



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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MEMORANDUM

DATE May 1, 2014
To Congestion Management Committee
From Hiral Gandhi and Ryan Hicks
MPO Staff
Re 2012 Inventory of Bicycle Parking Spaces and Number of Parked Bicycles
at MBTA Stations

1 INTRODUCTION

The purpose of this memo is to present the results of the 2012 inventory of bicycle parking spaces and the numbers of parked bicycles at Massachusetts Bay Transportation Authority (MBTA) commuter rail stations, commuter boat terminals, and rapid transit stations, including surface rapid transit stations and some bus stops. (For the purposes of this memo, the term "stations" includes bus stops.) This periodic monitoring is part of the Congestion Management Process (CMP), which is carried out in accordance with federal regulations to help determine the Boston region's transportation investments.

MPO staff inventoried MBTA and municipal bicycle racks at each of the 134 rapid transit stations, 122 commuter rail stations, and six commuter boat terminals in the MBTA's system, and at three of the major bus stops. Overall, when staff compared the results of the 2009–11 inventory to those of the 2012 inventory, they noted a 48 percent increase in parked bicycles and a 30 percent increase in parking spaces. As discussed later in this memo, the factors contributing to the increase include seasonal variations, the construction of additional bicycle cages since the earlier inventory, and surveying stations that had not been monitored in the earlier inventory.

2 BACKGROUND

The CMP is an ongoing MPO program for collecting and gathering performance data about the region's transportation systems. As part of the CMP, data are analyzed, and the results of the analysis are used to provide planners and MPO members with tools to help prioritize transportation projects and to program funds. For example, this inventory of bicycle racks could be used to help determine the number and type of bicycle racks needed at each station. Some stations may need additional bicycle racks, while others may need to have a bicycle cage installed. For other stations, additional surveys may need to be conducted to identify the key users of the bicycle racks.

While bicycle racks at transit stations allow users to use their bicycles at one end of a transit trip, bicycle racks on buses allow customers to use their bicycles at both ends of a trip. The MBTA began the process of outfitting their bus fleet with bicycle racks in 2006 and made significant strides with the help of a grant in 2010 through the MPO's Clean Air and Mobility Program. As of December 2012, 95 percent of the MBTA's bus fleet had been equipped with bicycle racks; buses that use overhead electrical lines were not included with racks because of safety concerns¹.

The MBTA has also been expanding bicycle access to rapid transit vehicles. Its Blue Line Pilot Program became permanent in December of 2012. The purpose of this program is to expand bicycle connections between East Boston and downtown Boston, which are separated by Boston Harbor. The program adds an hour of bicycle access on the Blue Line in the peak direction and eliminates the restrictions entirely in the nonpeak direction.

For information about the MBTA's rules for parking bicycles and bringing bicycles on MBTA vehicles, please see Appendix C, "Bikes and the MBTA," a pamphlet that was published by the MBTA in May 2010. However, the MBTA's website has the most up-to-date information (mbta.com/riding_the_t/bikes/).

In 2009, the MBTA was awarded federal stimulus funds to improve bicycle facilities. By the fall of 2013, the MBTA will have installed 14 Pedal & Park bicycle cages at selected stations using this funding, and an additional cage is expected to open in 2014. The MBTA was expected to also use this funding to install 50 bicycle ports and canopies (sheltered bicycle parking) at selected locations by October 2013. See Table A2.2 in Appendix A for a detailed list of the stations that will be or have been equipped with these amenities. Some Pedal & Park facilities and bicycle ports and canopies were being installed during the time this inventory was conducted, in 2012.

3 DATA COLLECTION PROCESS

Inventories were conducted on typical fair-weather weekdays from July through October 2012. Commuter rail stations were inventoried during the summer months, while rapid transit stations were inventoried in the fall to account for student activity near the colleges. A nearly identical methodology was used to conduct inventories in 2005–06 and in 2009–11. These data were compared to the current data and are presented in the tables in Appendix A.

¹ Article on MassBike's website, "Two Major Victories For Bikes On The MBTA," <http://massbike.org/blog/2012/12/11/two-major-victories-with-the-mbta/> (accessed January 2013).

In general, MPO staff inventoried each station once. Data were collected using the survey form shown in Appendix B. The number, location, and condition of bicycle racks were recorded, as well as the number of bicycles parked in the racks and elsewhere at the station. Data on amenities and other characteristics of the station and its vicinity were also collected, including lighting, security, and the presence or absence of bicycle paths (trails) and bicycle lanes near the station.

At many of the MBTA stations that lack bicycle parking, there are bicycle racks near the station on municipal property or along the sidewalks. These bicycle racks were included in the inventory if there was no bicycle parking at the nearby transit station or if it appeared likely that the municipal bicycle racks would be convenient for transit riders. If bicycle racks were located nearby but were very inconvenient for transit riders, they were not included in the inventory.

The observed utilization of the bicycle racks is assumed to be typical for the station. Detailed observations over time—an effort beyond the scope of this project—would be necessary to gather a more accurate bicycle rack utilization percentage because of the fluctuation of weather and work schedules, among other factors.

4 RESULTS AND ANALYSIS OF BICYCLE PARKING INVENTORY

4.1 Rapid Transit²

The total number of bicycle parking spaces on rapid transit lines increased by 39 percent between the 2009–11 and the 2012 inventories, during which time there was a 51 percent increase in the number of bicycles parked at rapid transit stations. This led to an increase in the bicycle parking space utilization rate, from 43 percent in the 2009–11 inventory to 47 percent in the 2012 inventory. Table 1 shows the number of bicycles parked, the number of bicycle parking spaces, and the percentage of bicycle parking space utilization in the rapid transit system, by line, for the two inventory periods.

In Table 1, bicycle racks located at transfer stations (stations serving more than one line) were included in the data for all of the lines at a given station. For example, if there were 12 bicycle parking spaces at Downtown Crossing, those 12 spaces were included in the total for “Red Line” and in the total for “Orange Line.” For the stations that serve more than one line, the total number of bike racks at the station is used for each line at that station. However, the total is the

² In this memo, “rapid transit” refers to the Red, Orange, Blue, Green, Silver, and Mattapan High-Speed lines.

actual number of bicycle spaces at the stations, not a summation of the "duplicate" numbers used for the lines serving that station.

At an individual station, the number of parking spaces may differ between the two surveys for a variety of reasons: because the number of parking spaces changed, because the parking spaces were counted differently, or because field staff did not find all of the parking during one of the inventories. While the number of bicycle parking spaces is mostly independent of seasonal variation, the number of parked bicycles does vary seasonally; therefore most of the data for the 2012 inventory were collected in fairly favorable bicycling weather, in the summer and fall. A cursory inspection of the previous inventories indicates that most of the data were collected during the same time of year and under similar conditions as in the 2012 inventory.

TABLE 1
Bicycle Parking Inventory and Percentage of Spaces Utilized:
Rapid Transit Stations

Line and Branch	2009–11 Bicycles Parked	2009–11 Parking Spaces	2009–11 Percent Utilization	2012 Bicycles Parked	2012 Parking Spaces	2012 Percent Utilization
Red Line	773	1,202	45	1,004	1,553	65
Mattapan High-Speed Line	2	75	3	5	90	6
Blue Line	72	240	30	92	409	22
Orange Line	219	700	31	374	941	40
Green Line Subway	58	142	41	82	207	40
Green Line B Branch	34	91	37	145	224	65
Green Line C Branch	20	137	15	34	187	18
Green Line D Branch	71	191	37	95	207	46
Green Line E Branch	12	51	24	17	45	38
Silver Line Washington Street	25	118	21	37	125	30
Silver Line Waterfront	28	115	24	77	230	33
Total	1,223	2,830	43%	1,841	3,929	47%

Notes: "Bicycles Parked" and "Percent Utilization" do not include bicycles locked to objects other than bicycle racks. "Percent Utilization" is the percentage of the bicycle rack spaces filled by bicycles. For stations that serve more than one line, the total number of bike racks at the station is used for each line at that station. However, the grand total is the actual number of bicycle spaces at the station, not a summation of the "duplicate" numbers used for the lines serving that station.

Of the rapid transit stations that had bicycle racks in the previous inventory (2009–11), the Green Line B Branch had the greatest percentage increase in bicycle parking spaces, from 91 to 224 spaces in 2012. The Red Line had the largest absolute gain in the number of spaces, with 351 spaces added; this is attributable to the installation of new Pedal & Park bike cages at some Red Line stations that had been installed just before the 2012 inventory. The

number of bicycle parking spaces on the Blue, Orange, and Red lines increased by 70 percent, 34 percent, and 29 percent, respectively.

The Red Line had the greatest number of bicycles parked at bicycle racks in both the 2009–11 and 2012 inventories. This is due in part to the high number of bicycles parked at racks at Alewife and Davis stations, and to a lesser extent, at Central Station. Alewife and Davis stations are both located on heavily traveled bicycle and pedestrian paths and have a large number of bicycle parking spaces to accommodate the demand. However, all of the rapid transit lines saw a substantial increase in the number of bicycles parked at racks. Nearly 150 more bicycles were observed at Orange Line stations, and more than 200 more bicycles were observed at Red Line stations.

Chinatown, Hynes Convention, BU Central, and Chestnut Hill stations were at 100 percent of their capacity during the 2012 inventory. Kendall/MIT and Sullivan Square stations each had 117 percent utilization. At these two stations, bicyclists were able to fit more bicycles on racks than the racks were intended to store. It was observed that people attach their bicycles to signs, benches, railings, and trees once the bicycle racks are full.

The Red Line and Green Line B Branch were the only lines observed during the 2012 inventory to have more than 100 bicycles parked in areas other than the bicycle racks provided at the time of observation. This may be an indication that the existing racks are not located in areas that are perceived as safe; the racks are located in an inconvenient location; or the rack utilization is at, near, or exceeding the design capacity. This can also indicate that local retail shops and other commercial establishments need to provide additional bicycle racks for their patrons. For example, at Central and Harvard stations, many of the bicycles were parked at places such as trees, sign posts, and meters. A secondary survey could determine the destination of the bicycle riders, whether it is an MBTA service or a nearby commercial establishment. The survey would help determine who would be responsible for installing additional racks.

Thirty of the 134 rapid transit stations observed in the most recent inventory did not have bicycle racks. Those stations are listed below.

Red Line

None

Mattapan High-Speed Line

Cedar Grove

Valley Road

Central Avenue

Blue Line

Government Center

Green Line Subway

Government Center
Copley

Green Line B Branch

South Street
Chestnut Hill Avenue
Cheswick Road
Sutherland Road
Warren Street
Allston Street
Griggs Street
Harvard Avenue
Packards Corner

Green Line C Branch

Hawes Street
Kent Street
St. Paul Street
Brandon Hall
Fairbanks Street
Dean Road
Englewood Avenue

Green Line D Branch

Beaconsfield

Green Line E Branch

Fenwood Road
Mission Park
Riverway
Back of the Hill
Heath Street

Silver Line Washington Street (SL4 and SL5)

Dudley Square

Silver Line Waterfront (SL1 and SL2)

Courthouse

Seventy-eight percent of the 134 stations in the rapid transit system had bicycle racks when the 2012 survey was conducted. See Table A1.1 in Appendix A for rapid-transit, station-specific data on bicycle parking and utilization. Table A1.1 also indicates the number of bicycles that were locked to objects other than bicycle racks (such as poles, trees, and railings) at each station.

4.2 Commuter Rail

The total number of bicycle parking spaces in the commuter rail system increased by 12 percent from the 2009–11 inventory to the 2012 inventory, and the utilization rate increased from 20 percent to 25 percent. Table 2 shows the number of bicycle parking spaces in the commuter rail system, by line, for the two inventory periods, the number of bicycles parked, and the percentage of bicycle parking space utilization for each inventory period.

TABLE 2
Bicycle Parking Inventory and Percentage of Spaces Utilized:
Commuter Rail Stations

Commuter Rail Line	2009–11 Bicycles Parked	2009–11 Parking Spaces	2009–11 Percent Utilization	2012 Bicycles Parked	2012 Parking Spaces	2012 Percent Utilization
North Side						
Newburyport/Rockport Line	43	230	19	90	272	33
Haverhill Line	38	232	16	36	244	15
Lowell Line	48	153	31	61	137	45
Fitchburg Line	49	205	24	90	260	35
Framingham/Worcester Line	35	224	16	74	272	27
North Side total	213	1,044	20%	351	1,185	30%
South Side						
Needham Line	20	101	20	16	104	15
Franklin Line	21	163	13	25	162	15
Fairmount Line	3	76	4	1	84	1
Providence/Stoughton Line	71	296	24	81	309	26
Middleborough/Lakeville Line	17	79	22	12	81	15
Kingston/Plymouth Line	8	79	10	19	84	23
Greenbush Line	18	57	32	25	109	23
South Side total	57	805	19%	176	891	20%
Grand total	370	1,849	20%	527	2076	25%

Notes: "Bicycles parked" and "Percent Utilization" do not include bicycles locked to objects other than bicycle racks. "Percent Utilization" is the percentage of the bicycle rack spaces filled by bicycles. As in Table 1, duplicate numbers of bicycles and racks are included at stations that serve more than one line. However, in each of the totals, these spaces are counted only once.

Ninety-seven percent of the stations in the commuter rail system have bicycle racks. One new station was added to the 2012 inventory: Wickford Junction, on the Providence Line. This station has 22 bicycle spaces, with one bicycle parked there at the time of observation. See Table A2.1, in Appendix A, for

commuter rail station-specific data on bicycle parking and utilization. Table A2.1 also indicates the number of bicycles locked to objects other than bicycle racks (for example, poles, trees, or railings) at each station.

Except for the Lowell and Franklin lines, the number of bicycle parking spaces had increased on every commuter rail line after the 2009–11 inventory. The decrease in the number of bicycle parking spaces on the Lowell Line is due to the removal of bicycle racks at North Billerica and West Medford stations. The greatest percentage increase was on the Greenbush Line, which increased from 57 spaces in 2009–11 to 109 spaces in the more recent inventory.

The Newburyport/Rockport and Fitchburg lines had the highest number of parked bicycles, with 90 bicycles parked at the racks for each line. The Lowell Line had the highest bicycle rack utilization, with 45 percent of bicycle rack spaces occupied. The Fairmount Line had the lowest bicycle rack utilization, with 1 percent. In all, 23 of the commuter rail stations that had racks were observed to have no parked bicycles. In the most recent inventory (2012), 5 of the 122 commuter rail stations observed did not have bicycle racks. These stations are:

- Mishawum, on the Lowell Line
- Hastings, on the Fitchburg Line
- Windsor Gardens and Plimptonville, on the Franklin Line
- Plymouth, on the Kingston/Plymouth Line

During the 2012 inventory, staff observed 139 bicycles locked to objects other than the bicycle racks provided at the commuter rail stations. Newburyport, Hamilton/Wenham, Swampscott, Natick, and Providence stations each had 10 or more bicycles locked to objects other than bicycle racks. This may be an indication that the existing racks are not located in areas that are perceived as safe; the racks are located in an inconvenient location; or the rack utilization is at, near, or exceeding the design capacity.

