

Ref: 8393

October 30, 2020

Mr. Daniel Danesh
Danesh, LLC
500 Harvard Street
Brookline, MA 02446

Re: Responses to September 2020 Peer Review Comments, 500 Harvard Street
Brookline, Massachusetts

Dear Mr. Danesh:

Vanasse & Associates, Inc. (VAI) is pleased to submit responses to the September 17, 2020 letter from Environmental Partners (EP) and the September 16, 2020 letter from Walker Consultants (WC), the town of Brookline's Peer Review consultants for traffic and parking. For ease of review, we have listed the initial comments, our response, the EP or WC follow-up comment and our response to the follow-up comment.

EP Peer Review Letter – September 17, 2020

Existing Conditions

EP Comment 1: *“VAI did not study the roadways in the surrounding neighborhood despite the proposed driveway location requiring vehicles to exit onto a one-way road through the neighborhood. EP recommends consideration be made for site traffic impacts to safety for the cut-through route of exiting site traffic”*

VAI Response: It is important to note that there will only be parking for six (6) vehicles on site. Trips associated with these six parking spaces will be minor and average one vehicle every 10 minutes during the peak hours. Beyond the driveway, these additional trips will not be noticed on the roadway. There may be some confusion regarding the volume of traffic accessing the driveway, as the traffic networks conservatively assigned all (retail and residential) trips to the driveway when only the residential trips will have access to the garage and driveway. Therefore, site-generated and 2027 Build traffic volume networks have been updated to show that the retail trips will not access the site via the driveway. In fact, since the retail uses planned are to be neighborhood accessory-type stores, most of the trips are expected to be made via walking from nearby residences and not from driving. Figure 7R in the Appendix shows the site-generated networks while Figure 8R shows the 2027 Build networks.

As shown in Figure 7R, 3 vehicles exit the site during the weekday morning peak hour and 2 vehicles exit during the weekday evening peak hour. It is reasonable to assume only a fraction of this exiting traffic would desire to access Harvard Street directly. Conservatively assuming 50 percent of traffic desires to access Harvard Street directly after exiting the proposed site, indicates that 1 to 2 vehicles during

the peak hours would travel Kenwood Street to Columbia Street, just as the existing residents living on Kenwood Street currently do. The impact of 1 to 2 additional vehicles, even on residential streets like Kenwood Street, is negligible and therefore does not justify expanding the study area.

EP Response:

“As referenced in both the EP Traffic Peer Review and the Walker Consultants Parking Peer Review, the proposed number of parking spaces is a topic of debate, and continues to be so. As such, EP continues to recommend relying strictly on trip generation data only.

EP does not agree with the Applicant’s assumption that all retail trips will find on-street parking on Harvard Street when it appears there are no parking restrictions along Kenwood Street. As such, site traffic not within the parking garage (whether generated by residents, visitors, or patrons to the retail use) may very well pursue on-street parking along Kenwood Street instead of busy Harvard Street. As discussed in the EP Traffic Peer Review, there is no other outlet from the residential neighborhood and all vehicles must circulate through the neighborhood for as long as 2,600 feet to access Harvard Street and subsequently points to the north and south. Therefore, it is not reasonable to assume only a fraction of the site-generated residential vehicles would desire to access Harvard Street. If 100% of the residential vehicles exiting the site and some, if not all, of the retail vehicles that may have parked on Kenwood Street must travel this long, inconvenient route, traffic volumes along Kenwood Street will increase by up to 15% from existing. Even with this increase, EP agrees this does not substantially affect the delay along the roadway network. However, as discussed in detail in the EP Traffic Peer Review, our concern is regarding the site traffic impacts to safety considering the additional 128 vehicle trips per day, and not just those during the peak hours, which should be taken into consideration when establishing the driveway location (see EP’s response to Comment 19).”

VAI Response:

It is encouraging to note that EP agrees with VAI that this conservative analysis does not substantially affect the delay along the roadway network. It is important to note that the site is providing six (6) parking spaces for the residents and zero (0) parking spaces for the retail use, which are together not likely to generate 128 daily vehicle trips. The retail is expected to be a neighborhood-type use which would encourage patronage from the neighborhood and pedestrian activity, not vehicle trips. In addition, based on ITE LUC 932 – High Turnover (Sit-Down) Restaurant, the use that the site is replacing generates 194 daily trips. Using this methodology, the proposed development is calculated to generate 128 daily trips which would be a reduction of 66 daily trips to the area. If the site was not replacing an existing use, then a larger increase in traffic on Kenwood Street would be experienced. However, the site is only anticipated to generate 4 more trips in the weekday morning peak hour and 1 less trip in the weekday evening peak hour than the existing use. Therefore, the maximum increase that could be experienced is approximately 10 percent (4 trips). An increase of 4 trips during the weekday morning peak hour averages to 1 car every 15 minutes which would be unnoticeable to the users of Kenwood Street.



Existing Traffic Data

EP Comment 2: *“EP notes that due to the difference in use for different type of roadways, the seasonal fluctuations may vary between that of an interstate and that of an urban principal arterial, such as Harvard Street. We would typically recommend referencing the MassDOT 2019 Weekday Seasonal Factors Report as a secondary source; however, as the MassDOT report indicates traffic volumes for these types of roadways are approximately 3% lower than the average month, the 4% increase VAI used presents a more conservative approach.”*

VAI Response: Town’s consultant agrees with VAI on this item.

EP Response: *“No comment necessary.”*

EP Comment 3: *“EP requests the date the traffic counts were performed.”*

VAI Response: The counts were conducted on February 27, 2020 as shown on the summary count sheets which were provided in the Appendix of the March and May studies.

