



MEMORANDUM

TO: Joseph J. Corcoran
FROM: William F. Lyons Jr., P.E., President
RE: Parking Supply Analysis for Proposed Residential Project,
Washington Street, Somerville, Massachusetts
DATE: August 7, 2013

Having reviewed the information you provided for the above referenced project as well as our own data sources, we offer the following in support of your application for relief from the parking requirements of the Somerville Zoning Ordinance (SZO).

PROJECT UNDERSTANDING

On the southeast corner of Washington Street at New Washington Street in Somerville (Figure 1), a single-story retail plaza will be demolished and replaced with a multi-story brick building containing 159 residential units and 13,217 square feet of ground level retail space. The proposed residential units will consist of 25 studio apartments, and 134 1- or 2- bedroom apartments.

Parking requirements under Article 9 of the Somerville Zoning Ordinance (SZO) necessitate 1 off-street parking space per studio unit and 1.5 off-street parking spaces for each 1 or 2 bedroom unit. In addition, one visitor parking space must be provided for every 6 residential units proposed in the development. Based on the current zoning maps, the site is located in a Business B (BB) zoning district, the SZO also requires 1 off-street parking space per 250 square feet of street level retail space.

The proposed project therefore requires 306 off-street parking spaces; 226 spaces for the 159 residential units, 27 spaces for visitor parking, and 53 spaces for retail parking. Since 179 parking spaces are proposed, the project requires a variance from the SZO.



Figure 1 –Proposed Conditions Site Plan

STRATEGIC PERSPECTIVE. EXCEPTIONAL RESULTS.

JUSTIFICATION FOR PARKING VARIANCE

The following eight factors will help demonstrate that the on-site parking proposed will be adequate for the project's needs and that the project will have a negligible impact on the surrounding neighborhood's public parking supply:

- Parking Utilization
 - On-Street Parking
 - Off-Street Parking
- ITE Parking Generation Manual Estimates
- Typical Vehicle Ownership Rates
 - Somerville
 - Cambridge
- Mode-Split Journey-to-Work Data
- Urban Land Institute (ULI) Shared Parking Analysis,
- Mixed-Use Transit-Oriented Development,
- Proximity to Public Transportation (Existing and future stations), and
- Other Similar Developments

EXISTING PARKING UTILIZATION

Parking space utilization data was collected on Thursday, May 3rd, 2012 between the hours of 1:00 PM and 2:00 PM, and again between 8:00 PM and 9:00 PM, reflective of the time of day when residents have presumably returned home for the evening. To further ensure an accurate reflection of the typical neighborhood parking supply, additional data was collected on the evening of May 10th, again between the hours of 8:00 PM and 9:00 PM. The parking data collected on the 10th were consistent with the counts collected on the 3rd. In order to incorporate both evening parking counts, the average of the two evenings was calculated. This parking data was segregated into on-street parking spaces located within walking distance of the site and off-street parking spaces currently located on the site.

ON-STREET PARKING

The area selected for the data collection extended north to the intersection of Cross Street at Fountain Street, Franklin Street at Flint Street, and the midpoints of Myrtle Street, Florence Street, and Pinckney Street between Washington Street and Pearl Street. The study area also extended west to the intersection of Washington Street at Boston Street and east to the intersection of Washington Street at Inner Belt Road (Figure 2).

The data collection effort included all on-street parking spaces within the study area, but excluding restricted parking spaces. For the purpose of this study, excluded parking spaces consisted of no



Figure 2 – Existing On-Street Parking Study Area

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parking areas, bus stops, fire hydrants, driveways, within 20 feet of the corner of two intersecting streets, etc. Resident permit parking spaces as well as 2-hour except by permit parking spaces were included as available on-street parking spaces.

It was determined that the study area as described has a total of 920 parking spaces. The data revealed there are approximately 746 on-street parking spaces distributed throughout the study area.

Based on the data collected, over half of the area’s on-street parking supply is available on an average afternoon or night; 58% during the afternoon equating to 435 spaces and 63% during the evening equating to 471 spaces. These field observations indicate that the existing on-street public parking supply in the immediate neighborhood has reserve capacity.

