

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

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Att: Jeff Kielbratowski
VP, Real Estate & Development
Kiel Group
815-202 Brownlow Avenue
Dartmouth, NS B3B 1T5

RE: Transportation Impact Statement - Proposed Development at Civic #620 Portland St

1.0 INTRODUCTION

1.1 – Overview

At the request of *Kiel Group*, the GRIFFIN transportation group inc. (GRIFFIN) has carried out a qualitative Stage 1 Transportation Impact Assessment in support of the planning application being submitted to Halifax Regional Municipality (HRM) for a new Mixed Use development at civic #620 Portland Street (PID #40740060), in the Portland Estates neighbourhood, community of Dartmouth, Halifax Regional Municipality (HRM). The subject lands are located between Portland Street and Norm Newman Drive, about 300m east of Baker Drive. The location of these lands is contained in *Figure 1*.

The subject property is currently occupied by a former sit-down restaurant business that is now closed. The former restaurant building will be removed as part of the proposed redevelopment. This property has an area of about 1.7 acres and currently has a General Business Zone (C-3) designation within the *Dartmouth Land Use By-Law* area.

The proponent has plans to remove the existing building and replace it with a new 9-floor Mixed Use building. The first three floors are being planned as a large podium space with a smaller 6-floor tower component above the podium. Ground floor commercial space is planned along the Portland Street frontage, and the remaining space will be comprised of residential apartment-style units. The proponent has indicated the new building will contain a total of 215 residential units and up to 11,635 ft² of commercial floor space.

Figure 1: Location of Subject Lands



Source: HRM GIS Maps

1.2 – Terms of Reference

Our qualitative Stage 1 transportation impact assessment of the proposed development is discussed in the following Sections. Throughout the completion of this assessment GRIFFIN has followed HRM transportation mobility study guidelines as well as their Integrated Mobility Plan (IMP) policy for a new development in what will become a future dense urban area. 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 on two key road corridors in the study area; Portland Street to the north and Norm Newman Drive to the south. Portland Street is an urban multi-modal Arterial Class road corridor that is generally aligned in an east-west direction. It has a five-lane cross-section that is comprised of two travel lanes in each direction, plus a centre two-way left-turn lane (TWLTL).

Portland Street currently accommodates public transit routes – discussed in more detail later in this letter – and is the main travel route for transit users moving between the Portland Hills Transit

Terminal to the east and the Penhorn Transit Terminal to the west. In the near future, HRM has plans to implement a new Bus Rapid Transit (BRT) route along Portland Street that will offer a higher level of service. This route will be known as the BRT Red Line and will provide convenient service to the future residents, employees, and patrons moving to/from the proposed development.

Road connectivity is also provided along Norm Newman Drive, an important east-west collector street that accommodates local travel in the area between Baker Drive and Eisener Boulevard. HRM has designated this short 115 m street length as a Local Class street; however, it functions similar to a collector street due in part to the fact it provides supplementary east-west commuter capacity during the weekday peak hours when the Portland Street corridor is congested and travel times are elevated.

Currently, there is a north-south private street running through the subject property – which essentially forms its west boundary. It provides a local street connection between Portland Street and Norm Newman Drive. During the field review, it appeared that the majority of drivers using this local private road were by-passing the congested Portland Street / Baker-Woodlawn signalized intersection. Evidence of this was provided by the fact that a large proportion of drivers turned left from Portland Street onto the local private street then made a right turn onto Norm Newman Drive, and vice versa. This pattern of traffic short-cutting is likely more pronounced during weekday peak periods and less pronounced during off-peak times.

2.2 – Existing Vehicle Demand

GRIFFIN installed automatic traffic recording (ATR) units on both Portland Street and Norm Newman Drive to understand the current vehicle demand in these two adjacent road corridors. Data was collected over a 72-hour period from Tuesday November 26th to November 29th, 2024. There were no adverse weather conditions during the data collection and traffic patterns appeared typical for this time of year.

Table 1: Observed November 2024 Traffic Volumes

	AM Peak Hour	PM Peak Hour	Daily Volume ^A
Portland St – at Civic #620 Two-way Volumes	1,315 vph	1,090 vph	18,000-19,000
Norm Newman Dr– at Civic #620 Two-way Volumes	678 vph	855 vph	9,800-9,900

A – Estimated daily volume based on the short duration November 2024 data set.

