



55 Green Mountain Drive  
South Burlington, VT 05403

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DEPARTMENT OF  
PLANNING & ZONING

May 25, 2017  
File: 195311183

**Attention: Dan Goltzman**  
Development  
Redstone  
210 College Street, Ste 201  
Burlington, VT 05401

Dear Dan,

**Reference: 85 North Avenue, Burlington, VT**

In preparation for your continued public hearing with the Burlington Development Review Board regarding the above referenced project we are providing herein responses to issues raised at the May 2, 2017 meeting. We are also available to attend the June 6, 2017 meeting to address any additional issues.

#### Trip Generation Rates

Vehicle trip generation estimates for the proposed project were developed using trip rates published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual, 9<sup>th</sup> Edition*, 2012. The ITE trip rates for Land Use Code 220-Apartment indicate that apartments generate 0.51 vehicle trips per dwelling unit during the AM commuter peak hour and 0.62 vehicle trips per dwelling unit during the PM peak hour. These rates however, are derived from data collected at sites in suburban settings where there is little or no use of alternative travel modes (walking, bike and/or transit). In an urban setting these rates should be adjusted downward. For this project, the ITE rates were reduced 40 percent. The US Census Journey-to-Work data for the adjacent US Census tract indicates a 53 percent share for alternative modes. The trip rates and Census reference are attached.

The 40 percent reduction in the base ITE trip rates is supported not only by the US Census data but also by recent traffic surveys we conducted in the City of Burlington. In support of the Pine Street Deli project, we conducted trip generation studies at two multi-family residential properties in Burlington's South End: Champlain School and Flynn Avenue Coop. The two properties are located approximately 1.4 miles from Burlington City Hall. Vehicle trip generation rates observed at these two sites were generally only 62 to 63 percent of the unadjusted ITE trip rates. (A copy of the Pine Street Deli project traffic data is attached.) More recently data were collected by Stantec for another Redstone apartment building at 247 Pearl Street in Burlington located approximately 0.5 miles from City Hall. The vehicle trip generation rates at this property are less than half of the unadjusted ITE rates. The subject site is located approximately 0.7 miles from City Hall.



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The following table provides a comparison among the ITE trip generation rates, rates observed at three local properties and the assumed rates in the traffic study for the 85 North Avenue project. Based on this comparison and the proposed project's location it is reasonable to assume that trip generation rates for the proposed 85 North Avenue project will be 40 percent less than the unadjusted ITE trip rates.

Table 1 Trip Rate Comparison

Commuter Peak Hour	Trip Rate (Vehicle Trips per Dwelling Unit)				
	ITE, Unadjusted <sup>1</sup>	Flynn Housing Coop <sup>2</sup>	Champlain School Apartments <sup>2</sup>	247 Pearl Street <sup>3</sup>	Proposed 85 North Avenue
AM	0.51	0.32	0.32	0.28	0.31
PM	0.62	0.46	0.38	0.31	0.37

<sup>1</sup> ITE, *Trip Generation Manual, Ninth Edition, 2012*. Land Use Code 220 – Apartments

<sup>2</sup> Based on driveway counts conducted by Stantec June 2016.

<sup>3</sup> Based on driveway counts conducted by Stantec, May 2017.

Vehicle Trip Generation

The adjusted ITE trip rates were applied to the proposed project to estimate peak hour vehicle trip generation. Assuming development of 43 residential apartment units the project will generate 13 AM commuter peak hour vehicle trips and 16 PM commuter peak hour vehicle trips as shown in Table 2. In order to provide a more conservative analysis condition a smaller, 30 percent, adjustment factor for use of alternative modes was also applied. As noted, with the smaller adjustment only two more peak hour vehicle trips are added.

Table 2 Project Traffic Generation

Direction	Vehicle Trips			
	40 Percent Adjustment		30 Percent Adjustment	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Entering	2	10	3	12
Exiting	11	6	12	6
Total	13	16	15	18

Source: ITE Land Use Code 220 – Apartments applied to 43 dwelling units.



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### Lakeview Terrace Impacts

Lakeview Terrace provides access to the subject site from the north. It was assumed that half of the project related vehicle trips would be oriented to destinations north of the subject site. Based on this assumption approximately six vehicle trips will be oriented north of the site during the AM peak hour and eight trips will be oriented to the north during the PM peak hour.

Motorists traveling to or from destinations north of the site may use either North Avenue or Lakeview Terrace. Generally, all traffic entering the site from the north would be expected to use North Avenue since: 1) North Avenue can accommodate higher travel speeds; and, 2) southbound traffic volumes are at a low level during the PM peak hour when entering volumes are heaviest. (Southbound is the off-peak direction on North Avenue during the PM commuter peak period.) Motorists exiting to the north however, may choose to use Lakeview Terrace to avoid delays associated with the traffic signal on North Avenue at North Street. Should half of these motorists choose to use Lakeview Terrace, an estimated three vehicle trips will be added to Lakeview Terrace during the AM peak hour and an estimated two vehicle trips will be added during the PM peak hour.

### Cut-Through Traffic

Stantec conducted initial traffic observations for the 85 North Avenue project in February 2016. At this time, the former Burlington College building/current COTS building was vacant. Accordingly, there were no vehicles parked in the adjacent parking lot. Absent any parked vehicles the wide-open lot was used as a cut-through route between Lakeview Terrace and North Avenue, generally in the southbound direction. A portion of the lot has since been reconstructed by COTS with striped parking stalls and raised islands defining parking bays. Similar enhancements to the balance of the lot will be made by the 85 North Avenue project. With these changes and the more active use of the lot for parking, the level of cut-through traffic and the speed of cut-through traffic are expected to diminish significantly.



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We trust that the above adequately addresses the traffic concerns raised at the DRB hearing. If we can be of further assistance, please do not hesitate to call.

Regards,

**Stantec Consulting Services Inc.**

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Cc Norm Baldwin, Burlington DPW

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