

Design Consultants, Inc.

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MEMORANDUM

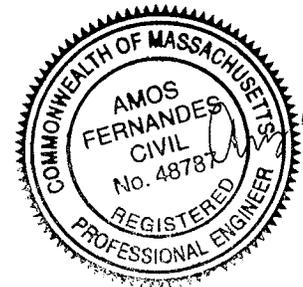
DCI JOB NO. 2013-108.1

TO: Terence Smith, Traffic & Parking
City of Somerville, MA

FROM: Amos Fernandes, P.E., PTOE, AICP
Transportation Manager

SUBJECT: **Parking Study**
318 Beacon Street
Somerville, MA

DATE: July 14, 2014, Revised August 11, 2014

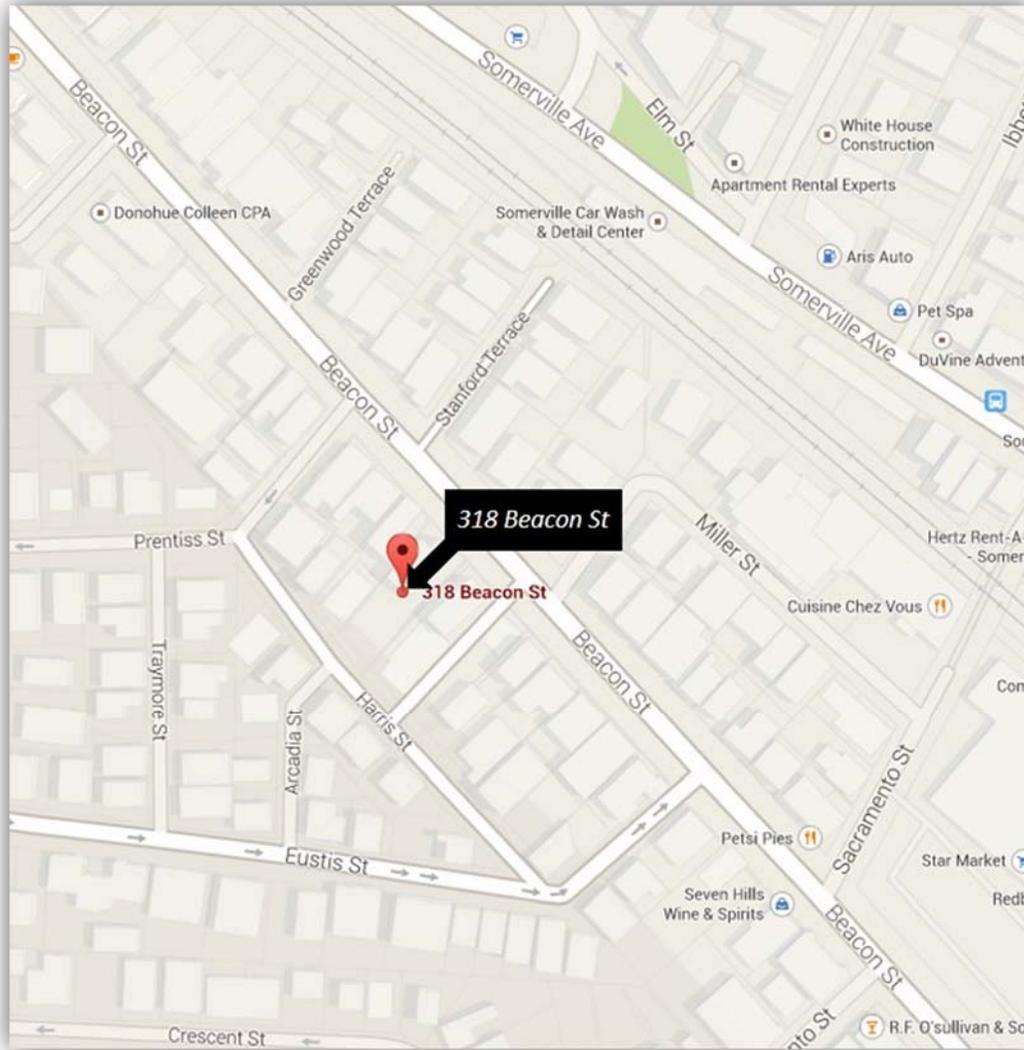


Design Consultants, Inc. (DCI) has evaluated the transportation and parking impacts of the project site at 318 Beacon Street in Somerville, Massachusetts. DCI understands that the Site is currently occupied by a three-family structure that will be left in place and an additional four-family structure is proposed at the rear of the property on Harris Street in Cambridge. Proposed parking includes 7 spaces with 6 spaces located in a garage beneath the new dwelling with access only to/from Harris St in City of Cambridge limits. Based on the Somerville Zoning Ordinance (SZO), Article 9.0, a variance of two (2) parking spaces for the existing and proposed dwelling is requested. A project locus map of the Site is shown in Figure 1.