The Portland Street corridor generally experiences relatively consistent hourly volumes throughout the weekday time periods from 7am to 7pm. This is likely contributing to overall daily volumes that are higher than what is typically expected on other HRM arterial corridors due to sustained demand over several hours beyond the typical peak commuter times. Observations made during the site visit suggested that the traffic signals at the adjacent Baker Drive-Woodlawn and Eisener Boulevard intersections create gaps in the traffic stream along Portland Street which appeared to sufficiently accommodate all existing turning traffic moving to/from the private street. These conditions also suggest that there will be gaps in the Portland Street traffic stream for new traffic associated with the proposed new development.

2.3 – Other Travel Mode Options

The following is a summary of the current travel mode options in the study area other than the commuter vehicle:

- *Public Transit:* According to HRM's GIS mapping website the following bus routes offer service to civic #620 via Stops #8050, #8055, and #8045:
 - #5 – Portland
 - #161 – North Preston Express
 - #159 – Colby Express
 - #168B – Cherry Brook Express
 - #165 – Caldwell Express
 - #168A – Auburn Express
- *Sidewalks:* Pedestrians are accommodated via the concrete sidewalk facilities on Portland Street (both sides) and Norm Newman Drive (north side only).
- *Multi-Use Path:* Active transportation users can gain access to the east-west MUP traveling through the neighbourhood via both Baker Drive and Eisener Boulevard. Both access points are within HRM's acceptable walking distance threshold of 500m.

GRIFFIN reviewed several transportation reports that have been completed by HRM in the recent past. The two relevant documents included the 2017 Integrated Mobility Plan and the 2020 Bus Rapid Transit Strategy. The latter has laid the foundation to implement a Bus Rapid Transit (BRT) route through the study area, along Portland Street, referred to as the Red Line. In the study area, the Red Line is being planned to have bus-only priority measures put in place that will accommodate effective and efficient bus service at 10-minute headways during weekday peak commuter periods. The goal is to offer a convenient transportation service to residents as an alternative to making single-occupant trips via car.

In conclusion, the location of this property and the future densification of this neighbourhood is well suited to HRM's plans to implement future BRT service along the Portland Street corridor. Not only is the proposed increase in residential density compatible with HRM's multi-modal transportation vision, the overall plan for this area of HRM appears to meet the spirit of the IMP policy.

3.0 THE PROPOSED DEVELOPMENT

3.1 - Overview

To accommodate the proposed new Mixed Use development, the existing building will be removed from the civic #620 property. Since the former restaurant business that once occupied the existing building has been closed for some time, it was not necessary to consider removing any existing restaurant traffic as part of our future conditions assessment. Instead, we have only considered the impacts of the new site-generated trips associated with the proposed new building.

The proponent is proposing to replace the existing business with a new building that will have a large three-floor podium, plus a tower component reaching up to 9 floors high. The new building will contain up to 215 residential apartment-style units as well as up to 11,635 ft² of ground floor commercial space. This yields a new residential density of about 126 units/acre. The proposed concept plan is shown in *Figure 2*.

It is understood that underground vehicle parking and dedicated bicycle parking space will be provided on-site. A lay-by lane is also proposed along the private street to help manage the use of curb space along the west side of the building.

