

107 Woodlawn Road Traffic Impact Statement

May 2023

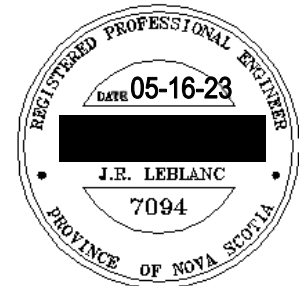
Prepared for
Servant Dunbrack McKenzie & MacDonald Ltd





TABLE OF CONTENTS

1	INTRODUCTION	2
1.1	BACKGROUND	2
2	EXISTING TRAFFIC CONDITIONS	7
2.1	DESCRIPTION	7
2.2	EXISTING TRAFFIC VOLUMES.....	10
2.3	TRIP DISTRIBUTION	10
2.4	TRANSIT AND PEDESTRIANS.....	11
3	SITE GENERATED TRAFFIC.....	15
3.1	TRIP GENERATION	15
3.2	PARKING	16
4	CONCLUSIONS AND RECOMMENDATIONS.....	17



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1 Introduction

1.1 Background

Servant Dunbrack McKenzie & MacDonald Ltd., on behalf of the owner, is working on a proposal to redevelop their property at 107 Woodlawn Road in Dartmouth, Nova Scotia with a 4-story multi-use, multi-family building. Exhibit 1.1 shows the site in red in the context of the surrounding area.

Exhibit 1.1 – Proposed Development at 107 Woodlawn Road in Dartmouth, Nova Scotia



Source: Google Earth

The developer has proposed to redevelop this property with a 4-story building that will include 29 apartment units and 4,035 sqft of commercial space. It will replace an existing 1,000 sqft convenience store that has driveways on Woodlawn Road (enter only), Settle Street (enter only) and two driveways on Day Avenue (enter and exit).

Access to the property will be from a new driveway on Settle Street to an underground parking area that will have 18 vehicle parking spaces and 13 bicycle parking spaces. An additional 5 bicycle parking spaces will be provided on an outdoor bike rack.

The site is located at the southeast corner of the Woodlawn Drive/Settle Street/Valleyfield Road signalized intersection

Refer to the following exhibits for floor plans and elevations provided by zzap architecture + planning and Exhibit 1.8 for a view of the existing property.