Table 1 – Existing Parking Utilization Summary

Description		Direction	Total Number of Parking Spaces	# Parking Spaces Occupied (Full)				# Parking Spaces Available (Empty)			
Street	Section			Afternoon ¹	Percent Occupied	Evening ²	Percent Occupied	Afternoon ¹	Percent Available	Evening ²	Percent Available
Washington Street	Inner Belt Road to Boston Street	North	27	19	70%	12	44%	8	30%	15	56%
		South	37	14	38%	8	22%	23	62%	29	78%
McGrath Highway Carriage Road	Washington Street to House #374	West	10	9	90%	4	40%	1	10%	6	60%
Alston Street	McGrath Highway to Cataldo Ambulance	North	8	7	88%	7	88%	1	13%	1	13%
		West	25	9	36%	14	56%	16	64%	11	44%
		East	19	13	68%	11	58%	6	32%	8	42%
Linwood Street	McGrath Highway to NSTAR Property	West	12	7	58%	0	0%	5	42%	12	100%
		East	7	6	86%	0	0%	1	14%	7	100%
Joy Street	Washington Street to Poplar Street	West	47	27	57%	16	34%	20	43%	31	66%
		East	28	15	54%	13	46%	13	46%	15	54%
Tufts Street	Washington Street to Glen Street	East	15	5	33%	5	33%	10	67%	10	67%
		East	10	5	50%	3	30%	5	50%	7	70%
Dell Street	Tufts Street to Glen Street	North	18	11	61%	9	50%	7	39%	9	50%
		South	13	10	77%	9	69%	3	23%	4	31%
Glen Street	Tufts Street to Morton Street	North	7	6	86%	4	57%	1	14%	3	43%
		South	7	4	57%	3	43%	3	43%	4	57%
	Morton Street to Dell Street	North	4	4	100%	3	75%	0	0%	1	25%
		South	5	5	100%	3	60%	0	0%	2	40%
	Dell Street to Fountain Avenue	North	6	6	100%	4	67%	0	0%	2	33%
		North	4	4	100%	1	25%	0	0%	3	75%
Fountain Avenue to Oliver Street	South	8	7	88%	2	25%	1	13%	6	75%	
	West	9	6	67%	5	56%	3	33%	4	44%	
Morton Street	Glen Street to Knowlton Street	East	10	4	40%	5	50%	6	60%	5	50%
		North	23	15	65%	19	83%	8	35%	4	17%
Fountain Avenue	Cross Street to Glen Street	West	7	3	43%	2	29%	4	57%	5	71%
		East	6	2	33%	3	50%	4	67%	3	50%
Knowlton Street	Morton Street to End	West	4	2	50%	4	100%	2	50%	0	0%
		East	5	2	40%	5	100%	3	60%	0	0%
		North	15	7	47%	3	20%	8	53%	12	80%
Oliver Street	Glen Street to Franklin Street	South	16	5	31%	4	25%	11	69%	12	75%
		West	8	1	13%	1	13%	7	88%	7	88%
Franklin Street	Flint Street to Oliver Street	East	7	3	43%	2	29%	4	57%	5	71%
		West	12	3	25%	0	0%	9	75%	12	100%
	Oliver Street to Turner Court	East	15	10	67%	3	20%	5	33%	12	80%
		West	3	1	33%	3	100%	2	67%	0	0%
	Turner Court to Hadley Court	East	5	3	60%	1	20%	2	40%	4	80%
		West	2	0	0%	0	0%	2	100%	2	100%
	Hadley Court to Washington Street	West	2	0	0%	0	0%	2	100%	2	100%
		East	3	0	0%	1	33%	3	100%	2	67%
Myrtle Street	Washington Street to Myrtle Court	West	12	2	17%	5	42%	10	83%	7	58%
		East	16	1	6%	4	25%	15	94%	12	75%
	Myrtle Court to House #54	West	8	0	0%	3	38%	8	100%	5	63%
		East	7	1	14%	2	29%	6	86%	5	71%
Florence Street	Washington Street to House #32	West	15	6	40%	10	67%	9	60%	5	33%
		East	13	8	62%	9	69%	5	38%	4	31%
Pinckney Street	Washington Street to Un-named Private Way	West	10	6	60%	6	60%	4	40%	4	40%
		East	11	6	55%	7	64%	5	45%	4	36%
Mount Vernon Street	Washington Street to Un-named Private Way	West	8	4	50%	4	50%	4	50%	4	50%
		East	9	6	67%	7	78%	3	33%	2	22%
New Washington Street	Washington Street to Cobble Hill Road	North	44	1	2%	0	0%	43	98%	44	100%
		South	39	2	5%	3	8%	37	95%	36	92%
	Cobble Hill Road to Inner Belt Road	North	19	1	5%	1	5%	18	95%	18	95%
		South	24	7	29%	11	46%	17	71%	13	54%
Inner Belt Road	Washington Street to New Washington Street	West	20	0	0%	4	20%	20	100%	16	80%
		West	24	0	0%	7	29%	24	100%	17	71%
Overall On-Street Total			746	311	42%	275	37%	435	58%	471	63%

¹Note: Afternoon data collected 5-3-12 between 1-2 PM

²Note: Evening data collected on both 5-3-12 and 5-10-12 between 8-9 PM; the average of the two evenings are depicted above.