This memorandum serves to identify whether or not the Site will have an adverse impact on the surrounding neighborhood's on-street parking supply. The following characteristics of the Site and the study area are analyzed and discussed:

- Proximity to Public Transit;
- Transportation Modes and Characteristics; and,
- On-Street Parking Utilization.

Figure 1: Project Location



Map Source: Google Maps

Transit Supply

The Site is situated near MBTA bus routes on Park Street/Beacon Street (2,200 feet away) and Somerville Avenue via the Sacramento Street underpass (850 feet away). 318 Beacon Street is approximately 2,000 feet from the Porter Square MBTA Transit Station. At a MUTCD walking speed of 3.5 feet per second, this is a 10-minute walk via Beacon Street.

Existing Transportation Modes and Characteristics

Local transportation data for the area encompassing 318 Beacon Street was obtained and analyzed using information from the US Census Bureau and the latest American Community Survey (ACS) 5-Year Estimate (2008-2012).

The ACS is a nationwide survey that collects and produces information on demographic, social, economic, and housing characteristics about the US population every year. With respect to local transportation and the subject site, this information provides an important tool to identify unique community characteristics and allows decision makers to obtain a clear picture of their population so that scarce transportation infrastructure can be allocated efficiently and effectively.

318 Beacon Street is located in Census Tract 3510. The Site within the Census Tract is shown in Figure 2. Census Tracts are small, relatively permanent statistical subdivisions of a county or equivalent entity that are updated by local participants prior to each decennial census as part of the Census Bureau's Participant Statistical Areas Program. Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people.

According to the 2008-2012 ACS data for Census Tract 3510, approximately 22.8% of the local population have no automobile. The vehicle ownership data for Census Tract 3510 is summarized in Table 1 and Figure 3.

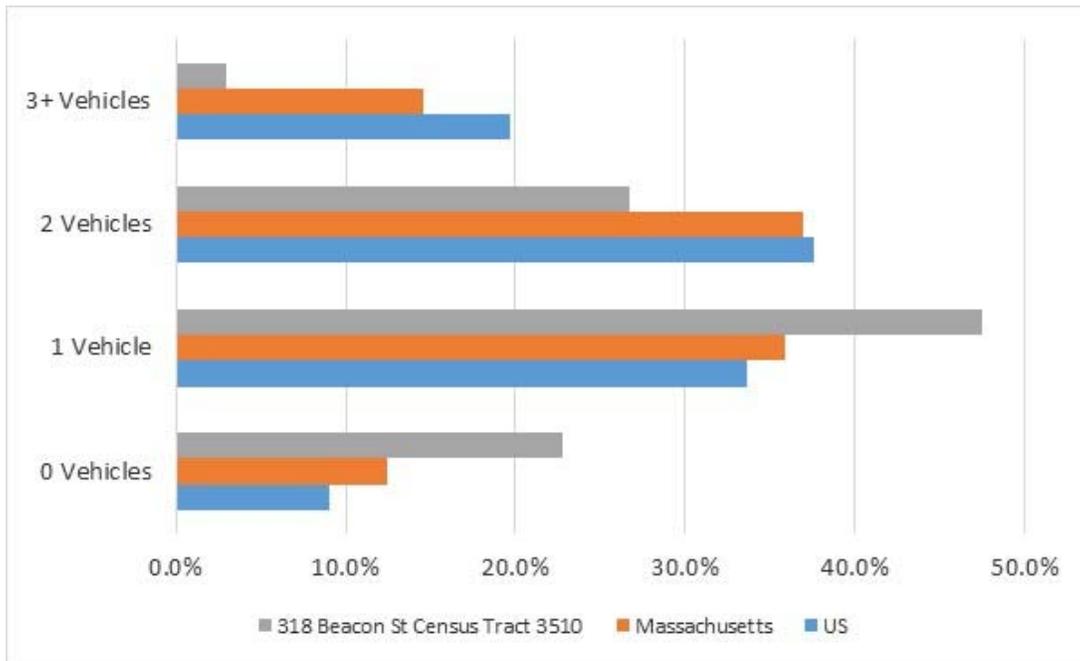
Figure 2: 318 Beacon Street in Census Tract 3510