Exhibit 1.2 – 107 Woodlawn Road Parking Level Floor Plan

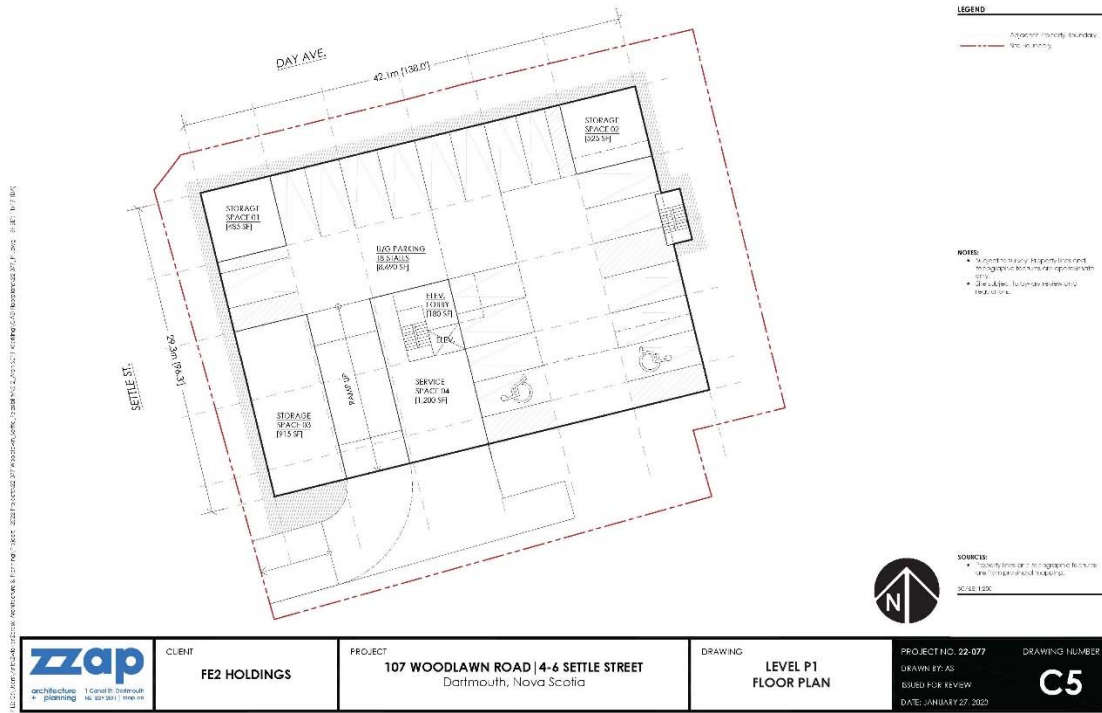


Exhibit 1.3 – 107 Woodlawn Road Level 1 Floor Plan

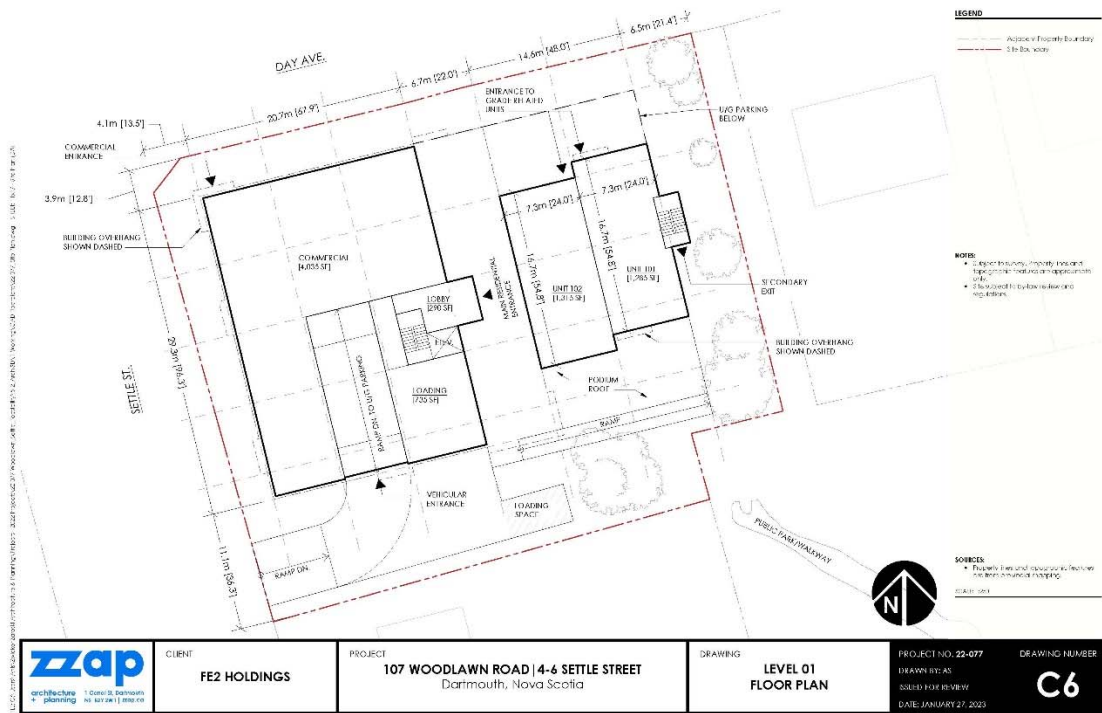


Exhibit 1.4 – 107 Woodlawn Road Level 2 Floor Plan

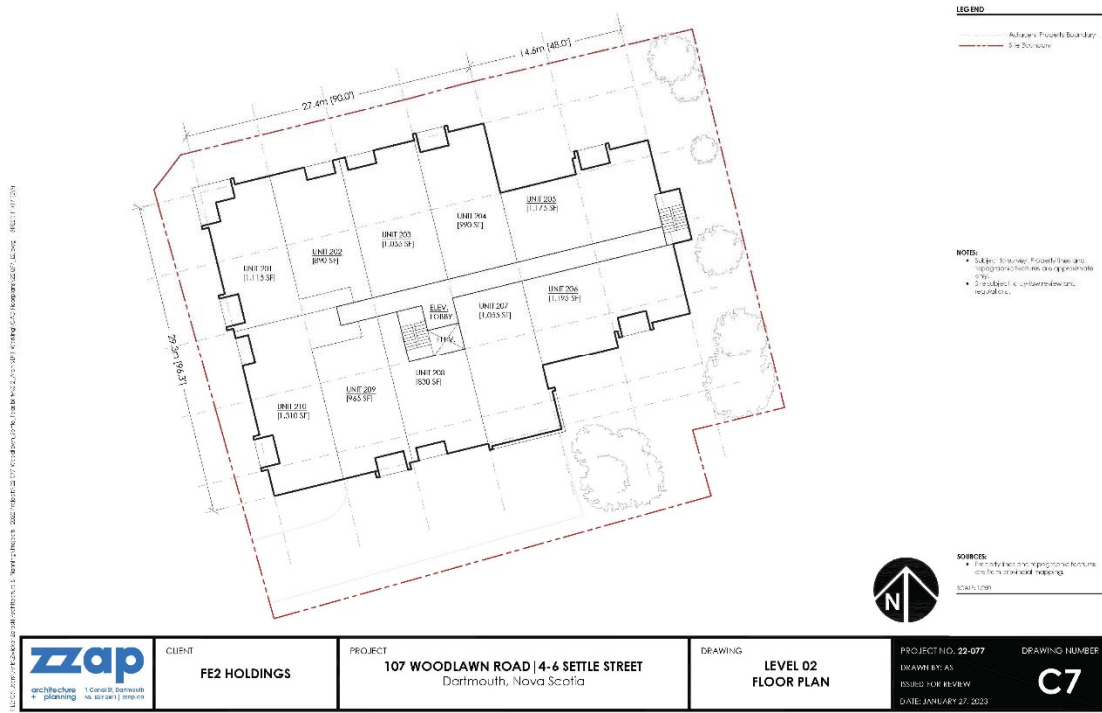


