

**James J. Copeland, P.Eng., RSP1**  
GRIFFIN transportation group inc.  
30 Bonny View Drive  
Fall River, NS B2T 1R2

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Att: Tom Emodi  
**TEAL Architects + Planners Inc.**  
13150 Peggys Cove Road  
Halifax, NS B3Z 4B2

**RE: A Traffic Impact Statement for a proposed development on Bruce Street**

**1.0 INTRODUCTION**

*1.1 – Overview*

At the request of *TEAL Architects + Planners Inc. (TEAL)*, the GRIFFIN transportation group inc. (GRIFFIN) has carried out a qualitative Stage 1 - Traffic Impact Assessment in support of the planning application being submitted to Halifax Regional Municipality (HRM) for a new Mixed Use development on Bruce Street, in the community of Dartmouth, Halifax Regional Municipality (HRM). The subject lands are located in the southwest quadrant of the Woodlawn Road / Bruce Street intersection. The location of these lands is contained in *Figure 1*.

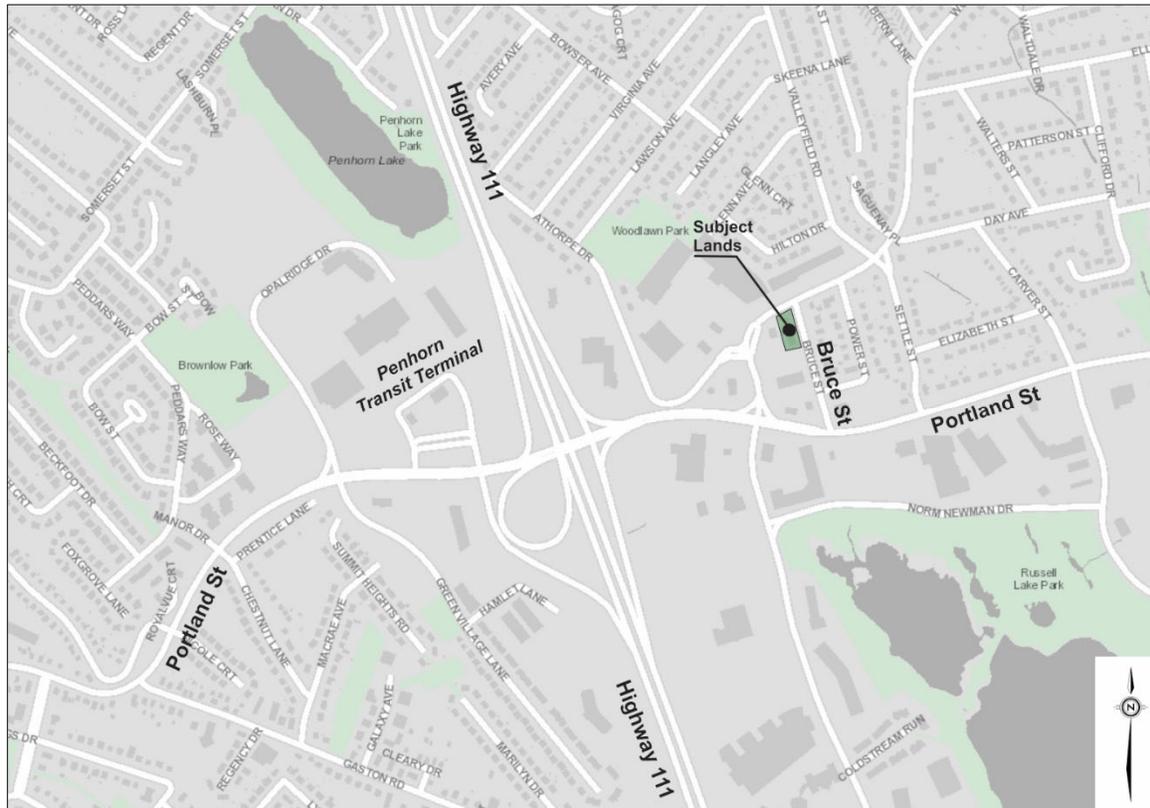
The proponent's planning application includes two individual properties, PID's #00226472 (civic #3 Bruce) and #002264480 (civic #5 Bruce). Currently, the civic #3 property contains a commercial building with an operating business, while the civic #5 property contains a detached residential dwelling that appears to be rented to a number of individual tenants.