OFF-STREET PARKING



Figure 3 – Existing Off-Street Parking Study Area

The study area included the customer parking lot in front of the existing retail plaza, as well as the east and west parking lots and handicapped accessible spaces along the driveway of the existing Cobble Hill Development, which are available to residents of that development (Figure 3). With a total of 175 off-street parking spaces located at the Cobble Hill Plaza and neighboring Cobble Hill residential complex. For off-street parking on an average day, there are approximately 77 spaces available in the afternoon and 80 spaces in the evening (Charts 1 and 2). This allows for 44% and 46% of the off-street parking available, respectively (Charts 3 and 4).

Chart 1- Afternoon Parking Utilization

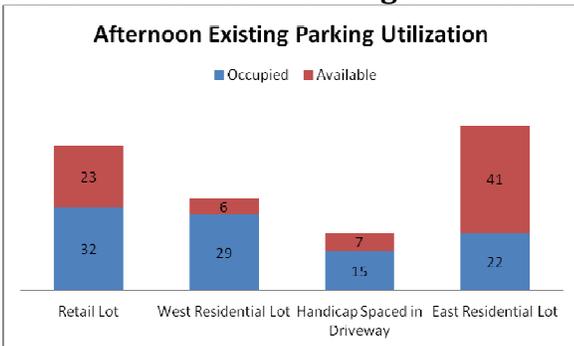


Chart 2 – Evening Parking Utilization

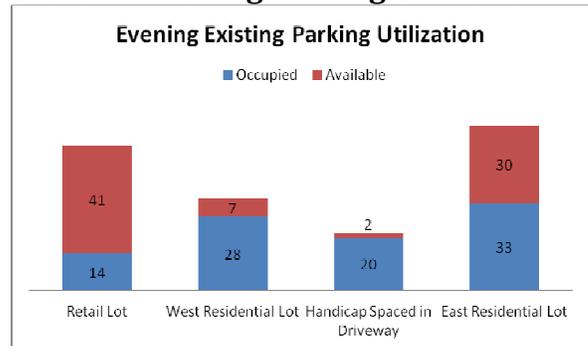


Chart 3- Afternoon Parking Utilization Percentages

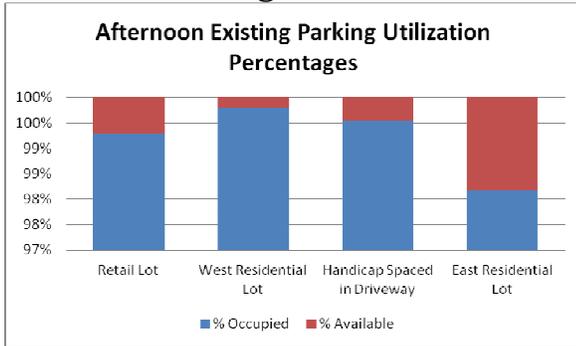
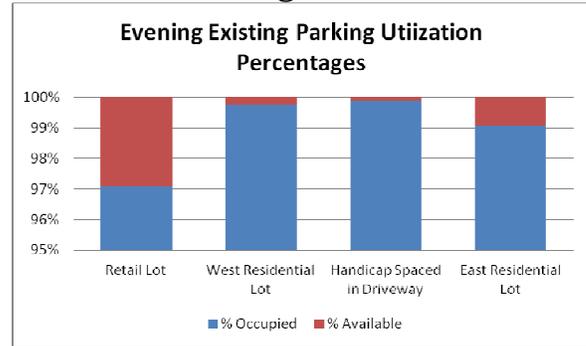


Chart 4 - Evening Parking Utilization Percentages



ITE Parking Generation Manual Estimate

To evaluate the parking impacts of the proposed development it is necessary to estimate the amount of parking expected to be required by the proposed land uses. The trip generation calculations are based on data compiled in Parking Generation (3rd edition), an informational report published by the Institute of Transportation Engineers (ITE). Parking Generation is a tool for planners, transportation professionals, zoning boards, and others who are interested in estimating the number of parking spaces required by a proposed development or land use.

Utilizing ITE Land Use Codes (LUC) for Low/Mid-Rise Apartments, Convenient Store (24-Hour), and Shopping Center; parking demands for the Weekday peak period were estimated. Unlike the Trip Generation, Parking Generation has one LUC for Low/Mid-Rise Apartments instead of two separate ones and a LUC for a Convenient Store that is open for 24-hours not normal business hours. However, the LUCs were still utilized since they were the most comparable land uses available.

The estimated parking demand for the Cobble Hill project is 249 parking spaces when using the 85th percentile rates or 208 when using the average peak period rate (Table 2). Both parking demand estimates are less than that required by the SZO based on current zoning, 57 and 98 respectively.

