

MEMORANDUM (REVISED 11-27-2018)

To: Rachna Balakrishna
From: Alan H. Simon
Date: *November 27, 2018 (Revisions Bold and Italicized)*
Project: 1299 Beacon St. Brookline MA
Subject: Development of Parking Program

Simon Design Engineering (SDE) is pleased to submit the following findings resulting from the Shared Parking Analysis prepared for the proposed age-restricted rental housing development at 1299 Beacon St.

Introduction:

The proposed project is a multi-use development consisting of age-restricted rental housing, a ground floor restaurant, some ground floor retail, and a second-floor low-density showroom/retail. We reviewed the zoning requirements with the Brookline Planning Department and their parking consultant, and were informed that the zoning parking requirements may not adequately address the mixed-use nature of this project, and also that zoning requirements for the restaurant use may not satisfy the parking demand adequately.

SDE met with the town's peer reviewer and discussed utilizing the Urban Land Institute's (ULI) Shared Parking¹ approach on this project and to present a rationale for the number of spaces provided (or any other reputable approach). The typical base parking ratios were generated by the ULI by observing hourly parking accumulations at various standalone land-uses over the course of a typical year. We arrived at an understanding that adjustments to the ULI's base parking ratios would be required to capture the unique aspects of this project along with an appropriate rationale for your consideration.

Unique Aspects:

- The project combines retail, restaurant and residential components resulting in mixed-use and the possibility of sharing the parking is provided.
- Age-restricted housing for residents 55 and over, of which research studies have shown, have a reduced parking demand in comparison to traditional rental housing.
- The project site has ample access to public transit via the Coolidge Corner Green-Line stop directly across from the site and two Bus-Line 66 stops at the intersection of Beacon and Harvard St.
- There is available metered on-street parking for daytime use.
- The increased use of Transportation Network Companies (TNC) providers, e.g., Uber/Lyft in urban areas where parking is perceived as scarce or a hassle.
- Portions of the parking space utilization will be restricted to residents.

Land Uses:

The programming information, provided by the client, at full build-out will contain 10,673 gross square feet of mixed-use space consisting of:

- 3,500 square feet of restaurant
- 1,627 square feet of ground-level retail
- 5,498 square feet of low-density showroom retail on the second level
- 80 units of age-restricted residential (55 and older).

¹Shared Parking, second edition, ULI-Urban Land Institute and the International Council of Shopping Centers

SDE utilized this information to develop a shared parking demand model that depicts the approximate number of spaces needed to accommodate the projected peak-hour parking demand for the 1299 Beacon St. development.

Zoning Code Requirement:

Typically, city planners calculate parking demand assuming that each land-use requires an independent supply of spaces. This method typically results in an oversupply of parking. In reality, and contrary to the estimated code requirement, fluctuating patterns of parking utilization typically allow land-uses to share some of the same parking spaces; thereby, reducing the total parking required to support the development.

According to the local zoning requirement the mixed-use portion of the development will require:

- Restaurant: 1 space for every 5 seats
- Ground Floor Retail: 1 space for every 350 gross square feet
- Other Retail: 1 space for every 600 gross square feet

The calculated unadjusted Brookline zoning parking requirement as compared to the ULI's *Shared Parking* model is shown in **Table-1** below. The zoning requirements have been converted to spaces per seat and spaces per 1,000 square feet of gross floor area.

Program		Shared Parking				Brookline	
Land Use	Quantity	Weekday		Weekend		Base Ratio	Unadjusted Spaces
		Base Ratio	Unadjusted Spaces	Base Ratio	Unadjusted Spaces		
Ground Floor Retail	1,627	3.6 /ksf	6	4 /ksf	7	2.86 /ksf ^a	5
Retail	5,498	3.6 /ksf	20	4 /ksf	22	1.67 /ksf ^a	9
Restaurant	3,500sf (140 seats) ^b	18 /ksf	63	20 /ksf	70	0.2 /seat	28
Total Parking Spaces			89		99		42

ksf GFA = thousand square feet of gross floor area

^aBased Zoning By-Law Article VI sec 6.02 Table of Off-Street Parking

^bEstimated number of restaurant seats based on 60% seating area 40% back-end area and 15sf per person

As indicated in **Table-1** above, the *Shared Parking* requirements are more conservative than the Brookline zoning regulations. The *Shared Parking* ratios are based on stand-alone land-uses that do not reflect local conditions that affect parking demand. The age-restricted residential parking ratio was excluded from the table above as this land-use is not represented in the local zoning code. The subsequent section provides a rationale based on industry data and local conditions for adjusting estimating a parking ratio for age-restricted residential.