Exhibit 1.5 – 107 Woodlawn Road Level 3 Floor Plan

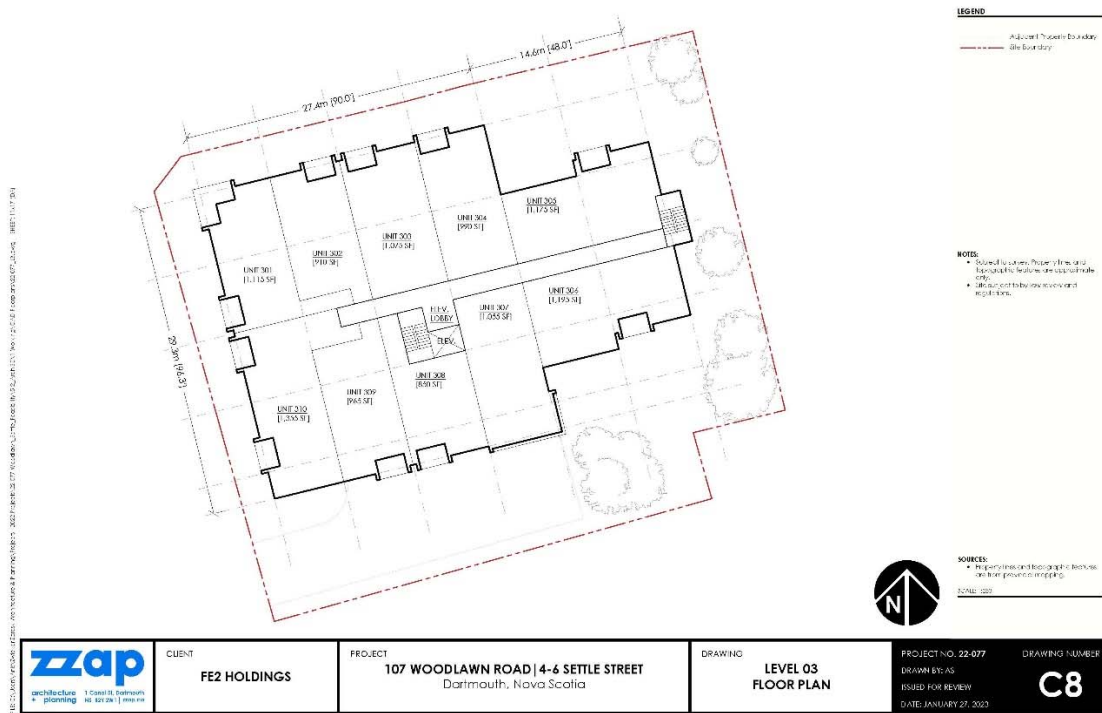


Exhibit 1.6 – 107 Woodlawn Road Level 4 Floor Plan

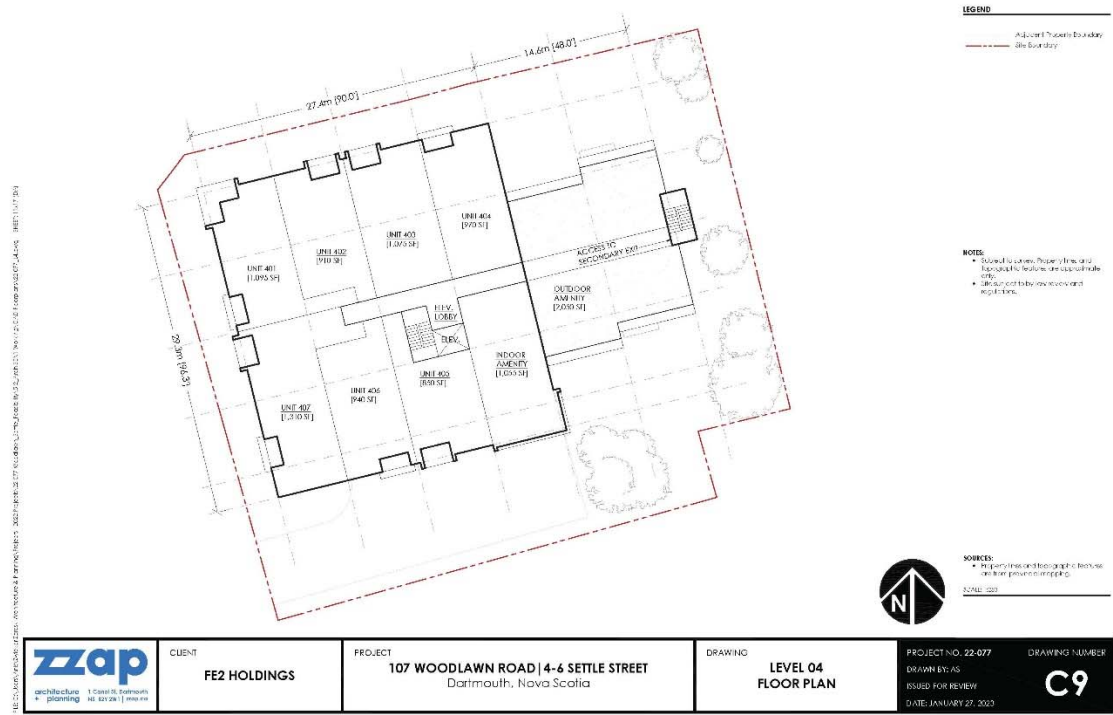


Exhibit 1.7 – 107 Woodlawn Road Elevation Woodlawn Road

