



November 4, 2019

Jennifer Tsang, MCIP
Sunrose Land Use Consulting

[Via Email: sunrose@eastlink.ca]

**RE: Trip and Parking Generation Study
56 Walter Havill Drive Drive, Halifax, NS**

Dear Ms. Tsang:

Stoneridge on the Park is a residential development in Halifax at the Dunbrack Street/Walter Havill Drive intersection. An application has been made to amend a development agreement to include the following changes:

- a commercial gym on the ground floor of 56 Walter Havill Drive (currently a private gym for residents); and
- change the permitted 12 room lodging house and one existing residential unit into twelve residential units on the ground floor of 56 Walter Havill Drive

The purpose of this analysis is to assess the impact of these changes on traffic and parking.

The Institute of Transportation Engineers (ITE) provides data on expected trip generation and parking generation for a variety of land uses based on numerous field counts. Those sources and the applicable rates for this analysis are provided in the table below. ITE does not have a category in its list of land uses to cover a “lodging house”. Although no description of a lodging house is provided in the development agreement, it might be assumed to be a suite of rooms that are rented out for periods ranging from several days to several months. To gain a sense of how much difference there might be between the trips and the parking generated by a unit in a standard residential high-rise apartment and a unit in a lodging house, several proxies for a lodging house were considered:

- Rental Townhouse- developments with rented rather than owned units and a minimum of two attached units per building
- Recreational Homes – dwellings that are often second homes used periodically by the owner and/or rented on a seasonal basis
- Timeshare – a property shared by multiple owners who each use it for a period of the year
- Business Hotel – lodging aimed at business travelers with fewer support facilities than a regular hotel

The table below shows the per unit parking and trip generation rates for these proxy uses compared to the expected rates for a high rise apartment building. The ITE description of a high rise apartment building (Land Use Code 222) is multifamily housing including apartments, townhouses and condominiums that have more than ten floors.

Land Use		Trip Generation Rates ¹			Parking Generation Rates ²
		Weekday	AM Peak	PM Peak	
Lodging House Proxies	Rental Townhouse (Land Use 224)	n/a	n/a	n/a	1.62
	Recreational Home (Land Use 260)	3.47	0.28	0.22	n/a
	Timeshare (Land Use 265)	8.63	0.40	0.63	n/a
	Business Hotel (Land Use 312)	4.02	0.39	0.32	0.71
Average of Lodging House Proxies		5.37	0.36	0.39	1.17
High-Rise Apartment (Land Use 222)		4.45	0.31	0.36	1.37
<p>Notes:</p> <ol style="list-style-type: none"> 1. Trip generation rates are vehicles per hour (or per day) per unit for the indicated land use, prepared using published rates from <i>Trip Generation Manual, 10th Edition</i> (Institute of Transportation Engineers, Washington, 2017). 2. Parking generation rates are highest number of vehicles parked at one time per unit for the indicated land use, prepared using published rated from <i>Parking Generation, 4th Edition</i> (Institute of Transportation Engineers, Washington, 2010). 					

This data suggest that, based on the four proxy land uses, converting lodging house units to high-rise residential units will result in nearly identical, perhaps slightly lower, trip generation. The lower trip generation rate is understandable, since longer-term residents are more likely to seek transit, walking or ridesharing opportunities for their commuting trips.

The parking requirement for converting lodging house units to high rise units is also expected to be very similar, perhaps slightly higher. A higher parking demand is difficult to rationalize. We expect that the rate we calculated for a lodging house from two proxy land uses may be slightly underestimated. There is a distinct difference between the rates for a rental townhouse and a business hotel and we suspect that parking characteristics of lodging house units will tend to be closer to those of a townhouse than those of a business hotel.

If you have any questions or comments, please contact me by email at david.mccusker@wsp.com or by telephone at 902-256-2087.

Sincerely,

Original Signed

David McCusker, P.Eng.
Senior Transportation Engineer
WSP Canada Inc.



February 26, 2020

Jennifer Tsang, MCIP
Sunrose Land Use Consulting

[Via Email: sunrose@eastlink.ca]

**RE: Trip and Parking Generation Study
56 Walter Havill Drive Drive, Halifax, NS
Case #21929**

Dear Ms. Tsang:

This is a follow-up to my letter dated November 4, 2019 outlining the traffic and parking impacts related to an application to amend a development agreement for Stoneridge on the Park. The information provided here is in response to comments received from the Municipality. The amendments to the development agreement that might affect traffic and parking are:

- change a 6000 sq.ft. Fitness Centre on the ground floor of 56 Walter Havill Drive, currently intended for the use of residents, to a commercial fitness centre still focused on residents but open to the general public; and
- change the permitted 12-room lodging house and one existing residential apartment unit into twelve residential apartment units on the ground floor of 56 Walter Havill Drive

The purpose of this analysis is to assess the impact of these changes on traffic and parking.

The Institute of Transportation Engineers (ITE) provides data on expected trip generation and parking generation for a variety of land uses based on numerous field counts. ITE does not have a category in its list of land uses to cover a “lodging house”. Although no description of a lodging house is provided in the development agreement, it might be assumed to be a suite of rooms that are rented out for periods ranging from several days to several months. To gain a sense of how much difference there might be between the trips and the parking generated by a unit in a standard residential high-rise apartment and a unit in a lodging house, several proxies for a lodging house were considered:

- Rental Townhouse- developments with rented rather than owned units and a minimum of two attached units per building
- Recreational Homes – dwellings that are often second homes used periodically by the owner and/or rented on a seasonal basis
- Timeshare – a property shared by multiple owners who each use it for a period of the year
- Business Hotel – lodging aimed at business travelers with fewer support facilities than a regular hotel

The table below shows the per unit parking and trip generation rates for these proxy uses compared to the expected rates for a high rise apartment building. The ITE description of a high rise apartment building (Land Use Code 222) is multifamily housing including apartments, townhouses and condominiums that have more than ten floors.