4.3 Commuter Boat and Bus

The utilization of bicycle racks at selected major bus stops increased from 71 percent during the 2009–11 inventory to 75 percent in the 2012 inventory.³ All six of the MBTA's commuter boat facilities were monitored in the 2012 inventory. Bicycle parking utilization at those locations in the most recent inventory was relatively low, at 14 percent. The number of bicycles parked at

³ Data for the Woburn park-and-ride parking lot were collected as part of the park-and-ride data collection effort. Watertown Square and Watertown Yard (which is now a park-and-ride lot) were inventoried as part of the data collection effort for this task because of the high number of buses traversing Watertown Square.

the terminal in Hingham remained the same, while the number of parking spaces increased. Table 3 shows the number of bicycles parked, the number of bicycle parking spaces, and the percentage of bicycle parking space utilization at the commuter boat terminals and major bus stops for the two most recent inventory periods. Please see Table A3.1, in Appendix A, for more detailed information on these locations.

The Hingham commuter boat terminal has racks that accommodate 24 bicycles, and in the 2012 inventory, 9 were parked there. During the 2009–11 inventory, the Fore River Shipyard Ferry Terminal, in Quincy, had no bicycle racks, but by the 2012 inventory it had received one new bicycle rack, with eight spaces; one bicycle was parked at the rack. The Charlestown Navy Yard commuter boat terminal also acquired new bicycle racks, increasing its capacity from 2 to 28 spaces. Bicycles are allowed on MBTA commuter boats at all times, making it a viable option for bicyclists to bring bicycles on the boat and lock or ride them upon arrival at their destination.

TABLE 3
Bicycle Parking Inventory and Percentage of Spaces Utilized:
Commuter Boat Terminals and Major Bus Stops

Transit Mode	2009–11 Bicycles Parked	2009–11 Parking Spaces	2009–11 Percent Utilization	2012 Bicycles Parked	2012 Parking Spaces	2012 Percent Utilization
Commuter boat	11	26	42%	10	70	14%
Major bus stops	12	17	71%	12	16	75%

In the 2012 inventory, the two Boston boat terminals were examined, as had been done in the previous inventory. Neither Rowe’s Wharf nor Long Wharf had any bicycle parking. Bicyclists could park their bicycles at Aquarium Station, but this is not the most convenient place to park. Installing a few bicycle parking spaces near the dock would give people a better place to park.

Watertown Yard (park-and-ride lot), Watertown Square, and the Woburn park-and-ride lot were the only major bus stops monitored in the 2012 inventory. Watertown Yard had four spaces with two bicycles parked in those spaces; seven bicycles were parked near the bus shelter (which is several hundred feet away from the rack). Installing sheltered parking closer to the bus shelter, or adding signs directing bicyclists to the rack, would encourage more bicyclists to use access bus service here. Watertown Square had 12 spaces, and 10 parked bicycles were observed in those spaces during the 2012 inventory, with no parked bicycles observed nearby. There were no parking spaces at the Woburn park-and-ride lot, nor were any bicycles parked in the area.

5 INVENTORY OF AMENITIES AND OTHER CHARACTERISTICS OF A STATION AND ITS VICINITY

As part of the 2012 inventory, staff recorded information on amenities and other characteristics of each station and its vicinity that are pertinent to bicyclists. These include the types of bicycle racks, whether the racks are sheltered, if there is a bicycle path or trail nearby, and whether there are bus routes that connect to the station. These data are included in Appendix A, in Tables A2, A4, and A6, and are discussed below. In addition, also discussed below, staff recorded data on roadways with bike lanes that connect to MBTA stations.

5.1 Types of Bicycle Racks

Tables A1.2, 2.2, and 3.2, in Appendix A, list in detail the amenities at each station. Some styles of bicycle racks are better than others. The inverted-U-style and post-and-loop-style racks support a bicycle in two places, keeping it from falling and being damaged. Also, they make it easy for a bicyclist to lock the bicycle frame and front or rear wheel to the rack to prevent theft. Other rack styles, such as dish-rack and ribbon, support bicycles in only one place, making it more likely for the bicycle to fall. Locking both the bicycle frame and wheel to dish-rack and ribbon-style racks is difficult.

At the stations inventoried, the ribbon and inverted-U styles were the most common types of bicycle racks. While the post-and-loop is also a commonly used style, it was observed mostly on sidewalks in the proximity of stations, and rarely at the stations themselves. The newly installed bike ports consist of inverted-U-style racks.

5.2 Sheltered Bicycle Racks

Bicyclists may be deterred from bicycling to a transit station by inclement weather, in part because of a lack of covered bicycle parking. However, while sheltered bicycle racks protect bicycles from the elements and provide a sense of security, it is not feasible to install them at all stations. Of the 134 rapid transit stations, only 14 stations provide at least some covered bicycle parking; two of them are South Station and Back Bay Station. These major stations have commuter rail, rapid transit, and bus connections. Tables A1.2, A2.2, and A3.2, in Appendix A, provide detailed information on all of the MBTA stations.

Between the 2009–11 inventory and the 2012 inventory, the number of commuter rail stations that have covered bicycle parking almost tripled, from 12 to 34 stations. As more bike ports and Pedal & Park facilities are installed, more stations will have sheltered parking spaces. The South Acton commuter rail station has individual bicycle lockers for rent in addition to unsheltered

bicycle racks. The bicycle lockers were installed by, and are operated by, the Town of Acton.

The American Recovery and Reinvestment Act (ARRA), enacted in 2009, has provided the MBTA with \$4.8 million for a variety of programs to enhance and expand MBTA bicycle parking facilities. This program is funding the construction of 12 new Pedal & Park facilities. These fully enclosed facilities have video camera surveillance and controlled access to increase safety and security. [As of April 16, 2013, five of the facilities had been completed and were operating at Alewife, Forest Hills, South Station, Braintree, and Oak Grove. By September 2013, the remaining seven facilities were scheduled to open, at Ashmont, Davis, Malden, Back Bay, Dudley, Alewife, and Wonderland stations.⁴] The program is also funding the installation of up to 50 covered bike shelters, or bike ports, at MBTA stations; 18 bike ports had been installed as of October 2012 and the remainder will be completed incrementally by the end of 2013.⁵

5.3 Bicycle Thefts

Bicycle thefts were analyzed using the online dataset provided by the MBTA Transit Police, which includes the number of crimes that were reported at each station. Bicycle thefts are reported separately from other types of theft. The online data currently show the number of reported bicycle thefts at MBTA stations for all of 2012. Data for the number of bicycle thefts reported in 2010 and 2011 are no longer available on the website, but these values were obtained from a previous bicycle inventory memo. Tables A1.3 and A2.3, in Appendix A, show the bicycle theft values for those three years.

At all of the rapid transit stations combined, the number of bicycles stolen in 2012 increased by six percent since 2011, and by 27 percent since 2010, to 182 bicycles.

The stations with the highest number of reported bicycle thefts in 2012 were:

1. Davis (32)
2. Alewife (28)
3. Oak Grove and Forest Hills (16 each)
4. Malden (10)
5. Quincy Center (7)

⁴ Source: http://www.mbta.com/riding_the_t/bikes/, last accessed July 17, 2013.

⁵ Source: <http://massbike.org/blog/2013/03/20/mbta-improves-security-at-pedal-parks/>, last accessed July 17, 2013.

6. North Quincy (6)
7. Wollaston, Quincy Adams, and Braintree (5 each)

In order to calculate the rate of bicycle theft at a station, the number of bicycles stolen per day is divided by the number of bicycles per day that park at the station. Because thefts are relatively rare occurrences, the values can be scaled up to show the number of reported thefts expected per 1,000 parked bicycles. This calculation of the rate does not take into account the variations between weekdays and weekends or the variations between seasons.

The top bicycle theft locations, as defined by the number of thefts for every 1,000 parked bicycles, are:

Rapid Transit

1. Ashmont (4.6)
2. Massachusetts Avenue (2.7)
3. Shawmut (2.3)
4. Fields Corner (1.6)
5. JFK/UMass (1.2)
6. Jackson Square (1.2)
7. Quincy Center (1.0)
8. Andrew, Milton, and Haymarket (0.9 each)

Commuter Rail

1. South Weymouth (6.4)
2. East Weymouth, Readville, Holbrook/Randolph, and Nantasket Junction (0.9 each)

Ranking the stations using this formula looks at the rate of theft instead of the number of bicycles stolen, a more significant figure than the raw number of bikes stolen, since some stations have a lot more bike racks than others, and some stations have a much higher utilization rate than others. While Davis and Alewife stations have the highest *number* of thefts per year, they are not among the 10 rapid transit stations that have the highest theft *rates*, which is a more important factor in deciding where to allocate resources for improvements.

5.3 Bicycle Paths and Trails

Bicycle paths located near transit stations provide safe and convenient access to transit for bicyclists. Many stations are located near a bicycle path, and most of those stations were observed to have many parked bicycles. There are

several bicycle paths in Boston, as well as its surroundings, including the Dr. Paul Dudley White Charles River Bike Path, which runs along the Charles River between Boston and Watertown, and the Pierre Lallement Southwest Corridor Bike Path, which runs along the Orange Line between Forest Hills Station and Back Bay Station.

5.4 Connecting Bus Routes

The MBTA bus system covers a large portion of the Boston region. Many of the rapid transit and commuter rail stations that were inventoried have bus connections, either to MBTA bus routes or bus routes operated by other regional transit authorities. As the MBTA continues to outfit its buses with bicycle racks, bus connectivity is becoming a very important factor for bicyclists using transit. To meet the needs of cyclists who use transit, the MBTA equipped most of its buses with bicycle racks. According to MassBike, 95 percent of MBTA's nonelectric buses were equipped with racks as of December 2012.

5.5 Bike Lanes

Several MBTA stations are made more accessible to bicyclists by bike lanes on roads leading to the stations. Porter, Harvard, Central, and Kendall stations, on the Red Line, are served by bike lanes on Main Street and portions of Massachusetts Avenue in Cambridge. There are also bicycle lanes on Beacon Street in Brighton, which improve bicycle access to all of the stations on the C Branch of the Green Line. The eastern portion of Commonwealth Avenue, which the B Branch of the Green Line follows, also has bicycle lanes. While these streets in Cambridge and Brighton are the major streets that have bicycle lanes, there are many minor streets that have sharrows (shared-lane arrows) or bicycle lanes located near other MBTA stations

5.6 Hubway

Hubway is a bike-sharing program that was implemented in the Boston region in 2011 as a collective effort between the City of Boston and the Metropolitan Area Planning Council. During the 2012 monitoring period, Hubway had stations in Brookline, Cambridge, and Somerville, in addition to Boston, with more than 60 Hubway stations operating in the Boston region, and more stations expected to be operational soon thereafter. [Note: as of November 2013, there were more than 100 Hubway stations in these four cities.] Of the MBTA stations that were monitored in this data collection effort, 71 were in close proximity to a Hubway station. It is yet to be seen if the presence of a nearby Hubway station will have an effect on the bicycle parking utilization rates at MBTA stations.

6 CONCLUSIONS

Bicycle racks promote bicycle access to MBTA stations by providing a safe and convenient place to lock a bicycle. There was a 29 percent increase in the number of bicycle parking spaces throughout the entire MBTA system between the 2009–11 inventory and the 2012 inventory; 62 MBTA stations that did not have bicycle parking during the 2005–06 inventory had acquired bicycle racks by the time of the 2012 inventory. During that time, there was also a 48 percent increase in the number of bicycles parked at racks. The increase in the number of spaces, coupled with the larger increase in usage, indicates an overall increase in the percentage of utilization.

All of the rapid transit lines experienced at least a 25 percent increase in the number of parked bicycles. On the commuter rail lines, the number and percentage of parked bicycles varied from line to line. Some lines had decreases in the number of parked bicycles, while others had increases.

Bicycles were parked at locations other than bicycle facilities at 92 rapid transit stations, 31 commuter rail stations, and two major bus stops (see Appendix A for station-specific data on bicycles locked to things other than bike racks). The presence of bicycles parked in areas other than bicycle facilities might be an indication that bicycle racks are not fully serving their intended purpose—to provide a safe and convenient place to park a bicycle—but could also indicate that there is insufficient bicycle parking for the demand at some stations. Many MBTA rail stations—41 rapid transit stations and 23 commuter rail stations—are at 50 percent capacity or higher, including 16 rapid transit stations and 4 commuter rail stations that are at 85 percent capacity. Two of the three major bus stops that were monitored in 2012 were at 50 percent or greater capacity.

7 RECOMMENDATIONS

Table A4, in Appendix A, lists the MBTA stations where parked bicycles were observed in locations other than bicycle facilities. It identifies the locations of those bicycles, as well as the number of bicycle parking spaces provided by the station's racks and the number of bicycles parked in them. It also presents one or more recommendations developed by staff for each station based on the locations and utilization of bicycle racks, the locations of the bicycles parked in other areas, and station characteristics.

The key recommendations are:

- Install additional bicycle racks or bike ports (covered bicycle racks)
- Install additional secure facilities (bicycle cages)
- Monitor locations where bicycles are frequently stolen (see Appendix D)
- Install signage directing users to bicycle racks
- Relocate existing bicycle racks within a station where appropriate

- Remove vandalized bicycles
- Tag abandoned bicycles for removal
- Replace or repair existing bicycle racks

The MBTA should continue to add bicycle parking at stations where the existing racks are near, at, or over capacity; where there are a significant number of bicycles locked to objects other than bicycle racks; and where there are currently no bicycle racks. Also, as mentioned previously, an additional survey should be conducted at stations that have bicycles parked at locations other than bicycle facilities to determine if the users are MBTA riders or if they are patrons of businesses near the station.

The most frequent recommendation is to install additional bicycle racks at some stations. Sheltered racks are preferred, but space is not always available for a covered rack.

MPO staff developed an Excel analysis tool that is useful in prioritizing bicycle parking for stations based on population, bicycle parking utilization, if a station is a terminus or a hub, and motor vehicle parking utilization, but for commuter rail stations, the variable “commuters to Boston” was used in the tool instead of population because it more accurately reflects the number of people who might consider using the commuter rail system on a regular basis. A station’s scores for all of the variables were summed and the totals were sorted in descending order to determine which stations have the highest scores, which indicate the greatest need for bicycle parking improvements. This tool should be used, in conjunction with the data from this memo, as part of the 2014 UPWP’s Bicycle/Pedestrian Support Activities Program for further analysis.