EP Response: *“While we recommend including this information in the memo for clarity, as it does not result in any changes to the analysis, we have no further comment.”*

EP Comment 4: *“EP notes that one (1) vehicle out of 11 existing vehicles during the weekday evening peak hour took an illegal left-turn from the driveway on Kenwood Street to access Harvard Street traveling in the opposite direction of the one-way roadway. Due to the configuration of the neighborhood roadways as described in the previous section, one could speculate that some residents of the proposed project may also take an illegal left-turn out of the proposed Kenwood Street driveway to avoid traveling the inconvenient and long travel route through the Kenwood Street, Columbia Street and Verndale Street neighborhoods to access Harvard Street”*

VAI Response: A “No Left Turn” sign will be posted indicating left turns are prohibited from the site driveway.

EP Response: *“The illegal left-turn from the driveway on Kenwood Street occurred despite the presence of an existing “One-Way” sign posted across from the driveway. While EP agrees a “No Left Turn” sign should be posted, it does not eliminate the potential for residents of the proposed project to knowingly take an illegal left-turn to access Harvard Street only 70 feet away rather than travel 2,600 feet through the residential neighborhood to access the same point.”*

VAI Response: The installation of a “No Left Turn” sign will increase the likelihood of driver compliance with the left-turn prohibition. While it is true that signage alone cannot deter illegal maneuvers from motorists, signage has been proven to be effective in reinforcing desired driver behavior and is usually among the first course of measures used with traffic calming strategies.



Sight Distance

EP Comment 5: *“EP recommends including ATR counts, which would provide documentation of the vehicles speeds in the study area necessary to determine sight distance”*

EP Comment 6: *“EP recommends providing documentation of travel speeds in order to properly determine whether or not there is adequate sight distance.”*

VAI Response: The speeds of vehicles turning onto Kenwood Street from Harvard Street were measured on July 13, 2020 during the weekday evening peak hour from 5:00 PM to 6:00 PM and July 14, 2020 during the weekday morning peak hour 7:30 AM to 8:30 AM which were recorded to be the peak hours from the February counts. A total of 40 observation were made during each peak hour. The radar gun used to record vehicle speeds does not record speeds under 10 miles per hour (mph). A number of observations were made indicating that vehicles were driving under 10 mph while executing the turn from Harvard Street to Kenwood Street. To be conservative it was assumed that these vehicles were all traveling 9 mph. The 85th percentile speed during the weekday morning peak hour was calculated to be 12.5 mph and during the weekday evening peak hour the 85th percentile speed was calculated to be 11.83 mph. Therefore, to calculate the stopping sight distance (SSD) a speed of 13 mph was used. Adequate SSD based on 13 mph is 64 feet. The sight distance measured was 69 feet; therefore, adequate SSD is provided.

EP Response: *“While ATR counts are typically used for comprehensive speed data, EP agrees with the speed study methodology. However, we note that the speeds were measured during the peak hours only, whereas ATR counts would have provided speed data for a full 24- to 48-hour period for better accuracy. Additionally, it appears that the speed data was collected at the intersection corner for vehicles turning onto Kenwood Street and not at the location of the proposed driveway approximately 70 feet from the intersection, at which point it is likely vehicles may have accelerated and would be traveling at a greater speed. Assuming the motorists turning onto Kenwood Street see vehicles exiting the site and therefore do not accelerate, it appears that the driveway barely meets the minimum sight distance requirements (by only 5 feet) using the provided limited data, and will not meet minimum requirements for vehicles traveling only 1-2 mph faster.*

VAI Response: The driver exiting the driveway would be making the decision of whether to turn when the vehicles on Harvard Street are turning onto Kenwood Street. The speed at which the vehicle is traveling at the time of the decision to turn is the speed used in calculating sight distances, not the speed at the driveway itself. In addition, the 13-mph speed used is a very conservative number due to the radar gun not being able to register speeds under 10 mph. Therefore the 69 feet is more than adequate to satisfy SSD requirements for the driveway.

EP Comment 7: *“EP also requests that a sight distance triangle be shown on plan to illustrate the intended sight lines for review”*

VAI Response: Sight distance triangles are shown on Figure 4R in the Appendix to illustrate the sight lines from the driveway.



EP Response: *“Sight triangles appear to be accurate; we have no further comments.”*

EP Comment 8: *“Regardless of vehicle speeds, EP recommends prohibiting parking along Kenwood Street between Harvard Street and the site driveway to allow for optimal sight lines”*

VAI Response: This decision is at the Town’s discretion; however, Kenwood Street is 24 feet wide which is wide enough to permit vehicles to pull into the street if there is a vehicle parked between the driveway and Harvard Street. There are numerous driveways along Kenwood Street where parking is not prohibited, and this same situation exists.

EP Response: *“As can be seen from Figure 4R, parking along Kenwood Street between Harvard Street and the site driveway would fall within the sight triangles. EP continues to recommend not allowing obstructions within the sight triangles for a clear line of sight to provide compliance with engineering standards. While we recognize this is often difficult to obtain in urban conditions, we recommend that the Town consider complying with engineering guidelines in this instance since only one legitimate parking space would need to be removed to provide optimal sight lines.*

VAI Response: So noted. This decision is at the Town’s discretion.

Future Traffic Growth

EP Comment 9: *“EP requests the backups for the traffic volumes generated from the other developments in order to verify calculations.”*

VAI Response: Backup information for the traffic volumes generated from the other developments are provided in the appendix.