Table 1: Vehicle Ownership Summary (2008-2012 ASC Data)

Automobile Ownership	US	Massachusetts	318 Beacon St
			Census Tract 3510
0 Vehicles	9.0%	12.5%	22.8%
1 Vehicle	33.7%	35.9%	47.5%
2 Vehicles	37.6%	37.0%	26.7%
3+ Vehicles	19.7%	14.6%	3.0%
Total	100.0%	100.0%	100.0%

Figure 3: Vehicle Ownership Summary (2008-2012 ASC Data)



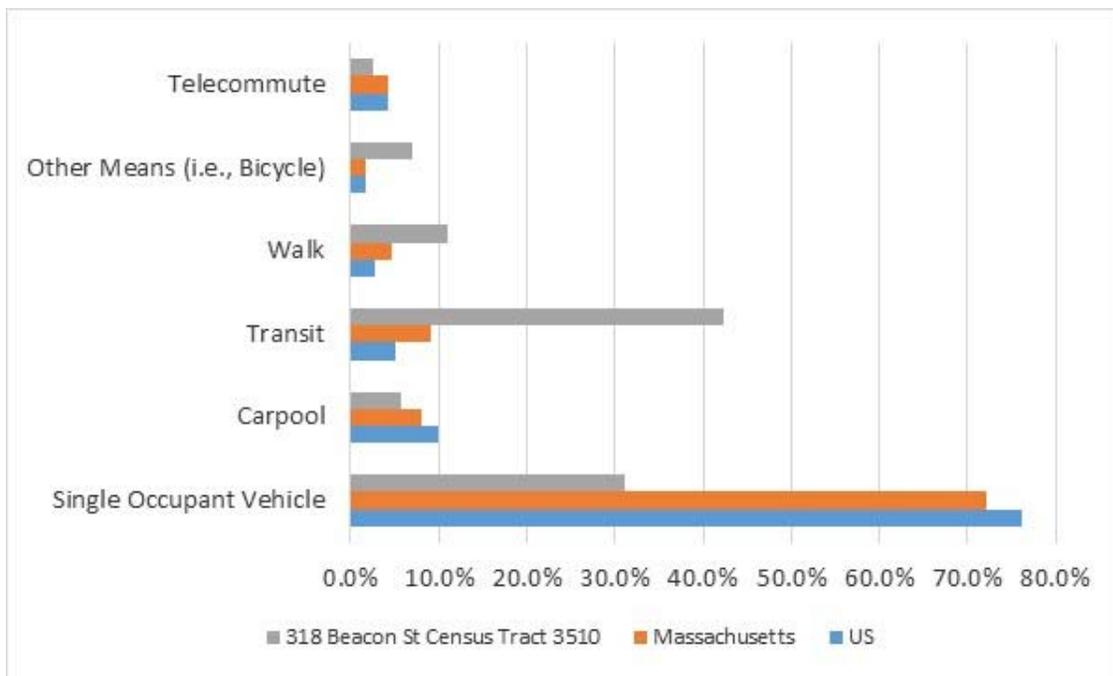
As summarized in Table 1 and illustrated in Figure 3, 318 Beacon Street is located in an area where vehicle ownership for occupied housing units is not as prevalent compared to the State and the Nation. For the entire nation and the State of Massachusetts, 91% and 87.5% of occupied housing units have access to at least 1 automobile, respectively. For the local community that encompasses 318 Beacon Street, 22.8% of the occupied housing units has no automobile.

In terms of mode split for the commute to work, 63.1% of the local working community find transportation to work without use of an automobile. Approximately 42.4% of the local working population use transit and 18.1% of the local working population walk or bicycle to work. Just over 2% of the local working population in the area of 318 Beacon Street work from home. The mode split data for Census Tract 3510 is summarized in Table 2 and Figure 4.