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Appendix A

Tables

Table Name	Table Number
Bicycle Space Capacity and Utilization: Rapid Transit Stations	A1.1
Bicycle Space Amenities: Rapid Transit Stations, 2012	A1.2
Bicycle Theft Analysis: Rapid Transit Stations	A1.3
Bicycle Space Capacity and Utilization: Commuter Rail Stations	A2.1
Bicycle Space Amenities: Commuter Rail Stations, 2012	A2.2
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Bicycle Space Capacity and Utilization: Commuter Boat and Bus Facilities	A3.1
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Bicycles Parked at Locations Other than Racks & Recommended Improvements, 2012	A4

**TABLE A1.1
Bicycle Space Capacity and Utilization:
Rapid Transit Stations**

Station by Line	Bicycles Parked 2005-06	Bicycles Parked 2009-11	Bicycles Parked 2012	Bicycles Parked Percentage Change	Bicycle Rack Spaces 2005-06	Bicycle Rack Spaces 2009-11	Bicycle Rack Spaces 2012	Bicycle Rack Spaces Percentage Change	Percent Bicycle Rack Spaces Utilized 2005-06	Percent Bicycle Rack Spaces Utilized 2009-11	Percent Bicycle Rack Spaces Utilized 2012	Bicycles Parked in Other Areas in 2012
Green Line D Branch												
Riverside	6	8	9	13	48	35	36	3	13	23	25	2
Woodland	1	3	6	100	14	16	9	-44	7	19	67	4
Waban	4	2	5	150	10	11	11	0	40	18	45	1
Eliot	1	0	1	N/A	8	9	9	0	13	0	11	10
Newton Highlands	0	4	2	-50	0	7	7	0	N/A	57	29	0
Newton Center	9	17	16	-6	16	18	18	0	56	94	89	12
Chestnut Hill	5	7	9	29	8	9	9	0	63	78	100	1
Reservoir	6	8	4	-50	11	19	19	0	55	42	21	1
Beaconsfield	2	0	N/A	N/A	8	0	0	N/A	25	N/A	N/A	1
Brookline Hills	2	5	8	60	8	9	9	0	25	56	89	0
Brookline Village	3	15	15	0	6	32	26	-19	50	47	58	1
Longwood	1	2	7	250	19	26	26	0	5	8	27	0
Fenway	1	0	13	N/A	28	0	28	N/A	4	N/A	46	0
Green Line D Branch Summary	41	71	95	34%	182	191	207	8%	23%	37%	46%	33
Green Line E Branch												
Heath	0	0	N/A	N/A	0	0	0	N/A	N/A	N/A	N/A	0
Back of the Hill	0	0	N/A	N/A	0	0	0	N/A	N/A	N/A	N/A	0
Riverway	0	0	N/A	N/A	0	0	0	N/A	N/A	N/A	N/A	2
Mission Park	0	0	N/A	N/A	0	0	0	N/A	N/A	N/A	N/A	0
Fenwood Road	0	0	N/A	N/A	0	0	0	N/A	N/A	N/A	N/A	0
Brigham Circle	0	3	4	33	0	11	11	0	N/A	27	36	2
Longwood Medical Area	0	2	12	500	0	14	14	0	N/A	14	86	3
Museum of Fine Arts	0	0	0	N/A	0	8	8	0	N/A	0	0	1
Northeastern	0	7	1	-86	0	18	12	-33	N/A	39	8	2
Green Line E Branch Summary	0	12	17	42%	0	51	45	-12%	N/A	24%	38%	10
Silver Line Washington Street												
Dudley Square	0	0	0	N/A	0	0	0	N/A	N/A	N/A	N/A	0
Melnea Cass Boulevard	0	0	0	N/A	4	10	10	0	0	0	0	0
Lenox Street	0	1	0	-100	4	10	10	0	0	10	0	0
Massachusetts Avenue	0	1	0	-100	4	10	5	-50	0	10	0	0
Worcester Square	0	1	1	0	4	10	10	0	0	10	10	1
Newton Street	0	0	0	N/A	4	10	10	0	0	0	0	0
Union Park Street	0	0	0	N/A	4	10	10	0	0	0	0	0
East Berkeley Street	0	0	0	N/A	4	10	10	0	0	0	0	0
Herald Street	0	0	0	N/A	4	10	10	0	0	0	0	0
Tufts Medical Center	2	4	3	-25	15	8	10	25	13	50	30	0
Chinatown	0	2	4	100	4	4	4	0	0	50	100	2
Downtown Crossing ²	5	10	7	-30	22	12	8	-33	23	83	88	2
Boylston ²	9	6	22	267	18	14	28	100	50	43	79	5
Silver Line Washington St. Summary	16	25	37	48%	91	118	125	6%	18%	21%	30%	10
Silver Line Waterfront												
Airport Terminus (SL1) ²	0	2	7	250	0	24	28	17	N/A	8	25	2
Design Center ²	N/A	N/A	4	N/A	0	0	7	NEW	N/A	N/A	57	1
21/25 Dry Dock Avenue ²	N/A	N/A	14	N/A	0	0	39	NEW	N/A	N/A	36	10
Tide Street/Northern Avenue	N/A	0	0	N/A	0	4	4	0	N/A	0	0	0
Silver Line Way ²	0	2	3	50	8	7	7	0	0	29	43	1
World Trade Center	0	0	1	N/A	0	0	6	N/A	N/A	N/A	17	1
Courthouse	0	0	0	N/A	0	0	0	N/A	N/A	N/A	N/A	0
South Station	12	24	48	100	45	80	139	74	27	30	35	6
Silver Line Waterfront Summary	12	28	77	175%	53	115	230	100%	23%	24%	33%	21
Grand Total	675	1,223	1,841	51%	1,999	2,830	3,929	39%	34%	43%	47%	526

Note: Percentage change refers to the change from the 2009-11 survey to the 2012 survey.

¹ These stations had received or were due to receive new amenities as of October 2013. At the time of observation, some of these new amenities were being installed. Therefore, the total capacity is now higher than reported.

² Bicycle racks that are most likely provided by local retail shops or colleges, not by the MBTA.

N/A = not applicable

NEW = new bicycle capacity as of the 2012 survey

TABLE A1.2
Bicycle Space Amenities:
Rapid Transit Stations, 2012

Rapid Transit Line	Station Name	Type of Bicycle Rack	Covered Bicycle Rack	Bicycle Trail/Path	Condition of Trail/Path	Connecting Bus Route	Bicycle Cage (P&P) or Port (BP) Proposed or Installed ²
Red	Alewife	R, U, H, P&P	Some	Yes	Good	Yes	P&P
Red	Davis	R, U, H	None	Yes	Good	Yes	P&P, BP
Red	Porter	P, H	None	No	N/A	Yes	N/A
Red	Harvard	P	None	No	N/A	Yes	N/A
Red	Central ¹	U, P	None	No	N/A	Yes	BP
Red	Kendall/MIT	U, P	None	No	N/A	Yes	N/A
Red	Charles/MGH	U	None	Yes	Good	No	N/A
Red	Park Street ¹	U	None	No	N/A	Yes	N/A
Red	Downtown Crossing ¹	P	None	No	N/A	Yes	N/A
Red	South Station	H, P&P, D, P	Some	No	N/A	Yes	P&P
Red	Broadway	P	None	No	N/A	Yes	N/A
Red	Andrew	P, H	Some	No	N/A	Yes	N/A
Red	JFK/UMass	H	All	No	N/A	Yes	BP
Red	North Quincy	R, H	None	No	N/A	No	BP
Red	Wollaston	D, H	None	No	N/A	No	P&P
Red	Quincy Center	U, H	None	No	N/A	No	N/A
Red	Quincy Adams	U	All	No	N/A	Yes	N/A
Red	Braintree	U, P, P&P	All	No	N/A	No	P&P
Red	Savin Hill	H	None	No	N/A	No	N/A
Red	Fields Corner	R, U	Some	No	N/A	Yes	BP
Red	Shawmut	R	None	No	N/A	No	N/A
Red	Ashmont	R	None	No	N/A	No	P&P
Mattapan High-Speed	Cedar Grove	None	None	No	N/A	No	N/A
Mattapan High-Speed	Butler	H	None	Yes	Good	No	N/A
Mattapan High-Speed	Milton	R, H	None	Yes	Good	Yes	N/A
Mattapan High-Speed	Central Avenue	R	None	Yes	Good	Yes	N/A
Mattapan High-Speed	Valley Road	None	None	No	N/A	No	N/A
Mattapan High-Speed	Capen Street	H	None	No	N/A	No	N/A
Mattapan High-Speed	Mattapan	U	None	No	N/A	Yes	N/A
Blue	Wonderland (under construction)	R, P&P	Some	No	N/A	Yes	P&P
Blue	Revere Beach	R	None	No	N/A	Yes	N/A
Blue	Beachmont	R	None	No	N/A	Yes	N/A
Blue	Suffolk Downs	R, U	None	No	N/A	No	BP
Blue	Orient Heights	H	None	No	N/A	Yes	BP
Blue	Wood Island	H	None	No	N/A	No	BP
Blue	Airport	R, H	None	No	N/A	Shuttles	N/A
Blue	Maverick	U, R	Some	No	N/A	Yes	BP
Blue	Aquarium	R	None	No	N/A	Yes	N/A
Blue	State	U, D	None	No	N/A	Yes	N/A
Blue	Government Center	None	None	No	N/A	No	N/A
Blue	Bowdoin	U	None	No	N/A	No	N/A
Orange	Oak Grove	R, P&P, U	None	No	N/A	Yes	P&P
Orange	Malden	U, R	None	No	N/A	Yes	P&P
Orange	Wellington	R	None	No	N/A	Yes	BP
Orange	Sullivan Square	R	None	No	N/A	Yes	BP
Orange	Community College	H	None	No	N/A	No	N/A
Orange	North Station	D, H	None	No	N/A	Yes	N/A
Orange	Haymarket	P	None	No	N/A	Yes	N/A
Orange	State	D, U	None	No	N/A	Yes	N/A
Orange	Downtown Crossing ¹	U	None	No	N/A	Yes	N/A
Orange	Chinatown	U	None	No	N/A	Yes	N/A
Orange	Tufts Medical Center	H	All	No	N/A	Yes	N/A
Orange	Back Bay	R, U, H	Some	Yes	Good	Yes	P&P
Orange	Massachusetts Avenue	R, P&P, U	None	Yes	Good	Yes	N/A
Orange	Ruggles	D, U	None	Yes	Good	Yes	N/A
Orange	Roxbury Crossing	R	None	Yes	Good	Yes	BP
Orange	Jackson Square	R	All	Yes	Good	Yes	N/A
Orange	Stony Brook	H	None	Yes	Good	Yes	BP
Orange	Green Street	H	None	Yes	Good	Yes	BP
Orange	Forest Hills	R, H, P&P	Most	Yes	Good	Yes	P&P, BP
Green - Subway	Lechmere	P	None	No	N/A	Yes	N/A
Green - Subway	Science Park	P	None	No	N/A	No	N/A
Green - Subway	North Station	D, H	None	No	N/A	Yes	N/A
Green - Subway	Haymarket	P	None	No	N/A	Yes	N/A
Green - Subway	Government Center	None	None	No	N/A	No	N/A
Green - Subway	Park Street ¹	Modified-U	None	No	N/A	Yes	N/A

TABLE A1.2
Bicycle Space Amenities:
Rapid Transit Stations, 2012

Rapid Transit Line	Station Name	Type of Bicycle Rack	Covered Bicycle Rack	Bicycle Trail/Path	Condition of Trail/Path	Connecting Bus Route	Bicycle Cage (P&P) or Port (BP) Proposed or Installed²
Green - Subway	Boylston	U, P	None	No	N/A	No	N/A
Green - Subway	Arlington	U, P	None	No	N/A	Yes	N/A
Green - Subway	Copley	None	None	No	N/A	Yes	N/A
Green - Subway	Hynes Convention Center	P	None	No	N/A	Yes	N/A
Green - Subway	Kenmore	U, P	None	No	N/A	Yes	N/A
Green - Subway	Prudential	R	None	No	N/A	Yes	N/A
Green - Subway	Symphony	P	None	No	N/A	Yes	N/A

TABLE A1.2
Bicycle Space Amenities:
Rapid Transit Stations, 2012

Rapid Transit Line	Station Name	Type of Bicycle Rack	Covered Bicycle Rack	Bicycle Trail/Path	Condition of Trail/Path	Connecting Bus Route	Bicycle Cage (P&P) or Port (BP) Proposed or Installed ²
Green B Branch	Boston College	R	None	No	N/A	No	N/A
Green B Branch	South Street	None	None	No	N/A	No	N/A
Green B Branch	Chestnut Hill Avenue	None	None	No	N/A	Yes	N/A
Green B Branch	Chiswick Road	None	None	No	N/A	No	N/A
Green B Branch	Sutherland Road	None	None	No	N/A	No	N/A
Green B Branch	Washington Street	P	None	No	N/A	Yes	N/A
Green B Branch	Warren Street	None	None	No	N/A	No	N/A
Green B Branch	Allston Street	None	None	No	N/A	No	N/A
Green B Branch	Griggs Street	None	None	No	N/A	No	N/A
Green B Branch	Harvard Avenue	None	None	No	N/A	Yes	N/A
Green B Branch	Packards Corner	None	None	No	N/A	Yes	N/A
Green B Branch	Babcock Street	U, P	None	No	N/A	No	N/A
Green B Branch	Pleasant Street	P	None	No	N/A	No	N/A
Green B Branch	St. Paul Street	P	None	No	N/A	Yes	N/A
Green B Branch	Boston University West	U	None	No	N/A	Yes	N/A
Green B Branch	Boston University Central	U	None	No	N/A	Yes	N/A
Green B Branch	Boston University East	U, H	None	No	N/A	No	N/A
Green B Branch	Blandford Street	U	None	No	N/A	No	N/A
Green C Branch	Cleveland Circle	R	None	No	N/A	Yes	N/A
Green C Branch	Englewood Avenue	None	None	No	N/A	No	N/A
Green C Branch	Dean Road	None	None	No	N/A	No	N/A
Green C Branch	Tappan Street	P	None	No	N/A	No	N/A
Green C Branch	Washington Square	R	None	No	N/A	Yes	N/A
Green C Branch	Fairbanks Street	None	None	No	N/A	No	N/A
Green C Branch	Brandon Hall	None	None	No	N/A	No	N/A
Green C Branch	Summit Avenue	U	None	No	N/A	No	N/A
Green C Branch	Coolidge Corner	R, U, P	None	No	N/A	Yes	N/A
Green C Branch	St. Paul Street	None	None	No	N/A	No	N/A
Green C Branch	Kent Street	None	None	No	N/A	No	N/A
Green C Branch	Hawes Street	None	None	No	N/A	No	N/A
Green C Branch	St. Mary's Street	R, U	None	No	N/A	Yes	N/A
Green D Branch	Riverside	R, U	Some	No	N/A	Yes	BP
Green D Branch	Woodland	R	None	No	N/A	No	N/A
Green D Branch	Waban	R	None	No	N/A	No	BP
Green D Branch	Eliot	R	None	No	N/A	Yes	BP
Green D Branch	Newton Highlands	R	None	Yes	Fair	Yes	BP
Green D Branch	Newton Center	R	None	No	N/A	Yes	N/A
Green D Branch	Chestnut Hill	R	None	No	N/A	No	BP
Green D Branch	Reservoir	R, U	None	No	N/A	Yes	BP
Green D Branch	Beaconsfield	None	None	Yes	Fair	No	N/A
Green D Branch	Brookline Hills	R	None	No	N/A	Yes	N/A
Green D Branch	Brookline Village	R	None	No	N/A	Yes	BP
Green D Branch	Longwood	R	None	Yes	Good	No	N/A
Green D Branch	Fenway	H, U	None	No	N/A	Yes	N/A
Green E Branch	Heath	None	None	No	N/A	Yes	N/A
Green E Branch	Back of the Hill	None	None	No	N/A	Yes	N/A
Green E Branch	Riverway	None	None	No	N/A	Yes	N/A
Green E Branch	Mission Park	None	None	No	N/A	Yes	N/A
Green E Branch	Fenwood Road	None	None	No	N/A	Yes	N/A
Green E Branch	Brigham Circle	U	None	No	N/A	Yes	N/A
Green E Branch	Longwood Medical Area	U, P	None	No	N/A	Yes	N/A
Green E Branch	Museum of Fine Arts	U	None	No	N/A	Yes	N/A
Green E Branch	Northeastern	U	None	No	N/A	Yes	N/A
Silver Line Washington Street	Dudley Square	None	None	No	N/A	Yes	N/A
Silver Line Washington Street	Melnea Cass Boulevard	R	None	Yes	Fair	Yes	N/A
Silver Line Washington Street	Lenox Street	R	None	No	N/A	Yes	N/A
Silver Line Washington Street	Massachusetts Avenue	R	None	No	N/A	Yes	N/A
Silver Line Washington Street	Worcester Square	R	None	No	N/A	Yes	N/A
Silver Line Washington Street	Newton Street	R	None	No	N/A	Yes	N/A
Silver Line Washington Street	Union Park Street	R	None	No	N/A	No	N/A
Silver Line Washington Street	East Berkeley Street	R	None	No	N/A	Yes	N/A
Silver Line Washington Street	Herald Street	R	None	No	N/A	Yes	N/A
Silver Line Washington Street	Tufts Medical Center	H	None	No	N/A	Yes	N/A
Silver Line Washington Street	Chinatown	U	None	No	N/A	Yes	N/A
Silver Line Washington Street	Downtown Crossing ¹	U	None	No	N/A	Yes	N/A
Silver Line Washington Street	Boylston ¹	U, P	None	No	N/A	Yes	N/A
Silver Line Waterfront	Airport Terminals (SL1)	U	None	No	N/A	Shuttles	N/A