The subject lands are located in an established suburban area that is likely to experience an increase in density as it is situated along Halifax Transit's future Bus Rapid Transit (BRT) Red Line. This area is within HRM's Urban Service Area, and considered to be within the *Dartmouth Land Use By-Law Area*. Currently, these properties have a Single Family Residential (R-1) zoning designation.

It is understood the proponent is submitting a planning application to HRM to obtain approval to construct a new Mixed Use building. The existing buildings will be removed and replaced with one new building that will occupy both properties. The new building will be 7 floors high, contain up to 8,290 ft<sup>2</sup> of ground floor commercial space, and up to 78 new apartment-style units within the upper floors. Vehicle access to/from the site will be facilitated via one new driveway connecting to Bruce Street. All driveway(s) that currently connect to Woodlawn Street will be closed.

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**Figure 1: Location of Subject Lands**



Source: HRM GIS Maps

## 1.2 – Terms of Reference

Our qualitative Stage 1 traffic impact assessment of the proposed development is discussed in the following Sections. Throughout the completion of this assessment GRIFFIN has followed HRM traffic impact study and mobility analysis guidelines as well as their Integrated Mobility Plan (IMP) policy for a new development near a Bus Rapid Transit line. In addition, GRIFFIN has applied the latest guiding principles published by the Institute of Transportation Engineers (ITE), and Transportation Association of Canada (TAC).

## 2.0 STUDY AREA AND SITE CONTEXT

### 2.1 – Roadway Layout Overview

The subject lands have direct frontage along Bruce Street and Woodlawn Road. Bruce Street is generally aligned in a north-south direction and has been classified by HRM as an urban local residential street. It has a two-lane, two-way urban cross-section, on-street parking, and no pedestrian sidewalks or defined cycling lanes.

Bruce Street predominantly serves a number of detached residential dwellings, as well as two low-rise residential multi-unit buildings and a chain restaurant. Due to the high volume of traffic

moving through the adjacent five-lane Portland Street corridor, it is difficult to make a left turn out from Bruce Street. Therefore, HRM has installed a right turn only sign for southbound drivers.

### 2.2 – Existing Traffic – Vehicle Demand

GRIFFIN installed an automatic traffic recording (ATR) device on Bruce Street immediately north of the proposed new driveway at civic #5. The ATR unit captured weekday two-way traffic volumes and speeds along the frontage of the proposed development. Data was recorded from Wednesday November 29<sup>th</sup> to Friday December 1<sup>st</sup>, 2023. During this time schools were open and there were no significant weather events that would have changed travel patterns. Thus, the recorded traffic volume data were considered to be representative of typical weekday conditions. A summary of the recorded weekday volumes is provided in *Table 1*.

**Table 1: November/December 2023 Traffic Data on Bruce Street**

	Northbound (to Woodlawn)	Southbound (to Portland)	Two-way Volumes
Weekday AM Peak Hour	40 vph	46 vph	86 vph
Weekday PM Peak Hour	109 vph	28 vph	137 vph
Estimated Daily Volume <sup>A</sup>	825 vpd	270 vpd	1,095 vpd

*A – Estimate of weekday daily volume, AADT volume would be less.*

The highest two-way volumes were observed to be 137 vehicles/hour (vph) and occurred during the weekday afternoon peak hour. Data gathered by GRIFFIN’s ATR device indicates the average two-way daily volumes are about 1,095 vehicles/day (vpd); however, these data were only recorded on weekdays. A true average daily volume includes weekend days and holidays and so we would expect the actual average daily traffic (ADT) volume on Bruce Street to be less than our recorded value.

GRIFFIN reviewed the Transportation Association of Canada (TAC) Geometric Design Guidelines to help put the observed vehicle demand on Bruce Steet into perspective. Although TAC does not provide guidance with respect to the absolute maximum capacity of streets, they provide typical volumes expected for several roadway classification types. The latest TAC guidelines suggest that an urban local street typically experiences up to 1,000 vpd. Again, these are guidelines for typical volumes and the maximum capacity would be a higher value.