Parking Demand Ratios:

SDE utilized the mixed-use parking standards established in the ULI’s shared parking model for retail and restaurants to project the approximate peak-hour parking demand for the site; furthermore, we applied both month and time of day adjustments for each proposed land-use to the parking ratios. For the residential component, we utilized parking generation data on age-restricted residential from the ITE and then applied a conservative use factor based upon current research to be in line with the peer reviewer’s suggestion. The base ratios used for the shared parking analysis are listed in **Table-2**.

Table-2								
Land Use	Weekday		Weekend		Source	Total		
	Customer	Employee	Customer	Employee		Weekday	Weekend	
Retail	2.9	0.7	3.2	0.8	1 ^a	3.6	4	/ksf
Restaurant	15.25	2.75	17	3	1 ^b	18	20	/ksf
Age-restricted housing	0.8	0.1			2	0.9	0.9	/Unit

ksf = thousand square feet of gross floor area

Sources:

1. Shared Parking 2nd edition, Land Uses: ^aCommunity shopping, ^bFine/Casual Dining Restaurant
2. ITE Senior housing trip generation and parking demand characteristics technical paper by Stephen B. Corcoran, P.E. recommends 0.4 spaces per unit. The 0.8 ratio proposed provides a safety factor of 50%

The recommended ratios from ULI and ITE reflect stand-alone conditions in suburban settings with little to no transit, minimal ridesharing, and no TNCs. To capture the unique aspects of this project, we applied the following factors when developing the shared parking model.

1. Transportation Mode – This represents the percentage of users arriving at the site by means other than a personal vehicle which would require on-site parking. According to the approved traffic study prepared by Vanasse & Associates, Inc. (VAI) for this project, **it is projected that 38% of restaurant customers and 50% of retail customers will arrive at the site by other means. The 38% reduction was provided by request of the town’s traffic peer reviewer based on professional judgment, other local studies, and familiarity with local conditions.** The retail adjustment is based on survey data of percentage of auto-use of the existing retail. These factors were applied in the shared parking analysis for the respective uses. Residential parking was not adjusted.

These reductions are due to direct access to the Coolidge Corner Green-Line stop and two Bus-Line 66 stops at Harvard St. along with the increased use of ride-hailing services. We have also applied adjustments to employee parking due to the service nature of the proposed land-uses. In most urban environments service employees are more likely to utilize public transportation rather than drive. **In addition, we applied adjustments to the second level retail to reflect the operating hours of 10am to 6pm, typically after hours only lingering customers and employees assigned to closing remain. The second level retail parking needed during the evening is minimal. A mode adjustment was also applied for restaurant employees in the evening. It is assumed some employees will work late hours when public transit is no longer operating; thereby, requiring additional employee spots in the evening.**

The following mode reductions were applied to the analysis:

- **Ground Level Retail:**
 - **50% reduction for customers/employees during daytime/evening hours.**
 - **Second Level Retail:**
 - **50% reduction for customers/employees' daytime hours 10am-6pm**
 - **90% reduction for customers during evening hours 6pm-12am**
 - **75% reduction for employees during evening hours 6pm-12am**
 - **Restaurant:**
 - **38% reduction for customer during daytime and evening hours 10am-12am**
 - **38% reduction for employees during daytime hours 10am-6pm**
 - **10% reduction for employees during evening hours 6pm-12am**
2. Residential Parking – The 0.9 ratio listed in the table above consists of 0.8 spaces per unit for residents including 0.1 spaces per unit for visitors/tradespeople (10%). The visitor ratio will provide eight additional parking spaces. We believe the combined ratio is more than adequate to supply parking for age-restricted residential.

