

18 July 2018

HTC Project: 172066

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ATTENTION: TOM EMODI
PRINCIPAL

RE: TRAFFIC IMPACT STATEMENT – 155 WYSE ROAD

Mr. Emodi,

Harbourside Transportation Consultants (HTC) has completed a traffic impact statement (TIS), as per Halifax Regional Municipality (HRM) requirements, for a 12-storey multi-unit residential building with ground floor commercial and two levels of underground parking on Wyse Road in Dartmouth, NS. The location of the proposed development at 155 Wyse Road is shown in Figure 1.



Figure 1: Location of the proposed development

The proposed development, shown in Figure 2, will include 121 units, three (3) townhouses and 5,325 sq. ft. of commercial space. The commercial space will include a 2,585 ft² Tim Hortons restaurant with a drive-through and 2,740 ft² of commercial space that will likely feature land uses such as a physiotherapy clinic, a barber shop and a tailor and/or shoe repair shop. The proposed development will include 115 vehicle parking spaces and 70 bicycle parking spaces in an underground parking lot and 9 vehicle parking spaces on Level 1, the level on which the Tim Hortons restaurant and commercial spaces are located.

It should be noted that a Tim Hortons restaurant without a drive-through with an approximately gross floor area of 2,850 ft² currently exists on the development site. As part of the redevelopment, the restaurant will be replaced with a smaller size Tim Hortons restaurant with a drive-through.

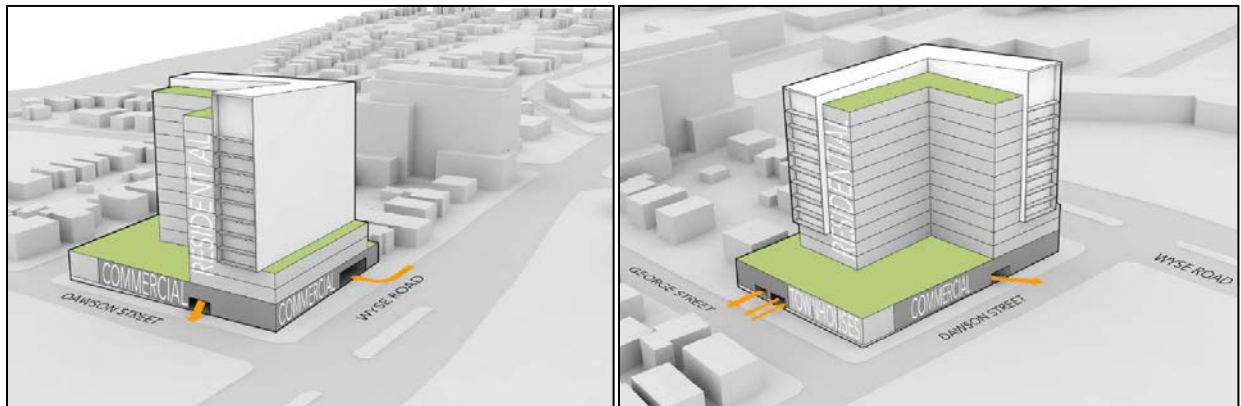


Figure 2: Development concept plan (dated Jun-21-2018)

Site Access

Three access points are proposed for the development. The access points are located on Wyse Road, Dawson Street and George Street. The concept plan for the ground floor (Level 1) showing the access points and site circulation is shown in Figure 3.

- Wyse Road – The access on Wyse Road will only allow vehicles to enter the parking aisle on Level 1 and the Tim Hortons drive-through. Vehicles will not be able to exit the proposed development to Wyse Road.
- Dawson Street – The exit to the Tim Hortons drive-through will be located on Dawson Street. Vehicles will not be able to enter the proposed development from Dawson Street.
- George Street – The exit to the parking aisle on Level 1 will be located on George Street. The proposed access on George Street will also include a two-way access to/from the underground parking garage.