The comparison of the observed demand of about 1,100 vpd – which again only considers the higher volume weekdays – is expected to be less than the maximum capacity of Bruce Street. This suggests there is some amount of residual capacity along Bruce Street to accommodate future traffic growth.

### *2.3 – Existing Traffic – Travel Patterns*

Typically, urban streets tend to have balanced directional flow over the course of the day and the daily volume in each direction is similar. This is not the case for Bruce Street as there is a much higher northbound flow throughout the day – and it is particularly pronounced during the afternoon peak hour.

This phenomenon is likely due to drivers avoiding lengthy delays for the high volume eastbound left turn at the Portland Street / Woodlawn Road signalized intersection. Some drivers will continue eastbound on Portland Street, through the signalized intersection, and turn left onto Bruce Street to ultimately connect to Woodlawn Road. This appears to be a pre-existing neighbourhood short-cutting issue.

Outside of the unbalanced northbound flows occurring during weekday afternoon peak hours, volumes on Bruce Street are generally low and are less than 50 vph at any one time. This is an average of less than one vehicle per minute and under these types of conditions there are long time gaps between vehicles to allow drivers to turn to/from driveways along Bruce Street.

### *2.4 – On-Street Parking*

Currently, HRM permits on-street parking only on the west side of Bruce Street. On-street parking is currently permitted across the frontage of the proposed development, but is restricted near the southeast corner of civic #5 due to the Canda Post mailboxes that serve local residents. Current regulatory parking signage observed by GRIFFIN did not appear to have any time-of-day or day-of-week restrictions.

### *2.5 – Other Travel Mode Options and HRM's IMP*

In 2017, HRM Council adopted the Integrated Mobility Plan (IMP) policy providing direction for implementation of more cost-effective mobility options to meet the needs of residents across the region. This includes increased access to alternative modes such as active transportation and public transit, such that residents are offered convenient and safe travel options.

In the immediate vicinity of the proposed development there are several mobility options available, including:

- *Active Transportation:* Although no pedestrian sidewalk facilities are provided along Bruce Street, there are sidewalks provided on both sides of adjacent corridors including Woodlawn Road and Portland Street. There are also numerous signalized crosswalks in the vicinity of the proposed development to allow pedestrians to cross these high-volume roads. However, GRIFFIN observed that many of the crosswalk locations require upgrades to better accommodate users with mobility challenges.
- *Public Transit:* Halifax Transit provides public transit service along Woodlawn Road and Portland Street. There are several bus stops within a 250-300m walking distance, well within HRM's acceptable walking threshold of 500m. In the near future, HRM has plans to

implement the Bus Rapid Transit (BRT) Red Line along Portland Street which will provide a more convenient and higher quality of service for commuters and this service is expected to impact mode share in this area of Dartmouth. In addition, it appears that all adjacent bus routes connect to the Penhorn Transit Terminal, located about 800m from the site.

In summary, there are multiple travel options in this area that are available to residents, employees, and patrons. Thus, the subject lands are well situated and in close proximity to a number of key amenities that help to reduce single-occupant vehicle trips. Further, there are numerous local businesses and services only a short walking distance away from the proposed development, including a mix of restaurants, retail shops, a grocery market, banks, and so forth.

### 3.0 THE PROPOSED DEVELOPMENT

#### 3.1 - Overview

The proposed new Mixed Use building will occupy the majority of the combined land area within the civic #3 and civic #5 properties. This means the two existing buildings will be removed. During GRIFFIN’s site visit it was observed that both existing buildings are occupied, in use, and are generating vehicle traffic. However, to remain conservative in our traffic impact assessment GRIFFIN has not considered the net effect of removing the existing site-generated traffic from the future new site-generated traffic. Our Stage 1 assessment only focuses on the impacts of the added future traffic which provides a more conservative and worst case view of future conditions.

The proposed new Mixed Use building is expected to have a total of 7 floors above ground, as well as at least one underground level that will accommodate parking for vehicles, bicycles, e-bikes, and so forth. The development details are provided in *Table 2*.

