

Ref: 7738

September 21, 2020

Ms. Elizabeth Hughes
Town Planner
Concord Planning Division
Town of Concord
141 Keyes Road
Concord, MA 01742

Re: Supplemental Access Assessment
Proposed Residential Development - 1450 Main Street
Concord, Massachusetts

Dear Ms. Hughes:

Vanasse & Associates, Inc. (VAI) is providing updated trip-generation calculations in support of the proposed residential development to be located at 1450 Main Street in Concord, Massachusetts (hereafter referred to as the “Project”). In addition, at the request of the Town Engineer, a summary of vehicle travel speeds measured along Main Street in the vicinity of the Project site is also provided. As you are aware, VAI prepared a comprehensive Transportation Impact Assessment for the Project in July 2018 (the “July 2018 TIA”) which was review by the Town’s independent review consultant The Engineering Corp (TEC) whose comments were summarized in letters dated September 6, 2018 and October 19, 2018, respectively, the latter of which stated that VAI had addressed TEC’s comments concerning the July 2018 TIA.

Trip-Generation Calculations

The July 2018 TIA defined the potential impacts associated with the development of 36 single-family homes within the Project site. The trip-generation calculations acknowledged the current occupancy of a portion of the then defined Project site as including a single-family home and a two-family home and, as a result, were based on the increase in traffic associated with the construction of 34 single family homes. As currently proposed, the Project will entail the construction of 18 single-family homes and no longer includes the lots that contained the existing dwellings. Table 1 summarizes and compares the traffic characteristics of the current 18 single-family home development proposal to the 34 new single-family homes that were assessed in the July 2018 TIA.

Table 1
TRIP GENERATION SUMMARY^a

Time Period/Direction	Vehicle Trips		(A – B) Difference
	(A) Current Residential Development (18 Homes)	(B) July 2018 TIA Development Program (34 Homes)	
<i>Average Weekday Daily:</i>			
Entering	108	193	
<u>Exiting</u>	<u>108</u>	<u>193</u>	
Total	216	386	-170
<i>Weekday Morning Peak Hour:</i>			
Entering	4	8	
<u>Exiting</u>	<u>14</u>	<u>22</u>	
Total	18	30	-12
<i>Weekday Evening Peak Hour:</i>			
Entering	12	23	
<u>Exiting</u>	<u>8</u>	<u>13</u>	
Total	20	36	-16

^aBased on ITE LUC 210, *Single-Family Detached Housing*.

Project-Generated Traffic Volume Summary

As can be seen in Table 1, the current 18 single-family home development program is expected to generate approximately 216 vehicle trips on an average weekday (two-way, 24-hour volume, or 108 vehicles entering and 108 exiting), with 18 vehicle trips (4 vehicles entering and 14 exiting) expected during the weekday morning peak-hour and 20 vehicle trips (12 vehicles entering and 8 exiting) expected during the weekday evening peak-hour.

In comparison to the 34 new single-family homes that were assessed in the July 2018 TIA, the current development proposal is predicted to result in 170 fewer vehicle trips on an average weekday (a 44 percent reduction), with 12 fewer vehicle trips expected during the weekday morning peak-hour (a 40 percent reduction) and 16 fewer vehicle trips expected during the weekday evening peak-hour (a 44 percent reduction).

Based on the comparative assessment of the trip estimates for the Project, it is apparent that the current development program for the Project will be less impactful on the transportation infrastructure than the development program that was assessed in the July 2018 TIA and, as such, the overall findings of the July 2018 TIA that were reviewed by TEC on behalf of the Town remain valid.



Main Street Vehicle Travel Speeds

Vehicle travel speed measurements were performed on Main Street in the vicinity of the Project site as a part of the July 2018 TIA and were measured over a 2-day period (48-hours). Table 2 summarizes the vehicle travel speed measurements.

Table 2
VEHICLE TRAVEL SPEED MEASUREMENTS

	Main Street	
	Eastbound	Westbound
Mean Travel Speed (mph)	34	35
85 th Percentile Speed (mph)	38	38
Posted Speed Limit (mph)	30	30

mph = miles per hour.

As can be seen in Table 2, the mean vehicle travel speed along Main Street in the vicinity of the Project site was found to be approximately 34 mph in the eastbound direction and 35 miles per hour (mph) westbound. The measured 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be approximately 38 mph in both directions, which is 8 mph above the posted speed limit (30 mph). The 85th percentile speed is used as the basis of engineering design and in the evaluation of sight distances, and is often used in establishing posted speed limits.

If you should have any questions regarding this information, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Partner

Professional Engineer in CT, MA, ME, NH, RI and VA

JSD/jsd

cc: J. Rhuda – Symes Development & Permitting LLC (via email)
File