Table 2 - Parking Generation

Land Use	ITE Parking Generation				Summary
	Range	85th Percentile	Average Peak Period Parking Demand	Number of Parking Spaces Required for Project using 85th Percentile	Number of Parking Spaces Required for Project using Average Demand
Low/Mid-Rise Apartment					
Weekday	0.66-1.43	1.17	1.00	186	159
Weekend	0.80-1.43	1.17	1.02	186	162
Convenient Store (24-Hr)					
Weekday	2.92-3.95	3.77	3.40	12	11
Shopping Center					
Monday-Thursday	1.44-7.37	5.06	3.76	51	38
Friday	1.47-7.50	5.24	4.01	52	40
Saturday	2.01-7.50	5.92	4.74	59	47
Sunday	1.79-7.67	5.85	4.45	58	44
Total Weekday Parking =				249	208

Note: Institute of Transportation Engineers, Parking Generation Manual, 3rd Edition
 Low/Mid-Rise Apartment (LUC 221) parking requirement shown in vehicle per dwelling unit
 Convenient Store (LUC 851) parking requirement shown in vehicles per 1,000 sq. ft. GFA
 Shopping Center (LUC 820) parking requirement shown in vehicles per 1,000 sq. ft. GLA
 It should be noted that these estimates assume no reduction due to mode split, shared parking or any other applicable reduction factor.

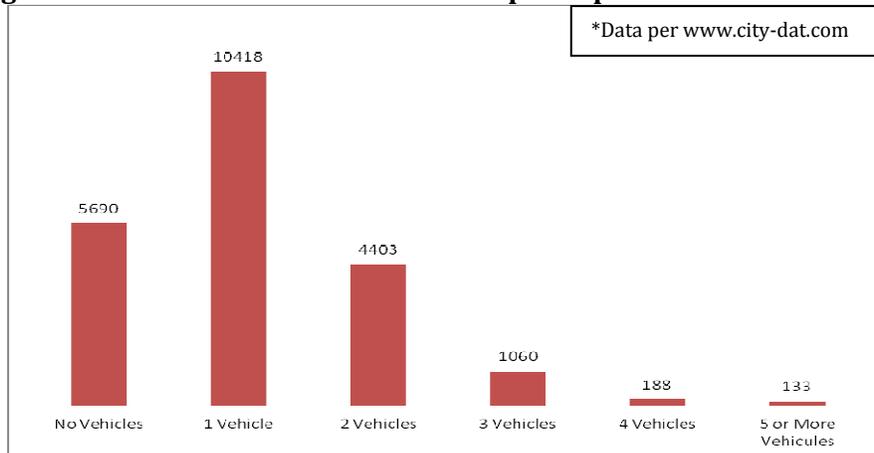
The Cobble Hill project site is located next to the GLX Washington Street Station and therefore it is not unreasonable to expect that the estimates would be less than ITE’s estimates that do not include reduction for such factors.

CARS AVAILABLE PER HOUSEHOLD

City of Somerville

Approximately ¾ (74%) of rental-occupied apartments in Somerville have only one vehicle or less available to them. Although this data doesn’t correlate to the number of bedrooms in each household; it clearly indicates that Somerville residents are more likely to have one car or less (Figure 4). This is likely due to the excellent access to public transportation that Somerville provides, particularly since many neighborhoods have rapid transit stations located less than a mile away.

Figure 4 - Cars Available in Rental-Occupied Apartments in Somerville



City of Cambridge

In a 2007 parking memorandum for the City of Cambridge requesting a recommendation as to what the appropriate parking space requirement should be for housing in close proximity to mass transit, it was found that housing developments in close proximity to public transit required far less parking spaces. In order to evaluate the possibility of reducing the parking requirement, information regarding the existing rate of auto ownership near transit was collected. The data was then compared to the 2000 US Journey to Work Census data for all census regions in Cambridge to determine if households in census areas closer to transit stations had lower auto ownership.