**Table 2: Proposed New Building Configuration**

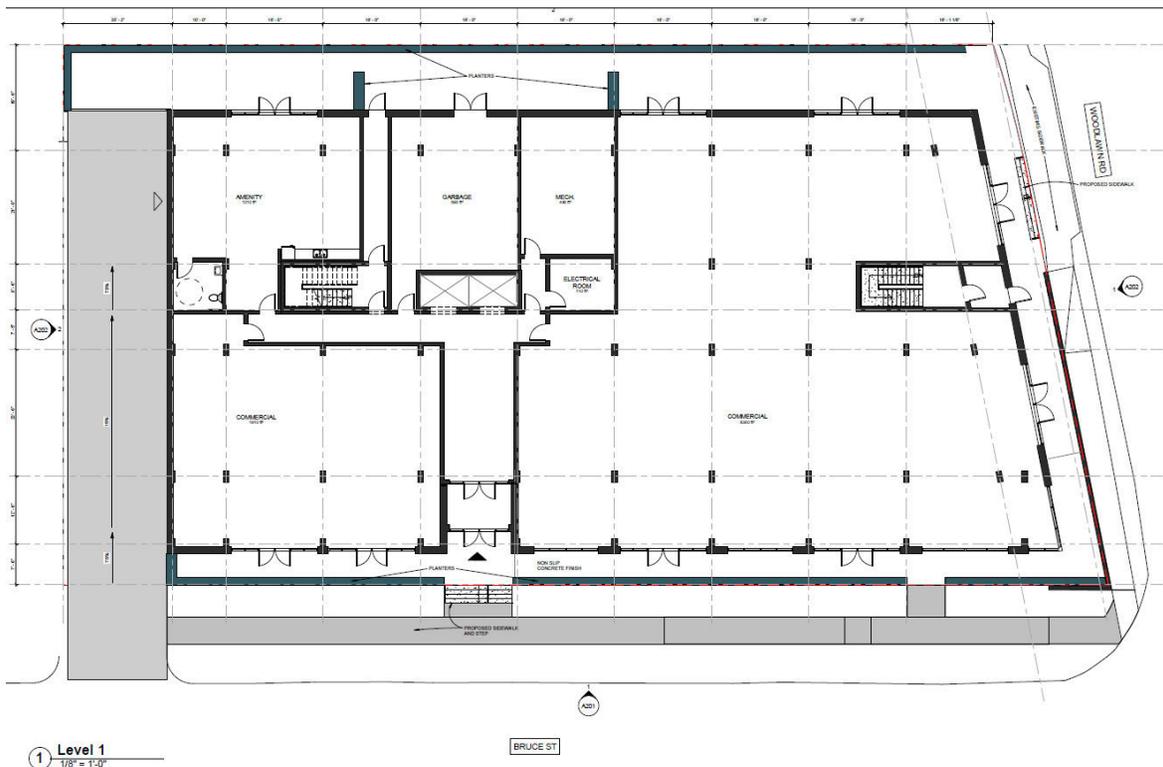
Building Component	Type / Use of Space	Size
Level P1	Underground Parking	40 vehicle spaces
Level 1 – Ground Floor	Commercial Space	8,290 ft <sup>2</sup>
Levels 2 to 7	Residential Units	78 units

The proposed concept plan is shown in *Figure 2*, including a plan view layout and associated rendering of the Bruce Street frontage.

**Figure 2: Proposed Site Layout and Rendering**



*view along Bruce Street*



① Level 1  
1/8" = 1'-0"

Source: TEAL

### 3.2 – New Site-Generated Trips

To assess the change in traffic volumes on the study area roads under future conditions, there was a need to determine the number of new vehicles added by completing the proposed Mixed Use building. This is referred to as the trip generation calculation process. Typically, traffic engineers use trip generation rates published by the Institute of Transportation Engineers (ITE), in the most recent *Trip Generation Manual, 11<sup>th</sup> Edition* document.

GRIFFIN reviewed the ITE’s latest documentation and identified the most suitable land use type for the proposed 7-floor Mixed-Use building as being *Mid-Rise Residential with Ground-Floor Commercial GFA (1-25k ft<sup>2</sup>) – Land Use Code 231*. This area is expected to transition to a more densely built urban area in the future and the proposed development is located adjacent to the Portland Street travel corridor and the future BRT Red Line. Therefore, it appeared appropriate to utilize ITE’s published trip rates contained in their 11<sup>th</sup> Edition, Volume 2 document. The Volume 2 document contains empirical data for more densely built multi-use urban areas adjacent to higher-order transit corridors. The ITE has assembled a reasonable number of research data gathered across North America to be able to quantify estimates for various modes, including all person trips, as well as a breakdown of trips made by vehicle, walking, cycling, and public transit. Using the ITE’s empirical multi-modal data also appears to follow the latest transportation guidelines and aligns with the HRM’s Integrated Mobility Plan (IMP) and their draft Mobility Analysis Guidelines. The detailed trip generation calculations for a mid-rise building in a dense urban area are provided in *Table 3*.