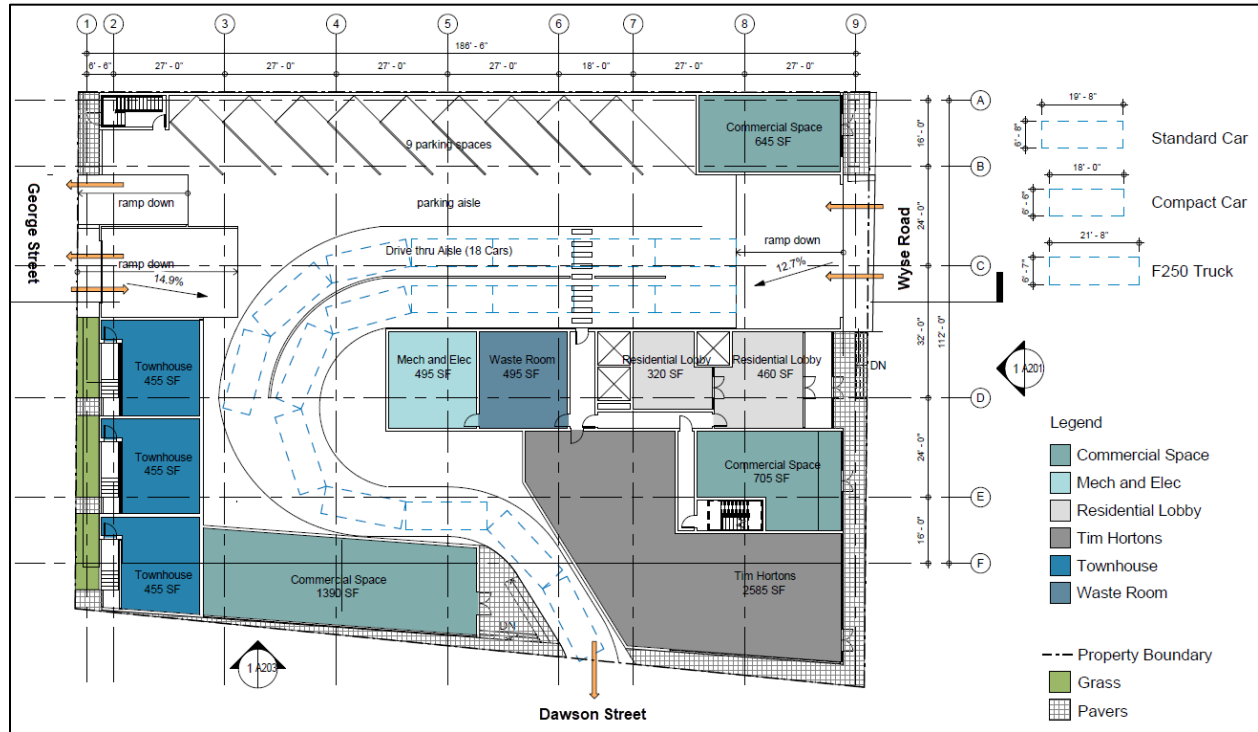


Figure 3: Concept plan – Level 1 (dated Jun-21-2018)

The proposed access points must meet HRM's stopping and turning sight distance requirements. For arterial roadways (Wyse Road), the HRM *Municipal Design Guidelines (2013)* specifies the following sight distance requirements:

- Minimum stopping sight distance = turning sight distance
- Minimum turning sight distance = as defined by the TAC *Geometric Design Guide for Canadian Roads*

For local roadways (Dawson Street and George Street), HRM specifies the following sight distance requirements:

- Minimum stopping sight distance = 65 metres
- Minimum turning sight distance = as defined by the TAC *Geometric Design Guide for Canadian Roads*

The TAC *Geometric Design Guide for Canadian Roads* specifies the following sight distance requirements for a design speed of 50 km/h:

- Minimum stopping sight distance = 65 metres
- Minimum turning sight distance – left-turn from stop = 105 metres
- Minimum turning sight distance – right-turn from stop = 95 metres

The sight distance available at each access point was reviewed to ensure the required sight distances will be available at the proposed access points. It should be noted that this consists of a high-level review using field observations and aerial imagery. The measurements were observed from the approximate locations of the proposed access points. The following points were observed:

- Wyse Road – The minimum stopping sight distance will be provided in both directions. While vehicles are not allowed to exit at this access point, the minimum turning sight distance will be available.
- Dawson Street – The distance between the intersection of Wyse Road and Dawson Street and the proposed access is less than 30m, however the access point will be visible to vehicles on Dawson Street and oncoming vehicles will be visible to vehicles exiting the development along the entire roadway segment (north of the driveway). The minimum stopping sight distance and turning sight distance will be provided west of the driveway.
- George Street – The distance between the intersection of Wyse Road and Dawson Street and the proposed access is less than 40m, however the access point will be visible to vehicles on George Street and oncoming vehicles will be visible to vehicles exiting the development along the entire roadway segment (east of the driveway). The minimum stopping sight distance will be provided west of the driveway. Large trees located in the buffer between the curb and sidewalk may restrict turning sight distance at the future driveway. This is a common occurrence at other driveways along the George Street.

