK GARBAGE TRUCK

R.J Burnside & Associates Limited
CM
JUN 23, 2026

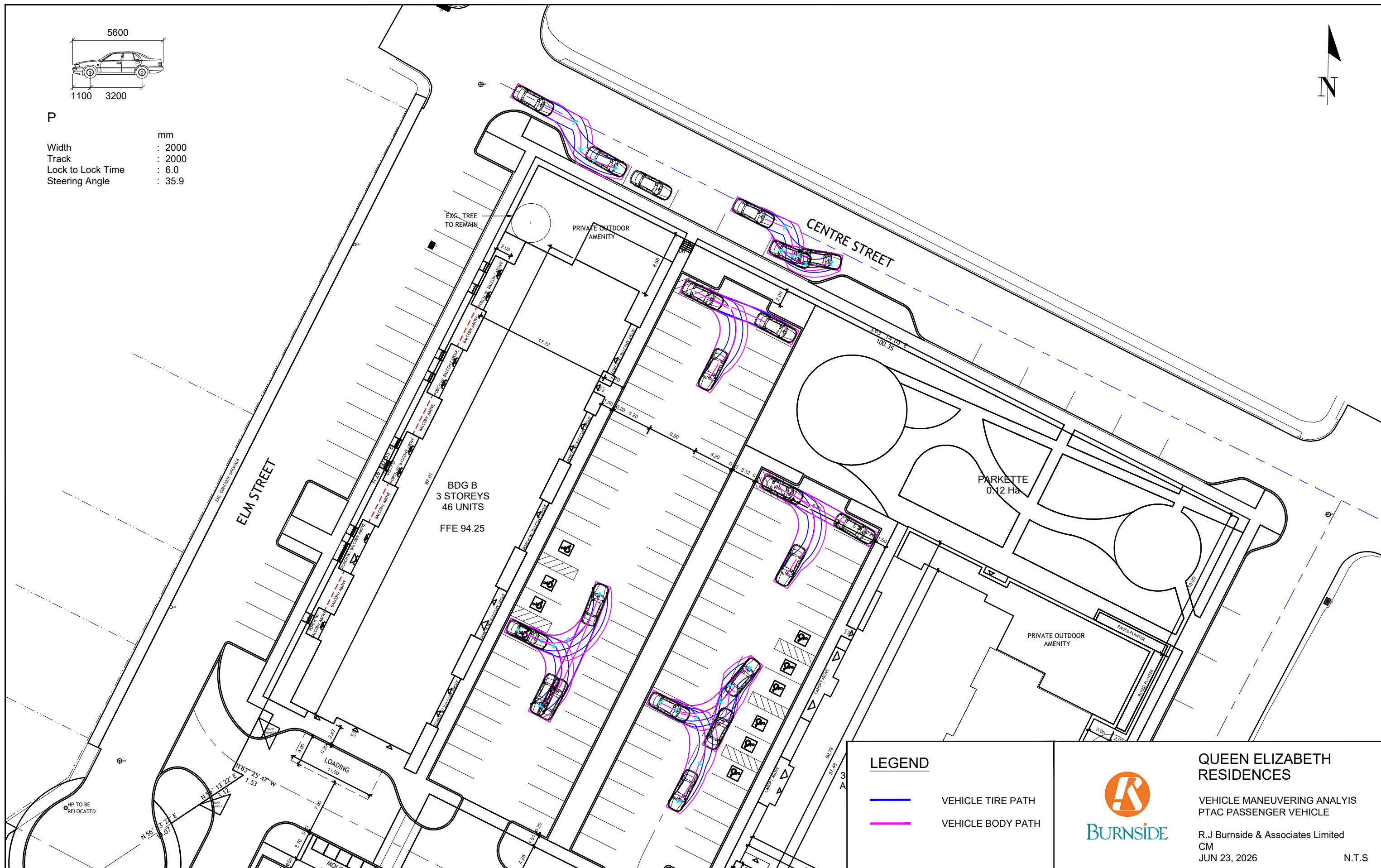
N.T.S

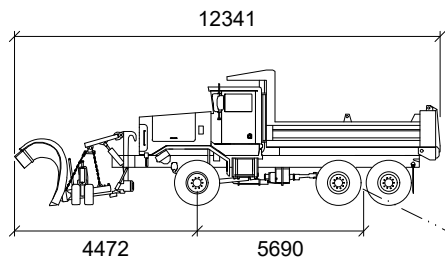


P

Width : 2000
Track : 2000
Lock to Lock Time : 6.0
Steering Angle : 35.9

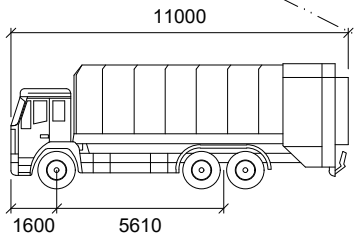
mm





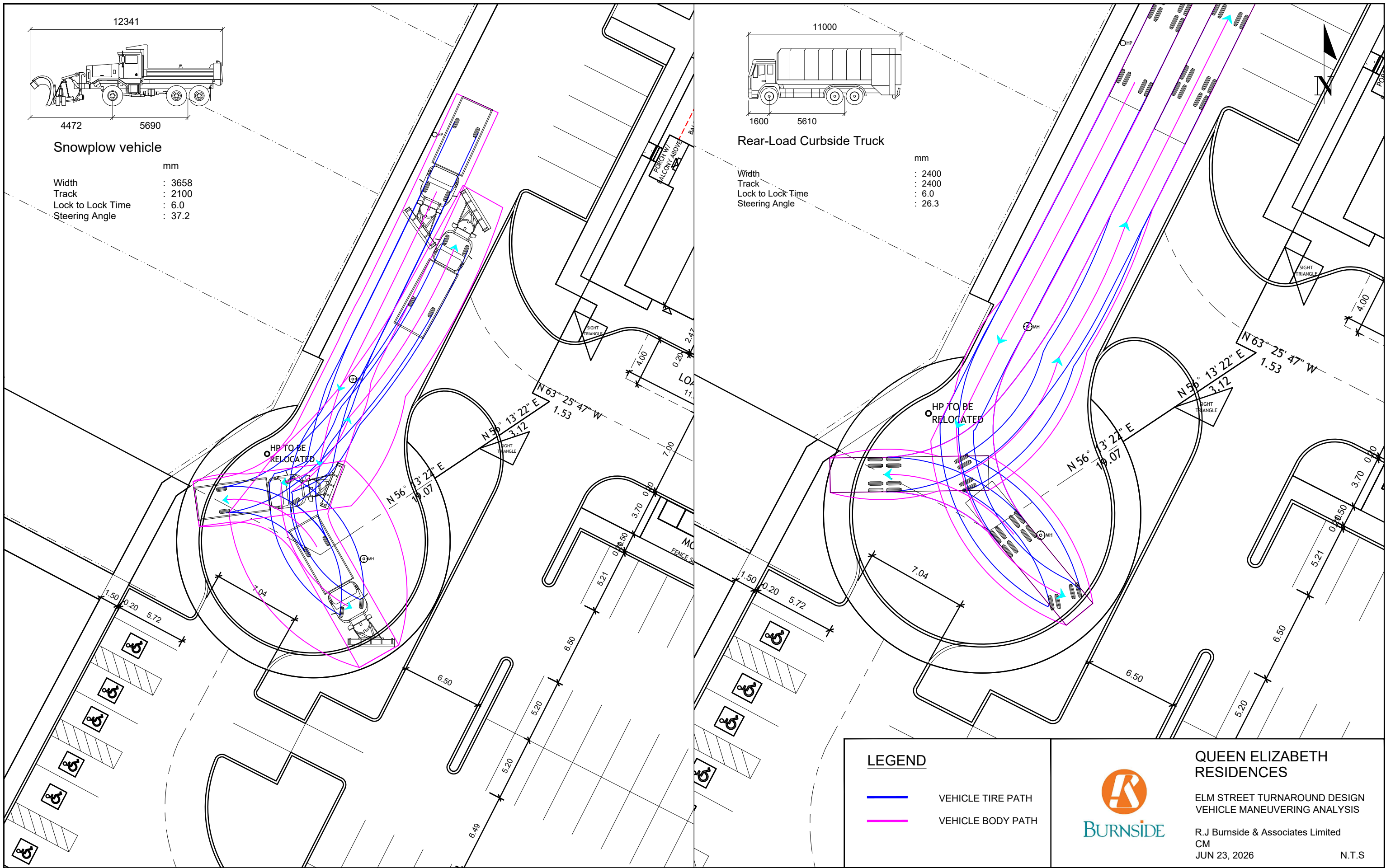
Snowplow vehicle

	mm
Width	: 3658
Track	: 2100
Lock to Lock Time	: 6.0
Steering Angle	: 37.2



Rear-Load Curbside Truck

	mm
Width	: 2400
Track	: 2400
Lock to Lock Time	: 6.0
Steering Angle	: 26.3



LEGEND

- VEHICLE TIRE PATH
- VEHICLE BODY PATH



QUEEN ELIZABETH RESIDENCES

ELM STREET TURNAROUND DESIGN
VEHICLE MANEUVERING ANALYSIS

R.J Burnside & Associates Limited
CM
JUN 23, 2026

N.T.S



BURNSIDE

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Appendix H

Zoning By-law Excerpts

4.0 Parking and Loading Provisions

4.1 Parking Provisions

- a. The owner of every building or structure erected or used for any purpose set forth below shall provide and maintain for the sole use of the owner, occupant or other persons entering upon or making use of the building or structure from time to time, minimum off-street parking spaces and parking areas for motor vehicles on the same lot, in accordance with **Table 4-1**, except that commercial uses in the Urban Commercial (UC) Zone are subject to half (50%) of the minimum parking space requirements.