**Table 3: Site Trip Generation for the Proposed Mixed Use Development**

	Size	Trip Rate	New Trips / Hour		
			In	Out	Total
<b>AM Peak Hour</b>					
<b>Person Trips:</b> ITE LUC 231 (Volume 2 – City Centre Core) <sup>B</sup>	78 units	1.53/unit <sup>A</sup>	49 (41%)	70 (59%)	119
<b>Vehicle Trips:</b> ITE LUC 231 (Volume 2 – City Centre Core) <sup>B</sup>	78 units	0.35/unit <sup>A</sup>	11 (41%)	16 (59%)	27
<b>AM Peak Total Vehicle Trips</b>			<b>11</b>	<b>16</b>	<b>27</b>
<b>PM Peak Hour</b>					
<b>Person Trips:</b> ITE LUC 231 (Volume 2 – City Centre Core) <sup>B</sup>	78 units	2.56/unit <sup>A</sup>	104 (52%)	96 (48%)	200
<b>Vehicle Trips:</b> ITE LUC 231 (Volume 2 – City Centre Core) <sup>B</sup>	78 units	0.37/unit <sup>A</sup>	15 (52%)	14 (48%)	29
<b>PM Peak Total Vehicle Trips</b>			<b>15</b>	<b>14</b>	<b>29</b>

A – ITE’s average formula used to determine the per unit trip rate.

B – City Centre Core rates were selected as they were higher than Dense Urban Area rates.

Based on the results contained in *Table 3*, the proposed development is expected to generate the following new peak hour vehicle trips:

- *Weekday AM Peak Hour*: 27 new vehicle trips/hour (11 inbound and 16 outbound)
- *Weekday PM Peak Hour*: 29 new vehicle trips/hour (15 inbound and 14 outbound)

This generally equates to adding one new vehicle trip every two minutes to the study area streets and intersections. Given the relatively low vehicle traffic demand generated by the proposed development, there is not expected to be any measurable change in operations on the study area streets and intersections.

It should also be noted that GRIFFIN has not reduced the ITE vehicle trip rates to account for various phenomenon such as pass-by trips, mode share adjustments, and so forth. The published vehicle trip rates were applied directly to quantify the number of new vehicle trips.

### 3.3 – Other Travel Modes

Our trip generation step started by quantifying all person trips moving in/out of the new development. These can then be broken down into trips made by car, trips made by public transit, trips via walking, and trips using a bicycle. The forecast person trips generated under the future proposed scenario were summarized earlier in *Table 3*, again using ITE published person trip rates.

We have reviewed ITE empirical survey data to provide insights regarding changes to mobility trends over time, as this area along the BRT Red Line becomes more dense. Our before and after mobility assessment assumed the existing units along Bruce Street are similar to low-rise residential units within an urban area. As discussed earlier in this letter, the future scenario assumes the proposed development is part of a future densification trend along the BRT Red Line. A summary of ITE’s published data associated with these two scenarios is provided in *Table 4*.

**Table 4: Comparison of Travel Mode Share Trends – Current Versus Proposed**

Trip Type / Mode of Travel	Existing Conditions Low-Rise Residential (ITE LUC 220) <sup>A</sup>			Future Conditions Mid-Rise Mixed Use (ITE LUC 231) <sup>A</sup>		
	AM Peak Trip Rate	PM Peak Trip Rate	Percent Mode Share	AM Peak Trip Rate <sup>B</sup>	PM Peak Trip Rate <sup>B</sup>	Percent Mode Share
Person	0.64	0.54	100%	1.53	2.56	100%
Vehicle	0.30	0.25	47%	0.35	0.37	19%
Walk/Bike/Transit	0.24	0.21	38%	1.06	1.85	71%
Other modes	0.10	0.08	15%	0.12	0.34	10%

A – ITE’s *Trip Generation Manual, 11<sup>th</sup> Edition, Volume 2.*

B – Regression formula rate, ITE trip rate per residential unit.