EP Response: *“The backups appear to be accurate and the volumes appear to be included under no-build conditions; we have no further comments.”*

Project-Generated Traffic

EP Comment 10: *“The Memo indicates that the projections presented in Table 3 represent a conservative scenario, as the proposed project will have only six (6) parking spaces for residents, which would lead to most residents not having vehicles and relying on alternative forms of transportation. While EP agrees that many residents will likely use alternative forms of transportation as reflected in the above trip reductions, we do not agree that there is a direct correlation between the Applicant’s proposed number of parking spaces and the number of vehicles that realistically may be owned by residents, nor does the project as currently proposed meet the zoning requirements for parking spaces as discussed in Walker Consultants’ Parking Peer Review. As such, we recommend removing this statement from the memo.”*



VAI Response: Potential residents will be informed at the time of initial viewing whether there are parking spaces available for lease; if they have one or more vehicles, this development may not be right for them. This development is proposed with limited parking to minimize the presence of vehicles in this area.

This development is also consistent with recent trends where several residential projects in Brookline and elsewhere in the Greater Boston area have been approved with no parking or reduced parking. Examples include 384 Harvard Street which provided 0 parking for 62 age-restricted units, 445 Harvard Street which provided 20 spaces for 25 units or a ratio of 0.8 spaces per unit, and 455 Harvard Street which provided 12 spaces for 17 units or a ratio of 0.7 spaces per unit. The following table provides these developments and others that indicate a reduced need for parking at residential developments in Brookline.

The location of these developments is shown in Figure EP-10 in the Appendix. Several of these developments had a TDM Plan designed to reduce the need for vehicle ownership, similar to that which the Project is providing. This is in response to a desire to address traffic congestion and the market for carless tenants by limiting parking supply for residential developments.

There is also evidence that there is reduced need for parking, based on a study performed by the Metropolitan Area Planning Council (MAPC), which identified nearly 30 percent of parking spaces go unused at residential developments in the metro Boston region, including Brookline.

In addition, there are two Brookline Warrant Articles that are aimed at reducing the effects of personal vehicles and to eliminate off-street parking requirements in the Transit Parking Overlay District. Brookline Warrant Article 35, which was held over from the spring annual town meeting and will be voted on in November, would Amend Article VI of the Town's Zoning By-Laws to eliminate off street residential parking minimums in the Transit Parking Overlay District. We understand this article has support among town meeting members and shows the trend is to consider less parking rather than more. Warrant Article 31, titled "Resolution to respond to climate change by prioritizing health, access, and equity of Brookline's public ways", was passed on December 5, 2019. The warrant calls for the Town to prioritize safe, space-efficient, and energy efficient movement of people and goods over the movement and parking of private vehicles. By providing reduced parking on-site the development is aligned with the goal of WA31.

It is also important to note that while EP agrees with the trip generation as calculated in the assessment, it is extremely conservative and likely over-estimates the project trips. In addition, the traffic generated by the existing restaurant on site appears to have gone unnoticed. The trips expected to be generated by this development with six parking spaces will result in a reduction of traffic associated with this site.

EP Response: *"Please refer to Walker Consultants' responses for comments regarding the proposed parking and area residential development parking ratios."*



As it pertains to traffic, EP continues to recommend that the Applicant rely on the traffic data only. The use of the ITE Trip Generation Manual is the accepted standard for such projects; the trip generation was reduced to account for transit, walking, and bicycling. Given the likelihood of residents to use rideshares, one could speculate that the trip generation for this development could be greater than that calculated for the proposed project or that of the existing restaurant; however, as no official documentation yet exists for rideshares, engineering standards do not account for this trend in traffic. Therefore EP recommends relying on following industry standards and not anecdotal information or the proposed parking that continues to be a topic of discussion for this project.

VAI Response:

See response to Walker Consultants' comments. In urban areas specifically, ITE has been proven to overestimate vehicle trips for residential developments. A growing number of municipalities are developing trip rates specific to their municipalities because monitoring studies indicate the ITE data overestimates the number of vehicle trips. The ITE data is based on counts of similar sites from around the nation and does not account for recent area trends regarding vehicle ownership and mode choice. Standard industry methodology is clear; however, anecdotal reports and realistic conclusions regarding the amount of parking spaces proposed and resultant trip generation should also be considered.

EP Comment 11:

“The reduction in trip generation relies heavily on the assumption that many residents will use public transportation. While EP agree with this assumption, public transportation ridership trends are unclear due to the COVID-19 crisis. Although one would assume ridership will return at some point in the future, as this crisis is ever-changing, there has yet to be a determination as to how this will be affected long-term.”

VAI Response:

While the COVID-19 pandemic is currently having an effect on transit ridership, it is also resulting in more workers staying home and/or working remotely. In the absence of any definitive data indicating otherwise, it is recommended that traffic analyses and reviews be based on assumptions of a return to pre-COVID-19 conditions by 2027, the future condition horizon year.

EP Response:

“EP included this Covid-19 statement to document the current conditions and the future unknowns surrounding assumptions in traffic. EP agrees that our industry must continue to rely on standard engineering practices until definitive data is available. A response was not anticipated.”

EP Comment 12:

“Table 4 includes a column to compare the existing site trips to the proposed site trips based on the proposed number of parking spaces (six) rather than the trip generation, which indicates an even smaller number of net wen trips. For the reasons outlined above and discussed in detail in the “Parking condition” section below, we recommend relying on the trip generation projections only.”

VAI Response:

The analysis is based on the trip generation projections. The comparison column based on parking spaces has been removed from Table 4. Table 4R shows the updated Trip Generation Comparison table.