Table 4-1: Minimum Off-Street Parking Requirements	
Type of Use	Minimum Number of Parking Spaces Required
Residential Uses	
Additional Dwelling Unit	1 space per dwelling unit
Apartment Dwelling	1.2 spaces per dwelling unit for apartment dwellings
Bed and Breakfast Establishment	2 spaces per dwelling unit plus 1 additional space for each guest room or room which is capable of being rented
Converted Dwelling	1 space per dwelling unit
Dwelling Unit in a Mixed-Use Development	1 space per dwelling unit, in addition to the requirements for the other uses in the development.
Garden Suite	1 space per dwelling unit
Group Home	2 spaces plus 0.5 spaces per guest room
Home Business	2 spaces, in addition to the required spaces for the dwelling unit, which may be provided in tandem
Home-Based Daycare	1 space, in addition to the required spaces for the dwelling unit
Mobile Home Park	1 space within each mobile home site
Retirement Home	0.5 spaces per dwelling unit or bed
Townhouse Dwelling Back-to-Back Townhouse Stacked Townhouse	1.5 spaces per dwelling unit
Rooming / Boarding House	1 space per 3 rooms

Table 4-1: Minimum Off-Street Parking Requirements	
Type of Use	Minimum Number of Parking Spaces Required
Day Nursery	1 space per staff member, plus 1 space for every 12 children enrolled in the school
Public Authority Public Use Public Utility	1 space for per 33 m ² of gross floor area of office use plus 1 space per 74 m ² of gross floor area of other uses