The results of our before and after comparison contained in *Table 4* suggest that mobility trends are expected to change as this area of Dartmouth becomes more densely populated. Specifically, we can expect a reduction in vehicle trip-making by about 28%. It is also expected there will be a 33% increase in walking, biking, and public transit trips.

These trends are generally in line with HRM's goals contained within the Integrated Mobility Plan and rapid transit strategy. Of course, for these goals to be achieved, there is a need for increased and continuous investment in public transit services and additional active transportation facilities.

#### *3.4 – Expected Distribution of New Vehicle Trips*

The highest concentration of new vehicle trips added to the network is expected to occur on Bruce Street as this is where the proposed new driveway will connect. However, drivers will have the opportunity to travel north or south on Bruce Street, then east or west along Woodlawn Road, or west along Portland Street.

It is expected that many of the peak hour commuter vehicle trips will be traveling to/from the west as drivers travel to downtown Dartmouth or Highway 111. Under these conditions, drivers have the option of either utilizing the Portland Street / Bruce Street intersection, or turning to/from the Woodlawn Road / Bruce Street intersection. Splitting traffic between these two travel route options will disperse the new peak hour demand associated with the proposed development, and as such, these added vehicles are not expected to create any operational issues or concerns.

## **4.0 VEHICLE ACCESS AND PARKING**

### *4.1 – Overview of Driveway Configurations*

Currently, there are multiple vehicle driveways serving the civic #3 and #5 properties. The commercial business at civic #3 has a north driveway connecting to Woodlawn Road and an east driveway connecting to Bruce Street. The residential home at civic #5 has two driveway curb cuts but only one active driveway near the northeast corner of the property.

Under the proposed conditions, all aforementioned driveways will be closed. They will be replaced with one new driveway located near the southeast corner of the property. This new access will connect to the underground parking level and can function adequately with one inbound and one outbound lane. A summary of the existing and proposed driveways are contained in *Table 5*.

**Table 5: Driveways Serving the Subject Lands – Current Versus Proposed**

	<b>Woodlawn Street Driveways</b>	<b>Bruce Street Driveways</b>
Existing (Before)	1	2
Proposed (After)	0	1
<b>Net Change in Driveways</b>	<b>-1</b>	<b>-1</b>

In summary, there will be a net reduction in the number of accesses along both Woodlawn Road and Bruce Street. This will help improve traffic flow and reduce the potential risk of conflicts and collisions.

Reducing the number of driveways also aligns with good access management principles. Further, the location of the proposed new access meets HRM’s By-Law S-300 requirements by connecting the driveway to the lower class and lower volume street.

#### 4.2 – Driver Visibility at New Vehicle Access

Parking for new residents and patrons will be provided underground in the new building. Vehicles will access these parking spaces via Bruce Street, near the southeast corner of the civic #5 property. Typically, a driver sight distance review is carried out as part of the traffic impact assessment process to identify any driver sight distance or visibility limitations up and downstream of a new site access. Generally, the alignment of Bruce Street is straight and flat in the vicinity of the proposed access location.

GRIFFIN completed the visibility review process following the latest Transportation Association of Canada’s (TAC) *Geometric Design Guide for Canadian Roads* document (2017) as well as the Nova Scotia Department of Public Work’s field measurement best practices. At this early planning stage, GRIFFIN only assessed the minimum requirement for vehicles approaching the new access which is referred to as stopping sight distance (SSD). The provision of adequate SSD for vehicles traveling on the main roadway ensures drivers have sufficient forward visibility to identify a hazard in the roadway, and if needed, bring their vehicle to a stop.

The regulatory speed limit along Bruce Street is 50 km/h; however, the required sight distance should be based on actual operating speeds. GRIFFIN used the 85<sup>th</sup> percentile speeds obtained from the ATR device which were determined to be 49 km/h for northbound vehicles, and only 46 km/h for southbound vehicles. The lower speed measured in the southbound direction is likely associated with the close proximity of the Woodlawn Road intersection and limited distance drivers have to increase speed. The visibility assessment and results are summarized in *Table 6*.