A ratio of 0.9 is more than double that of the findings of ITE research which includes residents, visitors, and employees for stand-alone land use of this type. The peak parking demand at most senior facilities occurs midday, with Mother's Day having the highest parking demand of the year. Per the traffic report prepared by VAI, it is estimated that 65% of residential users will arrive at the site by means other than a personal vehicle. Due to this reduction in transportation mode, it is reasonable to conclude fewer residents will own vehicles; thereby, reducing the parking demand. Therefore, a ratio of 0.9 spaces per unit provides a conservative level of safety and will provide flexibility in the development should the residential user type change in the future. Neither mode adjustments, time-of-day, nor monthly adjustments were applied to the residential unit parking as it is assumed these spaces will be reserved and not available for sharing with the general public. However, the eight visitor parking spaces were included in the overall total of shareable parking spaces and adjusted accordingly.

The factors indicated above were applied to the base parking ratios to provide project-specific projections. The specifics are illustrated in the tables provided in the appendix.

Shared Parking Conclusion

Parking demand is influenced by the time-of-year, time-of-day and the availability of alternative transportation, building occupancy rates, and many other factors. However, the available parking supply is usually fixed, limited by the amount of space available on a given site.

After utilizing effects of shared parking, transportation mode adjustments, monthly factor, and time-of-day factor the projected weekend peak-hour parking demand for the site is 122± spaces on the busiest weekend of the year. The retail/restaurant peak-hour demand is projected to occur in December at 8:00 PM. In conclusion, the projected peak-hour weekend demand represents a 29% reduction from the unadjusted weekend parking demand projected for this project.

APPENDIX

SHARED PARKING DEMAND SUMMARY

PEAK MONTH DAILY PARKING DEMAND BY HOUR

GRAPH DEPICTING PEAK MONTH DAILY PARKING DEMAND BY HOUR

Table
Project: 1299 Beacon Street Brookline MA
Description: Shared Parking Model v3

11/27/2018

SHARED PARKING DEMAND SUMMARY

PEAK MONTH: DECEMBER -- PEAK PERIOD: 8 PM, WEEKEND

Land Use	Project Data Quantity Unit	Weekday				Weekend				Weekday			Weekend		
		Base Rate	Mode Adj	Project Rate	Unit	Base Rate	Mode Adj	Project Rate	Unit	Peak Hr Adj 7 PM	Peak Mo Adj December	Estimated Parking Demand	Peak Hr Adj 8 PM	Peak Mo Adj December	Estimated Parking Demand
		Retail Employee	1,769 sf GLA	2.90 0.70	0.50 0.50	1.45 0.35	/ksf GLA	3.20 0.80	0.50 0.50	1.60 0.40	/ksf GLA	0.75 0.95	1.00 1.00	2 0	0.65 0.75
Restaurant Employee	3,500 sf GLA	15.25 2.75	0.62 0.90	9.46 2.48	/ksf GLA	17.00 3.00	0.62 0.90	10.54 2.70	/ksf GLA	1.00 1.00	1.00 1.00	33 9	1.00 1.00	1.00 1.00	37 10
Second Floor Retail Employee	5,491 sf GLA	2.90 0.70	0.10 0.25	0.29 0.18	/ksf GLA	3.20 0.80	0.10 0.25	0.32 0.20	/ksf GLA	0.95 0.95	1.00 1.00	2 1	0.50 0.00	1.00 1.00	1 0
Age-Restricted Rental Housing Reserved Guest	80 units 0.8 sp/unit 80 units	0.00 1 0	0.35 1.00 1.00	0.00 1 0	/unit	0.00 1 0	0.35 1.00 1.00	0.00 1 0	/unit	0.97 1.00 1.00	1.00 1.00 1.00	0 64 8	0.98 1.00 1.00	1.00 1.00 1.00	0 64 8
											Customer Employee Reserved Total	45 10 64 119	Customer Employee Reserved Total	48 10 64 122	

Shared Parking Reduction 31%

29%

Peak Month Daily Parking Demand by Hour

