

PROJECT # 16-3060.00

DATE: June 17, 2020
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PROJECT NAME: 500 Harvard Street
PROJECT NUMBER: 16-3060.00

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Walker Consultants (Walker) has been retained by the Town of Brookline through Environmental Partners Group to review parking design for the 500 Harvard Street 40B application.

Walker has reviewed the application materials provided by the Applicant that are generally available on the Town's website for this project. This review included the following:

- Drawings / presentation materials by Cube 3 Studio dated October 17, 2018
- Transportation Impact Study dated March 13, 2020 and addendum dated May 8, 2020
- Traffic Demand Management Plan dated May 2020
- Traffic and Parking Narrative dated October 2019

The development project proposes 30 residential units (3 studios, 17 one-bedrooms, 7 two-bedrooms, and 3 three-bedrooms), 1,740 SF of ground level retail, and 6 parking spaces in the building and one new on-street space to provide 7 total spaces.

Walker offers the following comments from our review of the application materials:

1. This site is in the L1.0 Zoning District, the Coolidge Corner Design Overlay District, and the Transit Parking Overlay District.
 - a. 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.
 - b. 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.
 - c. 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.

2. The Traffic and Parking Narrative anecdotally explains that many of the existing residents in the Applicant's other projects do not own vehicles.
 - a. The Applicant should be more definitive in defending a large reduction in required parking.
 - b. 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.
 - c. The pricing and parking allocation for residents affects parking demand and is not addressed in the application materials.
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.
 - a. 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.
 - b. 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.
 - c. 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.
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.
 - a. 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.
 - b. 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.
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.
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.
7. The Applicant is showing a vertical semi-automated mechanical "puzzle" parking system. Walker takes no exception with the puzzle parking layout.



- a. The drawings indicate a 22-ft drive aisle adjacent to the puzzle parking system; this meets zoning requirements. Some larger vehicles may have difficulty maneuvering into and out of the puzzle parking system without a multi-point turn due to this clearance.
 - b. With the puzzle system, when a parking maneuver is taking place, no other movements can be happening at the same time inside the garage. When considering the peak hour volume condition provided in Vanasse & Associates, Inc. (VAI) report, this is generally acceptable for most residential parking who are used to urban-like conditions.
 - c. It should be noted that a puzzle parking system has unique characteristics such as limited pedestrian headroom, footing that is affected by the pallet system, and requirements to place the vehicle into the system which reduce parcel management time. These systems work and are effective for densifying parking, but some users will find them less convenient / accessible than others and there are some operational characteristics that will need to be managed.
8. The parking spaces and drive aisle appear to comply with Zoning but should be confirmed.
- a. The spaces appear to be 9-ft (based on scaling) and the drive aisle is 22-ft wide, but it is unclear if the actual parking space is less than that if the puzzle parking system encroaches on that dimension.
 - b. If the spaces are reduced to 8.5-ft wide, Zoning requires the drive aisle to be 23-ft wide and this layout would not comply.
 - c. Note that Zoning does not explicitly address mechanical parking; these requirements are based on typical self-park conditions.
9. The entry/exit off to the garage does not show parking access control equipment.
- a. The plans appear to indicate an opening for two overhead doors; one for entering and one for exiting.
 - b. 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 queuing is minimal but should be anticipated on occasion).
 - c. While not critical at this time, future phases of design should define the parking access control requirements and impacts to the access doors.
10. There is one van accessible space shown on the plans. Confirm 8'-2" headroom clearance at the van accessible space and for the movements to / from the space. The Applicant should confirm the accessible layouts and locations comply with ADAAG.
11. The parking facility is enclosed and will require a ventilation system.
- a. We suggest that a general description be provided of how the ventilation system is arranged. This would include where intake and exhaust air are provided and how the air is moved.
 - b. Show or describe how ventilation does not adversely affect neighbors.
 - c. Confirm ventilation equipment will not reduce headroom in the parking areas below code minimums.



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.

We remain available to answer further questions and attend the Town's ZBA meeting as required.