

## NEEDHAM STREET VILLAGE SHOPS PARKING DEMAND

### INTRODUCTION

Bierbrier Development is proposing a small retail/restaurant mixed-use development on Needham Street. The shops would replace the existing Bicycle Sales, Repair and Storage building and Skipjacks Restaurant located along the westerly side of Needham Street adjacent to the Avalon residential units.

Access would be provided by two Curb Cuts replacing the continuous uncurbed section which currently exists along Needham Street on the site's frontage. A revised northerly access would be located off the Avalon Drive, the center curb cut would be two-way, and the southerly curb cut would be out only. A State Curb Cut Permit under MGL 81 Section 21 is required from the MassDOT for the two drives intersecting Needham Street.

Parking would be provided by 64 spaces located primarily in the rear in a standard 90° double-loaded parking field with a two-way circulation aisle. Additional parking would be located along the southerly drive in a single-loaded 90° configuration and along the center drive adjacent to the building in a parallel configuration.

### Program

The mixed-use project is planned for two family-type quality sit-down restaurants at ±5,000 sf with a total of ±110 seats. The retail is planned for ±14,200 sf located in two buildings in a standard in-line store configuration. Total square footage is approximately 19,200 sf.

The theme of the "Village Shops" is an experience of "Convenient Service Retail" and "Quick Service/Short Duration of Stay" restaurants woven into the current Needham Street fabric of mixed-use retail and restaurants.

### Methodology

The current restaurant profile proposed for the development consists of two restaurants, both family, quality sit-down restaurants, one on the north end cap with seasonal seating and one inline adjacent to the other stores. The employee count per restaurant would be six (6) employees per restaurant with up to 55 seats each for a total of 110 seats. The retail profile consists of up to eight (8) small stores with an employee count of 16 people or two per store.

Consequently, the project is planned with ±5,000 square feet (110 seats) of restaurant space and ±14,200 sf of retail space demised into eight (8) units in a standard in-line configuration.

To accurately project parking demand for the center, considering type, roadway location, and competition, VAI has analyzed projections by several methods as well as a procedure for shared parking due to non-coincident peaks between restaurants and retail. From an overall land use standpoint, the two restaurants with 110 seats replace Skipjacks with ±175 seats and the 14,200 sf of small retail replaces the 19,812 sf bicycle shop. Although the provided spaces decrease from ±71 to 64, the restaurant size is down by ±65 seats and the retail has decreased by ±5,000 sf.

Furthermore, the type of restaurants proposed are unlike Skipjacks in that they are not "Destination Generators". Skipjacks functioned as a reservations and longer duration of stay/destination restaurant that many times created a parking overflow.

The proposed restaurants are such that if they are full and parking spaces are scarce, patrons will tend to alter their dining choice and move on.

Additionally, the bicycle retail, repair, storage use was a "regional destination" drawing traffic from more than just Needham Street, while the new retail is both smaller and will have a local attraction from the City and Needham Street due to the fact that Needham Street itself has become a shopping destination with multiple stop trips once on Needham Street.

#### Parking Generation Methods

Initially, this project contained 150 restaurant seats, as evidenced by the Traffic Study, which sized and analyzed the traffic impacts for that larger size. Traffic impacts for the larger shops were easily accommodated and, in fact, a safer, more efficient access plan was developed with the closing of the uncurbed section along Needham Street, elimination of the front parking which backed directly onto Needham Street, the aggregation of the Needham Street drives to two spaced properly, and finally the redesign of the Avalon driveway intersection located back from Needham Street.

As may be noted in the developer's initial applications, the project was originally conceived to contain up to two restaurants with a combined maximum seat count of 150 seats. The developer asked VAI to analyze parking demand with this configuration to validate the early assumptions.

Because of the constraints on the site, and our belief that regardless of reductions in project footprint, few, if any, additional parking spaces could be designed into the center. VAI suggested and conducted an analysis which 'solved for' a recommended seat count that could be accommodated with the 64 available spaces and the center as designed.

It was determined that at 64 spaces, a value of 110 seats in the two restaurants could be accommodated in concert with 14,200 sf of non-restaurant retail space

The methodology utilized is explained as follows:

1. Empirical Data Method - Actual Empirical data from adjacent/corridor retail and restaurants, and VAI information and studies conducted for retail and restaurant uses over the last 20 years were utilized as follows.