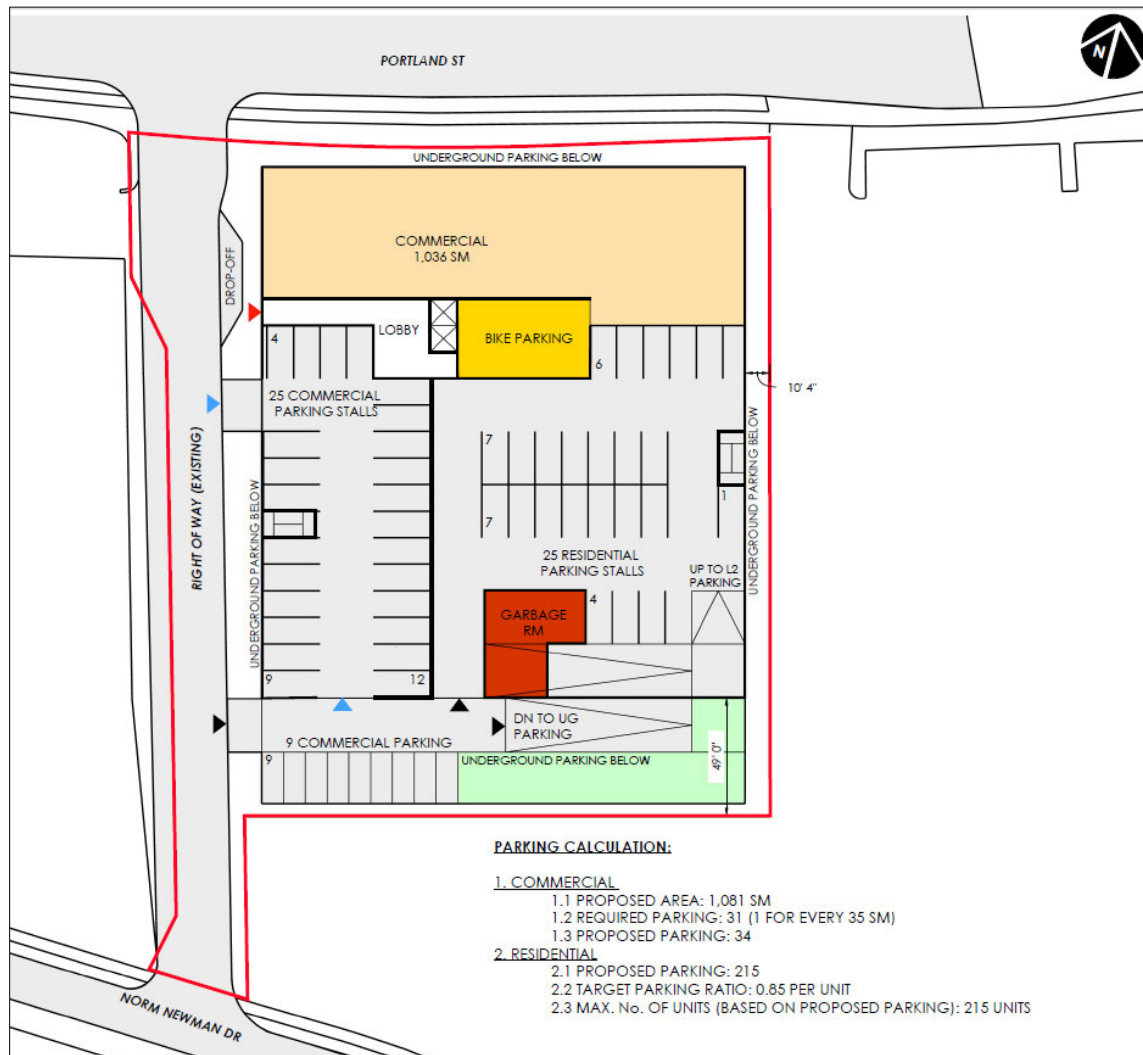
3.2 – Transportation Access and Connectivity

As shown on the site plan concept sketch, the new residents, employees, and patrons moving to/from the proposed new building will utilize the existing private street, and then gain access to Portland Street and Norm Newman Drive. Two vehicle access points are proposed to connect to the private street, along the west property boundary. The north vehicle access will serve the ground-level parking reserved for the commercial floor space. The south vehicle access will service the underground vehicle parking. Both driveways appear to be situated in suitable locations with good driver visibility for the prevailing operating speeds along the private street.

Both proposed driveway locations appear to conform with HRM's By-Law S-300. The preparation of engineering design drawings (prepared by others) should ensure that the driveway locations meet or exceed HRM's S-300 By-Law corner clearance distance and driveway separation distance requirements.

Future residents are expected to have a short walk from the new buildings to the Portland Street corridor. At this point they will have good quality transportation options to travel via the future Bus Rapid Transit (BRT) Red Line with potential 10-minute bus headways, or the multi-use AT path to the south which offers connectivity throughout the greater Portland Hills neighbourhood. The site design process should ensure pedestrians have well-connected north-south active transportation facilities connecting to the new building.