Pedestrians and Transit

The proposed development is located downtown Dartmouth. Therefore, a number of the anticipated trips may occur via transit, walking or cycling. Sidewalks are provided on both sides of Wyse Road and Dawson Street.

The area is serviced by Halifax Transit with four routes on Wyse Road. A bus stop is located within 100 metres of the proposed development. The proposed development is located less than a 500 metre walking distance to the Halifax Transit Bridge Terminal.

Trip Generation

The trip generation rates for the proposed development were quantified using the 10th edition of the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE).

A Tim Hortons restaurant without a drive-through with an approximately gross floor area (GFA) of 2,850 ft² currently exists on the development site.

In order to account for the existing trips to/from the existing Tim Hortons restaurant which would be expected to carry over to the new Tim Hortons restaurant, the ITE trip generation rates for the existing and proposed restaurant were compared.

The ITE trip generation rates for the existing 2,850 ft² coffee/donut shop without drive-through window (land use code 936) and the future 2,585 ft² coffee/donut shop with drive-through window (land use code 937) are shown in Table 1. The difference in trips between the future and existing Tim Hortons are considered new trips to the development.

Based on ITE trip generation data, the proposed Tim Hortons restaurant will generate 58 less trips (-29 trips in/-29 trips out) during the AM peak hour and 9 additional trips (5 trips in/4 trips out) during the PM peak hour than the existing restaurant.

Table 1: Comparison of trip generation rates for the existing and future Tim Hortons Restaurant

Use	Number	Unit	1000 sq. ft. GFA	ITE Code	AM Peak Rate	AM Peak Trip Gen	AM Peak In	AM Peak Out	PM Peak Rate	PM Peak Trip Gen	PM Peak In	PM Peak Out
Tim Hortons without Drive-Through	2,850	sq. ft.	2.9	936	101.14	289	147	142	36.31	104	52	52
Tim Hortons with Drive-Through	2,585	sq. ft.	2.6	937	88.99	231	118	113	43.38	113	57	56
Difference						-58	-29	-29		9	5	4

While it may seem unusual that the trips to the Tim Hortons restaurant will be reduced once a drive-through is added, the following points specific to the study area and location of the proposed development could support a reduction in trips and/or little to no additional new trips during the peak hours:

- The nature of the current restaurant is more of a sit-down or gathering place since the existing restaurant does not have a drive-through. The location of the proposed restaurant within a multi-unit residential building with ground floor commercial will likely change the nature of the restaurant to more of a drive-through destination.
- The development is located on a major commuting route to the Macdonald Bridge, therefore it can be assumed that the majority of trips to the drive-through during peak hours would consist of pass by trips. Pass-by trips are trips made by vehicles already travelling along Wyse Road and are therefore not considered new trips.
- There are two Tim Hortons kiosks with drive-throughs located on Wyse Road in the vicinity of the proposed development, both located on the north side of the Wyse Road (opposite of the development). One kiosk is located approximately 100 metres west of the development and the other is located approximately 160 metres east of the development. Due to the number of existing Tim Hortons drive-through in the area, the proposed drive-through will not consist of a significant new destination in the area that would attract new trips to the area.
- The location of the restaurant on the south side of Wyse Road will make it attractive to vehicles travelling eastbound towards the MacDonald Bridge. Vehicles on that route currently must make a left-turn in and out of the Tim Hortons restaurants located on the north side of Wyse Road. The new restaurant will allow them to turn right into the drive-through and turn right on Wyse Road from Dawson Street, right turns are a safer and easier maneuver to perform on high volume roads. Existing eastbound pass-by trips to the existing Tim Hortons drive-throughs will likely become pass-by trips to the proposed Tim Hortons drive-through.
- The proposed restaurant is slightly smaller than the existing restaurant (by approximately 265 ft²).

The trip generation rates for both the AM and PM peak hours of adjacent stream traffic for the proposed development are noted in Table 2. The residential units and 2,740 ft² of commercial space are anticipated to generate 48 primary trips (16 trips in/32 trips out) during the AM peak hour and 55 primary trips (31 trips in/24 trips out) during the PM peak hour.

When taking into account the change in trips generated by the proposed Tim Hortons compared to the existing restaurant, the overall proposed development is anticipated to generate 10 fewer trips (-13 trips in/3 trips out) during the AM peak hour and 64 additional trips (36 trips in/28 trips out) during the PM peak hour.