EP Response: *“EP has no further comments.”*

EP Comment 13: *“EP notes that the volumes shown for “Harvard Street, south of the Site Driveway” are the actually the volumes south of Kenwood Street (not between Kenwood Street and the Site Driveway); consider revising the table for consistency.”*

VAI Response: The volumes presented in Table 6 for “Harvard Street South of Site Driveway” are indeed for Harvard Street south of Kenwood Street. Table 6R shows the correct title. In addition, with the update to the site-generated and 2027 Build networks that show the retail trips staying on Harvard Street, the trip increase table has been updated accordingly.

EP Response: *“VAI has revised the title in the table to reflect the proper location and we have no further comment.”*

EP Comment 14: *“As indicated in Table 6, Kenwood Street is expected to experience a traffic volume increase of up to 15%, which could be considered significant, particularly on a low-speed, residential roadway, While EP recognizes that the volumes are relatively low and likely will not affect traffic operations, there may be a more general concern for adding cut-through traffic through the neighborhood”*

VAI Response: As indicated in Table 6R, with the retail trips removed from the driveway and garage access, the maximum percent increase in traffic on Kenwood Street is expected to be 7.5 percent which is due to an increase of 3 vehicles on Kenwood Street during the weekday morning peak hour. In addition, during 2027 No-Build conditions 61 vehicles travel Kenwood Street during the weekday evening peak hour which is approximately 1 vehicle every minute. Under 2027 Build condition the number of vehicles traveling Kenwood Street increases to 63 vehicles which is an increase of 3.3 percent. Such a minimal increase in traffic would go unnoticed by the existing users of the roadway and therefore would not impact roadway operations.

It should also be noted that the existing restaurant generates more vehicle trips during the evening peak hour than the proposed development, even with the conservative assumption regarding retail trips.

EP Response: *“See EP’s response to Comment 1.”*

VAI Response: See VAI’s response to Comment 1.

Traffic Operations

EP Comment 15: *“The Memo did not indicate the use of this software other than the outputs provided in the appendix, and as such it is unclear what version of Synchro was used. EP recommends including this information”*



VAI Response: Version 10 of the Synchro software was used. This information is provided in the bottom right of the footer of the Synchro outputs provided in the appendix of the March and May studies.

EP Response: *“While we recommend including this information in the memo for clarity, as it does not result in any changes to the analysis, we have no further comments.”*

EP Comment 16: *“EP would typically recommend including the conflicting pedestrians in the analysis for the Harvard Street northbound left-turn and southbound right-turn movements as there are a significant amount of pedestrians on the Kenwood Street approach. However, given the acceptable Level of Service and the likelihood that the delay will not increase significantly due to conflicting pedestrians, alterations do not appear to be necessary.”*

VAI Response: Town’s consultant agrees with VAI’s approach on this item.

EP Response: *“No comment necessary.”*

Parking Conditions

EP Comment 17: *“If only six (6) spaces were to be proposed and/or used, there would likely be many other residents who could potentially own vehicles and would have to find other parking opportunities in the Town, contributing to the already limited parking capacity. Additionally, as indicated in Walker Consultants’ Parking Peer Review, the proposed project does not meet the zoning requirements or even Census Data Tracts for parking spaces. The parking requirements necessitate further discussions in addressing comments identified in Walker Consultants’ Parking Peer Review.”*

VAI Response: See response to EP Comment 10. It is not clear what census data Walker is using for their calculations as it is not consistent with data VAI reviewed in preparation of the traffic assessment. However, this development is being proposed with limited parking to appeal to potential tenants with no personal vehicles.

EP Response: *“Please refer to Walker Consultants’ responses for comments regarding the proposed parking.”*

VAI Response: Please refer to VAI’s responses to Walker Consultants’ responses for comments regarding proposed parking.

Transportation Demand Management Plan

EP Comment 18: *“Public Transportation – “The Trains” section indicates the MBTA Green Line Station at Harvard Street and Commonwealth Avenue is 100 feet away; the station is 1000 feet away, please revise the typo.”*

VAI Response: The MBTA Green Line Station at Harvard Street and Commonwealth Avenue is 1000 feet away from the site and this has been corrected in the TDM Plan’s Public Transportation – The Trains section.



EP Response: *“EP has no further comment.”*

EP Comment 19: *“The TDM indicates that removing the curb cut on Harvard Street improves conditions by making it safer for pedestrians and bicycles as cars will not be crossing the sidewalk and bike lane to enter and exit the site. In our opinion, there are both advantages and disadvantages to a curb cut on Harvard Street versus Kenwood Street as proposed”*

VAI Response: Typical access management measures recommend the removal of curb cuts where high numbers of pedestrians, bicyclists, and bus interaction exist such as with the curb cut on Harvard Street. Accordingly, we prefer locating the vehicle access on Kenwood Street rather than Harvard Street.

EP Response: *“As discussed in detail in the Traffic Peer Review, the subject of the optimal location of the curb cut is dependent on several factors, including safety and disturbance to the residential neighborhood, convenience, sight distance from the driveway, and loss/gain of on-street parking, in addition to reducing conflict between vehicles, pedestrians, and bicycles. As we stated, while we agree that removing the Harvard Street curb cut provides some improvement, we note that the conflict is not removed, but relocated to the intersection of Harvard Street at Kenwood Street, where all vehicles entering the site will need to turn onto one-way Kenwood Street and meander through the residential neighborhoods approximately 2,600 feet before reaching Harvard Street again. As referenced in the Peer Review, as there are advantages and disadvantages related to the curb cut location, we defer to the Town and local consensus and recommend additional mitigation dependent on the preferred location.”*

VAI Response: It remains VAI’s recommendation to close the curb cut on Harvard Street as Harvard Street has significantly more vehicle, pedestrian, and bicycle volumes compared to Kenwood Street. Removing the Harvard Street driveway eliminates these potential conflicts at this location. The issue does not get relocated to the intersection of Harvard Street at Kenwood Street as these issues already exist at that intersection.