TABLE A1.2
Bicycle Space Amenities:
Rapid Transit Stations, 2012

Rapid Transit Line	Station Name	Type of Bicycle Rack	Covered Bicycle Rack	Bicycle Trail/Path	Condition of Trail/Path	Connecting Bus Route	Bicycle Cage (P&P) or Port (BP) Proposed or Installed²
Silver Line Waterfront	Boston Marine Ind. Park (SL2) ¹	P	None	No	N/A	Yes	N/A
Silver Line Waterfront	Silver Line Way ¹	R	None	No	N/A	No	N/A
Silver Line Waterfront	World Trade Center	P	None	No	N/A	Yes	N/A
Silver Line Waterfront	Courthouse	None	None	No	N/A	Yes	N/A
Silver Line Waterfront	South Station	R, H, P&P	None	No	N/A	Yes	P&P

¹ Bicycle rack ownership unknown. They may be provided by local establishments, municipalities, and/or the MBTA.

² By the MBTA as of September 2013.

U = inverted-U

R = ribbon

H = hanger

P&P = Pedal & Park (bicycle cage)

D = dish rack

P = post (double or single)

N/A = not applicable

**TABLE A1.3
Bicycle Theft Analysis:
Rapid Transit Stations**

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bicycles Stolen per 1,000 Parked²
Red Line						
Alewife	341	387	29	14	28	0.19
Davis	186	262	11	21	32	0.31
Porter (under construction)	41	58	4	6	1	0.25
Harvard	34	42	0	0	0	N/A
Central ¹	104	140	0	0	0	N/A
Kendall/MIT	66	64	1	0	0	0.01
Charles/MGH	6	8	0	0	0	N/A
Park Street ¹	2	6	0	0	0	N/A
Downtown Crossing ¹	7	8	0	0	0	N/A
South Station	48	139	16	13	0	0.55
Broadway	1	6	0	0	0	N/A
Andrew	6	14	1	3	2	0.91
JFK/UMass	14	20	10	6	3	1.24
North Quincy	40	42	4	8	6	0.41
Wollaston	38	40	3	8	5	0.38
Quincy Center	17	40	6	5	7	0.97
Quincy Adams	24	64	3	5	5	0.49
Braintree (new bicycle cage)	21	136	1	4	5	0.43
Savin Hill	0	10	3	1	0	N/A
Fields Corner	4	39	1	3	3	1.60
Shawmut	2	21	3	1	1	2.28
Ashmont	2	7	1	6	3	4.57
Red Line Totals	1,004	1,553	97	104	101	0.27
Mattapan High-Speed Line						
Cedar Grove	0	0	0	0	0	N/A
Butler	1	40	0	0	0	N/A
Milton	1	26	0	1	0	0.91
Central Avenue	0	0	0	0	0	N/A
Valley Road	0	0	0	0	0	N/A
Capen Street	1	20	0	0	0	N/A
Mattapan	2	4	0	0	0	N/A
Mattapan High-Speed Line Totals	5	90	0	1	0	0.18
Blue Line						
Wonderland (new bicycle cage)	23	140	1	2	3	0.24
Revere Beach	2	20	0	0	0	N/A
Beachmont	9	39	2	0	3	0.51
Suffolk Downs	0	34	0	0	0	N/A
Orient Heights	10	19	0	4	2	0.55
Wood Island	5	10	0	1	2	0.55
Airport	23	51	1	3	1	0.20
Maverick	4	48	0	1	2	0.68
Aquarium	11	30	0	0	0	N/A
State	4	14	0	0	0	N/A
Government Center	0	0	0	0	0	N/A
Bowdoin	1	4	0	0	0	N/A

**TABLE A1.3
Bicycle Theft Analysis:
Rapid Transit Stations**

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bicycles Stolen per 1,000 Parked²
Blue Line Totals	92	409	4	11	13	0.28

TABLE A1.3
Bicycle Theft Analysis:
Rapid Transit Stations

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bicycles Stolen per 1,000 Parked ²
Orange Line						
Oak Grove (new bicycle cage)	81	210	9	13	16	0.43
Malden	48	162	5	9	10	0.46
Wellington	4	9	1	1	0	0.46
Sullivan Square	21	18	1	3	2	0.26
Community College	8	30	2	0	0	0.23
North Station	23	70	0	0	0	N/A
Haymarket	1	2	1	0	0	0.91
State	4	14	0	0	0	N/A
Downtown Crossing ¹	7	8	0	0	0	N/A
Chinatown	4	4	0	0	0	N/A
Tufts Medical Center	3	10	0	0	1	0.30
Back Bay	35	72	5	14	3	0.57
Massachusetts Avenue	2	41	2	0	4	2.74
Ruggles	69	98	0	0	0	N/A
Roxbury Crossing	2	18	0	1	2	1.37
Jackson Square	3	9	0	1	3	1.22
Stony Brook	6	9	0	2	3	0.76
Green Street	18	29	2	2	4	0.41
Forest Hills	35	128	3	4	16	0.60
Orange Line Totals	374	941	31	50	64	0.35
Green Line Subway						
Lechmere	3	30	0	1	0	0.30
Science Park	1	7	0	0	0	N/A
North Station	23	70	0	0	0	N/A
Haymarket	1	2	1	0	0	0.91
Government Center	0	0	0	0	0	N/A
Park Street ¹	2	6	0	0	0	N/A
Boylston ¹	22	28	0	0	0	N/A
Arlington	8	10	0	0	0	N/A
Copley	0	0	0	0	0	N/A
Hynes Convention Center	4	4	0	0	0	N/A
Kenmore	10	30	0	0	0	N/A
Prudential	8	14	0	0	0	N/A
Symphony	0	6	0	0	0	N/A
Green Line Subway Totals	82	207	1	1	0	0.02
Green Line B Branch						
Boston College	2	18	0	0	0	N/A
South Street	N/A	0	0	0	0	N/A
Chestnut Hill Avenue	N/A	0	0	0	0	N/A
Chiswick Road	N/A	0	0	0	0	N/A
Sutherland Road	N/A	0	0	0	0	N/A
Washington Street	0	4	0	0	0	N/A
Warren Street	N/A	0	0	0	0	N/A
Allston Street	N/A	0	0	0	0	N/A
Griggs Street	N/A	0	0	0	0	N/A

TABLE A1.3
Bicycle Theft Analysis:
Rapid Transit Stations

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bicycles Stolen per 1,000 Parked ²
Harvard Avenue	N/A	0	0	0	0	N/A
Packards Corner	N/A	0	0	0	0	N/A
Babcock Street	1	14	0	0	0	N/A
Pleasant Street	1	2	0	0	0	N/A
St. Paul Street	3	8	0	0	0	N/A
Boston University West	7	14	0	0	0	N/A
Boston University Central	20	20	0	0	0	N/A
Boston University East	106	136	0	0	0	N/A
Blandford Street	5	8	0	0	0	N/A
Green Line B Branch Totals	145	224	0	0	0	N/A

**TABLE A1.3
Bicycle Theft Analysis:
Rapid Transit Stations**

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bicycles Stolen per 1,000 Parked²
Green Line C Branch						
Cleveland Circle	1	22	0	0	0	N/A
Englewood Avenue	N/A	0	0	0	0	N/A
Dean Road	N/A	0	0	0	0	N/A
Tappan Street	1	10	0	0	0	N/A
Washington Square	1	22	0	0	0	N/A
Fairbanks Street	N/A	0	0	0	0	N/A
Brandon Hall	N/A	0	0	0	0	N/A
Summit Avenue	4	12	0	0	0	N/A
Coolidge Corner	25	82	0	0	0	N/A
St. Paul Street	N/A	0	0	0	0	N/A
Kent Street	N/A	0	0	0	0	N/A
Hawes Street	N/A	0	0	0	0	N/A
St. Mary's Street	2	39	0	0	0	N/A
Green Line C Branch Totals	34	187	0	0	0	N/A
Green Line D Branch						
Riverside	9	36	0	2	1	0.30
Woodland	6	9	1	0	0	0.15
Waban	5	11	0	0	1	0.18
Eliot	1	9	1	0	0	0.91
Newton Highlands	2	7	1	1	1	1.37
Newton Center	16	18	2	0	0	0.11
Chestnut Hill	9	9	4	0	0	0.41
Reservoir	4	19	0	1	0	0.23
Beaconsfield	N/A	0	0	0	0	N/A
Brookline Hills	8	9	1	0	0	0.11
Brookline Village	15	26	0	0	1	0.06
Longwood	7	26	0	0	0	N/A
Fenway	13	28	0	0	0	N/A
Green Line D Branch Totals	95	207	10	4	4	0.17
Green Line E Branch						
Heath	N/A	0	0	0	0	N/A
Back of the Hill	N/A	0	0	0	0	N/A
Riverway	N/A	0	0	0	0	N/A
Mission Park	N/A	0	0	0	0	N/A
Fenwood Road	N/A	0	0	0	0	N/A
Brigham Circle	4	11	0	0	0	N/A
Longwood Medical Area	12	14	0	0	0	N/A
Museum of Fine Arts	0	8	0	0	0	N/A
Northeastern	1	12	0	0	0	N/A
Green Line E Branch Totals	17	45	0	0	0	N/A
Silver Line Washington Street						
Dudley Square	0	0	1	0	0	N/A
Melnea Cass Boulevard	0	10	0	0	0	N/A
Lenox Street	0	10	0	0	0	N/A
Massachusetts Avenue	0	5	0	0	0	N/A

TABLE A1.3
Bicycle Theft Analysis:
Rapid Transit Stations

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bicycles Stolen per 1,000 Parked ²
Worcester Square	1	10	0	0	0	N/A
Newton Street	0	10	0	0	0	N/A
Union Park Street	0	10	0	0	0	N/A
East Berkeley Street	0	10	0	0	0	N/A
Herald Street	0	10	0	0	0	N/A
Tufts Medical Center	3	10	0	0	1	0.30
Chinatown	4	4	0	0	0	N/A
Downtown Crossing ¹	7	8	0	0	0	N/A
Boylston ¹	22	28	0	0	0	N/A
Silver Line Washington St. Totals	37	125	1	0	1	0.05

TABLE A1.3
Bicycle Theft Analysis:
Rapid Transit Stations

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bicycles Stolen per 1,000 Parked ²
Silver Line Waterfront						
Airport Terminals (SL1) ¹	7	28	0	0	0	N/A
Design Center ¹	4	7	0	0	0	N/A
21-25 Dry Dock Avenue ¹	14	39	0	0	0	N/A
Tide Street/Northern Avenue	0	4	0	0	0	N/A
Silver Line Way ¹	3	7	0	0	0	N/A
World Trade Center	1	6	0	0	0	N/A
Courthouse	0	0	0	0	0	N/A
South Station	48	139	16	13	0	0.55
Silver Line Waterfront Totals	77	230	16	13	0	0.34
Grand Total	1,841	3,929	143	171	182	0.25

¹ Bicycle rack ownership unknown. They may be provided by local establishments/municipality, MBTA, or both.