Table 2: Mode Split for the Commute to Work (2008-2012 ASC Data)

Commuting to Work	US	Massachusetts	318 Beacon St
			Census Tract 3510
Single Occupant Vehicle	76.1%	72.2%	31.1%
Carpool	10.0%	8.1%	5.8%
Transit	5.0%	9.2%	42.4%
Walk	2.8%	4.7%	11.1%
Other Means (i.e., Bicycle)	1.8%	1.6%	7.0%
Telecommute	4.3%	4.2%	2.6%
Total	100.0%	100.0%	100.0%

Figure 4: Mode Split for the Commute to Work (2008-2012 ASC Data)



As summarized in Table 2 and illustrated in Figure 4, 318 Beacon Street is located in an area where the automobile as a means of transportation to work is relatively obsolete compared to the State and the Nation. For the entire nation and the State of Massachusetts, 86.1% and 80.3% of the population use the automobile for the work commute, respectively. For the local community at 318 Beacon Street, only 36.9% use the automobile for the work commute (including car poolers).

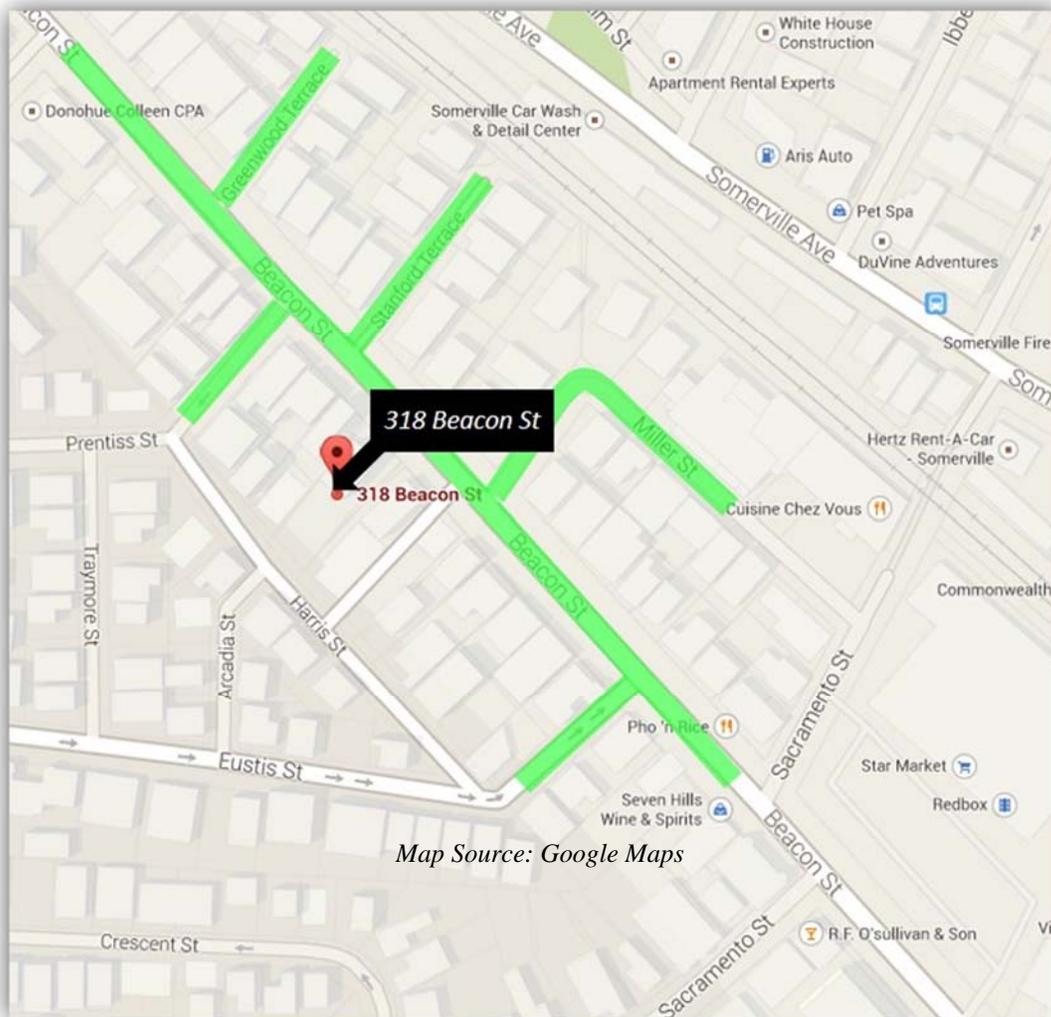
Existing On-Street Parking Utilization

The study area included all on-street parking in the vicinity of 318 Beacon Street within 500 linear feet. DCI performed a parking survey of all available on-street parking areas to determine the existing parking utilization. The study area included the following roadways:

- Beacon Street, from 288 Beacon Street to Forest Street
- Miller Street, from Beacon Street to 10 Miller Street
- Stanford Terrace, from Beacon Street to End of the Street
- Greenwood Terrace, from Beacon Street to End of the Street
- Prentiss Street, from Beacon Street to Harris Street

This study area is shown in Figure 5.