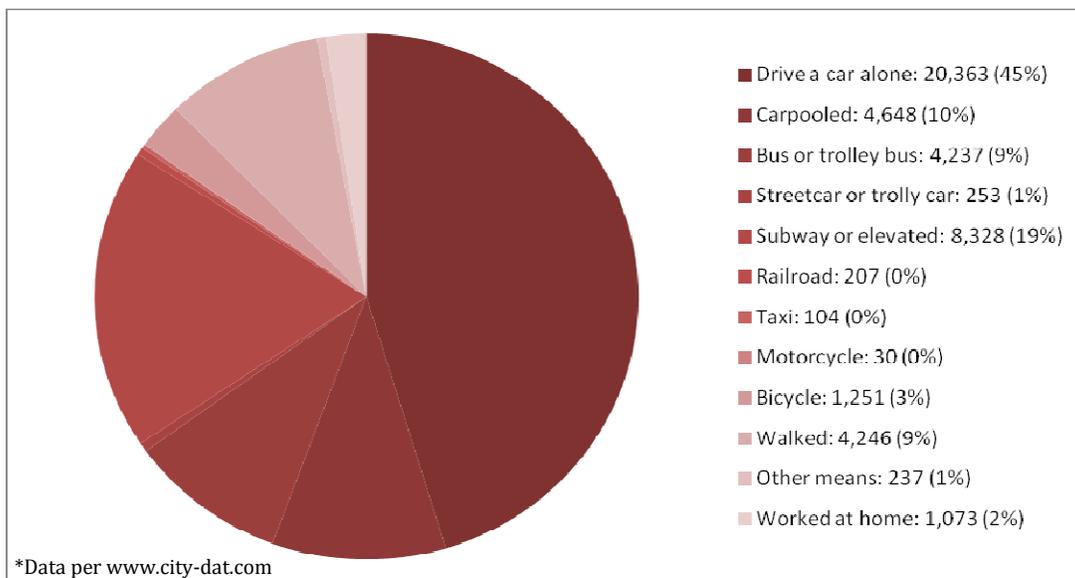
The data showed that half (50%) of the units surveyed had no vehicles registered. The data also showed that when the number of vehicles registered is compared to the number of dwelling units at a site, eighty-five percent (85%) had fewer than 0.75 cars per unit. On-site parking at the surveyed developments varied from 0 to 1.1 spaces per unit, averaging 0.5 spaces provided per unit.

Similarly to the City of Cambridge, a “green zone” would, in effect, be created, where by reducing the parking requirement for developments in close proximity to mass transit, the use of the mass transit would likely increase.

MODE SPLIT DATA

Available data also suggests that over half of Somerville residents (55%) travel to work via something other than a single occupant vehicle (Figure 5). Almost a third used public transportation to travel to work and 12% walked or used a bicycle to get to work. This mode split data is likely to favor public transportation even more once the Green Line Extension project and the Assembly Square Orange Line Station are complete and operational.

Figure 5 –Mode of Transportation to Work (Somerville)



Also worth noting, according to Car Free Census summaries of the 2000 Census data, Somerville ranks #5 amongst mid-sized American cities that have commuters that don't drive to work (42.42% of commuters bike, walk or take transit), and #30 amongst mid-size cities in the percentage of households with no car at all (22.73%). Although it is clear there is still a demand for private vehicle ownership, the alternative modes of transportation available to Somerville residents clearly reduce car ownership needs, and especially the need for a car for commuting purposes.

Shared Parking Analysis

Shared parking is the use of a parking space to serve two or more individual land uses without conflict or encroachment. The Urban Land Institute developed Shared Parking¹, explains the goal and methodology behind shared parking. The key goal of shared parking is to find the equilibrium between providing enough parking to support a development and minimizing the negative aspects of excessive land use devoted to parking. ULI explains that the ability to share parking spaces is the result of two conditions:

- Variations in the accumulation of vehicles by hour, by day, or by season at the individual land uses, and
- Relationships among the land uses that result in visiting multiple land uses on the same auto trip.

Research has shown that parking garages and lots are extremely expensive, create more impervious space, and make housing less affordable. By incorporating shared parking, multiple users share a parking space, ultimately reducing the number of parking spaces needed at a site. In mixed-use developments, such as Cobble Hill, shared parking arrangements take advantage of the fact that different types of users have different time periods when they need the parking space.

Due to the fact that the two land uses for the project site are residential and retail, time-of-day parking patterns will be the key factors while examining the possibility for shared parking. On an average Weekday, retail developments demand parking in the middle of the day, generally between the hours of Noon until 6:00 or 7:00 PM. On an average Weekday, residential developments demand parking later at night, generally when returning to work, until the morning when residents generally leave for work. The peak parking occupancy times are from 6:00 PM until 7:00 AM.

Mixed-Use Transit-Oriented Development

Somerville parking regulations are slightly higher than those in the adjacent cities and towns. In Table 2 below, the parking requirements for Somerville, Cambridge and Charlestown are summarized. With Somerville included, the average parking space required per dwelling unit is 1.17. With Somerville not included this averages drops to an even 1 parking space per dwelling unit.