² Theft rate per 1,000 parked bicycles =
(Average of number of bicycle thefts per year
over three years × 1,000) / (Number of
bicycles parked per day × 365 days)

N/A = not applicable

Station by Line	Bicycles Parked 2005-06	Bicycles Parked 2009-11	Bicycles Parked 2012	Bicycles Parked Percentage Change	Bicycle Rack Spaces 2005-06	Bicycle Rack Spaces 2009-11	Bicycle Rack Spaces 2012	Bicycle Rack Spaces Percentage Change	Percent Bicycle Rack Spaces Utilized 2005-06	Percent Bicycle Rack Spaces Utilized 2009-11	Percent Bicycle Rack Spaces Utilized 2012	Bicycles Parked in Other Areas in 2012
Newburyport/Rockport Line												
Rockport	1	3	5	67	8	9	9	0	13	33	56	0
Gloucester	0	0	3	N/A	12	5	12	140	0	0	25	0
West Gloucester	0	0	0	N/A	8	8	8	0	0	0	0	0
Manchester	1	0	4	N/A	8	0	8	N/A	13	N/A	50	1
Beverly Farms	0	1	1	0	16	16	16	0	0	6	6	0
Prides Crossing	0	0	0	N/A	0	16	16	0	N/A	0	0	0
Montserrat	0	2	7	250	8	9	9	0	0	22	78	0
Newburyport	6	5	9	80	36	39	39	0	17	13	23	22
Rowley	1	0	2	N/A	12	13	13	0	8	0	15	0
Ipswich	0	9	2	-78	16	9	9	0	0	100	22	1
Hamilton/Wenham	3	5	4	-20	6	7	7	0	50	71	57	11
North Beverly	2	0	0	N/A	16	15	16	7	13	0	0	0
Beverly Depot (under construction)	2	2	5	150	16	12	12	0	13	17	42	3
Salem	8	13	38	192	20	26	58	123	40	50	66	3
Swampscott	0	1	7	600	16	16	10	-38	0	6	70	10
Lynn	7	2	3	50	14	14	14	0	50	14	21	0
Chelsea	0	0	0	N/A	0	16	16	0	N/A	0	0	0
Newburyport/Rockport Line Summary	31	43	90	109%	212	230	272	18%	15%	19%	33%	51
Haverhill Line												
Haverhill	2	1	2	100	16	19	30	58	13	5	7	0
Bradford	2	1	3	200	12	16	17	6	17	6	18	0
Lawrence	6	7	3	-57	12	10	18	80	50	70	17	0
Andover	6	13	9	-31	6	49	49	0	100	27	18	0
Ballardvale	0	1	3	200	0	32	32	0	N/A	3	9	0
North Wilmington	0	2	4	100	0	16	16	0	N/A	13	25	0
Reading	4	6	5	-17	13	12	12	0	31	50	42	0
Wakefield	0	4	2	-50	6	21	23	10	0	19	9	0
Greenwood	0	0	0	N/A	6	7	7	0	0	0	0	0
Melrose Highlands	1	2	3	50	18	10	10	0	6	20	30	0
Melrose/Cedar Park	0	0	0	N/A	0	18	8	-56	N/A	0	0	0
Wyoming Hill	0	1	2	100	0	22	22	0	N/A	5	9	0
Haverhill Line Summary	21	38	36	-5%	89	232	244	5%	24%	16%	15%	0
Lowell Line												
Lowell	13	22	19	-14	24	24	24	0	54	92	79	0
North Billerica	2	5	9	80	16	28	21	-25	13	18	43	0
Wilmington	2	8	13	63	24	24	26	8	8	33	50	0
Anderson RTC	6	4	4	0	14	14	14	0	43	29	29	0
Mishawum	N/A	N/A	0	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A	0
Winchester Center	4	5	5	0	30	27	24	-11	13	19	21	0
Wedgemere	0	2	7	250	0	18	18	0	N/A	11	39	0
West Medford	0	2	4	100	16	18	10	-44	0	11	40	0
Lowell Line Summary	27	48	61	27%	124	153	137	-10%	22%	31%	45%	0
Fitchburg Line												
Fitchburg	1	1	4	300	24	8	20	150	4	13	20	0
North Leominster	0	4	4	0	0	16	16	0	N/A	25	25	0
Shirley	0	0	0	N/A	0	8	8	0	N/A	0	0	0
Ayer	0	2	3	50	12	28	34	21	0	7	9	0
Littleton/495	2	4	4	0	12	13	12	-8	17	31	33	0
South Acton	18	8	22	175	44	44	44	0	41	18	50	0
West Concord	1	3	5	67	18	10	10	0	6	30	50	5
Concord	6	7	11	57	12	10	12	20	50	70	92	4
Lincoln	5	4	6	50	8	7	9	29	63	57	67	0
Silver Hill	0	0	0	N/A	0	8	8	0	N/A	0	0	0
Hastings	0	0	0	N/A	0	0	0	N/A	N/A	N/A	N/A	0
Kendal Green	0	3	4	33	0	8	8	0	N/A	38	50	0
Brandeis/Roberts	0	0	0	N/A	24	16	24	50	0	0	0	0
Waltham	4	7	17	143	8	8	34	325	50	88	50	1
Waverly	1	6	5	-17	10	12	12	0	10	50	42	0
Belmont Center	1	0	5	N/A	8	9	9	0	13	0	56	0
Fitchburg Line Summary	39	49	90	84%	180	205	260	27%	22%	24%	35%	10
Framingham/Worcester Line												
Worcester	2	2	8	300	15	23	30	30	13	9	27	1
Grafton	0	3	2	-33	8	8	8	0	0	38	25	0
Westborough	1	3	6	100	8	24	20	-17	13	13	30	4
Southborough	0	1	0	-100	8	8	8	0	0	13	0	2
Ashland	0	6	5	-17	16	16	14	-13	0	38	36	0
Framingham	14	8	15	88	28	18	45	150	50	44	33	0
West Natick	8	4	12	200	16	23	23	0	50	17	52	0
Natick	4	0	12	N/A	9	0	12	N/A	44	N/A	100	14
Wellesley Square	7	0	6	N/A	48	16	12	-25	15	0	50	2
Wellesley Hills	0	2	5	150	0	16	12	-25	N/A	13	42	0
Wellesley Farms	0	6	3	-50	33	24	24	0	0	25	13	0
Auburndale	0	0	0	N/A	0	16	16	0	N/A	0	0	0
West Newton	0	0	0	N/A	0	0	16	N/A	N/A	N/A	0	1
Newtonville	0	0	0	N/A	0	16	16	0	N/A	0	0	0
Yawkey (under construction)	0	0	0	N/A	0	16	16	0	N/A	0	0	0
Framingham/Worcester Line Summary	36	35	74	111%	189	224	272	21%	19%	16%	27%	24
Needham Line												
Needham Heights	0	3	0	-100	6	7	7	0	0	43	0	0
Needham Center	2	4	0	-100	6	7	7	0	33	57	0	1
Needham Junction	0	1	5	400	6	7	7	0	0	14	71	1
Hersey	4	11	8	-27	12	26	26	0	33	42	31	0
West Roxbury	1	0	1	N/A	8	9	12	33	13	0	8	0
Highland	0	1	1	0	0	20	20	0	N/A	5	5	0
Bellevue	0	0	0	N/A	8	9	9	0	0	0	0	0
Roslindale Village	0	0	1	N/A	0	16	16	0	N/A	0	6	0
Needham Line Summary	7	20	16	-20%	46	101	104	3%	15%	20%	15%	2
Franklin Line												
Forge Park/495	0	0	1	N/A	17	7	14	100	0	0	7	4
Franklin	0	0	5	N/A	7	16	18	13	0	0	28	0
Norfolk	0	10	4	-60	8	15	15	0	0	67	27	0
Walpole	3	7	4	-43	6	7	7	0	50	100	57	1

TABLE A2.1
Bicycle Space Capacity and Utilization:
Commuter Rail Stations

Station by Line	Bicycles Parked 2005-06	Bicycles Parked 2009-11	Bicycles Parked 2012	Bicycles Parked Percentage Change	Bicycle Rack Spaces 2005-06	Bicycle Rack Spaces 2009-11	Bicycle Rack Spaces 2012	Bicycle Rack Spaces Percentage Change	Percent Bicycle Rack Spaces Utilized 2005-06	Percent Bicycle Rack Spaces Utilized 2009-11	Percent Bicycle Rack Spaces Utilized 2012	Bicycles Parked in Other Areas in 2012
Plimptonville	0	0	0	N/A	0	16	0	-100	N/A	0	N/A	0
Windsor Gardens	0	0	0	N/A	0	0	0	N/A	N/A	N/A	N/A	1
Norwood Central	2	2	1	-50	20	12	11	-8	10	17	9	1
Norwood Depot	0	0	1	N/A	0	16	14	-13	N/A	0	7	3
Islington	0	0	0	N/A	0	14	8	-43	N/A	0	0	0
Dedham Corporate Center	0	1	1	0	0	14	16	14	N/A	7	6	0
Endicott	0	0	5	N/A	0	0	17	N/A	N/A	N/A	29	6
Readville	2	1	1	0	12	36	32	-11	17	3	3	0
Hyde Park	0	0	2	N/A	10	10	10	0	0	0	20	0
Franklin Line Summary	7	21	25	19%	80	163	162	-1%	9%	13%	15%	16
Fairmount Line												
Readville	2	1	1	0	12	36	32	-11	17	3	3	0
Fairmount	1	0	0	N/A	20	10	22	120	5	0	0	0
Morton Street	N/A	0	0	N/A	N/A	20	20	0	N/A	0	0	0
Uphams Corner	N/A	2	0	-100	N/A	10	10	0	N/A	20	0	0
Fairmount Line Summary	3	3	1	-67%	32	76	84	11%	9%	4%	1%	0

Station by Line	Bicycles Parked 2005-06	Bicycles Parked 2009-11	Bicycles Parked 2012	Bicycles Parked Percentage Change	Bicycle Rack Spaces 2005-06	Bicycle Rack Spaces 2009-11	Bicycle Rack Spaces 2012	Bicycle Rack Spaces Percentage Change	Percent Bicycle Rack Spaces Utilized 2005-06	Percent Bicycle Rack Spaces Utilized 2009-11	Percent Bicycle Rack Spaces Utilized 2012	Bicycles Parked in Other Areas in 2012
Providence/Stoughton Line												
Wickford Junction (New station)	N/A	N/A	1	NEW	N/A	N/A	22	NEW	N/A	N/A	5	0
T.F. Green Airport	N/A	2	2	0	N/A	10	8	-20	N/A	20	25	0
Providence	28	26	26	0	28	26	26	0	100	100	100	16
South Attleboro	0	0	1	N/A	10	16	26	63	0	0	4	0
Attleboro	4	3	9	200	15	16	17	6	27	19	53	6
Mansfield	3	20	4	-80	9	25	33	32	33	80	12	3
Sharon	14	8	17	113	35	48	64	33	40	17	27	0
Stoughton	3	7	3	-57	16	15	15	0	19	47	20	0
Canton Center	4	5	4	-20	6	6	5	-17	67	83	80	0
Canton Junction	3	0	7	N/A	48	64	57	-11	6	0	12	2
Route 128	4	0	6	N/A	63	60	48	-20	6	0	13	0
Hyde Park	0	0	2	N/A	10	10	10	0	0	0	20	0
Providence/Stoughton Line Summary	63	71	81	14%	240	296	309	4%	26%	24%	26%	27
Middleborough/Lakeville Line												
Middleborough/ Lakeville	0	3	4	33	12	8	9	13	0	38	44	0
Bridgewater	6	6	4	-33	24	27	26	-4	25	22	15	0
Campello	0	1	0	-100	8	8	9	13	0	13	0	1
Brockton	2	0	0	N/A	16	4	9	125	13	0	0	5
Montello	1	1	2	100	18	16	19	19	6	6	11	0
Holbrook/ Randolph	1	6	2	-67	12	16	9	-44	8	38	22	1
Middleborough/Lakeville Line Summary	10	17	12	-29%	90	79	81	3%	11%	22%	15%	7
Kingston/Plymouth Line												
Plymouth	0	0	0	N/A	16	0	0	N/A	0	N/A	N/A	0
Kingston	1	0	2	N/A		36	32	-11	N/A	0	6	0
Halifax	3	3	3	0	20	8	18	125	15	38	17	0
Hanson	2	1	2	100	16	8	8	0	13	13	25	0
Whitman	2	0	8	N/A	12	8	8	0	17	0	100	0
Abington	3	3	3	0	12	5	8	60	25	60	38	0
South Weymouth	2	1	1	0	14	14	10	-29	14	7	10	0
Kingston/Plymouth Line Summary	13	8	19	138%	98	79	84	6%	13%	10%	23%	0
Greenbush Line												
Greenbush	N/A	2	7	250	N/A	15	17	13	N/A	13	41	0
North Scituate	N/A	3	3	0	N/A	7	7	0	N/A	43	43	2
Cohasset	N/A	2	6	200	N/A	7	17	143	N/A	29	35	0
Nantasket Junction	N/A	2	1	-50	N/A	7	17	143	N/A	29	6	0
West Hingham	N/A	5	4	-20	N/A	7	17	143	N/A	71	24	0
East Weymouth	N/A	1	2	100	N/A	7	17	143	N/A	14	12	0
Weymouth Landing/East Braintree	N/A	3	2	-33	N/A	7	17	143	N/A	43	12	0
Greenbush Line Summary	N/A	18	25	39%	0	57	109	91%	N/A	32%	23%	2
Grand Total	255	370	527	42%	1,358	1,849	2,076	12%	19%	20%	25%	139

Note: Percentage change refers to the change from the 2009-11 survey to the 2012 survey.