EP Comment 20: *“The TDM indicates that removing the Harvard Street curb cut also provides an improvement in the addition of one metered parking space/loading zone. Though there is a benefit to having an additional metered parking space/loading zone on Harvard Street, the proposed conditions reduce the parking on Kenwood Street resulting in a balance of parking rather than a parking gain. Under existing conditions, there is approximately 40 feet between the crosswalk across Kenwood Street and the existing curb cut on Kenwood Street that allows for one legitimate parking spaces; aerial photography shows two vehicles parked at this location, with one vehicle parked in an illegitimate parking spaces as it is too close to the intersection. Under proposed conditions, in order to meet sight distance requirements, EP recommends prohibiting parking in this area. As such, the proposed condition adds one metered parking spaces on Harvard Street and removed one legitimate parking space (and in some instances an additional illegitimate parking space) on Kenwood Street.”*



VAI Response: See response to EP Comment 8. This decision is at the Town’s discretion.

EP Response: *“See EP’s response to Comment 8.”*

VAI Response: See VAI’s response to Comment 8.

EP Comment 21: *“Traffic Pattern – the Memo indicates that removing the curb cut on Harvard Street is a significant improvement to the traffic pattern as vehicles will no longer conflict with pedestrians and bicycles at the curb cut location, as described in the previous bullet. EP does not necessarily agree that this is a significant improvement to the traffic pattern. There are advantages and disadvantages to a curb cut on Harvard Street versus Kenwood Street as proposed”*

VAI Response: See response to EP Comment 19. The Applicant has directed the project access to be moved from Harvard Street in favor of Kenwood Street in the interests of reducing potential driveway conflicts with pedestrians, bicyclists, buses, and the higher traffic flow on Harvard Street.

EP Response: *“See EP’s response to Comment 19.”*

VAI Response: See VAI’s response to Comment 19.

EP Comment 22: *“Deliveries/Rideshares – one existing parking space and one new parking space are proposed along the Harvard Street side of the building for FedEx, UPS, Uber, and loading uses from 7am to 10am and metered parking during all other times. It is unclear where such uses (FedEx, UPS, Uber, and loading) will be positioned during the remainder of the day. Clarification is requested.”*

VAI Response: There are not any designated loading zones near 500 Harvard Street besides the one proposed by the Project. There are numerous residences, offices, and business along Harvard Street and not all of them have their own personal loading area. It is presumed that FedEx, UPS, Uber, and other loading will operate as they currently do along Harvard Street where specific loading zones are not designated. As this is a residential building it should not generate the same amount of deliveries as office or retail buildings, which will help reduce the number of deliveries outside the 7am to 10am window.

EP Response: *“While EP recognizes this is an existing condition at other locations and substandard conditions can be found elsewhere for a variety of design elements, EP does not support proposed substandard design and emphasizes that it is a problematic condition. The current site provides a small parking lot that allows for such deliveries, which will not exist under proposed conditions. In the absence of proper loading zones, deliveries (Fedex, UPS, USPS, Amazon, etc.), rideshares (Uber, Lyft, etc.), trash pickup and moving trucks will all share two parking spaces/loading zones for only three (3) hours, limited to between 7 am and 10 am. During all other times, double-parking or illegal stopping is anticipated on either Harvard Street or Kenwood Street, creating further traffic and safety issues. Additionally, as proposed, the Applicant is relying heavily on potential residents not owning vehicles due to the reduced number of parking spaces and as a result, one could speculate that this condition would increase*



the number of rideshare trips to and from the site all day including during the evening peak, worsening the situation further. EP is of the opinion that the proposed 7-10 am loading zone is not sufficient to accommodate the proposed development.”

VAI Response: Based on input received from the Brookline Transportation Board, the proposed loading zone has been expanded to 40 feet in length and times for the loading zone have been extended so that loading and deliveries can occur beyond the 10:00 AM time frame. This also allows the use of the loading zone for rideshare vehicles such as Uber and Lyft. The Applicant agrees with the Transportation Board on this issue.

Recommendations and Conclusion

EP Comment 23: *“VAI indicated that the following specific areas have been evaluated as they relate to the project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations. Although EP agrees with some of the conclusions, such as seemingly low impact to traffic operations, we are of the opinion that the three specific areas as listed by VAI overlap and require further consideration.”*

VAI Response: These are typical generalizations of what are evaluated in transportation studies. It is true that the three categories have some overlapping characteristics especially as safety should be considered with all aspects of a development. Site access was determined early in the process to be provided from the Kenwood Street curb cut and reflects a desire to practice access management and close curb cuts on the already busy Harvard Street. Although there are advantages and disadvantages to both curb cuts we believe reducing conflicts on Harvard Street was the most important advantage, especially when considering safety, and outweighs the disadvantages. As the project has such a minimal effect on traffic operations in the area, off-site improvements are not warranted.