Public Park Private Park	No minimum requirement. For any facilities or buildings provided as an accessory use to the private recreation use, parking requirements shall be calculated separately for each use in accordance with Table 4-1
Public School Private School	Elementary school – 1.5 spaces per classroom Secondary school – 2 spaces per classroom
Transportation Terminal	1 space per 28 m ² of gross floor area
Self-Storage Facility	1 space per 100 m ² of gross floor area, plus 1 additional space per 300 m ² of gross floor area in excess of 2,800 m ²
Other Community and Institutional Uses	1 space per 56 m ² of gross floor area
Industrial Uses	
Cannabis Production Facility	1 space per 100 m ² of gross floor area
Light Manufacturing Establishment Heavy Manufacturing Establishment	1 space per 40 m ² of gross floor area
Mineral Aggregate Resource Operation	1 space per 30 m ² accessory office space, otherwise no requirement
Warehouse	1 space per 100 m ² of gross floor area
Other Industrial Uses	5 spaces minimum, and 1 space per 100 m ² of gross floor area or portion thereof for uses with more than 200 m ² of gross floor area
Other	
Accessory Uses	Parking shall be provided for an accessory use at the rate required for the relevant use in Table 4-1 . The total parking requirements shall be the sum of all uses located on site whether main uses or accessory uses.