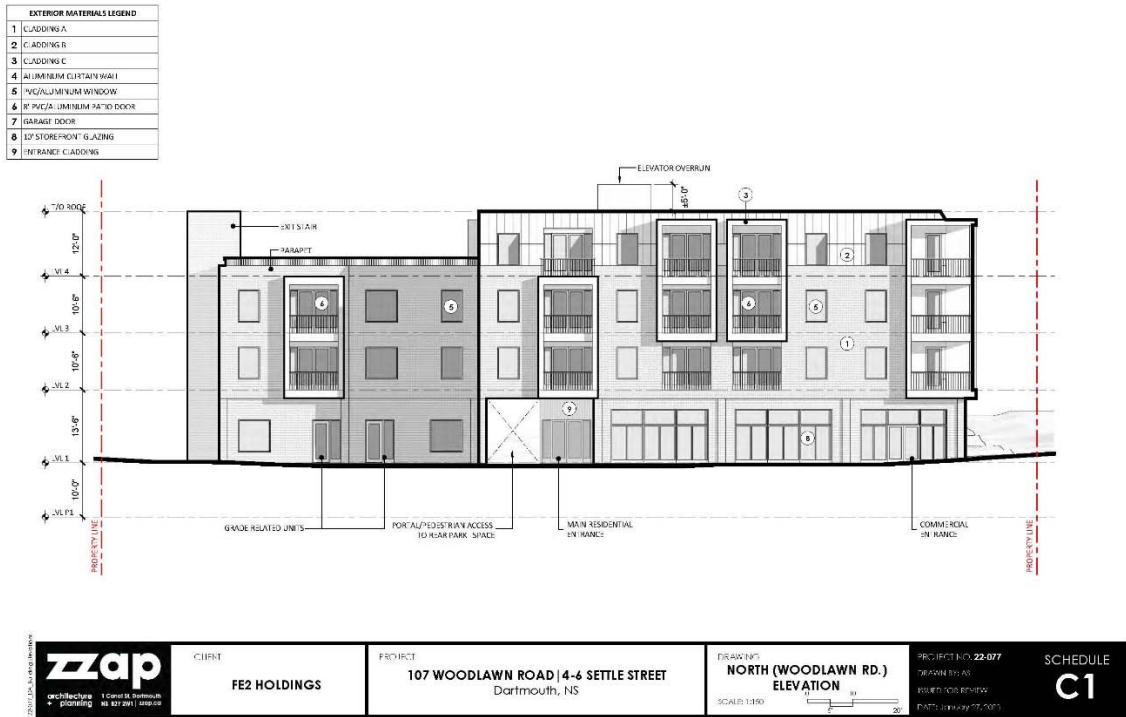


Exhibit 1.8 – 107 Woodlawn Road in Dartmouth, Nova Scotia



JRL consulting was retained to prepare a Traffic Impact Statement (TIS) to assess the potential traffic impacts of the proposed multi-use development in Dartmouth, Nova Scotia.