Land Use		Trip Generation Rates ¹			Parking Generation Rates ²
		Weekday	AM Peak	PM Peak	
Lodging House Proxies	Rental Townhouse (Land Use Code 224)	n/a	n/a	n/a	1.62
	Recreational Home (Land Use Code 260)	3.47	0.28	0.22	n/a
	Timeshare (Land Use Code 265)	8.63	0.40	0.63	n/a
	Business Hotel (Land Use Code 312)	4.02	0.39	0.32	0.71
Average of Lodging House Proxies		5.37	0.36	0.39	1.17
Minimum of Lodging House Proxies		3.47	0.28	0.22	
High-Rise Apartment (Land Use Code 222)		4.45	0.31	0.36	1.37
Notes: <ol style="list-style-type: none"> 1. Trip generation rates are vehicles per hour (or per day) per unit for the indicated land use, prepared using published rates from <i>Trip Generation Manual, 10th Edition</i> (Institute of Transportation Engineers, Washington, 2017). 2. Parking generation rates are highest number of vehicles parked at one time per unit for the indicated land use, prepared using published rates from <i>Parking Generation, 4th Edition</i> (Institute of Transportation Engineers, Washington, 2010). 					

It is not unexpected that the average of these rates is consistent with the rates seen for apartment units. However, since there is a variation amongst the rate for individual land uses, we have chosen to use the lowest of the proxy rates (Recreational Home) to ensure that the increase in trip generation calculated for the change to apartment units is conservatively high.

The parking requirement for converting lodging house units to high rise units is also expected to be very similar, perhaps slightly higher. A higher parking demand is difficult to rationalize. We expect that the rate we calculated for a lodging house from two proxy land uses may be slightly underestimated. There is a distinct difference between the rates for a rental townhouse and a business hotel and we suspect that parking characteristics of lodging house units will tend to be closer to those of a townhouse than those of a business hotel.

The rates for trip generation for a Fitness Centre are shown in the table below. The manual describes facilities of this nature as “membership clubs that may allow access to the general public for a fee”. It is reasonable to assume that these facilities are normally stand-alone and not connected to a residential building from which much of the membership at the facility is gained. For this reason, we believe it is reasonable to assume that at least 50% of those using the Fitness Centre in question are residents of the building and do not generate a vehicle trip to get to the facility and add no additional demand on parking.



Land Use	Trip Generation Rates ¹			Parking Generation Rates ²
	Weekday	AM Peak	PM Peak	
Fitness Centre (Land Use Code 492)	n/a	1.31	3.45	5.27
50% Reduction for Majority of Patrons Living on Site	n/a	0.66	1.73	2.64
Notes: 1. Trip generation rates are vehicles per hour (or per day) per unit for the indicated land use, prepared using published rates from <i>Trip Generation Manual, 10th Edition</i> (Institute of Transportation Engineers, Washington, 2017). 2. Parking generation rates are parking demand per day per 1000 square feet of gross floor area, prepared using published rates from <i>Parking Generation, 4th Edition</i> (Institute of Transportation Engineers, Washington, 2010).				

Totals for increased trip generation and parking demand are shown in the table below.

Land Use	Additional Trip Generation			Additional Parking Generation
	Weekday	AM Peak	PM Peak	
Conversion of 12 Lodging Units and one Apartment to 12 Apartments	7	0.1	1.3	1.0
Conversion of Resident-only Fitness Centre (6000 sq.ft.) to Allow Some External Patronage	72 ¹	4.0	10.4	15.8
Total Additional Trips/Parking Demand Generated	79	4.1	11.7	16.8
Notes: 1. No daily trip generation rate is available for Fitness Centre, so daily rates have been assumed to be five times the sum of the peak hour generation rates.				

From our knowledge of the roadway network in this area and the direction of trip destinations, we believe the additional trips will be distributed onto the roadway network according to the percentages shown below. This assumes that all additional traffic will access the roadway network from the surface parking lot connected to Walter Havill Drive.

- 40% to Herring Cove Road via Osborne Street
- 40% to North West Arm Drive via Walter Havill Drive
- 20% to North West Arm Drive via Osborne Street

Given this distribution pattern, the maximum number of vehicles that would be added to any one major intersection is 1.6 in the morning peak and 4.7 in the afternoon peak. We believe these volumes to be far too low to have any tangible impact on the intersection's level of service. For this reason, intersection level of service has not been assessed.

Walter Havill Drive is classified as a local street. An additional 43 daily trips can be expected to be added to the street to the east of the site and 29 daily trips to the north of the site. In determining whether traffic volumes are within the 3000 vehicle per day guideline for local streets, this volume comprises just over one



percent of that guideline. For this reason, we judge the volume to have an inconsequential effect on the street.

The existing surface parking lot currently has twelve three-hour visitor parking spaces. We monitored the utilization of these parking spaces for eighteen hours over a period of three weekdays between 9am and 7pm using a time-lapse camera. We found that the average occupancy was 91% and that all of the spaces were occupied 35% of the time. This demonstrates that there is some limited availability of parking for additional Fitness Centre patronage. It was also observed that there is an abundance of on-street parking on the street adjacent to the building which had ample availability during the weekday. For this reason, we do not believe that increased parking demand due to the conversion of the Fitness Centre will be problematic.

If you have any questions or comments, please contact me by email at david.mccusker@wsp.com or by telephone at 902-718-7215.

Sincerely,

Original Signed

David McCusker, P.Eng.
Senior Transportation Engineer
WSP Canada Inc.