Table 2: Trip generation rates for the proposed development

Use	Number	Unit	1000 sq. ft. GFA	ITE Code	AM Peak Rate	AM Peak Trip Gen	AM Peak In	AM Peak Out	PM Peak Rate	PM Peak Trip Gen	PM Peak In	PM Peak Out
Multifamily Housing (High-Rise)	121	DU	-	222	0.31	38	9	29	0.36	44	27	17
Multifamily Housing (Low-Rise)	3	DU	-	220	0.46	2	0	2	0.56	2	1	1
Commercial - Barber Shop	645	sq.ft.	0.6	918	1.21	1	1	0	1.45	1	0	1
Commercial - Tailor/Shoe Repair	705	sq.ft.	0.7	876	1.00	1	1	0	4.12	3	2	1
Commercial - Physio Clinic	1,390	sq.ft.	1.4	630	3.69	6	5	1	3.28	5	1	4
Tim Hortons with Drive-Through	2,585	sq. ft.	2.6	-	-	-58	-29	-29	-	9	5	4
Trips Generated at Full Build-Out						-10	-13	3		64	36	28

Drive-Through Storage Capacity

The proposed two-aisle drive-through for the Tim Hortons restaurant will provide storage capacity for approximately 18 vehicles. To assess if the storage capacity of the drive-through will be sufficient to prevent the queues from extending onto Wyse Road, drive-through queue lengths were observed at another comparable Tim Hortons restaurant located at 207 Portland Street in Dartmouth, NS. This Tim Hortons is also located on a major commuting route to the MacDonald Bridge and Downtown Dartmouth.

Queue lengths were observed at the restaurant's drive-through for a one-hour period (7:30-8:30 am) during the morning peak period on Wednesday July 17th, 2018. The morning peak hour period typically represent the busiest time for Tim Hortons drive-throughs. A maximum queue length of 12 vehicles was observed during the one-hour period. Based on these observations, the proposed drive-through should provide sufficient capacity to accommodate queues. The Tim Hortons' drive-through queues are not expected to extend onto Wyse Road.

Conclusions and Recommendations

The proposed development, will include 121 units, three (3) townhouses and 5,325 ft² of commercial space. The commercial space will include a 2,585 ft² Tim Hortons restaurant with a drive-through and 2,740 ft² of commercial space that will likely feature land uses such as a physiotherapy clinic, a barber shop and a tailor and/or shoe repair shop.

The proposed Tim Hortons restaurant with a drive-through will replace the existing Tim Hortons restaurant without a drive-through currently located on the site. Based on ITE trip generation rates, the proposed Tim Hortons restaurant with a drive-through will generate less trips than the existing restaurant. The proposed Tim Hortons restaurant will generate 58 less trips (-29 trips in/-29 trips out) during the AM peak hour and 9 additional trips (5 trips in/4 trips out) during the PM peak hour than the existing restaurant.

Based on the location of the restaurant on a major commuter route and the presence of existing Tim Hortons kiosks with drive-throughs located within less than 200 metres on either side, it is likely that the majority of trips to the proposed restaurant will consist of pass-by trips from existing vehicles on Wyse Road. A number of factors specific to the study area and location of the proposed development could support a reduction in trips and/or little to no additional new trips during the peak hours.

The other components of the proposed development, including 124 residential units and 2,740 sq. ft. of commercial space are anticipated to generate 48 trips (16 trips in/32 trips out) during the AM peak hour and 55 trips (31 trips in/24 trips out) during the PM peak hour.

The proposed development is not anticipated to have an appreciable impact on the traffic operations on Wyse Road during the peak hours. It is anticipated that the proposed Tim Hortons restaurant will generate less trips than the existing restaurant or little additional trips to the area during the peak hours. Typically,



a development is considered to have an appreciable impact on adjacent street traffic if it generates over 100 primary vehicle trips during the peak hours. The Tim Hortons would have to generate over 52 primary trips during the AM peak hour and 45 primary trips during the PM peak hour. Primary trips consist of “new” trips made to the development and exclude pass-by trips which are completed by existing vehicles on the adjacent roadway. Since it is expected that the majority of trips to the proposed Tim Hortons restaurant will consist of pass-by trips, it is considered unlikely that the threshold of 100 primary vehicle trips will be reached.

The proposed capacity of the Tim Hortons drive through should be sufficient to handle the morning peak hour queues based on maximum queue observations at a similar Tim Hortons restaurant on Portland Street in Dartmouth, NS.

If you have any questions or additional discussion, please feel free to contact the undersigned.

Regards,

Original Signed

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