**Table 6: Summary of Stopping Sight Distance Measurements at Primary Access**

Measurement Location	Travel Direction	Available SSD	TAC Required SSD		Does Available Exceed Required?
			Base <sup>A</sup>	Slope Adjusted	
<b>1. Primary Access</b>	Northbound (toward Woodlawn)	+100 m	65 m (50 km/h)	65 m (0%) <sup>B</sup>	YES
	Southbound (toward Portland)	60 m	57.5 m (45 km/h) <sup>C</sup>	58 m (-3%) <sup>B</sup>	YES

A – 2017 TAC Chapter 2, Table 2.5.2, driver eye height of 1.05m, hazard object height of 0.6m.

B – An estimate of the actual slope along Bruce Street on the approaches to the new access.

C – A design speed of 45 km/h was selected for SB driver speed as they turn at Woodlawn Road.

In conclusion, there appears to be sufficient stopping sight distances along Bruce Street to/from the proposed new vehicle access based on the expected vehicle operating speed. Of course, this conclusion is based on the need to remove on-street parking spaces immediately adjacent to the proposed new driveway in order to maintain good sightlines. The driver visibility observed during the field review is provided in *Figure 3*.

**Figure 3: Driver Views Along Bruce Street**



*Looking North (left toward Woodlawn)*



*Looking South (right toward Portland Street)*

#### 4.3 – Intersection Corner Clearance to New Access

GRIFFIN carried out a review of the available intersection corner clearance distance along Bruce Street - between the nearest intersection and the proposed new driveway. Providing adequate corner clearance distances minimizes the risk of conflicts between vehicles turning at the intersection and turning at the nearest driveway. The nearest intersection is Woodlawn Road.

Currently along Bruce Street, there is only a corner clearance distance of about 6m to the nearest commercial driveway serving civic #3. Of course, this existing driveway is proposed to be closed and the proposed new driveway will be shifted south. In fact, the proposed driveway will maximize

the available corner clearance distance as it will be located near the southeast corner of the civic #5 property – the furthest distance away from the Woodlawn Road intersection. This results in an improved corner clearance distance of about 45m – exceeding HRM’s By-law S-300 minimum requirement.

#### *4.4 – Off-Street Vehicle Parking*

A total of 40 off-street vehicle parking spaces are being planned and they will all be provided underground, below the proposed building. This amount of off-street parking supply equates to much less than one space per residential unit and appears to be consistent with the minimum vehicle parking goals of HRM’s Municipal Planning Strategy. Minimum parking supply rates promote the use of sustainable transportation modes other than single-occupant commuter vehicles. Since this proposed development is located within a short 250 m (or less) walking distance to several bus routes and there is good sidewalk connectivity throughout the area, it appears to be a suitable candidate site for minimum parking supply rates. The limited underground vehicle parking will also limit the number of vehicle trips that will be utilizing the new site access.

It should also be noted that bicycle parking spaces are being planned as part of the new development.

#### *4.5 – On-Street Vehicle Parking and Curb Space*

Although the number of accesses along the Bruce Street property frontage will be reduced – theoretically creating more curb space – GRIFFIN recommends that a no parking zone be implemented along the west side of Bruce Street. Where appropriate, HRM could designate a portion of this curb space for use by short-duration loading/unloading to accommodate food deliveries, parcel deliveries (eg. Amazon), ridesharing services, etc. needed to support the new residents and businesses.

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

### *5.1 - Conclusions*

The following conclusions were gleaned from the qualitative traffic impact assessment of the proposed development:

- The proponent is submitting a planning application for an assembly of properties in Dartmouth that includes civics #3 and #5 Bruce Street. Currently, these properties contain two separate buildings as well as off-street surface parking for vehicles. The proposed new Mixed Use building will occupy both properties and is expected to have a total of 7 above-ground floors, up to 8,290 ft<sup>2</sup> of ground-floor commercial space, and up to 78 apartment-style residential units.