The purpose of a Traffic Impact Statement is to provide a high level overview of a proposed development including estimates of site-generated traffic along with an initial review of existing traffic counts in the general area of the proposed development. This information will form part of the initial application to HRM which will be reviewed by staff and council. We are pleased to submit this report which summarizes our findings and provides the information required by HRM for review.

2 Existing Traffic Conditions

2.1 Description

The principal routes affected by this development are Woodlawn Road and Settle Street. Exhibit 2.1 summarizes HRM's Characteristics of Street Classes from HRM's Municipal Service Systems Design Guidelines.

Exhibit 2.1 - HRM Characteristics of Street Classes

Characteristic	Arterial Street	Major Collector	Minor Collector	Local Industrial	Local Street
1. Traffic Service Function	First Consideration	Traffic movement primary consideration, land access secondary consideration, some parking	Traffic movement of equal importance with land access, parking permitted	Traffic movement secondary consideration with land access primary consideration, parking permitted	Traffic movement secondary consideration with land access primary consideration, parking permitted
2. Land Access Function	Limited Access with no parking				
3. Range of design traffic average daily volume	More than 20,000	12,000 to 20,000 or more	Up to 12,000	Less than 3,000	Less than 3,000
4. Characteristics of traffic flow	Uninterrupted flow except at signals; w/ pedestrian overpass	Uninterrupted flow except at signals and crosswalks	Interrupted flow	Interrupted flow	Interrupted flow
5. Average running speed in off-peak conditions	50-70 km/hr	40-60 km/hr	30-50 km/hr	15-30 km/hr	15-30 km/hr
6. Vehicle types	All types	All types but trucks may be limited	All types with truck limitation	All types	Passenger and service vehicles, transit buses; large vehicles restricted
7. Connects to	Expressways, arterials, major collectors, minor collectors	Expressways, arterials, major collectors, minor collectors, some locals	Arterials, major collectors, minor collectors, locals	Some major collectors, minor collectors, locals	Some major collectors, minor collectors, locals

Woodlawn Road is a key major collector road that runs in a general north-south direction between Portland Street (Route 207) and Main Street. It provides access to commercial and residential land uses. It was two lanes in each direction in front of the proposed development at 107 Woodlawn Road. There are concrete sidewalks on both sides on Woodlawn Road in this area. The posted speed limit is 50 km/hr. Its signalized intersection with Settle Street and Valleyfield Road is located just west of the proposed development.

Settle Street is a local road that connects Woodlawn Road to Portland Street. It provides access to single family homes through its length. There are no sidewalks and the posted speed limit is 50 km/hr. A channelized right turn lane to Woodlawn Road is located at its northern end near the proposed access to the development. Left turns from Portland Street to Settle Street are prohibited as are left turns from Settle Street to Portland Street.

Refer to Exhibit 2.2 for photos of the Study Area around the proposed development.