EP Response: *“EP’s opinions regarding access requirements and safety considerations have been discussed in detail in both this document and the Traffic Peer Review. EP does not agree that off-site improvements are not warranted, specifically as it pertains to pedestrian improvements. The Applicant is relying heavily on residents not owning vehicles in an attempt to justify the reduced number of parking spaces, and subsequently assumed a 62% reduction in vehicle trips due to the expectation that residents will walk, bicycle, or use public transportation. If in fact these assumptions are correct and a low parking ratio is proposed, EP is of the opinion that the same notion should be used to justify mitigation for the site-generated pedestrian volumes as discussed in the Traffic Peer Review and Comment 27 below.”*

VAI Response: Based on input received from the Transportation Board, the Applicant has agreed to the following measures:

- Transitscreen© in the lobby depicting area transit and rideshare information,
- Covered bike spaces
- Short-term meter-rack bicycle racks



- Accessible Pedestrian Signals (APS) installation at the Harvard Street/Verndale Street traffic signal,
- Electric Vehicle (EV) charging stations,
- Development of a Parking and Transportation Demand Management (PTDM) Plan identifying TDM measures proposed for the Project,
- ADA-compliant wheelchair ramps at the Harvard Street/Kenwood Street intersection, and
- Reconstructed corner radii at the Harvard Street/Kenwood Street intersection.

The Applicant agrees that these measures will effectively mitigate the impact of the Project.

EP Comment 24: *“One could speculate that this urban-type development in combination with the inconvenient and long travel route for exiting motorist (traveling away from Harvard Street only to achieve Harvard Street access elsewhere) could potentially lead to driver frustration, and on occasion, result in isolated instances of higher speeds. If this frustration were to be experienced, it could in turn have an impact on pedestrian safety, particularly where local residents may cross the street at unmarked locations to access Coolidge Park. Provisions for additional traffic calming along the cut-through route of exiting motorists may be considered to mitigate the condition if required.”*

VAI Response: The project will add minimal vehicle traffic to an existing neighborhood whose residents already deal with the one-way road pattern of the neighborhood. If there is an existing issue of vehicles speeding on Kenwood Street, the project’s impact on this issue would be negligible and it is not the Proponent’s responsibility to fix existing issues of speeding on Kenwood Street or deficiencies in pedestrian facilities provided for Coolidge Park. In addition, two speed humps are already installed on Kenwood Street to deter drivers from speeding. The proponent will install a “No Left Turn” sign and “One-Way” sign to discourage motorists from turning left from the site driveway.

EP Response: *“See EP’s response to Comment 1.”*

VAI Response: See VAI’s response to Comment 1.

EP Comment 25: *“Alternatively, driver frustration could lead to violation of the one-way restriction to quickly access Harvard Street from Kenwood Street. Based on the TMCs, one (1) vehicle out of 11 exiting vehicles during the weekday evening peak hour took an illegal left-turn from the Kenwood Street curb cut. Without a physical restraint or enforcement, one could speculate that some residents of the proposed project may violate the one-way restriction, posing a safety hazard to unexpected pedestrians and vehicles turning onto Kenwood Street from Harvard Street.”*

VAI Response: Signage will be posted indicating left turns are prohibited from the site driveway.

EP Response: *“See EP’s response to Comment 4.”*

VAI Response: See VAI’s response to Comment 4.



EP Comment 26: *“While this new parking space as well as an existing parking space will accommodate FedEx, UPS, Uber, and loading uses from 7am to 10am, clarification is requested regarding where such uses will be accommodated during the remainder of the day.”*

VAI Response: See response to EP Comment 22.

EP Response: *“See EP’s response to Comment 22.”*

VAI Response: See VAI’s response to Comment 22.

EP Comment 27: *“Due to the limited sight distance for the Kenwood Street curb cut, EP recommends mitigation to tighten the corners of the Harvard Street at Kenwood Street intersection to reduce vehicle speeds turning onto Kenwood Street. This would also shorten the crosswalk across Kenwood Street resulting in minor pedestrian improvements for the current heavy pedestrian volumes as well as the pedestrians generated by the proposed site. As part of this improvement, Americans with Disabilities Act (ADA) compliant pedestrian ramps would be required. Once designed, EP requests vehicle turning templates to verify the proposed corner radii are sufficient for turns onto Kenwood Street.”*

VAI Response: Based on the conservatively calculated 85th percentile speed of 13 mph for turning vehicles SSD needed is 64 feet and 69 feet is provided. Therefore adequate sight distance is provided and mitigation is not required.

EP Response: *“For reasons justified in EP’s responses to Comments 5 and 6, and Comment 23 above, EP continues to recommend consideration for pedestrian improvement mitigation due to the anticipated site-generated pedestrian volumes, as outlined in the EP Traffic Peer Review.”*

VAI Response: See VAI’s responses to Comments 5, 6, and 23.

Recommendations and Conclusion

EP Comment 28: *“As there are advantages and disadvantages to both curb cut locations, both locations would be feasible provided further mitigation is considered. EP therefore defers to Town officials and local consensus as to which driveway location better suits the needs of the Town and its residents.”*

VAI Response: See responses to EP Comments 19, 20, 21, and 27.

EP Response: *“See EP’s response to Comments 19, 20, 21, and 27.”*

VAI Response: See VAI’s response to Comments 19, 20, 21, and 27.

Responses are also provided to comments in the Walker Consultants comment letter of September 16, 2020 related to traffic operations and parking usage. These are provided below.



Where appropriate, responses to some comments are provided by Cube3 Studio in their response letter of July 23, 2020.