N/A = not applicable

NEW = new bicycle capacity as of the 2012 survey

TABLE A2.2
Bicycle Space Amenities:
Commuter Rail Stations, 2012

Commuter Rail Line	Station Name	Type of Bicycle Rack	Covered Bicycle Rack	Bicycle Trail/Path	Condition of Trail/Path	Connecting Bus Route	Bicycle Cage (P&P) or Port (BP) Proposed or Installed ¹
Newburyport/Rockport	Rockport	R	None	None	N/A	Yes	N/A
Newburyport/Rockport	Gloucester	U	None	None	N/A	Yes	N/A
Newburyport/Rockport	West Gloucester	R	None	None	N/A	NO	N/A
Newburyport/Rockport	Manchester	R	None	None	N/A	NO	N/A
Newburyport/Rockport	Beverly Farms	D	None	None	N/A	No	N/A
Newburyport/Rockport	Prides Crossing	D	None	None	N/A	No	N/A
Newburyport/Rockport	Montserrat	R	None	None	N/A	No	N/A
Newburyport/Rockport	Newburyport	R	None	None	N/A	No	N/A
Newburyport/Rockport	Rowley	R	None	None	N/A	No	N/A
Newburyport/Rockport	Ipswich	R	None	None	N/A	No	N/A
Newburyport/Rockport	Hamilton/Wenham	R	None	Yes	Good	No	N/A
Newburyport/Rockport	North Beverly	D	None	None	N/A	No	N/A
Newburyport/Rockport	Beverly Depot	D	All	None	N/A	Yes	P&P
Newburyport/Rockport	Salem	R, U, H	None	None	N/A	Yes	BP
Newburyport/Rockport	Swampscott	H	None	None	N/A	Yes	N/A
Newburyport/Rockport	Lynn	U	None	None	N/A	Yes	N/A
Newburyport/Rockport	Chelsea	D	None	None	N/A	Yes	N/A
Haverhill	Haverhill	R, U	Some	None	N/A	Yes	BP
Haverhill	Bradford	R, H	None	None	N/A	Yes	N/A
Haverhill	Lawrence	Spiral	None	None	N/A	No	N/A
Haverhill	Andover	D, R, U	Some	None	N/A	Yes	BP
Haverhill	Ballardvale	D	None	None	N/A	No	N/A
Haverhill	North Wilmington	D	None	None	N/A	No	N/A
Haverhill	Reading	D	None	None	N/A	Yes	N/A
Haverhill	Wakefield	D, R	None	None	N/A	Yes	N/A
Haverhill	Greenwood	R	None	None	N/A	Yes	N/A
Haverhill	Melrose Highlands	H	None	None	N/A	Yes	N/A
Haverhill	Melrose/Cedar Park	D	None	None	N/A	Yes	N/A
Haverhill	Wyoming Hill	U, H	Some	None	N/A	Yes	BP
Lowell	Lowell	U, R	All	None	N/A	Yes	N/A
Lowell	North Billerica	U, R	Some	None	N/A	No	BP
Lowell	Wilmington	R	None	None	N/A	No	N/A
Lowell	Anderson RTC	U	All	None	N/A	Yes	N/A
Lowell	Mishawum	None	None	None	N/A	No	N/A
Lowell	Winchester Center	D, U	Some	Yes	Good	Yes	N/A
Lowell	Wedgemere	D	All	Yes	Good	No	N/A
Lowell	West Medford	H	None	None	N/A	Yes	N/A
Fitchburg	Fitchburg	D	None	None	N/A	No	N/A
Fitchburg	North Leominster	D	None	None	N/A	No	N/A
Fitchburg	Shirley	D	None	None	N/A	No	N/A
Fitchburg	Ayer	U, D	Some	Yes	Good	No	N/A
Fitchburg	Littleton/495	D	None	None	N/A	No	N/A
Fitchburg	South Acton	U, Lockers	Some	Yes	Good	No	N/A
Fitchburg	West Concord	U	None	None	N/A	No	N/A
Fitchburg	Concord	U	None	None	N/A	No	N/A
Fitchburg	Lincoln	R	None	None	N/A	No	N/A
Fitchburg	Silver Hill	H	None	None	N/A	No	N/A
Fitchburg	Hastings	None	None	None	N/A	No	N/A
Fitchburg	Kendal Green	H	All	None	N/A	No	N/A
Fitchburg	Brandeis/Roberts	D, U	None	None	N/A	No	N/A
Fitchburg	Waltham	D, U	Some	None	N/A	Yes	BP
Fitchburg	Waverly	U	All	None	N/A	Yes	BP
Fitchburg	Belmont Center	R	None	None	N/A	Yes	N/A
Framingham/Worcester	Worcester	R, U	All	None	N/A	Yes	BP
Framingham/Worcester	Grafton	U	None	None	N/A	No	N/A
Framingham/Worcester	Westborough	D	None	None	N/A	No	N/A
Framingham/Worcester	Southborough	U	None	Yes	N/A	No	N/A
Framingham/Worcester	Ashland	U	None	None	N/A	No	N/A
Framingham/Worcester	Framingham	R, D	Some	None	N/A	No	N/A
Framingham/Worcester	West Natick	D, R	None	None	N/A	Yes	N/A
Framingham/Worcester	Natick	P, U	None	None	N/A	Yes	N/A
Framingham/Worcester	Wellesley Square	U	All	None	N/A	No	BP
Framingham/Worcester	Wellesley Hills	U	All	None	N/A	No	BP
Framingham/Worcester	Wellesley Farms	D	Some	None	N/A	No	N/A
Framingham/Worcester	Auburndale	D	None	None	N/A	Yes	N/A
Framingham/Worcester	West Newton	D	None	None	N/A	Yes	N/A
Framingham/Worcester	Newtonville	D	None	None	N/A	Yes	N/A
Framingham/Worcester	Yawkey (under construction)	D	None	None	N/A	Yes	N/A
Needham	Needham Heights	R	None	None	N/A	Yes	N/A
Needham	Needham Center	R	None	None	N/A	Yes	N/A
Needham	Needham Junction	R	None	None	N/A	Yes	N/A
Needham	Hersey	D, R, U	Some	None	N/A	No	BP

TABLE A2.2
Bicycle Space Amenities:
Commuter Rail Stations, 2012

Commuter Rail Line	Station Name	Type of Bicycle Rack	Covered Bicycle Rack	Bicycle Trail/Path	Condition of Trail/Path	Connecting Bus Route	Bicycle Cage (P&P) or Port (BP) Proposed or Installed¹
Needham	West Roxbury	U	All	None	N/A	Yes	BP
Needham	Highland	D, U	None	None	N/A	Yes	BP
Needham	Bellevue	R	None	None	N/A	Yes	N/A
Needham	Roslindale Village	D	None	None	N/A	Yes	N/A

TABLE A2.2
Bicycle Space Amenities:
Commuter Rail Stations, 2012

Commuter Rail Line	Station Name	Type of Bicycle Rack	Covered Bicycle Rack	Bicycle Trail/Path	Condition of Trail/Path	Connecting Bus Route	Bicycle Cage (P&P) or Port (BP) Proposed or Installed ¹
Franklin	Forge Park/495	U	None	None	N/A	No	N/A
Franklin	Franklin	D, U	None	None	N/A	No	N/A
Franklin	Norfolk	R, U	None	None	N/A	No	N/A
Franklin	Walpole	R	All	None	N/A	Yes	N/A
Franklin	Plimptonville	None	None	None	N/A	No	N/A
Franklin	Windsor Gardens	None	None	None	N/A	No	N/A
Franklin	Norwood Central	R	None	None	N/A	Yes	N/A
Franklin	Norwood Depot	H	None	None	N/A	Yes	N/A
Franklin	Islington	U	Some	None	N/A	No	N/A
Franklin	Dedham Corporate Center	D	All	None	N/A	No	N/A
Franklin	Endicott	H	None	None	N/A	No	N/A
Franklin	Readville	U	None	None	N/A	Yes	N/A
Franklin	Hyde Park	U	None	None	N/A	Yes	N/A
Fairmount	Readville	U	None	None	N/A	Yes	N/A
Fairmount	Fairmount	R	None	None	N/A	Yes	BP
Fairmount	Morton Street	U	Some	None	N/A	Yes	BP
Fairmount	Uphams Corner	U	None	None	N/A	Yes	N/A
Providence/Stoughton	Wickford Junction (new station)	U	All	None	N/A	No	N/A
Providence/Stoughton	T.F. Green Airport	D	All	None	N/A	Yes	N/A
Providence/Stoughton	Providence	L	Some	None	N/A	Yes	N/A
Providence/Stoughton	South Attleboro	D	None	None	N/A	Yes	N/A
Providence/Stoughton	Attleboro	R, D	Some	None	N/A	Yes	N/A
Providence/Stoughton	Mansfield	R, H	None	Yes	Good	Yes	N/A
Providence/Stoughton	Sharon	U, H	None	None	N/A	No	N/A
Providence/Stoughton	Stoughton	D, U	All	None	N/A	Yes	N/A
Providence/Stoughton	Canton Center	D	None	None	N/A	Yes	N/A
Providence/Stoughton	Canton Junction	D, R	Some	None	N/A	No	N/A
Providence/Stoughton	Route 128	D	All	None	N/A	No	N/A
Providence/Stoughton	Hyde Park	U	None	None	N/A	Yes	N/A
Middleborough/Lakeville	Middleborough/Lakeville	R	None	None	N/A	No	N/A
Middleborough/Lakeville	Bridgewater	U	None	None	N/A	No	N/A
Middleborough/Lakeville	Campello	R	None	None	N/A	No	N/A
Middleborough/Lakeville	Brockton	R	None	None	N/A	Yes	N/A
Middleborough/Lakeville	Montello	U, R	All	None	N/A	Yes	BP
Middleborough/Lakeville	Holbrook/Randolph	R	None	None	N/A	Yes	BP
Kingston/Plymouth	Plymouth	None	None	None	N/A	Yes	N/A
Kingston/Plymouth	Kingston	D	None	None	N/A	Yes	N/A
Kingston/Plymouth	Halifax	U, H	None	None	N/A	No	N/A
Kingston/Plymouth	Hanson	U	None	None	N/A	No	N/A
Kingston/Plymouth	Whitman	U	None	None	N/A	No	N/A
Kingston/Plymouth	Abington	U	None	None	N/A	No	N/A
Kingston/Plymouth	South Weymouth	U	None	None	N/A	No	BP
Greenbush	Greenbush	R, H	None	None	N/A	No	N/A
Greenbush	North Scituate	R	None	None	N/A	No	N/A
Greenbush	Cohasset	R, H	None	None	N/A	No	N/A
Greenbush	Nantasket Junction	R, H	None	None	N/A	No	N/A
Greenbush	West Hingham	D, H	Some	None	N/A	No	N/A
Greenbush	East Weymouth	R, H	None	None	N/A	Yes	N/A
Greenbush	Weymouth Landing/E. Braintree	R, H	None	None	N/A	Yes	BP

¹ By MBTA as of September 2013.

U = inverted-U

R = ribbon

H = hanger

P&P = Pedal & Park (bicycle cage)

D = dish rack

P = post (double or single)

N/A = not applicable

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bikes Stolen per 1,000 Parked¹
Newburyport/Rockport Line						
Rockport	5	9	0	0	0	N/A
Gloucester	3	12	0	0	0	N/A
West Gloucester	0	8	0	0	0	N/A
Manchester	4	8	0	0	0	N/A
Beverly Farms	1	16	0	0	0	N/A
Prides Crossing	0	16	0	0	0	N/A
Montserrat	7	9	0	0	0	N/A
Newburyport	9	39	0	1	0	0.10
Rowley	2	13	0	0	0	N/A
Ipswich	2	9	0	0	0	N/A
Hamilton/Wenham	4	7	0	0	0	N/A
North Beverly	0	16	0	0	0	N/A
Beverly Depot	5	12	0	0	0	N/A
Salem	38	58	3	10	0	0.31
Swampscott	7	10	1	0	1	0.26
Lynn	3	14	1	0	0	0.30
Chelsea	0	BP	0	0	0	N/A
Newburyport/Rockport Line Totals	90	272	5	11	1	0.17
Haverhill Line						
Haverhill	2	30	0	0	0	N/A
Bradford	3	17	0	0	0	N/A
Lawrence	3	18	0	0	0	N/A
Andover	9	49	0	0	0	N/A
Ballardvale	3	32	0	0	0	N/A
North Wilmington	4	16	0	0	0	N/A
Reading	5	12	0	0	0	N/A
Wakefield	2	23	0	0	0	N/A
Greenwood	0	7	0	0	0	N/A
Melrose Highlands	3	10	0	0	0	N/A
Melrose/Cedar Park	0	8	0	0	0	N/A
Wyoming Hill	2	22	0	0	0	N/A
Haverhill Line Totals	36	244	0	0	0	N/A
Lowell Line						
Lowell	19	24	0	0	0	N/A
North Billerica	9	21	0	0	0	N/A
Wilmington	13	26	0	1	0	0.07
Anderson RTC	4	14	0	0	0	N/A
Mishawum	0	0	0	0	0	N/A
Winchester Center	5	24	0	0	0	N/A
Wedgemere	7	18	0	0	0	N/A
West Medford	4	10	1	0	0	0.23
Lowell Line Totals	61	137	1	1	0	0.03
Fitchburg Line						
Fitchburg	4	20	0	0	0	N/A
North Leominster	4	16	0	0	0	N/A
Shirley	0	8	0	0	0	N/A
Ayer	3	34	0	0	0	N/A
Littleton/495	4	12	0	0	0	N/A
South Acton	22	44	0	0	1	0.04
West Concord	5	10	0	0	0	N/A

TABLE A2.3
Bicycle Theft Analysis:
Commuter Rail Stations

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bikes Stolen per 1,000 Parked¹
Concord	11	12	0	0	0	N/A
Lincoln	6	9	0	0	0	N/A
Silver Hill	0	8	0	0	0	N/A
Hastings	0	0	0	0	0	N/A
Kendal Green	4	8	0	0	0	N/A
Brandeis/Roberts	0	24	0	0	0	N/A
Waltham	17	34	1	1	0	0.11
Waverly	5	12	0	0	0	N/A
Belmont Center	5	9	0	0	0	N/A
Fitchburg Line Totals	90	260	1	1	1	0.03

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bikes Stolen per 1,000 Parked¹
Framingham/Worcester Line						
Worcester	8	30	0	0	0	N/A
Grafton	2	8	0	0	0	N/A
Westborough	6	20	0	0	0	N/A
Southborough	0	8	0	0	0	N/A
Ashland	5	14	0	0	0	N/A
Framingham	15	45	0	0	0	N/A
West Natick	12	23	0	0	1	0.08
Natick	12	12	0	0	0	N/A
Wellesley Square	6	12	0	0	0	N/A
Wellesley Hills	5	12	0	0	0	N/A
Wellesley Farms	3	24	0	0	0	N/A
Auburndale	0	16	0	0	0	N/A
West Newton	0	16	0	0	0	N/A
Newtonville	0	16	0	0	0	N/A
Yawkey	0	16	0	0	0	N/A
Framingham/Worcester Line Totals	74	272	0	0	1	0.01
Needham Line						
Needham Heights	0	7	0	0	0	N/A
Needham Center	0	7	0	0	0	N/A
Needham Junction	5	7	0	0	0	N/A
Hersey	8	26	0	0	0	N/A
West Roxbury	1	12	0	0	0	N/A
Highland	1	20	0	0	0	N/A
Bellevue	0	9	1	0	0	N/A
Roslindale Village	1	16	0	0	0	N/A
Needham Line Totals	16	104	1	0	0	0.06
Franklin Line						
Forge Park/495	1	14	0	0	0	N/A
Franklin	5	18	0	0	0	N/A
Norfolk	4	15	0	0	0	N/A
Walpole	4	7	0	0	1	0.23
Plimptonville	0	0	0	0	0	N/A
Windsor Gardens	0	0	0	0	0	N/A
Norwood Central	1	11	0	0	0	N/A
Norwood Depot	1	14	0	0	0	N/A
Islington	0	8	0	0	0	N/A
Dedham Corporate Center	1	16	0	0	0	N/A
Endicott	5	17	0	0	0	N/A
Readville	1	32	0	1	0	0.91
Hyde Park	2	10	0	0	0	N/A
Franklin Line Totals	25	162	0	1	1	0.07
Fairmount Line						
Readville	1	32	0	1	0	0.91
Fairmount	0	22	0	0	0	N/A
Morton Street	0	20	0	0	0	N/A
Uphams Corner	0	10	0	0	0	N/A
Fairmount Line Totals	1	84	0	1	0	0.91
Providence/Stoughton Line						
Wickford Junction (new station)	1	22	N/A	N/A	N/A	N/A
T.F. Green Airport	2	8	N/A	N/A	N/A	N/A

TABLE A2.3
Bicycle Theft Analysis:
Commuter Rail Stations

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bikes Stolen per 1,000 Parked¹
Providence	26	26	0	0	0	N/A
South Attleboro	1	26	0	0	0	N/A
Attleboro	9	17	0	0	1	0.10
Mansfield	4	33	0	0	0	N/A
Sharon	17	64	0	0	0	N/A
Stoughton	3	15	0	0	0	N/A
Canton Center	4	5	0	0	0	N/A
Canton Junction	7	57	0	0	0	N/A
Route 128	6	48	0	0	0	N/A
Hyde Park	2	10	0	0	0	N/A
Providence/Stoughton Line Totals	81	309	0	0	1	0.0
Middleborough/Lakeville Line						
Middleborough/Lakeville	4	9	0	0	0	N/A
Bridgewater	4	26	0	0	0	N/A
Campello	0	9	0	0	0	N/A
Brockton	0	9	0	0	0	N/A
Montello	2	19	0	1	0	0.46
Holbrook/Randolph	2	9	1	0	1	0.91
Middleborough/Lakeville Line Totals	12	81	1	1	1	0.23