Exhibit 2.2 – Study Area Photos



Settle Street at Woodlawn Road looking north



Woodlawn Road at Settle Street and Valleyfield Road looking east



Valleyfield Road at Woodlawn Road looking south



Woodlawn Road at Settle Street and Valleyfield Road looking west



Day Avenue at Woodlawn Road looking west

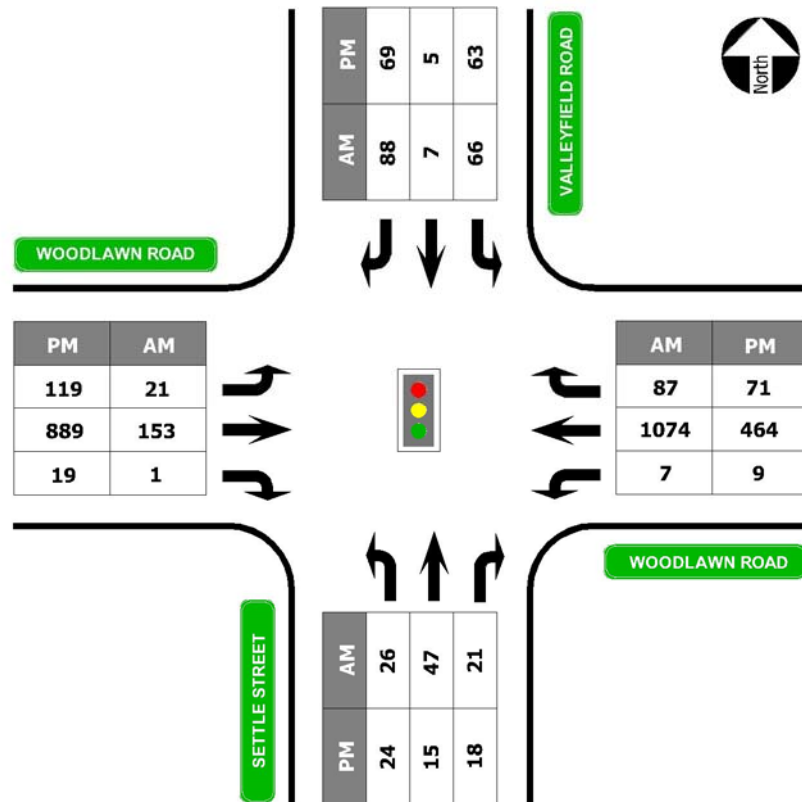


Settle Street looking south with proposed development on left

2.2 Existing Traffic Volumes

We completed a site review on February 6, 2023. The proposed development is located just east of the signalized Woodlawn Road/Settle Street/Valleyfield Road intersection. HRM completed turning movement counts this intersection in September 2017. We applied an annual background growth rate of 2% to estimate traffic in 2023 as summarized in Exhibit 2.3.

Exhibit 2.3 – Woodlawn Road at Settle Street/Valleyfield Road Estimated Existing Traffic 2023



Based on these counts we estimate that the AM peak hour traffic on Woodlawn Road in front of the development will be 1166 vehicles westbound towards downtown Dartmouth and Halifax and 241 vehicles eastbound. In the PM peak hour we estimate 544 vehicles westbound towards downtown Dartmouth and Halifax and 970 vehicles eastbound in front of the proposed development.

2.3 Trip Distribution

HRM's counts at the Woodlawn Road/Settle Street/Valleyfield Road intersection provide an indication of trip distribution in the area and we expect that traffic generated by the proposed residential development will follow the same patterns. The majority of vehicles in the AM peak hour are heading west towards Halifax (83%) and this reverses in the PM peak as people return home eastbound (64%).

2.4 Transit and Pedestrians

The area around the proposed development is well serviced by Halifax Transit on Routes 58, 63, 67 and 158 that provide regular service 7 days a week with connections to the rest of the transit network in Halifax and Dartmouth. Refer to Exhibits 2.4 through 2.7

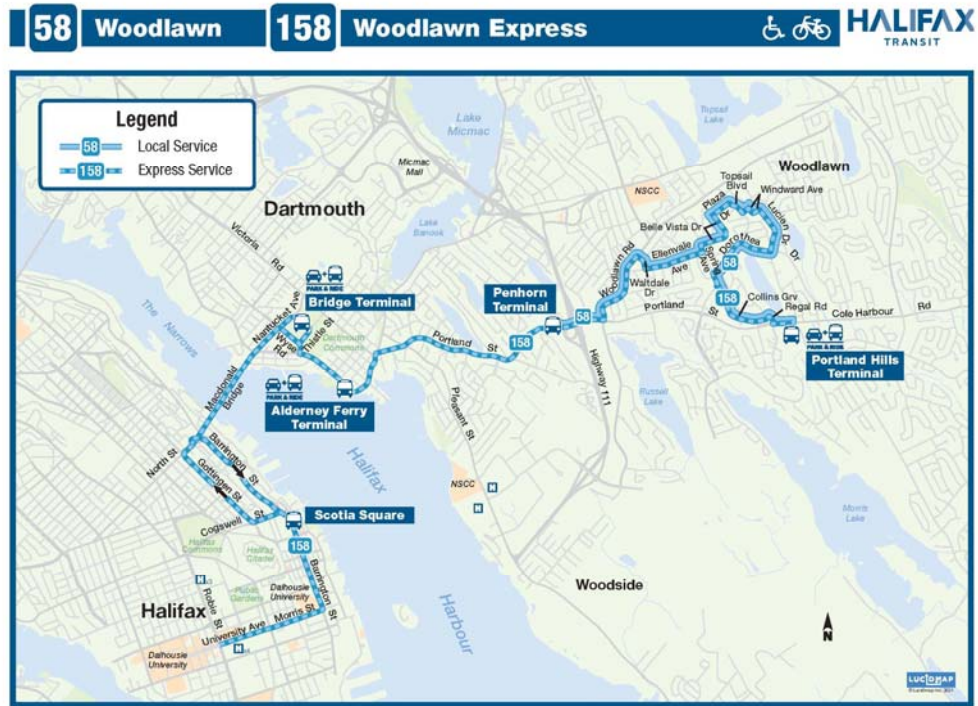
There are concrete sidewalks on both sides on Woodlawn Road in this area. The Woodlawn Road/Settle Street/Valleyfield Road intersection to the west offers opportunities for pedestrians to safely cross Woodlawn Road.

