

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: September 1, 2016

Subject: 40 Centre Street, Brookline (40B)
Traffic Peer Review

The brief Memorandum dated April 15, 2016 by Vanasse & Associates presents the anticipated trip generation associated with the proposed residential development located at 40 Centre Street in Brookline, Massachusetts and discusses sight distance at its proposed driveway. A brief supplemental Memorandum dated August 22, 2016 was provided to discuss sight distance and parking. The following is a summary of Environmental Partners Group's review of both documents.

Existing Conditions

Centre Street travels primarily in a north/south direction and accommodates a single lane of traffic in each direction. Land use along Centre Street consists primarily of residential and commercial properties. Bicycles share the vehicular travel lanes although signage and pavement markings to indicate such are not apparent. Cement concrete sidewalks are provided along both sides of Centre Street.

Metered parking is provided along the east side of Centre Street with operation Monday to Saturday, 8:00 AM to 6:00 PM with a maximum of three (3) hours; a municipal parking lot also exists along the east side of Centre Street. Parking is prohibited along the west side of Centre Street in front of the site although historical photographs of busy parking periods show parked vehicles.

Two (2) Massachusetts Bay Authority (MBTA) Green Line (C Branch) stations, Summit Avenue and Coolidge Corner, are each approximately 1000 feet or under a five (5) minute walk from the subject site. MBTA bus stops are also provided in the vicinity of the site.

Proposed Project

The project entails a transit oriented development of 45 apartments to be located at 40 Centre Street in Brookline, Massachusetts. The project is situated on the west side of Centre Street just north of Beacon Street. Access to the project site is proposed by way of a 20-foot wide driveway onto Centre Street leading to on-site parking for 18 vehicles occupying the ground floor of the building.

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Trip Generation

Given the proximity to the above transit opportunities and general mode splits in the Town of Brookline, a reduction in anticipated site generated traffic was assumed based on the 2000 U.S. Census data. (The backup "Journey to Work" information was not supplied in the Memorandum but was independently researched.) Given the proximity to transit, the provided mode splits appear to be reasonable and are as follows: 57% auto, 31% transit, 10% walking and 2% bicycle.

Anticipated vehicular trips were generated using the Institute of Transportation Engineers (ITE's) Land Use Code (LUC) 220 for Apartments. It appears that the average rate method was used. However the fitted curve method is recommended and results in slightly greater anticipated trips, increasing volumes slightly from 13 to 15 trips in the morning peak hour and from 16 to 24 in the evening peak hour.

It should be noted that the above evaluation of trips generated by the new development does not discount for trips generated by the existing building that will be eliminated with the new construction.

Traffic counts such as along Centre Street and at adjacent intersections would typically be provided to analyze and quantify impacts caused by the proposed redevelopment during existing and future years but were not provided by the proponent. Likewise impacts of other nearby development were not discussed or evaluated, nor were crash history analysis.

Environmental Partners Group performed brief observations during typical weekday morning and evening peak periods on August 30, 2016 and did not observe substantial delays or queues along the subject section of Centre Street or at the adjacent intersections. During these observation periods, queued traffic was observed to clear through the critical Beacon Street at Centre Street signal during each cycle. It should be noted however that traffic may increase in this area during the fall when school is back in session.

In lieu of being provided traffic counts and analysis to quantify specific impacts caused by the anticipated increase in site traffic, it is suspected that the increase in traffic during the critical evening peak hour (24 trips per hour or one car every 2.5 minutes) probably will not have a significant impact on traffic operations at the surrounding intersections but traffic data and analysis would be required to quantify it.

Parking

The proposed development is to consist of a combination of studio, one bedroom and three bedroom apartments. The Town of Brookline Zoning By-Law calls for 2 parking spaces for each studio or one bedroom residential unit and 2.3 parking spaces for each three bedroom unit which would result in 92 parking spaces for this development. Only 18 spaces are proposed.

The provided "Parking Summary" anticipates 0 spaces per studio, 0.5 spaces per one bedroom and 1 space per three bedroom and does not seem realistic. In fact a later Memorandum acknowledges that there is not enough on-site parking, stating "overnight spaces can be rented in the Town public parking lots".

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In justifying that 18 parking spaces (or 20% of the parking spaces typically required by the Town) are adequate, the proponent suggests that many tenants will not own a car given the site's proximity to MBTA buses and the Green Line as well as ZipCar. However evaluations to justify and quantify this were not provided for review. Further, these alternative modes of transportation are similar throughout much of Brookline. The proponent proposes that overnight spaces can be rented in the Town public parking lots but an evaluation of parking availability for these overflow vehicles was not provided for Town consideration. Therefore the proponent's statement that the number of parking spaces being provided (only 0.4 spaces per unit) is "acceptable" does not appear to have any backup to justify it.