Figure 2: Proposed Site Layout – Ground-Level



Source: ZZAP

4.0 NEW SITE-GENERATED TRIPS

4.1 – Overview

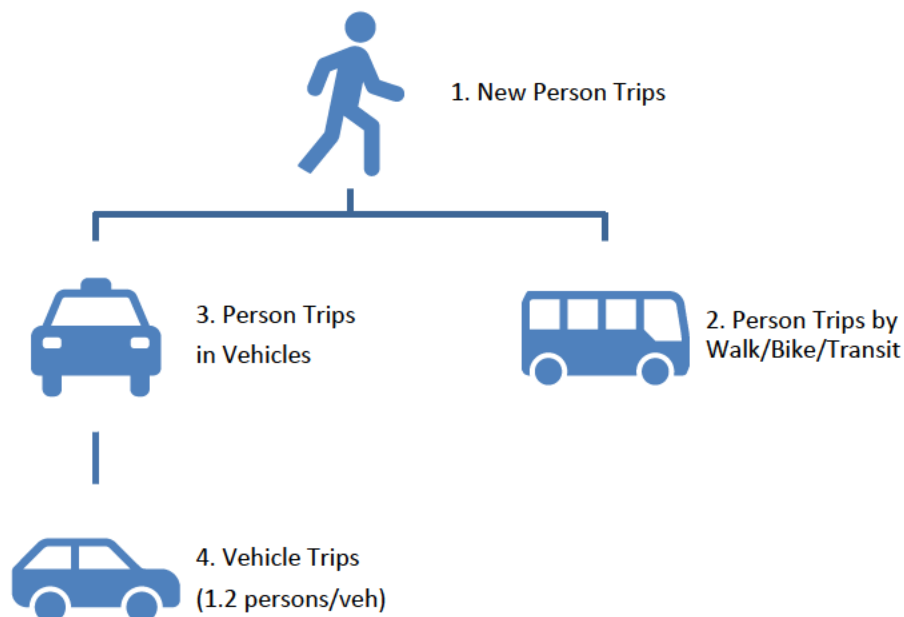
The proponent has plans to build a high-density Mixed Use development which will be compatible and consistent with the future densification of this area, adjacent to a future Bus Rapid Transit route. Therefore, GRIFFIN elected to follow HRM's latest transportation mobility assessment guidelines to evaluate and assess the transportation impacts for the proposed re-development of civic #620.

This process begins with quantifying the number of new person trips expected to move in/out of the proposed development, then identify the estimated amount of travel by each travel mode. For the purposes of this impact assessment, GRIFFIN has divided the travel modes into two categories:

- Travel via walking/biking/public transit (W/B/T), and
- Travel via commuter cars.

GRIFFIN followed industry best practices and Institute of Transportation Engineers (ITE) recommended guidelines to quantify the amount of new total person trips that could be generated by the proposed development, as well as an estimate of travel via these two modal categories. The process applied to this review is generally illustrated in *Figure 3*.

Figure 3: Trip Generation Calculation Process



GRIFFIN utilized the Institute of Transportation Engineers' (ITE) empirical formulas to quantify the number of new trips by each travel mode. This information is contained in their most recent *Trip Generation Manual, 11th Edition, Volume 2* document.

4.2 – New Peak Hour Person Trips

GRIFFIN reviewed ITE's latest documentation and identified the most suitable land use types for a proposed 9-floor Mixed Use development as being:

- *Residential*: Multifamily Housing (Mid-Rise) Not Close to Rail Transit – Land Use Code 221.
- *Commercial*: General Office Building – Land Use Code 710.

Since the proposed development is in an urban area that is – and will continue – to become more densely populated, and will be situated along a high-order BRT route, it appeared appropriate to utilize ITE’s published trip rates contained in their Volume 2 document which contains empirical data for dense multi-use urban areas. ITE has assembled a reasonable number of research data gathered across North America to be able to quantify estimates for various modes, including walking, cycling, public transit, and vehicles.

The detailed person trip generation calculations for a Mixed Use building in a dense urban area are provided in *Table 2*.