Parking Demand by Use – Without a Shared Analysis – From Actual Data

Retail – For ±11 months a year, rates of 2.8 to 3.2 spaces/1,000 square feet are sufficient to handle demand at small retail inline stores. With 14,200 sf in 7-8 units, 43 spaces would be sufficient to handle daily and Saturday median and daily Saturday peak demand and Non-Coincident Peaking with the restaurants.

$$14.2 \text{ ksf} (3.0) \text{ space/ksf} = 43 \text{ spaces required}$$

Restaurant - Actual usage data confirms, in our view, that 32 spaces would be sufficient for 11 months of the year without a shared analysis based upon a rate less exacting rate.

$$1 \text{ space}/4 \text{ seats} + 12 \text{ employees}/3 \text{ seats/employee}$$

$$1/4 \text{ seats} = 110/4 = 28 + 12/3 = 4 = 32 \text{ spaces required.}$$

The total of 75 spaces was calculated.

The difference between using 1 space/4 seats vs. 1 space/3 seats is 8 fewer spaces required at 110 seats.

$$1 \text{ space}/3 \text{ seats} = 36 \text{ spaces is } 8 \text{ spaces fewer}$$

2. Shared Parking Method – Applying the Shared Use Formulas, used in the Chestnut Hill site, VAI determined the following:

Coupled with this straight-forward analysis, VAI also conducted a “Shared-Use” analysis, knowing and considering that restaurants do not have coincident peaks with retail and therefore neither use peaks its demand at the same time allowing usage of each others spaces at each’s respective peak. Consequently, when the restaurants peak, typically 7-8 PM on Friday/Saturday evenings (89% and 100% of median sales) (see Tables 1 and 2), the retail is not peaking which does so on Saturdays between 11:00 AM and 3:00 PM.

In order to determine the overall projected parking demands for the project and to account for the non-coincident peaks between the proposed retail and restaurant uses, a detailed shared parking analysis was completed using the methodology outlined in the Urban Land Institute’s (ULI) *Shared Parking* manual.<sup>1</sup> The shared parking analysis was conducted using the base parking demand of 75 parking spaces which is based on the empirical data outlined above.

Using the ULI shared parking analysis methodology and the empirical parking data, the proposed parking supply of 64 spaces is sufficient to accommodate the overall peak parking demand for the project with the revised seating of 110 seats in the two restaurants.

***Summarizing, it is our view that after analyzing all methods (the City Zoning requirements and the ITE method) the application of empirical rates calculates to a reasonable number, at the provided 64 spaces. Decreasing the restaurant seats to 110 yields a value of 64 spaces to be provided. In our view, are sufficient, with the above parameters for 11 months of the year. During the 30 days between thanksgiving and the Holidays, parking demand peaks radically to a value well beyond any reasonable supply and therefore, it is not used for design or prudent to supply spaces that would not be used.***

<sup>1</sup>Shared Parking, Second Edition; Urban Land Institute; Washington, D.C.; 2005.

**Table 1**  
**PARKING/TRAFFIC CONDITIONS QUALITATIVE MEASURES ONLY**

<b>LUC</b>	<b>Use/Peak</b>	<b>Weekday AM</b>	<b>Weekday Noon</b>	<b>Weekday PM</b>	<b>Weekday Use Peak</b>	<b>Saturday Use Peak</b>
820	Retail	Closed	Minor Volumes Traffic/Parking	Minor Volumes Traffic/Parking	If any, after 6:00 PM Peak	11:00 AM – 2:00 PM
932	Restaurant 1 50 seats Family-Style Sit-Down Lunch/Dinner Only – End Cap	Closed	Moderate Traffic/Parking	Moderate Traffic/Parking	Dinner after 6:00 PM Friday	Dinner after 6:00 PM Saturday
932	Restaurant 2 55 seats Family-Style Sit-Down Inline	Closed	Moderate Traffic/Parking	Moderate Volumes Traffic/Parking	Dinner after 6:00 PM Friday	Dinner after 6:00 PM Saturday
Use Peak						
Coincident Peak		--	No	No	No	No

**Summary**

- ***Use Peaks of Retail      Saturday 11:00 AM – 3:00 PM***
- ***Use Peak of Restaurant   Friday/Saturday After 6:00 PM***  
***Non-coincident with each other***
  
- ***Roadway Peaks   Thursday PM and Friday PM***  
***Non-coincident with either land use***

**Table 2**  
**RESTAURANT PARKING CHARACTERISTICS**

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LUC 931 – Quality Restaurant Sit-Down

Daily Demand

Sunday	51%
Monday	52%
Tuesday	62%
Wednesday	71%
Thursday	77%
Friday	89%
Saturday	100%

Temporal Distribution

<11:00 AM	--
11:00 AM – 12:00 PM	21%
12:00 - 1:00 PM	69%
1:00 - 2:00 PM	59%
2:00 - 3:00 PM	74%
3:00 - 4:00 PM	31%
4:00 - 5:00 PM	50%
5:00 - 6:00 PM	39%
6:00 - 7:00 PM	72%
7:00 - 8:00 PM	100%
8:00 - 9:00 PM	88%
>9:00 PM	--

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