Figure 5: Parking Utilization Study Area



On-Street Parking Inventory

DCI recorded the number of available parking spaces in the study area streets during a typical weekday and during a typical Saturday. The parking data were collected during the following time periods:

- Wednesday, July 9 2014 (12:00 – 2:00 PM, 5:00 – 7:00 PM)
- Saturday, July 12, 2014 (12:00 – 2:00 PM)

The results of the parking surveys are summarized in Table 3. Detailed tables with the complete parking survey data are contained in the attached Appendix. As indicated by the parking survey summary, an average total of 69 parking spaces were available during the weekday mid-day period (12:00 PM to 2:00 PM). An average of 68 parking spaces were available during the weekday evening period (5:00 PM to 7:00 PM). On Saturday, during the mid-day observation period (12:00 PM to 2:00 PM), an average of 69 parking spaces were available. The results of this parking survey indicate that there is under-utilized permit parking spaces spread amongst the study area streets.

Table 3: Parking Survey Summary

Street	Section		Subsection	Weekday		Weekend
	From	to		Afternoon Average	Evening Average	Afternoon Average
Beacon Street	288 Beacon Street	Forest Street	East Side	13	18	13
			(Capacity)	(43)	(43)	(43)
			West Side	22	17	19
			(Capacity)	(41)	(41)	(41)
Miller Street	Beacon Street	10 Miller Street	North Side	0	0	4
			(Capacity)	(8)	(8)	(8)
			South Side	2	4	3
			(Capacity)	(14)	(14)	(14)
			TOTAL CAPACITY	106	106	106
			TOTAL OCCUPIED	37	38	38
			TOTAL AVAILABLE	69	68	69
	Permit Parking Only Except on Sundays / No Parking Street Cleaning & Street Parking					
	2hr Parking Except by permit 8am-2am / No Parking Street Cleaning					
	Permit Parking Only 230am-8am					

Conclusions

This study has examined the parking and traffic impacts of the 318 Beacon Street Site. The Site is currently occupied by a three-family structure that will be left in place and an additional four-family structure is proposed at the rear of the property on Harris Street in Cambridge. Proposed parking includes 7 spaces with 6 spaces located in a garage beneath the new dwelling with access only to/from Harris St in City of Cambridge limits.

The existing three-unit, “triple-decker”, currently on the site was erected in 1920 prior to the advent of the zoning code and any parking requirements subsequently introduced. From the time parking regulations were adopted and continuing to date, there have never been more than two parking spaces on site dedicated to the residents of the building, when five would have been required according to Article 9.0 of the SZO. Since there is no proposed increase in the net floor area of the three-family dwelling, the building is legally nonconforming as to the three additional spaces.

The construction of the new four-unit dwelling requires 6 new parking spaces ($4 \times 1.5 = 6$). Since the project as a whole would contain more than six units, one additional space for visitors is required. The net result is that the two residential buildings would generate a need for nine (9) spaces [2sp = 3F; 6sp=4F; 1sp= visitor]. The site plan shows seven (7) spaces with 6 of those out-of-sight, garaged beneath the new building. Accordingly, a variance of two spaces for the existing and proposed dwelling is requested.

As indicated by the parking survey summary, an average total of 69 parking spaces were available during the weekday mid-day period (12:00 PM to 2:00 PM). An average of 68 parking spaces were available during the weekday evening period (5:00 PM to 7:00 PM). On Saturday, during the mid-day observation period (12:00 AM to 2:00 PM), an average of 69 parking spaces were available. The results of this parking survey indicate that there is under-utilized permit parking spaces spread amongst the study area streets.

318 Beacon Street is located in an area where the automobile as a means of transportation to work is relatively obsolete compared to the State and the Nation. For the entire nation and the State of Massachusetts, 86.1% and 80.3% of the population use the automobile for the work commute, respectively. For the local community at 318 Beacon Street, only 31.1% are single occupant vehicle (SOV) commuters. For the entire nation and the State of Massachusetts, 91% and 87.5% of occupied housing units have access to at least 1 automobile, respectively. For the local community that encompasses 318 Beacon Street, 22.8% of the occupied housing units has no automobile.