- The HRM provides good connectivity for active modes in the immediate vicinity of the subject lands through the provision of sidewalks along both sides of Woodlawn Road and Portland Street as well as numerous signalized crossings in the area. Further, there is good connectivity to existing public transit services on Woodlawn Road. The future BRT Red Line along Portland Street will only be 200-250m away, and the existing Penhorn Transit Terminal only 800m away.
- Following HRM's recently adopted Integrated Mobility Plan policy, GRIFFIN utilized ITE's person trip rates for an area with increased density - contained in their *11<sup>th</sup> Edition Trip Generation Manual, Volume 2* document. The published trip rates in this document were used to quantify the amount of new trip making generated by the proposed Mixed Use building. The estimated person trips were broken down into new vehicle trips and new walking/biking/transit trips. In summary, the proposed Mixed Use building is expected to add up to **27 new vehicle trips/hour** (11 inbound and 16 outbound) during the weekday morning peak period, and **29 new vehicle trips/hour** (15 inbound and 14 outbound) during the weekday afternoon peak period.
- GRIFFIN expects there will be little to no traffic operational impact on the study area streets and intersections associated with the completion of the proposed Mixed Use building. This conclusion is based on the fact there is some amount of residual capacity along Bruce Street and that it can accommodate up to one new vehicle trip every two minutes. Further, there is good pedestrian facilities and connectivity in this area which will allow residents to access the numerous existing public transit bus services, the future high-order BRT Red Line service on Portland Street, and the adjacent businesses that include restaurants, retail shops, a grocery market, pharmacy, and so forth. This type of neighbourhood is very walkable and with increased density – like the proposed development – will incentivize mobility choices other than travel via commuter vehicle.

In summary, the number of new vehicle trips generated by the proposed Mixed Use development will have an acceptable degree of impact on the study area streets and intersections.

## 5.2 – Recommendations

Based on the findings of this qualitative review the following steps are recommended:

1. *Vehicle Access*: That the geometric design of the proposed new driveway connecting to Bruce Street follow the latest Transportation Association of Canada (TAC) and HRM design guidelines contained in the most recent edition of their Municipal Design Guidelines document. This includes the accommodation of an appropriate design vehicle (i.e. garbage truck or emergency vehicle) – should HRM deem this necessary during the geometric design stage of the project.
2. *By-Law Requirements*: That the municipal By-laws/Policy requirements for corner clearance, sight triangles, and driver visibility are met to ensure acceptable traffic

- operations are maintained throughout the planning, design, and construction phases of this project.
3. *On-Street Parking and Curb Space*: That a no parking zone be implemented along the west side of Bruce Street – along the subject property frontage. Where appropriate, HRM could designate a portion of this curb space for use by short-duration loading/unloading to accommodate food deliveries, parcel deliveries (eg. Amazon), ridesharing services, etc. needed to support the new residents and businesses.
  4. *Cycling Infrastructure*: That the proposed development include provisions for bicycle parking for future residents, as well as patrons and employees of the commercial businesses.
  5. *Pedestrian Infrastructure*: That HRM ensure pedestrians with mobility challenges are better accommodated along the existing sidewalks and crosswalks in this area of Dartmouth. This could include upgrades to crosswalk curb cut widths, curb ramps, sidewalk widths, crosswalk markings and signs, etc. Upgrades should be consistent with the latest public right-of-way accessibility guidelines (PROWAG).
  6. *Signs and Pavement Markings*: Should any new or changed signs and/or pavement markings be installed, that they follow the latest guidelines contained in TAC's Manual of Uniform Traffic Control Devices for Canada (MUTCDC) document.

## 6.0 CLOSING

The findings flowing from this qualitative traffic impact statement suggest the new vehicle trips generated by a proposed Mixed Use development are expected to have an acceptable impact on the traffic operational performance of the study area streets and intersections. As this area of Dartmouth becomes more densely populated – particularly along the BRT Red Line – HRM should continue identifying opportunities for mobility investments – such as improved public transit services and connected active transportation facilities. Future mobility investments will help achieve the goals of the IMP and accommodate the expected shift in mode share.

I would be happy to provide you with additional information or clarification regarding these matters and can be reached anytime by phone at (902) 266-9436 or by email at [jcopeland@griffininc.ca](mailto:jcopeland@griffininc.ca).

Sincerely,



**James J. Copeland, P.Eng., RSP1**  
Managing Principal – Traffic & Road Safety Engineer  
GRIFFIN transportation group inc.