Table 2: Trip Generation for the Proposed Mixed Use Development – Person Trips

	Size	Person Trip Rate	New Person Trips / Hour		
			In	Out	Total
AM Peak Hour					
Person Trips: ITE LUC 221 (Volume 2 – Dense Urban)	215 units	0.57/unit ^A	25 (20%)	98 (80%)	123
Person Trips: ITE LUC 710 (Volume 2 – Dense Urban)	11.6k ft ²	2.41/1k ft ^{2A}	22 (87%)	2 (13%)	24
AM Peak Total Person Trips			47	100	147
PM Peak Hour					
Person Trips: ITE LUC 221 (Volume 2 – Dense Urban)	215 units	0.56/unit ^A	71 (59%)	49 (41%)	120
Person Trips: ITE LUC 710 (Volume 2 – Dense Urban)	11.6k ft ²	3.01/1k ft ^{2A}	5 (21%)	26 (79%)	31
PM Peak Total Person Trips			76	75	151

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

Based on the results contained in *Table 2*, the proposed development is expected to generate the following new peak hour person trips:

- *Weekday AM Peak Hour:* 147 new person trips/hour (47 inbound and 100 outbound)
- *Weekday PM Peak Hour:* 151 new person trips/hour (76 inbound and 75 outbound)

These person trips are expected to predominantly move via public transit, walking, cycling and other small-wheeled devices, commuter cars as drivers and passengers, and ride-share services.

4.3 – Modal Breakdown of Peak Hour Person Trips

A breakdown of the modal share occurring during weekday peak hours was then prepared using ITE’s empirical data contained in their Trip Generation - Volume 2 document. As noted earlier, our assessment has only focused on the most common modes of travel, and focused on the amount of peak hour person trips traveling to/from the new development. A breakdown of the estimated demand via the common modes of travel is contained in *Table 3*.

Table 3: Person Trips by Travel Mode

	Size	Person Trip Rate	New Person Trips / Hour		
			In	Out	Total
AM Peak Hour					
Total Person Trips (Table 2)			47	100	147
Walk/Bike/Transit Trips: ITE LUC 221 (Volume 2)	215 units	0.26/unit ^A	21 (38%)	35 (62%)	56
Walk/Bike/Transit Trips: ITE LUC 710 (Volume 2)	11.6k ft ²	0.28/1k ft ^{2A}	3 (98%)	0 (2%)	3
AM Peak – Person Trips by Vehicle			23	65	88
PM Peak Hour					
Total Person Trips (Table 2)			76	75	151
Walk/Bike/Transit Trips: ITE LUC 221 (Volume 2)	215 units	0.20/unit ^A	22 (49%)	22 (51%)	44
Walk/Bike/Transit Trips: ITE LUC 710 (Volume 2)	11.6k ft ²	0.52/1k ft ^{2A}	1 (20%)	5 (80%)	6
PM Peak – Person Trips by Vehicle			53	48	101

A – ITE's regression formula used to determine the per unit trip rate.

As shown in *Table 3*, the number of person trips using the walking/biking/transit modes were calculated using ITE's empirical regression formulas. These values were then subtracted from the total person trips, quantified in the previous Section (*Table 2*). The remainder of the person trips were assumed to travel by vehicle as a driver or passenger.

Based on ITE's empirical data for a combined mid-rise residential development with ground floor office space, we can expect about 35% to 40% of the person trips moving to/from the site to be comprised of the walking, biking, and public transit modes. Thus, a larger portion of the site-generated person trips are expected to travel by vehicle, either as a driver, as a passenger (rideshare), or by hired drivers (i.e. taxi, Uber, etc.). Of course, for these estimates to be realized there is a need for increased and continuous investment in public transit services and additional active transportation facilities along the Portland Street corridor.

4.4 – New Peak Hour Vehicle Trips

The next step in the trip generation process involved the calculation of the number of new vehicles that will move in/out of the proposed development. GRIFFIN reviewed research data regarding the typical expected vehicle occupancy – or the number of persons that travel within a car during peak commuter times – and applied this information to this study. Generally, commuter vehicles contain an approximate average of 1.2 persons per vehicle during peak times of the day. This value has also been used by HRM in the past as part of regional transportation modelling efforts.