Appendix

Parking Survey Data Sheets & Calculations

Parking Survey

City: Somerville, MA

Proj. No.: _____

Street: 318 Beacon Street

Sheet No.: 2

Date: 7/9/2014

Field by: Frantz Renard

Weather: Overcast 80's

Notes: _____

Weekday Occupied Parking Spaces

Street	Section		Subsection	12:00 PM	1:00 PM	5:00 PM	6:00 PM
	From	to		to 1:00 PM	to 2:00 PM	to 6:00 PM	to 7:00 PM
Beacon Street	288 Beacon Street	Forest Street	East Side	12	14	16	19
			West Side	0	1	0	0
Miller Street	Beacon Street	10 Miller Street	North Side	23	21	17	17
			South Side	0	0	0	0
Stanford Terrace	Beacon Street	End of the Street	North Side	2	2	4	3
			South Side	0	0	0	0
Greenwood Terrace	Beacon Street	End of the Street	North Side	2	3	4	5
			South Side	3	3	2	2
Prentiss Street	Beacon Street	Harris Street	North Side	1	1	2	2
			South Side	5	5	3	3
Eustis Street	Beacon Street	Somerville / Cambridge City Limit	North Side	0	0	3	4
			South Side	3	3	4	4
X	Beacon Street	Somerville / Cambridge City Limit	North Side	-	-	-	-
			South Side	-	-	-	-
TOTAL:				54	56	59	63

	Permit Parking Only Except on Sundays / No Parking Street Cleaning & Street Parking
	Private Way: Parking for Residents Only
	Resident Parking Only
	Handicap Parking
	2hr Parking Except by permit 8am-2am / No Parking Street Cleaning
	Permit Parking Only 230am-8am

Parking Survey

City: Somerville, MA

Proj. No.: _____

Street: 318 Beacon Street

Sheet No.: 3

Date: 7/12/2014

Field by: Frantz Renard

Weather: Overcast 80's

Notes: _____

Saturday Occupied Parking Spaces

Street	Section		Subsection	12:00 PM	1:00 PM
	From	to		to 1:00 PM	to 2:00 PM
Beacon Street	288 Beacon Street	Forest Street	East Side	12	13
			West Side	0	1
Miller Street	Beacon Street	10 Miller Street	North Side	0	5
			South Side	1	0
Stanford Terrace	Beacon Street	End of the Street	North Side	2	2
			South Side	0	0
Greenwood Terrace	Beacon Street	End of the Street	North Side	1	1
			South Side	5	5
Prentiss Street	Beacon Street	Harris Street	North Side	2	1
			South Side	1	1
Eustis Street	Beacon Street	Somerville / Cambridge City Limit	North Side	-	-
			South Side	-	-
X	Beacon Street	Somerville / Cambridge City Limit	North Side	3	3
			South Side	0	0
TOTAL:				47	55

- Permit Parking Only Except on Sundays / No Parking Street Cleaning & Street Parking
- Private Way: Parking for Residents Only
- Resident Parking Only
- Handicap Parking
- 2hr Parking Except by permit 8am-2am / No Parking Street Cleaning
- Permit Parking Only 230am-8am

Parking Survey

City: Somerville, MA

Proj. No.: _____

Street: 318 Beacon Street

Sheet No.: 1

Date: 7/9/2014

Field by: Frantz Renard

Weather: Overcast 80's

Notes: _____

Total Available Parking Spaces

Street	Section		Subsection	Total Available Spaces
	From	to		
Beacon Street	288 Beacon Street	Forest Street	East Side	43
			West Side	1
Miller Street	Beacon Street	10 Miller Street	North Side	8
			South Side	14
Stanford Terrace	Beacon Street	End of the Street	North Side	9
			South Side	5
Greenwood Terrace	Beacon Street	End of the Street	North Side	3
			South Side	6
Prentiss Street	Beacon Street	Harris Street	North Side	8
			South Side	6
Eustis Street	Beacon Street	Somerville / Cambridge City Limit	North Side	-
			South Side	-
X	Beacon Street	Somerville / Cambridge City Limit	North Side	5
			South Side	0
			TOTAL:	130

	Permit Parking Only Except on Sundays / No Parking Street Cleaning & Street Parking
	Private Way: Parking for Residents Only
	Resident Parking Only
	Handicap Parking
	2hr Parking Except by permit 8am-2am / No Parking Street Cleaning
	Permit Parking Only 230am-8am