

## Memorandum

To: Katie Whewell  
City of Newton

Date: June 15, 2022

Project #: 15548.00

From: Randall C. Hart, Principal  
Gabi Choi, EIT

Re: Crafts Street Elderly Housing with Services  
Program Modification Traffic Generation  
Newton, Massachusetts

VHB, on behalf of Mark Development (the "Proponent") has prepared this memorandum to reflect the changes in traffic generation that is expected with the change in program to the proposed elderly housing with services development on Crafts Street in Newton (the "Project"). The proposed project will include an approximately 2.7-acre site redevelopment of two commercial buildings and a school bus parking lot on Crafts Street and two residential properties on Court Street (the "Site").

Since the submittal of the traffic impact and access study in April 2022, some minor adjustments have been made to the development. The proposed changes in the building program are summarized in Table 1.

**Table 1 Crafts Street Elderly Housing Changes in Building Program**

Land Use	Previous Building Program (April 2022) <sup>a</sup>	June 2022 Updated Building Program	Change in Building Program
Independent living units	129 units	105 units	- 24 units
Assisted living units	52 units	52 units	No change
Memory care units	28 units	28 units	No change
<b>Total units</b>	<b>209 units</b>	<b>185 units</b>	<b>- 24 units</b>

<sup>a</sup> Building Program as outlined in the Transportation Impact and Access Study submitted by VHB in April 2022.

As shown in Table 1, the revised building program results in approximately 24 fewer proposed independent living units. No other program changes are proposed to the Project.

### Trip Generation Summary

To assess the changes that would be expected as a result of the program modifications, traffic generation projections have been prepared for the revised program.

The rate at which any development generates traffic is dependent upon the size, location, and concentration of surrounding developments. As mentioned previously, the revised Project will be the same land use with fewer independent living units. The ITE *Trip Generation Manual*<sup>1</sup> categorizes these land uses and provides weekday daily, weekday morning peak hour, and weekday evening peak hour unadjusted vehicle trip generation estimates for each use. The trip generation estimates for the proposed uses were projected using the same Land Use Code (LUC) 255 (Continuing Care Retirement Community). As the Project will include a mix of independent living units, assisted living units, and a memory care center, LUC 255 was determined to be the most applicable land use code as it represents a

<sup>1</sup> [Trip Generation Manual, 10th Edition](#), Institute of Transportation Engineers, Washington, D.C., 2017.

facility that provides multiple elements of elderly adult living in one location. The trip generation worksheet is included in the attachments to this memorandum.

Table 2 presents a comparison of the total Site-generated vehicle trips for the previously proposed and updated building programs.

**Table 2 Project Trip Generation Comparison**

	Total Net New Vehicle Trips		Difference	
	Previous Building Program <sup>a</sup>	June 2022 Updated Building Program	Volume	Percent
<b>Weekday Daily <sup>c</sup></b>				
Enter	335	307	-28	-8%
Exit	<u>335</u>	307	<u>-28</u>	-8%
Total	670	614	-56	-8%
<b>Weekday Morning</b>				
Enter	32	30	-2	-6%
Exit	<u>17</u>	<u>16</u>	<u>-1</u>	<u>-6%</u>
Total	49	46	-3	-6%
<b>Weekday Evening</b>				
Enter	32	31	-1	-3%
Exit	<u>50</u>	<u>48</u>	<u>-2</u>	<u>-4%</u>
Total	82	79	-3	-4%

<sup>a</sup> Based-on trip generation estimate for 2019 units, as presented in Table 3 of the April 2022 TIA.

As shown in Table 2, the updated building program is expected to generate slightly fewer weekday daily and peak hour trips than the previous building program. The revised building program is expected to result in 56 fewer vehicle trips generated over the course of an average weekday with three fewer vehicle trips generated during each peak hour.