Station by Line	Bicycles Parked 2012	Bicycle Rack Spaces 2012	Bicycle Thefts 2010	Bicycle Thefts 2011	Bicycle Thefts 2012	Bikes Stolen per 1,000 Parked¹
Kingston/Plymouth Line						
Plymouth	0	0	0	0	0	N/A
Kingston	2	32	0	0	0	N/A
Halifax	3	18	0	1	0	0.30
Hanson	2	8	0	1	0	0.46
Whitman	8	8	0	1	2	0.34
Abington	3	8	1	0	1	0.61
South Weymouth	1	10	0	4	3	6.39
Kingston/Plymouth Line Totals	19	84	1	7	6	0.67
Greenbush Line						
Greenbush	7	17	1	0	0	0.13
North Scituate	3	7	1	1	0	0.61
Cohasset	6	17	0	1	0	0.15
Nantasket Junction	1	17	1	0	0	0.91
West Hingham	4	17	0	0	0	N/A
East Weymouth	2	17	0	2	0	0.91
Weymouth Landing/E. Braintree	2	17	0	0	0	N/A
Greenbush Line Totals	25	109	3	4	0	0.26
Grand total	527	2,076	13	26	12	0.09

¹ Theft rate per 1,000 parked bicycles = (Average of number of bicycle thefts per year over three years × 1,000) / (Number of bicycles parked per day × 365 days)

N/A = not applicable

TABLE A3.1
Bicycle Space Capacity and Utilization:
Commuter Boat and Bus Facilities

Station by Line	Bicycles Parked 2005-06	Bicycles Parked 2009-11	Bicycles Parked 2012	Bicycles Parked Percentage Change	Bicycle Rack Spaces 2005-06	Bicycle Rack Spaces 2009-11	Bicycle Rack Spaces 2012	Bicycle Rack Spaces Percentage Change	Percent Bicycle Rack Spaces Utilized 2005-06	Percent Bicycle Rack Spaces Utilized 2009-11	Percent Bicycle Rack Spaces Utilized 2012	Bicycles Parked in Other Areas in 2012
Commuter Boat Totals												
Hull	0	2	0	NEW	0	8	10	25	N/A	25	0	0
Hingham	4	9	9	0	20	16	24	50	20	56	38	0
Quincy/Fore River	0	0	1	N/A	0	0	8	N/A	N/A	N/A	13	0
Charlestown Navy Yard	0	0	0	NEW	0	2	28	1300	N/A	0	0	0
Rowes Wharf	N/A	0	0	N/A	N/A	0	0	N/A	N/A	N/A	N/A	0
Long Wharf	N/A	0	0	N/A	N/A	0	0	N/A	N/A	N/A	N/A	0
Commuter Boat Totals	4	11	10	-9%	20	26	70	169%	20%	42%	14%	0
Bus Facilities Totals												
Watertown Square	6	11	10	-9	10	12	12	0	0	60	83	1
Watertown Yard	0	1	2	100	4	5	4	-20	0	0	50	7
Woburn Yard	0	0	0	N/A	0	0	0	N/A	0	0	N/A	0
Bus Facilities Totals	6	12	12	0%	14	17	16	-6%	N/A	71%	75%	8

Note: Percentage change refers to the change from the 2009-11 survey to the 2012 survey.

N/A = not applicable

NEW = new bicycle capacity as of the 2012 survey

Facility	Station Name	Type of Bicycle Rack	Covered Bicycle Racks	Bicycle Trails/ Paths	Condition of Trails/Paths	Connecting Bus Routes	Bicycle Cage (P&P) or Port (BP) Proposed or Installed¹
Commuter Boat	Hull	U	None	No	N/A	No	N/A
Commuter Boat	Hingham	U	None	No	N/A	No	N/A
Commuter Boat	Quincy/Fore River	U	None	No	N/A	No	N/A
Commuter Boat	Charlestown Navy Yard	P	None	No	N/A	Yes	N/A
Commuter Boat	Rowes Wharf	None	None	No	N/A	Yes	N/A
Commuter Boat	Long Wharf	None	None	No	N/A	Yes	N/A
Bus Facilities	Watertown Square	D	None	Yes	Good	Yes	BP
Bus Facilities	Watertown Yard	R	None	Yes	Good	Yes	N/A
Bus Facilities	Woburn Yard	None	None	No	N/A	No	N/A

¹By MBTA as of September 2013.

U = inverted-U

R = ribbon

D = dish rack

P = post (double or single)

N/A = not applicable

TABLE A4
Bicycle Parked at Locations Other than at Bicycle Racks, and Recommended Improvements:
All Modes and Lines, 2012

Station	Line	Bicycles Not Parked at Racks	Bicycles Parked at Racks	Total of Bicycles Parked at Racks and Bicycles Not Parked at Racks	Bicycle Parking Spaces at or near Station	Utilization if All Bicycles Where Parked at Racks at Bicycle Racks	Locations of Bicycles Not Parked at Racks	P&P or BP Already Planned?	Recommended Improvement
Alewife	Red	24	341	365	387	94%	Railing, tree	Yes	Install the planned bicycle ports near existing bicycle racks.
Davis	Red	10	186	196	262	75%	Poles, fences	Yes	No additional recommendation.
Porter	Red	8	41	49	140	35%	Poles, fences	Yes	No recommendation.
Harvard	Red	26	34	60	42	143%	Poles, fences	No	Install additional racks (possibly City of Cambridge racks). Install a Pedal & Park facility.
Central	Red	19	104	123	140	88%	Poles, fences	No	Install additional racks (near capacity).
Kendall/MIT	Red	19	66	85	64	133%	Poles, fences	No	Install additional racks (possibly City of Boston racks).
Charles/MGH	Red	2	6	8	8	100%	Fence by hotel	No	Install additional bicycle racks (at capacity).
Park Street	Red	3	2	5	6	83%	Poles	No	Install additional bicycle racks (near capacity).
Downtown Crossing	Red	2	7	9	8	113%	Station furniture	No	Install additional bicycle racks on the corner of Washington Street and Temple Place.
South Station	Red	6	48	54	139	39%	None	No	Add signage directing bicyclists to Pedal & Park facility. Install bicycle racks near recurring non-rack parking.
Andrew	Red	2	6	8	14	57%	Fences	Yes	Consider installing Pedal & Park facility instead of bicycle ports (high theft rate).
Quincy Center	Red	6	17	23	40	58%	None	No	Install Pedal & Park (high theft rate and many parked bicycles).
Wollaston	Red	2	38	40	40	100%	Post	No	Install additional bicycle racks (at capacity).
Braintree	Red	5	21	26	136	19%	Poles, railing	Yes	Install signage directing bicyclists to bicycle cage.
Ashmont	Red	2	2	4	7	57%	Fence	No	Install additional bicycle racks (near capacity).
Wonderland	Blue	2	23	25	140	18%	Poles, fences	Yes	Add additional signage directing bicyclists to parking.
Revere Beach	Blue	1	2	3	20	15%	Fence	Yes	No recommendation.
Orient Heights	Blue	4	10	14	19	74%	Fence	No	Install sheltered bicycle racks on Bennington Street side of station.
Wood Island	Blue	4	5	9	10	90%	Posts	No	Install additional bicycle racks (near capacity).
Maverick	Blue	6	4	10	48	21%	Posts	No	Add signage directing bicyclists to bicycle racks.
Government Center	Blue	5	0	5	0	NP	Near Planet Fitness	No	Install sheltered bicycle racks (no bicycle parking).
Bowdoin	Blue	4	1	5	4	125%	Fences near entrance	No	Install additional bicycle racks (over capacity).
Oak Grove	Orange	10	81	91	210	43%	Fence	Yes	No recommendation. Pedal & Park facility installed in October 2012.
Malden	Orange	16	48	64	162	40%	Fence near bus connection	No	Install signs directing users to existing racks or install new bicycle racks at the bus connection.
Sullivan Square	Orange	7	21	28	18	156%	Posts	Yes	No additional recommendation. New bicycle ports should take care of the issue.
State Street	Orange	5	4	9	14	64%	Poles	No	Install signage directing users to existing racks.
Downtown Crossing	Orange	2	7	9	8	113%	Poles	No	Install additional bicycle racks (over capacity).
Chinatown	Orange	2	4	6	4	150%	Poles	No	Install additional bicycle racks (over capacity).
Back Bay	Orange	5	35	40	72	56%	Poles	Yes	Install Pedal & Park facility (high theft rate and many parked bicycles).
Ruggles	Orange	12	69	81	98	83%	Poles, fences	No	Install signage directing users to existing racks.
Green Street	Orange	1	18	19	29	66%	Tree	Yes	Install the new bicycle port close to the west side of the station.
Lechmere	Green - Subway	4	3	7	30	23%	Posts	No	No recommendations.
Government Center	Green - Subway	5	0	5	0	NP	Near Planet Fitness	No	Install sheltered bicycle racks (no bicycle parking).
Park Street	Green - Subway	3	2	5	6	83%	Poles, fences	No	Install additional bicycle racks (near capacity).
Boylston	Green - Subway	5	22	27	28	96%	Posts	No	Install additional bicycle racks (near capacity) and replace or repair existing bicycle racks.
Arlington	Green - Subway	5	8	13	10	130%	Fence near Public Garden	No	Install additional bicycle racks (over capacity).
Hynes Convention Center	Green - Subway	4	4	8	4	200%	Poles, fences	No	Install bicycle racks on the northeast corner of Boylston St. and Mass. Ave. (over capacity).
Kenmore	Green - Subway	5	10	15	30	50%	Poles at Beacon Street exit	No	Install additional bicycle racks at Beacon Street exit.
Copley	Green - Subway	0	0	1	0	NP	Near entrance	No	Install bicycle racks (no bicycle parking).

TABLE A4
Bicycle Parked at Locations Other than at Bicycle Racks, and Recommended Improvements:
All Modes and Lines, 2012

Station	Line	Bicycles Not Parked at Racks	Bicycles Parked at Racks	Total of Bicycles Parked at Racks and Bicycles Not Parked at Racks	Bicycle Parking Spaces at or near Station	Utilization if All Bicycles Where Parked at Racks at Bicycle Racks	Locations of Bicycles Not Parked at Racks	P&P or BP Already Planned?	Recommended Improvement
Blandford Street	Green - B Branch	16	5	21	8	262%	Across street	No	Install additional bicycle racks (over capacity).
Boston University East	Green - B Branch	14	106	120	136	88%	Across street	No	Install additional bicycle racks (near capacity).
Boston University Central	Green - B Branch	49	20	69	20	345%	Across street	No	Install additional bicycle racks close to station entrances (over capacity)
Boston University West	Green - B Branch	12	7	19	14	136%	Across street	No	Install additional bicycle racks (over capacity).
St. Paul Street	Green - B Branch	15	3	18	8	225%	Parking meters, posts	No	Install additional bicycle racks (over capacity).
Pleasant Street	Green - B Branch	8	1	9	2	450%	Parking meters, posts	No	Install additional bicycle racks (over capacity).
Babcock Street	Green - B Branch	10	1	11	14	79%	Parking meters	No	Install additional bicycle racks (near capacity).
Packards Corner	Green - B Branch	16	0	16	0	NP	Parking meters	No	Install bicycle racks on each side of the station.
Harvard Avenue	Green - B Branch	19	0	19	0	NP	Parking meters	No	Install bicycle racks on each intersection corner and in parking area (no bicycle parking).
Griggs Street	Green - B Branch	5	0	5	0	NP	Posts	No	Install bicycle racks on southern median near station (no bicycle parking).
Allston Street	Green - B Branch	3	0	3	0	NP	Pole	No	Install bicycle racks on southern median near station (no bicycle parking).
Warren Street	Green - B Branch	4	0	4	0	NP	Pole	No	Install bicycles racks on each intersection corner (no bicycle parking).
Washington Street	Green - B Branch	4	0	4	4	100%	Posts	No	Install additional bicycle racks (over capacity).
Sutherland Road	Green - B Branch	3	0	3	0	NP	Fence	No	Install bicycle racks in front of Beacon Hill Athletic Club (no bicycle parking).
Chiswick Road	Green - B Branch	2	0	2	0	NP	Pole	No	Install bicycle racks on the north and south sides of Comm. Ave. (no bicycle parking).
Chestnut Hill Avenue	Green - B Branch	1	0	1	0	NP	Tree	No	Install bicycle racks on either southeast corner of intersection or on Comm. Ave. median (no bicycle parking).
St. Mary's Street	Green - C Branch	1	2	3	39	8%	Poles	No	No recommendation.
Hawes Street	Green - C Branch	3	0	3	0	NP	Poles, fences	No	Install bicycle racks near outbound shelter.
Kent Street	Green - C Branch	3	0	0	0	NP	Poles	No	Install bicycle racks near shelter (no bicycle parking).
St. Paul Street	Green - C Branch	4	0	4	0	NP	Poles	No	Install bicycle racks near shelter (no bicycle parking).
Coolidge Corner	Green - C Branch	6	25	31	82	38%	Pole	No	Replace or repair existing bicycle racks.
Summit Ave./Winchester St.	Green - C Branch	4	4	8	12	67%	Poles	No	Install additional bicycle racks on each side of the street or near shelter (near capacity).
Brandon Hall	Green - C Branch	3	0	3	0	NP	Poles	No	Install bicycle racks at the shelter near station and at westbound Beacon Street near pedestrian signal.
Dean Road	Green - C Branch	1	0	1	0	NP	Posts	No	Install bicycle racks near shelter (no bicycle parking).
Englewood Avenue	Green - C Branch	2	0	2	0	NP	Posts	No	Install bicycle racks near shelter (no bicycle parking).
Cleveland Circle	Green - C Branch	1	1	2	22	9%	Pole	No	No recommendation.
Brookline Village	Green - D Branch	1	15	16	26	62%	Fences, parking meters	No	No recommendation.
Beaconsfield	Green - D Branch	1	0	1	0	NP	Fence posts	No	Install a bicycle rack (no bicycle parking).
Chestnut Hill	Green - D Branch	1	9	10	9	111%	Fence	No	Install additional racks at station (over capacity).
Reservoir	Green - D Branch	1	4	5	19	26%	Fence	Yes	No recommendation.
Newton Center	Green - D Branch	12	16	28	18	156%	Fence	No	Install additional bicycle racks on both sides of the station.
Eliot	Green - D Branch	10	1	11	9	122%	Railing	No	Move existing bicycle racks closer to the platform or install a new rack on the inbound side of platform.
Waban	Green - D Branch	1	5	6	11	55%	Post	No	No recommendation.
Woodland	Green - D Branch	4	6	10	9	111%	Fence	No	Move existing bicycle racks closer to the platform or install additional racks closer to platform.
Riverside	Green - D Branch	2	9	11	36	31%	Fence, platform	Yes	No additional recommendation.