¹ Urban Land Institute, Shared Parking: 2nd Edition

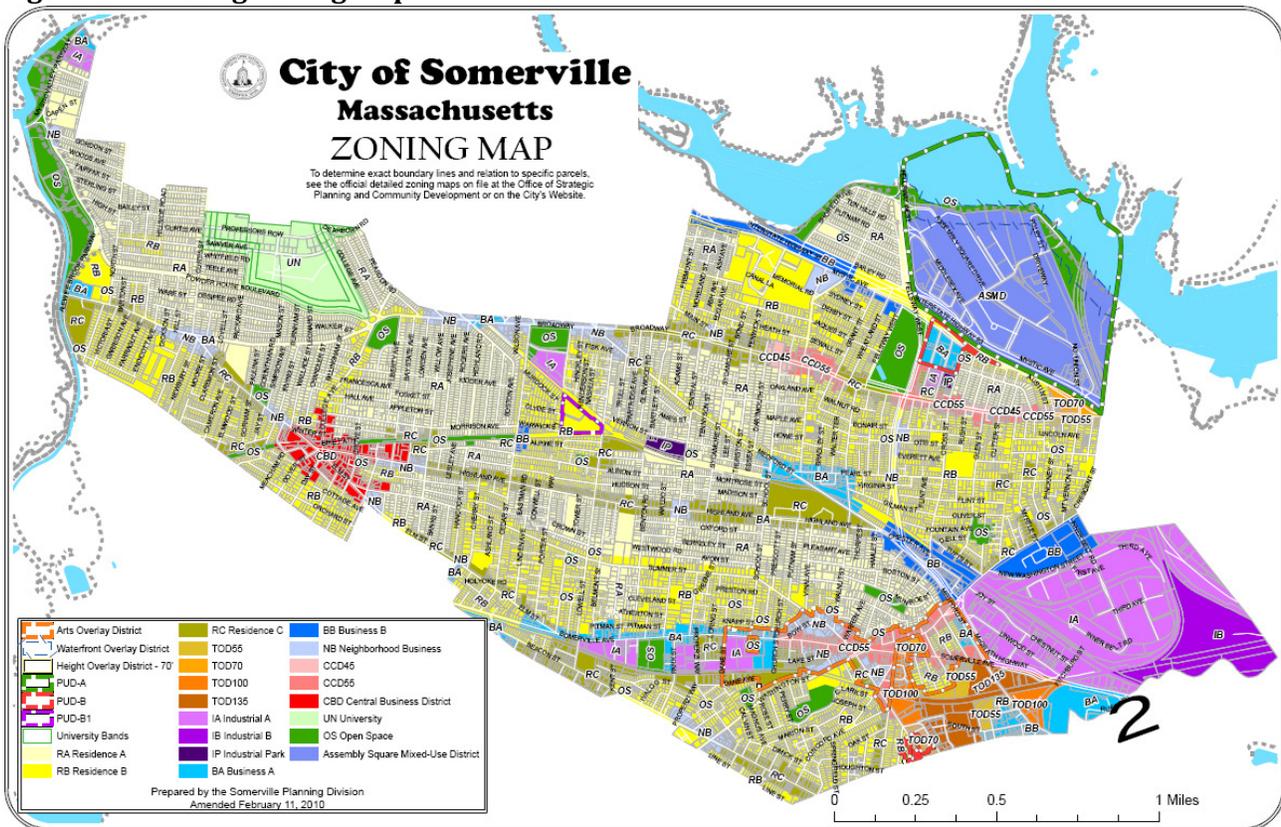
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Table 2 – Averaged Parking Requirements for Somerville and Adjacent Cities and Towns

Parking Requirements (Adjacent Cities and Towns including Somerville)				Summary
City/Town	Residential (near MBTA Station)	1 or 2 Bedroom Units	Multi-family	Average Parking Requirements Per Unit
Somerville		1.5		1.5
Cambridge			1 per d.u.	1
Boston (Charlestown)	0.75-1.25 per d.u.			1
Average =				1.17

The Parking requirements under Article 9 of Somerville Zoning Ordinance (SZO) require 1 off-street parking space per studio unit, 1.5 off-street parking spaces per 1 or 2 bedroom residential units, and one visitor parking space for every six residential units. The SZO also require 1 off-street parking space per 250 square feet of street level retail space for the BB district (Figure 6).

Figure 6 – Existing Zoning Map



The Cobble Hill Development is located in the BB District in Somerville, in close proximity to what is considered the Transit-Oriented Development district (TOD). Based on the SZO, if Cobble Hill was to be considered a TOD, parking requirements would be reduced to one parking space per dwelling unit for all size units and one parking space for every 500 square feet of retail space. The parking space requirement for visitor parking would however remain the same, one parking space for every 6 dwelling units. This would reduce the number of parking spaces required from 306 to 212.

A SomerVision Comprehensive Plan was produced by the SomerVision Comprehensive Steering Committee to use as a blueprint for a more sustainable and equitable future. The SomerVision Committee is made up of a compilation of City representatives and members from various Somerville committees and boards. The plan acts as a guide for future growth and development within the City, outlining future goals and priorities of the community. The Plan identifies the Cobble Hill area as a Transformational Mixed-Use area (Figure 7), intending to create and maintain walkable mixed-use districts centered on access to rapid transit. The plan also calls for future structures to consist of high rise construction that is oriented to the street, pedestrian friendly and keeping accessible open space.