In an order-of-magnitude evaluation of parking needs for this site, one might consider the anticipated trip generation. Using ITE's fitted curve equation, 24 trips are anticipated during the evening peak hour period accounting for reductions for transit, walking and biking to work (as obtained from the "Journey to Work" information). It can be assumed that 24 vehicles will each require a parking space. Additional parking spaces will be required for those vehicles that arrive or depart from the site during a different one-hour period. Additional parking will also be required by those who commute to work via public transportation but own a car; these vehicles will be parked all day in the proposed overflow parking location. Therefore, based on an approximate comparison, it appears that the number of parked vehicles generated by this site far exceeds the number of proposed on-site parking spaces (for 18 vehicles) and far exceeds the number of vehicles making trips during the critical evening peak hour (24 vehicles).

Although the Town may consider lightening the parking requirements for this project given the above parking requirements appear to be conservatively high, projected parking demand should be submitted by the proponent for review to quantify a realistic number of needed off-site parking and to verify that such parking is available.

It is our understanding that the future of Town parking lots cannot be guaranteed as providing overnight parking for residents since they are potential developmental parcels that have been discussed by the Town over the years. Therefore when it comes to providing adequate parking for this project, consideration should be made for the potential that subject parcels may be developed.

On-street parking is restricted in front of the site per posted signage yet online photography of Centre Street shows four vehicles parked. It is anticipated that on-street parking does not typically take place at this location and that the installation of the proposed driveway will not eliminate existing parking opportunities (required for the driveway opening and clearance for visibility).

Of the 18 proposed on-site parking spaces, 10 are for full sized vehicles and 1 is a handicap parking spot; 7 spaces (39%) are for compact vehicles. Based on the Zoning By-Law, no more than 25% of parking spaces may be designated for compact cars unless authorized by special permit. The ratio of compact vehicle parking spaces seems excessive especially given the parking deficit.

The layout of and circulation for the 18 parking space configuration appears to be reasonable to accommodate typical passenger vehicles (but not larger vehicles).

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Sight Distance

Sight distance was reviewed for the site. Since Special Speed Regulations are not filed with MassDOT for Centre Street and since speed data was not collected or provided, the assumed speed of 30 m.p.h. used in calculating required sight distance appears reasonable.

An independent sight distance calculation was performed using Stopping Sight Distance (SSD) calculations from the American Association of State Highway and Transportation Officials (AASHTO), the minimum sight distance required. It has been verified that a 200 foot SSD is required for a 30 m.p.h. road as identified in the Memorandum.

Visibility from the proposed driveway will be limited by an existing shrub along the northern property line that is proposed to be removed per the Memorandum. Under the proposed building set back of 5 feet from the property line (back of sidewalk), the required 200 feet of sight distance can be achieved for exiting vehicles stopped behind the sidewalk (without blocking pedestrians) with minor obstructions in sight distance caused by the street trees and utility poles in the sidewalk.

It should be noted that police monitoring is recommended to enforce the posted "no parking" signs (discussed above) since on-street parking would greatly decrease visibility from the driveway.

Bicycle Accommodations

The reviewed Memorandum recommends providing bicycle racks in the garage, although not seen on the provided plans.

Pedestrian Accommodations

The site plan shows pedestrian access to the lobby (including the elevator and stairs) via Centre Street that is flush with the sidewalk elevation. Pedestrian access is also provided from the ground-level parking area to the lobby.

This redevelopment project will increase the foot traffic in the area. Considerations should be made for traffic signal upgrades (including Accessible Pedestrian Signals/audible pedestrian signals) such as at the Centre Street/Williams Street intersection.

Transit

The reviewed Memorandum recommends providing transit schedules on site, although not seen on the provided plans.

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SUMMARY

- Traffic counts such as along Centre Street and at adjacent intersections should be provided and projected to analyze and quantify impacts caused by the proposed redevelopment during existing and future years. Likewise impacts of other nearby development should be discussed and evaluated, as should be crash history.
- Since traffic may increase in this area during the fall when school is back in session, traffic counts and observations should occur in a future (school) month to ensure adequate operations.
- Additional information is requested regarding the on-site parking deficit including:
 - A projection of parking needs based on available data and realistic assumptions.
 - Availability of off-site parking in the municipal lot and other opportunities to quantify the loss in municipal parking capacity for Town consideration. Include considerations for the future redevelopment of parking lot parcels.
 - Incentives to encourage residents to not own a car should be identified.
- Reduce the high ratio of compact vehicle parking given the parking deficit.
- Police monitoring is recommended to ensure that vehicles do not park in front of the site and decrease visibility from the driveway.
- The existing shrub along the northern property line impacting sight distance should be removed as discussed in the Memorandum.
- Bicycle racks in the garage should be shown on plan.
- Transit schedules should be posted on site in the lobby and shown on plan.
- Considerations should be made for traffic signal upgrades (including Accessible Pedestrian Signals/audible pedestrian signals) such as at the Centre Street/Williams Street intersection.
- Considerations for pedestrian amenities such as street benches in front of the property might be considered to promote a pedestrian friendly location.