- b. If the calculation of required off-street parking spaces results in a fraction, the applicable requirement shall be rounded up to the next whole number.

4.1.8 Parking Area Surface Treatment

- a. Parking area, parking spaces, driveway, and aisles shall be constructed and maintained with a stable surface which is treated to prevent the raising of dust.
- b. In all Zones, except the Agricultural (AG), Rural (RU), and Industrial Zones, parking areas, parking spaces, driveways, and aisles shall be constructed of either asphalt, concrete, interlock pavers, permeable pavers, gravel, or asphaltic binder or similar hard permanent surfaces.
- c. New developments shall provide surface parking in accordance with this Section within one (1) year of occupancy.

4.2 Visitor Parking Space Requirements

- a. Off-street visitor parking must be provided for the land uses at the rates specified in **Table 4-5**.

Table 4-5: Visitor Parking Rates for Permitted Residential Uses	
Land Use	Minimum Number of Visitor Parking Space Rates
Apartment Dwelling	0.1 spaces / dwelling unit
Dwelling units in a Mixed-use Building	0.25 spaces / dwelling unit
Townhouse Dwelling	0.25 spaces / dwelling unit
Residential Mobile Home Park	0.25 spaces / mobile home site

- b. Notwithstanding provision a. of this Section, no visitor parking spaces are required for the first ten (10) dwelling units on a lot, and no more than 30 visitor parking spaces are required per building.
- c. Notwithstanding provision a. of this Section, in the case of a townhouse dwelling, where each dwelling unit has a driveway accessing a garage or carport located on the same lot as the dwelling unit, no visitor parking is required for that dwelling unit.
- d. If the calculation of required visitor parking spaces results in a fraction, the applicable requirement shall be rounded up to the next whole number.

4.3 Barrier-Free Parking Requirements

- a. The minimum number of barrier-free parking spaces shall be in accordance with **Table 4-6**.

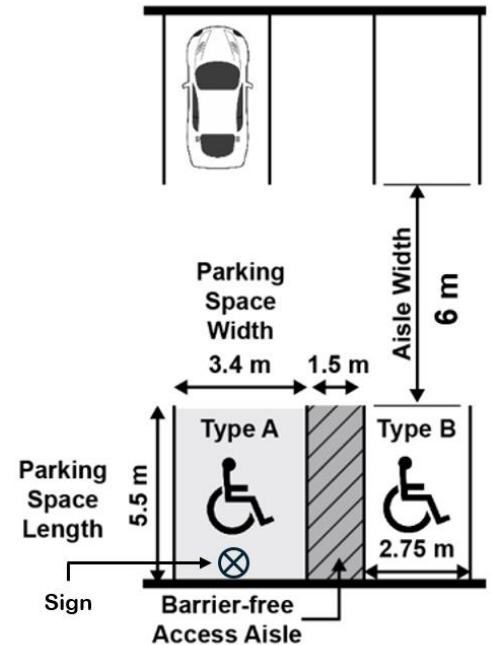
Table 4-6: Barrier-Free Parking Space Rates	
Total Required Off-Street Parking Spaces	Required Barrier-Free Parking Spaces
12 spaces or less	1
13 – 100	4% of total required parking spaces
101 – 200	3% of total required parking spaces
201 – 1,000	2% of total required parking spaces
Over 1,000	1, plus 1% of total required parking spaces