The Cobble Hill Development should be analyzed as a TOD due to the likely change to a TOD district once the Washington Street GLX Station is constructed (projected to be completed by 2017).

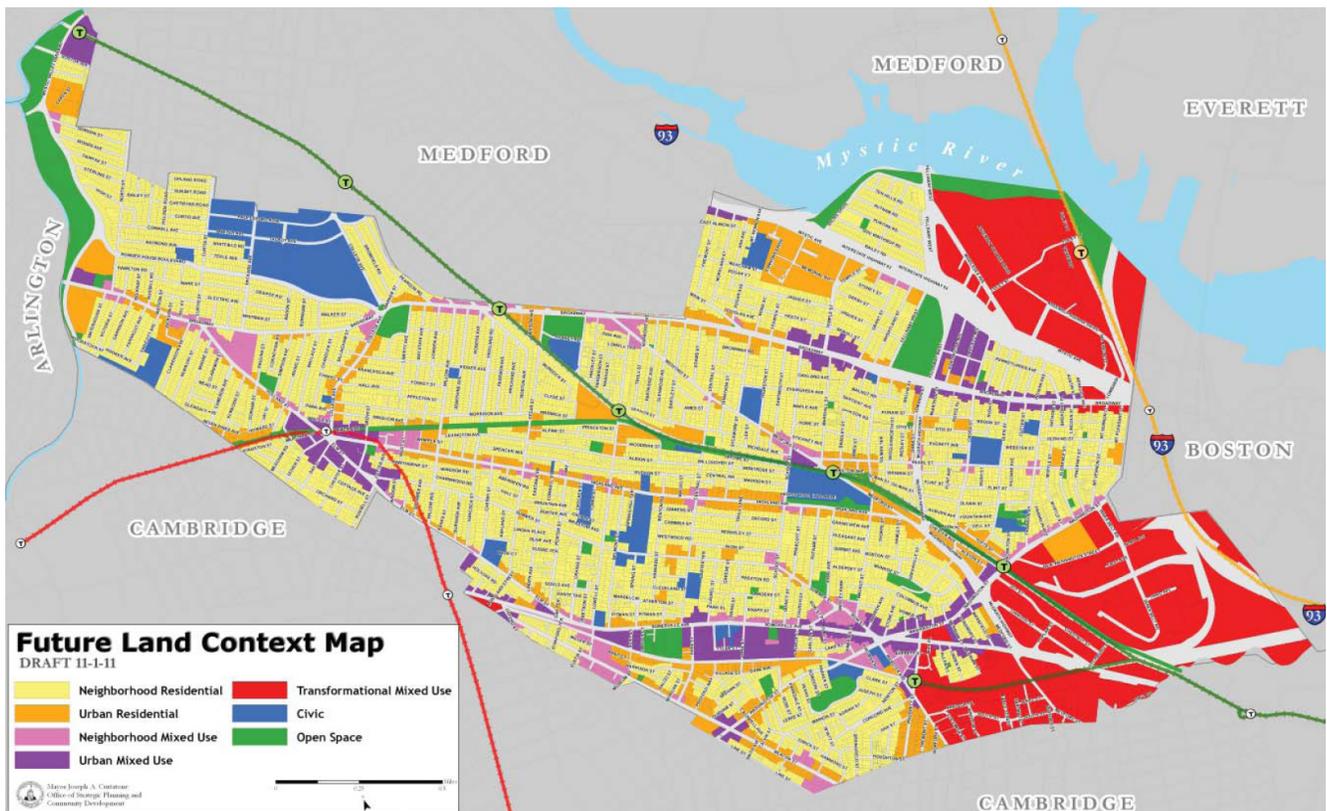


Figure 7 – Future Land Context Map

PROXIMITY TO RAPID TRANSIT

The Cobble Hill Development is well served by several modes of public transportation. It is located only ½ of a mile from the Sullivan Square MBTA rapid transit station. The future Green Line Extension Project (GLX) will have two stations located in close walking proximity of the proposed project area. The Union Square Station will be located only ½ of a mile from the project. The Washington Street Station will be located the closest, a mere 240 feet from the project driveway. Furthermore, local bus service is provided along Washington Street in front of the project area (Routes 86, 91, and CT2). With excellent access to

public transportation, it is not unreasonable to expect that vehicle ownership rates for this project may be less than typical vehicle ownership rates.