TABLE A4
Bicycle Parked at Locations Other than at Bicycle Racks, and Recommended Improvements:
All Modes and Lines, 2012

Station	Line	Bicycles Not Parked at Racks	Bicycles Parked at Racks	Total of Bicycles Parked at Racks and Bicycles Not Parked at Racks	Bicycle Parking Spaces at or near Station	Utilization if All Bicycles Where Parked at Racks at Bicycle Racks	Locations of Bicycles Not Parked at Racks	P&P or BP Already Planned?	Recommended Improvement
Northeastern	Green - E Branch	2	1	3	12	25%	Fence	No	No recommendation.
Museum of Fine Arts	Green - E Branch	1	0	1	8	13%	Tree	No	No recommendation.
Longwood Medical Area	Green - E Branch	3	12	15	14	107%	Fence, tree	No	Install additional bicycle racks.
Brigham Circle	Green - E Branch	2	4	6	11	55%	Poles	No	No recommendation.
Riverway	Green - E Branch	2	0	2	0	NP	Poles	No	Install at least one inverted-U on each side of the street (no bicycle parking).
Boylston	Silver Washington St.	5	22	27	28	96%	Posts	No	Install additional bicycle racks (near capacity). Install signs directing riders to bicycle racks.
Downtown Crossing	Silver Washington St.	2	7	9	8	113%	Poles	No	Install additional bicycle racks (over capacity).
Chinatown	Silver Washington St.	2	4	6	4	150%	Poles	No	Install additional bicycle racks (over capacity).
Manchester	Newburyport/Rockport	1	4	5	8	63%	Post	No	Install sheltered bicycle racks.
Newburyport	Newburyport/Rockport	22	9	31	39	79%	Platform	Yes	Move existing racks closer to platform or install signs encouraging riders to utilize existing racks.
Ipswich	Newburyport/Rockport	1	2	3	9	33%	Platform	No	No recommendation.
Hamilton/Wenham	Newburyport/Rockport	11	4	15	7	214%	Fence	No	Move existing bicycle racks closer to platform. Install additional bicycle racks (over capacity).
Beverly Depot	Newburyport/Rockport	3	5	8	12	67%	Parking lot, station shelter	No	Install sheltered bicycle racks (near capacity).
Salem	Newburyport/Rockport	3	38	41	58	71%	Fence	Yes	No additional recommendation.
Swampscott	Newburyport/Rockport	10	7	17	10	170%	Ramp to station	No	Install additional bicycle racks (over capacity).
West Concord	Fitchburg	5	5	10	10	100%	Trash can, posts	No	Install additional bicycle racks, preferably sheltered (at capacity).
Concord	Fitchburg	4	11	15	12	125%	Station building, gutters	No	Install additional bicycle racks, preferably sheltered (over capacity).
Waltham	Fitchburg	1	17	18	34	53%	Pole	Yes	Install a couple of inverted-U bicycle racks on the outbound side of the station.
Worcester	Framingham/Worcester	1	8	9	30	30%	Under viaduct	No	Install signs or install racks in front of the station.
Westborough	Framingham/Worcester	4	6	10	20	50%	Inside WB (OB) shelter	No	Install sheltered bicycle racks on outbound side. Replace or repair existing bicycle racks.
Southborough	Framingham/Worcester	2	0	2	8	25%	Platform	No	Install a rack on the outbound side of station.
Natick	Framingham/Worcester	14	12	26	12	217%	Fence	No	Install additional bicycle racks on Main Street (preferably sheltered).
Wellesley Square	Framingham/Worcester	2	6	8	12	67%	Platform railing	No	Install new bicycle racks on the inbound side of the platform.
West Newton	Framingham/Worcester	1	0	1	16	6%	Fence	No	Install signs on the fence directing riders to existing bicycle racks.
Needham Center	Needham	1	0	1	7	14%	Fence	No	Install additional bicycle racks (near capacity).
Needham Junction	Needham	1	5	6	7	86%	Post	No	No recommendation.
Forge Park/495	Franklin	4	1	5	14	36%	Near accessible ramp	No	No recommendation.
Walpole	Franklin	1	4	5	7	71%	Drain spout	No	Install additional sheltered bicycle racks (near capacity).
Windsor Gardens	Franklin	1	0	1	0	NP	Bench	No	Install bicycle racks (currently no bicycle parking).
Norwood Central	Franklin	1	1	2	11	18%	Fence	No	Install signs at the west entrance directing riders to bicycle racks.
Norwood Depot	Franklin	3	1	4	14	29%	Platform, posts	No	Repair or replace bicycle racks.
Endicott	Franklin	6	5	11	17	65%	Railing, fence	No	Install bicycle rack (preferably sheltered).
Providence	Providence/Stoughton	16	26	42	26	162%	Railings	No	Install additional sheltered bicycle racks or bicycle cage, if possible (over capacity).
Attleboro	Providence/Stoughton	6	9	15	17	88%	Platform	No	Install bicycle racks at all locations. Install signs to direct riders to racks.
Mansfield	Providence/Stoughton	3	4	7	33	21%	Nearby parking lot	No	Install new bicycle racks at the Winthrop parking lot before crosswalk to station.
Canton Junction	Providence/Stoughton	2	3	5	16	31%	Platform	No	No recommendation.

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Campello	Middleborough/Lakeville	1	0	1	9	11%	Post	No	Install signs to direct riders to racks.
Brockton	Middleborough/Lakeville	5	0	5	26	19%	Fence by platform	No	Install signs to direct riders to racks.
Holbrook/Randolph	Middleborough/Lakeville	1	2	3	9	33%	Pole	No	No recommendation.
Whitman	Plymouth/Kingston	2	8	10	8	125%	News stand poles	No	Install additional sheltered bicycle racks (over capacity).
North Scituate	Greenbush	2	3	5	7	71%	Platform	No	No recommendation.
Watertown Square	Bus facility	1	10	11	12	92%	Tree, pole by busway	Yes	No additional recommendation.
Watertown Yard	Bus facility	7	2	9	4	225%	Poles, fence near shelter	No	Install additional bicycle racks closer to shelter. Install signage to direct users to existing rack.

NP = No bicycle parking
P&P = Pedal & Park (bicycle cage)
BP = Bicycle port

Appendix B
2012 Survey Form

Bike Rack Inventory: Summer/ Fall 2012

Station Name: _____ Rail Line: _____
Data Collector's Name: _____ Date: _____ Day of the Week: _____
Time of Day: _____ Is station attended? _____
Address/Directions to Station _____
Weather: _____

Information to Collect:

Is there a bike rack?	<i>Yes</i>	<i>No</i>	If multiple bike racks exist, please specify how many on the back of this form.		
What type of bike rack is it?	<i>Please see back of this form for options</i>				
How many bicycles are parked there?	_____				
Are there bikes parked at locations other than the bike rack? Where?	_____			How many?	_____
Are there any bike trails/paths leading to the station? Name of path?	_____				
What condition is the bike trail in?	<i>Good</i>	<i>Fair</i>	<i>Poor</i>		
Do the streets around the station have a designated bike lane? If so, which streets?	_____				

Are there what appears to be abandoned and/or vandalized bicycles at the racks or around the station? If so, how many?	_____				

Does there appear to be any safety concerns (such as lack of lighting) at or around the bike racks and station?	_____				

Are the bike racks in a visible and convenient place to users of the station? If not, are there signs directing users to the bike racks?	_____				

Are the bike racks installed in such a way that they are difficult to use? (I.E. installed upside down or too close to a building) If so please describe why here.	_____				

Are the racks covered from the rain?	<i>Yes</i>	<i>No</i>	<i>Some</i>		
Are there sidewalks leading to the station?	<i>Yes</i>	<i>No</i>	Are there crosswalks leading to the station?	<i>Yes</i>	<i>No</i>
What condition are the sidewalks in?	<i>Good</i>	<i>Fair</i>	<i>Poor</i>	What condition are the crosswalks in?	<i>Good</i> <i>Fair</i> <i>Poor</i>
At what locations are sidewalks missing?	_____				
At what locations are crosswalks missing?	_____				
Is there any place where handicap ramps for curbs are missing? If so, where?	_____				

Are there signalized intersections that pedestrians use to access the station?				<i>Yes</i>	<i>No</i>
Do these signals have working pedestrian indications? If there is more than one signal please use the space below to indicate which signals have working indications or not.				<i>Yes</i>	<i>No</i>
Which number bus routes, if any, connect to this station?	_____				

Additional Comments: _____

Use other side of form for bike rack details and additional comments.

Bike Rack Inventory: Summer/ Fall 2012

Indicate the # of each type of bicycle rack observed. If there are multiple bike racks, please use workspace below to write details about each rack. Also, please indicate anything odd about any of the racks.

# of racks	Type of Rack	Features	Condition			Visibility & Security		
	Single Dish Rack	# of thin spaces: _____	Good	Fair	Poor	Good	Fair	Poor
	Double Dish Rack	# of thin spaces: _____	Good	Fair	Poor	Good	Fair	Poor
	Ribbon Racks	# of humps: _____	Good	Fair	Poor	Good	Fair	Poor
	Key Rack	# of racks: _____	Good	Fair	Poor	Good	Fair	Poor
	Inverted-U Racks	# of racks: _____	Good	Fair	Poor	Good	Fair	Poor
	Triangle Style Racks	# of triangles: _____	Good	Fair	Poor	Good	Fair	Poor
	Double Loop	# of racks: _____	Good	Fair	Poor	Good	Fair	Poor
	Single/Double Bike Post	# of posts: _____	Good	Fair	Poor	Good	Fair	Poor
	Other	Please Specify: _____	Good	Fair	Poor	Good	Fair	Poor

Examples of bike-racks & capacity:



Workspace and/or Notes:

Rack 1:

Rack 2:

Rack 3:

Note: Spaces at ribbon rack = (# of humps * 2) + 1

Total numbers of Parked Bicycles: _____

Total number of Bicycle Spaces: _____

Additional Comments: _____

Appendix C
“Bikes and the MBTA”
(May 2010 Brochure)

BIKES AND THE MBTA

Combine the pleasure of riding your bicycle with the convenience of using public transit to get where you need to go year round. The MBTA can help you be on your way to cycling fun and great exercise while helping the environment.

Bring your bike:



On Subways all weekend, weekdays before 7am, 10am-4pm, and after 7pm. Green and Mattapan Trolley Lines do not allow conventional bikes.



On Buses at all times when your bike can fit in the external rack.



On Commuter Rail trains except during weekday peak hours in peak directions.



On Ferry boats at all times.

- Folding bicycles are allowed at all times on all vehicles when folded.
- Please follow MBTA staff instructions at all times.

For more MBTA info:

www.mbtta.com/riding_the_t/bikes
(617) 222-3200

To report a stolen bicycle:

MBTA Transit Police (617) 222-1212

5/2010

Restricted Stations:

Bikes are allowed in all stations except the following due to crowding:

- Park Street (Red & Green Lines)
- Downtown Crossing (Red & Orange Lines) except to transfer lines.
- Government Center (Blue & Green Lines)

Holidays & Special Events

Bicycles are not allowed due to crowding:

- New Years Eve, St. Patrick's Day Parade, Boston Marathon (allowed on Commuter Rail), July 4th, before/after Red Sox games, 8:30pm-11pm during TD Garden events.
- Special events at or near individual stations. MBTA staff will notify you of restrictions.



You can bring a folded folding bike on all MBTA vehicles at all times.

BICYCLE RULES

- Enter stations through the wide fare gate.
- No special pass or additional fee required.
- Bicycles are not allowed on escalators.
- Ride to, but not inside stations.
- Stand behind platform edge/yellow line.
- Board and ride at end of a train car, do not bring your bicycle down the aisle.
- Subway cars allow only 2 bicycles per car, one at each end.
- Commuter Rail conductors will tell you where to enter, exit or ride in the train.
- Hold bicycle firmly at all times with kickstand up, do not lean it against other patrons.
- Seniors and persons with disabilities are afforded preference over bicycles.
- Customers with disabilities can bring bikes on MBTA vehicles at all times when used to accommodate the customer's disability.
- If trains are crowded or access is impeded MBTA staff may prohibit bicycles.
- MBTA staff cannot assist with bicycles.
- Cyclists under 16 must be accompanied by a parent/legal guardian and remain together.
- If there is an emergency evacuation of a train, leave your bicycle on the train and do not block aisles or doors.
- Cyclists are legally responsible for any damage to T facilities or equipment and/or for any injury, loss or damage sustained by passengers or T staff that result from a cyclist's negligence. The MBTA is not responsible for loss, theft or damages to any bicycle or equipment in any MBTA bike rack, station or vehicle.
- Cyclists failing to abide by the regulations or direction of T Police or staff are subject to removal from the system.



Massachusetts Bay
Transportation Authority

BIKES AND THE MBTA



Massachusetts Bay
Transportation Authority

BICYCLE PARKING

Bike racks are located at most T stations and are for temporary storage of bicycles while customers utilize the MBTA system. Please park your bike so other cyclists can share the rack and remember to lock it!

Park your bike at any of the following:

- **Pedal & Park facilities:** Enclosed and equipped with video cameras and controlled door access. Currently at Alewife and Forest Hills stations, with more on the way! Bike CharlieCard is needed for access.
- **Bike Ports:** Covered bike parking that is well located (50 arriving this year).
- **Bike rack:s** Located at 95% of stations.

Bike CharlieCard provides you with Pedal & Park access.



Bike CharlieCards are free of charge and obtainable from station staff where Pedal & Parks are located. It gives you access to Pedal & Parks system wide – just tap the card at the gate.

Starting 12/31/10 all Bike CharlieCards have to be registered online at www.MBTA.com.

Parking Rules

- Bicycles secured to handrails, railings, doors, ramps, stairways, or in a way that impedes access to stations may be removed by the MBTA without notice.
- Bicycles left for over two weeks may be removed by the MBTA without notice.



HOW TO USE THE BUS RACKS

You can ride the bus with your bike if:

- The bus is equipped with an external rack (Check mbta.com for equipped routes).
- And it is not a shuttle bus substituting for Commuter Rail or Subway service.
- Or you have a folded folding bike.

Each rack holds two conventional sized bicycles. Approach the bus from the curb and let the driver know you are about to use the bicycle rack.

To load:

Remove loose items from bike before the bus arrives.

- 1 Pull rack down by squeezing the handle in the center of the rack.
- 2 Place bike, front wheel first, into the rack wheel slot. Use the slot closest to the bus first.
- 3 Pull out support arm and raise it up over the front tire. Check that your bike is secure. Do not lock your bike in the rack.

Let the bus driver know where you'll be unloading. Sit near the front of the bus and watch your bike. Exit through the front door.

To unload:

- Raise the support arm off the tire and move it down and out of the way.
- Lift your bike out of the rack.
- Fold the rack up if it is empty. Let the driver know when you are done.
- Never cross the street in front of the bus. Passing traffic cannot see around the bus.

