

To: Alison C. Steinfeld, Planning Director
Department of Planning and Community Development
333 Washington Street
Brookline, MA 02445

From: James. D. Fitzgerald, P.E., LEED AP

Date: November 27, 2018

Subject: 1299 Beacon Street, Brookline MA
Response to Traffic Peer Review

Vanasse & Associates has provided responses and subsequent evaluations dated October 25, 2018 and November 26, 2018 in response to Environmental Partners' July 6, 2018 comments. The following outlines relevant items that have been addressed and items that require further clarification.

Comment 1

EPG's Original Comment: Weekend traffic counts were performed on the Martin Luther King holiday weekend while nearby colleges such as Boston University and Boston College were on winter break. It is likely that the traffic volumes at this location experience greater fluctuations than typical; traffic counts in the area imply the 3% seasonal adjustment factor used is not adequate. Additional traffic data/assessment is requested for the Saturday midday peak.

VAI's 10/25/18 Response: *Additional weekend traffic counts were performed on Saturday, November 3, 2018 at the intersections of Harvard Street at Beacon Street and at Sewall Avenue at Charles Street.*

EPG's Response: Two of the study intersections were counted to verify that the Saturday traffic volumes collected in January and used in the analysis represent a typical Saturday with students in the area. The November 3rd traffic volumes are on average lower than the January counts used in the original study, implying the original volumes (from January) are conservative and appropriate for the analysis.

Comment 2

EPG's Original Comment: It is assumed that since the unsignalized study intersections of Sewall Avenue at Charles Street and Sewall Avenue at Site Drive are not included in Table 1 (Motor Vehicle Crash Data Summary)

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that no crashes at these location were recorded during the five-year study period. Verification is requested.

VAI's Response:

No accidents were reported at the Sewall Avenue and Charles Street intersection from either MassDOT or the Town of Brookline records.

EPG's Response:

It is our understanding that no crashes were reported at Sewall Avenue at Site Drive as well. Comment has been addressed.

Comment 3

EPG's Original Comment: The accident data from MassDOT used in the crash assessment of subject intersections is known to be lacking "due to (an) IT failure between the BPD and Mass RMV computer systems". Therefore a comparison of reports from the Brookline Police Department is requested for a more accurate and reliable evaluation.

VAI's 10/25/18 Response: *Accident data was requested from the Brookline Police Department for the period of 2016 to April 2018 and is summarized in Table 2. Over this 2.33 year period, there were 22 reported accidents, 7 involved personal injury and none involved pedestrians or bicyclists. Overall, this data is consistent with the MassDOT 2010-2014 data and none of the intersections experienced a crash rate above the state averages.*

EPG's Response:

Additional data has been provided from the Brookline Police Department for the period of 2016 to April 2018. The latest District 6 rate for unsignalized intersections is 0.52 C/MEV and for signalized intersections is 0.71 C/MEV. Crash rates higher than these averages could indicate a potential safety issue.

The updated crash rates continue to remain less than the District 6 average crash rate and are listed below:

- 0.41 C/MEV Harvard Street at Beacon Street (Signalized)
- 0.44 C/MEV Harvard Street at Longwood Avenue (Unsignalized)
- 0.00 C/MEV Harvard Street at Sewall Avenue/Stearns Road (Unsignalized)
- 0.28 C/MEV Sewall Avenue at Longwood Avenue (Unsignalized)
- 0.10 C/MEV Sewall Avenue at St. Paul Street (Unsignalized)
- 0.11 C/MEV Beacon Street at Pleasant Street (Signalized)
- 0.06 C/MEV Beacon Street at Charles Street (Signalized)

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Despite the low crash rates it should be noted that the project site and several of the study intersections fall within both the 2006-2015 Highway Safety Improvement Program (HSIP) Bicycle Crash Cluster and Pedestrian Crash Cluster. HSIP crash clusters are different from crash rate in that they take into consideration the severity of the experienced crashes and identify areas or “clusters” that fall within the top 5% crashes in the region.

The following intersections fall both within the Bicycle and Pedestrian clusters:

- Longwood Avenue at Sewall Avenue;
- Harvard Street at Longwood Avenue;
- Beacon Street at Harvard Street;
- Beacon Street at Pleasant Street.