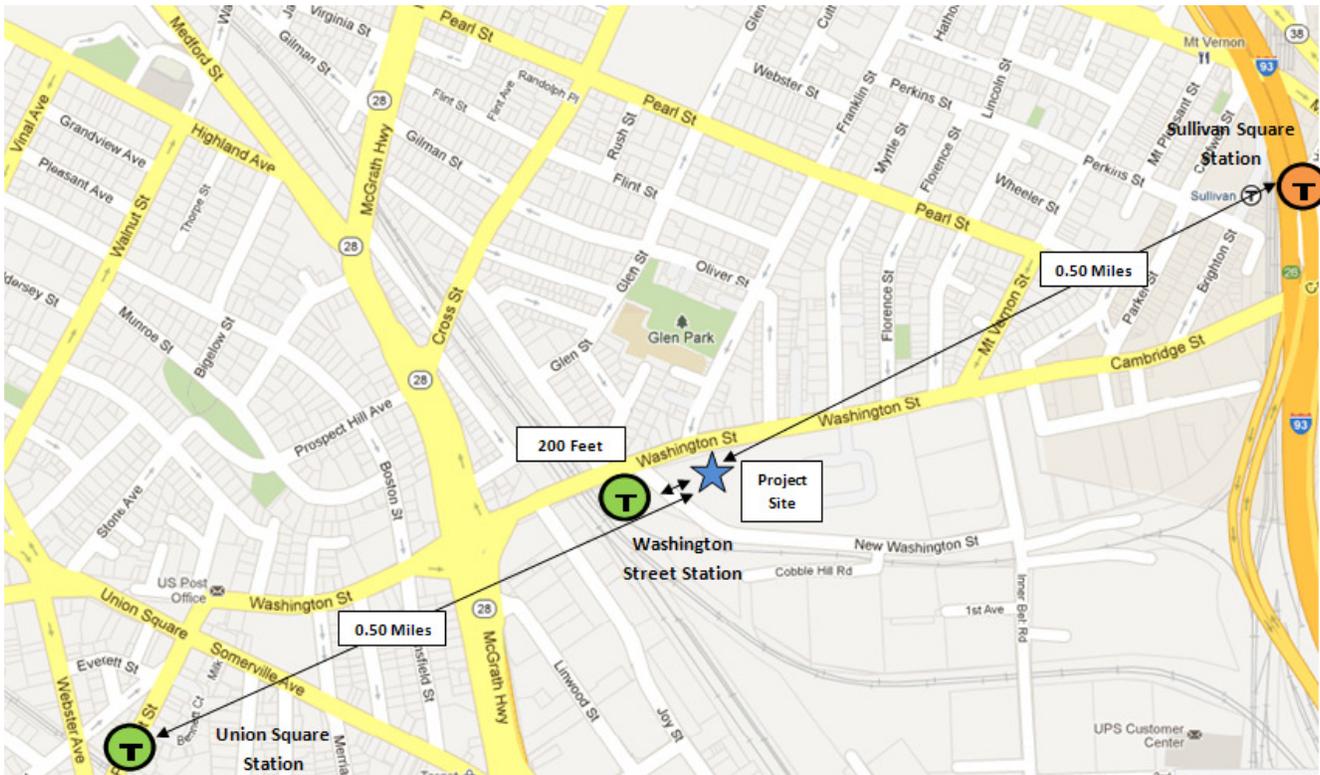


Figure 7 - Proximity to Rapid Transit Stations (Existing and Future)

OTHER SIMILAR DEVELOPMENTS

On April 3rd, 2008, the City of Somerville Planning Board conditionally approved the requested zoning reliefs for the 56-61 Clyde Street – “MaxPak” site. The MaxPak residential development is proposed to contain 199 units in five buildings standing 3 to 5 floors high. The site’s transit-oriented design is located between a planned rapid transit station and the extended community path. Along with the number of units, height of the proposed buildings, and the close proximity to rapid transit, the MaxPak site is also similar to the Cobble Hill residential development in that the units will predominantly consist of one- and two-bedroom units.

The MaxPak project team argued that fact that many communities have been approved to provide one parking space per dwelling. The MaxPak and the Cobble Hill sites’ immediate proximity to both a future rapid transit station make it comparable to other developments that have incorporated TOD parking reductions. The City of Somerville approved the MaxPak development for a zoning relief for parking requirements and stated that appropriate findings may be made during the Special Permit with Site Plan Review (SPSR) review to support the one space per dwelling ratio.

CONCLUSION

This traffic memorandum demonstrates that the proposed Cobble Hill Redevelopment project should be considered a Transit-Oriented Development district and will have a negligible impact on the surrounding

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neighborhood's public parking supply. The typical vehicle ownership rates in Somerville, the proximity to public transportation, the mode-split data, the 530 parking spaces (on an average weeknight) available in the immediate vicinity of the project, and the other communities that were approved for a zoning relief are all factors that suggest that the amount of available on-street parking spaces in the vicinity of the project could accommodate vehicles associated with the proposed development, for which a variance is now being sought.

We hope that this parking memorandum meets your satisfaction. Should you have any questions regarding this memorandum, please do not hesitate to contact me directly.

HG/hg