- b. Where parking spaces are required in provision a. above for any non-residential use, barrier-free parking spaces shall not be required in addition to those parking spaces required in **Table 4-1** of this By-law, but rather, these barrier-free parking spaces shall contribute to the total number of parking spaces required.
- c. The minimum number of barrier-free parking spaces shall be calculated and provided for the total number of parking spaces on the lot, and shall not solely be based on the minimum number of parking spaces required. The calculation of the total minimum number of barrier-free parking spaces required shall be in accordance with the following:
 - (i) Where an even number of barrier-free parking spaces are required, an equal number of Type A and Type B barrier-free parking spaces shall be provided.
 - (ii) Where an odd number of barrier-free parking spaces are required, the number of barrier-free parking spaces must be divided equally between a Type A and a Type B barrier-free parking space, while the remainder may be provided as a Type B barrier-free parking space.
- d. Where Type A barrier-free parking spaces are required, each barrier-free parking space shall be designated by a sign mounted on a post or wall that is visible during the winter months. Such sign shall be mounted at least 1.5 m above grade.
- e. For any residential use which requires the provision of visitor parking spaces, the following provisions shall apply:
 - (i) One (1) Type B barrier-free parking space shall be required where three (3) or more visitor parking spaces are required;
 - (ii) Where more than 12 visitor parking spaces are required, barrier-free parking spaces shall be provided in accordance with the rates established in provision a. of this Section.

- f. Barrier-free parking spaces shall not be required in association with any parking spaces required and provided for emergency service vehicles, motor vehicles displayed for sale, or any other vehicles associated with outside storage.

- g. Barrier-free parking spaces shall have the following:

- (i) Type A - A minimum width of 3.4 m and a minimum length of 5.5 m;
- (ii) Type B – A minimum width of 2.75 m and a minimum length of 5.5 m; and
- (iii) Access provided by a barrier-free access aisle with a minimum width of 1.5 m which extends the full length of the parking space, and which is marked with high tonal contrast diagonal lines (i.e., hatching) on a hard surface. Two (2) barrier-free parking spaces which are adjacent to one another may share one (1) barrier-free access aisle.



- h. Barrier-free parking spaces shall be paved with hard surface materials, shall be reasonably level, and as accessible to the building entrance(s) as possible.
- i. If the calculation of required off-street barrier-free parking spaces results in a fraction, the applicable requirement shall be rounded up to the next whole number.

4.4 Bicycle Parking Requirements

- a. In all Zones, bicycle parking must be provided for the land uses at the rates specified in **Table 4-7**.

Table 4-7: Minimum Bicycle Parking Space Requirements	
Use	Minimum Number of Spaces Required
Apartment dwelling, Townhouse dwelling developments consisting of six (6) or more units	0.5 spaces per dwelling unit
Agri-Tourism Use, Winery, and Cidery, Distillery, or Micro-Brewery	A minimum of 4 spaces
Place of Entertainment, Place of Recreation, Farmer's Market, Office	1 space per 100 m ² of gross floor area

4.6 Loading Space Requirements

- a. Off-street loading spaces shall be provided in accordance with the standards of this By-law in any Zone where a building or use requires frequent receiving, shipping, loading and unloading of goods, wares, materials, articles, or merchandise, in accordance with **Table 4-8**.

Table 4-8: Loading Space Requirements	
Use	Minimum Number of Loading Spaces Required
Residential Uses	
0 – 30 dwelling units	1
31-100 dwelling units	1
101 or more dwelling units	2
Commercial Uses	
Less than 300 m ²	0
300 m ² to 2,000 m ²	1
Greater than 2,001 m ²	2, plus 1 additional space for each 2,800 m ² of gross floor area or part thereof
Industrial Uses	
Less than 300 m ²	1
300 m ² to 7,450 m ²	2
Greater than 7,450 m ²	3, plus 1 additional space for each additional 2,800 m ² , but no greater than 6 loading spaces shall be required

- b. Loading spaces shall be located on the lot occupied by the use for which the spaces are required and such spaces shall not form part of any street or required parking area or parking spaces.
- c. The required loading spaces shall be located in the:
- (i) Interior side or rear yard; and
 - (ii) Exterior side yard provided it is located, arranged, buffered, or screened to reduce the visual impact from the street.
- d. In the yard where a loading space is located, a minimum 3 m landscape strip shall be provided and maintained on the lot line abutting a Residential or Institutional Zone.