Applying a 1.2 persons/vehicle factor to the results in *Table 3* provides the following new vehicle estimates associated with the new development:

- *Weekday AM Peak Hour:* 73 new vehicle trips/hour (19 inbound and 54 outbound)
- *Weekday PM Peak Hour:* 84 new vehicle trips/hour (44 inbound and 40 outbound)

This volume of new vehicles equates to adding about one new vehicle to the study area roads and intersections every minute. Therefore, only a limited impact is expected on the operational performance of traffic flow along Portland Street and Norm Newman Drive.

5.0 CONCLUDING THOUGHTS

The following conclusions were gleaned from the qualitative traffic impact assessment of the proposed redevelopment of civic #620 Portland Street:

- *The Development:* The proponent has plans to redevelop the civic #620 Portland Street property which is located in the Portland Hills neighbourhood, in the community of Dartmouth. The existing building is planned to be removed and replaced with a new Mixed Use building that will contain ground floor commercial space and a residential tower. Therefore, the land use and density will change to a more dense urban environment that will be consistent with other planned developments in the vicinity of Portland Street and Woodlawn Road, and is also consistent with HRM's Integrated Mobility Plan
- *New Person Trips:* To complete this technical assessment, GRIFFIN has followed the general procedures contained in HRM's Mobility Analysis guidelines to quantify the total person trips estimated to be generated by a new Mixed Use development – in what will become a more dense urban area along Portland Street serviced by a future high-order Bus Rapid Transit line. GRIFFIN utilized ITE's person trip rates contained in their *11th Edition Trip Generation Manual, Volume 2* document to first understand the magnitude of person trips that could be generated, then calculated the number of trips via walking/biking/public transit. Lastly, the number of new vehicle trips were estimated. In summary, the proposed new Mixed Use development is expected to generate up to **147 new person trips/hour** (47 inbound and 100 outbound) during the weekday morning peak period, and **151 new person trips/hour** (76 inbound and 75 outbound) during the weekday afternoon peak period. Using ITE empirical data, it is expected that approximately 60-65% of these person-trips will travel by vehicle and the remaining 35-40% will move via the walk/bike/public transit modes.
- *New Vehicle Trips:* The number of new peak hour vehicle trips generated by the proposed Mixed Use development will be less than the total person trips noted above. Thus, GRIFFIN expects there will only be minor and acceptable traffic operational impacts on the study area streets adjacent to civic #620. The impacts of these site-generated vehicle trips will

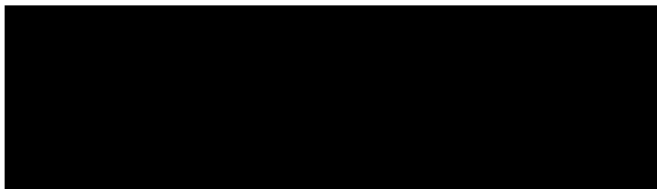
be diminished as they will be split between the Portland Street and Norm Newman Drive corridors, split between the east-west travel directions, and further split between the turns in and out of the site. In addition, the traffic signals along Portland Street – up and downstream of the civic #620 development – will create gaps in the east-west traffic flow and these gaps are expected to provide sufficient capacity to accommodate the low number of new site-generated trips.

- *Active Transportation:* To improve connectivity for active transportation users a continuous sidewalk connection should be provided parallel to the private street, from Portland Street to Norm Newman Drive.
- *Public Transit:* Finally, this proposed development is strategically located along the HRM's future BRT Red Line which is expected to offer service with 10-minute bus headways as well as bus priority measures to by-pass weekday peak period commuter vehicle congestion. There is an existing signalized pedestrian crosswalk across Portland Street in close proximity to the subject property and this will offer convenient access to the future BRT stops on both sides of this street. The future high-order transit service along Portland Street is expected to incentivize the use of travel modes other than single-occupant commuter vehicles. In order for this to be successful; however, it is recommended that HRM continue investments in their implementation efforts of this new transit service.

6.0 CLOSING

The findings flowing from this qualitative traffic impact statement suggest the change in traffic operations associated with the new vehicle trips moving in/out of the civic #620 property will be minor and only marginally impact the traffic flow and operations in the Portland Street corridor. This conclusion is based on the assumption that HRM will continue to invest resources into the implementation process for the planned BRT Red Line service as they move toward meeting the goals of their IMP policy. 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.

Sincerely,



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