**Existing Site-Generated Traffic**

The planned development parcels are currently occupied by two commercial office buildings and a school bus parking lot on Crafts Street and two residential properties on Court Street. Traffic volumes generated by the Crafts Street parcels under Existing conditions were captured in the turning movement counts conducted at the study area intersections in February 2022. Based on those counts, the existing uses on the Site collectively currently generate approximately 28 vehicle trips (19 entering / 9 exiting) during the weekday evening peak hour and 20 vehicle trips (6 entering / 14 exiting) during the weekday evening peak hour.

Table 3 summarizes the change in Site-generated trips between the existing land uses and the proposed Project.

**Table 3 Net New Site-Generated Vehicle Trips**

	Existing Site Trips <sup>a</sup>	Proposed Trips <sup>b</sup>	Net New Trips
<b>Weekday Daily <sup>c</sup></b>			
Enter	n/a	307	n/a
<u>Exit</u>	<u>n/a</u>	<u>307</u>	<u>n/a</u>
Total	n/a	614	n/a
<b>Weekday Morning</b>			
Enter	19	30	+11
<u>Exit</u>	<u>9</u>	<u>16</u>	<u>+7</u>
Total	28	46	+18
<b>Weekday Evening</b>			
Enter	6	31	+25
<u>Exit</u>	<u>14</u>	<u>48</u>	<u>+34</u>
Total	20	79	+59

a Based-on traffic counts conducted by VHB in February 2022, as presented in Table 3 of the April 2022 TIA.

b Trip Generation estimate based ITE LUC 255 (Continuing Care Retirement Community) based on regression equations for 185 units.

c Existing site-generated trips only counted during the weekday morning and evening peak hours.

As shown in Table 2, the updated building program is expected to result in approximately 18 new vehicle trips (30 entering/16 exiting) during the weekday morning peak hour and approximately 59 new vehicle trips (31 entering/48 exiting) during the weekday evening peak hour. It should be noted that to provide a highly conservative analysis, no mode share credits have been applied to the trip generation estimates and the Project-generated trips assume that 100-percent of the Site traffic will access the Site via private vehicles.

## Conclusion

Overall, the reduction in the number of independent living units proposed on-Site is expected to have a negligible impact on the Project trip-generation. With the revised building program, the Project is expected to generate approximately 18 new vehicle trips during the weekday morning peak hour and 59 new vehicle trips during the weekday evening peak hour.

## Attachments

- Trip Generation Worksheets

ITE TRIP GENERATION WORKSHEET  
 (11th Edition, Updated 2021)

LANDUSE: Continuing Care Retirement Community  
 LANDUSE CODE: 255 Independent Variable --- Units  
 SETTING/LOCATION: General Urban/Suburban  
 JOB NAME: 15548.00 UNITS (#): 185  
 JOB NUMBER: Proposed Crafts Street Senior Housing

**WEEKDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	9	0.98	2.47	1.98	4.71	998	242	2,238	50%	50%
AM PEAK (ADJACENT ST)	15	0.95	0.15	0.10	0.32	871	242	2,238	65%	35%
PM PEAK (ADJACENT ST)	15	0.94	0.19	0.14	0.45	871	242	2,238	39%	61%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
	DAILY	458	229	229	614	307	307
	AM PEAK (ADJACENT ST)	28	18	10	46	30	16
	PM PEAK (ADJACENT ST)	35	14	21	79	31	48

**SATURDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	5	1.00	2.06	1.96	3.00	1,523	242	2,238	50%	50%
PEAK OF GENERATOR	5	0.99	0.23	0.21	0.39	1,523	242	2,238	52%	48%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
	DAILY	382	191	191	578	289	289
	PEAK OF GENERATOR	43	22	20	80	42	38

**SUNDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	5	1.00	1.98	1.81	2.79	1,523	242	2,238	50%	50%
PEAK OF GENERATOR	5	0.98	0.22	0.18	0.32	1,523	242	2,238	52%	48%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
	DAILY	368	184	184	530	265	265
	PEAK OF GENERATOR	41	21	20	61	32	29