The following intersection falls within the Pedestrian cluster only:

- Harvard Street at Sewall Avenue



Therefore, despite the low crash rates at the subject intersection, it appears that enough severe bicycle and pedestrian crashes have been experienced at intersections that immediately surround the project site to justify their falling within HSIP Crash Clusters. The pedestrian, bicycle and motorist traffic generated by the proposed development may further exasperate safety concerns at the immediately surrounding intersections and some mitigation should be considered.

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Comment 4

EPG's Original Comment: Since the limited data available for LUC 826 has a direct effect on the accuracy of the predicted trip generation for 21,285 square feet of retail space, it is requested that more information regarding the retail type be provided and that a different LUC or empirical data from a more appropriate retail development be used to better estimate retail trips.

VAI's 10/25/18 Response: *"...Based upon the latest plan, the project will include less retail/restaurant space at 10,400 sf and 80 age-restricted residential units. Land Use Code 820 – Shopping Center was utilized for the sf of retail/restaurant space and Land Use Code 252 – Senior Housing attached was utilized for the updated 80 units. The revised trip generation is summarized in Table 3... The above estimates are very comparable to the original traffic study. It should be noted that Neenas is still expected to occupy the second floor retail space and this use generates very little traffic as documented in the appendix with customer counts."*

EPG's Response: After a meeting with the town and the applicant on Tuesday, November 20, 2018, it was decided that Quality Restaurant land use code (not retail) should be used for a portion of the originally anticipated retail space and that the transit/walk reduction should be reduced from 50 percent to 38 percent.

VAI's 11/26/18 Response: *The trip generation table has been revised to reflect a quality restaurant and is attached. The level of service analysis was updated for the higher Saturday midday condition and is also attached. The weekday morning and evening peak hour volume changes are minimal and do not warrant any further analysis.*

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Table 3
TRIP-GENERATION SUMMARY (UPDATE)

	Residential Trips ^a	Residential Transit Reduction ^b	Retail ^c		Restaurant ^f		Total New Trips
			7,125 sf	Transit Reduction ^d	3,500 sf	Transit Reduction ^e	
Weekday Morning Peak Hour:							
Entering	6	-4	4	-2	2	-1	5
Exiting	<u>10</u>	<u>-7</u>	<u>3</u>	<u>-1</u>	<u>1</u>	<u>0</u>	<u>6</u>
Total	16	-11	7	-3	3	-1	11
Weekday Evening Peak Hour:							
Entering	12	-8	13	-6	18	-7	22
Exiting	<u>9</u>	<u>-6</u>	<u>14</u>	<u>-7</u>	<u>9</u>	<u>-3</u>	<u>16</u>
Total	21	-14	27	-13	27	-10	38
Saturday Midday Peak Hour:							
Entering	16	-11	17	-9	22	-8	27
Exiting	<u>10</u>	<u>-6</u>	<u>15</u>	<u>-7</u>	<u>16</u>	<u>-6</u>	<u>22</u>
Total	26	-17	32	-16	38	-14	49
Weekday Daily	296	-192	268	-134	294	-112	420
Saturday Daily	258	-168	328	-164	316	-120	450

Source: *Institute of Transportation Engineers – Trip Generation Ninth Edition.*

^aBased on ITE trip generation rates for LUC 252 applied to 80 apartments.

^bBased on 65% percent transit usage for residential use.

^cBased on ITE trip generation rates for LUC 820 applied to 7,125 sf retail space.

^dBased on 50% percent transit usage for retail use.

^eBased on ITE trip generation rates for LUC 931 applied to 3,500 sf quality restaurant space.

^fBased on 38% percent transit usage for restaurant use.

EPG's Response:

LUC 931 (“Quality Restaurant”) was used to more accurately represent the number of trips anticipated to be generated by the restaurant-portion of the retail development. Methodology for the 3,500 SF of quality restaurant portion of this space appears to be accurate and reductions for transit are supported.

LUC 820 (“Shopping Center”) was used to calculate the number of trips anticipated to be generated by the remaining 7,125 SF of retail space. While this LUC is not ideal for this sized retail development, it appears to be the most appropriate. The average rate method was used by VAI in generating these retail trips. However, there are very few data points for shopping centers of this size and the great majority of data points for substantially larger developments skew the results from the standard ITE methodology- the average rate method and the fitted curve method. Therefore, as discussed with VAI, it is suggested that LUC 820 data points for the appropriately sized developments be used to more accurately predict trips generated by a retail development of this size. This will likely result in an increase in previously presented trips generated for the retail component of this development.

