



Pilgrim Parking, Inc.

December 1, 2016

Rachna D. Balakrishna, Esq.
Vice President/General Counsel
Mason & Murphy Inc.
1299 Beacon Street
Brookline, MA 02446

RE Parking generation calculations for 1180 Boylston Street Project, Brookline, MA.

Dear Ms. Balakrishna:

Pilgrim Parking, Inc. was asked to perform a parking demand analysis for the valet parking operation at 1180 Boylston Street. Specifically, the request was to review conditions at the likely peak parking demand period of Saturday at 1:00 pm to 2:00 pm. Please accept the following as our review of those conditions.

Subject Facility

The study was performed for the six-story residential and retail development proposed for 1080 Boylston Street, Brookline, MA. The project plans used were provided by CBT Architects and dated November 23, 2016. Key program elements are:

- 45 Residential Units (16 one bedroom and 29 two bedroom)
- 3 Retail Units (5,560 sq. ft. total area)
- Valet Parking Garage (ground level staging area and one level below grade served by two vehicle elevators; 49 spaces, expandable to 69 spaces with vehicle stackers).

The 10 by 20 foot dimensions of the vehicle elevators are not restrictive and should enhance vehicle delivery times.

Peak Hour Parking Demand (Saturday, 1:00 pm to 2:00 pm)

We agree that this is a reasonable hour of the week to analyze, in that retail demand is usually largest on Saturdays and that demand usually peaks during the stated hour. Parking generation is determined from both residential and retail sources.

Residential Demand

Peak Demand Ratios published by the Institute of Transportation Engineers¹ and Urban Land Institute² are as follows:

1.03 (\pm 0.19)/occupied unit	Saturday	Mid-Rise Apartment (ITE Land Use 221)
1.20 (\pm 0.42)/occupied unit	Weekday	Mid-Rise Apartment (ITE Land Use 221)
1.37 (\pm 0.15)/occupied unit	Weekday	High-Rise Apartment (ITE Land Use 222)
1.00/occupied unit		One Bedroom Apartment (ULI)
1.30/occupied unit		Two Bedroom Apartment (ULI)

For the current calculations, we apply a Peak Demand Ratio of:

1.10/occupied unit

These ratios were adjusted for the area by the following demand modifiers:

- 90% Modal adjustment (accounting for mass transit, Uber and taxi options)
- 80% Fee parking adjustment (this is conservatively high – accounting for the fee charged to patrons to support the valet operation.)

We did not apply adjustments for non-captive conditions or the impact of an age-restricted residential environment.

Applying the adjustments, we calculate an Adjusted Peak Demand Ratio of:

0.79/occupied unit

For comparison, observed peak demand at the Watermark Apartments in Cambridge, Park Lane Apartments in South Boston and One Greenway Apartments in Boston range from 0.26 to 0.62/occupied unit.

Parking demand for the hour in question (Saturday, 1:00 pm to 2:00 pm) is a fraction of peak demand, which usually occurs overnight. Relevant ratios for that hour are:

- 70% Saturday and Sunday average (ULI)
- 58% (\pm 12%) Multi-week data from Watermark Apartments in Cambridge

We applied a ratio of 65%. Assuming 100% occupancy, the Demand Ratio for the subject hours is then:

0.52/occupied unit

Applied to 45 units this generates a residential occupancy of 23 at the subject hour.

¹ *Parking Generation, 4th Ed.*, Institute of Transportation Engineers (Washington, DC; 2010).

² *Shared Parking, 2nd Ed.*, Urban Land Institute and International Council of Shopping Centers (Washington, DC; 2005).

Retail Demand

We have been apprised that the retail mix might include a small high-end furniture or lighting store, jewelry store, optical shop, wealth management/financial advisors or hair salon, with daytime hours (9:00 am to 5:00 pm). While it is safe to say that peak demand is generally midday on Saturdays, specific peak demand ratios for small stores are notoriously difficult to find in ITE, ULI or National Parking Association references. Most of their focus is on suburban big box stores and malls, where ratios can range up to 5.0/1,000 sq. ft. Smaller, free-standing stores in suburban environments are in the range of 3.0/1,000 sq. ft. However, neither are relevant to the subject property. Examples of more applicable ratios are:

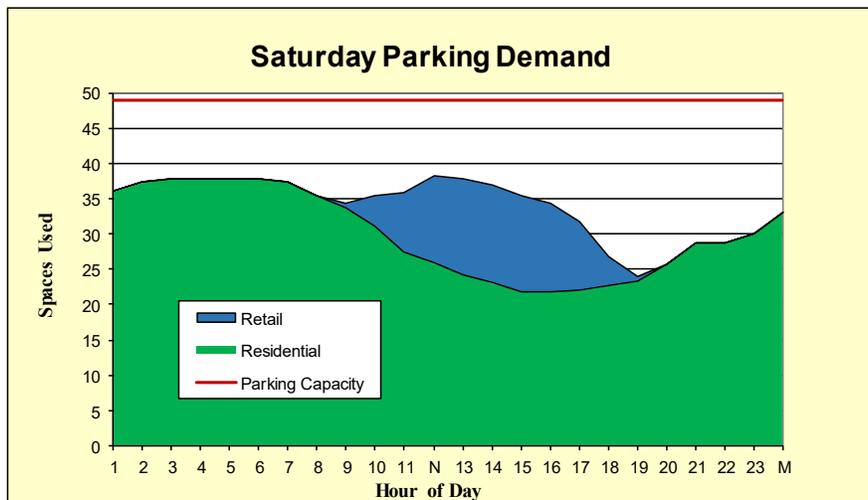
- 1.40 (± 0.80)/1,000 sq. ft. 15,000 sq. ft. apparel (ITE)
- 2.20/1,000 sq. ft. Personal service retail City of Savannah³
- 1.13/1,000 sq. ft. General merchandise and clothing retail City of Savannah³

To be overly conservative, we used a peak demand ratio of 2.50/1,000 sq. ft. for the hour in question. When applied to the 5,560 sq. ft. of retail, this generates a peak demand of 14 vehicles.

Combined with the residential demand, this generates a parking occupancy of 37 vehicles for the peak hour; Saturday, 1:00 pm to 2:00 pm.

Shared Spaces (Saturday)

To demonstrate the relationship between residential and retail parking demand in a shared garage, we applied the demand assumptions discussed above to Saturday, hour-by-hour demand curves for both uses. The results are shown in the chart below.

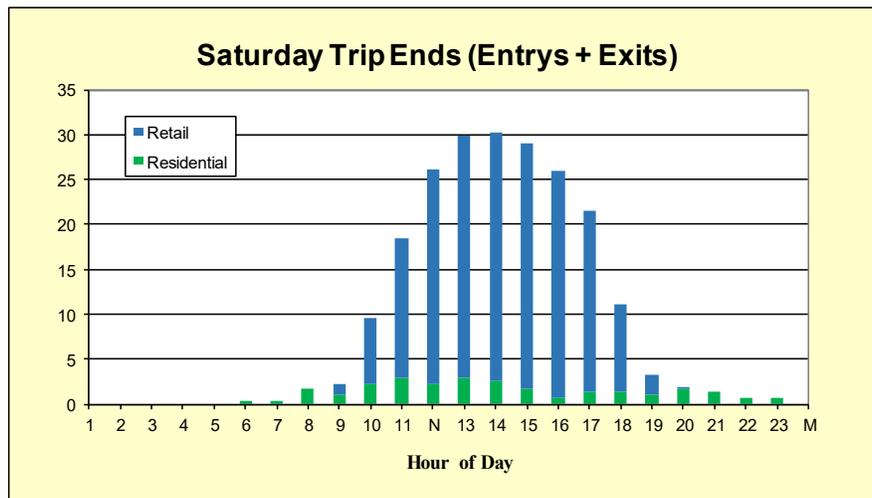


³ <http://savannahga.gov/DocumentCenter/View/8353>.

As expected, using a demand curve from actual, Watermark Apartments data, the residential occupancy peaks overnight. With residential departures during the day, space is created for the retail patrons. Using these particular hourly curves does not precisely duplicate the calculations above, and while we do show a demand of 37 vehicles in the subject hour, the maximum demand is 38 in the preceding hours due to the shape of the residential demand curve.

Timing Study (Saturday)

Assuming that the above chart is a reasonable depiction of the day (and hour) in question, we can estimate the number of vehicle entries and exits (known as “Trip Ends”) for each hour of the day. For the suggested retail uses, we estimate an average length of patron stay to be 45 minutes and the resulting number of trip ends to generate the above occupancy chart is as follows:



The maximum number of hourly End Trips is 30.

To determine operational feasibility, we calculate the required valet attendant effort. Individual statistics are based on Pilgrim Parking’s valet operation at the Folio Boston. Folio Boston is a three-level, 118-space, two-elevator valet garage. The elevators are more confined than proposed at the subject property, requiring greater time to orient vehicles within. At Folio, it takes an attendant roughly five minutes to park or retrieve a vehicle. If we assume a 125% efficiency for busy times when a vehicle can be parked, and another retrieved with only one elevator transit, a valet can account for about 15 End Trips per hour. Thus, for the above scenario, 2 valets could likely handle the maximum hourly loading. Depending on circumstances and actual conditions, it may be necessary to station a third person, acting as cashier, during busy periods.

Please contact me or Mark Braconnier if you have questions.

Sincerely,

Michael W. Gery

Michael W. Gery
President
Pilgrim Parking, Inc.

CC: Mark Braconnier, Pilgrim Parking, Inc.