Walker Consultants (WC) Peer Review Letter – September 16, 2020

WC Comment 1: *“This site is in the L1.0 Zoning District, the Coolidge Corner Design Overlay District, and the Transit Parking Overlay District.*

This district and overlays require:

- I. 2.0 spaces per residential unit for 1 to 2 bedrooms units*
- II. 2.3 spaces per residential unit with 3 or more bedroom units*
- III. 10% increase of residential spaces for visitors and tradespeople*
- IV. 1 space per 200 SF of ground floor retail; maximum.*
- V. Total parking minimum requirement per Zoning for the proposed program is 68 spaces (61 residential; 7 visitor/tradespeople; 0 retail). A maximum of 9 spaces for retail parking can be provided.*

Waiver Item N in the application indicates the project is reducing the number of required spaces to 6 parking spaces for the development. The application does not provide a rationale or methodology for how the number of spaces was determined and which user group will have access to the parking.

The Traffic Assessment notes that the 6 interior spaces will be for residents. This is a ratio of 0.2 spaces per unit. One additional space is provided outside for delivery / visitor use.”

VAI Response: See response to EP Comment 10.

WC Response: *“There is mention of upcoming Brookline Warrant Memos, which may encourage reducing parking requirements in the town. The warrants appear to be proposals currently before the Town, however until those warrants become law and part of the Zoning Ordinance, we cannot comment further on how they may or may not apply to this development.”*

VAI Response: So noted.

WC Comment 2: *“The Traffic and Parking Narrative anecdotally explains that many of the existing residents in the Applicant’s other projects do not own vehicles. The Applicant should be more definitive in defending a large reduction in required parking.”*

The Traffic Assessment indicates a proposed trip generation summary of weekday daily total vehicle trips to be 128 vehicles. This includes a reduction based on journey to work data for this census tract. It goes on to say that “most residents will not have vehicles”, but there is no data provided to support this.

The pricing and parking allocation for residents affects parking demand and is not addressed in the application materials.”



VAI Response: See response to EP Comment 10. This project is consistent with current trends in residential housing promoting additional units with a limited parking supply to minimize congestion on local roadways and is consistent with recent Brookline Warrant Articles regarding climate change and parking reductions.

WC Response: *“The VAI response lists eight proximate properties to this project (ten properties are indicated but 524 Harvard Street and 514-516-Harvard Streets are each listed twice) which range in units from 3 to 62 and parking supply ratio from 0.0 to 0.92 spaces per unit. This range of data appear inconclusive.*

Five existing properties provided a total of one parking space. These unit were built during a time that predates vehicles or vehicles were used in a substantially different way (1890 to 1915). These represent part of the 2000+ garage orphans identified in Brookline.

384 Harvard Street, a newly built development, provides a similar parking ratio to what is proposed for this project. This is an age-restricted, affordable house building which results in a different user group and therefore perhaps different consideration for parking supply.

420 and 455 Harvard Street are newly built 40B developments with a cumulative supply of 0.78 (33 total parking spaces for 42 total units, individually are 0.59 and 0.92). These supply metrics are approximately triple the amount proposed for this project. We understand some of the parking supply may be for the 7,600 sf of total retail space between the two developments, but even at that the ratios would exceed the proposed ratio for 500 Harvard.”

VAI Response: The proposed parking ratio of 0.2 spaces per unit fall within the 0.0 to 0.92 space per unit range. As with age-restricted developments, parking-restricted developments are anticipated to have different considerations for parking supply then other residential developments. A parking ratio of 0.2 spaces per unit is in line with residential housing promoting additional units with a limited parking supply to minimize congestion on local roadways. In addition, although some of the buildings in the property list were built without parking, these buildings are all experiencing a high degree of occupancy indicating parking is not a requirement for all tenants.

WC Comment 3: *“To estimate a reasonable range of parking demand for this project, Walker has performed research based on the Census Data related to residences and vehicle ownership for this project’s location.*

In Walker’s research based on US Census review of this specific Tract 4003, we would anticipate the parking demand falling in the range of 0.7 to 0.95 spaces per unit.

However, given the proximity of this development to the Green Line transit service and that this project is rental units opposed to condominiums, this development will likely be more similar to the adjacent Census Tracts 7.03 and 7.04 just to the north in Brighton. These tracts are predominantly along the



transit service and are 90% rental units, whereas Tract 4003 is only 47% rental units.

If using the Tract 7.03 and 7.04 data, an estimated parking supply would be between 0.4 to 0.6 spaces per residential unit, or 12 to 18 spaces, for this project, not including visitor or service vehicle parking. Note that price-point of the units will also impact the parking demand.”

VAI Response: See response to EP Comment 10. It is not clear what census data Walker is using for their calculations as it is not consistent with data VAI reviewed in preparation of the traffic assessment. However, the Applicant is intending for this development to appeal to potential residents without personal vehicles.

WC Response: *“In response to VAI’s question regarding the census data, Walker used census data from the American Community Survey which was referenced in the original traffic report and is often used to project parking demand in a specific neighborhood. In addition to the specific tract that this project is located in, Walker also considered two adjacent Census tracts to better define the potential demand range for this location.”*

VAI Response: VAI was questioning what year Census or American Community Survey (ACS) data was used by WC in their review. The latest data from the ACS is 2018. Typical practice is to look at the 2018 5-year estimates. The data WC referenced appears to be older than 2018. In addition, at the Zoning Board of Appeals hearing of September 23, 2020, it was indicated by WC that the Census data used was from the 2010 Census, which would not account for recent trends in vehicle ownership and limited parking developments.

WC Comment 4: *“This zoning district further requires that in a mixed-used development 10% of the residential spaces are designated for use by visitors or tradespeople.*

The Parking Demand Management Plan and Parking Narrative indicate one new on-street parking space. For the 6 spaces provided in the garage, providing one space on-street does comply with the 10% requirement.