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Furthermore, a reduction of only 38% should be applied to the retail trips to account for alternative modes of transportation (discussed at the November 20th meeting); a 50% reduction is unsupported/ undocumented.

Given the above comments, the number of trips generated by this development is anticipated to change and a review of updated operational analysis and no-build/ build comparison chart is anticipated as previously discussed with VAI.

Comment 5

EPG's Original Comment: A 75% reduction was applied to retail trips which is not supported in the TIA. It is requested that justification be provided relative to customers accessing the site via walking, biking or transit for the type of retail anticipated.

VAI's 10/25/18 Response: *The 75% retail trip reduction was an estimate. For purposes of the trip generation updated table, a 50% reduction was utilized.*

EPG's Response: After a meeting with the town and the applicant on Tuesday, November 20, 2018 it was decided that the mode split reduction should be reduced to 38 percent.

VAI's 11/26/18 Response: *The trip generation table was revised to reflect a 38% reduction for transit for the 3,500 SF of LUC 931, quality restaurant.*

EPG's Response: A mode split reduction of 38% for pedestrian, biking and transit trips should also be applied to the retail trips (LUC 820), as discussed at the November 20th meeting; a 50% reduction is unsupported/ undocumented.

Comment 6

EPG's Original Comment: Depending on the location of the nearest Sewall Avenue on-street parking space relative to the proposed curb-cut opening, it appears that the available sight distance looking southerly (toward Longwood Avenue) could be extremely limited. A sight distance assessment is requested including clarification of altered on-street parking, driveway circulation, and design speed.

VAI's 11/26/18 Response: *Currently, 4-5 vehicles can park on-street along Sewall Avenue between the site driveway and Longwood Avenue. With the new driveway and sight line restrictions, this parking should be removed. The proposed signage plan restricting parking is attached.*

EPG's Response: The layout of the two proposed site driveways in combination with the provided truck template (backing into the loading driveway)

appears to eliminate the existing 5 on-street parking spaces along Sewall Avenue.

It is requested that the vehicle templates be revised to see if it is feasible for trucks to access each driveway while retaining any on-street parking. In the event that on-street parking can be retained while allowing for turns, it is apparent that AASHTO sight line requirements will likely not be met. While AASHTO sight distance requirements should be followed, it is challenging to achieve in many urban environments such as this section of Brookline. According to the Town's Transportation Administrator, "Transportation Board & Transportation Division staff have consistently opposed the removal of the public parking supply (especially in high demand areas as Sewall Ave) for sightlines alone". Further evaluation is requested of driveway turns to/from Sewall Avenue in order to determine if parking is even physically feasible.

Given the anticipated impacts to on-street parking, parking mitigation and/or additional TDM measures should be considered to encourage alternative modes of transportation including compliance with the Town's Transportation Access Plan Guidelines.

Comment 7

EPG's Original Comment: Vehicle templates are requested to verify adequate space is provided for trucks to maneuver the loading zone/trash pick-up area and for parking vehicles to access the site.

VAI's Response: *Truck turning templates were provided.*

EPG's Response: Truck turning templates were provided and verify that adequate space is provided for trucks to maneuver the loading zone/trash pick-up area. However, as noted above, further evaluation is requested to determine the feasibility of on-street parking.

Comment 8

EPG's Original Comment: Driveway widths and corners appear to be tight. Although not dimensioned, the western driveway appears to be approximately 18 feet wide and the eastern driveway appears to be approximately 13 feet wide. The Town of Brookline Zoning By-Law requires 20 feet for two-way driveway access. The TIA indicates the "Site Drives should be a minimum of 24-feet in the width and accommodate two-way traffic". A detailed/updated plan is requested.

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VAI's 10/25/18 Response: *The main driveway will be 26 feet wide and the service driveway will be 20 feet wide.*

EPG's Response: Although driveways are not dimensioned on the latest plans, both driveways scale to be a minimum of 20 feet wide.

Comment 9

EPG's Original Comment: Clarification regarding the trash pickup location is requested.

VAI's 10/25/18 Response: *Trash pickup will occur from the loading area and by a private service. Pick-up times will be restricted to off-peak hours.*

EPG's Response: Loading bay restriction times should be enforced.

Please do not hesitate to contact me with any questions.