Exhibit 2.4 – Halifax Transit Route 67 Baker



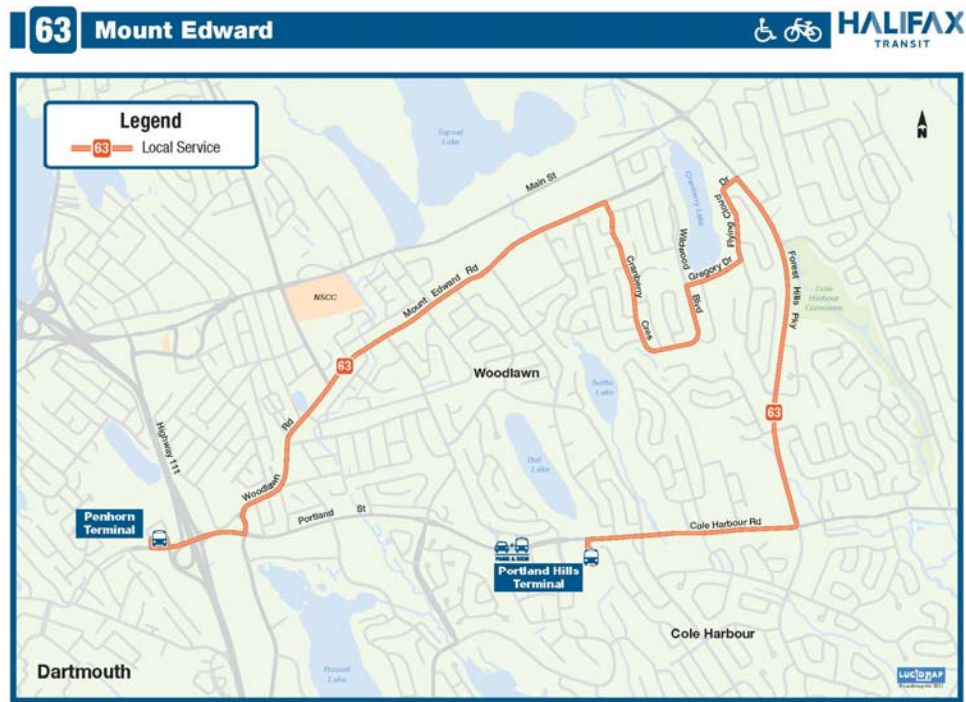
Effective Date: November 22, 2021

Exhibit 2.5 – Halifax Transit Route 58 Woodlawn



Effective Date: November 22, 2021

Exhibit 2.6 – Halifax Transit Route 63 Mount Edward



Effective Date: November 22, 2021

Exhibit 2.7 – Halifax Transit Route 178 Mount Edward Express



Effective Date: November 22, 2021

2.5 Stopping Site Distance

As per the Transportation of Canada Geometric Design Guide for Canadian Roads, adequate stopping site distance *"is essential for safe operation that the vehicle operator be able to see far enough ahead to stop if necessary. Conditions that would force a vehicle operator to stop are for example, an object on the roadway, a culvert washout or other fault in the roadway. Adequate stopping site distance is required throughout the length of the roadway. Minimum stopping site distance is the sum of two distances namely:*

- *Brake reaction distance*

The distance travelled during the brake reaction time, that is the time that elapses from the instant an object, for which the driver decides to stop, comes into view to the instant the driver takes remedial action (contacts brake pedal).

- *Braking distance*

The distance travelled from the time that braking begins to the time the vehicle comes to a stop."

The proposed driveway to the underground parking in the building is located on Settle Street. Visibility is good to the south on Settle Street and the existing Woodlawn Road/Settle Street/Valleyfield Road intersection is location to the north.

A design speed of 50 km/hr requires a stopping site distance of 65 m. We didn't see any concerns with adequate Stopping Site Distance during our visual inspection.