However, if considering the 12- to 18-space demand range noted in Item 3 above, an additional 2 spaces would be required for visitors and tradespeople. This would bring the total residential demand of 16 to 20 spaces corresponding to a ratio range to 0.47 to 0.67 spaces per rental unit.”

VAI Response: See response to EP Comment 10.

WC Response: *“The VAI response notes that the Metropolitan Area Planning Council (MAPC) has performed a study providing evidence that there is a reduced need for parking; this is assumed to the Perfect Fit report. MAPC also provided a letter for this project, noting that MAPC feels that 7 parking spaces for this site is adequate. This is a ratio of 0.23 spaces per unit.*

Walker has reviewed the data publicly available in Perfect Fit report. This report includes 200 surveyed locations and provides the parking demand



observed at those locations. In general, Walker is in agreement that there are areas where parking is overbuilt. However, in Walker's opinion, the data provided in this report does not suggest a demand ratio in the range of 0.2 is appropriate for this project.

The data in the report does not include Brookline, however a few proximate locations in Boston / Allston are provided. A close comparable location observed is Gateway Boston, located at 900 Beacon St. The demand ratio reported is 0.39. It should be recognized that this is located in the Fenway area directly on the Green Line (C-Line) and is approximately one mile closer to downtown Boston than this project site.

There are three other locations in Allston which are proximate to the project where the demands recorded are 0.58, 0.58, and 0.78. These locations are a slightly longer walk to the MBTA Green Line Harvard Ave. Station (0.5 miles vs. 0.2 miles), however are a representation of what the higher end of demand could be suggested for this area. These locations and 500 Harvard are all in close proximity to the MBTA Route 66 bus.

These data point correlate well with the demand range of 0.4 to 0.6 that was offered by Walker using a census data review as a means to calculate demand.

The majority of data points fall into the range of approximately 0.4 to 1.0 spaces per unit. It is recognized that each location and project will have unique characteristics, however that is the common demand range recorded. Demand ranges of 0.25 spaces per unit or less represent 7.5% (15 locations) of the data points collected. Of those 15 locations, at least 8 are elderly housing and at least 10 are 95%+ affordable housing project.

The MAPC letter also suggest other arguments for reducing parking requirements depending on the specific project. Walker's opinion in this memo reflects only that the expected parking demand from the 500 Harvard project is greater than the proposed parking supply.

Based on Walker's initial peer review of this project, review of the Applicant's responses, and review of the data provided by the MAPC in the Perfect Fit Report, we feel the recommended demand range of 0.4 to 0.6 per unit remains an appropriate range."

VAI Response:

Most of the sites reviewed in the MAPC study are from suburban areas which typically require more parking supply due to longer commutes to work and the lack of sufficient transit options. Many of the MAPC data sites are also clustered along regional highways such as I-93, Route 128, and Route 9, which are decidedly auto-centric, unlike the Project site. If 30 percent of spaces are unused in suburban areas where the single occupancy vehicle use is considerably higher than in urban locations, then it is reasonable to assume that an even higher percentage go unused at urban sites. This implies urban area residential developments are realistically likely to have a much lower parking demand rate than would otherwise be required under zoning.



WC Comment 5: *“The development is compliant with Zoning by providing 0 spaces for retail; storefront retail in the Transit Parking Overlay district are not subject to the minimum requirements L1.0 District. While not a zoning requirement, there may be some parking demand generated by the space depending on the type of retail use. We suggest the Applicant clarify the type of retail intended for the space.”*

VAI Response: The type of retail will be a florist, dry cleaner, or some other type of neighborhood retail. The type of retail that is proposed is not a destination style facility that would generate customers or patrons from long distances by car.

WC Response: *“Walker has no comment to the neighborhood-type retail noted in VAI’s response.”*

WC Comment 6: *“Walker agrees with the traffic assessment findings that 62% of trips to work in Tract 4003 are by a mode other than personal vehicle. However, the Census information also suggest that some of those who take public transportation to work also own a vehicle that needs to be stored. This is reflected in the Census data indicating noted in Item 3 above suggesting that a range of 0.7 to 0.95 spaces per unit is appropriate for this tract.”*

VAI Response: See response to EP Comment 10.

WC Response: *“See our response to Items 1-4 above. Note that we used Census data from the American Community Survey.”*

VAI Response: See VAI’s response to WC Comments 1-4.

WC Comment 9b: *“The turning maneuvers to access the spaces adjacent to the doors may affect the operation of the doors and cause queuing into the driveway or street periodically (it is recognized that the peak flow conditions are very low and likelihood of queueing is minimal but should be anticipated on occasion).”*

VAI Response: We agree with WC that due to the low number of parking spaces it is unlikely that this vehicle-door interaction causes queuing to occur. The number of spaces indicates an average interaction of approximately once every 10 minutes.

WC Response: *“We take no exception to VAI and C3’s responses to our comments in these items.”*

WC Comment 12: *“We suggest the Applicant consider including electric vehicle charging stations in the garage and/or the ability to add charging stations in the future.”*

VAI Response: A conduit for electric vehicle charging will be installed and if future demand indicates the need, then a charging station can be implemented at that time.

WC Response: *“We take no exception to VAI and C3’s responses to our comments in these items.”*



Mr. Daniel Danesh
October 30, 2020
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It is anticipated that this information addresses the comments. Please feel free to contact us directly if there should be any further clarification needed.

Sincerely,

VANASSE & ASSOCIATES, INC.



Scott W. Thornton, P.E.
Principal



Derek Roach, EIT.
Transportation Engineer

cc: Town of Brookline – Alison C. Steinfield