3 Site Generated Traffic

3.1 Trip Generation

The proposed development will include 29 apartment units and 4,032 sqft of commercial space. The existing property has a 1,000 sqft RiteStop Convenience Store. We understand that the anticipated commercial space will likely continue to be a local convenience store and the owner has indicated that customer traffic (walking and driving) would be similar to what is observed today. As a result we will estimate current traffic at the existing convenience store and will apply that to the proposed commercial portion of the development so the net increase in estimated traffic is attributed to the residential portion of the development

We completed trip generation estimates using equations provided in Institute for Transportation Engineer’s Trip Generation Manual 11th Edition for the existing and proposed land uses with the following Land Use Codes.

- ITE Land Use 851 Convenience Store

"A convenience store is a small retail business that sells grocery and other everyday items that a person may need or want as a matter of convenience. Convenience stores are typically located along major thoroughfares to optimize motorist convenience. Extended hours of operation (with many open 24 hours, 7 days a week) further support the convenience of the store." The unit of measurement for average vehicle trip ends is 1,000 Square Feet Gross Floor Area.

- ITE Land Use 221 Multifamily Housing (Mid-Rise)

"Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors)." The unit of measurement for average vehicle trip ends is dwelling units.

Exhibit 3.1 – Estimated Existing Site Generated Traffic Volumes

LAND USE	QUANTITY	AM PEAK			PM PEAK		
		TOTAL	ENTER	EXIT	TOTAL	ENTER	EXIT
Convenience Store ITE Land Use 851	1,000	63	50%	50%	49	51%	49%
			31	31		25	24
TOTAL		63	31	31	49	25	24

Exhibit 3.2 – Estimated Future Site Generated Traffic Volumes

LAND USE	QUANTITY	AM PEAK			PM PEAK		
		TOTAL	ENTER	EXIT	TOTAL	ENTER	EXIT
Apartments (Mid-Rise) ITE Land Use 221	29	11	23%	77%	11	61%	39%
			2	9		7	4
Convenience Store ITE Land Use 851	4,035 sqft	63	60%	40%	49	50%	50%
			32	31		25	24
TOTAL		74	34	40	60	32	28

We estimate that the new residential portion of this proposed development will generate net new additional traffic volumes of **11** vehicles in the AM peak hour and **11** vehicles in the PM peak hour.

3.2 Parking

The underground parking planned for the development will have 18 vehicle parking spaces and 13 bicycle parking spaces that will be dedicated for the residential apartments. An additional 5 bicycle parking spaces will be provided on an outdoor bike rack.

No on-site parking is planned for the commercial portion of the proposed development which will likely be a similar local convenience store. The owner expects that the convenience store will serve new residents of the development as well as residents in the immediate area. Customers that have a vehicle would leverage existing on street parking on the side streets (Day Avenue and Settle Street). Customer visits are generally quick for this type of land use which minimizes the amount of expected on-street parking.

The site is also located in a pedestrian and bicycle friendly area so it fits well with HRM’s Active Transportation Program that aims to help residents bike, walk and use other human power ways to move around the city. HRM’s Integrated Mobility Plan (IMP) has set a target that at least 30% of trips will be made by walking, bicycling or transit while no more than 70% will be made by private vehicles.

4 Conclusions and Recommendations

- This Traffic Impact Statement has provided a high level overview of the proposed redevelopment of 107 Woodlawn Road in Dartmouth, Nova Scotia. The proposed development will replace a convenience store with a new 4 story apartment building that will have 29 apartment units and 4,035 sqft of commercial space with 18 underground vehicle parking spaces and 23 bicycle parking spaces on site.
- It includes an estimate of new site generated trips and an analysis of existing traffic volumes in the surrounding area.
- Based on ITE Trip Generation Rates, we estimate that the proposed development will generate **11** new vehicle trips in the AM peak hour and **11** new vehicle trips in the PM peak hour which is attributed to the proposed residential apartments as the convenience store is expected to create similar traffic volumes as it does today.
- Site generated traffic will most likely follow existing trip distribution patterns along Woodlawn Road in the AM and PM peak hours with the majority of traffic traveling west towards downtown Dartmouth and Halifax in the AM peak hour and this reverses in the PM peak hour as people return home from work.
- Underground on-site parking will be created including 18 parking spaces and 13 bicycle parking spaces which will be used by the residential apartment residents. Vehicles accessing the proposed updated local convenience store will leverage existing on-street parking on the side streets for their quick visits.
- The location is well served by Halifax Transit on multiple routes with connections to various key transit terminals in the area.
- The site is also located in a pedestrian and bicycle friendly area so it fits well with HRM's Active Transportation Program that aims to help residents bike, walk and use other human power ways to move around the city. HRM's Integrated Mobility Plan (IMP) has set a target that at least 30% of trips will be made by walking, bicycling or transit while no more than 70% will be made by private vehicles.